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**UPPER COOK INLET SALMON ESCAPEMENT STUDIES 1995**

by

**Randall Z. Davis**

and

**Bruce E. King**

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## AUTHORS

Randall Z. Davis is a Fishery Biologist for the Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Region II, Upper Cook Inlet, 34828 Kalifornsky Beach Road Suite B, Soldotna, AK 99669.

Bruce E. King is an Assistant Research Project Leader for the Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, Region II, Upper Cook Inlet, 34828 Kalifornsky Beach Road Suite B, Soldotna, AK 99669.

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## TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES .....	iii
LIST OF FIGURES .....	vi
LIST OF APPENDICES .....	vii
ABSTRACT .....	1
INTRODUCTION .....	2
METHODS .....	2
RESULTS .....	5
Kenai River.....	5
Kasilof River .....	6
Crescent River .....	7
Yentna River .....	8
DISCUSSION .....	9
Kenai River.....	9
Kasilof River .....	10
Crescent River .....	10
Yentna River .....	10
LITERATURE CITED .....	12
TABLES .....	16
FIGURES.....	52
APPENDICES .....	64

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Estimated sockeye salmon escapement recorded by side-scanning sonar in the Kenai, Kasilof, Crescent, and Susitna Rivers, 1978-1995 .....	16
2. Late-run Kenai River sockeye salmon escapement summary, 1968-1995 .....	17
3. Late-run sockeye salmon escapement counts in eight index areas, Kenai River drainage, 1969-1995.....	18
4. Cumulative proportion by date of sockeye salmon counts recorded in the Kenai River, 1979-1995.....	19
5. Estimated salmon escapement into the Kenai River, 1 July through 14 August 1995.....	21
6. Distribution of sockeye salmon escapement by bank recorded by side-scanning sonar in the Kenai, Kasilof, Crescent, and Yentna Rivers, 1979-1995 .....	22
7. Daily fish wheel catch by species for the north bank of the Kenai River, 1 July through 13 August 1995.....	23
8. Age composition of sockeye salmon collected in the Kenai River 1970-1995.....	24
9. Length composition of the major age classes of sockeye salmon collected in the Kenai River 1980-1994. Length measured from mid-eye to fork-of-tail .....	25
10. Estimated sockeye salmon escapement into the Kasilof River, 15 June through 7 August 1995 .....	26
11. Kasilof River sockeye salmon escapement estimates 1968-1995 .....	27
12. Peak sockeye salmon escapement counts in seven index areas, Kasilof River drainage, 1975-1995 .....	28

LIST OF TABLES, continued

<u>Table</u>	<u>Page</u>
13. Cumulative proportion by date of sockeye salmon counts recorded in the Kasilof River, 1979-1995 .....	29
14. Daily fish wheel catch by species for the Kasilof River, 19 June through 3 August 1995 .....	31
15. Age composition of sockeye salmon collected in the Kasilof River, 1969-1995.....	32
16. Length composition of the major age classes of sockeye salmon collected in the Kasilof River 1980-1995. Length measured from mid-eye to fork-of-tail .....	33
17. Estimated salmon escapement into the Crescent River 1979-1995.....	34
18. Estimated salmon escapement into the Crescent River, 28 June through 8 August 1995. Species composition based on fish wheel catches.....	35
19. Cumulative proportion by date of sockeye salmon counts recorded in the Crescent River 1984-1995 .....	36
20. Daily fish wheel catch by species for the Crescent River, 28 June through 8 August 1995 .....	38
21. Age composition of sockeye salmon collected in the Crescent River 1979-1995 .....	39
22. Length composition of the major age classes of sockeye salmon collected in the Crescent River 1980-1995. Length measured from mid-eye to fork-of-tail.....	40
23. Estimated salmon escapement into the Yentna River, 7 July through 10 August 1995. Species composition of daily sonar counts based on fish wheel catches.....	41
24. Estimated salmon escapement into the Yentna River 1981-1995.....	42

LIST OF TABLES, continued

<u>Table</u>	<u>Page</u>
25. Salmon escapement observations in selected Susitna River tributaries 1995.....	43
26. Cumulative proportion by date of sockeye salmon recorded in the Yentna River 1981-1995.....	44
27. Daily adjusted fish wheel catch by species for the north bank of the Yentna River, 7 July through 9 August 1995 .....	46
28. Daily adjusted fish wheel catch by species for the south bank of the Yentna River, 7 July through 10 August 1995 .....	47
29. Age composition of sockeye salmon collected in the Yentna River 1986-1995.....	48
30. Length composition of the major age classes of sockeye salmon collected in the Yentna River 1986-1995. Length measured from mid-eye to fork-of-tail.....	49
31. Cumulative proportion by date of pink salmon counts recorded in the Yentna River 1981-1995.....	50

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Upper Cook Inlet, Alaska, and sites where sockeye salmon escapement was monitored with side-scanning sonar .....	52
2. Daily escapement of sockeye salmon into the Kenai, Kasilof, Crescent and Yentna Rivers, 1995.....	53
3. Distribution of salmon sonar counts by sector in the Kenai River, 1995 .....	54
4. Hourly distribution of salmon migrating past the Kenai River sonar counters, 1995.....	55
5. Mean hourly passage rates of salmon migrating past the Kenai, Kasilof, Crescent, and Yentna River sonar counters, 1995.....	56
6. Distribution of salmon sonar counts by sector in the Kasilof River, 1995 .....	57
7. Hourly distribution of salmon migrating past the Kasilof River sonar counters, 1995.....	58
8. Distribution of salmon sonar counts by sector in the Crescent River, 1995.....	59
9. Hourly distribution of salmon migrating past the Crescent River sonar counters, 1995 .....	60
10. Time of peak daily sonar counts and daily high tides at Crescent River, 1995 .....	61
11. Distribution of salmon sonar counts by sector in the Yentna River, 1995 .....	62
12. Hourly distribution of salmon migrating past the Yentna River sonar counters, 1995.....	63

## LIST OF APPENDICES

	<u>Page</u>
A .. Estimated salmon escapement adjacent to the north bank of the Kenai River, 1 July through 14 August 1995 .....	64
A.2. Estimated salmon escapement adjacent to the south bank of the Kenai River, 1 July through 14 August 1995 .....	65
A.3. Kenai River north bank sonar counts by hour, 1 July through 14 August 1995 .....	66
A.4. Kenai River south bank sonar counts by hour, 1 July through 14 August 1995 .....	68
A.5. Kenai River north bank sonar counts by hour, 1 July through 14 August 1995. Counts expressed as percentage of daily total .....	70
A.6. Kenai River south bank sonar counts by hour, 1 July through 10 August 1995. Counts expressed as percentage of daily total .....	72
A.7. Kenai River north bank sonar counts by sector, 1 July through 14 August 1995 .....	74
A.8. Kenai River south bank sonar counts by sector, 1 July through 14 August 1995 .....	75
A.9. Kenai River north bank sonar counts by sector, 1 July through 14 August 1995. Counts expressed as percentage of daily total .....	76
A.10. Kenai River south bank sonar counts by sector, 1 July through 14 August 1995. Counts expressed as percentage of daily total .....	77
A.11. Estimated salmon escapement adjacent to the north bank of the Kasilof River, 15 June through 7 August 1995 .....	78
A.12. Estimated salmon escapement adjacent to the south bank of the Kasilof River, 15 June through 7 August 1995 .....	79
A.13. Kasilof River north bank sonar counts by hour, 15 June through 7 August 1995 .....	80
A.14. Kasilof River south bank sonar counts by hour, 15 June through 7 August 1995 .....	82

**LIST OF APPENDICES, continued**

<u>Table</u>	<u>Page</u>
A.15. Kasilof River north bank sonar counts by hour, 15 June through 7 August 1995. Counts expressed as percentage of daily total .....	84
A.16. Kasilof River south bank sonar counts by hour, 15 June through 7 August 1995. Counts expressed as percentage of daily total .....	86
A.17. Kasilof River north bank sonar counts by sector, 15 June through 7 August 1995 .....	88
A.18. Kasilof River south bank sonar counts by sector, 15 June through 7 August 1995 .....	90
A.19. Kasilof River north bank sonar counts by sector, 15 June through 7 August 1995. Counts expressed as percentage of daily total .....	92
A.20. Kasilof River south bank sonar counts by sector, 15 June through 7 August 1995. Counts expressed as percentage of daily total .....	94
A.21. Estimated salmon escapement adjacent to the north bank of the Crescent River, 28 June through 8 August 1995. Species composition of daily sonar counts based on fish wheel catches .....	96
A.22. Estimated salmon escapement adjacent to the south bank of the Crescent River, 28 June through 8 August 1995. Species composition of daily sonar counts based on fish wheel catches .....	97
A.23. Crescent River north bank sonar counts by hour, 28 June through 8 August 1995 .....	98
A.24. Crescent River south bank sonar counts by hour, 28 June through 8 August 1995 .....	100
A.25. Crescent River north bank sonar counts by hour, 28 June through 8 August 1995. Counts expressed as percentage of daily total .....	102
A.26. Crescent River south bank sonar counts by hour, 28 June through 8 August 1995. Counts expressed as percentage of daily total .....	104
A.27. Crescent River north bank sonar counts by sector, 28 June through 8 August 1995 .....	106

## LIST OF APPENDICES, continued

<u>Table</u>	<u>Page</u>
A.28. Crescent River south bank sonar counts by sector, 28 June through 8 August 1995 .....	107
A.29. Crescent River north bank sonar counts by sector, 28 June through 8 August 1995. Counts expressed as percentage of daily total .....	108
A.30. Crescent River south bank sonar counts by sector, 28 June through 8 August 1995. Counts expressed as percentage of daily total .....	109
A.31. Estimated salmon escapement adjacent to the north bank of the Yentna River, 7 July through 10 August 1995. Species composition of daily sonar counts based on fish wheel catches .....	110
A.32. Estimated salmon escapement adjacent to the south bank of the Yentna River, 7 July through 10 August 1995. Species composition of daily sonar counts based on fish wheel catches .....	111
A.33. Yentna River north bank sonar counts by hour, 7 July through 10 August 1995 .....	112
A.34. Yentna River south bank sonar counts by hour, 7 July through 10 August 1995 .....	114
A.35. Yentna River north bank sonar counts by hour, 7 July through 10 August 1995. Counts expressed as percentage of daily total .....	116
A.36. Yentna River south bank sonar counts by hour, 7 July through 10 August 1995. Counts expressed as percentage of daily total .....	118
A.37. Yentna River north bank sonar counts by sector, 7 July through 10 August 1995 .....	120
A.38. Yentna River south bank sonar counts by sector, 7 July through 10 August 1995 .....	121
A.39. Yentna River north bank sonar counts by sector, 7 July through 10 August 1995. Counts expressed as percentage of daily total .....	122
A.40. Yentna River south bank sonar counts by sector, 7 July through 10 August 1995. Counts expressed as percentage of daily total .....	123

## ABSTRACT

Sockeye salmon *Oncorhynchus nerka* spawning escapements into four river systems of Upper Cook Inlet, Alaska, were estimated using side-scanning sonar equipment. Estimated sockeye salmon escapements were 630,447 into the Kenai River, 204,935 into the Kasilof River, 52,311 into the Crescent River, and 121,220 into the Yentna River. Indices of escapements of other salmon species into the Yentna River were also obtained by sonar: 103,990 pink *O. gorbuscha*, 31,473 chum *O. keta*, and 74,406 coho *O. kitsutch* salmon. Sockeye salmon in the Kenai River were primarily distributed within three age classes: 1.2 (31.9%), 2.3 (31.3%) and 1.3 (26.4%). Kasilof River sockeye salmon were primarily age: 1.2 (44.0%); 2.2 (25.0%); 1.3 (15.5%) and 2.3 (15.3%). Age-2.3 sockeye salmon were the most abundant (61.7%) age class in the Crescent River, followed by age class 1.3 (18.4%). Yentna River sockeye salmon were primarily age: 1.3 (51.3%), 1.2 (19.7%), and 2.3 (11.6%). Length and sex ratio data were collected for sockeye salmon in each river. Sockeye salmon migration routes in all rivers was near shore. Peak salmon counts were recorded during the evening hours in the Kenai and Kasilof Rivers, and during the evening and early morning hours in the Yentna River. Peak hourly counts in the Crescent River were related to the post meridiem high tides.

KEY WORDS: Alaska, Cook Inlet, salmon, Kenai River, Kasilof River, Crescent River, Yentna River, Susitna River, age/sex/size, sonar, escapement enumeration.

## INTRODUCTION

Prior to 1968, sockeye salmon escapement estimates in Upper Cook Inlet (UCI), Alaska (Figure 1) were based on surveys of clear water spawning areas and provided no information about the distribution or number of sockeye salmon which spawned in glacially occluded waters (King and Davis 1989). Commercial and recreational fishery management efforts were further hampered by lack of daily and cumulative estimates of escapement. These constraints were significantly reduced by the development of hydroacoustic techniques to enumerate sockeye salmon in some glacial tributaries of UCI. Hydroacoustic enumeration of escapement began on the Kenai and Kasilof Rivers in 1968, was expanded to the Susitna River in 1978 and to the Crescent River in 1980. The Susitna River counting site was abandoned in 1985, and in 1986 counting operations began on the Yentna River, a major tributary of the Susitna River. Results of escapement enumeration studies were documented by Waltemyer et al. (1980), Tarbox et al. (1981, 1983), King and Tarbox (1984, 1986, 1987, 1988, 1989a, 1990 and 1991), King (1990), King et al. (1989b, 1992), King and Davis (1989, 1992), Davis and King (1993, 1994 and 1995), Davis et al. (1993), and Namtvedt et al. (1979).

The program objectives of UCI escapement projects in 1995 were to estimate (1) the daily and cumulative number of sockeye salmon entering the Kenai, Kasilof, Crescent, and Yentna Rivers, and (2) the age, length, and sex composition of those escapements. Indices of abundance were also obtained for Yentna River pink, chum and coho salmon.

## METHODS

*Bendix Corporation*<sup>1</sup> side-scanning sonar counters described by King and Tarbox (1989a), Gaudet (1983) and Bendix Corp. (1980 and 1984) were used to enumerate salmon escapements. Pulse width was 100 ms and the frequency was 515 KHz. Two- and four-degree transducer elements were multiplexed in an alternating mode. The counting threshold was preset at approximately -38 db by the manufacturer. Detection level could be lowered by increasing gain to the system. Counters were operated without artificial substrates in the Kenai, Crescent and Yentna Rivers. A technical consultant tested the counters for proper operation prior to deployment, and reinspected counters when migrating fish densities neared maximum levels in each river system (A. Menin, Hydroacoustic Consulting, Sylmar, CA).

Project operational dates were: 1 July through 14 August on the Kenai River; 12 June through 4 August on the Kasilof River; 28 June through 8 August on the Crescent River; and 7 July through 10 August on the Yentna River. Counting operations ceased when daily counts were < 1% of the

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<sup>1</sup>Use of a company's name does not constitute product endorsement.

cumulative count for 3 consecutive days. Kenai and Kasilof River counting operation cessation criteria were not instituted until cessation of continuous commercial fishing.

Raw hourly output data were edited to account for debris, bottom echoes, or other sources of non-fish counts. Hourly sonar counts by day were entered into a data-base program which calculated a daily average hourly count for inshore (1-6) and offshore (7-12) sonar sectors by

$$Ca = Cb/N, \quad (1)$$

where:

Ca = average count per sector per hour;

Cb = valid hourly counts for all inshore or offshore sectors; and

N = number of sector per hour units which contained only valid counts.

The average count was then substituted into any sector/hour block where counts were deleted through editing. Sonar counts collected from the north bank of the Crescent River received the same treatment but calculations were made manually and computer entry of data occurred post-season. The daily average hourly count for the south bank of the Crescent River was calculated for each sector by:

$$Cc = Cd/N, \quad (2)$$

where:

Cc = average count per sector per hour for the Crescent River south bank;

Cd = valid Crescent River south bank hourly counts per sector; and

N = number of hour units per sector which contained only valid counts.

All counts recorded on the south bank at Crescent River occurred in sectors one (93.5%) and two (6.5%) of the counting range. Printer skips (treated as false counts) regularly occurred in sectors one through six. Hourly averages for each sector were substituted where skips occurred or counts were deleted. Because of the spacial distribution of fish migrating adjacent to this bank, the method used for the treatment of false counts provided a more accurate estimate of daily escapement because it did not place a high hourly average count derived from sector one or two into sectors where very few targets were detected.

Temporal and spacial behavior of sockeye salmon was assessed by examining distribution of fish by sector, hourly passage rate, bank preference, and cumulative proportion of sonar counts by day. Counting range is the length of the ensonified area in which counting occurs. Counting range for the counter operated at on the north bank of the Crescent River ranged from 8.8 m to 9.1 m and the counting range for the south bank was 20.1 m. Counting range for the north bank of the Kenai River was 13.1 m to 17.1 m and 8.8 m to 9.1 m for the south bank. An extended weir was erected on the south bank of the Kenai River enabling positioning of the transducer further from the bank. Counting ranges at the Kasilof River were 11.3 m to 12.5 m on the north bank and 12.8 m to 14.3 m on the south bank. In the Yentna River, counting range for the north bank was 8.8 m to 10.0 m. On the south bank fish were counted between 4.9 m to 5.5 m. Reported ranges encompassed the

period when 80% (10%-90%) of the run occurred and the average counting range employed was used for descriptive purposes. Transducer distance from shore varied among systems and is not reflected in the reported counting range.

Transducer orientation was accomplished by remotely controlled rotators except on the Kasilof River and the south bank of the Kenai River. Correct orientation of the acoustic axis was tested periodically by the use of an artificial target. An air-tight plastic sphere was weighted and moved through the ensonified area at various distances from the transducer. Simultaneous detection of the target by the counter and visual recognition on an oscilloscope verified correct axis orientation. Transducers were moved nearer shore as water depth increased. Fish passage between (behind) the transducers and the bank was prevented by the use of weirs.

Counters were generally monitored 0700-2400 h on the Kasilof, Crescent and Yentna Rivers, and throughout the 24 h period on the Kenai River. In addition to regularly scheduled monitoring, intensified monitoring was conducted during episodic fish passage. In all cases, visual counts from an oscilloscope were compared to the counts accumulated by the counter during a minimum 10-min period or for a minimum oscilloscope count of 100 fish. During periods of low density passage (<500 fish per hour), Kenai and Yentna River oscilloscope/counter observations were made at a minimum of 1 h per bank each day. When passage rates reached 500 fish per hour, minimum observation time increased to 2 h per bank per day. Kasilof and Crescent River counters were monitored for a minimum of 2 h per bank per day. If a relative error greater than 20% occurred between targets counted on the oscilloscope and targets recorded by the counter, counter adjustments were made to reduce the relative error. However, operators typically made adjustments to the counters to accommodate for less than 20% relative error. The basic counter adjustment consisted of changing the pulse repetition rate.

Information used to estimate species composition of sonar counts, and age, length, and sex composition of sockeye salmon escapements was obtained from salmon captured in fish wheels. Fish wheels were located on the north banks of the Kenai, Kasilof, and Crescent Rivers (1 at each site), and on both banks of the Yentna River. Fish wheels were operated up to 24 h per day at Yentna River, and during daylight hours at Crescent and Kasilof Rivers. The Kenai River fish wheel was typically operated during evening hours when the passage rate and proximity to shore of migrating sockeye salmon maximized capture rate. The fish wheel was generally stopped when operators estimated the minimum sample size required to provide age, sex and length data was attained. Fish wheel catches at the Yentna River site were expanded for each 24 h period based on the hourly catch rate during the hours of operation by

$$F_d = (F_h/H) 24, \quad (3)$$

where:

$F_d$  = expanded fish wheel catch for 24 hours;

$F_h$  = fish wheel catch for hours operated; and

$H$  = hours fish wheel operated.

In the Kenai and Kasilof Rivers all sonar counts were treated as sockeye salmon. In the Yentna River, daily fish wheel catches were grouped into sample sizes of at least 150 salmon to apportion sonar counts. Actual (not adjusted to 24 h) fish wheel catches were used to apportion sonar counts in the Crescent River, and, because of their size and number, Dolly Varden char were included in sonar count apportionment at Crescent River. Dolly Varden char were marked and released to verify that captured fish passing the sonar counters were migrating fish.

Factors influencing the accuracy of escapement estimates for pink, coho, chum, and chinook salmon in the Yentna River were discussed by Tarbox et al. (1981, 1983). Counts apportioned to these species in 1995 were considered to be index counts.

Sample sizes for estimating sockeye salmon age composition were based on methods for estimating multinomial proportions developed by Thompson (1987). Minimum sample sizes were calculated so that the estimated proportion of each major age class was within 5% of the true proportion 90% of the time. Previous years age composition proportions were analyzed to determine adequate sample sizes for a variety of age class ratios. The largest sample size calculated in this manner was chosen as a minimum sample size for 1995. The minimum sample size was increased by 10% to account for unreadable scales, and this number was used as the total sample size required. Sockeye salmon scale samples were collected daily from the Kenai, Kasilof, Crescent, and Yentna Rivers. The number of salmon sampled for age composition per day was based on a percentage of the previous day's escapement count. These percentages were calculated by dividing the total season sample size by the anticipated total escapement.

To detect shifts in age class proportions over time, sockeye salmon age class samples were divided into four periods of approximately equal sample size and tested using the chi-square test of independence. The initial test included all periods. If a significant difference was detected, each period was then tested against the following period to determine at what point the age class shift occurred.

Mid-eye to fork-of-tail length (mm) and sex were also recorded for all sockeye salmon sampled. Sex ratios and mean lengths were calculated by grouping all samples together regardless of type or timing of sampling. Age classes which were  $\geq 10\%$  of the total escapement in each river were included in the age and length composition tables.

## RESULTS

### *Kenai River*

An estimated 630,447 sockeye salmon migrated past the Kenai River sonar site (Table 1) from 1 July through 14 August. The desired escapement goal range for this drainage is 400,000-700,000 fish. The estimated sockeye salmon spawning escapement (sonar count minus sport harvest above the Soldotna bridge) was 519,991 fish (Table 2). A total of 7,542 sockeye salmon were passed at

the Hidden Lake weir. The late-run Russian River sockeye salmon escapement totaled 74,461 fish (Table 3).

Eighty percent of the sockeye salmon escapement passed the sonar counters in 31 d (Table 4; mean=19 d; range for 1979-95=6-31 d). The midpoint of the escapement was 31 July. Peak counts occurred on 25 July when 62,716 targets were detected (Table 5). Sockeye salmon migration along the north bank of the river accounted for 52.0% of the total escapement (Table 6). There were three distinct peaks in the daily numbers of fish passing the counters (Figure 2).

Distribution of the salmon migration adjacent to the north bank was predominantly (94.4%) within 10.8 m of the transducer. Salmon distribution adjacent to the south bank was more shore oriented, with 98.1% of the counts within 6.1 m of the transducer (Figure 3).

A pattern of increased salmon passage in the evening hours was observed on both banks but was more pronounced on the south bank (Figure 4,5). Fish passage measured 1800-0200 h accounted for 48.6% of the total migration.

A total of 3,022 sockeye salmon were captured in the fish wheel (Table 7), from which 712 scale samples, sexes, and lengths were obtained. The largest component (31.9%) of the sockeye salmon escapement was age-1.2 fish, followed by -2.3 (31.3%) and -1.3 (26.4%) fish (Table 8). Mean length by sex was within historical bounds for all age classes (Table 9). The male-to-female ratios fell within historical bounds. Female spawners constituted 51.3% of the total escapement. Length composition was within historical bounds but 2-ocean fish tended toward the large end of the range.

Chi-square testing of changes in age class proportions over all periods detected a significant ( $df=9$ ,  $\chi^2=23.7$ ,  $p=.005$ ) difference. A significant increase in the proportion of 2-ocean fish and decrease in the proportion of 3-ocean fish ( $df=3$ ,  $\chi^2=20.01$ ,  $p=.001$ ) occurred between period 3 (26 -29 July) and period 4 (30 July -11 August).

Age-1.3 and -2.3 sockeye salmon were bound primarily for Quartz Creek, Tern Lake, the mainstem river, and the shorelines and outlets of Kenai and Skilak Lakes. Late-run sockeye salmon bound for Russian River (above the falls) were predominantly age-2.2 (31.9%), -2.3 (31.6%) and -2.1 (26.9%) fish (Marsh 1995), while those bound for Hidden Lake were predominantly age 1.2 (Fandrei 1995).

### *Kasilof River*

A total of 204,935 sockeye salmon were counted at the Kasilof River sonar site from 15 June through 7 August (Table 10). The desired escapement range for this system is 150,000-250,000 sockeye salmon. Brood stock for artificial propagation at the Crooked Creek Hatchery (12,416 fish) were taken from Bear Creek (Fandrei 1995, Table 11). The index area spawning escapement estimate for Bear Creek was 29,017 sockeye salmon (Table 12).

The midpoint of the sockeye salmon escapement occurred on 14 July, 1 d after the mean for the previous 16 years (range 1-22 July; Table 13). Eighty percent of the escapement occurred in 30 d, 2 d less than the historical mean (1979-94).

Sixty-two percent of the salmon counts occurred on the south bank (Table 6). Spacial distribution adjacent to the north bank was near shore, where 95.6% of the salmon migrated within 10.0 m of the transducer. Fish passage on the south bank was similar (97.1% of the salmon were within 9.9 m of the transducer, Figure 6).

The average hourly passage rate on the north bank exceeded the 4.2% average for a consistent passage rate between 1400-2100 h and at 0700 h and 1000 h. Two periods had passage rates higher than the consistent passage rate on the south bank: 0600-1000 h and 1900-2200 h. Salmon counted during these hours on the north bank accounted for 47.7% of the total and 45.2% of the south bank total. A more consistent passage rate was observed on the north bank than on the south bank (Figure 7). There was one major peak and two minor peaks in daily passage of fish past the counting site (Figure 2).

A total of 2,023 sockeye salmon were captured in the Kasilof River fish wheel (Table 14), of which 587 were sampled for age, length, and sex characteristics. Age-1.2 (44.0%), -2.2 (25.0%), -1.3 (15.5%) and -2.3 (15.3%) sockeye salmon were the predominant age classes (Table 15). Mean lengths by sex were within the historical range (Table 16), as were the male-to-female ratios for all age classes. Female spawners comprised 55.0% of the escapement.

Chi-square testing of all periods combined detected a significant ( $df=9$ ,  $\chi^2=43.14$ ,  $p=.001$ ) change in age class proportions over time. Testing among periods detected a significant increase in the proportion of 2-ocean fish and decrease in the proportion of 3-ocean fish ( $df=3$ ,  $\chi^2=28.88$ ,  $p=.001$ ) between periods 1 (21 June-2 July) and 2 (3 July-17 July).

### *Crescent River*

A total of 64,077 salmon were counted at the Crescent River sonar site from 28 June through 8 August (Table 17). Sockeye salmon escapement was estimated to have been 52,311 fish or 81.7% of the total salmon escapement (Table 18). The desired sockeye salmon escapement goal for this system is 50,000 to 100,000 fish.

The midpoint of the sockeye salmon escapement occurred on 22 July, 5 d after the date of the historical mean, and 80% of the escapement passed the site in 23 d (Table 19). The peak in daily passage occurred on 22 July (Figure 2). Run timing between banks was similar. Sixty eight percent of the fish migrated along the north bank (Table 6).

Spacial distribution of fish was strongly shore oriented, with 100.0% of the south bank counts within 3.4 m of the transducer and 94.9% of the north bank counts within 4.8 m of the transducer (Figure 8). One peak in the migration was observed (Figure 2). Fish migrated adjacent to the north

ank at rates which exceeded the hourly average for a constant passage rate from 1600-2400 h (Figure 5). Sonar counts during those hours were 55.6% of the bank total. On the south bank the highest hourly passage rates occurred between 1300-2100 h (Figure 9), accounting for 66.6% of the bank total.

A total of 1,539 sockeye salmon were captured in the fish wheel (Table 20), of which 435 were sampled for age, length, and sex data. Age-2.3 fish were the most abundant (61.7%), with the other major component of the escapement represented by age-1.3 fish (18.4%; Table 21). Average lengths by sex were within the bounds of previous years observations (Table 22). Male-to-female ratios were within historical bounds. Females accounted for 55.8% of the total sockeye salmon escapement.

Crescent River hourly fish passage rates peaked during the afternoon and evening hours following high tides (Figure 10). The peak hour of fish passage on the north bank occurred after the post meridiem high tide on 41 of the 42 d of operation and on the south bank on 32 of the 42d of the enumeration operation.

Chi-square testing of age class proportions detected a marginal change over time among age classes ( $df=9$ ,  $\chi^2=16.46$ ,  $p=.001$ ).

Age and length composition of the sockeye salmon escapement in the Crescent River was typical of previous years, however, age-2.2 males were the smallest on record.

There were no recaptures of marked Dolly Varden char.

### *Yentna River*

From 7 July through 10 August, 331,393 salmon were counted at the Yentna River sonar site (Table 23), of which an estimated 121,220 were sockeye salmon. The escapement goal range for the Yentna River is 100,000-150,000 sockeye salmon. Sonar counts apportioned to species other than sockeye salmon were: pink salmon, 103,990; coho salmon, 74,406; chum salmon, 31,473; and chinook salmon, 346 (Table 24). Estimates of coho and chinook salmon escapements for other tributaries of the Susitna River were also made (Table 25). No estimates for pink or chum salmon were available for the Susitna River above its confluence with the Yentna River.

The midpoint of the sockeye salmon escapement occurred on 26 July, the same date as the historical mean. Eighty percent of the escapement passed the counters in 15 d (Table 26). Run timing was not appreciably different by bank. Eighty nine percent of the sockeye salmon migrated adjacent to the south bank (Table 6).

Of the salmon counted from the south bank, 91.7% were within 2.8 m of the transducer (Figure 11). On the north bank, 94.2% of the salmon were counted within 4.8 m of the transducer.

Fish passage rates increased during afternoon and evening hours (Figure 12). The seasonal hourly passage rate on the north bank met or exceeded the average for a constant hourly passage rate (4.2%) 1700-0200 h (Figure 5). Counts accumulated during these hours accounted for 55.7% of the north bank total. The percentage per hour for a constant hourly passage rate was exceeded 1500-2300 h on the south bank. Counts accumulated during these hours accounted for 42.6 % of the south bank total. There were two distinct peaks in the daily numbers of fish passing the counters (Figure 2).

A total of 3,552 sockeye salmon were captured in fish wheels at Yentna Station (Tables 27; 28), of which 507 were sampled for age, sex, and length data. The major components of the escapement were ages 1.3 (51.3%), 1.2 (19.7%), and 2.3 (11.6%; Table 29). Mean lengths and mate-to-female ratios for all age classes fell within historical bounds (Table 30). Female spawners composed 50.6% of the total sockeye salmon escapement.

The proportion of age-1.2 fish decreased and the proportion of age-1.3 fish increased ( $df=3$ ,  $\chi^2=8.502$ ,  $p=.037$ ) between period 3 (26-28 July) and period 4 (29 July-8 August). However, all periods were tested together and no significant ( $df=9$ ,  $\chi^2=14.11$ ,  $p=0.118$ ) changes were detected.

Eighty percent of the pink salmon escapement occurred in 11 d, with the midpoint occurring on 26 July (Table 31). Pink salmon run duration (80%) in the Yentna River has ranged 9 to 21 d. Migratory timing has been remarkably consistent, with the midpoint occurring between 25 and 30 July in 13 of the 15 years for which data is available.

## DISCUSSION

The 1995 field season and sonar counting operations were similar to past years. Counting conditions on all rivers were thought to be within design and operational tolerances of the Bendix side-scanning sonar system because (1) salmon passage was inshore and near the bottom during the peak of the run, (2) salmon densities were generally adequate for system adjustment, and (3) one species, sockeye salmon, composed most of the run except in Yentna River (37%).

### *Kenai River*

Species apportionment of sonar counts was discontinued in 1995 because we perceived a potential problem in the apportionment process when disproportionate numbers of non-sockeye salmon species appear in the fish wheel catch. Additionally, we considered the numbers of fish of other species as insignificant during the time sockeye salmon are being counted under normal run timing circumstances (salmon species other than sockeye salmon composed 1.0% of the fish wheel catch in 1995). If run timing differences dictated, species apportionment of sonar counts would again be instituted. Counts of other species are of no value as index counts as extended run duration and offshore distribution combine to limit the usefulness of these data.

### *Kasilof River*

Run timing, counter limitations, and spawning locations relative to the sonar site made sonar escapement estimates for Kasilof River pink, coho, and chinook salmon impractical. Coho salmon entered the river primarily in August (G. Kyle, ADF&G, Soldotna, personal communication). The proportion of pink salmon was not known, but the average historical proportion of the pink salmon in the Kasilof River escapement is 1.9% (range 0.2-6.4%). Early- and late-run chinook salmon migrated past the sonar site during the time when sockeye were counted, but no counts were apportioned to this species. We believe that the ratio of sockeye salmon to chinook salmon captured in the fish wheel has been biased toward chinook salmon during the latter portion of the run, resulting in total chinook estimates that exceed the actual spawners passing the counting site. The error associated with apportionment of chinook salmon counts to sockeye salmon is more acceptable than an inflated chinook salmon estimate.

### *Crescent River*

Prior to 1993, fish were collected for species composition with drifted gill nets and a fish trap. The installation of a fish wheel at Crescent River provided a larger sample size and probably reduced the degree of size selectivity inherent to the gear types formerly used. Dolly Varden char, which had not appeared in the catch in previous years, appeared in the fish wheel catch in 1993. We determined that the char captured at Crescent River were of adequate size to meet target detection thresholds of the counters and included them in the apportionment of daily sonar counts in 1993-95. We also concluded that these fish were migratory based on morphological characteristics and results of marking all Dolly Varden char captured in 1993-94. Of the Dolly Varden char marked in 1993-94, none were recaptured. In 1995, 132 char were marked and none were recaptured. The high proportion (18.6% or 548 fish) of char in the fish wheel catch in 1994 led us to believe that the sockeye salmon escapement may have historically been overestimated. The proportion of char in 1993 (0.5%) and 1995 (0.7%) may be more indicative of the degree of historical over apportionment to sockeye salmon than the high proportion observed in 1994.

We concluded from the hourly passage rate that daily migration timing is probably related to tide stage. However, we have not observed a diurnal bimodal entry pattern into Crescent River, so some other as yet unidentified variable(s) must also be influencing fish migration at this site. We have been unable to correlate fluctuations in water level or temperature to fish entry patterns into Crescent River.

### *Yentna River*

King and Tarbox (1990) indicated sockeye and pink salmon exhibited differential migratory behavior in the Yentna River. They found that sockeye salmon were proportionally higher in the fish wheel catch 1200-2400 h and pink salmon were more frequently captured 0600-1200 h. This observation identified a potential source of error in the use of total daily adjusted fish wheel catches to apportion sonar counts. To overcome this potential bias, fish wheels catches used to apportion

sonar counts were collected by operating the fish wheels in 4 time blocks of 6 h each over a 24 h period in 1993 and 1994. We determined that the degree of bias did not justify the additional expense of operating the fish wheels in this manner, and this method of fish wheel operation was discontinued in 1995.

Enumeration activities ceased on the Yentna River on 10 August. Migratory timing information could not be calculated for chum and coho salmon because migration continued past that date. The range for 1981-84=69.8%-92.0% (mean 78.7%) of the chum salmon escapement and 79.6%-89.9% (mean 84.8%) of the coho salmon escapement was recorded by 12 August (King and Tarbox 1986).

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Table 1. Estimated sockeye salmon escapement recorded by side-scanning sonar in the Kenai, Kasilof, Crescent and Susitna Rivers 1978-1995.

Year	System			
	Kenai R. <sup>a</sup>	Kasilof R. <sup>b</sup>	Crescent R.	Susitna R. <sup>c</sup>
1978	398,900	116,600	<sup>d</sup>	94,400
1979	285,020	152,179	86,654	156,980
1980	464,038	187,154	90,863	190,866
1981	407,639	256,625	41,213	139,401 <sup>e</sup> - 340,232
1982	619,831	180,239	58,957	215,856 <sup>f</sup> - 265,332 113,847 <sup>e</sup>
1983	630,340	210,271	92,122	112,314-175,936 <sup>g</sup> 104,414 <sup>e</sup>
1984	344,571	231,685	118,345	194,480 <sup>f</sup> - 279,446 <sup>g</sup> 149,375 <sup>e</sup>
1985	502,820	505,049	128,628	107,124 <sup>e</sup> - 227,924 <sup>g</sup>
1986	501,157	275,963	20,385 <sup>h</sup>	92,076 <sup>e</sup>
1987	1,596,871	249,250	120,219	66,054 <sup>e</sup>
1988	1,021,469	204,000 <sup>i</sup>	57,716	52,330 <sup>e</sup>
1989	1,599,959	158,206	71,064	96,269 <sup>e</sup>
1990	659,520	144,136	52,238	140,290 <sup>e</sup>
1991	647,597	238,269	44,578	109,632 <sup>e</sup>
1992	994,798	184,178	58,229	66,074 <sup>e</sup>
1993	813,617	149,939	37,556	141,694 <sup>e</sup>
1994	1,003,446	205,117	30,355	128,032 <sup>e</sup>
1995	630,447	204,935	52,311	121,220 <sup>e</sup>

<sup>a</sup> Includes counts after 22 June (1978-87) and after 1 July (1988-95).

<sup>b</sup> Includes counts or estimates prior to 15 June (1983-88) and post enumeration estimates (1981-86).

<sup>c</sup> Sonar counts from Susitna Station unless otherwise indicated.

<sup>d</sup> No counts conducted.

<sup>e</sup> Sonar counts from Yentna Station only.

<sup>f</sup> Sonar counts from Yentna Station and east bank of the Susitna River.

<sup>g</sup> Counts from Yentna Station and mark-recapture estimate from Sunshine Station.

<sup>h</sup> Counts through 16 July only.

<sup>i</sup> Combined counts from wiers on Bear and Glacier Flat Creeks and surveys of remaining spawning streams.

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Table 2. Late-run Kenai River sockeye salmon escapement summary 1968-1995.

Year	Estimated Escapement at Sonar Site <sup>a</sup>	Estimated Russian River Sport Harvest <sup>b</sup>	Estimated Kenai River Mainstem Sport Harvest <sup>c</sup>	Estimated Total Harvest Above Sonar Site <sup>d</sup>	Sonar Count Less Sport Harvest
1968	88,000	5,820			
1969	53,000	1,150			
1970	73,000	600			
1971	300,000	10,730			
1972	318,000	16,050			
1973	367,000	8,930			
1974	161,000	8,500	8,030	16,530	144,470
1975	142,000	8,390	5,110	13,500	128,500
1976	380,000	13,700	13,140	26,840	353,160
1977	708,000	27,440	16,933	44,373	663,627
1978	398,900	24,530	24,542	49,072	349,828
1979	285,020	26,840	12,328	39,158	245,862
1980	464,038	33,500	18,592	52,082	411,956
1981	407,639	23,720	14,450	38,171	369,468
1982	619,831	10,320	38,400	48,718	571,113
1983	630,340	16,000	48,310	64,306	566,034
1984	344,571	21,970	11,160	33,250	311,321
1985	502,820	58,410	42,272	98,850	402,138
1986	501,157	30,810	51,221	78,730	419,126
1987	1,596,871	40,575	155,799	188,880	1,400,497
1988	1,021,469	19,536	103,124	111,310	898,809
1989	1,599,959	55,210	165,340	220,550	1,379,409
1990	659,520	56,175	87,580	140,559	515,765
1991	647,597	31,449	108,271	216,781	430,817 <sup>e</sup>
1992	994,798	26,101	161,957	188,058	806,740
1993	813,617	26,772	60,306	116,323	697,294
1994	1,003,446	26,375	93,616	119,991	883,455
1995	630,447	11,986	98,651	110,637	519,810

<sup>a</sup> Bendix Corp. multiple transducer sonar 1968-1977, side-scanning sonar 1978-1995.

<sup>b</sup> Based on creel census data from Sport Fish Division, Soldotna.

<sup>c</sup> Sport Fish Division Statewide Harvest Estimate, above the Soldotna Bridge (and sonar site) only.

<sup>d</sup> Combined Russian River and mainstem (above bridge) harvests.

<sup>e</sup> Sonar count less sport harvest reduced by 77,060 fish harvested by dip net at Hidden Creek.

Table 3. Late-run sockeye salmon escapement counts in eight index areas, Kenai River drainage, 1969-1995.

Year	Railroad Creek <sup>b</sup>	Johnson Creek <sup>b</sup>	Carter- Moose Creek <sup>b</sup>	Ptarmigan Creek <sup>b</sup>	Tern (Mud) Lake <sup>b</sup>	Quartz Creek <sup>c</sup>	Hidden Lake <sup>d</sup>	Russian River <sup>a</sup>		Total Index Area Escapement
								Above Weir	Below Weir	
1969	100	75	598	5	487	487	500	28,920	1,100	32,272
1970	99	118	348	7	561	200	323	28,200	220	30,076
1971	194	160	3,201	45	1,370	808	1,958	54,430	10,000	72,166
1972	700	150	3,400		1,200		4,956	79,000	6,000	95,406
1973	521	1,714	660	1,041	1,731	3,173	690	24,970	6,690	41,190
1974		46	939	558		255	1,150	24,650	2,210	29,808
1975	522	105	1,278	186	1,214	1,068	1,375	31,970	630	38,348
1976	1,032		5,558		1,548	3,372	4,860	31,950	3,470	51,790
1977	1,262	450	6,515	1,513	2,230	3,037	1,055	21,410	17,090	54,562
1978	1,749	780	1,933	3,529	1,126	10,627	4,647	32,760	18,330	75,481
1979		588	3,986	523	1,693	277	5,762	87,920	3,920	104,669
1980	1,259	253	4,879	5,752	2,575	7,982	27,448	83,980	3,220	137,348
1981	1,276	142	4,370	1,421	3,402	5,998	15,939	44,530	4,160	81,238
1982	2,518	498	4,752	7,525	4,300	70,540	8,648	30,790	45,000	174,571
1983	1,289	338	1,819	9,709		73,345	11,297	34,040	44,000	175,837
1984	2,090	939	5,927	18,000	2,728	37,659	27,792	92,660	3,000	190,795
1985	2,884	151	5,928	26,879			24,784	136,970	8,650	206,246
1986	600	245	1,659				17,530	40,420	6,022	66,476
1987	736	74	625	14,187		45,400	43,487	53,930	76,732	235,171
1988	1,990	1,243	1,607	31,696			50,907	42,480	28,840	158,763
1989	4,959	2,276	5,958	3,484			7,770	138,320	28,480	191,247
1990			2,306	3,230			77,959	83,336	11,760	178,591
1991			750 <sup>e</sup>	2,764 <sup>e</sup>	1,750 <sup>f</sup>		35,676	78,175	22,267	141,382
1992			1,106 <sup>e</sup>	3,147 <sup>e</sup>	970 <sup>f</sup>		32,912	63,478	4,980	106,593
1993							11,582	99,259	12,258	123,099
1994				1,204			6,086	122,277	15,211	144,778
1995						2,000 <sup>g</sup>	7,542	61,982	12,479	84,003

<sup>a</sup> 1969-75, ADF&G archives, Division of Sport Fish, Anchorage. 1976-95, Marsh, L., ADF&G, Division of Sport Fish, Soldotna.

<sup>b</sup> United States Department of Agriculture, Forest Service, Seward, Alaska (1984-92, 1994).

<sup>c</sup> FRED Division weir count (1982-83).

<sup>d</sup> Weir count: 1971, 1973, 1976-89 (FRED Division); 1990-95 (Cook Inlet Aquaculture Association).

<sup>e</sup> Carter-Moose Creek survey conducted on lower 1.0 mile of creek, Ptarmigan Creek survey conducted on lower 1.5 miles of creek (1991-1992, 1994).

<sup>f</sup> Survey conducted on an unnamed stream at eastern end of Tern (Mud) Lake.

<sup>g</sup> CFM&D ground survey

Table 4. Cumulative proportion by date of sockeye salmon counts recorded in the Kenni River 1979 - 1995.

Date	Cumulative Proportion*																
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
22-Jun	0.001	0.002	0.001	0.002	0.001	0.003	0.001	0.000	0.001	0.000	0.000	0.001	0.001	0.003	0.004	0.000	0.000
23-Jun	0.003	0.004	0.001	0.003	0.001	0.007	0.002	0.002	0.001	0.000	0.001	0.001	0.003	0.005	0.010	0.000	0.001
24-Jun	0.006	0.005	0.002	0.004	0.002	0.010	0.003	0.003	0.002	0.001	0.001	0.003	0.004	0.008	0.013	0.001	0.001
25-Jun	0.008	0.006	0.003	0.004	0.003	0.012	0.004	0.003	0.002	0.001	0.001	0.010	0.005	0.010	0.019	0.001	0.002
26-Jun	0.010	0.008	0.004	0.005	0.004	0.013	0.005	0.004	0.003	0.001	0.002	0.019	0.012	0.011	0.037	0.002	0.003
27-Jun	0.012	0.008	0.006	0.006	0.005	0.015	0.006	0.004	0.004	0.002	0.006	0.029	0.018	0.014	0.058	0.003	0.007
28-Jun	0.013	0.009	0.007	0.007	0.006	0.017	0.007	0.006	0.004	0.003	0.011	0.036	0.019	0.015	0.061	0.007	0.011
29-Jun	0.015	0.010	0.008	0.007	0.006	0.018	0.009	0.006	0.005	0.003	0.014	0.044	0.020	0.016	0.067	0.011	0.013
30-Jun	0.017	0.011	0.009	0.008	0.007	0.021	0.010	0.007	0.006	0.003	0.017	0.049	0.022	0.018	0.081	0.013	0.016
01-Jul	0.019	0.012	0.010	0.009	0.007	0.023	0.014	0.008	0.007	0.003	0.014	0.050	0.024	0.020	0.085	0.016	0.019
02-Jul	0.020	0.013	0.012	0.010	0.008	0.024	0.016	0.009	0.008	0.003	0.014	0.052	0.028	0.022	0.087	0.019	0.021
03-Jul	0.023	0.014	0.012	0.011	0.008	0.025	0.017	0.010	0.008	0.003	0.017	0.049	0.022	0.018	0.081	0.013	0.016
04-Jul	0.025	0.015	0.013	0.011	0.009	0.027	0.019	0.011	0.008	0.001	0.017	0.050	0.024	0.020	0.085	0.016	0.019
05-Jul	0.030	0.016	0.013	0.012	0.009	0.029	0.021	0.012	0.009	0.001	0.017	0.052	0.028	0.022	0.087	0.019	0.021
06-Jul	0.030	0.016	0.014	0.012	0.009	0.031	0.024	0.013	0.009	0.002	0.011	0.036	0.018	0.014	0.058	0.003	0.007
07-Jul	0.067	0.017	0.016	0.013	0.010	0.032	0.026	0.014	0.009	0.003	0.011	0.036	0.019	0.015	0.061	0.007	0.011
08-Jul	0.077	0.017	0.018	0.013	0.010	0.036	0.030	0.014	0.010	0.003	0.014	0.044	0.020	0.016	0.067	0.011	0.013
09-Jul	0.082	0.018	0.064	0.015	0.011	0.044	0.032	0.015	0.010	0.003	0.017	0.049	0.022	0.018	0.081	0.013	0.016
10-Jul	0.086	0.018	0.186	0.016	0.013	0.054	0.033	0.015	0.010	0.011	0.021	0.050	0.024	0.020	0.085	0.016	0.019
11-Jul	0.089	0.019	0.262	0.016	0.017	0.063	0.036	0.015	0.010	0.063	0.024	0.052	0.028	0.022	0.087	0.019	0.021
12-Jul	0.092	0.020	0.366	0.017	0.021	0.067	0.038	0.016	0.011	0.088	0.046	0.054	0.034	0.043	0.092	0.021	0.023
13-Jul	0.095	0.020	0.463	0.019	0.041	0.071	0.039	0.018	0.015	0.141	0.100	0.057	0.037	0.111	0.101	0.023	0.025
14-Jul	0.100	0.021	0.512	0.021	0.085	0.073	0.048	0.039	0.017	0.185	0.162	0.060	0.038	0.175	0.210	0.025	0.032
15-Jul	0.126	0.027	0.549	0.026	0.174	0.076	0.066	0.051	0.033	0.222	0.211	0.064	0.041	0.202	0.301	0.032	0.062
16-Jul	0.170	0.057	0.559	0.047	0.242	0.112	0.104	0.061	0.043	0.274	0.242	0.068	0.046	0.218	0.400	0.062	0.073
17-Jul	0.238	0.310	0.572	0.067	0.297	0.173	0.111	0.073	0.052	0.303	0.290	0.138	0.058	0.229	0.485	0.073	0.122
18-Jul	0.342	0.489	0.605	0.182	0.437	0.307	0.114	0.086	0.058	0.340	0.347	0.279	0.086	0.246	0.517	0.122	0.164
19-Jul	0.504	0.607	0.667	0.322	0.566	0.363	0.115	0.102	0.069	0.375	0.367	0.344	0.136	0.255	0.533	0.164	0.190
20-Jul	0.670	0.777	0.747	0.474	0.695	0.406	0.116	0.113	0.141	0.409	0.421	0.400	0.194	0.284	0.557	0.190	0.232
21-Jul	0.795	0.899	0.803	0.563	0.766	0.464	0.120	0.174	0.235	0.464	0.500	0.457	0.225	0.334	0.582	0.232	0.269
22-Jul	0.840	0.920	0.835	0.598	0.796	0.555	0.178	0.269	0.319	0.569	0.566	0.473	0.261	0.370	0.599	0.269	0.298
23-Jul	0.872	0.926	0.848	0.642	0.813	0.652	0.291	0.322	0.406	0.679	0.639	0.518	0.308	0.402	0.612	0.298	0.343
24-Jul	0.888	0.932	0.864	0.681	0.833	0.720	0.463	0.382	0.488	0.744	0.679	0.576	0.376	0.451	0.624	0.343	0.399
25-Jul	0.913	0.935	0.876	0.722	0.844	0.781	0.574	0.471	0.570	0.785	0.698	0.675	0.424	0.535	0.635	0.399	0.420
26-Jul	0.925	0.938	0.894	0.752	0.861	0.833	0.693	0.618	0.640	0.812	0.729	0.719	0.477	0.612	0.670	0.420	0.428
27-Jul	0.931	0.944	0.911	0.842	0.865	0.867	0.753	0.730	0.694	0.827	0.774	0.729	0.546	0.678	0.720	0.428	0.432
28-Jul	0.934	0.947	0.921	0.883	0.872	0.897	0.822	0.783	0.740	0.836	0.806	0.744	0.637	0.740	0.748	0.432	0.440
29-Jul	0.939	0.952	0.932	0.903	0.878	0.913	0.864	0.816	0.766	0.844	0.831	0.796	0.711	0.798	0.773	0.440	0.450

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Table 4. (p. 2 of 2)

Date	Cumulative Proportion <sup>a</sup>																
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
30-Jul	0.945	0.955	0.940	0.918	0.882	0.921	0.897	0.862	0.790	0.847	0.846	0.846	0.772	0.830	0.795	0.450	0.469
31-Jul	0.950	0.957	0.948	0.931	0.891	0.928	0.911	0.897	0.831	0.850	0.856	0.867	0.838	0.843	0.814	0.469	0.525
01-Aug	0.953	0.960	0.955	0.940	0.906	0.933	0.919	1.000	0.871	0.854	0.875	0.879	0.885	0.854	0.827	0.525	0.620
02-Aug	0.955	0.962	0.964	0.946	0.916	0.937	0.922	0.899	0.859	0.859	0.888	0.896	0.912	0.864	0.845	0.620	0.673
03-Aug	0.958	0.964	1.000	0.951	0.920	0.943	0.925	0.917	0.863	0.863	0.899	0.932	0.927	0.871	0.858	0.673	0.696
04-Aug	0.961	0.966		0.955	0.934	0.948	0.929	0.930	0.930	0.873	0.908	0.963	0.934	0.877	0.866	0.696	0.713
05-Aug	0.965	0.968		1.000	0.964	0.956	0.931	0.943	0.943	0.894	0.916	0.978	0.939	0.888	0.879	0.713	0.728
06-Aug	0.968	0.970			0.977	0.960	0.935	0.943	0.943	0.914	0.930	0.991	0.946	0.903	0.908	0.728	0.740
07-Aug	0.971	0.972			0.983	0.963	0.938	0.962	0.962	0.933	0.949	1.000	0.953	0.915	0.927	0.740	0.748
08-Aug	0.973	0.974			0.989	0.969	0.943	0.967	0.967	0.944	0.960	1.000	0.967	0.930	0.938	0.748	0.757
09-Aug	0.977	0.975			0.993	1.000	0.947	0.972	0.972	0.953	0.966	1.000	0.979	0.942	0.959	0.757	0.771
10-Aug	0.981	0.978			0.996		0.953	0.979	0.979	1.000	0.974	1.000	0.988	0.955	0.970	0.771	0.791
11-Aug	0.987	0.982			0.999		0.960	0.985	0.988	0.985	0.985	0.990	0.995	0.969	0.979	0.791	0.814
12-Aug	0.993	0.985			1.000		1.000	0.991	0.991	0.991	0.994	0.994	1.000	0.981	0.989	0.814	0.835
13-Aug	0.995	0.992						0.998	0.998	0.998	0.994	0.994	1.000	1.000	1.000	0.835	0.857
14-Aug	0.996	0.993						0.998	0.998	0.998	0.998	0.998	1.000	1.000	1.000	0.857	0.874
15-Aug	1.000	0.993						1.000	1.000	1.000	0.998	0.998	1.000	1.000	1.000	0.874	0.874
16-Aug		0.995									1.000	1.000				0.874	0.896
17-Aug		0.996														0.896	0.914
18-Aug		0.997														0.914	0.926
19-Aug		0.997														0.926	0.942
21-Aug		0.997														0.942	0.963
22-Aug		0.998														0.963	0.977
23-Aug		0.998														0.977	0.985
24-Aug		0.999														0.985	0.985
25-Aug		0.999														0.992	0.992
26-Aug		0.999														0.992	1.000
27-Aug		0.999														1.000	
28-Aug		1.000															

Midpoint	19-Jul	19-Jul	14-Jul	21-Jul	19-Jul	10-Jul	25-Jul	26-Jul	25-Jul	22-Jul	21-Jul	23-Jul	27-Jul	25-Jul	18-Jul	01-Aug	31-Jul
No. days for 80% <sup>b</sup>	12	6	18	12	18	14	16	12	14	25	23	18	15	25	26	31	31

<sup>a</sup>Proportion accrued on last day (1981, 1982, 1984-1986, 1988) represents that portion of the escapement estimated to have entered the river after termination of counting operations.

<sup>b</sup>Inclusive dates: date proportion of escapement reached 10% through date proportion of escapement reached 90%.

Table 5. Estimated sockeye salmon escapement into the Kenai River, 1 July through 14 August 1995.

Date	Daily	Cum	Date	Daily	Cum
1-Jul	1,844	1,844	24-Jul	57,382	343,771
2-Jul	1,316	3,160	25-Jul	62,716	406,487
3-Jul	1,166	4,326	26-Jul	37,485	443,972
4-Jul	822	5,148	27-Jul	26,571	470,543
5-Jul	1,717	6,865	28-Jul	21,420	491,963
6-Jul	1,956	8,821	29-Jul	8,641	500,604
7-Jul	3,640	12,461	30-Jul	3,651	504,255
8-Jul	1,276	13,737	31-Jul	4,480	508,735
9-Jul	355	14,092	1-Aug	6,982	515,717
10-Jul	1,841	15,933	2-Aug	2,783	518,500
11-Jul	1,612	17,545	3-Aug	8,406	526,906
12-Jul	858	18,403	4-Aug	30,503	557,409
13-Jul	1,070	19,473	5-Aug	12,883	570,292
14-Jul	1,415	20,888	6-Aug	2,561	572,853
15-Jul	1,132	22,020	7-Aug	12,487	585,340
16-Jul	2,033	24,053	8-Aug	6,057	591,397
17-Jul	27,278	51,331	9-Aug	7,266	598,663
18-Jul	31,120	82,451	10-Aug	6,824	605,487
19-Jul	34,005	116,456	11-Aug	9,574	615,061
20-Jul	36,538	152,994	12-Aug	5,821	620,882
21-Jul	54,620	207,614	13-Aug	3,600	624,482
22-Jul	31,628	239,242	14-Aug	5,965	630,447
23-Jul	47,147	286,389			

Table 6. Distribution of sockeye salmon escapement by bank recorded by side-scanning sonar in the Kenai, Kasilof, Crescent, and Yentna Rivers 1979-1995.

Year	Kenai River		Kasilof River		Crescent River		Yentna River	
	North Bank	South Bank	North Bank	South Bank	North Bank	South Bank	North Bank	South Bank
1979	72	28	53	47				
1980	61	39	52	48	49	51		
1981	72	28	69	31	57	43		
1982	39	61	73	27	54	46		
1983	42	58	51	49	39	61		
1984	65	35	56	44	71	28		
1985	54	46	70	30	70	30	9	91
1986	62	38	57	43	84	16	32	68
1987	48	52	55	45	64	36	10	90
1988	47	53	32	68	53	47	8	92
1989	57	43	39	61	52	48	12	88
1990	62	38	29	71	44	56	2	98
1991	73	27	39	61	33	67	8	92
1992	60	40	45	55	56	44	5	95
1993	49	51	28	72	41	56	14	86
1994	52	48	47	53	65	35	8	92
1995	52	48	38	62	68	32	11	89

Table 7. Daily fish wheel catch by species for the north bank of the Kenai River, 1 July through 13 August 1995.<sup>a</sup>

Date	Hours open	Sockeye		Pink		Coho		Chinook	
		Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
01-Jul	22.0	0	0	0	0	0	0	1	1
02-Jul	21.0	0	0	1	1	0	0	0	1
03-Jul	24.0	0	0	0	1	0	0	0	1
04-Jul	24.0	0	0	0	1	0	0	0	1
05-Jul	30.0	3	3	0	1	0	0	0	1
06-Jul	27.0	1	4	0	1	0	0	1	2
07-Jul	18.0	9	13	0	1	0	0	0	2
08-Jul	16.5	1	14	0	1	0	0	1	3
09-Jul	28.3	11	25	0	1	0	0	0	3
10-Jul	24.0	0	25	0	1	0	0	0	3
11-Jul	24.0	0	25	0	1	0	0	0	3
12-Jul	22.0	1	26	0	1	0	0	1	4
13-Jul	26.5	4	30	1	2	0	0	0	4
14-Jul	25.0	1	31	0	2	0	0	0	4
15-Jul	19.0	2	33	0	2	0	0	1	5
16-Jul	29.0	14	47	0	2	0	0	0	5
17-Jul	13.0	115	162	0	2	0	0	0	5
18-Jul	13.0	50	212	0	2	0	0	0	5
19-Jul	11.0	25	237	0	2	0	0	0	5
20-Jul	12.0	86	323	0	2	0	0	0	5
21-Jul	20.3	279	602	0	2	0	0	0	5
22-Jul	14.3	121	723	0	2	0	0	0	5
23-Jul	10.5	176	899	0	2	0	0	1	6
24-Jul	14.6	50	949	0	2	1	1	1	7
25-Jul	9.5	133	1,082	1	3	0	1	0	7
26-Jul	12.0	444	1,526	0	3	0	1	0	7
27-Jul	3.0	112	1,638	0	3	0	1	0	7
28-Jul	4.0	134	1,772	0	3	3	4	4	11
29-Jul	12.8	65	1,837	0	3	0	4	1	12
30-Jul	24.0	16	1,853	0	3	0	4	0	12
31-Jul	23.0	14	1,867	1	4	0	4	0	12
01-Aug	21.0	30	1,897	0	4	0	4	0	12
02-Aug	24.0	16	1,913	0	4	0	4	2	14
03-Aug	12.0	88	2,001	0	4	1	5	0	14
04-Aug	17.0	411	2,412	1	5	1	6	0	14
05-Aug	12.0	53	2,465	0	5	2	8	2	16
06-Aug	10.8	61	2,526	0	5	0	8	4	20
07-Aug	30.0	59	2,585	1	6	1	9	0	20
08-Aug	23.5	85	2,670	0	6	1	10	1	21
09-Aug	22.5	138	2,808	0	6	0	10	0	21
10-Aug	18.5	160	2,968	0	6	0	10	0	21
11-Aug	7.0	15	2,983	2	8	0	10	0	21
12-Aug <sup>b</sup>	0.0	0	2,983	0	8	0	10	0	21
13-Aug	24.0	39	3,022	6	14	0	10	1	22

<sup>a</sup> Other species captured included: 8 rainbow trout; 88 Dolly Varden char; 2 whitefish.

<sup>b</sup> Fishwheel was not operational.

Table 8. Age composition of sockeye salmon collected in the Kenai River 1970-1995.

Year	Percentage Composition by Age Class <sup>a,b</sup>								Sample Size
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	Other	
1970	tr	10.0	17.0	tr	26.0	25.0	15.0	6.0	225
1971	0.0	8.0	39.0	1.0	3.0	38.0	11.0	0.0	168
1972	0.0	21.0	34.0	0.0	0.0	23.0	20.0	0.0	403
1973	0.0	5.0	68.0	1.0	1.0	8.0	16.0	0.0	632
1974	2.0	18.0	46.0	0.0	3.0	18.0	12.0	0.0	295
1975	2.0	10.0	36.0	2.0	4.0	31.0	14.0	1.0	162
1976	1.0	46.0	20.0	0.0	2.0	22.0	8.0	1.0	948
1977	0.0	6.0	76.0	1.0	tr	7.0	10.0	0.0	1,265
1978	0.0	2.5	86.7	0.0	0.0	4.9	5.4	tr	811
1979	tr	20.2	61.1	0.0	0.0	11.8	6.2	tr	601
1980	0.0	27.7	45.1	0.0	0.0	16.2	10.1	tr	715
1981	0.0	16.2	70.9	0.0	0.0	8.1	4.8	0.0	1,757
1982	0.1	5.8	87.5	tr	0.0	2.9	3.7	0.0	1,787
1983	0.4	8.2	79.1	0.2	0.5	2.2	8.9	0.4	1,765
1984	0.2	23.4	38.2	3.5	6.0	12.8	19.2	2.2	2,364
1985	0.1	15.9	56.4	0.3	0.1	14.7	11.4	1.1	2,201
1986	0.0	31.8	39.5	0.7	0.3	8.2	18.0	1.5	789
1987	0.0	12.8	78.4	0.1	0.0	3.2	5.2	0.3	745
1988	0.3	11.6	74.2	0.4	0.2	3.1	10.2	0.1	1,420
1989	0.1	9.1	75.3	1.0	0.5	4.1	9.7	0.2	2,275
1990	0.6	21.6	41.4	0.6	0.3	13.7	21.1	0.8	1,513
1991	0.2	48.2	31.6	0.1	0.5	5.7	11.4	2.7	2,504
1992	0.0	2.9	79.4	tr	tr	6.1	11.0	tr	1,338
1993	0.3	12.2	30.5	2.6	6.3	6.4	41.2	0.5	2,088
1994	0.3	6.6	61.1	0.8	0.8	17.8	12.1	0.5	1,341
1995	0.3	31.9	26.4	0.4	2.4	6.6	31.3	0.7	712

<sup>a</sup> Percentages weighted by total numbers in the escapement: 1978 (Bethe et al. 1980), 1979-1982, 1984-1995.

<sup>b</sup> 1978-1995 from Waltemyer, ADF&G, Soldotna.

Table 9. Length composition of the major age classes of sockeye salmon collected in the Kenai River 1980-1995. Length measured from mid-eye to fork-of-tail.<sup>a</sup>

Year	Age Class	Male			Female			Ratio Male-Female
		Ave Length (mm)	Stndrd Error	Sample Size	Ave Length (mm)	Stndrd Error	Sample Size	
1980	1.2	482	4	168	494	4	100	1.7:1
1981		493	6	85	513	6	73	1.2:1
1982		483	9	70	505	13	32	2.2:1
1983		524	9	25	520	6	30	0.8:1
1984		474	3	280	473	4	196	1.4:1
1985		492	3	184	490	3	186	1.0:1
1986		488	4	155	492	6	96	1.6:1
1987		514	8	39	503	5	56	0.7:1
1988		522	8	79	511	4	84	0.9:1
1989		493	6	114	494	4	92	1.2:1
1990		474	0	168	478	0	127	1.3:1
1991		488	2	613	497	13	577	1.1:1
1993		474	4	123	481	4	132	0.9:1
1994		452	5	46	462	6	42	1.1:1
1995		492	4	116	487	4	111	1.0:1
1980		1.3	580	3	180	561	2	192
1981	590		2	290	569	1	430	0.7:1
1982	596		2	723	572	1	841	0.9:1
1983	598		2	215	577	1	269	0.8:1
1984	582		2	385	559	1	395	1.0:1
1985	575		2	496	552	1	824	0.6:1
1986	584		3	112	564	2	200	0.6:1
1987	605		2	183	586	1	401	0.5:1
1988	598		1	428	572	2	624	0.7:1
1989	600		1	831	575	1	881	0.9:1
1990	586		0	358	559	0	318	1.1:1
1991	561		2	357	539	1	441	0.8:1
1992	572		2	370	547	1	714	0.5:1
1993	583		2	247	556	2	390	0.6:1
1994	579		2	367	552	1	452	0.8:1
1995	584		3	81	564	2	107	0.8:1
1984	2.2	505	4	116	508	3	159	0.7:1
1985		513	4	132	513	3	196	0.7:1
1994		481	4	67	488	2	171	0.4:1
1980	2.3	589	3	67	579	3	80	0.8:1
1982		598	5	46	580	8	21	2.2:1
1983		595	4	25	582	4	36	0.7:1
1984		570	2	210	557	2	192	1.1:1
1985		570	3	106	555	2	129	0.8:1
1986		585	5	52	568	3	89	0.6:1
1988		596	3	53	577	3	92	0.6:1
1989		600	3	112	579	2	108	1.0:1
1990		589	0	177	568	0	132	1.3:1
1991		572	2	153	543	3	139	1.1:1
1992		569	4	46	546	2	88	0.5:1
1993		583	2	357	560	1	503	0.7:1
1994		578	4	73	551	3	89	0.8:1
1995		588	3	114	569	3	109	1.1:1

<sup>a</sup> 1980-1995 from Waltemyer, ADF&G, Soldotna.

Table 10. Estimated sockeye salmon escapement into the Kasilof River, 15 June through 7 August 1995.

Date	Daily	Cum	Date	Daily	Cum
15-Jun	155	155	12-Jul	1,114	74,712
16-Jun	225	380	13-Jul	1,636	76,348
17-Jun	378	758	14-Jul	2,998	79,346
18-Jun	522	1,280	15-Jul	1,599	80,945
19-Jun	720	2,000	16-Jul	18,834	99,779
20-Jun	1,276	3,276	17-Jul	26,895	126,674
21-Jun	1,709	4,985	18-Jul	4,621	131,295
22-Jun	1,525	6,510	19-Jul	5,299	136,594
23-Jun	1,648	8,158	20-Jul	4,404	140,998
24-Jun	1,380	9,538	21-Jul	3,220	144,218
25-Jun	2,541	12,079	22-Jul	10,168	154,386
26-Jun	2,472	14,551	23-Jul	11,093	165,479
27-Jun	3,555	18,106	24-Jul	12,351	177,830
28-Jun	6,504	24,610	25-Jul	3,057	180,887
29-Jun	9,396	34,006	26-Jul	3,166	184,053
30-Jun	6,069	40,075	27-Jul	4,308	188,361
1-Jul	4,107	44,182	28-Jul	1,713	190,074
2-Jul	2,744	46,926	29-Jul	1,268	191,342
3-Jul	2,510	49,436	30-Jul	1,056	192,398
4-Jul	1,382	50,818	31-Jul	1,309	193,707
5-Jul	3,572	54,390	1-Aug	1,033	194,740
6-Jul	5,585	59,975	2-Aug	1,206	195,946
7-Jul	4,627	64,602	3-Aug	2,734	198,680
8-Jul	1,438	66,040	4-Aug	2,913	201,593
9-Jul	2,679	68,719	5-Aug	955	202,548
10-Jul	3,945	72,664	6-Aug	1,021	203,569
11-Jul	934	73,598	7-Aug	1,366	204,935

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Table 11. Kasilof River sockeye salmon escapement estimates 1968-1995.

Year	Escapement Estimated by Sonar Count <sup>a</sup>	Fish used for Artificial Propagation of Tustumena Lake <sup>b</sup>	Sonar Count Less Egg Take <sup>c</sup>
1968	89,000		
1969	46,000		
1970	38,000		
1971			
1972	113,000		
1973	40,000		
1974	70,000	205	69,795
1975	48,000	3,365	44,635
1976	139,000	5,463	133,537
1977	155,300	1,794	153,506
1978	116,600	6,681	109,919
1979	152,179	3,024	149,155
1980	187,154	6,030	181,124
1980	256,625	9,700	246,925
1982	180,239	11,571	168,668
1983	210,271	9,903	200,368
1984	231,685	11,141	220,544
1985	505,049	11,280	493,769
1986	275,963	11,952	264,011
1987	249,246	9,865	239,381
1988	204,000 <sup>d</sup>	9,387	195,000
1989	158,206	7,367	150,839
1990	144,136	6,831	137,305
1991	238,269	8,850	229,419
1992	184,178	6,550	177,628
1993	149,939	9,098	140,841
1994	205,117	13,596 <sup>e</sup>	191,521
1995	204,935	12,416	192,519

<sup>a</sup> Multiple transducer sonar counts rounded to the nearest thousand (1968-1978) from Namtvedt et al. (1979).

<sup>b</sup> From Cross et al. (1983): 1974-1980; FRED Div., Soldotna, Ak. files: 1981-1992; Fandrei, Cook Inlet Aquaculture Association: 1993-1995.

<sup>c</sup> Considered estimate of natural spawners above sonar site.

<sup>d</sup> Combined counts from weirs on Bear and Glacier Flat Creeks and surveys of spawning streams.

<sup>e</sup> Includes 290 fish not used for artificial propagation of Tustumena Lake, Fandrei (1995).

Table 12. Peak sockeye salmon escapement counts in seven index areas, Kasilof River drainage, 1975-1995.

Year	Nikolai Creek <sup>a</sup>	Crystal Creek <sup>a</sup>	Clear Creek <sup>a</sup>	Glacier Flat Creek <sup>b</sup>	Seepage Creek <sup>a</sup>	Moose Creek <sup>a</sup>	Bear Creek <sup>b</sup>	Total Index Count <sup>c</sup>
1975	5,700	400	300	14,400	3,700	3,300	27,700	55,500
1976	12,000	800	300	7,100	800	14,000	51,800	86,800
1977	29,100	600	1,800	5,800	800	16,600	58,000	112,700
1978	34,200	200	200	4,700	1,100	15,900	43,400	99,700
1979	19,100	500	400	5,600	800	8,100	35,900	70,400
1980	10,000	1,000	2,100	15,500	1,800	15,600	125,000	171,000
1981	36,000	860	2,978	40,071	3,376	12,968	75,117	171,370
1982	16,800	1,785	4,183	17,348	1,638	13,400	51,350	106,504
1983	17,100	1,657	860	38,776	3,305	19,245	61,957	142,900
1984	8,270	141	2,619	76,217	6,250	13,999	54,328	161,824
1985 <sup>d</sup>	17,500	800	3,500	121,400	5,700	9,200	120,400	278,500
1986 <sup>d</sup>	11,900	1,400	2,700	60,600	2,000	21,200	102,900	202,700
1987	9,002	1,385	7,704	61,000	791	17,601	71,250	168,733
1988	10,841	593	5,809	40,015	1,387	17,727	127,532	203,904
1989	4,818	1,033	559	20,156	940	17,058	62,941	107,505
1990	7,474	879	220	14,355	1,217	18,800	46,300	89,245
1991	21,582	391	1,223	12,068	1,661	18,105	68,880	123,910
1992	10,145	1,105	1,979	9,144	349	15,235	44,100	82,057
1993							36,002	36,002
1994	63,723			13,347 <sup>e</sup>			39,100	116,170
1995							29,017	29,017

<sup>a</sup> Commercial Fisheries Division stream survey counts (1975-85); FRED Division stream survey counts (1982-92); U.S. Biological Service weir count (Nikolai Creek 1994).

<sup>b</sup> FRED Division weir count, 1980-90, 1992. 1991 count is result of foot survey. 1993 count is result of foot and aerial survey and weir count, Cook Inlet Aquaculture Association, Gary Fandrei (personal communication).

<sup>c</sup> Counts standardized to common unit for years when entire stream not surveyed.

<sup>d</sup> Flag (1986). Numbers rounded to nearest 100 fish.

<sup>e</sup> U.S. Biological Service weir count (Glacier Flat Creek 1994). 1994 Glacier Flat Creek count includes 10,347 sockeye salmon passed through the weir and an estimated 3,000 sockeye salmon spawning downstream of the weir.

Table 13. Cumulative proportion by date of salmon counts recorded in the Kasilof River 1979-1995.

Date	Cumulative Proportion <sup>a,b</sup>																
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
14-May			0.000														
15-May			0.001														
16-May			0.003														
17-May			0.003														
18-May			0.005														
19-May			0.006														
20-May			0.006														
21-May			0.007														
22-May			0.008														
23-May	0.000		0.008														
24-May	0.003		0.010														
25-May	0.004		0.011														
26-May	0.006		0.012														
27-May	0.008		0.013														
28-May	0.009		0.014														
29-May	0.011		0.015														
30-May	0.014		0.016														
31-May	0.017		0.018														
01-Jun	0.020		0.020														
02-Jun	0.023		0.022														
03-Jun	0.026		0.025														
04-Jun	0.030		0.027														
05-Jun	0.034		0.030														
06-Jun	0.036		0.032														
07-Jun	0.037		0.035														
08-Jun	0.039		0.038														
09-Jun	0.040		0.040														
10-Jun	0.041		0.043			0.007											
11-Jun	0.041		0.045		0.008	0.008											
12-Jun	0.042		0.047		0.009	0.009											
13-Jun	0.043		0.049		0.011	0.011											
14-Jun	0.044		0.051		0.012	0.012											
15-Jun	0.044		0.055		0.013	0.013											
16-Jun	0.045		0.059		0.015	0.015											
17-Jun	0.046		0.064		0.018	0.018											
18-Jun	0.048		0.075		0.020	0.020											
19-Jun	0.049		0.082		0.022	0.022											
20-Jun	0.051		0.099		0.025	0.025											
21-Jun	0.054		0.114		0.027	0.027											
22-Jun	0.060	0.003	0.133		0.035	0.035											
					0.040	0.040											
					0.043	0.043											
					0.045	0.045											
					0.047	0.047											
					0.049	0.049											
					0.051	0.051											
					0.055	0.055											
					0.059	0.059											
					0.064	0.064											
					0.075	0.075											
					0.082	0.082											
					0.099	0.099											
					0.114	0.114											
					0.068	0.068											
					0.070	0.070											
					0.043	0.043											
					0.045	0.045											
					0.046	0.046											
					0.048	0.048											
					0.051	0.051											
					0.053	0.053											
					0.055	0.055											
					0.056	0.056											
					0.058	0.058											
					0.060	0.060											
					0.063	0.063											
					0.065	0.065											
					0.066	0.066											
					0.068	0.068											
					0.071	0.071											
					0.073	0.073											
					0.008	0.008											
					0.048	0.048											
					0.070	0.070											
					0.043	0.043											
					0.045	0.045											
					0.046	0.046											
					0.048	0.048											
					0.051	0.051											
					0.053	0.053											
					0.055	0.055											
					0.056	0.056											
					0.058	0.058											
					0.060	0.060											
					0.063	0.063											
					0.065	0.065											
					0.066	0.066											
					0.068	0.068											
					0.070	0.070											
					0.043	0.043											
					0.045	0.045											
					0.046	0.046											
					0.048	0.048											
					0.051	0.051											
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					0.060	0.060											
					0.063	0.063											
					0.065	0.065											
					0.066	0.066											
					0.068	0.068											
					0.070	0.070											
					0.043	0.043											
					0.045	0.045											
					0.046	0.046											
					0.048	0.048											
					0.051	0.051											
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					0.063	0.063											
					0.065	0.065											
					0.066	0.066											
					0.068	0.068											
					0.070	0.070											
					0.043	0.043											
					0.045	0.045											
					0.046	0.046											
					0.048	0.048											
					0.051	0.051											
					0.053	0.053											
					0.055	0.055											
					0.056	0.056											
					0.058	0.058											
					0.060	0.060											
					0.063	0.063											
					0.065	0.065											
					0.066	0.066											
					0.068	0.068											

Table 13. (p. 2 of 3)

Date	Cumulative Proportion <sup>a,b</sup>																
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
23-Jun	0.066	0.007	0.162	0.045	0.074	0.058	0.009	0.074	0.201	0.053	0.019	0.015	0.070	0.101	0.154	0.039	0.071
24-Jun	0.077	0.009	0.195	0.049	0.076	0.069	0.012	0.075	0.206	0.065	0.021	0.017	0.085	0.125	0.179	0.047	0.088
25-Jun	0.093	0.022	0.223	0.053	0.078	0.075	0.015	0.077	0.212	0.077	0.024	0.019	0.096	0.146	0.217	0.058	0.120
26-Jun	0.108	0.035	0.261	0.055	0.080	0.080	0.017	0.079	0.218	0.089	0.031	0.022	0.110	0.174	0.257	0.071	0.166
27-Jun	0.125	0.051	0.288	0.058	0.082	0.089	0.019	0.082	0.222	0.105	0.037	0.025	0.135	0.215	0.293	0.094	0.196
28-Jun	0.153	0.075	0.342	0.061	0.085	0.099	0.022	0.085	0.227	0.133	0.046	0.030	0.171	0.250	0.317	0.129	0.216
29-Jun	0.169	0.094	0.389	0.064	0.090	0.111	0.025	0.095	0.238	0.157	0.057	0.037	0.204	0.290	0.330	0.172	0.229
30-Jun	0.196	0.136	0.438	0.069	0.110	0.123	0.029	0.121	0.249	0.173	0.074	0.051	0.238	0.323	0.357	0.220	0.241
01-Jul	0.229	0.166	0.500	0.078	0.153	0.136	0.035	0.153	0.267	0.184	0.098	0.065	0.259	0.338	0.386	0.250	0.248
02-Jul	0.248	0.217	0.512	0.091	0.165	0.150	0.039	0.180	0.297	0.189	0.153	0.076	0.275	0.349	0.419	0.256	0.265
03-Jul	0.281	0.250	0.522	0.104	0.188	0.157	0.044	0.198	0.317	0.196	0.178	0.091	0.293	0.372	0.429	0.282	0.293
04-Jul	0.325	0.280	0.529	0.115	0.212	0.178	0.056	0.215	0.334	0.224	0.183	0.120	0.338	0.377	0.441	0.322	0.315
05-Jul	0.374	0.314	0.534	0.122	0.221	0.217	0.066	0.228	0.357	0.235	0.225	0.158	0.385	0.394	0.459	0.333	0.322
06-Jul	0.404	0.338	0.543	0.129	0.231	0.243	0.071	0.245	0.385	0.255	0.277	0.193	0.400	0.414	0.467	0.375	0.335
07-Jul	0.458	0.353	0.551	0.136	0.240	0.263	0.078	0.257	0.403	0.306	0.321	0.209	0.406	0.419	0.496	0.437	0.355
08-Jul	0.473	0.366	0.562	0.145	0.247	0.304	0.095	0.261	0.422	0.329	0.346	0.235	0.417	0.428	0.537	0.483	0.359
09-Jul	0.496	0.379	0.604	0.156	0.263	0.358	0.103	0.269	0.438	0.382	0.378	0.254	0.431	0.439	0.548	0.501	0.365
10-Jul	0.509	0.393	0.649	0.164	0.294	0.391	0.114	0.289	0.450	0.457	0.404	0.258	0.450	0.453	0.558	0.535	0.373
11-Jul	0.519	0.413	0.677	0.177	0.315	0.411	0.119	0.323	0.456	0.507	0.431	0.267	0.477	0.462	0.571	0.545	0.387
12-Jul	0.532	0.421	0.712	0.197	0.344	0.416	0.126	0.337	0.481	0.567	0.488	0.281	0.488	0.522	0.590	0.552	0.395
13-Jul	0.550	0.426	0.746	0.217	0.395	0.427	0.148	0.430	0.508	0.600	0.500	0.294	0.490	0.586	0.680	0.565	0.487
14-Jul	0.579	0.436	0.797	0.247	0.465	0.445	0.208	0.501	0.520	0.614	0.514	0.303	0.492	0.598	0.707	0.584	0.618
15-Jul	0.629	0.464	0.838	0.293	0.514	0.484	0.267	0.513	0.587	0.659	0.532	0.317	0.508	0.608	0.748	0.623	0.641
16-Jul	0.643	0.528	0.863	0.358	0.547	0.543	0.382	0.528	0.600	0.676	0.566	0.350	0.523	0.616	0.792	0.636	0.667
17-Jul	0.674	0.570	0.877	0.404	0.663	0.590	0.418	0.544	0.608	0.691	0.615	0.498	0.546	0.629	0.804	0.679	0.688
18-Jul	0.703	0.609	0.891	0.491	0.759	0.636	0.432	0.562	0.619	0.703	0.629	0.602	0.615	0.645	0.816	0.711	0.704
19-Jul	0.730	0.649	0.904	0.577	0.775	0.693	0.436	0.575	0.699	0.723	0.648	0.623	0.649	0.665	0.828	0.732	0.753
20-Jul	0.755	0.693	0.922	0.642	0.785	0.739	0.439	0.586	0.731	0.770	0.711	0.664	0.661	0.705	0.839	0.750	0.807
21-Jul	0.767	0.715	0.936	0.702	0.804	0.778	0.464	0.601	0.765	0.857	0.747	0.676	0.679	0.725	0.849	0.763	0.868
22-Jul	0.781	0.738	0.942	0.744	0.822	0.810	0.551	0.611	0.809	0.921	0.768	0.687	0.710	0.740	0.857	0.771	0.883
23-Jul	0.848	0.775	0.947	0.759	0.833	0.832	0.609	0.618	0.851	0.929	0.806	0.706	0.751	0.770	0.877	0.778	0.898
24-Jul	0.860	0.788	0.952	0.769	0.842	0.864	0.649	0.627	0.873	0.935	0.816	0.723	0.781	0.844	0.892	0.789	0.919
25-Jul	0.875	0.803	0.954	0.784	0.849	0.888	0.683	0.717	0.888	0.939	0.824	0.754	0.813	0.890	0.909	0.799	0.927
26-Jul	0.896	0.818	0.957	0.800	0.854	0.910	0.733	0.795	0.897	0.943	0.840	0.776	0.849	0.933	0.921	0.806	0.934
27-Jul	0.910	0.830	0.959	0.818	0.858	0.918	0.791	0.806	0.906	0.948	0.850	0.790	0.881	0.962	0.930	0.813	0.939
28-Jul	0.930	0.840	0.962	0.836	0.862	0.926	0.826	0.812	0.916	0.953	0.860	0.808	0.914	0.971	0.946	0.826	0.945
29-Jul	0.941	0.853	0.963	0.847	0.867	0.933	0.842	0.829	0.925	0.958	0.869	0.836	0.935	0.977	0.958	0.846	0.950
30-Jul	0.947	0.864	0.964	0.857	0.874	0.939	0.853	0.888	0.939	0.961	0.877	0.856	0.947	0.983	0.969	0.868	0.956
31-Jul	0.954	0.878	0.966	0.866	0.889	0.943	0.865	0.917	0.962	0.965	0.885	0.872	0.956	0.989	0.974	0.892	0.969
01-Aug	0.957	0.889	1.000	0.876	1.000	1.000	0.875	1.000	0.975	0.969	0.892	0.885	0.960	0.994	0.979	0.928	0.984

- Continued -

Table 13. (p. 3 of 3)

Date	Cumulative Proportion <sup>a,b</sup>																
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
02-Aug	0.963	0.900		0.886			0.881		0.982	0.973	0.898	0.901	0.966	1.000	0.987	0.943	0.988
03-Aug	0.966	0.906		0.895			0.890		0.986	0.977	0.905	0.916	0.973		0.992	0.952	0.993
04-Aug	0.969	0.915		1.000			0.898		0.990	0.983	0.916	0.924	0.978		0.996	0.959	1.000
05-Aug	0.980	0.925					0.904		0.994	0.990	0.927	0.933	0.981		1.000	0.966	
06-Aug	0.983	0.932					0.909		0.997	0.993	0.943	0.941	0.987				
07-Aug	0.986	0.939					0.917		1.000	0.997	0.958	0.946	0.994				
08-Aug	0.989	0.946					0.927			1.000	0.963	0.953	1.000				
09-Aug	0.991	0.961					0.938				0.969	0.963					
10-Aug	0.994	0.968					0.945				0.976	0.972					
11-Aug	0.998	0.979					0.949				0.982	0.977					
12-Aug	1.000	0.988					1.000				0.986	0.984					
13-Aug											0.990	0.989					
14-Aug											0.996	0.995					
15-Aug											1.000	1.000					
Midpoint	10-Jul	16-Jul	01-Jul	19-Jul	15-Jul	16-Jul	22-Jul	14-Jul	13-Jul	11-Jul	13-Jul	18-Jul	15-Jul	12-Jul	08-Jul	09-Jul	14-Jul
No. days for 80% <sup>c</sup>	32	34	29	32	33	28	28	32	41	26	33	29	33	34	37	35	30

<sup>a</sup> Proportion for first day (1983-1988) represents that portion of the escapement estimated to have passed the counting site prior to start of counting operations.

<sup>b</sup> Proportion for last date (1981-1986) represents that portion of the escapement estimated to have entered the river after termination of counting operations.

<sup>c</sup> Inclusive dates: date proportion of escapement reached 10% through date proportion of escapement reached 90%.

Table 14. Daily fish wheel catch by species for the north bank of the Kaslof River, 19 June through 3 August 1995.

Date	Hours open	Sockeye		Pink		Coho		Chinook <sup>a</sup>	
		Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
19-Jun									
20-Jun									
21-Jun	55.1	43	43	0	0	0	0	0	0
22-Jun	17.8	19	62	0	0	0	0	1	1
23-Jun	21.7	22	84	0	0	0	0	0	1
24-Jun	22.7	29	113	0	0	0	0	0	1
25-Jun	24.2	36	149	0	0	0	0	0	1
26-Jun	20.3	87	236	0	0	0	0	1	2
27-Jun	26.4	135	371	0	0	0	0	0	2
28-Jun	26.8	299	670	0	0	0	0	0	2
29-Jun	12.0	294	964	0	0	0	0	0	2
30-Jun	2.9	35	999	0	0	0	0	0	2
01-Jul	4.1	15	1,014	1	1	0	0	0	2
02-Jul	5.8	18	1,032	0	1	0	0	0	2
03-Jul	6.2	25	1,057	0	1	0	0	0	2
04-Jul	1.7	2	1,059	0	1	0	0	1	3
05-Jul	7.9	49	1,108	3	4	0	0	0	3
06-Jul	3.6	35	1,143	0	4	0	0	0	3
07-Jul	6.3	42	1,185	0	4	0	0	0	3
08-Jul	9.4	17	1,202	0	4	0	0	0	3
09-Jul	11.0	37	1,239	0	4	0	0	0	3
10-Jul	10.0	1	1,240	1	5	0	0	1	4
11-Jul	22.2	23	1,263	5	10	0	0	1	5
12-Jul	20.0	17	1,280	0	10	0	0	1	6
13-Jul	20.7	23	1,303	1	11	0	0	1	7
14-Jul	18.8	8	1,311	0	11	0	0	2	9
15-Jul	14.6	25	1,336	0	11	0	0	2	11
16-Jul	4.0	131	1,467	0	11	0	0	0	11
17-Jul	4.2	116	1,583	1	12	1	1	1	12
18-Jul	5.5	0	1,583	0	12	0	1	1	13
19-Jul	9.1	17	1,600	0	12	0	1	1	14
20-Jul	9.0	42	1,642	0	12	0	1	3	17
21-Jul	15.8	35	1,677	0	12	0	1	2	19
22-Jul	16.1	41	1,718	1	13	0	1	1	20
23-Jul	10.1	62	1,780	3	16	0	1	4	24
24-Jul	13.7	49	1,829	4	20	0	1	6	30
25-Jul	20.4	60	1,889	1	21	0	1	5	35
26-Jul	16.0	20	1,909	3	24	0	1	2	37
27-Jul	34.1	31	1,940	0	24	0	1	2	39
28-Jul	15.2	12	1,952	3	27	0	1	1	40
29-Jul	23.9	18	1,970	0	27	0	1	2	42
30-Jul	26.7	18	1,988	0	27	0	1	2	44
31-Jul	7.2	12	2,000	0	27	0	1	0	44
01-Aug	12.3	10	2,010	1	28	0	1	1	45
02-Aug	31.4	6	2,016	0	28	0	1	1	46
03-Aug	11.6	7	2,023	0	28	0	1	0	46

<sup>a</sup> Other species captured included: 9 Dolly Varden char; 2 whitefish.

Table 15. Age composition of sockeye salmon collected in the Kasilof River 1969-1995.

Year	Percentage Composition by Age Class <sup>a, b</sup>								Sample Size
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	Other	
1969	0.0	14.0	39.0	1.0	0.0	30.0	16.0	0.0	399
1970	tr	2.0	37.0	2.0	0.0	16.0	11.0	2.0	297
1971	0.0	6.0	69.0	0.0	0.0	8.0	16.0	1.0	153
1972	tr	42.0	36.0	1.0	tr	3.0	18.0	0.0	668
1973	0.0	20.0	57.0	0.0	0.0	19.0	4.0	0.0	374
1974	0.0	35.0	59.0	0.0	tr	4.0	2.0	0.0	254
1975	1.0	29.0	7.0	0.0	0.0	58.0	4.0	1.0	931
1976	tr	32.0	20.0	0.0	tr	35.0	12.0	1.0	755
1977	tr	30.0	30.0	0.0	1.0	28.0	11.0	0.0	1,209
1978	0.0	42.0	35.0	0.0	0.0	14.0	9.0	0.0	967
1979	0.0	52.2	37.2	0.0	tr	8.4	1.7	0.5	590
1980	0.0	58.7	27.8	0.0	0.0	8.0	4.5	1.0	988
1981	0.0	30.2	62.2	0.0	0.0	6.0	1.6	0.0	1,479
1982	1.0	34.0	49.5	0.0	0.1	10.7	4.7	0.0	1,518
1983	0.0	48.4	34.3	0.0	0.0	12.8	4.5	0.0	1,997
1984	0.0	50.5	24.8	tr	0.2	17.9	6.6	0.0	2,269
1985	0.2	57.3	21.8	0.1	0.1	17.8	2.6	0.1	3,063
1986	0.0	40.9	42.0	0.3	0.1	11.9	4.6	0.2	1,660
1987		43.4	27.4	0.0	0.1	22.4	6.4	0.3	1,248
1988	0.9	37.5	32.9	0.1	0.1	18.6	10.6	0.2	2,282
1989	0.2	44.0	46.3	0.2	0.0	5.2	4.2	0.0	1,216
1990	0.4	32.9	20.7	0.3	0.0	33.2	12.4	0.3	762
1991	0.0	31.5	33.4	0.1	0.1	29.0	5.8	0.1	2,106
1992	0.0	21.2	27.6	0.0	0.2	35.0	15.9	0.0	1,717
1993	0.4	16.3	29.8	0.0	0.4	28.0	25.2	0.0	571
1994	0.0	26.0	28.3	0.0	0.0	28.6	17.2	0.0	697
1995	0.2	44.0	15.5	0.0	0.0	25.0	15.3	0.0	587

<sup>a</sup> Percentages weighted by total numbers in the escapement: 1979-1995.

<sup>b</sup> 1978-1995 from Waltemyer, ADF&G, Soldotna.

Table 16. Length composition of the major age classes of sockeye salmon collected in the Kasilof River 1980-1995.  
Length measured from mid-eye to fork-of-tail.

Year	Age Class	Male			Female			Ratio Male-Female	
		Ave Length* (mm)	Stndrd Error	Sample Size	Ave Length* (mm)	Stndrd Error	Sample Size		
1980	1.2	474	2	189	464	1	376	0.5:1	
1981		503	2	241	492	3	146	1.7:1	
1982		481	2	285	466	2	235	1.2:1	
1983		493	2	113	491	3	78	1.4:1	
1984		480	1	544	478	1	428	2.6:1	
1985		474	1	723	472	1	897	0.8:1	
1986		482	2	266	482	1	368	0.7:1	
1987		472	2	282	470	2	257	1.1:1	
1988		480	1	353	477	1	480	0.7:1	
1989		481	2	245	480	2	290	0.8:1	
1990		462	0	139	458	0	91	1.5:1	
1991		467	2	326	461	2	305	1.1:1	
1992		467	2	184	466	2	212	0.9:1	
1993		479	4	40	479	3	53	0.8:1	
1994		465	2	90	465	2	91	1.0:1	
1995		491	2	117	483	2	141	0.8:1	
1980		1.3	531	7	35	516	2	115	0.3:1
1981			566	1	422	558	1	369	1.1:1
1982			549	1	377	542	1	428	0.9:1
1983	558		2	170	547	2	187	0.9:1	
1984	539		1	304	533	1	383	0.8:1	
1985	531		2	341	527	1	433	0.8:1	
1986	550		2	342	543	1	405	0.8:1	
1987	553		2	191	552	2	154	1.2:1	
1988	550		1	311	543	1	382	0.8:1	
1989	550		2	266	542	2	296	0.9:1	
1990	518		0	81	523	0	106	0.8:1	
1991	531		1	418	518	1	335	1.3:1	
1992	536		2	195	527	2	197	1.0:1	
1993	550		3	101	542	3	69	1.5:1	
1994	538		3	98	530	3	99	1.1:1	
1995	542		5	42	534	3	49	0.9:1	
1982	2.2		479	3	65	472	3	81	0.8:1
1984			484	2	202	482	1	223	0.9:1
1985			482	2	248	476	1	319	0.8:1
1986		492	4	78	489	2	115	0.7:1	
1987		478	2	137	475	2	141	1.0:1	
1988		486	2	173	479	1	220	0.8:1	
1990		453	0	104	457	0	111	0.9:1	
1991		471	2	289	480	11	301	1.0:1	
1992		464	2	264	464	1	427	0.6:1	
1993		486	3	58	480	2	102	0.7:1	
1994		469	2	97	468	2	102	1.0:1	
1995		492	3	61	485	2	86	0.7:1	
1982		2.3	548	4	41	543	4	40	1.0:1
1984	533		3	102	526	3	80	1.3:1	
1988	544		2	104	543	2	115	0.9:1	
1990	514		0	63	529	0	61	1.0:1	
1991	516		4	61	514	3	64	1.0:1	
1992	534		3	112	532	2	122	0.9:1	
1993	542		3	66	533	3	78	0.8:1	
1994	545		4	49	529	3	71	0.7:1	
1995	546		4	42	536	3	48	0.9:1	

\*1980-1995 from Waltemyer, ADF&G, Soldotna.

Table 17. Estimated salmon escapement into the Crescent River 1979-1995.

Date	Sockeye	Pink	Chum	Coho	Chinook	Total
1979	86,654	3,685	95		122	90,556
1980	90,863					90,863
1981	41,213	376			199	41,788
1982	58,957	111				59,068
1983	92,122	221				92,343
1984	118,345		4,880	538		123,763
1985	128,628	984	505	850		130,967
1986	20,385					20,385
1987	120,219	2,044	7,258	552	552	130,625
1988	57,716	85	3,362	245	549	61,957
1989	71,064	354	4,392		151	75,961
1990	52,238	219	7,677	73	21	60,228
1991	44,578	322	6,080	83		51,063
1992	58,241	738	6,892	303	171	66,345
1993	37,556	1,976	1,872		1,619	43,023
1994	30,355	657	2,939	73	7,771 <sup>a</sup>	41,795
1995	52,311	1,938	4,583	554	4,691 <sup>b</sup>	64,077

<sup>a</sup> No counts apportioned to chinook salmon in 1994 (8 chinook salmon were captured in the fish wheel). Counts were apportioned to Dolly Varden char.

<sup>b</sup> Count represents combined Chinook and Dolly Varden char (17 Chinook salmon were captured in the fish wheel).

Table 18. Estimated salmon escapement into the Crescent River, 28 June through 8 August 1995. Species composition based on fish wheel catches.

Date	Sockeye		Pink		Chum		Coho		Chinook	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
28-Jun	5	5	0	0	0	0	0	0	0	0
29-Jun	14	19	0	0	0	0	0	0	2	2
30-Jun	65	84	0	0	2	2	1	1	9	11
1-Jul	45	129	1	1	1	3	0	1	7	18
2-Jul	44	173	0	1	2	5	0	1	6	24
3-Jul	143	316	3	4	4	9	2	3	19	43
4-Jul	184	500	2	6	6	15	2	5	25	68
5-Jul	151	651	3	9	4	19	1	6	21	89
6-Jul	514	1,165	8	17	16	35	4	10	71	160
7-Jul	337	1,502	5	22	12	47	2	12	46	206
8-Jul	1,235	2,737	18	40	38	85	10	22	169	375
9-Jul	1,571	4,308	23	63	48	133	12	34	216	591
10-Jul	1,233	5,541	18	81	38	171	10	44	169	760
11-Jul	1,373	6,914	21	102	42	213	10	54	189	949
12-Jul	1,952	8,866	29	131	60	273	15	69	268	1,217
13-Jul	1,820	10,686	60	191	37	310	0	69	146	1,363
14-Jul	2,411	13,097	80	271	48	358	0	69	193	1,556
15-Jul	1,618	14,715	54	325	32	390	0	69	130	1,686
16-Jul	1,855	16,570	62	387	36	426	0	69	149	1,835
17-Jul	2,492	19,062	78	465	39	465	0	69	467	2,302
18-Jul	1,886	20,948	59	524	29	494	0	69	354	2,656
19-Jul	850	21,798	20	544	7	501	0	69	224	2,880
20-Jul	1,194	22,992	28	572	8	509	0	69	315	3,195
21-Jul	2,849	25,841	0	572	19	528	0	69	601	3,796
22-Jul	5,432	31,273	160	732	128	656	0	69	160	3,956
23-Jul	3,263	34,536	95	827	77	733	0	69	96	4,052
24-Jul	1,647	36,183	43	870	0	733	0	69	50	4,102
25-Jul	1,740	37,923	44	914	0	733	0	69	53	4,155
26-Jul	1,601	39,524	38	952	67	800	0	69	96	4,251
27-Jul	1,159	40,683	28	980	49	849	0	69	69	4,320
28-Jul	1,298	41,981	31	1,011	54	903	0	69	78	4,398
29-Jul	1,646	43,627	46	1,057	138	1,041	12	81	34	4,432
30-Jul	2,547	46,174	72	1,129	213	1,254	18	99	54	4,486
31-Jul	736	46,910	21	1,150	61	1,315	6	105	15	4,501
1-Aug	550	47,460	16	1,166	45	1,360	5	110	11	4,512
2-Aug	418	47,878	48	1,214	201	1,561	8	118	7	4,519
3-Aug	1,218	49,096	139	1,353	588	2,149	21	139	21	4,540
4-Aug	1,314	50,410	150	1,503	633	2,782	23	162	23	4,563
5-Aug	846	51,256	96	1,599	408	3,190	15	177	15	4,578
6-Aug	381	51,637	122	1,721	503	3,693	136	313	41	4,619
7-Aug	312	51,949	101	1,822	413	4,106	112	425	33	4,652
8-Aug	362	52,311	116	1,938	477	4,583	129	554	39	4,691

Table 19. Cumulative proportion by date of sockeye salmon counts recorded in the Crescent River 1984 - 1995.

Date	Cumulative Proportion <sup>a</sup>											
	1984	1985	1986 <sup>b</sup>	1987	1988	1989	1990	1991	1992	1993	1994	1995
15-Jun	0.000	0.000										
16-Jun	0.001	0.000										
17-Jun	0.002	0.000										
18-Jun	0.003	0.000										
19-Jun	0.003	0.000										
20-Jun	0.005	0.001										
21-Jun	0.008	0.001										
22-Jun	0.012	0.001										
23-Jun	0.017	0.001										
24-Jun	0.020	0.001										
25-Jun	0.024	0.001	0.000							0.010		
26-Jun	0.027	0.001	0.000				0.003	0.002		0.019		
27-Jun	0.036	0.002	0.000				0.007	0.004		0.022		
28-Jun	0.041	0.002	0.001				0.013	0.006		0.031	0.001	0.000
29-Jun	0.049	0.005	0.005				0.021	0.010		0.034	0.002	0.000
30-Jun	0.069	0.007	0.008				0.025	0.013		0.038	0.008	0.002
01-Jul	0.081	0.008	0.017	0.012	0.008	0.008	0.034	0.017	0.045	0.056	0.012	0.002
02-Jul	0.100	0.012	0.031	0.016	0.038	0.020	0.055	0.031	0.072	0.061	0.015	0.003
03-Jul	0.118	0.016	0.054	0.020	0.149	0.043	0.065	0.033	0.096	0.077	0.017	0.006
04-Jul	0.140	0.057	0.077	0.023	0.223	0.096	0.077	0.040	0.115	0.183	0.028	0.010
05-Jul	0.156	0.138	0.084	0.027	0.269	0.129	0.098	0.061	0.138	0.239	0.035	0.012
06-Jul	0.170	0.188	0.084	0.058	0.338	0.181	0.128	0.063	0.153	0.246	0.044	0.022
07-Jul	0.184	0.196	0.110	0.084	0.404	0.231	0.141	0.064	0.159	0.258	0.061	0.029
08-Jul	0.225	0.226	0.126	0.112	0.488	0.293	0.155	0.079	0.173	0.273	0.086	0.052
09-Jul	0.268	0.251	0.134	0.160	0.554	0.334	0.184	0.090	0.192	0.297	0.092	0.082
10-Jul	0.322	0.274	0.144	0.193	0.581	0.369	0.207	0.092	0.212	0.314	0.103	0.106
11-Jul	0.360	0.293	0.154	0.243	0.598	0.412	0.264	0.100	0.243	0.353	0.132	0.132
12-Jul	0.387	0.319	0.165	0.269	0.625	0.463	0.286	0.131	0.292	0.386	0.170	0.169
13-Jul	0.409	0.364	0.184	0.305	0.655	0.502	0.299	0.143	0.335	0.423	0.214	0.204
14-Jul	0.425	0.388	0.197	0.333	0.688	0.502	0.321	0.188	0.379	0.501	0.251	0.250
15-Jul	0.454	0.415	0.204	0.370	0.692	0.518	0.345	0.245	0.424	0.580	0.276	0.281
16-Jul	0.499	0.445	0.213	0.386	0.697	0.611	0.393	0.292	0.463	0.642	0.295	0.317
17-Jul	0.548	0.480		0.406	0.717	0.674	0.472	0.355	0.512	0.685	0.368	0.364
18-Jul	0.599	0.506		0.448	0.748	0.691	0.540	0.425	0.539	0.723	0.395	0.400
19-Jul	0.639	0.525		0.513	0.771	0.710	0.574	0.461	0.573	0.752	0.425	0.417
20-Jul	0.684	0.546		0.548	0.781	0.750	0.610	0.497	0.610	0.772	0.453	0.440
21-Jul	0.721	0.573		0.593	0.808	0.776	0.653	0.524	0.653	0.797	0.460	0.494
22-Jul	0.743	0.596		0.671	0.828	0.804	0.705	0.582	0.701	0.821	0.487	0.598
23-Jul	0.783	0.632		0.773	0.853	0.829	0.742	0.649	0.772	0.845	0.542	0.660
24-Jul	0.802	0.665		0.819	0.885	0.855	0.762	0.688	0.831	0.865	0.581	0.692
25-Jul	0.813	0.698		0.856	0.917	0.884	0.801	0.718	0.877	0.883	0.602	0.725
26-Jul	0.824	0.729		0.877	0.941	0.907	0.839	0.753	0.898	0.908	0.624	0.756
27-Jul	0.838	0.756		0.893	0.959	0.930	0.864	0.801	0.912	0.925	0.665	0.778
28-Jul	0.852	0.775		0.905	0.965	0.958	0.880	0.836	0.928	0.942	0.696	0.803
29-Jul	0.870	0.794		0.915	0.976	0.968	0.896	0.866	0.948	0.953	0.727	0.834
30-Jul	0.882	0.821		0.920	0.989	0.978	0.933	0.885	0.960	0.969	0.766	0.883
31-Jul	0.893	1.000		0.938	1.000	0.994	0.956	0.916	0.974	0.981	0.827	0.897

- Continued -

Table 19. (p. 2 of 2)

Date	Cumulative Proportion <sup>a</sup>											
	1984	1985	1986 <sup>b</sup>	1987	1988	1989	1990	1991	1992	1993	1994	1995
01-Aug	1.000			0.960		1.000	0.973	0.966	0.987	0.990	0.875	0.907
02-Aug				0.975			0.986	0.978	1.000	1.000	0.914	0.915
03-Aug				0.985			0.993	0.984			0.928	0.939
04-Aug				0.994			1.000	0.987			0.949	0.964
05-Aug				0.996				0.992			0.975	0.980
06-Aug				1.000				0.996			0.983	0.987
07-Aug								1.000			0.989	0.993
08-Aug											1.000	1.000
Midpoint	17-Jul	18-Jul		19-Jul	09-Jul	15-Jul	18-Jul	21-Jul	17-Jul	14-Jul	23-Jul	22-Jul
No. days for 80% <sup>c</sup>	31+	26+		21	23	22	25	21	23	23	24	23

<sup>a</sup> Proportion accrued on last day (1984-1986, 1988) represents that portion of the escapement estimated to have entered the river after termination of counting operations.

<sup>b</sup> Enumeration activities terminated on 16 July 1986. Estimated proportions from King and Tarbox (1988).

<sup>c</sup> Inclusive dates: date proportion of escapement reached 10% through date proportion of escapement reached 90%.

Table 20. Daily fish wheel catch by species for the Crescent River, 28 June through 8 August 1995.

Date	Hours open	Sockeye		Pink		Chum		Coho		Chinook		Dolly Varden	
		Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
28-Jun	24.0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jun	24.0	0	0	0	0	0	0	0	0	0	0	0	0
30-Jun	24.0	0	0	0	0	0	0	0	0	0	0	0	0
01-Jul	24.0	1	1	0	0	0	0	0	0	1	1	0	0
02-Jul	24.0	3	4	0	0	0	0	0	0	0	1	1	1
03-Jul	24.0	8	12	1	1	0	0	0	0	2	3	0	1
04-Jul	24.0	8	20	0	1	0	0	1	1	2	5	0	1
05-Jul	24.0	7	27	0	1	0	0	0	1	1	6	0	1
06-Jul	24.0	12	39	0	1	0	0	0	1	0	6	0	1
07-Jul	24.0	9	48	0	1	0	0	0	1	0	6	0	1
08-Jul	24.0	16	64	0	1	0	0	0	1	2	8	0	1
09-Jul	24.0	17	81	1	2	0	0	0	1	0	8	1	2
10-Jul	24.0	10	91	0	2	1	1	0	1	3	11	2	4
11-Jul	24.0	12	103	0	2	0	1	0	1	3	14	0	4
12-Jul	24.0	28	131	0	2	3	4	0	1	0	14	0	4
13-Jul	24.0	23	154	2	4	0	4	0	1	1	15	3	7
14-Jul	24.0	57	211	1	5	1	5	0	1	0	15	3	10
15-Jul	24.0	30	241	2	7	0	5	0	1	2	17	1	11
16-Jul	24.0	40	281	0	7	2	7	0	1	0	17	2	13
17-Jul	24.0	48	329	0	7	2	9	0	1	0	17	10	23
18-Jul	24.0	80	409	4	11	0	9	0	1	0	17	14	37
19-Jul	24.0	70	479	2	13	1	10	0	1	0	17	15	52
20-Jul	24.0	59	538	1	14	0	10	0	1	0	17	19	71
21-Jul	15.0	147	685	0	14	1	11	0	1	0	17	31	102
22-Jul	4.0	95	780	2	16	2	13	0	1	0	17	5	107
23-Jul	12.0	75	855	3	19	2	15	0	1	0	17	0	107
24-Jul	12.0	22	877	3	22	0	15	0	1	0	17	1	108
25-Jul	12.0	210	1,087	3	25	0	15	0	1	0	17	6	114
26-Jul	12.0	51	1,138	0	25	3	18	0	1	0	17	5	119
27-Jul	12.0	23	1,161	2	27	2	20	0	1	0	17	2	121
28-Jul	12.0	93	1,254	2	29	2	22	0	1	0	17	3	124
29-Jul	12.0	48	1,302	1	30	3	25	0	1	0	17	0	124
30-Jul	12.0	47	1,349	2	32	4	29	0	1	0	17	2	126
31-Jul	12.0	27	1,376	1	33	4	33	0	1	0	17	1	127
01-Aug	12.0	21	1,397	0	33	1	34	1	2	0	17	0	127
02-Aug	12.0	20	1,417	2	35	3	37	0	2	0	17	1	128
03-Aug	12.0	36	1,453	2	37	6	43	0	2	0	17	0	128
04-Aug	12.0	37	1,490	2	39	24	67	1	3	0	17	0	128
05-Aug	12.0	21	1,511	7	46	22	89	1	4	0	17	1	129
06-Aug	12.0	8	1,519	5	51	25	114	2	6	0	17	1	130
07-Aug	12.0	10	1,529	2	53	4	118	5	11	0	17	1	131
08-Aug	12.0	10	1,539	2	55	8	126	3	14	0	17	1	132

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Table 21. Age composition of sockeye salmon collected in the Crescent River 1979-1995.

Year	Percentage Composition by Age Class <sup>a, b</sup>								Sample Size
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	Other	
1979	tr	27.8	70.1	0.0	0.0	tr	tr	tr	643
1980	0.0	6.5	86.9	0.0	0.0	2.9	1.6	2.1	511
1981	0.0	8.2	32.1	0.0	0.0	9.6	49.9	tr	1,117
1982	0.0	12.9	79.2	0.1	0.0	0.8	7.0	0.0	711
1983	0.0	10.9	42.2	0.2	0.7	27.4	18.6	0.0	731
1984	0.0	3.5	16.9	0.0	0.0	20.0	59.4	tr	780
1985	0.2	4.7	31.3	0.0	0.3	20.5	43.0	0.0	594
1986	0.0	6.5	15.8	0.0	0.0	13.0	64.0	0.7	139
1987	0.0	2.6	47.7	0.0	0.0	4.2	45.0	0.5	191
1988	0.0	10.4	44.9	0.5	0.1	17.8	26.1	0.1	741
1989	0.0	2.6	84.2	0.6	0.0	0.6	15.0	0.1	728
1990	0.0	3.7	48.5	0.4	0.1	3.5	43.2	0.5	591
1991	0.0	14.9	50.4	0.3	0.0	16.8	16.5	1.1	357
1992	0.0	2.6	21.7	0.0	0.0	12.4	61.9	1.6	194
1993	0.2	8.8	37.2	0.0	0.9	5.8	46.9	0.2	465
1994	0.2	6.6	49.6	0.4	0.4	12.3	30.5	0.2	547
1995	0.4	9.2	18.4	0.6	0.2	9.4	61.7	0.2	543

<sup>a</sup> Percentages weighted by total numbers in the escapement: 1979-1981, 1986-1995.

<sup>b</sup> 1979-1995 from Waltemyer, ADF&G, Soldotna.

Table 22. Length composition of the major age classes of sockeye salmon collected in the Crescent River 1980-1995. Length measured from mid-eye to fork-of-tail.

Year	Age Class	Male			Female			Ratio Male-Female
		Ave Length <sup>a</sup> (mm)	Stndrd Error	Sample Size	Ave Length <sup>a</sup> (mm)	Stndrd Error	Sample Size	
1980	1.2	472	6	47	471	7	31	1.5:1
1981		522	9	59	491	9	33	1.8:1
1982		467	6	47	487	7	25	1.9:1
1991		517	6	36	490	8	17	2.1:0
1980	1.3	568	2	167	549	2	223	0.7:1
1981		576	3	121	555	3	172	0.7:1
1982		586	1	303	556	1	259	1.2:1
1983		570	2	111	542	2	169	0.7:1
1984		574	5	60	552	2	72	0.8:1
1985		565	4	75	551	2	111	0.7:1
1987		601	3	54	573	3	37	1.5:1
1988		581	2	195	550	2	138	1.4:1
1989		593	1	320	561	2	271	1.2:1
1990		592	3	184	571	0	120	1.5:1
1991		560	3	105	543	3	75	1.4:1
1992		555	9	24	535	5	18	1.3:1
1993		578	3	81	559	2	92	0.9:1
1994		563	2	124	547	2	147	0.8:1
1995		581	4	40	555	2	60	0.7:1
1981	2.2	487	6	40	519	5	57	0.7:1
1983		494	4	93	488	3	89	1.0:1
1984		499	4	81	507	4	75	1.1:1
1985		496	5	75	490	4	47	1.6:1
1988		487	5	72	496	4	60	1.2:1
1991		515	5	42	498	6	18	2.3:1
1992		486	12	10	492	5	14	0.7:1
1994		466	4	54	481	6	13	4.2:1
1980	2.3	584	2	158	554	2	237	0.7:1
1983		569	4	43	550	2	80	0.5:1
1984		581	2	261	553	2	202	1.3:1
1985		568	4	94	551	2	161	0.6:1
1986		573	5	44	556	3	45	1.0:1
1987		595	4	49	573	3	37	1.3:1
1988		585	3	110	556	2	83	1.3:1
1989		594	3	72	568	3	37	1.9:1
1990		601	0	165	571	0	72	2.3:1
1991		558	4	36	537	4	23	1.6:1
1992		572	4	58	547	3	62	0.9:1
1993		585	2	104	558	2	114	0.9:1
1994		570	2	86	549	3	81	1.1:1
1995		581	2	154	553	2	181	0.9:1

<sup>a</sup>1980-1995 from Waltemyer, ADF&G, Soldotna.

Table 23. Estimated salmon escapement into the Yentna River, 7 July through 10 August 1995. Species composition of daily sonar counts based on fish wheel catches.

Date	Sockeye		Pink		Chum		Coho		Chinook	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
7-Jul	69	69	172	172	11	11	103	103	17	17
8-Jul	72	141	150	322	11	22	109	212	14	31
9-Jul	104	245	204	526	13	35	159	371	19	50
10-Jul	125	370	268	794	17	52	189	560	26	76
11-Jul	138	508	266	1,060	18	70	210	770	24	100
12-Jul	135	643	252	1,312	17	87	205	975	23	123
13-Jul	57	700	266	1,578	11	98	112	1,087	14	137
14-Jul	59	759	255	1,833	11	109	109	1,196	16	153
15-Jul	35	794	316	2,149	16	125	103	1,299	15	168
16-Jul	51	845	431	2,580	21	146	144	1,443	20	188
17-Jul	590	1,435	1,949	4,529	148	294	1,392	2,835	33	221
18-Jul	1,264	2,699	3,221	7,750	427	721	2,720	5,555	0	221
19-Jul	5,514	8,213	4,720	12,470	709	1,430	3,949	9,504	0	221
20-Jul	11,216	19,429	4,041	16,511	910	2,340	3,671	13,175	0	221
21-Jul	11,046	30,475	4,879	21,390	1,061	3,401	5,514	18,689	0	221
22-Jul	10,154	40,629	4,358	25,748	722	4,123	3,933	22,622	0	221
23-Jul	5,141	45,770	5,565	31,313	1,181	5,304	3,723	26,345	0	221
24-Jul	5,900	51,670	7,874	39,187	1,447	6,751	3,526	29,871	0	221
25-Jul	8,422	60,092	8,686	47,873	1,153	7,904	4,214	34,085	47	268
26-Jul	10,210	70,302	7,582	55,455	1,398	9,302	5,779	39,864	0	268
27-Jul	11,894	82,196	6,521	61,976	1,442	10,744	5,912	45,776	0	268
28-Jul	7,921	90,117	7,848	69,824	2,190	12,934	6,151	51,927	15	283
29-Jul	6,361	96,520	6,320	76,144	1,907	14,841	3,728	55,655	0	283
30-Jul	4,294	100,814	5,039	81,183	1,711	16,552	1,702	57,357	47	330
31-Jul	2,428	103,247	3,262	84,445	1,039	17,591	1,116	58,473	0	330
1-Aug	2,861	106,103	3,591	88,036	1,380	18,971	1,320	59,793	0	330
2-Aug	2,665	108,768	4,092	92,128	1,840	20,811	2,410	62,203	0	330
3-Aug	2,185	110,953	3,698	95,826	1,842	22,653	3,465	65,668	0	330
4-Aug	1,497	112,450	3,435	99,261	1,827	24,480	2,033	67,701	0	330
5-Aug	2,033	114,483	1,575	100,836	1,974	26,454	2,740	70,441	0	330
6-Aug	3,759	118,242	949	101,785	1,689	28,143	1,709	72,150	16	346
7-Aug	1,755	119,997	732	102,517	977	29,120	1,179	73,329	0	346
8-Aug	275	120,272	456	102,973	1,190	30,310	382	73,711	0	346
9-Aug	444	120,716	490	103,463	560	30,870	328	74,039	0	346
10-Aug	504	121,220	527	103,990	603	31,473	367	74,406	0	346

Table 24. Estimated salmon escapement into the Yentna River 1981-1995.

Date	Sockeye	Pink	Chum	Coho	Chinook	Total
1981	139,401	36,054	19,765	17,017	9	212,246
1982	113,847	447,167	27,830	34,089		622,933
1983	104,414	60,661	10,802	8,867		184,744
1984	149,375	369,299	26,508	18,172		563,354
1985	107,124	120,990	12,092	9,181	404	249,791
1986	92,076	673,901	56,656	23,457	1,112	847,202
1987	66,054	84,099	17,859	6,279	407	174,698
1988	52,330	137,027	49,074	12,173	444	251,048
1989	96,269	173,698	63,379	25,695	393	359,434
1990	140,290	244,569	33,566	21,346	607	440,378
1991	109,632	75,377	21,655	57,275	204	264,143
1992	66,083	239,378	30,062	29,073	107	364,703
1993	141,694	227,171	28,021	37,752	363	435,001
1994	128,032	79,178	18,971	25,173	226	251,580
1995	121,220	103,990	31,473	74,406	346	331,435

Table 25. Salmon escapement observations in selected Susitna River tributaries 1995.

	Method	Source	Number of Fish Observed or Estimated				
			Sockeye	Pink	Chum	Coho	Chinook
Chelatna Lake	Weir	a	20,104				
Deception Creek	Aerial	b					834
Rabideux Creek	Ground	b				39	
Birch Creek	Ground	b				127	
Question Creek	Ground	b				155	
Answer Creek	Ground	b				35	
Goose Creek	Aerial	b					374
Little Willow Creek	Aerial	b					1,210
Montana Creek	Aerial	b					2,110
Prairie Creek	Aerial	b					3,884
Sheep Creek	Aerial	b					1,049
Willow Creek	Aerial	b					3,792
Alexander Creek	Aerial	b					2,090
Deshka River	Aerial	b					4,156
Peters Creek	Aerial	b					1,041
Lake Creek	Aerial	b					3,017
Cache Creek	Aerial	b					1,601
Talachulitna River	Aerial	b					2,521

a Fandrei, G., 1995b.

b Sport Fish Division records, Alaska Department of Fish and Game, Palmer.

Table 26. Cumulative proportion by date of sockeye salmon counts recorded in the Yentna River 1981-1995.

Date	Cumulative Proportion*														
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
27-Jun		0.000													
28-Jun		0.000													
29-Jun	0.001	0.000				0.001									
30-Jun	0.004	0.000	0.000			0.002									
01-Jul	0.008	0.001	0.001	0.001	0.000	0.002	0.000								
02-Jul	0.013	0.001	0.001	0.001	0.001	0.003	0.001								
03-Jul	0.016	0.001	0.002	0.002	0.001	0.003	0.001								
04-Jul	0.017	0.002	0.003	0.003	0.001	0.004	0.002								
05-Jul	0.018	0.002	0.003	0.004	0.001	0.005	0.002								
06-Jul	0.020	0.002	0.004	0.004	0.002	0.005	0.003								
07-Jul	0.021	0.002	0.004	0.005	0.003	0.006	0.003	0.004	0.003	0.002	0.000	0.002	0.001	0.001	0.001
08-Jul	0.023	0.002	0.004	0.005	0.003	0.006	0.004	0.008	0.006	0.005	0.001	0.003	0.002	0.004	0.001
09-Jul	0.026	0.002	0.005	0.006	0.004	0.007	0.004	0.012	0.009	0.008	0.001	0.005	0.004	0.008	0.002
10-Jul	0.036	0.002	0.005	0.007	0.005	0.008	0.005	0.016	0.012	0.010	0.002	0.007	0.005	0.010	0.003
11-Jul	0.092	0.003	0.006	0.009	0.006	0.009	0.005	0.019	0.014	0.013	0.002	0.008	0.006	0.013	0.004
12-Jul	0.155	0.003	0.008	0.011	0.007	0.010	0.005	0.022	0.015	0.014	0.002	0.010	0.007	0.016	0.005
13-Jul	0.230	0.003	0.011	0.012	0.008	0.011	0.006	0.025	0.016	0.016	0.003	0.012	0.008	0.020	0.006
14-Jul	0.344	0.003	0.034	0.015	0.009	0.011	0.007	0.029	0.019	0.017	0.003	0.016	0.009	0.022	0.006
15-Jul	0.454	0.004	0.059	0.017	0.010	0.014	0.008	0.034	0.023	0.019	0.004	0.022	0.014	0.024	0.007
16-Jul	0.521	0.005	0.096	0.023	0.010	0.022	0.010	0.039	0.026	0.020	0.005	0.035	0.134	0.026	0.007
17-Jul	0.563	0.016	0.131	0.142	0.011	0.027	0.014	0.043	0.051	0.022	0.005	0.062	0.284	0.029	0.012
18-Jul	0.599	0.043	0.179	0.232	0.012	0.036	0.020	0.046	0.103	0.025	0.009	0.086	0.360	0.056	0.022
19-Jul	0.638	0.155	0.351	0.345	0.013	0.041	0.027	0.090	0.161	0.105	0.028	0.120	0.382	0.115	0.068
20-Jul	0.681	0.329	0.567	0.458	0.014	0.042	0.034	0.197	0.202	0.217	0.100	0.148	0.420	0.167	0.160
21-Jul	0.732	0.527	0.693	0.554	0.014	0.043	0.047	0.269	0.234	0.284	0.193	0.184	0.464	0.250	0.251
22-Jul	0.801	0.627	0.722	0.626	0.016	0.052	0.059	0.303	0.280	0.327	0.302	0.229	0.513	0.297	0.335
23-Jul	0.846	0.665	0.758	0.681	0.019	0.162	0.107	0.375	0.359	0.383	0.378	0.296	0.574	0.333	0.378
24-Jul	0.882	0.711	0.786	0.755	0.145	0.193	0.218	0.484	0.453	0.452	0.425	0.373	0.647	0.397	0.426
25-Jul	0.905	0.734	0.824	0.785	0.359	0.253	0.331	0.630	0.532	0.505	0.451	0.447	0.709	0.426	0.496
26-Jul	0.925	0.780	0.867	0.808	0.507	0.371	0.442	0.771	0.646	0.573	0.505	0.519	0.763	0.517	0.580
27-Jul	0.940	0.811	0.894	0.836	0.636	0.491	0.528	0.821	0.749	0.667	0.575	0.606	0.810	0.557	0.678
28-Jul	0.950	0.831	0.905	0.855	0.782	0.606	0.587	0.858	0.799	0.734	0.637	0.674	0.831	0.599	0.743
29-Jul	0.958	0.847	0.913	0.866	0.903	0.752	0.625	0.886	0.854	0.769	0.674	0.734	0.857	0.662	0.796
30-Jul	0.969	0.859	0.921	0.874	0.942	0.831	0.655	0.916	0.864	0.796	0.720	0.794	0.893	0.712	0.832
31-Jul	0.976	0.890	0.925	0.885	0.960	0.861	0.686	0.937	0.868	0.825	0.754	0.825	0.927	0.750	0.852
01-Aug	0.980	0.933	0.929	0.893	0.970	0.882	0.709	0.946	0.873	0.859	0.779	0.858	0.938	0.788	0.875
02-Aug	0.986	0.948	0.937	0.901	0.978	0.908	0.750	0.960	0.879	0.907	0.806	0.881	0.950	0.830	0.897
03-Aug	0.988	0.955	0.941	0.909	0.983	0.917	0.789	0.969	0.889	0.947	0.850	0.896	0.967	0.862	0.915
04-Aug	0.990	0.962	0.945	0.920	0.987	0.924	0.825	0.975	0.907	0.962	0.891	0.910	0.985	0.889	0.928

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Table 26. (p. 2 of 2)

Date	Cumulative Proportion <sup>a</sup>															
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	
05-Aug	0.991	0.965	0.949	0.926	0.990	0.935	0.857	0.981	0.923	0.971	0.930	0.915	0.992	0.919	0.944	
06-Aug	0.992	0.967	0.953	0.934	0.994	0.940	0.875	0.984	0.936	0.978	0.942	0.922	0.996	0.942	0.975	
07-Aug	0.992	0.970	0.955	0.939	0.997	1.000	0.889	0.989	0.944	0.985	0.959	0.929	1.000	0.962	0.990	
08-Aug	0.992	0.972	0.958	0.944	1.000		0.900	0.992	0.949	0.990	0.975	0.941		0.974	0.992	
09-Aug	0.993	0.975	0.959	0.949			0.932	0.994	0.954	0.994	0.986	0.966		0.984	0.996	
10-Aug	0.994	0.977	0.959	0.954			0.962	0.996	0.958	0.995	0.994	0.984		0.992	1.000	
11-Aug	0.995	0.979	0.962	0.958			0.986	1.000	0.962	0.998	0.999	1.000		0.996		
12-Aug	0.996	0.981	0.968	0.962			0.986	1.000	0.966	1.000	1.000			1.000		
13-Aug	0.997	0.982	0.974	0.965			0.996		0.975							
14-Aug	0.997	0.984	0.977	0.968			1.000		0.985							
15-Aug	0.998	0.985	0.979	0.970					0.985							
16-Aug	0.998	0.986	0.982	0.973					0.992							
17-Aug	0.998	0.987	0.985	0.975					0.995							
18-Aug	0.998	0.988	0.987	0.977					0.997							
19-Aug	0.998	0.989	0.988	0.979					0.998							
20-Aug	0.999	0.990	0.990	0.980					0.999							
21-Aug	0.999	0.990	0.991	0.981					1.000							
22-Aug	0.999	0.990	0.992	0.984					1.000							
23-Aug	0.999	0.991	0.993	0.987					1.000							
24-Aug	1.000	0.992	0.994	0.989					1.000							
25-Aug	1.000	0.993	0.994	0.992					1.000							
26-Aug	1.000	0.994	0.995	0.994					1.000							
27-Aug	1.000	0.994	0.996	0.996					1.000							
28-Aug	1.000	0.995	0.997	0.996					1.000							
29-Aug	1.000	0.996	0.998	0.998					1.000							
30-Aug		0.997	0.998	0.999					1.000							
31-Aug		0.997	0.999	0.999					1.000							
01-Sep		0.998	0.999	1.000					1.000							
02-Sep		0.999	0.999	1.000					1.000							
03-Sep		0.999	0.999	1.000					1.000							
04-Sep		1.000	1.000	1.000					1.000							
05-Sep		1.000	1.000	1.000					1.000							

Midpoint	16-Jul	21-Jul	20-Jul	21-Jul	26-Jul	28-Jul	27-Jul	25-Jul	25-Jul	26-Jul	26-Jul	22-Jul	26-Jul	26-Jul	26-Jul
No. days for 80% <sup>b</sup>	14	14	12	17	6	11	17	11	18	15	17	17	16	19	15

<sup>a</sup> Proportion accrued on last day (1986) represents that portion of the escapement estimated after enumeration operations.  
<sup>b</sup> Inclusive dates: date proportion of escapement reached 10% through date proportion of escapement reached 90%.

Table 27. Daily adjusted fish wheel catch by species for the north bank of the Yentna River, 7 July through 9 August 1995.

Date	Hours open <sup>a</sup>	Sockeye		Pink		Chum		Coho		Chinook	
		Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
07-Jul	6.0	0	0	4	4	0	0	0	0	0	0
08-Jul	22.4	1	1	2	6	0	0	3	3	1	1
09-Jul	29.0	5	6	4	10	0	0	3	7	2	3
10-Jul	19.5	9	15	9	19	0	0	10	16	1	4
11-Jul	25.1	7	21	23	42	2	2	6	22	0	4
12-Jul	25.5	2	23	14	56	2	4	8	31	1	5
13-Jul	18.1	1	25	16	72	0	4	7	37	0	5
14-Jul	24.0	3	28	13	85	2	6	3	40	4	9
15-Jul	24.4	1	29	27	111	1	7	1	41	4	13
16-Jul	23.3	0	29	35	147	1	8	0	41	2	15
17-Jul	23.9	7	36	55	202	7	15	30	71	1	16
18-Jul	17.1	11	47	45	247	18	33	25	97	0	16
19-Jul	17.6	34	81	78	324	33	66	48	144	0	16
20-Jul	14.6	91	171	123	448	41	107	33	177	0	16
21-Jul	13.1	99	270	141	589	33	140	91	269	0	16
22-Jul	8.7	130	400	188	777	61	201	36	305	0	16
23-Jul	12.9	73	473	212	989	87	288	26	331	0	16
24-Jul	9.9	58	531	314	1,303	51	339	27	357	0	16
25-Jul	16.4	58	589	358	1,661	79	418	60	417	0	16
26-Jul	14.4	122	711	312	1,973	92	509	62	479	0	16
27-Jul	6.1	222	932	328	2,301	194	703	36	514	0	16
28-Jul	6.0	171	1,103	369	2,670	182	886	103	618	4	20
29-Jul	12.7	112	1,215	338	3,008	135	1,021	104	722	0	20
30-Jul	8.5	70	1,285	346	3,354	84	1,105	39	761	0	20
31-Jul	13.1	60	1,346	298	3,652	62	1,167	15	776	0	20
01-Aug	12.0	54	1,400	134	3,786	76	1,243	24	800	0	20
02-Aug	10.1	59	1,459	266	4,052	74	1,317	31	831	0	20
03-Aug	11.0	50	1,509	290	4,342	100	1,417	35	866	0	20
04-Aug	11.3	55	1,564	127	4,470	104	1,521	130	995	0	20
05-Aug	10.4	41	1,606	104	4,573	71	1,593	32	1,028	0	20
06-Aug	9.7	84	1,690	69	4,642	72	1,664	47	1,074	5	25
07-Aug	11.3	64	1,753	87	4,729	74	1,739	34	1,108	0	25
08-Aug	12.4	14	1,767	37	4,766	70	1,809	17	1,126	0	25
09-Aug	11.3	19	1,786	38	4,805	15	1,823	15	1,141	0	25

<sup>a</sup> Fish wheel catch adjusted for 24 h: (daily catch • 24 h) / hours open. Actual catch by species: 815 sockeye salmon; 2,343 pink salmon; 826 chum salmon; 587 coho salmon; 19 chinook salmon.

Table 28. Daily adjusted fish wheel catch by species for the south bank of the Yentna River, 7 July through 10 August 1995.

Date	Hours open <sup>a</sup>	Sockeye		Pink		Chum		Coho		Chinook	
		Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
07-Jul	25.5	6	6	6	6	0	0	1	1	3	3
08-Jul	22.6	4	10	16	22	0	0	1	2	1	4
09-Jul	29.0	2	12	11	33	0	0	6	8	0	4
10-Jul	19.2	9	21	9	41	1	1	19	27	0	4
11-Jul	25.3	10	32	6	47	3	4	17	44	1	5
12-Jul	24.5	12	43	15	62	0	4	23	66	0	5
13-Jul	22.5	7	51	16	78	1	5	18	84	3	8
14-Jul	24.0	6	57	24	102	0	5	12	96	0	8
15-Jul	24.4	6	63	41	143	1	6	7	103	1	9
16-Jul	23.3	1	64	42	186	1	7	12	116	0	9
17-Jul	23.5	14	78	59	245	3	10	43	159	0	9
18-Jul	12.0	54	132	112	357	10	20	110	269	0	9
19-Jul	13.3	166	298	132	488	16	36	114	382	0	9
20-Jul	13.2	322	620	105	594	22	58	105	488	0	9
21-Jul	12.5	532	1,152	222	816	48	106	260	748	0	9
22-Jul	6.1	1,168	2,320	450	1,266	63	169	458	1,206	0	9
23-Jul	6.1	884	3,204	864	2,130	154	323	659	1,865	0	9
24-Jul	4.1	1,140	4,344	1,311	3,440	247	570	688	2,552	0	9
25-Jul	4.2	1,033	5,377	875	4,316	96	666	497	3,049	6	15
26-Jul	4.4	973	6,350	619	4,935	98	764	554	3,603	0	15
27-Jul	7.8	389	6,739	181	5,116	21	785	205	3,809	0	15
28-Jul	3.6	480	7,219	427	5,543	100	885	380	4,189	0	15
29-Jul	5.7	427	7,646	393	5,935	114	999	245	4,434	0	15
30-Jul	4.7	434	8,080	439	6,375	158	1,158	169	4,602	5	20
31-Jul	6.6	427	8,507	456	6,830	163	1,320	203	4,805	0	20
01-Aug	15.0	214	8,721	251	7,082	90	1,410	99	4,904	0	20
02-Aug	6.3	350	9,071	486	7,568	232	1,642	323	5,227	0	20
03-Aug	5.3	266	9,337	375	7,943	203	1,845	438	5,665	0	20
04-Aug	7.0	106	9,443	243	8,186	120	1,965	130	5,795	0	20
05-Aug	8.0	129	9,572	81	8,267	117	2,082	180	5,975	0	20
06-Aug	6.6	244	9,816	51	8,318	102	2,184	109	6,084	0	20
07-Aug	8.5	125	9,941	45	8,363	65	2,249	85	6,170	0	20
08-Aug	10.2	28	9,969	42	8,406	134	2,383	42	6,212	0	20
09-Aug	9.5	23	9,992	45	8,451	18	2,401	18	6,230	0	20
10-Aug	11.8	33	10,025	10	8,461	45	2,446	22	6,252	0	20

<sup>a</sup> Fish wheel catch adjusted for 24 h: (daily catch \* 24 h) / hours open. Actual catch by species: 2,737 sockeye salmon; 2,335 pink salmon; 691 chum salmon; 2,737 coho salmon; 11 chinook salmon.

Table 29. Age composition of sockeye salmon collected in the Yentna River 1986-1995.

Year	Percentage Composition by Age Class <sup>a, b</sup>											Sample Size
	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2	
1986	0.0	2.1	1.9	22.7	56.5	0.2	0.6	5.9	10.0	0.1		492
1987	1.3	2.4	0.9	23.3	50.6	1.0	0.0	8.6	11.7	0.0		1,089
1988	2.7	2.4	0.4	33.5	41.9	0.2	1.7	6.5	10.4	0.1		1,727
1989	0.2	0.2	1.3	27.2	63.5	0.4	0.2	3.0	4.0	0.0		1,362
1990	0.8	2.4	0.3	29.9	47.6	0.7	0.1	9.8	8.2	0.1		1,710
1991	2.0	10.1	0.1	25.2	44.1	0.1	0.1	7.0	11.1	0.1		1,509
1992	1.6	0.6	1.0	31.1	29.6	0.1	0.4	16.9	18.3	0.1	0.4	1,451
1993	1.0	4.6	0.1	32.1	35.5	0.0	0.4	11.7	14.5	0.1	0.0	1,390
1994	1.3	3.9	0.6	23.2	43.2	0.2	0.0	9.7	17.6	0.0	0.0	637
1995	2.2	5.1	0.8	19.7	51.3	0.4	0.2	8.5	11.6	0.0	0.2	507

<sup>a</sup> Percentages weighted by total numbers in the escapement: 1979-1981, 1986-1995.

<sup>b</sup> 1986-1995 from Waltemyer, ADF&G, Soldotna.

Table 30. Length composition of the major age classes of sockeye salmon collected in the Yentna River 1986-1995. Length measured from mid-eye to fork-of-tail.

Year	Age Class	Male			Female			Ratio Male-Female
		Ave Length <sup>a</sup> (mm)	Stndrd Error	Sample Size	Ave Length <sup>a</sup> (mm)	Stndrd Error	Sample Size	
1991	0.3	572	5	59	550	2	100	0.6:1
1986	1.2	455	3	104	472	5	52	2.0:1
1987		484	3	158	477	2	156	1.0:1
1988		461	2	408	486	3	170	2.4:1
1989		463	4	246	485	4	122	2.0:1
1990		446	0	305	446	0	238	1.3:1
1991		460	3	253	484	2	130	2.0:1
1992		443	2	360	469	3	115	3.1:1
1993		465	2	279	494	2	167	1.7:1
1994		468	3	107	484	5	41	2.6:1
1995		460	4	58	472	6	42	1.4:1
1986	1.3	579	3	172	563	2	216	0.8:1
1987		591	2	246	565	2	222	1.1:1
1988		580	2	365	552	1	359	1.0:1
1989		575	3	390	553	1	474	0.8:1
1990		573	0	400	552	0	526	0.7:1
1991		562	2	301	542	1	356	0.9:1
1992		546	4	188	543	2	242	0.8:1
1993		561	2	288	549	1	266	0.9:1
1994		596	3	133	561	2	142	0.9:1
1995		568	3	124	545	2	136	0.9:1
1992	2.2	451	3	181	471	6	53	3.4:1
1993		476	4	93	487	3	69	1.3:1
1986	2.3	588	5	25	555	4	44	0.6:1
1987		583	4	62	566	3	52	1.2:1
1988		585	4	92	554	3	87	1.1:1
1990		574	0	73	542	0	96	0.8:1
1991		561	4	78	536	3	86	0.9:1
1992		564	3	123	538	4	126	1.0:1
1993		562	3	74	544	2	128	0.6:1
1994		600	5	56	561	2	56	1.0:1
1995		578	4	25	544	3	34	0.7:1

<sup>a</sup> 1986-1995 from Waltemyer, ADF&G, Soldotna.

Table 31. Cumulative proportion by date of pink salmon counts recorded in the Yentna River 1981-1995.

Date	Cumulative Proportion														
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
27-Jun		0.000				0.000		0.000	0.003	0.000	0.002	0.000	0.001	0.000	0.002
28-Jun		0.000				0.000		0.000	0.008	0.000	0.005	0.000	0.002	0.000	0.003
29-Jun	0.000	0.000				0.000		0.000	0.013	0.000	0.006	0.000	0.004	0.001	0.005
30-Jun	0.002	0.000	0.000	0.000	0.001	0.000	0.002	0.000	0.018	0.000	0.007	0.001	0.005	0.002	0.005
01-Jul	0.003	0.000	0.001	0.000	0.002	0.000	0.004	0.000	0.026	0.000	0.009	0.001	0.006	0.003	0.008
02-Jul	0.005	0.000	0.001	0.000	0.003	0.000	0.008	0.000	0.034	0.000	0.010	0.001	0.007	0.004	0.010
03-Jul	0.007	0.000	0.001	0.000	0.005	0.000	0.011	0.000	0.043	0.000	0.012	0.001	0.008	0.006	0.013
04-Jul	0.008	0.000	0.002	0.000	0.003	0.000	0.015	0.000	0.052	0.000	0.014	0.002	0.009	0.007	0.015
05-Jul	0.008	0.000	0.003	0.000	0.005	0.001	0.015	0.000	0.058	0.001	0.016	0.002	0.010	0.008	0.018
06-Jul	0.011	0.000	0.003	0.000	0.007	0.001	0.018	0.000	0.060	0.001	0.018	0.003	0.014	0.011	0.021
07-Jul	0.015	0.000	0.003	0.000	0.011	0.001	0.022	0.000	0.071	0.002	0.027	0.005	0.028	0.018	0.025
08-Jul	0.021	0.000	0.003	0.000	0.012	0.001	0.025	0.000	0.071	0.002	0.030	0.007	0.036	0.025	0.030
09-Jul	0.025	0.000	0.004	0.000	0.015	0.001	0.029	0.000	0.071	0.002	0.032	0.009	0.042	0.034	0.044
10-Jul	0.037	0.000	0.004	0.000	0.018	0.001	0.031	0.000	0.060	0.001	0.035	0.011	0.049	0.044	0.050
11-Jul	0.039	0.000	0.005	0.001	0.021	0.001	0.035	0.000	0.060	0.001	0.039	0.012	0.057	0.050	0.057
12-Jul	0.039	0.000	0.006	0.001	0.025	0.001	0.041	0.000	0.060	0.001	0.043	0.014	0.061	0.057	0.061
13-Jul	0.042	0.000	0.006	0.001	0.030	0.001	0.047	0.000	0.060	0.001	0.047	0.016	0.067	0.061	0.067
14-Jul	0.050	0.000	0.009	0.001	0.033	0.002	0.051	0.000	0.060	0.001	0.051	0.018	0.071	0.067	0.071
15-Jul	0.057	0.000	0.009	0.001	0.038	0.003	0.056	0.001	0.060	0.001	0.056	0.020	0.077	0.071	0.077
16-Jul	0.061	0.000	0.009	0.001	0.042	0.007	0.065	0.001	0.060	0.001	0.061	0.022	0.081	0.077	0.081
17-Jul	0.062	0.001	0.009	0.003	0.046	0.011	0.075	0.001	0.060	0.001	0.065	0.024	0.087	0.081	0.087
18-Jul	0.072	0.002	0.017	0.008	0.050	0.014	0.088	0.001	0.060	0.001	0.071	0.026	0.093	0.087	0.093
19-Jul	0.082	0.010	0.288	0.023	0.053	0.015	0.099	0.001	0.060	0.001	0.075	0.028	0.100	0.093	0.100
20-Jul	0.105	0.021	0.400	0.067	0.056	0.016	0.110	0.005	0.060	0.001	0.088	0.030	0.107	0.093	0.107
21-Jul	0.132	0.040	0.511	0.126	0.060	0.017	0.135	0.013	0.060	0.001	0.105	0.032	0.113	0.093	0.113
22-Jul	0.158	0.056	0.565	0.190	0.064	0.021	0.156	0.019	0.060	0.001	0.105	0.035	0.120	0.093	0.120
23-Jul	0.236	0.078	0.638	0.277	0.078	0.021	0.180	0.032	0.060	0.001	0.105	0.038	0.126	0.093	0.126
24-Jul	0.311	0.126	0.704	0.365	0.135	0.125	0.222	0.061	0.060	0.001	0.105	0.041	0.132	0.093	0.132
25-Jul	0.398	0.162	0.743	0.420	0.226	0.222	0.307	0.129	0.060	0.001	0.105	0.044	0.138	0.093	0.138
26-Jul	0.464	0.192	0.791	0.466	0.329	0.369	0.407	0.231	0.060	0.001	0.105	0.047	0.144	0.093	0.144
27-Jul	0.512	0.237	0.820	0.510	0.475	0.535	0.537	0.338	0.060	0.001	0.105	0.050	0.150	0.093	0.150
28-Jul	0.580	0.330	0.843	0.578	0.636	0.695	0.624	0.459	0.060	0.001	0.105	0.053	0.156	0.093	0.156
29-Jul	0.639	0.447	0.855	0.669	0.763	0.830	0.668	0.589	0.060	0.001	0.105	0.056	0.162	0.093	0.162
30-Jul	0.705	0.562	0.864	0.728	0.833	0.894	0.701	0.662	0.060	0.001	0.105	0.059	0.168	0.093	0.168
31-Jul	0.752	0.654	0.871	0.784	0.877	0.924	0.729	0.722	0.060	0.001	0.105	0.062	0.174	0.093	0.174
01-Aug	0.795	0.735	0.879	0.837	0.903	0.957	0.741	0.768	0.060	0.001	0.105	0.065	0.180	0.093	0.180
02-Aug	0.819	0.824	0.903	0.873	0.926	0.979	0.767	0.781	0.060	0.001	0.105	0.068	0.186	0.093	0.186
03-Aug	0.834	0.896	0.908	0.903	0.926	0.991	0.799	0.826	0.060	0.001	0.105	0.071	0.192	0.093	0.192
04-Aug	0.849	0.934	0.912	0.925	0.956	0.996	0.838	0.878	0.060	0.001	0.105	0.074	0.198	0.093	0.198

-Continued-

Table 31. (p. 2 of 2)

Cumulative Proportion

Date	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
05-Aug	0.865	0.953	0.918	0.943	0.966	0.999	0.870	0.931	0.850	0.964	0.870	0.961	0.992	0.985	0.970
06-Aug	0.883	0.962	0.924	0.956	0.978	1.000	0.887	0.951	0.883	0.976	0.911	0.967	0.996	0.991	0.979
07-Aug	0.897	0.969	0.931	0.962	0.991		0.895	0.969	0.912	0.984	0.951	0.971	1.000	0.995	0.986
08-Aug	0.905	0.978	0.936	0.969	1.000		0.901	0.982	0.924	0.990	0.971	0.979		0.997	0.990
09-Aug	0.913	0.984	0.937	0.975			0.921	0.990	0.938	0.994	0.985	0.990		0.998	0.995
10-Aug	0.918	0.989	0.938	0.982			0.950	0.995	0.943	0.997	0.995	0.997		1.000	0.995
11-Aug	0.924	0.991	0.943	0.986			0.975	1.000	0.948	0.998	0.999	1.000		1.000	1.000
12-Aug	0.929	0.994	0.951	0.988			0.989		0.952	1.000	0.999				
13-Aug	0.930	0.996	0.958	0.991			0.997		0.963						
14-Aug	0.931	0.997	0.966	0.992			1.000		0.974						
15-Aug	0.935	0.998	0.971	0.994					0.989						
16-Aug	0.942	0.998	0.978	0.994					0.994						
17-Aug	0.949	0.999	0.984	0.995					0.997						
18-Aug	0.958	0.999	0.988	0.996					0.998						
19-Aug	0.967	0.999	0.990	0.997					0.998						
20-Aug	0.979	0.999	0.992	0.997					0.999						
21-Aug	0.984	0.999	0.993	0.997					1.000						
22-Aug	0.989	1.000	0.993	0.998											
23-Aug	0.992		0.994	0.998											
24-Aug	0.995		0.995	0.998											
25-Aug	0.997		0.996	0.999											
26-Aug	0.999		0.996	0.999											
27-Aug	1.000		0.997	0.999											
28-Aug	1.000		0.998	0.999											
29-Aug			0.998	0.999											
30-Aug			0.999	1.000											
01-Sep			0.999												
02-Sep			0.999												
03-Sep			1.000												

Midpoint	27-Jul	30-Jul	27-Jul	21-Jul	27-Jul	28-Jul	27-Jul	27-Jul	27-Jul	27-Jul	27-Jul	27-Jul	22-Jul	25-Jul	26-Jul
No. days for 80%*	20	12	16	14	9	8+	20	11	21	12	17	11	16	12	16

\* Inclusive dates: date proportion of escapement reached 10% through date proportion of escapement reached 90%.

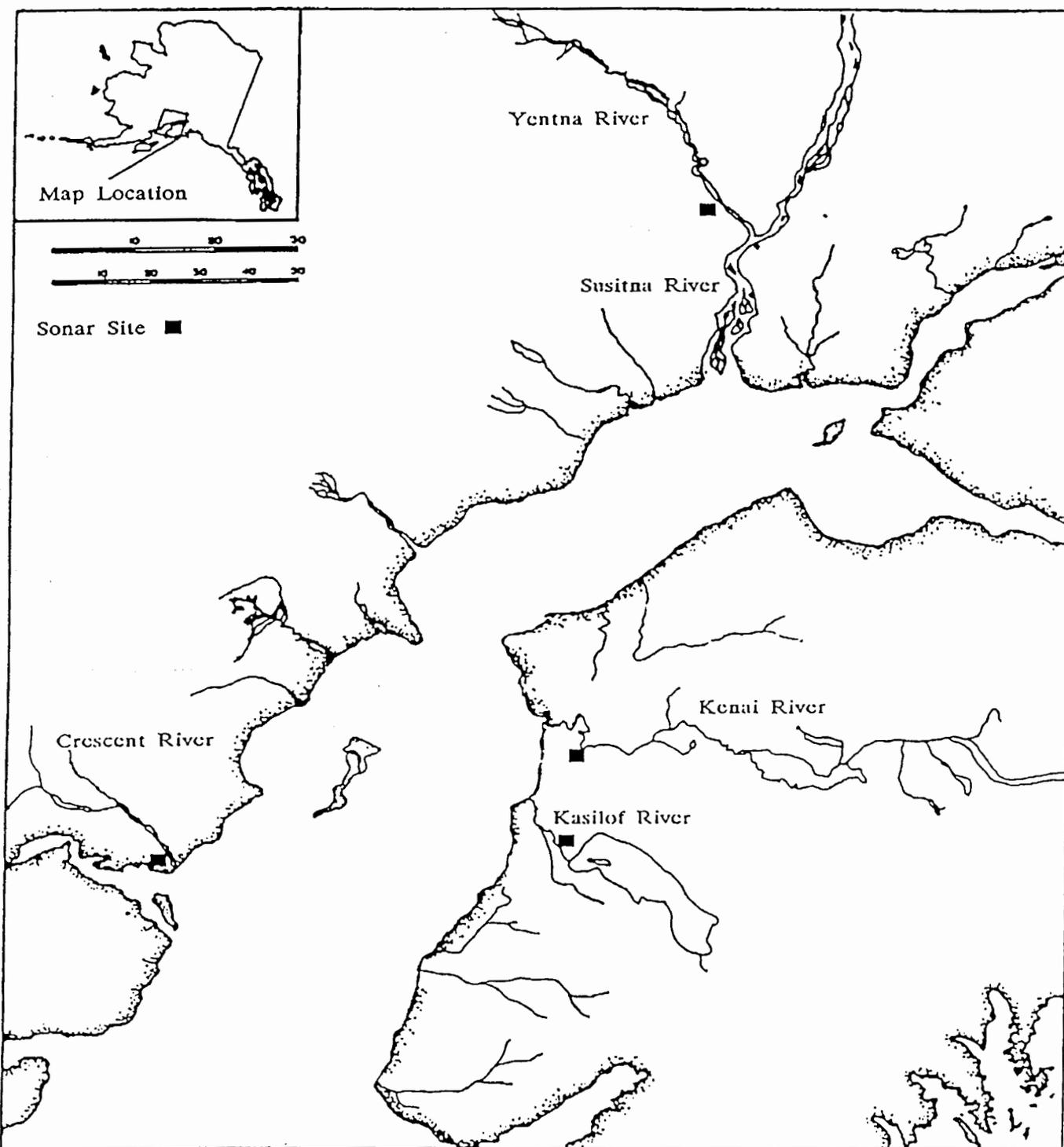


Figure 1. Upper Cook Inlet, Alaska, and sites where sockeye salmon escapement was monitored with side-scanning sonar.

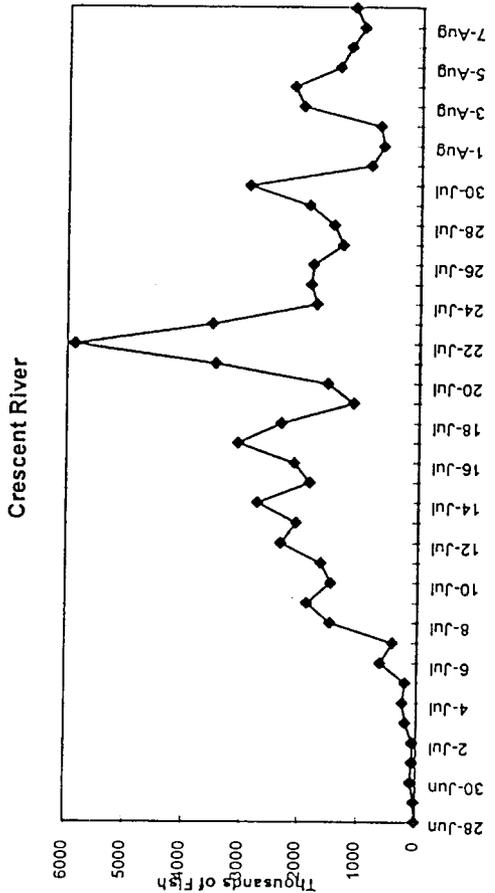
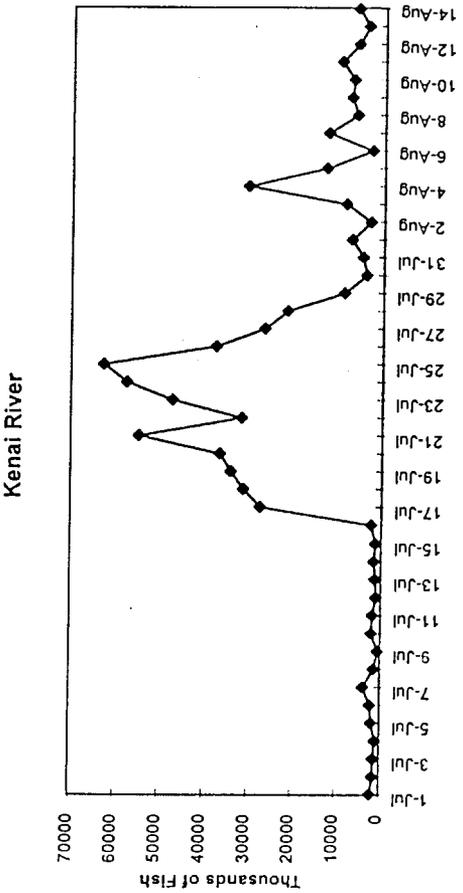
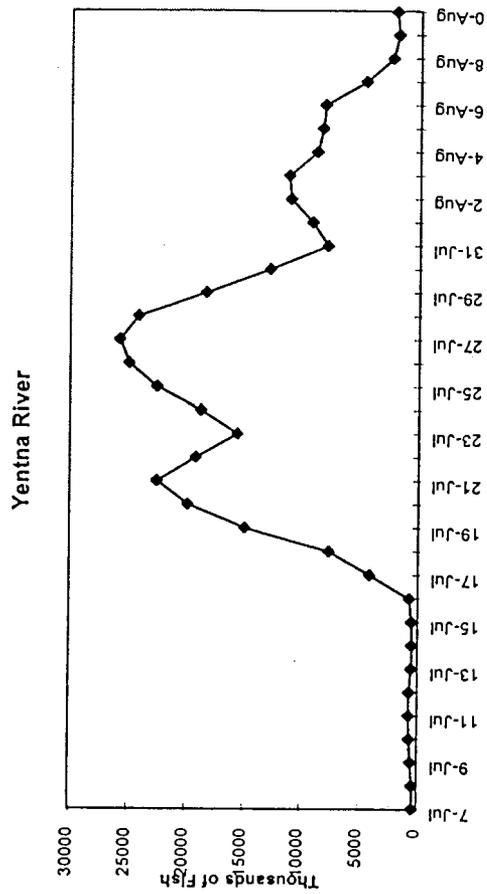
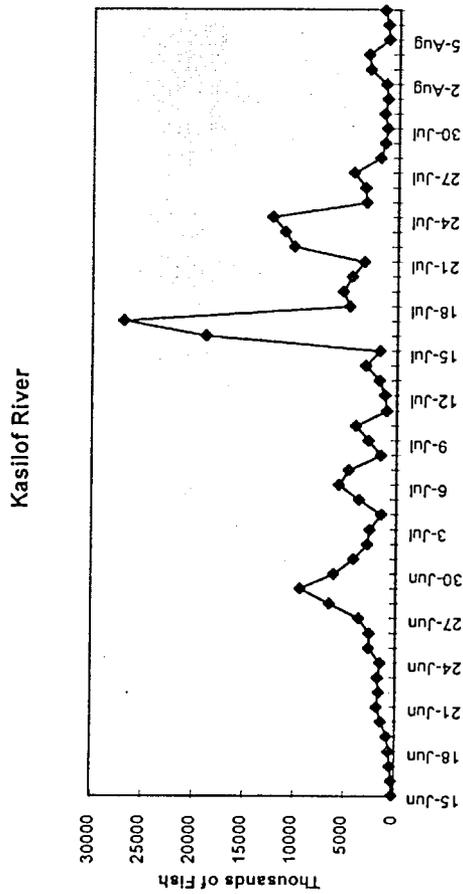


Figure 2. Daily escapement of sockeye salmon into the Kenai, Kasilof, Crescent and Yentna Rivers, 1995.

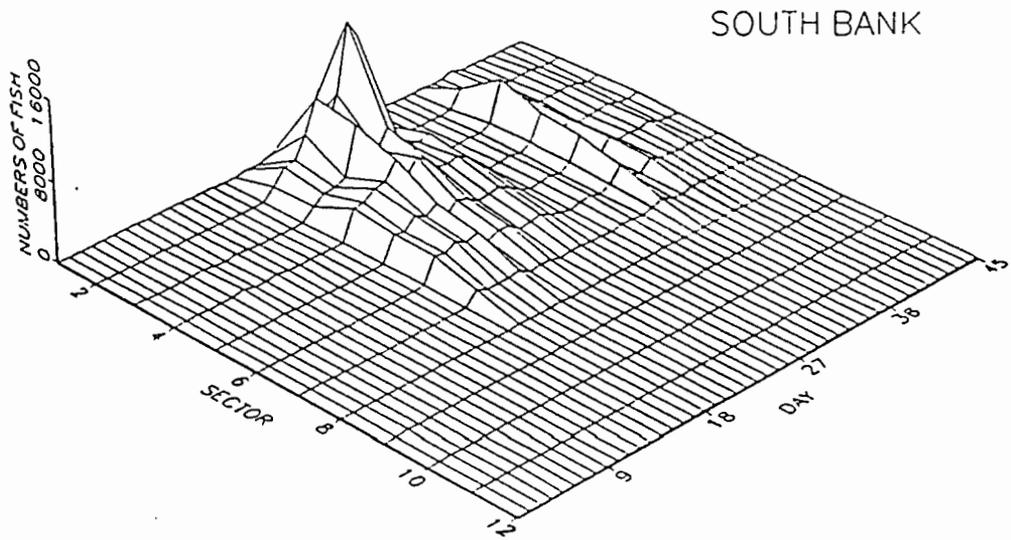
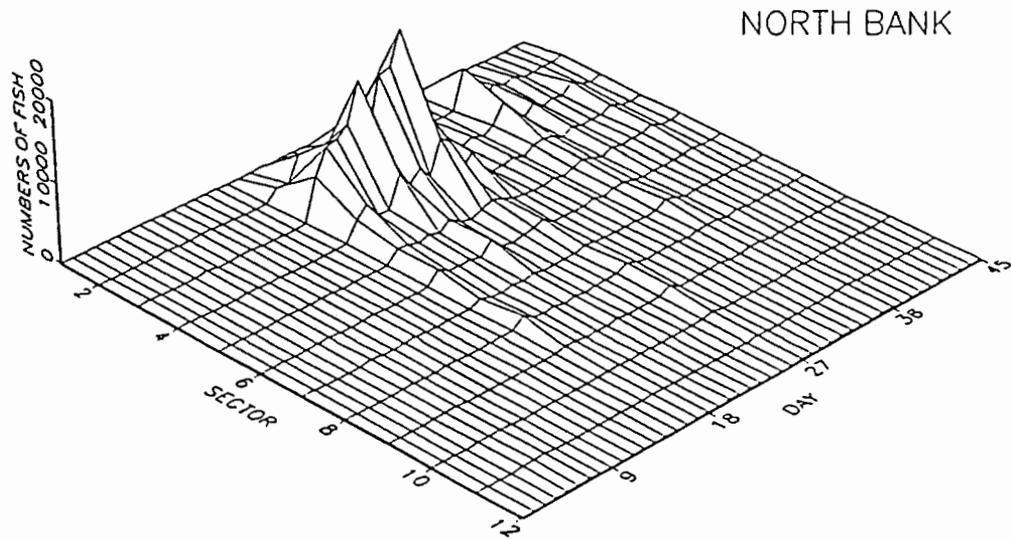


Figure 3. Distribution of salmon sonar counts by sector in the Kenai River, 1995.

95KE12S.GRF

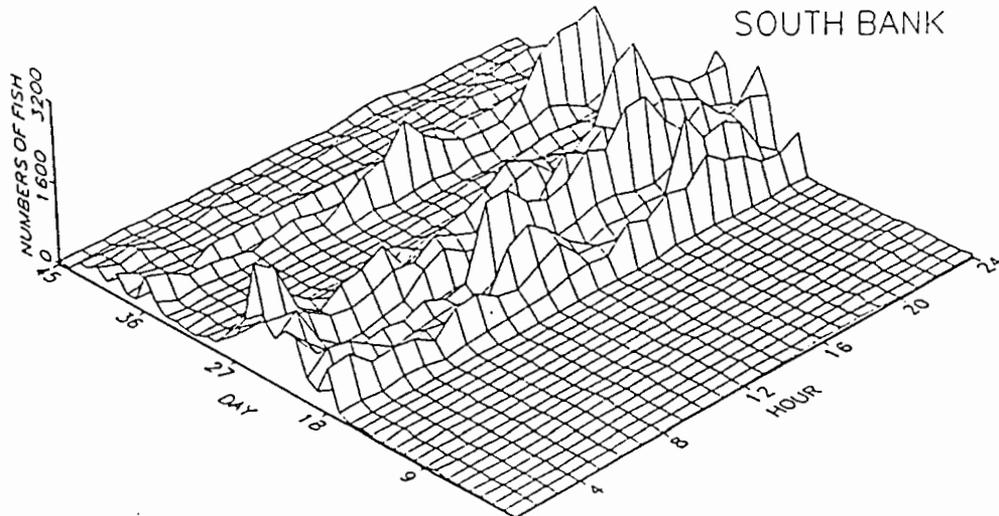
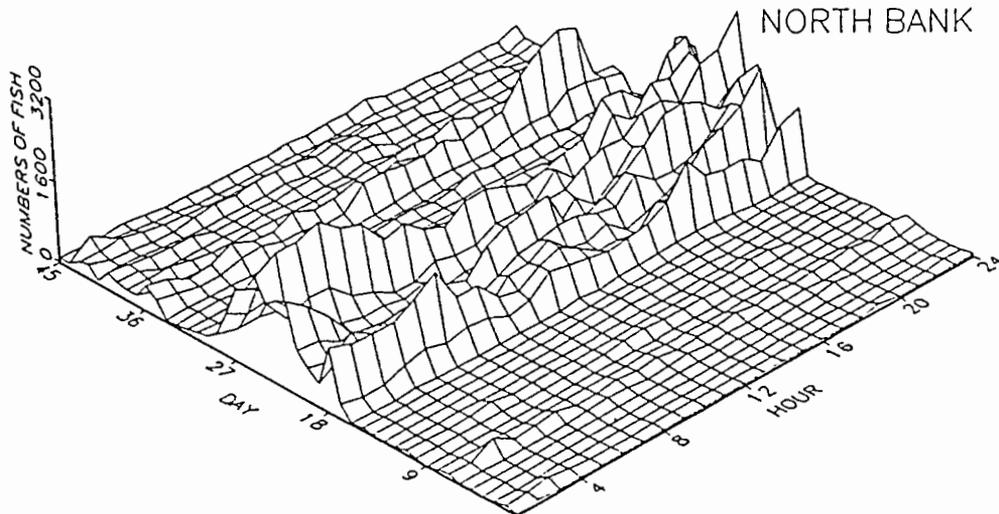


Figure 4. Hourly distribution of salmon migrating past the Kenai River sonar counters, 1995.

95KE12II.GRF

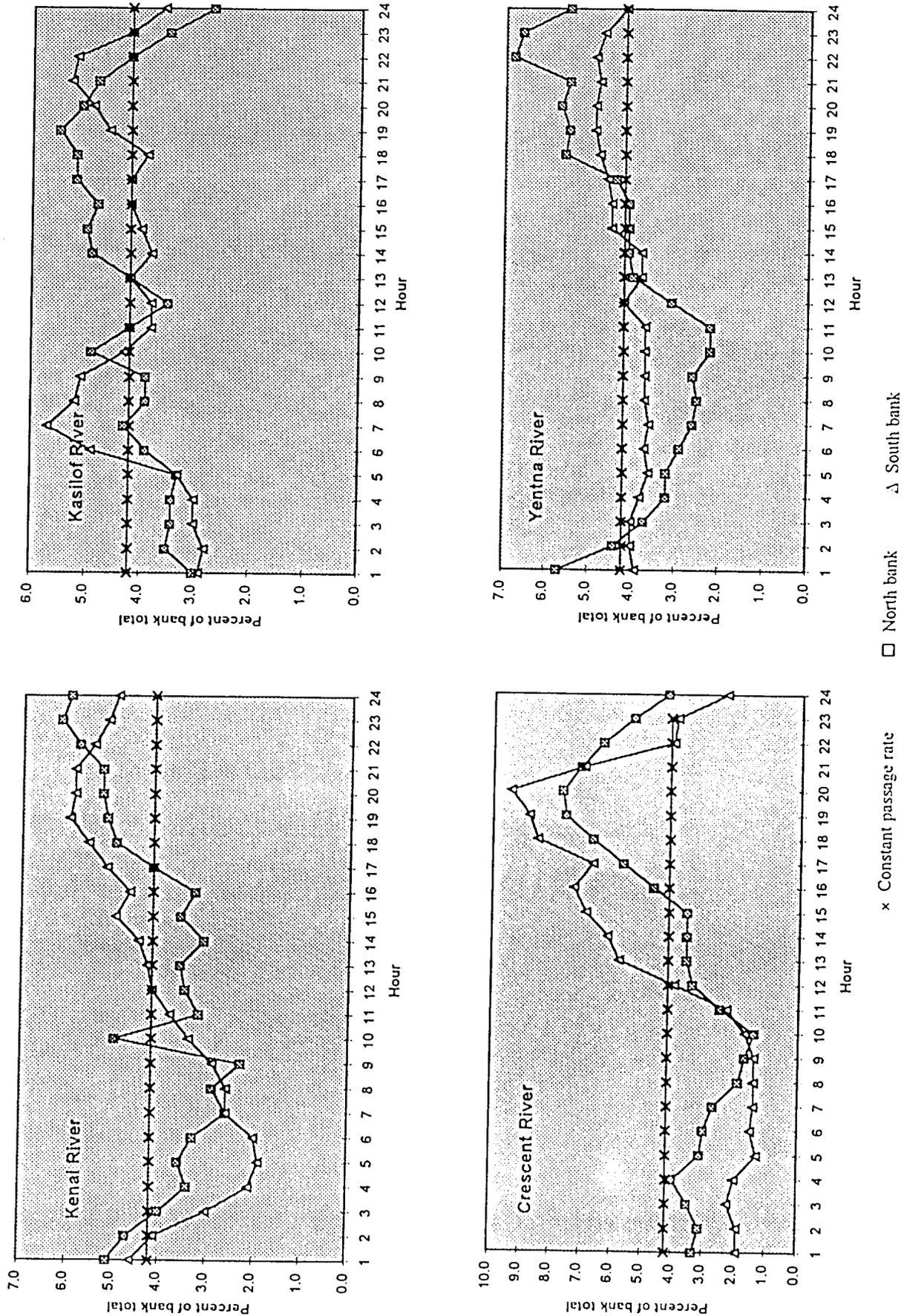


Figure 5. Mean hourly passage rates of salmon migrating past the Kenai, Kasilof, Crescent and Yentna River sonar counters, 1995.

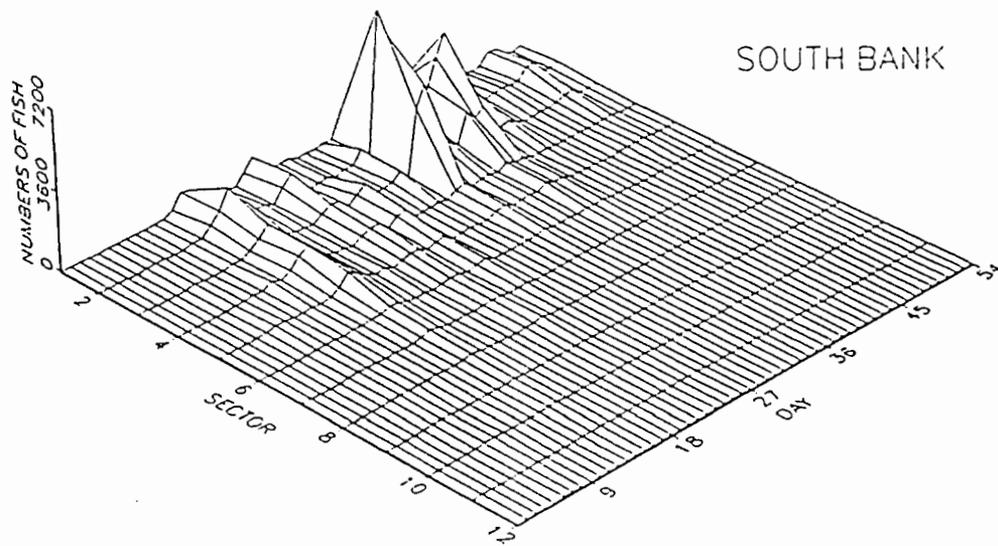
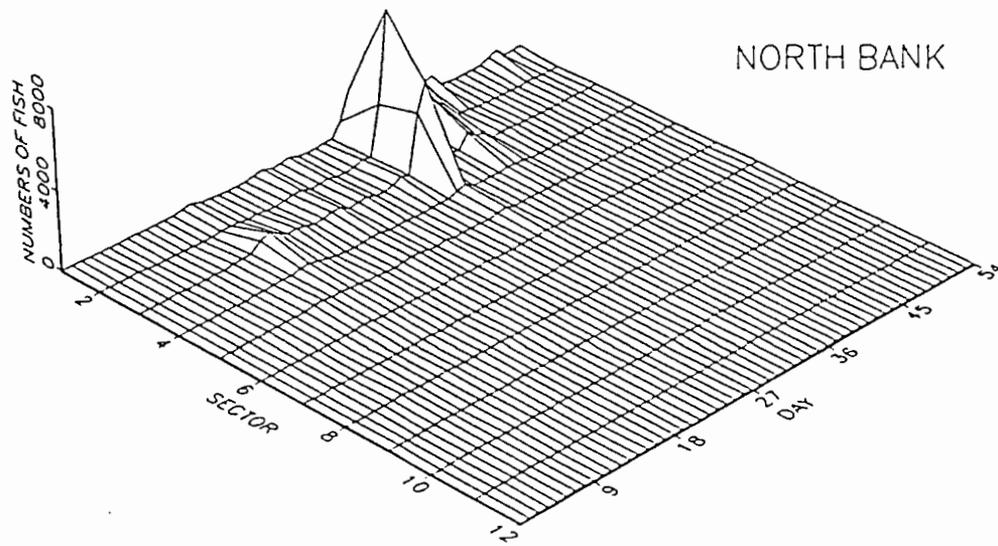


Figure 6. Distribution of salmon sonar counts by sector in the Kasilof River, 1995.

95KA12S.GRF

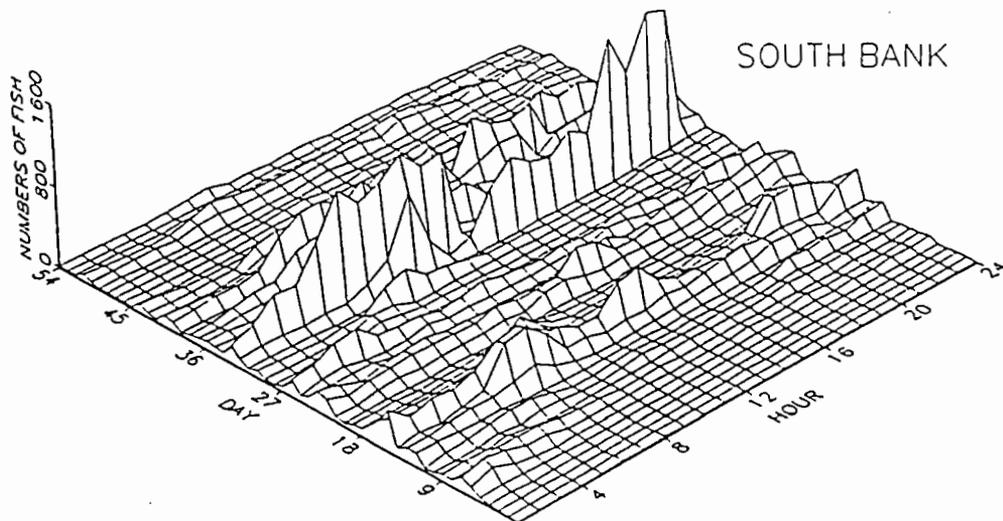
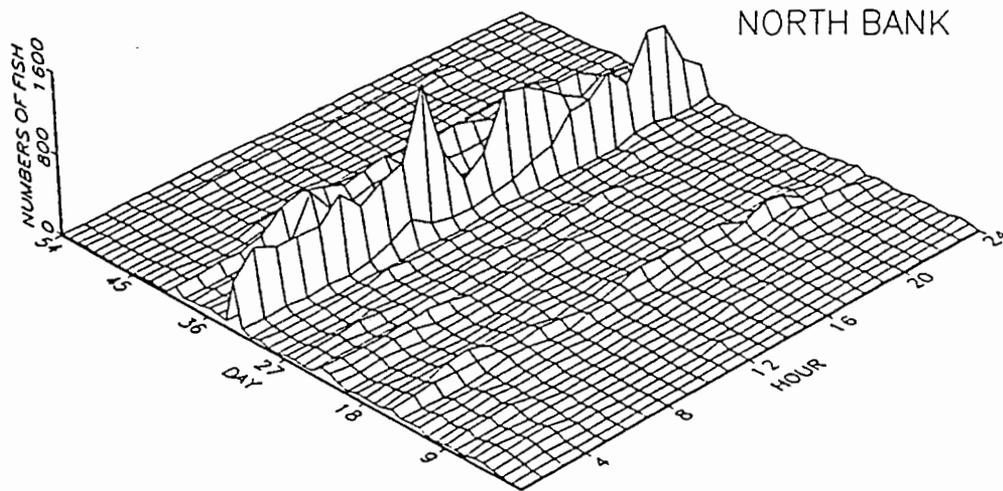


Figure 7. Hourly distribution of salmon migrating past the Kasilof River sonar counters, 1995.

95KA1211.GRI

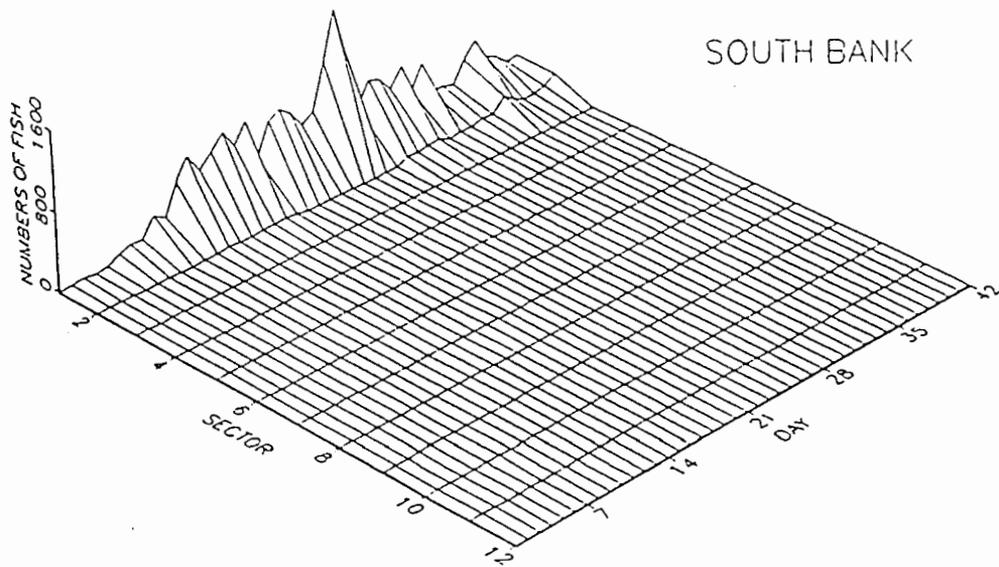
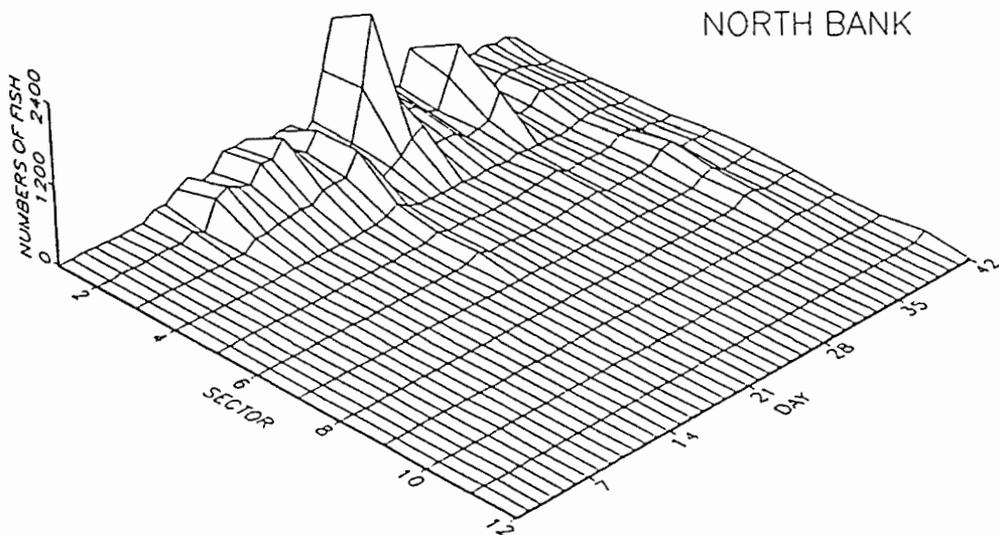


Figure 8. Distribution of salmon sonar counts by sector in the Crescent River, 1995.

95CR12S.GRI

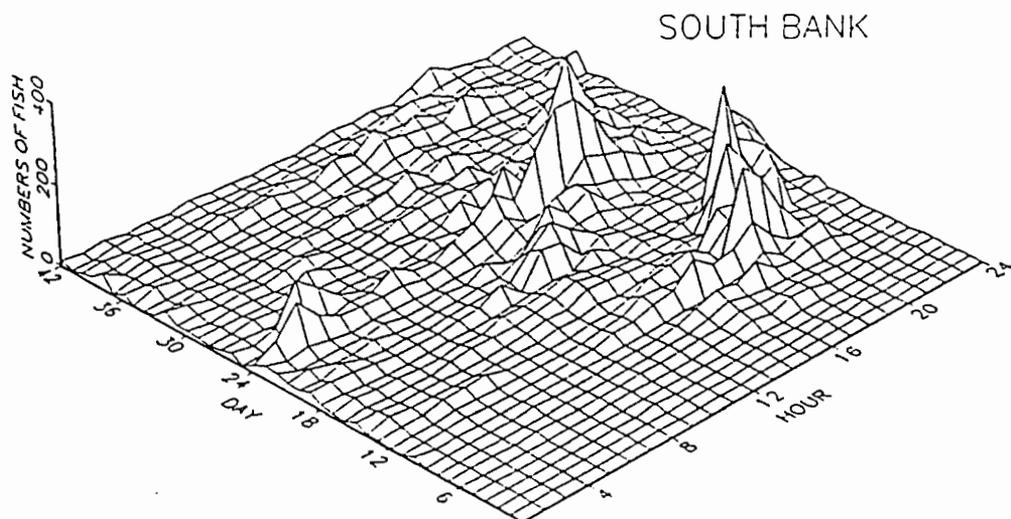
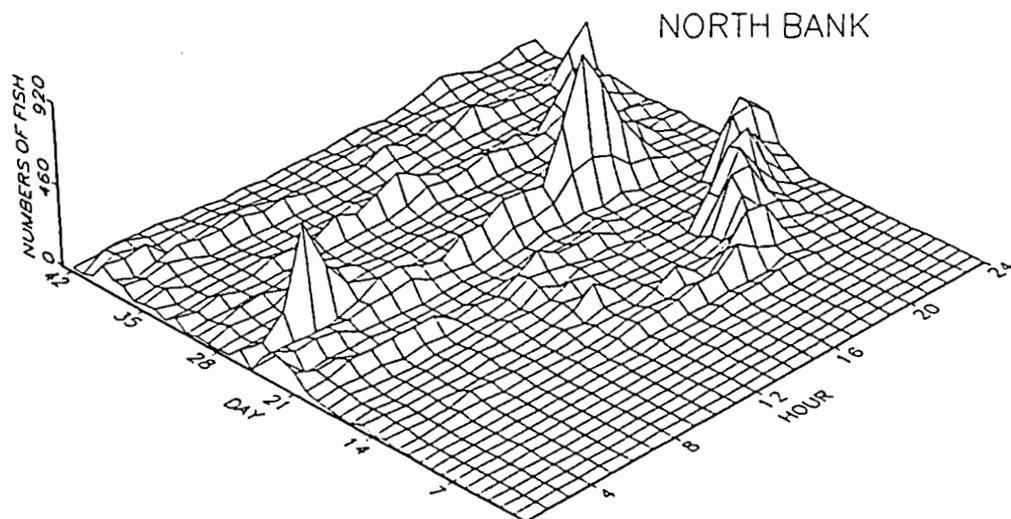


Figure 9. Hourly distribution of salmon migrating past the Crescent River counters, 1995.

95CRI211.GRF

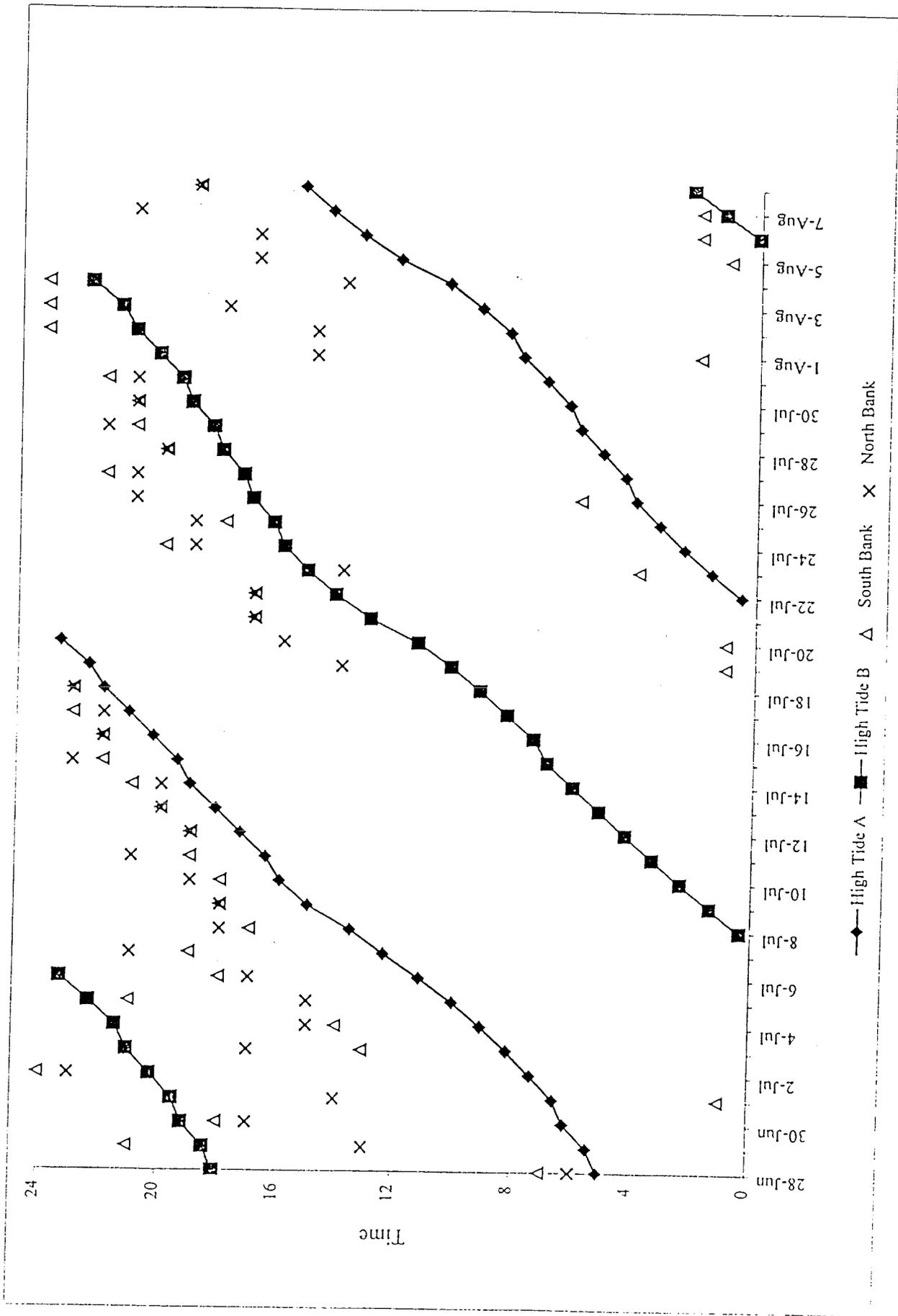


Figure 10. Time of peak daily sonar count and daily high tides at Crescent River, 1995.

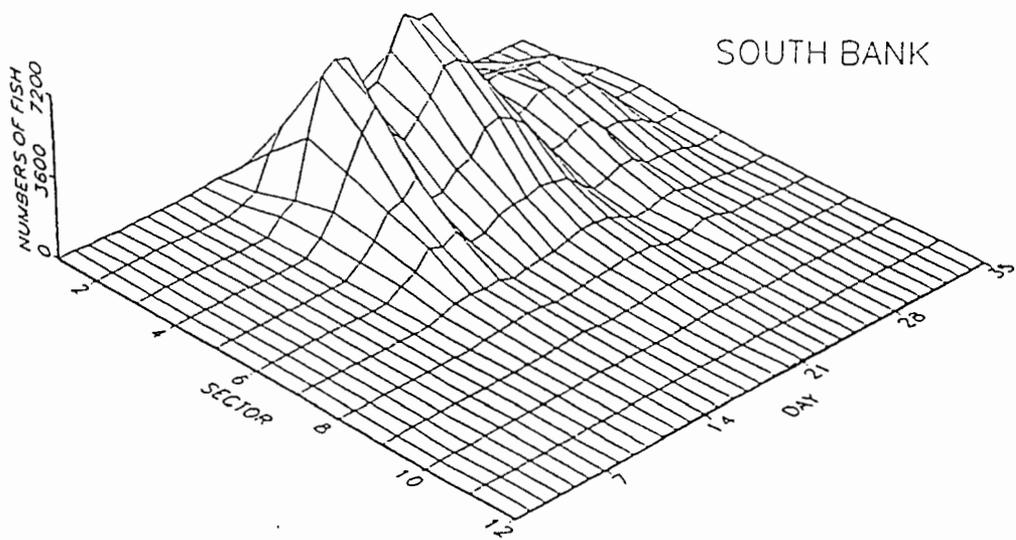
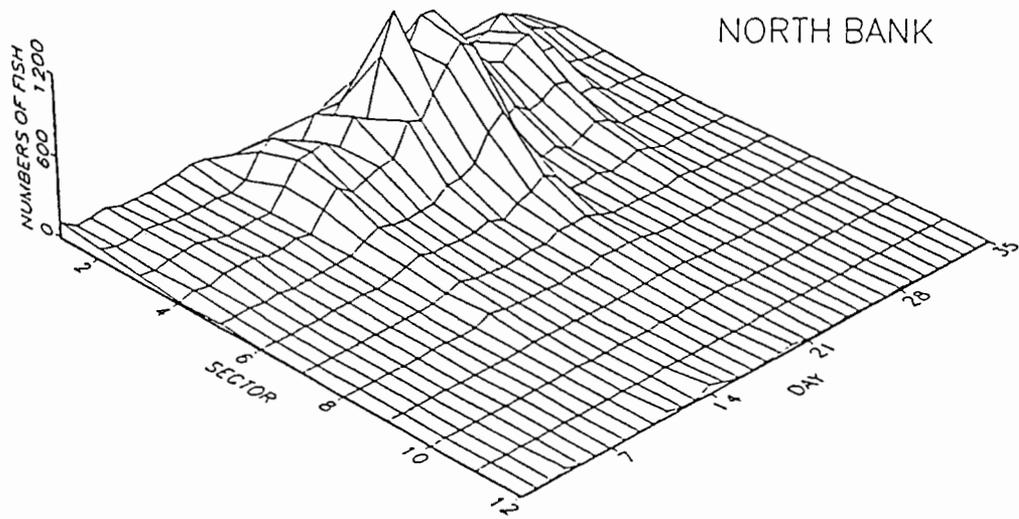


Figure 11. Distribution of salmon sonar counts by sector in the Yentna River, 1995.

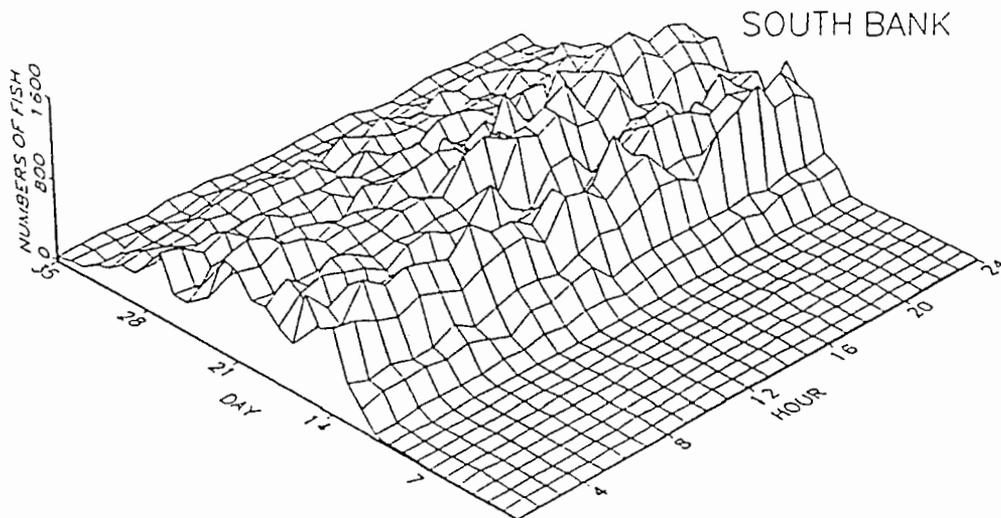
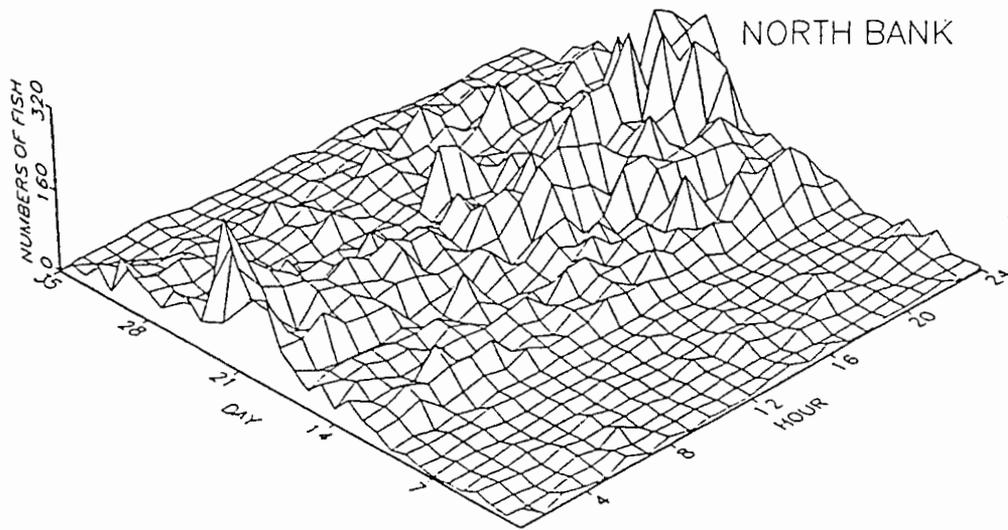


Figure 12. Hourly distribution of salmon migrating past the Yentna River sonar counters, 1995.

Appendix A.1. Estimated salmon escapement adjacent to the north bank  
of the Kenai River, 1 July through 14 August 1995.

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Date	Daily	Cum	Date	Daily	Cum
01-Jul	1,145	1,145	24-Jul	25,716	174,700
02-Jul	839	1,984	25-Jul	35,403	210,103
03-Jul	403	2,387	26-Jul	23,109	233,212
04-Jul	263	2,650	27-Jul	15,916	249,128
05-Jul	730	3,380	28-Jul	11,988	261,116
06-Jul	1,072	4,452	29-Jul	4,179	265,295
07-Jul	2,491	6,943	30-Jul	2,093	267,388
08-Jul	715	7,658	31-Jul	2,253	269,641
09-Jul	117	7,775	01-Aug	3,973	273,614
10-Jul	1,086	8,861	02-Aug	1,168	274,782
11-Jul	1,103	9,964	03-Aug	4,220	279,002
12-Jul	433	10,397	04-Aug	13,825	292,827
13-Jul	633	11,030	05-Aug	6,958	299,785
14-Jul	794	11,824	06-Aug	901	300,686
15-Jul	609	12,433	07-Aug	5,137	305,823
16-Jul	1,173	13,606	08-Aug	2,409	308,232
17-Jul	15,003	28,609	09-Aug	3,524	311,756
18-Jul	17,515	46,124	10-Aug	3,069	314,825
19-Jul	17,393	63,517	11-Aug	5,156	319,981
20-Jul	18,318	81,835	12-Aug	2,796	322,777
21-Jul	24,608	106,443	13-Aug	1,962	324,739
22-Jul	17,998	124,441	14-Aug	3,607	328,346
23-Jul	24,543	148,984			

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Appendix A.2. Estimated salmon escapement adjacent to the south bank  
of the Kenai River, 1 July through 14 August 1995.

Date	Daily	Cum	Date	Daily	Cum
01-Jul	699	699	24-Jul	31,666	169,071
02-Jul	477	1,176	25-Jul	27,313	196,384
03-Jul	763	1,939	26-Jul	14,376	210,760
04-Jul	559	2,498	27-Jul	10,655	221,415
05-Jul	987	3,485	28-Jul	9,432	230,847
06-Jul	884	4,369	29-Jul	4,462	235,309
07-Jul	1,149	5,518	30-Jul	1,558	236,867
08-Jul	561	6,079	31-Jul	2,227	239,094
09-Jul	238	6,317	01-Aug	3,009	242,103
10-Jul	755	7,072	02-Aug	1,615	243,718
11-Jul	509	7,581	03-Aug	4,186	247,904
12-Jul	425	8,006	04-Aug	16,678	264,582
13-Jul	437	8,443	05-Aug	5,925	270,507
14-Jul	621	9,064	06-Aug	1,660	272,167
15-Jul	523	9,587	07-Aug	7,350	279,517
16-Jul	860	10,447	08-Aug	3,648	283,165
17-Jul	12,275	22,722	09-Aug	3,742	286,907
18-Jul	13,605	36,327	10-Aug	3,755	290,662
19-Jul	16,612	52,939	11-Aug	4,418	295,080
20-Jul	18,220	71,159	12-Aug	3,025	298,105
21-Jul	30,012	101,171	13-Aug	1,638	299,743
22-Jul	13,630	114,801	14-Aug	2,358	302,101
23-Jul	22,604	137,405			

Appendix A.3. Kenai River north bank sonar counts by hour, 1 July through 14 August 1995.

Counts by Hour

Date	Counts by Hour																								Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
01-Jul	19	60	39	35	48	42	40	40	38	56	44	48	57	53	44	57	46	47	97	41	44	45	49	56	1,145	1145
02-Jul	67	92	149	77	32	37	11	52	44	54	25	17	23	17	26	3	9	5	6	9	10	8	49	17	839	1,984
03-Jul	21	15	14	42	10	19	27	8	12	12	5	24	27	18	29	18	23	5	11	26	12	12	5	8	403	2,387
04-Jul	4	42	28	26	11	10	6	7	29	10	2	10	4	10	11	4	2	4	2	5	2	8	5	21	263	2,650
05-Jul	22	20	23	16	29	24	18	25	16	19	26	23	25	34	9	17	27	32	100	52	53	43	38	39	730	3,380
06-Jul	22	23	9	14	6	14	56	88	63	6	42	73	24	28	33	42	36	54	14	28	83	85	93	136	1,072	4,452
07-Jul	79	65	315	60	102	155	50	51	100	49	102	35	62	66	122	41	100	66	94	102	158	82	242	193	2,491	6,943
08-Jul	54	46	23	57	37	44	40	45	47	29	66	26	31	27	11	23	13	18	32	31	15	0	0	0	715	7,658
09-Jul	0	0	0	0	5	0	0	16	11	1	2	1	0	6	0	0	0	0	10	7	17	2	27	12	117	7,775
10-Jul	36	33	35	28	46	15	7	23	28	48	91	113	77	78	77	55	44	38	42	45	27	32	20	48	1,086	8,861
11-Jul	58	44	27	44	114	29	37	40	25	25	21	37	49	39	31	77	56	108	96	23	32	38	24	29	1,103	9,964
12-Jul	22	16	14	24	12	9	16	16	16	8	10	15	20	5	12	27	14	31	28	17	11	56	23	11	433	10,397
13-Jul	11	13	18	13	21	10	18	12	21	32	21	23	57	42	36	42	42	13	43	45	35	13	35	17	633	11,030
14-Jul	32	23	8	14	7	3	8	26	10	15	30	56	70	68	67	57	54	32	23	29	58	38	43	23	794	11,824
15-Jul	44	22	31	37	24	1	28	4	10	3	0	10	21	8	32	33	60	90	24	32	42	27	13	13	609	12,433
16-Jul	12	6	4	26	12	10	1	12	4	1	4	66	18	66	83	113	121	143	136	97	52	30	80	76	1,173	13,606
17-Jul	275	178	204	360	481	357	460	408	232	339	689	614	541	462	517	597	826	1,465	976	892	910	666	1,187	1,367	15,003	28,609
18-Jul	1,242	1,113	1,065	1,087	1,317	1,616	932	946	501	410	695	845	625	374	370	305	732	633	570	505	394	558	279	401	17,515	46,124
19-Jul	451	759	726	396	571	754	399	376	192	615	638	901	542	438	606	275	420	581	764	1,188	1,341	1,578	2,156	726	17,393	63,517
20-Jul	635	560	884	641	423	313	357	467	300	481	723	785	874	855	713	623	1,083	775	747	879	1,120	1,519	1,145	1,416	18,318	81,835
21-Jul	858	834	600	341	540	603	495	651	507	994	1,187	1,267	1,367	554	572	738	1,026	1,374	1,766	1,820	1,636	1,302	1,740	1,836	24,608	106,443
22-Jul	1,681	1,371	960	420	340	349	230	448	204	223	201	359	583	381	817	469	792	1,237	1,082	1,257	750	1,006	1,387	1,451	17,998	124,441
23-Jul	1,586	1,153	360	521	413	435	349	459	201	257	257	723	774	841	880	1,158	1,320	1,291	1,632	1,667	1,423	2,024	2,130	2,689	24,543	148,984
24-Jul	1,426	916	1,125	1,114	744	588	364	361	581	475	478	693	696	730	1,185	799	889	1,688	1,364	1,934	1,831	2,178	1,503	2,054	25,716	174,700
25-Jul	1,838	2,090	2,080	2,264	1,956	1,806	1,290	1,418	1,107	938	1,242	1,274	1,127	938	1,073	1,204	1,281	1,903	1,861	1,503	1,216	1,212	1,433	1,329	35,403	210,103
26-Jul	1,493	1,366	940	960	840	696	512	728	822	873	751	431	374	330	583	639	998	1,062	1,358	1,056	1,146	1,947	2,094	1,110	23,109	233,212
27-Jul	1,368	1,163	779	376	331	391	273	391	420	398	213	267	272	526	557	472	431	824	583	774	857	666	1,971	1,613	15,916	249,128
28-Jul	791	579	637	591	1,126	738	823	605	470	361	416	316	532	327	228	397	452	476	389	318	315	517	378	206	11,988	261,116
29-Jul	285	189	194	110	277	120	135	58	98	223	80	103	101	168	404	412	381	254	94	32	140	139	97	85	4,179	265,295
30-Jul	137	70	77	43	67	63	97	99	105	84	100	83	77	62	52	40	93	138	177	113	104	62	95	55	2,093	267,388

-Continued-

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
31-Jul	114	71	79	126	91	75	22	59	25	73	115	66	80	60	114	95	96	118	129	167	148	96	145	89	2,253	269,641
01-Aug	62	49	65	44	112	242	106	162	168	105	156	156	90	162	320	250	273	252	276	176	306	201	112	128	3,973	273,614
02-Aug	33	76	96	61	51	26	37	17	23	9	14	22	11	20	73	48	96	76	71	56	33	92	53	74	1,168	274,782
03-Aug	34	60	53	63	44	75	51	20	14	25	47	90	137	168	173	144	147	236	305	286	589	581	487	391	4,220	279,002
04-Aug	317	234	151	173	296	335	205	232	133	155	598	621	558	546	648	448	562	653	1,176	1,537	1,741	1,594	462	450	13,825	292,827
05-Aug	483	406	198	286	487	326	288	492	336	376	500	298	511	396	315	163	210	96	193	150	63	70	144	171	6,958	299,785
06-Aug	199	76	58	50	44	32	26	14	16	13	32	32	10	23	10	7	12	17	7	13	13	38	31	128	901	300,686
07-Aug	187	197	233	158	90	112	127	116	103	112	162	168	216	232	291	232	397	214	249	198	263	207	367	506	5,137	305,823
08-Aug	239	242	62	67	68	90	84	129	103	86	106	106	197	107	80	64	51	41	40	42	61	72	118	154	2,409	308,232
09-Aug	327	272	222	206	214	92	90	114	105	150	178	191	316	257	62	53	96	81	126	49	41	56	90	136	3,524	311,756
10-Aug	59	148	127	90	66	68	82	82	94	143	87	118	250	279	195	145	178	84	109	107	138	128	96	196	3,069	314,825
11-Aug	282	143	132	96	91	175	231	208	291	301	276	212	281	232	292	270	257	281	284	280	248	126	31	136	5,156	319,981
12-Aug	219	218	287	192	124	114	94	77	81	115	100	114	212	143	157	101	36	51	36	13	54	41	72	145	2,796	322,777
13-Aug	96	425	168	114	81	70	33	20	14	38	31	50	23	50	73	103	76	46	65	43	71	72	46	154	1,962	324,739
14-Aug	95	95	92	159	116	65	92	93	108	133	116	164	131	183	208	314	185	160	175	127	145	179	150	322	3,607	328,346
Total	17,316	15,575	13,394	11,626	11,922	11,154	8,654	9,723	7,837	8,883	10,690	11,658	12,086	10,443	12,206	11,190	14,060	16,811	17,381	17,791	17,769	19,468	20,768	20,241	328,346	

67

Appendix A-4. Kenai River south bank sonar counts by hour, 1 July through 14 August 1995.

Date	Counts by Hour																								Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
01-Jul	7	6	2	1	1	15	11	7	15	10	9	11	35	38	59	83	79	77	61	30	22	35	36	49	699	699
02-Jul	17	19	11	5	18	15	17	8	13	11	27	13	22	33	10	27	43	28	25	25	22	24	30	14	477	1,176
03-Jul	2	25	16	4	13	9	13	16	13	42	24	35	54	37	45	54	58	83	83	51	41	29	34	11	763	1,939
04-Jul	38	18	15	32	10	25	14	28	18	20	24	41	25	19	40	16	29	18	27	24	17	25	8	28	559	2,498
05-Jul	18	9	5	8	18	26	42	35	39	52	35	54	51	45	46	45	31	81	41	42	80	79	54	51	987	3,485
06-Jul	39	26	24	20	26	45	45	67	51	63	50	64	59	28	14	18	22	22	12	45	25	48	52	39	884	4,369
07-Jul	23	30	21	30	16	24	45	52	39	74	32	57	76	33	44	39	34	61	61	30	60	100	101	67	1,149	5,518
08-Jul	64	44	35	23	42	24	46	26	23	20	15	15	18	13	33	16	19	15	10	8	17	9	10	16	561	6,079
09-Jul	5	6	1	3	7	4	4	2	12	7	6	14	3	10	7	13	8	13	16	15	10	20	21	31	238	6,317
10-Jul	26	34	29	19	21	31	14	12	15	17	28	53	33	48	34	48	42	50	40	37	29	33	29	29	755	7,072
11-Jul	28	22	25	11	10	9	15	11	15	17	17	17	31	36	54	35	16	39	21	20	14	11	19	16	509	7,581
12-Jul	11	14	18	5	1	9	14	3	9	10	13	21	15	11	19	30	20	21	16	29	21	50	30	35	425	8,006
13-Jul	17	35	25	14	23	10	26	20	33	26	16	11	12	16	12	22	12	9	10	17	13	26	17	15	437	8,443
14-Jul	21	15	12	15	12	10	11	17	18	20	12	29	37	38	45	28	62	28	47	25	29	40	25	25	621	9,064
15-Jul	35	34	31	21	20	17	21	24	9	22	22	14	23	24	13	22	18	20	34	23	12	26	14	24	523	9,587
16-Jul	17	11	16	5	12	6	30	11	7	18	12	25	30	16	17	31	107	76	96	55	57	47	90	68	860	10,447
17-Jul	119	136	96	183	150	67	137	166	203	252	280	403	458	400	844	706	1,031	934	1,402	1,111	985	692	645	875	12,275	22,722
18-Jul	864	938	556	608	563	310	733	807	534	455	741	972	549	514	415	389	310	382	718	677	641	426	213	290	13,605	36,327
19-Jul	315	130	152	124	157	410	334	418	332	1,181	1,436	1,129	699	427	595	548	638	620	1,959	1,356	1,466	1,270	595	321	16,612	52,939
20-Jul	445	830	737	458	193	262	315	378	248	475	791	1,022	691	774	915	902	755	742	918	1,147	1,061	1,355	1,502	1,324	18,220	71,159
21-Jul	1,108	601	497	337	445	379	554	360	463	1,862	1,900	1,476	1,308	1,444	1,887	1,711	2,334	2,372	1,710	1,304	1,651	1,232	1,246	1,831	30,012	101,171
22-Jul	1,150	712	314	137	98	86	229	195	276	110	246	491	487	431	431	557	851	883	882	934	1,049	1,296	1,160	625	13,630	114,801
23-Jul	874	1,230	436	135	132	244	334	741	950	685	572	585	557	1,180	1,621	1,438	1,749	1,483	1,564	1,728	1,517	1,348	946	555	22,604	137,405
24-Jul	1,102	1,026	872	593	523	625	833	779	1,095	910	752	1,162	1,384	1,518	1,129	1,401	1,668	2,679	2,955	2,025	1,906	1,888	1,574	1,567	31,666	169,071
25-Jul	2,126	1,804	848	570	861	952	1,210	608	734	960	1,057	1,257	1,627	1,488	1,310	685	1,007	1,350	728	1,067	1,074	1,160	1,072	1,758	27,313	196,384
26-Jul	938	850	1,012	682	508	316	293	240	587	152	215	343	426	585	627	791	639	740	662	717	644	607	715	1,087	14,376	210,760
27-Jul	637	547	371	203	201	222	327	247	556	296	180	283	250	438	500	719	835	510	438	711	812	815	288	269	10,655	221,415
28-Jul	414	651	524	253	224	231	267	481	465	184	336	294	348	671	987	721	688	420	312	185	204	176	228	168	9,432	230,847
29-Jul	165	93	99	85	73	127	92	84	74	126	132	138	198	238	314	274	252	316	255	416	237	257	248	169	4,462	235,309
30-Jul	171	109	77	37	45	60	76	52	39	31	29	25	24	29	26	45	57	74	132	127	85	79	53	76	1,558	236,867

-Continued-

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
31-Jul	65	71	39	22	43	46	29	49	39	52	52	96	78	105	116	123	121	142	153	125	163	194	149	155	2,227	239,094
01-Aug	86	137	99	54	82	80	57	53	52	40	52	57	95	96	167	135	180	254	317	276	200	180	155	105	3,009	242,103
02-Aug	137	104	118	102	62	58	67	60	26	35	35	26	24	30	51	23	48	40	88	62	87	96	108	128	4,615	243,718
03-Aug	109	78	112	77	93	79	100	97	72	100	168	101	137	186	131	236	174	357	350	503	322	119	263	222	4,186	247,904
04-Aug	294	122	184	129	76	120	143	217	168	449	745	882	1,480	976	696	496	445	474	752	1,478	1,749	1,767	1,920	916	16,678	264,582
05-Aug	698	554	311	340	243	151	259	374	281	215	170	285	321	328	171	218	137	138	137	128	102	123	97	144	5,925	270,507
06-Aug	152	148	141	88	61	32	67	38	41	57	50	39	42	32	63	44	76	66	40	27	34	33	110	179	1,660	272,167
07-Aug	131	177	127	67	306	306	306	306	306	306	306	306	306	256	479	424	162	247	234	305	379	519	490	599	7,350	279,517
08-Aug	439	235	112	68	61	65	129	131	134	173	149	136	182	148	183	208	115	160	121	107	135	101	169	187	3,648	283,165
09-Aug	160	109	138	139	56	68	95	54	103	57	142	167	149	144	190	198	133	193	294	257	208	114	254	320	3,742	286,907
10-Aug	355	209	301	100	62	87	104	90	138	136	129	163	144	160	144	144	150	213	186	279	161	87	92	121	3,755	290,662
11-Aug	243	197	258	130	117	106	206	113	71	114	135	203	261	218	164	166	222	211	97	143	202	257	352	232	4,418	295,080
12-Aug	230	186	154	116	96	63	98	188	160	145	128	112	124	168	144	176	129	112	101	72	81	104	94	44	3,025	298,105
13-Aug	35	63	64	61	19	37	65	64	70	54	80	95	94	58	59	110	87	63	64	56	70	78	130	62	1,638	299,743
14-Aug	73	80	59	88	49	63	43	69	82	94	92	107	82	54	126	219	217	128	79	96	124	92	129	113	2,358	302,101
Total	40,031	2,475	9,094	6,202	5,849	5,931	7,870	7,798	8,628	10,135	11,442	12,829	13,029	13,541	14,977	14,334	15,806	16,919	18,248	17,895	17,818	16,747	15,571	14,960	302,101	

69

Appendix A.5. Kenai River north bank sonar counts by hour, 1 July through 14 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
01-Jul	1.7	5.2	3.4	3.1	4.2	3.7	3.5	3.5	3.3	4.9	3.8	4.2	5.0	4.6	3.8	5.0	4.0	4.1	8.5	3.6	3.8	3.9	4.3	4.9	100.0
02-Jul	8.0	11.0	17.8	9.2	3.8	4.4	1.3	6.2	5.2	6.4	3.0	2.0	2.7	2.0	3.1	0.4	1.1	0.6	0.7	1.1	1.2	1.0	5.8	2.0	100.0
03-Jul	5.2	3.7	3.5	10.4	2.5	4.7	6.7	2.0	3.0	3.0	1.2	6.0	6.7	4.5	7.2	4.5	5.7	1.2	2.7	6.5	3.0	3.0	1.2	2.0	100.1
04-Jul	1.5	16.0	10.6	9.9	4.2	3.8	2.3	2.7	11.0	3.8	0.8	3.8	1.5	3.8	4.2	1.5	0.8	1.5	0.8	1.9	0.8	3.0	1.9	8.0	100.1
05-Jul	3.0	2.7	3.2	2.2	4.0	3.3	2.5	3.4	2.2	2.6	3.6	3.2	3.4	4.7	1.2	2.3	3.7	4.4	13.7	7.1	7.3	5.9	5.2	5.3	100.1
06-Jul	2.1	2.1	0.8	1.3	0.6	1.3	5.2	8.2	5.9	0.6	3.9	6.8	2.2	2.6	3.1	3.9	3.4	5.0	1.3	2.6	7.7	7.9	8.7	12.7	99.9
07-Jul	3.2	2.6	12.6	2.4	4.1	6.2	2.0	2.0	4.0	2.0	4.1	1.4	2.5	2.6	4.9	1.6	4.0	2.6	3.8	4.1	6.3	3.3	9.7	7.7	99.7
08-Jul	7.6	6.4	3.2	8.0	5.2	6.2	5.6	6.3	6.6	4.1	9.2	3.6	4.3	3.8	1.5	3.2	1.8	2.5	4.5	4.3	2.1	0.0	0.0	0.0	100.0
09-Jul	0.0	0.0	0.0	0.0	4.3	0.0	0.0	13.7	9.4	0.9	1.7	0.9	0.0	5.1	0.0	0.0	0.0	0.0	8.5	6.0	14.5	1.7	23.1	10.3	100.1
10-Jul	3.3	3.0	3.2	2.6	4.2	1.4	0.6	2.1	2.6	4.4	8.4	10.4	7.1	7.2	7.1	5.1	4.1	3.5	3.9	4.1	2.5	2.9	1.8	4.4	99.9
11-Jul	5.3	4.0	2.4	4.0	10.3	2.6	3.4	3.6	2.3	2.3	1.9	3.4	4.4	3.5	2.8	7.0	5.1	9.8	8.7	2.1	2.9	3.4	2.2	2.6	100.0
12-Jul	5.1	3.7	3.2	5.5	2.8	2.1	3.7	3.7	3.7	1.8	2.3	3.5	4.6	1.2	2.8	6.2	3.2	7.2	6.5	3.9	2.5	12.9	5.3	2.5	99.9
13-Jul	1.7	2.1	2.8	2.1	3.3	1.6	2.8	1.9	3.3	5.1	3.3	3.6	9.0	6.6	5.7	6.6	6.6	2.1	6.8	7.1	5.5	2.1	5.5	2.7	99.9
14-Jul	4.0	2.9	1.0	1.8	0.9	0.4	1.0	3.3	1.3	1.9	3.8	7.1	8.8	8.6	8.4	7.2	6.8	4.0	2.9	3.7	7.3	4.8	5.4	2.9	100.2
15-Jul	7.2	3.6	5.1	6.1	3.9	0.2	4.6	0.7	1.6	0.5	0.0	1.6	3.4	1.3	5.3	5.4	9.9	14.8	3.9	5.3	6.9	4.4	2.1	2.1	99.9
16-Jul	1.0	0.5	0.3	2.2	1.0	0.9	0.1	1.0	0.3	0.1	0.3	5.6	1.5	5.6	7.1	9.6	10.3	12.2	11.6	8.3	4.4	2.6	6.8	6.5	99.8
17-Jul	1.8	1.2	1.4	2.4	3.2	2.4	3.1	2.7	1.5	2.3	4.6	4.1	3.6	3.1	3.4	4.0	5.5	9.8	6.5	5.9	6.1	4.4	7.9	9.1	100.0
18-Jul	7.1	6.4	6.1	6.2	7.5	9.2	5.3	5.4	2.9	2.3	4.0	4.8	3.6	2.1	2.1	1.7	4.2	3.6	3.3	2.9	2.2	3.2	1.6	2.3	100.0
19-Jul	2.6	4.4	4.2	2.3	3.3	4.3	2.3	2.2	1.1	3.5	3.7	5.2	3.1	2.5	3.5	1.6	2.4	3.3	4.4	6.8	7.7	9.1	12.4	4.2	100.1
20-Jul	3.5	3.1	4.8	3.5	2.3	1.7	1.9	2.5	1.6	2.6	3.9	4.3	4.8	4.7	3.9	3.4	5.9	4.2	4.1	4.8	6.1	8.3	6.3	7.7	99.9
21-Jul	3.5	3.4	2.4	1.4	2.2	2.5	2.0	2.6	2.1	4.0	4.8	5.1	5.6	2.3	2.3	3.0	4.2	5.6	7.2	7.4	6.6	5.3	7.1	7.5	100.1
22-Jul	9.3	7.6	5.3	2.3	1.9	1.9	1.3	2.5	1.1	1.2	1.1	2.0	3.2	2.1	4.5	2.6	4.4	6.9	6.0	7.0	4.2	5.6	7.7	8.1	99.8
23-Jul	6.5	4.7	1.5	2.1	1.7	1.8	1.4	1.9	0.8	1.0	1.0	2.9	3.2	3.4	3.6	4.7	5.4	5.3	6.6	6.8	5.8	8.2	8.7	11.0	100.0
24-Jul	5.5	3.6	4.4	4.3	2.9	2.3	1.4	1.4	2.3	1.8	1.9	2.7	2.7	2.8	4.6	3.1	3.5	6.6	5.3	7.5	7.1	8.5	5.8	8.0	100.0
25-Jul	5.2	5.9	5.9	6.4	5.5	5.1	3.6	4.0	3.1	2.6	3.5	3.6	3.2	2.7	3.0	3.4	3.6	5.4	5.3	4.2	3.4	3.4	4.0	3.8	99.8
26-Jul	6.5	5.9	4.1	4.2	3.6	3.0	2.2	3.2	3.6	3.8	3.2	1.9	1.6	1.4	2.5	2.8	4.3	4.6	5.9	4.6	5.0	8.4	9.1	4.8	100.2
27-Jul	8.6	7.3	4.9	2.4	2.1	2.5	1.7	2.5	2.6	2.5	1.3	1.7	1.7	3.3	3.5	3.0	2.7	5.2	3.7	4.9	5.4	4.2	12.4	10.1	100.2
28-Jul	6.6	4.8	5.3	4.9	9.4	6.2	6.9	5.0	3.9	3.0	3.5	2.6	4.4	2.7	1.9	3.3	3.8	4.0	3.2	2.7	2.6	4.3	3.2	1.7	99.9
29-Jul	6.8	4.5	4.6	2.6	6.6	2.9	3.2	1.4	2.3	5.3	1.9	2.5	2.4	4.0	9.7	9.9	9.1	6.1	2.2	0.8	3.4	3.3	2.3	2.0	99.8
30-Jul	6.5	3.3	3.7	2.1	3.2	3.0	4.6	4.7	5.0	4.0	4.8	4.0	3.7	3.0	2.5	1.9	4.4	6.6	8.5	5.4	5.0	3.0	4.5	2.6	100.0

-Continued-

Counts by Hour

Date	Counts by Hour																								Daily Total	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
31-Jul	5.1	3.2	3.5	5.6	4.0	3.3	1.0	2.6	1.1	3.2	5.1	2.9	3.6	2.7	5.1	4.2	4.3	5.2	5.7	7.4	6.6	4.3	6.4	6.4	4.0	100.1
01-Aug	1.6	1.2	1.6	1.1	2.8	6.1	2.7	4.1	4.2	2.6	3.9	3.9	2.3	4.1	8.1	6.3	6.9	6.3	6.9	4.4	7.7	5.1	2.8	3.2	3.2	99.9
02-Aug	2.8	6.5	8.2	5.2	4.4	2.2	3.2	1.5	2.0	0.8	1.2	1.9	0.9	1.7	6.3	4.1	8.2	6.5	6.1	4.8	2.8	7.9	4.5	6.3	6.3	100.0
03-Aug	0.8	1.4	1.3	1.5	1.0	1.8	1.2	0.5	0.3	0.6	1.1	2.1	3.2	4.0	4.1	3.4	3.5	5.6	7.2	6.8	14.0	13.8	11.5	9.3	9.3	100.0
04-Aug	2.3	1.7	1.1	1.3	2.1	2.4	1.5	1.7	1.0	1.1	4.3	4.5	4.0	3.9	4.7	3.2	4.1	4.7	8.5	11.1	12.6	11.5	3.3	3.3	3.3	99.9
05-Aug	6.9	5.8	2.8	4.1	7.0	4.7	4.1	7.1	4.8	5.4	7.2	4.3	7.3	5.7	4.5	2.3	3.0	1.4	2.8	2.2	0.9	1.0	2.1	2.1	2.5	99.9
06-Aug	2.1	8.4	6.4	5.5	4.9	3.6	2.9	1.6	1.8	1.4	3.6	3.6	1.1	2.6	1.1	0.8	1.3	1.9	0.8	1.4	1.4	4.2	3.4	14.2	14.2	80.0
07-Aug	3.6	3.8	4.5	3.1	1.8	2.2	2.5	2.3	2.0	2.2	3.2	3.3	4.2	4.5	5.7	4.5	7.7	4.2	4.8	3.9	5.1	4.0	7.1	9.1	9.1	100.1
08-Aug	9.9	10.0	2.6	2.8	2.8	3.7	3.5	5.4	4.3	3.6	4.4	4.4	8.2	4.4	3.3	2.7	2.1	1.7	1.7	1.7	2.5	3.0	4.9	6.4	6.4	100.0
09-Aug	9.3	7.7	6.3	5.8	6.1	2.6	2.6	3.2	3.0	4.3	5.1	5.4	9.0	7.3	1.8	1.5	2.7	2.3	3.6	1.4	1.2	1.6	2.6	3.9	3.9	100.3
10-Aug	1.9	4.8	4.1	2.9	2.2	2.2	2.7	2.7	3.1	4.7	2.8	3.8	8.1	9.1	6.4	4.7	5.8	2.7	3.6	3.5	4.5	4.2	3.1	6.4	6.4	100.0
11-Aug	5.5	2.8	2.6	1.9	1.8	3.4	4.5	4.0	5.6	5.8	5.4	4.1	5.4	4.5	5.7	5.2	5.0	5.4	5.5	5.4	4.8	2.4	0.6	2.6	2.6	99.9
12-Aug	7.8	7.8	10.3	6.9	4.4	4.1	3.4	2.8	2.9	4.1	3.6	4.1	7.6	5.1	5.6	3.6	1.3	1.8	1.3	0.5	1.9	1.5	2.6	5.2	5.2	100.2
13-Aug	4.9	21.7	8.6	5.8	4.1	3.6	1.7	1.0	0.7	1.9	1.6	2.5	1.2	2.5	3.7	5.2	3.9	2.3	3.3	2.2	3.6	3.7	2.3	7.8	7.8	99.8
14-Aug	2.6	2.6	2.6	4.4	3.2	1.8	2.6	2.6	3.0	3.7	3.2	4.5	3.6	5.1	5.8	8.7	5.1	4.4	4.9	3.5	4.0	5.0	4.2	8.9	8.9	100.0
Total	5.1	4.7	4.0	3.4	3.6	3.3	2.6	2.9	2.3	5.0	3.2	3.5	3.6	3.1	3.6	3.3	4.2	5.0	5.2	5.3	5.3	5.8	6.2	6.0	6.0	100.2

Appendix A.6. Kenai River south bank sonar counts by hour, 1 July through 10 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
01-Jul	1.0	0.9	0.3	0.1	0.1	2.1	1.6	1.0	2.1	1.4	1.3	1.6	5.0	5.4	8.4	11.9	11.3	11.0	8.7	4.3	3.1	5.0	5.2	7.0	99.8
02-Jul	3.6	4.0	2.3	1.0	3.8	3.1	3.6	1.7	2.7	2.3	5.7	2.7	4.6	6.9	2.1	5.7	9.0	5.9	5.2	5.2	4.6	5.0	6.3	2.9	99.9
03-Jul	0.3	3.3	2.1	0.5	1.7	1.2	1.7	2.1	1.7	5.5	3.1	4.6	7.1	4.8	5.9	7.1	7.1	7.6	10.9	6.7	5.4	3.8	4.5	1.4	100.1
04-Jul	6.8	3.2	2.7	5.7	1.8	4.5	2.5	5.0	3.2	3.6	4.3	7.3	4.5	3.4	7.2	2.9	5.2	3.2	4.8	4.3	3.0	4.5	1.4	5.0	100.0
05-Jul	1.8	0.9	0.5	0.8	1.8	2.6	4.3	3.5	4.0	5.3	3.5	5.5	5.2	4.6	4.7	4.6	3.1	8.2	4.2	4.3	8.1	8.0	5.5	5.2	100.2
06-Jul	4.4	2.9	2.7	2.3	2.9	5.1	5.1	7.6	5.8	7.1	5.7	7.2	4.4	3.2	1.6	2.0	2.5	2.5	1.4	5.1	2.8	5.4	5.9	4.4	100.0
07-Jul	2.0	2.6	1.8	2.6	1.4	2.1	3.9	4.5	3.4	6.4	2.8	5.0	6.6	2.9	3.8	3.4	3.0	5.3	5.3	2.6	5.2	8.7	8.8	5.8	99.9
08-Jul	11.4	7.8	6.2	4.1	7.5	4.3	8.2	4.6	4.1	3.6	2.7	2.7	3.2	2.3	5.9	2.9	3.4	2.7	1.8	1.4	3.0	1.6	1.8	2.9	100.1
09-Jul	2.1	2.5	0.4	1.3	2.9	1.7	1.7	0.8	5.0	2.9	2.5	5.9	1.3	4.2	2.9	5.5	3.4	5.5	6.7	6.3	4.2	8.4	8.8	13.0	99.9
10-Jul	3.4	4.5	3.8	2.5	2.8	4.1	1.9	1.6	2.0	2.3	3.7	7.0	4.4	6.4	4.5	6.4	5.6	6.6	5.3	4.9	3.8	4.4	4.4	3.8	100.1
11-Jul	5.5	4.3	4.9	2.2	2.0	1.8	2.9	2.2	2.9	3.3	3.3	3.3	6.1	7.1	10.6	6.9	3.1	7.7	4.1	3.9	2.8	2.2	3.7	3.1	99.9
12-Jul	2.6	3.3	4.2	1.2	0.2	2.1	3.3	0.7	2.1	2.4	3.1	4.9	3.5	2.6	4.5	7.1	4.7	4.9	3.8	6.8	4.9	11.8	7.1	8.2	100.0
13-Jul	3.9	8.0	5.7	3.2	5.3	2.3	5.9	4.6	7.6	5.9	3.7	2.5	2.7	3.7	2.7	5.0	2.7	2.1	2.3	3.9	3.0	5.9	3.9	3.4	99.9
14-Jul	3.4	2.4	1.9	2.4	1.9	1.6	1.8	2.7	2.9	3.2	1.9	4.7	6.0	6.1	7.2	4.5	10.0	4.5	7.6	4.0	4.7	6.4	4.0	4.0	99.8
15-Jul	6.7	6.5	5.9	4.0	3.8	3.3	4.0	4.6	1.7	4.2	4.2	2.7	4.4	4.6	2.5	4.2	3.4	3.8	6.5	4.4	2.3	5.0	2.7	4.6	100.0
16-Jul	2.0	1.3	1.9	0.6	1.4	0.7	3.5	1.3	0.8	2.1	1.4	2.9	3.5	1.9	2.0	3.6	12.4	8.8	11.2	6.4	6.6	5.5	10.5	7.9	100.2
17-Jul	1.0	1.1	0.8	1.5	1.2	0.5	1.1	1.4	1.7	2.1	2.3	3.3	3.7	3.3	6.9	5.8	8.4	7.6	11.4	9.1	8.0	5.6	5.3	7.1	100.2
18-Jul	6.4	6.9	4.1	4.5	4.1	2.3	5.4	5.9	3.9	3.3	5.4	7.1	4.0	3.8	3.1	2.9	2.3	2.8	5.3	5.0	4.7	3.1	1.6	2.1	100.0
19-Jul	1.9	0.8	0.9	0.7	0.9	2.5	2.0	2.5	2.0	7.1	8.6	6.8	4.2	2.6	3.6	3.3	3.8	3.7	11.8	8.2	8.8	7.6	3.6	1.9	99.8
20-Jul	2.4	4.6	4.0	2.5	1.1	1.4	1.7	2.1	1.4	2.6	4.3	5.6	3.8	4.2	5.0	5.0	4.1	4.1	5.0	6.3	5.8	7.3	8.2	7.3	99.8
21-Jul	3.7	2.0	1.7	1.1	1.5	1.3	1.8	1.2	1.5	6.2	6.3	4.9	4.4	4.8	6.3	5.7	7.8	7.9	5.7	4.3	5.5	4.1	4.2	6.1	100.0
22-Jul	8.4	5.2	2.3	1.0	0.7	0.6	1.7	1.4	2.0	0.8	1.8	3.6	3.6	3.2	3.2	4.1	6.2	6.5	6.5	6.9	7.7	9.5	8.5	4.6	100.0
23-Jul	3.9	5.4	1.9	0.6	0.6	1.1	1.5	3.3	4.2	3.0	2.5	2.6	2.5	5.2	7.2	6.4	7.7	6.6	6.9	7.6	6.7	6.0	4.2	2.5	100.1
24-Jul	3.5	3.2	2.8	1.9	1.7	2.0	2.6	2.5	3.5	2.9	2.4	3.7	4.4	4.8	3.6	4.4	5.3	8.5	9.3	6.4	6.0	5.0	5.0	4.9	100.3
25-Jul	7.8	6.6	3.1	2.1	3.2	3.5	4.4	2.2	2.7	3.5	3.9	4.6	6.0	5.4	4.8	2.5	3.7	4.9	2.7	3.9	3.9	4.2	3.9	6.4	99.9
26-Jul	6.5	5.9	7.0	4.7	3.5	2.2	2.0	1.7	4.1	1.1	1.5	2.4	3.0	4.1	4.4	5.5	4.4	5.1	4.6	5.0	4.5	4.2	5.0	7.6	100.0
27-Jul	6.0	5.1	3.5	1.9	1.9	2.1	3.1	2.3	5.2	2.8	1.7	2.7	2.3	4.1	4.7	6.7	7.8	4.8	4.1	6.7	7.6	7.6	2.7	2.5	99.9
28-Jul	4.4	6.9	5.6	2.7	2.4	2.4	2.8	5.1	4.9	2.0	3.6	3.1	3.7	7.1	10.5	7.6	7.3	4.5	3.3	2.0	2.2	1.9	2.4	1.8	100.2
29-Jul	3.7	2.1	2.2	1.9	1.6	2.8	2.1	1.9	1.7	2.8	3.0	3.1	4.4	5.3	7.0	6.1	5.6	7.1	5.7	9.3	5.3	5.8	5.6	3.8	99.9
30-Jul	11.0	7.0	4.9	2.4	2.9	3.9	4.9	3.3	2.5	2.0	1.9	1.6	1.5	1.9	1.7	2.9	3.7	4.7	8.5	8.2	5.5	5.1	3.4	4.9	100.3

-Continued-

72

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total
31-Jul	2.9	3.2	1.8	1.0	1.9	2.1	1.3	2.2	1.8	2.3	2.3	4.3	3.5	4.7	5.2	5.5	5.4	6.4	6.9	5.6	7.3	8.7	6.7	7.0	100.0
01-Aug	2.9	4.6	3.3	1.8	2.7	2.7	1.9	1.8	1.7	1.3	1.7	1.9	3.2	3.2	5.6	4.5	6.0	8.4	10.5	9.2	6.6	6.0	5.2	3.5	100.2
02-Aug	8.5	6.4	7.3	6.3	3.8	3.6	4.1	3.7	1.6	2.2	2.2	1.6	1.5	1.9	3.2	1.4	3.0	2.5	5.4	3.8	5.4	5.9	6.7	7.9	99.9
03-Aug	2.6	1.9	2.7	1.8	2.2	1.9	2.4	2.3	1.7	2.4	4.0	2.4	3.3	4.4	3.1	5.6	4.2	8.5	8.4	12.0	7.7	2.8	6.3	5.3	99.9
04-Aug	1.8	0.7	1.1	0.8	0.5	0.7	0.9	1.3	1.0	2.7	4.5	5.3	8.9	5.9	4.2	3.0	2.7	2.8	4.5	8.9	10.5	10.6	11.5	5.5	100.3
05-Aug	11.8	9.4	5.2	5.7	4.1	2.5	4.4	6.3	4.7	3.6	2.9	4.8	5.4	5.5	2.9	3.7	2.3	2.3	2.3	2.2	1.7	2.1	1.6	2.4	99.8
06-Aug	9.2	8.9	8.5	5.3	3.7	1.9	4.0	2.3	2.5	3.4	3.0	2.3	2.5	1.9	3.8	2.7	4.6	4.0	2.4	1.6	2.0	2.0	6.6	10.8	99.9
07-Aug	1.8	2.4	1.7	0.9	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.5	6.5	5.8	2.2	3.4	3.2	4.1	5.2	7.1	6.7	8.1	100.4
08-Aug	12.0	6.4	3.1	1.9	1.7	1.8	3.5	3.6	3.7	4.7	4.1	3.7	5.0	4.1	5.0	5.7	3.2	4.4	3.3	2.9	3.7	2.8	4.6	5.1	100.0
09-Aug	4.3	2.9	3.7	3.7	1.5	1.8	2.5	1.4	2.8	1.5	3.8	4.5	4.0	3.8	5.1	5.3	3.6	5.2	7.9	6.9	5.6	3.0	6.8	8.6	100.2
10-Aug	9.5	5.6	8.0	2.7	1.7	2.3	2.8	2.4	3.7	3.6	3.4	4.3	3.8	4.3	3.8	3.8	4.0	5.7	5.0	7.4	4.3	2.3	2.5	3.2	100.1
11-Aug	5.5	4.5	5.8	2.9	2.6	2.4	4.7	2.6	1.6	2.6	3.1	4.6	5.9	4.9	3.7	3.8	5.0	4.8	2.2	3.2	4.6	5.8	8.0	5.3	100.1
12-Aug	7.6	6.1	5.1	3.8	3.2	2.1	3.2	6.2	5.3	4.8	4.2	3.7	4.1	5.6	4.8	5.8	4.3	3.7	3.3	2.4	2.7	3.4	3.1	1.5	100.0
13-Aug	2.1	3.8	3.9	3.7	1.2	2.3	4.0	3.9	4.3	3.3	4.9	5.8	5.7	3.5	3.6	6.7	5.3	3.8	3.9	3.4	4.3	4.8	7.9	3.8	99.9
14-Aug	3.1	3.4	2.5	3.7	2.1	2.7	1.8	2.9	3.5	4.0	3.9	4.5	3.5	2.3	5.3	9.3	9.2	5.4	3.4	4.1	5.3	3.9	5.5	4.8	100.1
Total	4.6	4.1	3.0	2.1	1.9	2.0	2.6	2.6	2.9	3.4	3.8	4.2	4.3	4.5	5.0	4.7	5.2	5.6	6.0	5.9	5.9	5.5	5.2	5.0	100.0

73

Appendix A.7. Kenai River north bank sonar counts by sector, 1 July through 14 August 1995.

Date	Counts by Sector												Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12		
01-Jul	11	54	62	93	89	104	149	148	137	159	56	83	1,145	1,145
02-Jul	6	47	184	97	64	39	92	63	78	79	33	57	839	1,984
03-Jul	3	2	10	14	23	55	37	28	68	69	48	46	403	2,387
04-Jul	6	13	28	22	12	21	7	4	21	21	35	73	263	2,650
05-Jul	0	2	15	17	28	46	36	57	92	161	165	111	730	3,380
06-Jul	5	21	57	32	46	76	62	79	185	164	216	129	1,072	4,452
07-Jul	37	237	323	221	166	182	245	187	202	158	259	274	2,491	6,943
08-Jul	8	41	39	100	63	39	130	49	44	62	65	75	715	7,658
09-Jul	1	4	0	4	5	4	15	16	1	4	23	40	117	7,775
10-Jul	18	158	163	104	135	130	75	201	45	12	15	30	1,086	8,861
11-Jul	17	169	194	63	145	169	151	92	27	18	17	41	1,103	9,964
12-Jul	2	32	66	36	54	54	33	45	24	8	6	73	433	10,397
13-Jul	19	50	59	53	69	81	54	78	83	37	22	28	633	11,030
14-Jul	9	27	44	43	153	107	54	126	78	38	46	69	794	11,824
15-Jul	5	55	37	60	61	81	53	101	33	27	37	59	609	12,433
16-Jul	0	44	174	227	114	199	74	132	79	57	40	33	1,173	13,606
17-Jul	4	1,347	5,383	2,550	1,588	1,617	643	1,232	351	133	102	53	15,003	28,609
18-Jul	112	1,331	8,446	3,888	1,391	798	293	461	306	194	149	146	17,515	46,124
19-Jul	239	4,308	8,777	1,906	969	728	95	183	39	29	35	85	17,393	63,517
20-Jul	2	3,161	10,051	1,759	1,302	922	319	403	75	87	81	156	18,318	81,835
21-Jul	170	2,239	14,910	5,739	803	444	75	69	27	16	14	102	24,608	106,443
22-Jul	135	1,349	7,733	3,773	1,879	1,933	424	333	231	51	49	108	17,998	124,441
23-Jul	18	3,221	14,288	5,219	984	552	80	76	33	19	21	32	24,543	148,984
24-Jul	87	6,088	14,707	3,519	600	230	161	213	42	28	15	26	25,716	174,700
25-Jul	278	6,691	18,710	7,601	1,138	451	171	206	72	39	12	34	35,403	210,103
26-Jul	278	2,596	10,464	6,435	1,791	778	143	368	86	65	31	74	23,109	233,212
27-Jul	96	1,922	5,888	2,615	1,246	1,137	542	956	819	360	146	189	15,916	249,128
28-Jul	17	1,460	4,628	3,873	610	248	402	425	89	45	50	141	11,988	261,116
29-Jul	12	175	1,439	1,512	391	237	148	117	67	26	12	43	4,179	265,295
30-Jul	10	197	252	305	285	257	167	193	255	54	61	57	2,093	267,388
31-Jul	18	250	280	315	200	177	179	289	211	101	82	151	2,253	269,641
01-Aug	46	326	754	623	611	560	200	297	362	79	48	67	3,973	273,614
02-Aug	9	226	241	128	167	95	85	91	18	31	33	44	1,168	274,782
03-Aug	13	396	895	843	634	491	278	374	69	81	74	72	4,220	279,002
04-Aug	197	5,316	3,340	1,033	1,047	629	937	441	312	210	212	151	13,825	292,827
05-Aug	22	1,412	1,698	717	584	348	689	390	253	251	343	251	6,958	299,785
06-Aug	50	369	97	61	54	24	64	24	27	50	62	19	901	300,686
07-Aug	76	1,250	1,279	718	607	187	234	392	94	81	113	106	5,137	305,823
08-Aug	33	589	323	256	289	136	269	140	125	123	75	51	2,409	308,232
09-Aug	133	1,035	689	494	400	225	186	115	57	75	56	59	3,524	311,756
10-Aug	37	467	413	408	501	251	223	287	100	124	106	152	3,069	314,825
11-Aug	7	374	1,549	1,077	919	488	286	257	55	33	47	64	5,156	319,981
12-Aug	20	566	792	371	355	236	132	171	26	24	33	70	2,796	322,777
13-Aug	31	469	358	191	246	225	159	117	34	29	51	52	1,962	324,739
14-Aug	26	850	715	394	580	354	223	215	53	60	53	84	3,607	328,346
Total	2,323	50,936	140,554	59,509	23,398	16,145	9,074	10,241	5,485	3,572	3,249	3,860	328,346	

FN: 95KE1SC.XLS

Appendix A.8. Kenai River south bank sonar counts by sector, 1 July through 14 August 1995.

Counts by Sector													Daily Total	Cum Total
Date	1	2	3	4	5	6	7	8	9	10	11	12		
01-Jul	64	109	119	61	16	17	43	74	74	33	47	42	699	699
02-Jul	20	33	67	77	11	43	40	56	55	17	33	25	477	1,176
03-Jul	24	25	53	106	57	56	96	98	125	47	47	29	763	1,939
04-Jul	48	26	62	77	30	21	57	60	78	26	53	21	559	2,498
05-Jul	78	42	131	174	72	41	88	95	107	59	74	26	987	3,485
06-Jul	82	51	118	200	73	55	67	56	51	32	56	43	884	4,369
07-Jul	130	61	223	397	142	91	27	18	12	4	13	31	1,149	5,518
08-Jul	99	48	81	121	44	52	36	27	11	7	23	12	561	6,079
09-Jul	54	26	38	58	25	10	1	2	4	3	6	11	238	6,317
10-Jul	108	74	150	241	81	44	17	11	7	0	7	15	755	7,072
11-Jul	104	31	68	106	52	38	23	19	13	3	15	37	509	7,581
12-Jul	78	39	49	59	40	41	42	17	13	6	11	30	425	8,006
13-Jul	61	63	28	119	16	39	24	13	6	4	20	44	437	8,443
14-Jul	69	40	33	147	94	113	57	7	4	10	12	35	621	9,064
15-Jul	47	49	29	107	77	96	48	3	5	5	19	38	523	9,587
16-Jul	36	59	30	198	191	171	89	11	5	4	32	34	860	10,447
17-Jul	115	1,137	1,204	3,094	2,593	2,602	1,322	121	11	8	30	38	12,275	22,722
18-Jul	329	2,642	1,964	3,127	2,297	2,260	805	55	13	12	38	63	13,605	36,327
19-Jul	340	2,813	2,094	4,016	3,369	2,888	852	24	8	18	26	164	16,612	52,939
20-Jul	621	4,837	2,597	4,168	2,738	2,283	852	51	3	9	10	51	18,220	71,159
21-Jul	1,104	8,041	7,325	5,936	3,553	2,789	1,094	104	4	7	26	29	30,012	101,171
22-Jul	429	3,746	2,031	3,674	1,950	1,358	388	13	4	5	15	17	13,630	114,801
23-Jul	945	7,470	3,785	5,093	2,794	1,861	590	22	3	5	19	17	22,604	137,405
24-Jul	2,691	14,278	5,554	4,362	2,417	1,806	500	11	8	7	14	18	31,666	169,071
25-Jul	5,064	12,326	3,905	3,101	1,717	954	194	12	5	3	8	24	27,313	196,384
26-Jul	1,552	3,706	2,932	2,868	1,826	1,137	309	15	6	2	12	11	14,376	210,760
27-Jul	110	1,106	2,551	3,180	2,034	1,297	302	15	1	13	17	29	10,655	221,415
28-Jul	42	1,558	2,931	2,480	1,449	770	148	7	2	3	9	33	9,432	230,847
29-Jul	26	476	1,090	1,421	736	482	134	13	6	6	31	41	4,462	235,309
30-Jul	15	188	295	347	260	206	103	25	4	7	54	54	1,558	236,867
31-Jul	25	130	283	410	385	441	267	80	31	35	68	72	2,227	239,094
01-Aug	45	213	434	585	662	615	256	57	30	16	39	57	3,009	242,103
02-Aug	10	165	347	320	247	213	155	18	15	17	44	64	1,615	243,718
03-Aug	21	272	810	935	950	681	361	30	20	22	40	44	4,186	247,904
04-Aug	152	1,991	4,893	3,413	3,134	2,177	790	35	1	4	17	71	16,678	264,582
05-Aug	16	987	1,634	1,087	917	769	378	24	12	13	37	51	5,925	270,507
06-Aug	9	268	366	254	171	270	202	19	12	8	42	39	1,660	272,167
07-Aug	414	747	1,246	1,204	1,397	1,361	453	116	80	84	126	122	7,350	279,517
08-Aug	20	403	614	437	697	808	493	16	8	11	51	90	3,648	283,165
09-Aug	79	324	622	651	838	814	307	9	2	5	17	74	3,742	286,907
10-Aug	11	400	650	646	754	729	380	21	10	19	65	70	3,755	290,662
11-Aug	18	427	757	816	1,014	772	335	34	29	30	81	105	4,418	295,080
12-Aug	11	281	467	467	539	574	337	32	43	27	113	134	3,025	298,105
13-Aug	4	117	171	278	329	281	141	14	30	32	98	143	1,638	299,743
14-Aug	19	253	458	544	387	308	120	13	29	28	90	109	2,358	302,101
Total	15,339	72,078	55,289	61,162	43,175	34,434	13,323	1,573	1,000	716	1,705	2,307	302,101	

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Appendix A.9. Kenai River north bank sonar counts by sector, 1 July through 14 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
01-Jul	1.0	4.7	5.4	8.1	7.8	9.1	13.0	12.9	12.0	13.9	4.9	7.2	100.0
02-Jul	0.7	5.6	21.9	11.6	7.6	4.6	11.0	7.5	9.3	9.4	3.9	6.8	99.9
03-Jul	0.7	0.5	2.5	3.5	5.7	13.6	9.2	6.9	16.9	17.1	11.9	11.4	99.9
04-Jul	2.3	4.9	10.6	8.4	4.6	8.0	2.7	1.5	8.0	8.0	13.3	27.8	100.1
05-Jul	0.0	0.3	2.1	2.3	3.8	6.3	4.9	7.8	12.6	22.1	22.6	15.2	100.0
06-Jul	0.5	2.0	5.3	3.0	4.3	7.1	5.8	7.4	17.3	15.3	20.1	12.0	100.1
07-Jul	1.5	9.5	13.0	8.9	6.7	7.3	9.8	7.5	8.1	6.3	10.4	11.0	100.0
08-Jul	1.1	5.7	5.5	14.0	8.8	5.5	18.2	6.9	6.2	8.7	9.1	10.5	100.2
09-Jul	0.9	3.4	0.0	3.4	4.3	3.4	12.8	13.7	0.9	3.4	19.7	34.2	100.1
10-Jul	1.7	14.5	15.0	9.6	12.4	12.0	6.9	18.5	4.1	1.1	1.4	2.8	100.0
11-Jul	1.5	15.3	17.6	5.7	13.1	15.3	13.7	8.3	2.4	1.6	1.5	3.7	99.7
12-Jul	0.5	7.4	15.2	8.3	12.5	12.5	7.6	10.4	5.5	1.8	1.4	16.9	100.0
13-Jul	3.0	7.9	9.3	8.4	10.9	12.8	8.5	12.3	13.1	5.8	3.5	4.4	99.9
14-Jul	1.1	3.4	5.5	5.4	19.3	13.5	6.8	15.9	9.8	4.8	5.8	8.7	100.0
15-Jul	0.8	9.0	6.1	9.9	10.0	13.3	8.7	16.6	5.4	4.4	6.1	9.7	100.0
16-Jul	0.0	3.8	14.8	19.4	9.7	17.0	6.3	11.3	6.7	4.9	3.4	2.8	100.1
17-Jul	0.0	9.0	35.9	17.0	10.6	10.8	4.3	8.2	2.3	0.9	0.7	0.4	100.1
18-Jul	0.6	7.6	48.2	22.2	7.9	4.6	1.7	2.6	1.7	1.1	0.9	0.8	99.9
19-Jul	1.4	24.8	50.5	11.0	5.6	4.2	0.5	1.1	0.2	0.2	0.2	0.5	100.2
20-Jul	0.0	17.3	54.9	9.6	7.1	5.0	1.7	2.2	0.4	0.5	0.4	0.9	100.0
21-Jul	0.7	9.1	60.6	23.3	3.3	1.8	0.3	0.3	0.1	0.1	0.1	0.4	100.1
22-Jul	0.8	7.5	43.0	21.0	10.4	10.7	2.4	1.9	1.3	0.3	0.3	0.6	100.2
23-Jul	0.1	13.1	58.2	21.3	4.0	2.2	0.3	0.3	0.1	0.1	0.1	0.1	99.9
24-Jul	0.3	23.7	57.2	13.7	2.3	0.9	0.6	0.8	0.2	0.1	0.1	0.1	100.0
25-Jul	0.8	18.9	52.8	21.5	3.2	1.3	0.5	0.6	0.2	0.1	0.0	0.1	100.0
26-Jul	1.2	11.2	45.3	27.8	7.8	3.4	0.6	1.6	0.4	0.3	0.1	0.3	100.0
27-Jul	0.6	12.1	37.0	16.4	7.8	7.1	3.4	6.0	5.1	2.3	0.9	1.2	99.9
28-Jul	0.1	12.2	38.6	32.3	5.1	2.1	3.4	3.5	0.7	0.4	0.4	1.2	100.0
29-Jul	0.3	4.2	34.4	36.2	9.4	5.7	3.5	2.8	1.6	0.6	0.3	1.0	100.0
30-Jul	0.5	9.4	12.0	14.6	13.6	12.3	8.0	9.2	12.2	2.6	2.9	2.7	100.0
31-Jul	0.8	11.1	12.4	14.0	8.9	7.9	7.9	12.8	9.4	4.5	3.6	6.7	100.0
01-Aug	1.2	8.2	19.0	15.7	15.4	14.1	5.0	7.5	9.1	2.0	1.2	1.7	100.1
02-Aug	0.8	19.3	20.6	11.0	14.3	8.1	7.3	7.8	1.5	2.7	2.8	3.8	100.0
03-Aug	0.3	9.4	21.2	20.0	15.0	11.6	6.6	8.9	1.6	1.9	1.8	1.7	100.0
04-Aug	1.4	38.5	24.2	7.5	7.6	4.5	6.8	3.2	2.3	1.5	1.5	1.1	100.1
05-Aug	0.3	20.3	24.4	10.3	8.4	5.0	9.9	5.6	3.6	3.6	4.9	3.6	99.9
06-Aug	5.5	41.0	10.8	6.8	6.0	2.7	7.1	2.7	3.0	5.5	6.9	2.1	100.1
07-Aug	1.5	24.3	24.9	14.0	11.8	3.6	4.6	7.6	1.8	1.6	2.2	2.1	100.0
08-Aug	1.4	24.4	13.4	10.6	12.0	5.6	11.2	5.8	5.2	5.1	3.1	2.1	99.9
09-Aug	3.8	29.4	19.6	14.0	11.4	6.4	5.3	3.3	1.6	2.1	1.6	1.7	100.2
10-Aug	1.2	15.2	13.5	13.3	16.3	8.2	7.3	9.4	3.3	4.0	3.5	5.0	100.2
11-Aug	0.1	7.3	30.0	20.9	17.8	9.5	5.5	5.0	1.1	0.6	0.9	1.2	99.9
12-Aug	0.7	20.2	28.3	13.3	12.7	8.4	4.7	6.1	0.9	0.9	1.2	2.5	99.9
13-Aug	1.6	23.9	18.2	9.7	12.5	11.5	8.1	6.0	1.7	1.5	2.6	2.7	100.0
14-Aug	0.7	23.6	19.8	10.9	16.1	9.8	6.2	6.0	1.5	1.7	1.5	2.3	100.1
Total	0.8	15.1	41.6	17.6	7.0	4.8	2.7	3.1	1.7	3.1	1.2	1.4	100.1

Appendix A.10. Kenai River south bank sonar counts by sector, 1 July through 14 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
01-Jul	9.2	15.6	17.0	8.7	2.3	2.4	6.2	10.6	10.6	4.7	6.7	6.0	100.0
02-Jul	4.2	6.9	14.0	16.1	2.3	9.0	8.4	11.7	11.5	3.6	6.9	5.2	99.8
03-Jul	3.1	3.3	6.9	13.9	7.5	7.3	12.6	12.8	16.4	6.2	6.2	3.8	100.0
04-Jul	8.6	4.7	11.1	13.8	5.4	3.8	10.2	10.7	14.0	4.7	9.5	3.8	100.3
05-Jul	7.9	4.3	13.3	17.6	7.3	4.2	8.9	9.6	10.8	6.0	7.5	2.6	100.0
06-Jul	9.3	5.8	13.3	22.6	8.3	6.2	7.6	6.3	5.8	3.6	6.3	4.9	100.0
07-Jul	11.3	5.3	19.4	34.6	12.4	7.9	2.3	1.6	1.0	0.3	1.1	2.7	99.9
08-Jul	17.6	8.6	14.4	21.6	7.8	9.3	6.4	4.8	2.0	1.2	4.1	2.1	99.9
09-Jul	22.7	10.9	16.0	24.4	10.5	4.2	0.4	0.8	1.7	1.3	2.5	4.6	100.0
10-Jul	14.3	9.8	19.9	31.9	10.7	5.8	2.3	1.5	0.9	0.0	0.9	2.0	100.0
11-Jul	20.4	6.1	13.4	20.8	10.2	7.5	4.5	3.7	2.6	0.6	2.9	7.3	100.0
12-Jul	18.4	9.2	11.5	13.9	9.4	9.6	9.9	4.0	3.1	1.4	2.6	7.1	100.1
13-Jul	14.0	14.4	6.4	27.2	3.7	8.9	5.5	3.0	1.4	0.9	4.6	10.1	100.1
14-Jul	11.1	6.4	5.3	23.7	15.1	18.2	9.2	1.1	0.6	1.6	1.9	5.6	99.8
15-Jul	9.0	9.4	5.5	20.5	14.7	18.4	9.2	0.6	1.0	1.0	3.6	7.3	100.2
16-Jul	4.2	6.9	3.5	23.0	22.2	19.9	10.3	1.3	0.6	0.5	3.7	4.0	100.1
17-Jul	0.9	9.3	9.8	25.2	21.1	21.2	10.8	1.0	0.1	0.1	0.2	0.3	100.0
18-Jul	2.4	19.4	14.4	23.0	16.9	16.6	5.9	0.4	0.1	0.1	0.3	0.5	100.0
19-Jul	2.0	16.9	12.6	24.2	20.3	17.4	5.1	0.1	0.0	0.1	0.2	1.0	99.9
20-Jul	3.4	26.5	14.3	22.9	15.0	12.5	4.7	0.3	0.0	0.0	0.1	0.3	100.0
21-Jul	3.7	26.8	24.4	19.8	11.8	9.3	3.6	0.3	0.0	0.0	0.1	0.1	99.9
22-Jul	3.1	27.5	14.9	27.0	14.3	10.0	2.8	0.1	0.0	0.0	0.1	0.1	99.9
23-Jul	4.2	33.0	16.7	22.5	12.4	8.2	2.6	0.1	0.0	0.0	0.1	0.1	99.9
24-Jul	8.5	45.1	17.5	13.8	7.6	5.7	1.6	0.0	0.0	0.0	0.0	0.1	99.9
25-Jul	18.5	45.1	14.3	11.4	6.3	3.5	0.7	0.0	0.0	0.0	0.0	0.1	99.9
26-Jul	10.8	25.8	20.4	19.9	12.7	7.9	2.1	0.1	0.0	0.0	0.1	0.1	99.9
27-Jul	1.0	10.4	23.9	29.8	19.1	12.2	2.8	0.1	0.0	0.1	0.2	0.3	99.9
28-Jul	0.4	16.5	31.1	26.3	15.4	8.2	1.6	0.1	0.0	0.0	0.1	0.3	100.0
29-Jul	0.6	10.7	24.4	31.8	16.5	10.8	3.0	0.3	0.1	0.1	0.7	0.9	99.9
30-Jul	1.0	12.1	18.9	22.3	16.7	13.2	6.6	1.6	0.3	0.4	3.5	3.5	100.1
31-Jul	1.1	5.8	12.7	18.4	17.3	19.8	12.0	3.6	1.4	1.6	3.1	3.2	100.0
01-Aug	1.5	7.1	14.4	19.4	22.0	20.4	8.5	1.9	1.0	0.5	1.3	1.9	99.9
02-Aug	0.6	10.2	21.5	19.8	15.3	13.2	9.6	1.1	0.9	1.1	2.7	4.0	100.0
03-Aug	0.5	6.5	19.4	22.3	22.7	16.3	8.6	0.7	0.5	0.5	1.0	1.1	100.1
04-Aug	0.9	11.9	29.3	20.5	18.8	13.1	4.7	0.2	0.0	0.0	0.1	0.4	99.9
05-Aug	0.3	16.7	27.6	18.3	15.5	13.0	6.4	0.4	0.2	0.2	0.6	0.9	100.1
06-Aug	0.5	16.1	22.0	15.3	10.3	16.3	12.2	1.1	0.7	0.5	2.5	2.3	99.8
07-Aug	5.6	10.2	17.0	16.4	19.0	18.5	6.2	1.6	1.1	1.1	1.7	1.7	100.1
08-Aug	0.5	11.0	16.8	12.0	19.1	22.1	13.5	0.4	0.2	0.3	1.4	2.5	99.8
09-Aug	2.1	8.7	16.6	17.4	22.4	21.8	8.2	0.2	0.1	0.1	0.5	2.0	100.1
10-Aug	0.3	10.7	17.3	17.2	20.1	19.4	10.1	0.6	0.3	0.5	1.7	1.9	100.1
11-Aug	0.4	9.7	17.1	18.5	23.0	17.5	7.6	0.8	0.7	0.7	1.8	2.4	100.2
12-Aug	0.4	9.3	15.4	15.4	17.8	19.0	11.1	1.1	1.4	0.9	3.7	4.4	99.9
13-Aug	0.2	7.1	10.4	17.0	20.1	17.2	8.6	0.9	1.8	2.0	6.0	8.7	100.0
14-Aug	0.8	10.7	19.4	23.1	16.4	13.1	5.1	0.6	1.2	1.2	3.8	4.6	100.0
Total	5.1	23.9	18.3	20.2	14.3	11.4	4.4	0.5	0.3	0.2	0.6	0.8	100.0

Appendix A.11. Estimated salmon escapement adjacent to the north bank of the Kasilof River, 15 June through 7 August 1995.

Date	Daily	Cum	Date	Daily	Cum
15-Jun	57	57	12-Jul	402	24,403
16-Jun	132	189	13-Jul	718	25,121
17-Jun	253	442	14-Jul	1,188	26,309
18-Jun	433	875	15-Jul	850	27,159
19-Jun	507	1,382	16-Jul	7,342	34,501
20-Jun	604	1,986	17-Jul	15,093	49,594
21-Jun	731	2,717	18-Jul	2,055	51,649
22-Jun	641	3,358	19-Jul	1,728	53,377
23-Jun	708	4,066	20-Jul	1,766	55,143
24-Jun	664	4,730	21-Jul	1,361	56,504
25-Jun	984	5,714	22-Jul	4,350	60,854
26-Jun	1,260	6,974	23-Jul	4,575	65,429
27-Jun	1,059	8,033	24-Jul	4,273	69,702
28-Jun	1,824	9,857	25-Jul	901	70,603
29-Jun	2,276	12,133	26-Jul	1,256	71,859
30-Jun	1,605	13,738	27-Jul	1,485	73,344
01-Jul	1,080	14,818	28-Jul	598	73,942
02-Jul	1,055	15,873	29-Jul	527	74,469
03-Jul	882	16,755	30-Jul	381	74,850
04-Jul	568	17,323	31-Jul	397	75,247
05-Jul	889	18,212	01-Aug	330	75,577
06-Jul	1,301	19,513	02-Aug	337	75,914
07-Jul	1,501	21,014	03-Aug	690	76,604
08-Jul	607	21,621	04-Aug	887	77,491
09-Jul	730	22,351	05-Aug	344	77,835
10-Jul	1,195	23,546	06-Aug	407	78,242
11-Jul	455	24,001	07-Aug	452	78,694

Appendix A.12. Estimated salmon escapement adjacent to the south bank of the Kasilof River, 15 June through 7 August 1995.

Date	Daily	Cum	Date	Daily	Cum
15-Jun	98	98	12-Jul	712	50,309
16-Jun	93	191	13-Jul	918	51,227
17-Jun	125	316	14-Jul	1,810	53,037
18-Jun	89	405	15-Jul	749	53,786
19-Jun	213	618	16-Jul	11,492	65,278
20-Jun	672	1,290	17-Jul	11,802	77,080
21-Jun	978	2,268	18-Jul	2,566	79,646
22-Jun	884	3,152	19-Jul	3,571	83,217
23-Jun	940	4,092	20-Jul	2,638	85,855
24-Jun	716	4,808	21-Jul	1,859	87,714
25-Jun	1,557	6,365	22-Jul	5,818	93,532
26-Jun	1,212	7,577	23-Jul	6,518	100,050
27-Jun	2,496	10,073	24-Jul	8,078	108,128
28-Jun	4,680	14,753	25-Jul	2,156	110,284
29-Jun	7,120	21,873	26-Jul	1,910	112,194
30-Jun	4,464	26,337	27-Jul	2,823	115,017
01-Jul	3,027	29,364	28-Jul	1,115	116,132
02-Jul	1,689	31,053	29-Jul	741	116,873
03-Jul	1,628	32,681	30-Jul	675	117,548
04-Jul	814	33,495	31-Jul	912	118,460
05-Jul	2,683	36,178	01-Aug	703	119,163
06-Jul	4,284	40,462	02-Aug	869	120,032
07-Jul	3,126	43,588	03-Aug	2,044	122,076
08-Jul	831	44,419	04-Aug	2,026	124,102
09-Jul	1,949	46,368	05-Aug	611	124,713
10-Jul	2,750	49,118	06-Aug	614	125,327
11-Jul	479	49,597	07-Aug	914	126,241

Appendix A.13. Kasitof River north bank sonar counts by hour, 15 June through 7 August 1995.

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
15-Jun	7	1	2	0	5	4	2	3	2	0	1	2	1	1	1	1	0	2	5	3	7	3	3	1	57	57
16-Jun	5	7	5	1	0	0	3	0	0	1	10	6	4	3	1	5	5	3	6	9	10	15	17	16	132	189
17-Jun	15	23	29	13	7	5	5	5	3	2	6	6	3	5	4	2	2	18	19	6	5	9	16	45	253	442
18-Jun	34	47	51	53	27	25	7	1	5	4	0	44	6	19	13	9	12	3	5	12	16	5	15	20	433	875
19-Jun	52	60	67	64	11	28	18	8	1	0	11	6	8	5	8	19	26	11	18	21	11	21	19	14	507	1,382
20-Jun	49	62	43	35	28	13	15	12	6	10	5	14	15	9	25	23	26	24	21	23	42	30	38	36	604	1,986
21-Jun	23	47	52	33	40	30	16	12	15	13	16	15	14	49	29	39	25	50	35	38	34	26	50	30	731	2,717
22-Jun	32	28	30	54	49	22	25	24	24	26	19	20	22	23	26	12	22	19	16	35	28	32	13	40	641	3,358
23-Jun	29	65	68	83	28	17	14	11	10	56	33	21	20	25	21	22	24	32	53	19	18	23	26	10	708	4,066
24-Jun	18	35	33	38	23	13	11	6	10	24	23	17	26	29	55	31	33	31	45	45	37	40	18	23	664	4,730
25-Jun	13	35	39	60	41	41	48	19	22	36	28	29	41	17	11	35	39	40	97	80	52	57	62	42	984	5,714
26-Jun	55	59	38	62	20	31	33	39	13	16	15	30	29	30	26	33	40	35	90	154	151	126	89	46	1,260	6,974
27-Jun	46	32	50	42	42	42	42	43	26	24	32	15	15	34	87	78	43	59	83	100	47	23	30	24	1,059	8,033
28-Jun	38	29	16	21	34	80	68	27	19	72	63	68	65	94	103	92	89	131	224	187	64	75	80	85	1,824	9,857
29-Jun	87	104	120	109	101	83	66	94	77	38	36	86	168	136	140	154	156	63	95	128	100	42	48	45	2,276	12,133
30-Jun	42	83	71	153	174	85	88	78	26	42	44	77	53	63	70	42	52	56	42	59	70	40	41	54	1,605	13,738
01-Jul	42	60	71	64	62	56	70	56	48	32	24	51	39	34	41	22	44	52	47	66	45	16	15	23	1,080	14,818
02-Jul	45	68	44	40	37	25	46	44	66	36	26	40	33	38	52	38	36	57	51	47	63	57	29	37	1,055	15,873
03-Jul	50	41	47	41	33	20	31	44	49	50	33	20	26	30	38	35	44	58	34	30	43	33	21	31	882	16,755
04-Jul	18	24	19	23	8	21	10	3	21	20	45	24	19	25	30	36	33	38	31	33	22	20	33	12	568	17,323
05-Jul	55	42	68	48	22	30	39	36	24	23	28	29	41	35	44	48	38	26	37	44	34	32	27	39	889	18,212
06-Jul	90	64	83	99	89	38	35	32	37	61	51	71	89	46	32	41	27	39	18	60	50	40	51	58	1,301	19,513
07-Jul	105	94	86	84	111	122	92	45	37	61	75	61	72	47	51	44	50	57	47	41	39	25	36	19	1,501	21,014
08-Jul	30	48	33	31	29	16	16	11	10	13	34	19	24	28	27	36	37	39	36	28	18	28	10	6	607	21,621
09-Jul	23	48	61	27	16	30	42	21	32	18	21	33	24	31	31	41	49	34	30	27	32	23	20	16	730	22,351
10-Jul	45	60	69	97	66	33	26	35	37	49	71	37	50	75	72	102	59	51	18	28	39	38	25	13	1,195	23,546
11-Jul	33	24	24	20	47	14	24	6	8	24	12	6	2	29	40	27	14	16	8	17	12	14	23	11	455	24,001
12-Jul	10	8	8	12	24	23	35	14	11	6	15	13	11	25	8	8	14	26	17	22	21	34	22	15	402	24,403
13-Jul	15	11	11	10	18	43	20	14	19	33	15	26	31	27	13	23	24	23	69	70	42	53	45	63	718	25,121
14-Jul	47	24	30	31	37	30	97	65	50	66	58	35	53	39	45	31	58	51	41	70	74	65	46	45	1,188	26,309

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Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
15-Jul	22	30	27	13	4	18	18	26	29	23	16	35	51	33	24	42	27	29	28	86	106	50	43	70	850	27,159
16-Jul	66	54	63	43	62	46	82	172	291	150	103	95	130	173	258	323	564	579	762	536	982	945	508	355	7,342	34,501
17-Jul	468	701	599	593	590	802	587	719	804	1,487	719	341	504	1,003	948	830	680	561	666	589	325	289	195	93	15,093	49,594
18-Jul	49	47	58	41	48	50	69	58	61	73	214	161	95	121	123	114	73	118	72	56	81	85	133	55	2,055	51,649
19-Jul	67	39	36	43	46	53	71	58	52	52	113	113	111	90	83	113	103	78	73	68	65	57	84	60	1,728	53,377
20-Jul	78	62	59	49	53	64	59	62	64	92	77	112	106	96	114	71	71	97	70	82	45	80	44	59	1,766	55,143
21-Jul	51	45	50	31	61	58	66	58	67	49	66	67	42	55	79	58	95	59	58	37	53	58	50	48	1,361	56,504
22-Jul	52	74	66	74	86	130	130	125	102	82	117	123	213	189	195	252	404	425	405	404	299	163	147	93	4,350	60,854
23-Jul	38	33	37	35	40	62	460	177	183	240	229	208	387	428	369	288	273	329	186	115	118	113	130	97	4,575	65,429
24-Jul	112	112	142	127	188	369	429	367	285	325	373	169	153	165	143	107	147	138	88	89	86	58	67	34	4,273	69,702
25-Jul	21	29	31	38	28	56	49	52	50	24	36	35	39	40	49	34	34	28	52	58	40	29	32	17	901	70,603
26-Jul	10	17	19	9	22	68	71	56	41	51	49	47	48	44	60	56	71	111	115	79	39	70	53	50	1,256	71,859
27-Jul	27	37	10	17	24	78	90	65	73	80	74	67	92	70	85	72	86	90	115	88	32	43	26	44	1,485	73,344
28-Jul	22	26	18	9	10	20	34	40	19	14	34	26	26	22	17	17	27	37	32	46	13	29	39	21	598	73,942
29-Jul	11	14	9	5	8	30	18	18	42	18	21	16	22	33	17	24	42	29	21	21	33	34	28	13	527	74,469
30-Jul	7	5	8	10	12	16	14	8	15	20	9	18	14	24	18	21	50	14	14	23	14	20	14	13	381	74,850
31-Jul	6	11	3	2	5	34	8	12	13	39	7	14	30	34	18	24	16	12	20	9	24	37	12	7	397	75,247
01-Aug	6	12	8	4	12	4	5	18	21	9	18	15	17	11	25	25	20	15	13	12	18	6	27	9	330	75,577
02-Aug	11	6	2	5	4	7	12	19	7	4	19	24	30	20	26	34	22	12	12	5	5	19	12	20	337	75,914
03-Aug	7	10	9	15	21	15	16	26	21	16	32	31	38	34	31	41	42	71	45	50	29	27	39	24	690	76,604
04-Aug	22	17	19	24	16	38	58	61	52	56	42	33	64	47	52	50	49	66	43	24	21	11	10	12	887	77,491
05-Aug	11	2	10	8	7	13	9	16	14	25	37	25	19	7	9	9	19	14	14	19	28	11	17	1	344	77,835
06-Aug	15	13	0	4	1	7	6	9	13	36	19	19	13	16	17	23	23	29	28	28	31	32	20	5	407	78,242
07-Aug	6	6	6	13	9	14	18	30	29	24	15	17	23	18	31	24	22	29	24	22	28	20	20	4	452	78,694
	2,338	2,735	2,657	2,660	2,586	3,072	3,423	3,060	3,056	3,825	3,289	2,732	3,271	3,824	3,935	3,781	4,081	4,114	4,294	4,048	3,741	3,331	2,718	2,123	78,694	

Appendix A.14. Kasilof River south bank sonar counts by hour, 15 June through 7 August 1995.

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
15-Jun	0	1	3	2	8	13	10	22	0	1	11	2	5	1	0	2	9	0	0	1	5	0	1	1	98	98
16-Jun	2	1	1	5	0	10	9	10	5	0	1	4	3	1	4	8	2	0	6	1	6	4	3	7	93	191
17-Jun	13	14	15	1	8	1	5	2	2	2	0	0	7	3	6	8	3	11	1	1	2	0	9	11	125	316
18-Jun	16	21	6	5	3	6	1	0	2	3	6	0	1	1	1	1	2	1	2	0	0	2	6	3	89	405
19-Jun	34	39	36	19	15	6	5	8	3	1	0	2	5	4	4	0	8	5	0	4	1	5	2	7	213	618
20-Jun	81	165	80	41	15	16	12	8	0	2	7	6	7	4	14	18	14	17	13	31	13	36	28	44	672	1,290
21-Jun	129	192	158	92	80	24	19	18	10	14	6	6	1	8	34	14	10	42	18	14	18	14	23	34	978	2,268
22-Jun	55	59	136	124	113	76	55	41	14	16	23	8	8	10	18	11	16	9	9	3	21	13	12	34	884	3,152
23-Jun	69	74	71	89	50	14	11	21	19	15	16	36	36	24	29	29	39	66	41	43	45	37	33	33	940	4,092
24-Jun	36	24	39	57	27	58	46	16	9	25	54	39	32	24	39	25	12	29	45	21	17	15	15	12	716	4,808
25-Jun	25	63	70	101	123	118	63	15	15	31	45	22	15	25	18	16	28	41	120	98	110	84	144	167	1,557	6,365
26-Jun	119	115	90	81	81	62	44	29	20	25	21	23	10	18	19	19	19	25	31	50	63	71	54	123	1,212	7,577
27-Jun	122	114	135	155	148	188	246	127	64	22	11	20	32	45	60	77	73	103	184	158	145	64	98	105	2,496	10,073
28-Jun	78	103	73	114	167	514	560	386	149	144	80	105	90	141	106	148	184	206	176	183	160	132	305	376	4,680	14,753
29-Jun	374	204	264	239	308	492	530	282	312	206	193	417	472	248	153	143	122	118	160	448	453	388	304	290	7,120	21,873
30-Jun	233	151	122	157	214	301	383	359	229	85	87	144	122	94	108	80	117	106	147	422	302	139	154	208	4,464	26,337
01-Jul	156	119	112	110	113	146	251	417	235	93	89	97	103	67	62	44	77	66	74	112	266	96	40	82	3,027	29,364
02-Jul	68	67	61	63	76	77	68	187	224	116	57	57	43	35	39	42	28	28	23	47	86	85	56	56	1,689	31,053
03-Jul	58	57	53	39	48	39	65	80	160	103	59	42	41	61	57	45	54	60	53	79	88	156	100	31	1,628	32,681
04-Jul	22	24	26	14	11	16	17	8	15	32	35	34	11	11	18	25	45	25	27	48	47	90	138	75	814	33,495
05-Jul	36	34	68	82	57	73	76	78	101	78	159	182	122	77	95	87	72	67	79	142	189	204	268	257	2,683	36,178
06-Jul	150	82	116	125	150	140	134	124	187	140	140	164	355	309	133	119	165	134	160	219	227	288	293	230	4,284	40,462
07-Jul	187	129	57	102	134	157	115	117	93	94	90	79	81	178	207	103	126	193	193	197	175	136	82	101	3,126	43,588
08-Jul	89	84	89	80	29	14	24	23	7	20	15	17	20	33	22	24	27	16	19	25	36	21	41	56	831	44,419
09-Jul	47	95	112	63	35	40	93	47	54	42	43	45	48	56	58	118	98	35	33	50	178	205	162	192	1,949	46,368
10-Jul	159	185	286	327	153	132	132	67	102	151	104	86	57	89	69	60	129	119	63	54	42	77	52	55	2,750	49,118
11-Jul	44	21	17	21	23	8	17	17	9	8	4	18	14	15	15	19	24	20	24	20	25	35	33	28	479	49,597
12-Jul	15	16	36	35	47	92	53	28	25	21	24	8	10	15	4	10	14	19	43	30	27	46	45	49	712	50,309
13-Jul	27	16	13	17	45	109	98	15	12	26	31	26	30	15	20	15	15	25	43	63	34	54	82	87	918	51,227
14-Jul	60	43	35	18	55	61	225	308	151	136	94	46	49	48	27	27	27	12	22	80	97	53	60	76	1,810	53,037

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Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
15-Jul	36	35	30	26	14	16	12	35	33	31	16	13	13	11	25	17	17	15	21	37	60	60	84	90	749	53,786
16-Jul	78	101	95	79	95	86	174	316	865	291	37	125	498	725	580	520	689	567	1,419	992	1,497	1,432	219	176	11,656	65,442
17-Jul	169	259	450	430	754	1,152	932	1,030	1,208	995	1,028	122	66	161	206	395	287	293	332	374	177	332	474	176	11,802	77,244
18-Jul	50	75	57	69	86	79	57	95	116	115	124	164	98	64	142	98	145	107	105	77	123	114	258	148	2,566	79,810
19-Jul	62	44	66	89	79	105	121	136	120	141	157	392	445	246	142	182	131	159	118	108	115	130	137	166	3,571	83,381
20-Jul	75	73	43	29	48	136	185	111	105	66	126	144	211	288	222	135	135	53	47	70	117	101	50	68	2,638	86,019
21-Jul	58	52	69	76	47	133	129	46	56	39	44	45	24	22	85	208	112	125	93	120	102	52	58	64	1,859	87,878
22-Jul	44	54	96	136	142	341	382	283	275	282	224	375	280	247	326	411	401	91	228	264	273	303	236	124	5,818	93,696
23-Jul	30	24	24	17	17	39	293	124	210	338	458	562	640	282	727	571	512	573	170	178	191	239	188	111	6,518	100,214
24-Jul	78	97	127	121	156	395	534	543	418	554	300	336	304	300	320	444	363	460	563	404	470	377	260	154	8,078	108,292
25-Jul	105	86	81	70	92	140	221	172	163	128	74	86	75	55	55	78	73	42	110	50	56	59	62	23	2,156	110,448
26-Jul	18	14	17	18	37	111	108	86	51	54	46	60	70	58	84	131	159	114	118	146	79	137	116	78	1,910	112,358
27-Jul	40	35	27	41	40	173	221	185	144	147	121	91	62	121	178	167	118	135	221	200	111	83	78	84	2,823	115,181
28-Jul	76	64	33	30	31	32	67	87	84	45	65	37	38	26	24	27	32	68	60	77	36	33	23	20	1,115	116,296
29-Jul	12	7	2	4	5	15	23	34	44	38	28	33	150	91	58	17	21	21	29	23	27	25	19	15	741	117,037
30-Jul	20	5	5	2	7	7	16	29	35	51	30	48	46	39	11	21	24	31	31	24	58	76	41	18	675	117,712
31-Jul	14	10	7	11	7	12	28	23	49	60	36	36	65	45	34	49	57	46	33	41	42	87	78	42	912	118,624
01-Aug	18	19	15	10	12	20	23	16	28	26	47	50	32	35	29	27	46	17	43	41	16	54	55	24	703	119,327
02-Aug	12	18	8	6	2	11	15	30	26	30	59	82	50	45	31	48	55	52	61	59	42	29	51	47	869	120,196
03-Aug	28	43	44	53	31	76	95	78	70	78	87	94	122	119	77	154	133	108	69	134	78	113	82	78	2,044	122,240
04-Aug	64	43	34	28	41	96	168	128	90	92	85	90	95	115	136	164	165	82	77	70	41	46	49	27	2,026	124,266
05-Aug	22	16	20	13	13	30	24	33	32	50	45	31	27	25	20	29	23	38	25	26	12	22	17	18	611	124,877
06-Aug	14	8	9	10	5	10	11	20	9	26	30	24	21	26	23	35	52	34	47	50	51	42	40	17	614	125,491
07-Aug	17	26	23	20	18	34	60	90	32	46	24	48	52	32	50	51	42	66	42	46	33	30	22	10	914	126,405
Total	3,644	3,520	3,762	3,766	4,115	6,252	7,266	6,590	6,491	5,375	4,776	4,825	5,314	4,838	5,024	5,316	5,351	4,895	5,871	6,255	6,685	6,526	5,340	4,608	126,405	

33

Appendix A.15. Kasilof River north bank sonar counts by hour, 15 June through 7 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
15-Jun	12.3	1.8	3.5	0.0	8.8	7.0	3.5	5.3	3.5	0.0	1.8	3.5	1.8	1.8	1.8	1.8	0.0	3.5	8.8	5.3	12.3	5.3	5.3	1.8	100.5
16-Jun	3.8	5.3	3.8	0.8	0.0	0.0	2.3	0.0	0.0	0.8	7.6	4.5	3.0	2.3	0.8	3.8	3.8	3.8	4.5	6.8	7.6	11.4	12.9	12.1	100.2
17-Jun	5.9	9.1	11.5	5.1	2.8	2.0	2.0	2.0	1.2	0.8	2.4	2.4	1.2	2.0	1.6	0.8	0.8	0.8	7.1	2.4	2.0	3.6	6.3	17.8	100.3
18-Jun	7.9	10.9	11.8	12.2	6.2	5.8	1.6	0.2	1.2	0.9	0.0	10.2	1.4	4.4	3.0	2.1	2.8	0.7	1.2	2.8	3.7	1.2	3.5	4.6	100.3
19-Jun	10.3	11.8	13.2	12.6	2.2	5.5	3.6	1.6	0.2	0.0	2.2	1.2	1.6	1.0	1.6	3.7	5.1	2.2	3.6	4.1	2.2	4.1	3.7	2.8	100.1
20-Jun	8.1	10.3	7.1	5.8	4.6	2.2	2.5	2.0	1.0	1.7	0.8	2.3	2.5	1.5	4.1	3.8	4.3	4.0	3.5	3.8	7.0	5.0	6.3	6.0	100.2
21-Jun	3.1	6.4	7.1	4.5	5.5	4.1	2.2	1.6	2.1	1.8	2.2	2.1	1.9	6.7	4.0	5.3	3.4	6.8	4.8	5.2	4.7	3.6	6.8	4.1	100.0
22-Jun	5.0	4.4	4.7	8.4	7.6	3.4	3.9	3.7	3.7	4.1	3.0	3.1	3.4	3.6	4.1	1.9	3.4	3.0	2.5	5.5	4.4	5.0	2.0	6.2	100.0
23-Jun	4.1	9.2	9.6	11.7	4.0	2.4	2.0	1.6	1.4	5.1	4.7	3.0	2.8	3.5	3.0	3.1	3.4	4.5	7.5	2.7	2.5	3.2	3.7	1.4	100.1
24-Jun	2.7	5.3	5.0	5.7	3.5	2.0	1.7	0.9	1.5	3.6	3.5	2.6	3.9	4.4	8.3	4.7	5.0	4.7	6.8	6.8	5.6	6.0	2.7	3.5	100.4
25-Jun	1.3	3.6	4.0	6.1	4.2	4.2	4.9	1.9	2.2	3.7	2.8	2.9	4.2	1.7	1.1	3.6	4.0	4.1	9.9	8.1	5.3	5.8	6.3	4.3	100.2
26-Jun	4.4	4.7	3.0	4.9	1.6	2.5	2.6	3.1	1.0	1.3	1.2	2.4	2.3	2.4	2.1	2.6	3.2	2.8	7.1	12.2	12.0	10.0	7.1	3.7	100.2
27-Jun	4.3	3.0	4.7	4.0	4.0	4.0	4.0	4.1	2.5	2.3	3.0	1.4	1.4	3.2	8.2	7.4	4.1	5.6	7.8	9.4	4.4	2.2	2.8	2.3	100.1
28-Jun	2.1	1.6	0.9	1.2	1.9	4.4	3.7	1.5	1.0	3.9	3.5	3.7	3.6	5.2	5.6	5.0	4.9	7.2	12.3	10.3	3.5	4.1	4.4	4.7	100.2
29-Jun	3.8	4.6	5.3	4.8	4.4	3.6	2.9	4.1	3.4	1.7	1.6	3.8	7.4	6.0	6.2	6.8	6.9	2.8	4.2	5.6	4.4	1.8	2.1	2.0	100.2
30-Jun	2.6	5.2	4.4	9.5	10.8	5.3	5.5	4.9	1.6	2.6	2.7	4.8	3.3	3.9	4.4	2.6	3.2	3.5	2.6	3.7	4.4	2.5	2.6	3.4	100.0
01-Jul	3.9	5.6	6.6	5.9	5.7	5.2	6.5	5.2	4.4	3.0	2.2	4.7	3.6	3.1	3.8	2.0	4.1	4.8	4.4	6.1	4.2	1.5	1.4	2.1	100.0
02-Jul	4.3	6.4	4.2	3.8	3.5	2.4	4.4	4.2	6.3	3.4	2.5	3.8	3.1	3.6	4.9	3.6	3.4	5.4	4.8	4.5	6.0	5.4	2.7	3.5	100.1
03-Jul	5.7	4.6	5.3	4.6	3.7	2.3	3.5	5.0	5.6	5.7	3.7	2.3	2.9	3.4	4.3	4.0	5.0	6.6	3.9	3.4	4.9	3.7	2.4	3.5	100.0
04-Jul	3.2	4.2	3.3	4.0	1.4	3.7	1.8	0.5	3.7	3.5	7.9	4.2	3.3	4.4	5.3	6.3	5.8	6.7	5.5	5.8	3.9	3.5	5.8	2.1	99.8
05-Jul	6.2	4.7	7.6	5.4	2.5	3.4	4.4	4.0	2.7	2.6	3.1	3.3	4.6	3.9	4.9	5.4	4.3	2.9	4.2	4.9	3.8	3.6	3.0	4.4	99.8
06-Jul	6.9	4.9	6.4	7.6	6.8	2.9	2.7	2.5	2.8	4.7	3.9	5.5	6.8	3.5	2.5	3.2	2.1	3.0	1.4	4.6	3.8	3.1	3.9	4.5	100.0
07-Jul	7.0	6.3	5.7	5.6	7.4	8.1	6.1	3.0	2.5	4.1	5.0	4.1	4.8	3.1	3.4	2.9	3.3	3.8	3.1	2.7	2.6	1.7	2.4	1.3	100.0
08-Jul	4.9	7.9	5.4	5.1	4.8	2.6	2.6	1.8	1.6	2.1	5.6	3.1	4.0	4.6	4.4	5.9	6.1	6.4	5.9	4.6	3.0	4.6	1.6	1.0	99.6
09-Jul	3.2	6.6	8.4	3.7	2.2	4.1	5.8	2.9	4.4	2.5	2.9	4.5	3.3	4.2	4.2	5.6	6.7	4.7	4.1	3.7	4.4	3.2	2.7	2.2	100.2
10-Jul	3.8	5.0	5.8	8.1	5.5	2.8	2.2	2.9	3.1	4.1	5.9	3.1	4.2	6.3	6.0	8.5	4.9	4.3	1.5	2.3	3.3	3.2	2.1	1.1	100.0
11-Jul	7.3	5.3	5.3	4.4	10.3	3.1	5.3	1.3	1.8	5.3	2.6	1.3	0.4	6.4	8.8	5.9	3.1	3.5	1.8	3.7	2.6	3.1	5.1	2.4	100.1
12-Jul	2.5	2.0	2.0	3.0	6.0	5.7	8.7	3.5	2.7	1.5	3.7	3.2	2.7	6.2	2.0	2.0	5.5	6.5	4.2	5.5	5.2	8.5	5.5	3.7	100.0
13-Jul	2.1	1.5	1.5	1.4	2.5	6.0	2.8	1.9	2.6	4.6	2.1	3.6	4.3	3.8	1.8	3.2	3.3	3.2	9.6	9.7	5.8	7.4	6.3	8.8	99.8
14-Jul	4.0	2.0	2.5	2.6	3.1	2.5	8.2	5.5	4.2	5.6	4.9	2.9	4.5	3.3	3.8	2.6	4.9	4.3	3.5	5.9	6.2	5.5	3.9	3.8	100.2

-Continued-

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	
15-Jul	2.6	3.5	3.2	1.5	0.5	2.1	2.1	3.1	3.4	2.7	1.9	4.1	6.0	3.9	2.8	4.9	3.2	3.4	3.3	10.1	12.5	5.9	5.1	8.2	100.0	
16-Jul	0.9	0.7	0.9	0.6	0.8	0.6	1.1	2.3	4.0	2.0	1.4	1.3	1.8	2.4	3.5	4.4	7.7	7.9	10.4	7.3	13.4	12.9	6.9	4.8	100.0	
17-Jul	3.1	4.6	4.0	3.9	3.9	5.3	3.9	4.8	5.3	9.9	4.8	2.3	3.3	6.6	6.3	5.5	4.5	3.7	4.4	3.9	2.2	1.9	1.3	0.6	100.0	
18-Jul	2.4	2.3	2.8	2.0	2.3	2.4	3.4	2.8	3.0	3.6	0.4	7.8	4.6	5.9	6.0	5.5	3.6	5.7	3.5	2.7	3.9	4.1	6.5	2.7	89.9	
19-Jul	3.9	2.3	2.1	2.5	2.7	3.1	4.1	3.4	3.0	3.0	6.5	6.5	6.4	5.2	4.8	6.5	6.0	4.5	4.2	3.9	3.8	3.3	4.9	3.5	100.1	
20-Jul	4.4	3.5	3.3	2.8	3.0	3.6	3.3	3.5	3.6	5.2	4.4	6.3	6.0	5.4	6.5	4.0	4.0	5.5	4.0	4.6	2.5	4.5	2.5	3.3	99.7	
21-Jul	3.7	3.3	3.7	2.3	4.5	4.3	4.8	4.3	4.9	3.6	4.8	4.9	3.1	4.0	5.8	4.3	7.0	4.3	4.3	2.7	3.9	4.3	3.7	3.5	100.0	
22-Jul	1.2	1.7	1.5	1.7	2.0	3.0	3.0	2.9	2.3	1.9	2.7	2.8	4.9	4.3	4.5	5.8	9.3	9.8	9.3	9.3	6.9	3.7	3.4	2.1	100.0	
23-Jul	0.8	0.7	0.8	0.8	0.9	1.4	10.1	3.9	4.0	5.2	5.0	4.5	8.5	9.4	8.1	6.3	6.0	7.2	4.1	2.5	2.6	2.5	2.8	2.1	100.2	
24-Jul	2.6	2.6	3.3	3.0	4.4	8.6	10.0	8.6	6.7	7.6	8.7	4.0	3.6	3.9	3.3	2.5	3.4	3.2	2.1	2.1	2.0	1.4	1.6	0.8	100.0	
25-Jul	2.3	3.2	3.4	4.2	3.1	6.2	5.4	5.8	5.5	2.7	4.0	3.9	4.3	4.4	5.4	3.8	3.8	3.1	5.8	6.4	4.4	3.2	3.6	1.9	99.8	
26-Jul	0.8	1.4	1.5	0.7	1.8	5.4	5.7	4.5	3.3	4.1	3.9	3.7	3.8	3.5	4.8	4.5	5.7	8.8	9.2	6.3	3.1	5.6	4.2	4.0	100.3	
27-Jul	1.8	2.5	0.7	1.1	1.6	5.3	6.1	4.4	4.9	5.4	5.0	4.5	6.2	4.7	5.7	4.8	5.8	6.1	7.7	5.9	2.2	2.9	1.8	3.0	100.1	
28-Jul	3.7	4.3	3.0	1.5	1.7	3.3	5.7	6.7	3.2	2.3	5.7	4.3	4.3	3.7	2.8	2.8	4.5	6.2	5.4	7.7	2.2	4.8	6.5	3.5	99.8	
29-Jul	2.1	2.7	1.7	0.9	1.5	5.7	3.4	3.4	8.0	3.4	4.0	3.0	4.2	6.3	3.2	4.6	8.0	5.5	4.0	4.0	6.3	6.5	5.3	2.5	100.2	
30-Jul	1.8	1.3	2.1	2.6	3.1	4.2	3.7	2.1	3.9	5.2	2.4	4.7	3.7	6.3	4.7	5.5	13.1	3.7	3.7	6.0	3.7	5.2	3.7	3.4	99.8	
31-Jul	1.5	2.8	0.8	0.5	1.3	8.6	2.0	3.0	3.3	9.8	1.8	3.5	7.6	8.6	4.5	6.0	4.0	3.0	5.0	2.3	6.0	9.3	3.0	1.8	100.0	
01-Aug	1.8	3.6	2.4	1.2	3.6	1.2	1.5	5.5	6.4	2.7	5.5	4.5	5.2	3.3	7.6	7.6	6.1	4.5	3.9	3.6	5.5	1.8	8.2	2.7	99.9	
02-Aug	3.3	1.8	0.6	1.5	1.2	2.1	3.6	5.6	2.1	1.2	5.6	7.1	8.9	5.9	7.7	10.1	6.5	3.6	3.6	1.5	1.5	5.6	3.6	5.9	100.1	
03-Aug	1.0	1.4	1.3	2.2	3.0	2.2	2.3	3.8	3.0	2.3	4.6	4.5	5.5	4.9	4.5	5.9	6.1	10.3	6.5	7.2	4.2	3.9	5.7	3.5	99.8	
04-Aug	2.5	1.9	2.1	2.7	1.8	4.3	6.5	6.9	5.9	6.3	4.7	3.7	7.2	5.3	5.9	5.6	5.5	7.4	4.8	2.7	2.4	1.2	1.1	1.4	99.8	
05-Aug	3.2	0.6	2.9	2.3	2.0	3.8	2.6	4.7	4.1	7.3	0.8	7.3	5.5	2.0	2.6	2.6	5.5	4.1	4.1	5.5	8.1	3.2	4.9	0.3	90.0	
06-Aug	3.7	3.2	0.0	1.0	0.2	1.7	1.5	2.2	3.2	8.8	4.7	4.7	3.2	3.9	4.2	5.7	5.7	7.1	6.9	6.9	7.6	7.9	4.9	1.2	100.1	
07-Aug	1.3	1.3	1.3	2.9	2.0	3.1	4.0	6.6	6.4	5.3	3.3	3.8	5.1	4.0	6.9	5.3	4.9	6.4	5.3	4.9	6.2	4.4	4.4	0.9	100.0	
Total	3.0	3.5	3.4	3.4	3.3	3.9	4.3	3.9	3.9	4.9	4.2	3.5	4.2	4.9	5.0	4.8	5.2	5.2	5.5	5.1	4.8	4.2	3.5	2.7	2.7	100.3

Appendix A.16. Kasilof River south bank sonar counts by hour, 15 June through 7 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
15-Jun	0.0	1.0	3.1	2.0	8.2	13.3	10.2	22.4	0.0	1.0	11.2	2.0	5.1	1.0	0.0	2.0	9.2	0.0	0.0	1.0	5.1	0.0	1.0	1.0	99.8
16-Jun	2.2	1.1	1.1	5.4	0.0	10.8	9.7	10.8	5.4	0.0	1.1	4.3	3.2	1.1	4.3	8.6	2.2	0.0	6.5	1.1	6.5	4.3	3.2	7.5	100.4
17-Jun	10.4	11.2	12.0	0.8	6.4	0.8	4.0	1.6	1.6	1.6	0.0	0.0	5.6	2.4	4.8	6.4	2.4	8.8	0.8	0.8	1.6	0.0	7.2	8.8	100.0
18-Jun	18.0	23.6	6.7	5.6	3.4	6.7	1.1	0.0	2.2	3.4	6.7	0.0	1.1	1.1	1.1	1.1	2.2	1.1	2.2	0.0	0.0	2.2	6.7	3.4	99.6
19-Jun	16.0	18.3	16.9	8.9	7.0	2.8	2.3	3.8	1.4	0.5	0.0	0.9	2.3	1.9	1.9	0.0	3.8	2.3	0.0	1.9	0.5	2.3	0.9	3.3	99.9
20-Jun	12.1	24.6	11.9	6.1	2.2	2.4	1.8	1.2	0.0	0.3	1.0	0.9	1.0	0.6	2.1	2.7	2.1	2.5	1.9	4.6	1.9	5.4	4.2	6.5	100.0
21-Jun	13.2	19.6	16.2	9.4	8.2	2.5	1.9	1.8	1.0	1.4	0.6	0.6	0.1	0.8	3.5	1.4	1.0	4.3	1.8	1.4	1.8	1.4	2.4	3.5	99.8
22-Jun	6.2	6.7	15.4	14.0	12.8	8.6	6.2	4.6	1.6	1.8	2.6	0.9	0.9	1.1	2.0	1.2	1.8	1.0	1.0	0.3	2.4	1.5	1.4	3.8	99.8
23-Jun	7.3	7.9	7.6	9.5	5.3	1.5	1.2	2.2	2.0	1.6	1.7	3.8	3.8	2.6	3.1	3.1	4.1	7.0	4.4	4.6	4.8	3.9	3.5	3.5	100.0
24-Jun	5.0	3.4	5.4	8.0	3.8	8.1	6.4	2.2	1.3	3.5	7.5	5.4	4.5	3.4	5.4	3.5	1.7	4.1	6.3	2.9	2.4	2.1	2.1	1.7	100.1
25-Jun	1.6	4.0	4.5	6.5	7.9	7.6	4.0	1.0	1.0	2.0	2.9	1.4	1.0	1.6	1.2	1.0	1.8	2.6	7.7	6.3	7.1	5.4	9.2	10.7	100.0
26-Jun	9.8	9.5	7.4	6.7	6.7	5.1	3.6	2.4	1.7	2.1	1.7	1.9	0.8	1.5	1.6	1.6	1.6	2.1	2.6	4.1	5.2	5.9	4.5	10.1	100.2
27-Jun	4.9	4.6	5.4	6.2	5.9	7.5	9.9	5.1	2.6	0.9	0.4	0.8	1.3	1.8	2.4	3.1	2.9	4.1	7.4	6.3	5.8	2.6	3.9	4.2	100.0
28-Jun	1.7	2.2	1.6	2.4	3.6	11.0	12.0	8.2	3.2	3.1	1.7	2.2	1.9	3.0	2.3	3.2	3.9	4.4	3.8	3.9	3.4	2.8	6.5	8.0	100.0
29-Jun	5.3	2.9	3.7	3.4	4.3	6.9	7.4	4.0	4.4	2.9	2.7	5.9	6.6	3.5	2.1	2.0	1.7	1.7	2.2	6.3	6.4	5.4	4.3	4.1	100.1
30-Jun	5.2	3.4	2.7	3.5	4.8	6.7	8.6	8.0	5.1	1.9	1.9	3.2	2.7	2.1	2.4	1.8	2.6	2.4	3.3	9.5	6.8	3.1	3.4	4.7	99.8
01-Jul	5.2	3.9	3.7	3.6	3.7	4.8	8.3	13.8	7.8	3.1	2.9	3.2	3.4	2.2	2.0	1.5	2.5	2.2	2.4	3.7	8.8	3.2	1.3	2.7	99.9
02-Jul	4.0	4.0	3.6	3.7	4.5	4.6	4.0	11.1	13.3	6.9	3.4	3.4	2.5	2.1	2.3	2.5	1.7	1.7	1.4	2.8	5.1	5.0	3.3	3.3	100.2
03-Jul	3.6	3.5	3.3	2.4	2.9	2.4	4.0	4.9	9.8	6.3	3.6	2.6	2.5	3.7	3.5	2.8	3.3	3.7	3.3	4.9	5.4	9.6	6.1	1.9	100.0
04-Jul	2.7	2.9	3.2	1.7	1.4	2.0	2.1	1.0	1.8	3.9	4.3	4.2	1.4	1.4	2.2	3.1	5.5	3.1	3.3	5.9	5.8	11.1	17.0	9.2	100.2
05-Jul	1.3	1.3	2.5	3.1	2.1	2.7	2.8	2.9	3.8	2.9	5.9	6.8	4.5	2.9	3.5	3.2	2.7	2.5	2.9	5.3	7.0	7.6	10.0	9.6	99.8
06-Jul	3.5	1.9	2.7	2.9	3.5	3.3	3.1	2.9	4.4	3.3	3.3	3.8	8.3	7.2	3.1	2.8	3.9	3.1	3.7	5.1	5.3	6.7	6.8	5.4	100.0
07-Jul	6.0	4.1	1.8	3.3	4.3	5.0	3.7	3.7	3.0	3.0	2.9	2.5	2.6	5.7	6.6	3.3	4.0	6.2	6.2	6.3	5.6	4.4	2.6	3.2	100.0
08-Jul	10.7	10.1	10.7	9.6	3.5	1.7	2.9	2.8	0.8	2.4	1.8	2.0	2.4	4.0	2.6	2.9	3.2	1.9	2.3	3.0	4.3	2.5	4.9	6.7	99.7
09-Jul	2.4	4.9	5.7	3.2	1.8	2.1	4.8	2.4	2.8	2.2	2.2	2.3	2.5	2.9	3.0	6.1	5.0	1.8	1.7	2.6	9.1	10.5	8.3	9.9	100.2
10-Jul	5.8	6.7	10.4	11.9	5.6	4.8	4.8	2.4	3.7	5.5	3.8	3.1	2.1	3.2	2.5	2.2	4.7	4.3	2.3	2.0	1.5	2.8	1.9	2.0	100.0
11-Jul	9.2	4.4	3.5	4.4	4.8	1.7	3.5	3.5	1.9	1.7	0.8	3.8	2.9	3.1	3.1	4.0	5.0	4.2	5.0	4.2	5.2	7.3	6.9	5.8	99.9
12-Jul	2.1	2.2	5.1	4.9	6.6	12.9	7.4	3.9	3.5	2.9	3.4	1.1	1.4	2.1	0.6	1.4	2.0	2.7	6.0	4.2	3.8	6.5	6.3	6.9	99.9
13-Jul	2.9	1.7	1.4	1.9	4.9	11.9	10.7	1.6	1.3	2.8	3.4	2.8	3.3	1.6	2.2	1.6	1.6	2.7	4.7	6.9	3.7	5.9	8.9	9.5	99.9
14-Jul	3.3	2.4	1.9	1.0	3.0	3.4	12.4	17.0	8.3	7.5	5.2	2.5	2.7	2.7	1.5	1.5	1.5	0.7	1.2	4.4	5.4	2.9	3.3	4.2	99.9

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Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total
15-Jul	4.8	4.7	4.0	3.5	1.9	2.1	1.6	4.7	4.4	4.1	2.1	2.0	1.7	1.5	3.3	2.3	2.3	2.0	2.8	4.9	8.0	8.0	11.2	12.0	99.9
16-Jul	0.7	0.9	0.8	0.7	0.8	0.7	1.5	2.7	7.4	2.5	0.3	1.1	4.3	6.2	5.0	4.5	5.9	4.9	12.2	8.5	12.8	12.3	1.9	1.5	100.1
17-Jul	1.4	2.2	3.8	3.6	6.4	9.8	7.9	8.7	10.2	8.4	8.7	1.0	0.6	1.4	1.7	3.3	2.4	2.5	2.8	3.2	1.5	2.8	4.0	1.5	99.8
18-Jul	1.9	2.9	2.2	2.7	3.4	3.1	2.2	3.7	4.5	4.5	4.8	6.4	3.8	2.5	5.5	3.8	5.7	4.2	4.1	3.0	4.8	4.4	10.1	5.8	100.0
19-Jul	1.7	1.2	1.8	2.5	2.2	2.9	3.4	3.8	3.4	3.9	3.8	11.0	12.5	6.9	4.0	5.1	3.7	4.5	3.3	3.0	3.2	3.6	3.8	4.6	99.8
20-Jul	2.8	2.8	1.6	1.1	1.8	5.2	7.0	4.2	4.0	2.5	4.8	5.5	8.0	10.9	8.4	5.1	5.1	2.0	1.8	2.7	4.4	3.8	1.9	2.6	100.0
21-Jul	3.1	2.8	3.7	4.1	2.5	7.2	6.9	2.5	3.0	2.1	2.4	2.4	1.3	1.2	4.6	11.2	6.0	6.7	5.0	6.5	5.5	2.8	3.1	3.4	100.0
22-Jul	0.8	0.9	1.7	2.3	2.4	5.9	6.6	4.9	4.7	4.8	3.9	6.4	4.8	4.2	5.6	7.1	6.9	1.6	3.9	4.5	4.7	5.2	4.1	2.1	100.0
23-Jul	0.5	0.4	0.4	0.3	0.3	0.6	4.5	1.9	3.2	5.2	7.0	8.6	9.8	4.3	11.2	8.8	7.9	8.8	2.6	2.7	2.9	3.7	2.9	1.7	100.2
24-Jul	1.0	1.2	1.6	1.5	1.9	4.9	6.6	6.7	5.2	6.9	3.7	4.2	3.8	3.7	4.0	5.5	4.5	5.7	7.0	5.0	5.8	4.7	3.2	1.9	100.2
25-Jul	4.9	4.0	3.8	3.2	4.3	6.5	10.3	8.0	7.6	5.9	3.4	4.0	3.5	2.6	2.6	3.6	3.4	1.9	5.1	2.3	2.6	2.7	2.9	1.1	100.2
26-Jul	0.9	0.7	0.9	0.9	1.9	5.8	5.7	4.5	2.7	2.8	2.4	3.1	3.7	3.0	4.4	6.9	8.3	6.0	6.2	7.6	4.1	7.2	6.1	4.1	99.9
27-Jul	1.4	1.2	1.0	1.5	1.4	6.1	7.8	6.6	5.1	5.2	4.3	3.2	2.2	4.3	6.3	5.9	4.2	4.8	7.8	7.1	3.9	2.9	2.8	3.0	100.0
28-Jul	6.8	5.7	3.0	2.7	2.8	2.9	6.0	7.8	7.5	4.0	5.8	3.3	3.4	2.3	2.2	2.4	2.9	6.1	5.4	6.9	3.2	3.0	2.1	1.8	100.0
29-Jul	1.6	0.9	0.3	0.5	0.7	2.0	3.1	4.6	5.9	5.1	3.8	4.5	20.2	12.3	7.8	2.3	2.8	2.8	3.9	3.1	3.6	3.4	2.6	2.0	99.8
30-Jul	3.0	0.7	0.7	0.3	1.0	1.0	2.4	4.3	5.2	7.6	4.4	7.1	6.8	5.8	1.6	3.1	3.6	4.6	4.6	3.6	8.6	11.3	6.1	2.7	100.1
31-Jul	1.5	1.1	0.8	1.2	0.8	1.3	3.1	2.5	5.4	6.6	3.9	3.9	7.1	4.9	3.7	5.4	6.3	5.0	3.6	4.5	4.6	9.5	8.6	4.6	99.9
01-Aug	2.6	2.7	2.1	1.4	1.7	2.8	3.3	2.3	4.0	3.7	6.7	7.1	4.6	5.0	4.1	3.8	6.5	2.4	6.1	5.8	2.3	7.7	7.8	3.4	99.9
02-Aug	1.4	2.1	0.9	0.7	0.2	1.3	1.7	3.5	3.0	3.5	6.8	9.4	5.8	5.2	3.6	5.5	6.3	6.0	7.0	6.8	4.8	3.3	5.9	5.4	100.1
03-Aug	1.4	2.1	2.2	2.6	1.5	3.7	4.6	3.8	3.4	3.8	4.3	4.6	6.0	5.8	3.8	7.5	6.5	5.3	3.4	6.6	3.8	5.5	4.0	3.8	100.0
04-Aug	3.2	2.1	1.7	1.4	2.0	4.7	8.3	6.3	4.4	4.5	4.2	4.4	4.7	5.7	6.7	8.1	8.1	4.0	3.8	3.5	2.0	2.3	2.4	1.3	99.8
05-Aug	3.6	2.6	3.3	2.1	2.1	4.9	3.9	5.4	5.2	8.2	7.4	5.1	4.4	4.1	3.3	4.7	3.8	6.2	4.1	4.3	2.0	3.6	2.8	2.9	100.0
06-Aug	2.3	1.3	1.5	1.6	0.8	1.6	1.8	3.3	1.5	4.2	4.9	3.9	3.4	4.2	3.7	5.7	8.5	5.5	7.7	8.1	8.3	6.8	6.5	2.8	99.9
07-Aug	1.9	2.8	2.5	2.2	2.0	3.7	6.6	9.8	3.5	5.0	2.6	5.3	5.7	3.5	5.5	5.6	4.6	7.2	4.6	5.0	3.6	3.3	2.4	1.1	100.0
Total	2.9	2.8	3.0	3.0	3.3	4.9	5.7	5.2	5.1	4.3	3.8	3.8	4.2	3.8	4.0	4.2	4.2	3.9	4.6	4.9	5.3	5.2	4.2	3.6	99.9

87

Appendix A.17. Kasilof River north bank sonar counts by sector, 15 June through 7 August 1995.

Counts by Sector													Daily Total	Cum Total
Date	1	2	3	4	5	6	7	8	9	10	11	12		
15-Jun	12	10	7	3	5	1	1	14	1	0	1	2	57	57
16-Jun	30	14	6	9	25	5	5	9	1	9	5	14	132	189
17-Jun	28	16	21	36	41	25	7	13	18	6	17	25	253	442
18-Jun	42	50	43	61	46	59	36	34	20	15	14	13	433	875
19-Jun	19	84	83	70	62	38	20	31	25	24	15	36	507	1,382
20-Jun	23	22	40	90	120	77	29	60	30	37	30	46	604	1,986
21-Jun	18	16	62	97	128	67	37	91	50	49	39	77	731	2,717
22-Jun	44	12	79	90	131	45	20	58	40	36	25	61	641	3,358
23-Jun	52	26	100	127	135	56	31	61	24	33	20	43	708	4,066
24-Jun	44	24	70	113	155	77	27	54	27	26	17	30	664	4,730
25-Jun	75	17	176	194	235	103	34	49	31	28	12	30	984	5,714
26-Jun	59	26	216	212	284	150	49	88	46	52	35	43	1,260	6,974
27-Jun	48	41	221	211	221	113	31	60	34	27	18	34	1,059	8,033
28-Jun	174	126	645	318	242	109	30	58	28	35	14	45	1,824	9,857
29-Jun	271	144	868	352	219	123	44	74	43	57	37	44	2,276	12,133
30-Jun	126	137	598	263	174	79	22	71	33	27	25	50	1,605	13,738
01-Jul	69	56	359	178	138	77	24	60	30	25	28	36	1,080	14,818
02-Jul	48	84	404	105	114	75	27	72	26	38	19	43	1,055	15,873
03-Jul	55	46	313	69	115	64	28	53	44	44	24	27	882	16,755
04-Jul	65	32	198	51	70	50	11	28	13	13	14	23	568	17,323
05-Jul	84	100	249	82	125	81	24	43	37	25	24	15	889	18,212
06-Jul	154	167	318	107	173	108	38	62	55	47	33	39	1,301	19,513
07-Jul	265	192	380	136	192	82	36	58	47	31	28	54	1,501	21,014
08-Jul	98	68	100	49	85	19	17	36	26	19	36	54	607	21,621
09-Jul	149	113	187	50	40	52	19	33	25	8	23	31	730	22,351
10-Jul	245	167	208	73	118	96	40	60	53	34	28	73	1,195	23,546
11-Jul	107	56	62	36	25	32	10	46	34	8	16	23	455	24,001
12-Jul	72	54	57	41	35	28	16	21	21	15	19	23	402	24,403
13-Jul	88	122	200	60	33	22	42	42	16	24	20	49	718	25,121
14-Jul	137	300	397	80	61	46	54	27	12	25	24	25	1,188	26,309
15-Jul	148	164	272	67	49	26	19	19	10	21	20	35	850	27,159
16-Jul	800	2,668	3,197	248	124	57	48	25	26	46	46	57	7,342	34,501
17-Jul	2,204	7,241	4,583	381	197	112	63	66	31	65	68	82	15,093	49,594
18-Jul	251	956	403	115	55	48	39	38	18	34	53	45	2,055	51,649
19-Jul	181	807	273	100	70	41	39	37	29	47	42	62	1,728	53,377
20-Jul	243	641	372	117	70	53	52	41	25	41	53	58	1,766	55,143
21-Jul	271	362	263	116	73	46	40	36	18	30	37	69	1,361	56,504
22-Jul	901	1,876	964	213	108	88	43	22	13	37	30	55	4,350	60,854
23-Jul	2,126	1,352	616	149	65	49	34	38	17	37	30	62	4,575	65,429
24-Jul	2,158	960	507	155	99	54	77	77	29	34	38	85	4,273	69,702

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Counts by Sector														
Date	1	2	3	4	5	6	7	8	9	10	11	12	Daily Total	Cum Total
25-Jul	413	94	106	43	25	31	22	42	27	24	28	46	901	70,603
26-Jul	684	140	119	44	23	43	31	47	36	20	29	40	1,256	71,859
27-Jul	878	142	135	44	23	39	44	57	27	19	28	49	1,485	73,344
28-Jul	189	32	84	35	28	27	48	45	22	19	23	46	598	73,942
29-Jul	182	42	47	31	32	27	27	36	26	25	21	31	527	74,469
30-Jul	119	30	47	29	23	34	23	18	16	15	6	21	381	74,850
31-Jul	145	43	50	36	13	20	15	17	11	7	11	29	397	75,247
01-Aug	152	29	44	25	13	9	10	16	5	5	8	14	330	75,577
02-Aug	175	15	34	17	15	11	18	13	6	9	6	18	337	75,914
03-Aug	387	67	73	27	8	10	22	27	17	14	13	25	690	76,604
04-Aug	504	73	89	41	19	30	26	35	19	17	10	24	887	77,491
05-Aug	89	28	59	26	11	24	19	31	18	13	8	18	344	77,835
06-Aug	108	23	79	34	9	9	25	41	19	15	12	33	407	78,242
07-Aug	185	23	77	45	7	13	25	15	18	12	5	27	452	78,694
Total	16,195	20,132	19,163	5,505	4,711	2,866	1,625	2,313	1,382	1,433	1,296	2,151	78,694	

Appendix A.18. Kasilof River south bank sonar counts by sector, 15 June through 7 August 1995.

Counts by Sector													Daily Total	Cum Total
Date	1	2	3	4	5	6	7	8	9	10	11	12		
15-Jun	2	4	1	6	5	5	2	7	12	15	15	24	98	98
16-Jun	12	3	1	3	3	3	4	1	10	10	15	28	93	191
17-Jun	19	10	1	4	7	2	4	4	14	9	21	30	125	316
18-Jun	15	8	6	13	2	7	4	4	6	4	3	17	89	405
19-Jun	12	12	11	20	30	22	17	15	16	17	16	25	213	618
20-Jun	48	54	59	44	85	63	55	60	39	38	25	102	672	1,290
21-Jun	55	72	116	88	152	81	94	78	76	55	37	74	978	2,268
22-Jun	43	78	75	85	174	90	69	67	49	64	37	53	884	3,152
23-Jun	66	67	82	131	134	128	86	108	15	52	36	35	940	4,092
24-Jun	47	61	74	106	103	87	55	79	13	29	30	32	716	4,808
25-Jun	103	200	192	335	185	169	90	115	27	50	47	44	1,557	6,365
26-Jun	146	217	165	198	125	117	54	67	31	32	26	34	1,212	7,577
27-Jun	373	591	368	450	237	174	74	81	34	41	37	36	2,496	10,073
28-Jun	1,018	1,052	718	875	413	216	111	111	43	58	25	40	4,680	14,753
29-Jun	907	1,924	1,168	1,143	926	353	250	188	72	81	59	49	7,120	21,873
30-Jun	535	1,077	732	705	655	317	162	128	52	52	21	28	4,464	26,337
01-Jul	565	870	389	389	408	169	60	59	20	33	25	40	3,027	29,364
02-Jul	370	348	245	217	201	103	53	71	14	28	24	15	1,689	31,053
03-Jul	130	345	212	229	301	137	89	67	35	36	24	23	1,628	32,681
04-Jul	80	156	160	135	94	42	44	31	20	13	15	24	814	33,495
05-Jul	525	733	454	360	198	107	92	85	34	23	23	49	2,683	36,178
06-Jul	1,045	1,187	697	506	314	154	122	81	51	44	26	57	4,284	40,462
07-Jul	400	532	652	563	329	172	118	132	62	63	30	73	3,126	43,588
08-Jul	70	67	218	152	99	37	35	41	27	19	28	38	831	44,419
09-Jul	176	177	515	461	218	127	45	61	25	43	29	72	1,949	46,368
10-Jul	208	250	832	572	295	238	83	63	43	49	37	80	2,750	49,118
11-Jul	41	88	135	61	39	27	11	12	7	14	10	34	479	49,597
12-Jul	45	225	250	77	45	24	12	14	6	3	3	8	712	50,309
13-Jul	42	213	340	97	68	25	23	31	12	23	13	31	918	51,227
14-Jul	104	741	655	108	56	35	20	17	14	16	15	29	1,810	53,037
15-Jul	117	292	205	48	20	15	11	10	6	9	8	8	749	53,786
16-Jul	1,079	6,769	3,115	276	208	76	39	23	12	14	18	27	11,656	65,442
17-Jul	1,164	5,478	4,035	440	332	149	63	46	19	17	31	28	11,802	77,244
18-Jul	332	1,200	666	121	115	49	21	18	7	6	9	22	2,566	79,810
19-Jul	504	1,673	865	217	163	66	23	10	7	12	12	19	3,571	83,381
20-Jul	161	1,025	816	233	182	97	48	19	6	15	23	13	2,638	86,019
21-Jul	273	679	513	135	125	39	28	21	6	11	7	22	1,859	87,878
22-Jul	820	2,130	1,818	372	378	132	45	23	12	25	23	40	5,818	93,696
23-Jul	1,340	3,262	1,342	215	227	71	20	6	3	10	8	14	6,518	100,214
24-Jul	1,446	4,287	1,690	236	242	103	19	13	7	9	8	18	8,078	108,292

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Counts by Sector													Daily Total	Cum Total
Date	1	2	3	4	5	6	7	8	9	10	11	12		
25-Jul	437	1,069	370	83	76	52	10	12	6	15	10	16	2,156	110,448
26-Jul	356	1,020	333	57	47	28	15	10	4	16	9	15	1,910	112,358
27-Jul	829	1,293	467	76	60	40	9	8	11	19	1	10	2,823	115,181
28-Jul	212	499	238	44	63	19	16	2	3	11	2	6	1,115	116,296
29-Jul	406	229	67	8	14	3	3	2	0	6	0	3	741	117,037
30-Jul	197	324	81	27	15	6	10	5	1	2	1	6	675	117,712
31-Jul	249	366	143	48	56	19	2	4	9	13	2	1	912	118,624
01-Aug	108	301	132	56	57	16	1	9	7	12	1	3	703	119,327
02-Aug	173	311	191	48	89	22	5	3	8	8	0	11	869	120,196
03-Aug	634	821	358	76	95	33	3	9	6	2	0	7	2,044	122,240
04-Aug	604	803	397	91	58	31	13	8	7	7	3	4	2,026	124,266
05-Aug	172	203	131	47	26	10	5	2	4	2	3	6	611	124,877
06-Aug	99	235	126	55	61	11	4	9	4	5	2	3	614	125,491
07-Aug	208	347	185	56	86	11	6	6	3	3	1	2	914	126,405
Total	19,123	45,980	27,810	11,202	8,701	4,335	2,364	2,164	1,046	1,273	945	1,540	126,405	

Appendix A.19. Kasilof River north bank sonar counts by sector, 15 June through 7 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
15-Jun	21.1	17.5	12.3	5.3	8.8	1.8	1.8	24.6	1.8	0.0	1.8	3.5	100.3
16-Jun	22.7	10.6	4.5	6.8	18.9	3.8	3.8	6.8	0.8	6.8	3.8	10.6	99.9
17-Jun	11.1	6.3	8.3	14.2	16.2	9.9	2.8	5.1	7.1	2.4	6.7	9.9	100.0
18-Jun	9.7	11.5	9.9	14.1	10.6	13.6	8.3	7.9	4.6	3.5	3.2	3.0	99.9
19-Jun	3.7	16.6	16.4	13.8	12.2	7.5	3.9	6.1	4.9	4.7	3.0	7.1	99.9
20-Jun	3.8	3.6	6.6	14.9	19.9	12.7	4.8	9.9	5.0	6.1	5.0	7.6	99.9
21-Jun	2.5	2.2	8.5	13.3	17.5	9.2	5.1	12.4	6.8	6.7	5.3	10.5	100.0
22-Jun	6.9	1.9	12.3	14.0	20.4	7.0	3.1	9.0	6.2	5.6	3.9	9.5	99.8
23-Jun	7.3	3.7	14.1	17.9	19.1	7.9	4.4	8.6	3.4	4.7	2.8	6.1	100.0
24-Jun	6.6	3.6	10.5	17.0	23.3	11.6	4.1	8.1	4.1	3.9	2.6	4.5	99.9
25-Jun	7.6	1.7	17.9	19.7	23.9	10.5	3.5	5.0	3.2	2.8	1.2	3.0	100.0
26-Jun	4.7	2.1	17.1	16.8	22.5	11.9	3.9	7.0	3.7	4.1	2.8	3.4	100.0
27-Jun	4.5	3.9	20.9	19.9	20.9	10.7	2.9	5.7	3.2	2.5	1.7	3.2	100.0
28-Jun	9.5	6.9	35.4	17.4	13.3	6.0	1.6	3.2	1.5	1.9	0.8	2.5	100.0
29-Jun	11.9	6.3	38.1	15.5	9.6	5.4	1.9	3.3	1.9	2.5	1.6	1.9	99.9
30-Jun	7.9	8.5	37.3	16.4	10.8	4.9	1.4	4.4	2.1	1.7	1.6	3.1	100.1
01-Jul	6.4	5.2	33.2	16.5	12.8	7.1	2.2	5.6	2.8	2.3	2.6	3.3	100.0
02-Jul	4.5	8.0	38.3	10.0	10.8	7.1	2.6	6.8	2.5	3.6	1.8	4.1	100.1
03-Jul	6.2	5.2	35.5	7.8	13.0	7.3	3.2	6.0	5.0	5.0	2.7	3.1	100.0
04-Jul	11.4	5.6	34.9	9.0	12.3	8.8	1.9	4.9	2.3	2.3	2.5	4.0	99.9
05-Jul	9.4	11.2	28.0	9.2	14.1	9.1	2.7	4.8	4.2	2.8	2.7	1.7	99.9
06-Jul	11.8	12.8	24.4	8.2	13.3	8.3	2.9	4.8	4.2	3.6	2.5	3.0	99.8
07-Jul	17.7	12.8	25.3	9.1	12.8	5.5	2.4	3.9	3.1	2.1	1.9	3.6	100.2
08-Jul	16.1	11.2	16.5	8.1	14.0	3.1	2.8	5.9	4.3	3.1	5.9	8.9	99.9
09-Jul	20.4	15.5	25.6	6.8	5.5	7.1	2.6	4.5	3.4	1.1	3.2	4.2	99.9
10-Jul	20.5	14.0	17.4	6.1	9.9	8.0	3.3	5.0	4.4	2.8	2.3	6.1	99.8
11-Jul	23.5	12.3	13.6	7.9	5.5	7.0	2.2	10.1	7.5	1.8	3.5	5.1	100.0
12-Jul	17.9	13.4	14.2	10.2	8.7	7.0	4.0	5.2	5.2	3.7	4.7	5.7	99.9
13-Jul	12.3	17.0	27.9	8.4	4.6	3.1	5.8	5.8	2.2	3.3	2.8	6.8	100.0
14-Jul	11.5	25.3	33.4	6.7	5.1	3.9	4.5	2.3	1.0	2.1	2.0	2.1	99.9
15-Jul	17.4	19.3	32.0	7.9	5.8	3.1	2.2	2.2	1.2	2.5	2.4	4.1	100.1
16-Jul	10.9	36.3	43.5	3.4	1.7	0.8	0.7	0.3	0.4	0.6	0.6	0.8	100.0
17-Jul	14.6	48.0	30.4	2.5	1.3	0.7	0.4	0.4	0.2	0.4	0.5	0.5	99.9
18-Jul	12.2	46.5	19.6	5.6	2.7	2.3	1.9	1.8	0.9	1.7	2.6	2.2	100.0
19-Jul	10.5	46.7	15.8	5.8	4.1	2.4	2.3	2.1	1.7	2.7	2.4	3.6	100.1
20-Jul	13.8	36.3	21.1	6.6	4.0	3.0	2.9	2.3	1.4	2.3	3.0	3.3	100.0
21-Jul	19.9	26.6	19.3	8.5	5.4	3.4	2.9	2.6	1.3	2.2	2.7	5.1	99.9
22-Jul	20.7	43.1	22.2	4.9	2.5	2.0	1.0	0.5	0.3	0.9	0.7	1.3	100.1
23-Jul	46.5	29.6	13.5	3.3	1.4	1.1	0.7	0.8	0.4	0.8	0.7	1.4	100.2
24-Jul	50.5	22.5	11.9	3.6	2.3	1.3	1.8	1.8	0.7	0.8	0.9	2.0	100.1

-Continued-

Counts by Sector													Daily Total
Date	1	2	3	4	5	6	7	8	9	10	11	12	
25-Jul	45.8	10.4	11.8	4.8	2.8	3.4	2.4	4.7	3.0	2.7	3.1	5.1	100.0
26-Jul	54.5	11.1	9.5	3.5	1.8	3.4	2.5	3.7	2.9	1.6	2.3	3.2	100.0
27-Jul	59.1	9.6	9.1	3.0	1.5	2.6	3.0	3.8	1.8	1.3	1.9	3.3	100.0
28-Jul	31.6	5.4	14.0	5.9	4.7	4.5	8.0	7.5	3.7	3.2	3.8	7.7	100.0
29-Jul	34.5	8.0	8.9	5.9	6.1	5.1	5.1	6.8	4.9	4.7	4.0	5.9	99.9
30-Jul	31.2	7.9	12.3	7.6	6.0	8.9	6.0	4.7	4.2	3.9	1.6	5.5	99.8
31-Jul	36.5	10.8	12.6	9.1	3.3	5.0	3.8	4.3	2.8	1.8	2.8	7.3	100.1
01-Aug	46.1	8.8	13.3	7.6	3.9	2.7	3.0	4.8	1.5	1.5	2.4	4.2	99.8
02-Aug	51.9	4.5	10.1	5.0	4.5	3.3	5.3	3.9	1.8	2.7	1.8	5.3	100.1
03-Aug	56.1	9.7	10.6	3.9	1.2	1.4	3.2	3.9	2.5	2.0	1.9	3.6	100.0
04-Aug	56.8	8.2	10.0	4.6	2.1	3.4	2.9	3.9	2.1	1.9	1.1	2.7	99.7
05-Aug	25.9	8.1	17.2	7.6	3.2	7.0	5.5	9.0	5.2	3.8	2.3	5.2	100.0
06-Aug	26.5	5.7	19.4	8.4	2.2	2.2	6.1	10.1	4.7	3.7	2.9	8.1	100.0
07-Aug	40.9	5.1	17.0	10.0	1.5	2.9	5.5	3.3	4.0	2.7	1.1	6.0	100.0
Total	20.6	25.6	24.3	7.0	6.0	3.6	2.1	2.9	1.7	1.8	1.6	2.7	99.9

Appendix A.20. Kasilof River south bank sonar counts by sector, 15 June through 7 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
15-Jun	2.0	4.1	1.0	6.1	5.1	5.1	2.0	7.1	12.2	15.3	15.3	24.5	99.8
16-Jun	12.9	3.2	1.1	3.2	3.2	3.2	4.3	1.1	10.8	10.8	16.1	30.1	100.0
17-Jun	15.2	8.0	0.8	3.2	5.6	1.6	3.2	3.2	11.2	7.2	16.8	24.0	100.0
18-Jun	16.9	9.0	6.7	14.6	2.2	7.9	4.5	4.5	6.7	4.5	3.4	19.1	100.0
19-Jun	5.6	5.6	5.2	9.4	14.1	10.3	8.0	7.0	7.5	8.0	7.5	11.7	99.9
20-Jun	7.1	8.0	8.8	6.5	12.6	9.4	8.2	8.9	5.8	5.7	3.7	15.2	99.9
21-Jun	5.6	7.4	11.9	9.0	15.5	8.3	9.6	8.0	7.8	5.6	3.8	7.6	100.1
22-Jun	4.9	8.8	8.5	9.6	19.7	10.2	7.8	7.6	5.5	7.2	4.2	6.0	100.0
23-Jun	7.0	7.1	8.7	13.9	14.3	13.6	9.1	11.5	1.6	5.5	3.8	3.7	99.8
24-Jun	6.6	8.5	10.3	14.8	14.4	12.2	7.7	11.0	1.8	4.1	4.2	4.5	100.1
25-Jun	6.6	12.8	12.3	21.5	11.9	10.9	5.8	7.4	1.7	3.2	3.0	2.8	99.9
26-Jun	12.0	17.9	13.6	16.3	10.3	9.7	4.5	5.5	2.6	2.6	2.1	2.8	99.9
27-Jun	14.9	23.7	14.7	18.0	9.5	7.0	3.0	3.2	1.4	1.6	1.5	1.4	99.9
28-Jun	21.8	22.5	15.3	18.7	8.8	4.6	2.4	2.4	0.9	1.2	0.5	0.9	100.0
29-Jun	12.7	27.0	16.4	16.1	13.0	5.0	3.5	2.6	1.0	1.1	0.8	0.7	99.9
30-Jun	12.0	24.1	16.4	15.8	14.7	7.1	3.6	2.9	1.2	1.2	0.5	0.6	100.1
01-Jul	18.7	28.7	12.9	12.9	13.5	5.6	2.0	1.9	0.7	1.1	0.8	1.3	100.1
02-Jul	21.9	20.6	14.5	12.8	11.9	6.1	3.1	4.2	0.8	1.7	1.4	0.9	99.9
03-Jul	8.0	21.2	13.0	14.1	18.5	8.4	5.5	4.1	2.1	2.2	1.5	1.4	100.0
04-Jul	9.8	19.2	19.7	16.6	11.5	5.2	5.4	3.8	2.5	1.6	1.8	2.9	100.0
05-Jul	19.6	27.3	16.9	13.4	7.4	4.0	3.4	3.2	1.3	0.9	0.9	1.8	100.1
06-Jul	24.4	27.7	16.3	11.8	7.3	3.6	2.8	1.9	1.2	1.0	0.6	1.3	99.9
07-Jul	12.8	17.0	20.9	18.0	10.5	5.5	3.8	4.2	2.0	2.0	1.0	2.3	100.0
08-Jul	8.4	8.1	26.2	18.3	11.9	4.5	4.2	4.9	3.2	2.3	3.4	4.6	100.0
09-Jul	9.0	9.1	26.4	23.7	11.2	6.5	2.3	3.1	1.3	2.2	1.5	3.7	100.0
10-Jul	7.6	9.1	30.3	20.8	10.7	8.7	3.0	2.3	1.6	1.8	1.3	2.9	100.1
11-Jul	8.6	18.4	28.2	12.7	8.1	5.6	2.3	2.5	1.5	2.9	2.1	7.1	100.0
12-Jul	6.3	31.6	35.1	10.8	6.3	3.4	1.7	2.0	0.8	0.4	0.4	1.1	99.9
13-Jul	4.6	23.2	37.0	10.6	7.4	2.7	2.5	3.4	1.3	2.5	1.4	3.4	100.0
14-Jul	5.7	40.9	36.2	6.0	3.1	1.9	1.1	0.9	0.8	0.9	0.8	1.6	99.9
15-Jul	15.6	39.0	27.4	6.4	2.7	2.0	1.5	1.3	0.8	1.2	1.1	1.1	100.1
16-Jul	9.3	58.1	26.7	2.4	1.8	0.7	0.3	0.2	0.1	0.1	0.2	0.2	100.1
17-Jul	9.9	46.4	34.2	3.7	2.8	1.3	0.5	0.4	0.2	0.1	0.3	0.2	100.0
18-Jul	12.9	46.8	26.0	4.7	4.5	1.9	0.8	0.7	0.3	0.2	0.4	0.9	100.1
19-Jul	14.1	46.8	24.2	6.1	4.6	1.8	0.6	0.3	0.2	0.3	0.3	0.5	99.8
20-Jul	6.1	38.9	30.9	8.8	6.9	3.7	1.8	0.7	0.2	0.6	0.9	0.5	100.0
21-Jul	14.7	36.5	27.6	7.3	6.7	2.1	1.5	1.1	0.3	0.6	0.4	1.2	100.0
22-Jul	14.1	36.6	31.2	6.4	6.5	2.3	0.8	0.4	0.2	0.4	0.4	0.7	100.0
23-Jul	20.6	50.0	20.6	3.3	3.5	1.1	0.3	0.1	0.0	0.2	0.1	0.2	100.0
24-Jul	17.9	53.1	20.9	2.9	3.0	1.3	0.2	0.2	0.1	0.1	0.1	0.2	100.0

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Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
25-Jul	20.3	49.6	17.2	3.8	3.5	2.4	0.5	0.6	0.3	0.7	0.5	0.7	100.1
26-Jul	18.6	53.4	17.4	3.0	2.5	1.5	0.8	0.5	0.2	0.8	0.5	0.8	100.0
27-Jul	29.4	45.8	16.5	2.7	2.1	1.4	0.3	0.3	0.4	0.7	0.0	0.4	100.0
28-Jul	19.0	44.8	21.3	3.9	5.7	1.7	1.4	0.2	0.3	1.0	0.2	0.5	100.0
29-Jul	54.8	30.9	9.0	1.1	1.9	0.4	0.4	0.3	0.0	0.8	0.0	0.4	100.0
30-Jul	29.2	48.0	12.0	4.0	2.2	0.9	1.5	0.7	0.1	0.3	0.1	0.9	99.9
31-Jul	27.3	40.1	15.7	5.3	6.1	2.1	0.2	0.4	1.0	1.4	0.2	0.1	99.9
01-Aug	15.4	42.8	18.8	8.0	8.1	2.3	0.1	1.3	1.0	1.7	0.1	0.4	100.0
02-Aug	19.9	35.8	22.0	5.5	10.2	2.5	0.6	0.3	0.9	0.9	0.0	1.3	99.9
03-Aug	31.0	40.2	17.5	3.7	4.6	1.6	0.1	0.4	0.3	0.1	0.0	0.3	99.8
04-Aug	29.8	39.6	19.6	4.5	2.9	1.5	0.6	0.4	0.3	0.3	0.1	0.2	99.8
05-Aug	28.2	33.2	21.4	7.7	4.3	1.6	0.8	0.3	0.7	0.3	0.5	1.0	100.0
06-Aug	16.1	38.3	20.5	9.0	9.9	1.8	0.7	1.5	0.7	0.8	0.3	0.5	100.1
07-Aug	22.8	38.0	20.2	6.1	9.4	1.2	0.7	0.7	0.3	0.3	0.1	0.2	100.0
Total	15.1	36.4	22.0	8.9	6.9	3.4	1.9	1.7	0.8	1.0	0.7	1.2	100.0

Appendix A.21. Estimated salmon escapement adjacent to the north bank of the Crescent River, 28 June through 8 August 1995.  
Species composition of daily sonar counts based on fish wheel catches.\*

Date	Sockeye		Pink		Chum		Coho		Dolly Varden	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
28-Jun	3	3	0	0	0	0	0	0	0	0
29-Jun	3	6	0	0	0	0	0	0	0	0
30-Jun	39	45	0	0	1	1	1	1	5	5
01-Jul	27	72	0	0	1	2	0	1	4	9
02-Jul	21	93	0	0	1	3	0	1	3	12
03-Jul	61	154	1	1	2	5	1	2	8	20
04-Jul	66	220	1	2	2	7	1	3	9	29
05-Jul	42	262	1	3	1	8	0	3	6	35
06-Jul	254	516	4	7	8	16	2	5	35	70
07-Jul	134	650	2	9	5	21	1	6	18	88
08-Jul	773	1,423	11	20	24	45	6	12	106	194
09-Jul	924	2,347	14	34	28	73	7	19	127	321
10-Jul	757	3,104	11	45	23	96	6	25	104	425
11-Jul	794	3,898	13	58	24	120	6	31	109	534
12-Jul	1,248	5,146	19	77	38	158	10	41	171	705
13-Jul	1,245	6,391	41	118	25	183	0	41	100	805
14-Jul	1,652	8,043	55	173	33	216	0	41	132	937
15-Jul	1,257	9,300	42	215	25	241	0	41	101	1,038
16-Jul	1,223	10,523	41	256	24	265	0	41	98	1,136
17-Jul	1,860	12,383	58	314	29	294	0	41	349	1,485
18-Jul	1,325	13,708	42	356	20	314	0	41	249	1,734
19-Jul	454	14,162	11	367	3	317	0	41	120	1,854
20-Jul	735	14,897	17	384	5	322	0	41	194	2,048
21-Jul	1,987	16,884	0	384	13	335	0	41	419	2,467
22-Jul	4,017	20,901	118	502	95	430	0	41	118	2,585
23-Jul	2,300	23,201	67	569	54	484	0	41	68	2,653
24-Jul	1,262	24,463	33	602	0	484	0	41	38	2,691
25-Jul	1,079	25,542	27	629	0	484	0	41	33	2,724
26-Jul	1,028	26,570	24	653	43	527	0	41	62	2,786
27-Jul	709	27,279	17	670	30	557	0	41	42	2,828
28-Jul	672	27,951	16	686	28	585	0	41	40	2,868
29-Jul	1,354	29,305	38	724	113	698	10	51	28	2,896
30-Jul	2,028	31,333	57	781	170	868	14	65	43	2,939
31-Jul	529	31,862	15	796	44	912	4	69	11	2,950
01-Aug	307	32,169	9	805	25	937	3	72	6	2,956
02-Aug	281	32,450	32	837	135	1,072	5	77	5	2,961
03-Aug	868	33,318	99	936	419	1,491	15	92	15	2,976
04-Aug	921	34,239	105	1,041	444	1,935	16	108	16	2,992
05-Aug	625	34,864	71	1,112	302	2,237	11	119	11	3,003
06-Aug	277	35,141	89	1,201	365	2,602	99	218	30	3,033
07-Aug	233	35,374	75	1,276	309	2,911	83	301	25	3,058
08-Aug	253	35,627	81	1,357	334	3,245	90	391	27	3,085

\*Counts in Dolly Varden column are combined Dolly Varden char and chinook salmon counts.

Appendix A.22. Estimated salmon escapement adjacent to the south bank of the Crescent River, 28 June through 8 August 1995.  
Species composition of daily sonar counts based on fish wheel catches.\*

Date	Sockeye		Pink		Chum		Coho		Dolly Varden	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
28-Jun	2	2	0	0	0	0	0	0	0	0
29-Jun	11	13	0	0	0	0	0	0	2	2
30-Jun	26	39	0	0	1	1	0	0	4	6
01-Jul	18	57	1	1	0	1	0	0	3	9
02-Jul	23	80	0	1	1	2	0	0	3	12
03-Jul	82	162	2	3	2	4	1	1	11	23
04-Jul	118	280	1	4	4	8	1	2	16	39
05-Jul	109	389	2	6	3	11	1	3	15	54
06-Jul	260	649	4	10	8	19	2	5	36	90
07-Jul	203	852	3	13	7	26	1	6	28	118
08-Jul	462	1,314	7	20	14	40	4	10	63	181
09-Jul	647	1,961	9	29	20	60	5	15	89	270
10-Jul	476	2,437	7	36	15	75	4	19	65	335
11-Jul	579	3,016	8	44	18	93	4	23	80	415
12-Jul	704	3,720	10	54	22	115	5	28	97	512
13-Jul	575	4,295	19	73	12	127	0	28	46	558
14-Jul	759	5,054	25	98	15	142	0	28	61	619
15-Jul	361	5,415	12	110	7	149	0	28	29	648
16-Jul	632	6,047	21	131	12	161	0	28	51	699
17-Jul	632	6,679	20	151	10	171	0	28	118	817
18-Jul	561	7,240	17	168	9	180	0	28	105	922
19-Jul	396	7,636	9	177	4	184	0	28	104	1,026
20-Jul	459	8,095	11	188	3	187	0	28	121	1,147
21-Jul	862	8,957	0	188	6	193	0	28	182	1,329
22-Jul	1,415	10,372	42	230	33	226	0	28	42	1,371
23-Jul	963	11,335	28	258	23	249	0	28	28	1,399
24-Jul	385	11,720	10	268	0	249	0	28	12	1,411
25-Jul	661	12,381	17	285	0	249	0	28	20	1,431
26-Jul	573	12,954	14	299	24	273	0	28	34	1,465
27-Jul	450	13,404	11	310	19	292	0	28	27	1,492
28-Jul	626	14,030	15	325	26	318	0	28	38	1,530
29-Jul	292	14,322	8	333	25	343	2	30	6	1,536
30-Jul	519	14,841	15	348	43	386	4	34	11	1,547
31-Jul	207	15,048	6	354	17	403	2	36	4	1,551
01-Aug	243	15,291	7	361	20	423	2	38	5	1,556
02-Aug	137	15,428	16	377	66	489	3	41	2	1,558
03-Aug	350	15,778	40	417	169	658	6	47	6	1,564
04-Aug	393	16,171	45	462	189	847	7	54	7	1,571
05-Aug	221	16,392	25	487	106	953	4	58	4	1,575
06-Aug	104	16,496	33	520	138	1,091	37	95	11	1,586
07-Aug	79	16,575	26	546	104	1,195	29	124	8	1,594
08-Aug	109	16,684	35	581	143	1,338	39	163	12	1,606

\*Counts in Dolly Varden column are combined Dolly Varden char and chinook salmon counts.

Appendix A.23. Crescent River north bank sonar counts by hour, 28 June through 8 August 1995.

		Counts by Hour																								Daily	Cum
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	Total	
28-Jun	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
29-Jun	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	6
30-Jun	3	0	1	1	1	0	0	0	0	0	3	4	4	2	5	0	1	13	3	1	0	0	0	4	46	52	
01-Jul	8	2	0	3	0	0	0	0	0	0	3	1	0	1	0	0	2	3	2	1	2	0	0	4	32	84	
02-Jul	0	2	3	0	0	1	0	0	0	0	1	0	1	0	1	0	0	4	4	1	2	0	0	5	25	109	
03-Jul	0	4	0	8	0	0	0	0	0	0	1	1	11	6	0	3	6	7	7	5	1	2	7	4	73	182	
04-Jul	3	7	4	8	2	6	0	0	0	2	1	0	3	15	8	4	3	1	5	2	3	1	1	0	79	261	
05-Jul	1	0	0	0	0	0	1	1	0	0	1	1	2	5	3	5	6	2	3	5	7	4	2	1	50	311	
06-Jul	0	1	0	2	1	0	1	0	4	6	1	15	5	6	27	40	36	54	54	35	15	0	0	0	303	614	
07-Jul	0	1	0	0	5	0	3	0	0	0	0	2	2	6	4	16	10	6	51	19	26	8	1	0	160	774	
08-Jul	12	0	3	0	3	2	4	3	14	13	22	48	51	56	87	93	195	119	65	56	32	30	9	3	920	1,694	
09-Jul	0	0	6	17	16	2	13	7	4	2	4	32	41	27	42	26	132	290	271	80	32	35	14	7	1,100	2,794	
10-Jul	21	13	3	4	39	24	16	15	8	15	28	25	15	53	122	37	52	133	100	84	55	19	13	7	901	3,695	
11-Jul	6	17	5	10	3	10	4	8	5	28	8	36	19	41	13	34	15	55	268	137	122	52	42	8	946	4,641	
12-Jul	36	25	10	11	4	6	24	8	10	20	40	140	47	40	25	21	22	54	349	347	140	51	40	16	1,486	6,127	
13-Jul	7	21	4	13	12	15	30	21	17	21	56	34	42	27	18	20	11	14	191	420	253	112	40	12	1,411	7,538	
14-Jul	12	21	8	14	14	13	19	23	42	32	38	91	57	35	37	20	22	14	184	394	450	201	84	47	1,872	9,410	
15-Jul	20	38	19	8	2	6	3	11	13	14	83	23	68	54	29	47	23	40	18	73	273	329	149	82	1,425	10,835	
16-Jul	28	45	36	41	13	35	10	22	11	42	102	79	58	25	32	6	14	10	11	17	169	258	199	123	1,386	12,221	
17-Jul	49	59	96	96	96	96	96	14	36	22	84	164	92	86	91	24	2	9	12	17	34	367	378	276	2,296	14,517	
18-Jul	118	73	78	35	13	21	15	5	1	7	19	19	45	48	62	71	17	33	19	10	9	240	390	288	1,636	16,153	
19-Jul	146	19	40	35	34	16	8	8	7	15	3	8	35	38	22	48	26	14	4	7	7	1	2	45	588	16,741	
20-Jul	173	110	116	93	31	22	10	1	9	12	5	13	25	57	40	55	31	59	14	10	9	16	11	29	951	17,692	
21-Jul	99	102	87	87	67	91	92	114	48	38	21	53	111	110	132	255	290	242	137	115	58	37	21	12	2,419	20,111	
22-Jul	5	11	2	15	38	80	154	157	100	69	154	160	240	228	201	507	850	643	372	207	69	45	19	22	4,348	24,459	

-Continued-

Counts by Hour

Date																									Daily	Cum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	Total
23-Jul	82	53	169	605	317	150	107	47	10	9	28	27	75	81	62	128	107	126	92	52	62	55	26	19	2,489	26,948
24-Jul	21	19	20	60	110	57	23	9	9	2	19	33	17	10	23	72	32	55	219	241	175	70	20	17	1,333	28,281
25-Jul	16	19	28	25	28	63	21	30	25	17	28	16	29	11	18	21	26	245	151	125	71	33	53	40	1,139	29,420
26-Jul	12	50	33	37	105	156	78	33	10	12	24	16	21	13	27	4	34	60	124	78	114	67	28	21	1,157	30,577
27-Jul	20	30	63	79	36	31	17	8	7	4	3	4	14	36	12	17	13	11	36	63	81	103	76	34	798	31,375
28-Jul	5	18	19	29	23	51	52	9	12	11	7	12	32	20	14	21	16	16	52	145	88	37	41	26	756	32,131
29-Jul	59	29	65	25	16	22	11	13	15	19	17	45	101	76	88	122	95	70	76	133	176	156	82	32	1,543	33,674
30-Jul	13	8	25	22	22	65	61	58	135	86	144	206	142	87	78	89	52	96	27	163	318	205	165	45	2,312	35,986
31-Jul	44	6	19	27	19	35	14	17	17	16	6	13	17	14	27	20	28	20	13	10	46	99	63	13	603	36,589
01-Aug	33	70	13	18	26	20	5	7	5	7	31	9	6	8	6	6	11	2	10	5	14	6	10	22	350	36,939
02-Aug	24	41	46	38	20	13	4	2	6	0	1	3	2	3	25	25	29	22	26	9	10	23	19	67	458	37,397
03-Aug	76	60	88	52	7	8	12	1	4	4	4	10	27	48	31	44	67	147	69	64	41	45	195	312	1,416	38,813
04-Aug	80	30	64	105	72	71	93	57	77	41	31	22	43	105	44	52	81	96	59	28	35	10	60	146	1,502	40,315
05-Aug	130	109	132	15	32	55	78	60	27	27	23	35	14	29	29	21	37	21	29	37	22	17	18	23	1,020	41,335
06-Aug	38	106	74	37	54	38	35	26	11	13	12	33	33	46	41	44	49	37	21	34	32	14	18	14	860	42,195
07-Aug	16	96	89	49	31	22	28	12	14	3	15	27	17	6	26	17	26	32	56	51	38	21	14	19	725	42,920
08-Aug	23	21	48	35	38	14	16	4	11	1	11	10	10	26	31	14	33	65	111	78	31	35	64	55	785	43,705
Total	1,439	1,338	1,520	1,759	1,351	1,318	1,160	811	724	630	1,082	1,470	1,574	1,585	1,583	2,049	2,502	2,940	3,315	3,359	3,123	2,804	2,374	1,900	43,705	

65

Appendix A.24. Crescent River south bank sonar counts by hour, 28 June through 8 August 1995.

		Counts by Hour																								Daily	Cum
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	Total	
28-Jun	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
29-Jun	0	1	2	0	0	0	0	0	0	0	0	0	2	1	1	1	0	1	1	0	1	2	0	0	0	13	15
30-Jun	0	2	0	1	1	1	0	1	0	0	1	0	1	4	1	2	6	0	6	0	2	0	2	0	0	31	46
01-Jul	1	1	1	0	0	0	0	0	4	1	0	0	2	5	3	0	1	3	0	0	0	0	0	0	0	22	68
02-Jul	2	2	0	0	0	0	0	0	0	1	0	1	0	3	1	0	3	2	0	0	2	0	7	3	27	95	
03-Jul	2	0	0	2	1	0	0	2	3	0	0	0	4	7	18	4	22	18	3	2	5	0	2	3	98	193	
04-Jul	1	3	3	0	4	1	0	2	0	5	4	5	10	10	24	15	15	17	12	6	0	1	2	0	140	333	
05-Jul	0	0	0	0	0	0	0	0	0	1	2	7	7	17	33	21	13	11	8	4	5	1	0	0	130	463	
06-Jul	0	0	1	0	0	5	0	0	0	3	4	4	13	28	48	36	65	25	16	27	26	5	2	2	310	773	
07-Jul	12	1	1	0	0	1	1	1	2	0	2	2	4	9	8	15	21	49	17	41	52	2	1	0	242	1,015	
08-Jul	0	2	1	6	0	1	0	1	2	5	17	19	34	44	94	55	69	110	53	15	17	3	1	1	550	1,565	
09-Jul	0	1	0	6	4	3	3	3	1	3	12	17	42	36	30	25	23	233	184	88	26	11	13	6	770	2,335	
10-Jul	4	7	8	16	18	21	5	5	2	1	11	10	22	47	52	61	30	84	91	21	27	12	5	7	567	2,902	
11-Jul	1	18	10	8	5	3	3	4	3	13	10	19	12	17	35	43	19	102	90	106	143	12	11	2	689	3,591	
12-Jul	15	14	5	7	6	0	2	6	11	18	17	42	38	31	26	21	28	23	226	158	76	33	13	22	838	4,429	
13-Jul	3	7	1	3	1	8	15	14	15	21	29	48	33	30	24	20	23	7	90	133	72	33	17	5	652	5,081	
14-Jul	5	15	8	9	3	2	8	6	25	22	28	43	31	20	10	29	18	22	27	318	128	37	33	13	860	5,941	
15-Jul	10	10	2	0	0	1	3	2	5	9	14	19	18	47	15	25	14	10	0	39	45	26	81	14	409	6,350	
16-Jul	27	24	21	14	6	6	4	13	17	47	2	82	73	15	42	25	15	18	18	0	26	110	80	31	716	7,066	
17-Jul	16	11	28	10	4	6	2	6	8	9	12	65	111	68	35	21	18	27	17	12	15	117	112	50	780	7,846	
18-Jul	18	25	9	7	16	4	0	3	4	9	10	32	81	31	42	46	28	11	10	10	20	68	130	78	692	8,538	
19-Jul	25	6	5	8	5	15	2	3	10	3	31	6	31	99	56	87	35	31	5	13	12	4	1	20	513	9,051	
20-Jul	30	15	24	13	4	8	7	6	3	5	9	17	51	57	81	89	62	51	25	7	5	12	3	10	594	9,645	
21-Jul	17	49	117	58	32	26	25	26	14	17	26	40	66	30	32	61	121	101	84	51	30	18	6	3	1,050	10,695	
22-Jul	1	3	4	4	9	24	21	51	22	17	42	64	109	68	168	250	249	178	94	85	35	17	10	7	1,532	12,227	

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Counts by Hour

Date	Counts by Hour																								Daily	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	
23-Jul	17	7	23	115	72	28	9	15	13	8	12	19	33	142	75	66	98	80	54	42	72	30	7	5	1,042	13,269
24-Jul	8	9	5	2	12	3	9	2	0	1	20	9	5	27	36	31	20	20	71	52	30	7	19	9	407	13,676
25-Jul	5	7	16	10	5	12	10	5	8	15	9	14	51	7	6	59	8	130	154	86	38	20	18	5	698	14,374
26-Jul	9	9	9	6	12	43	21	6	5	9	5	16	12	40	47	66	33	27	66	76	82	28	12	6	645	15,019
27-Jul	12	3	10	8	1	2	8	10	7	15	29	32	35	28	23	16	24	19	44	62	67	18	20	14	507	15,526
28-Jul	11	10	7	11	7	15	24	10	5	10	8	18	31	29	49	6	20	35	66	210	88	15	10	10	705	16,231
29-Jul	30	20	6	6	2	4	10	2	2	0	2	8	29	16	12	17	19	14	9	20	31	39	27	8	333	16,564
30-Jul	7	7	13	5	4	12	12	18	13	22	22	30	57	21	51	28	12	15	20	54	90	41	32	6	592	17,156
31-Jul	3	3	4	2	2	0	1	3	2	3	6	7	12	16	22	20	23	10	3	10	26	25	16	17	236	17,392
01-Aug	2	23	11	6	8	6	1	4	2	14	18	12	12	10	35	21	13	14	9	7	7	21	10	11	277	17,669
02-Aug	15	11	8	10	2	2	6	1	4	1	0	5	12	27	28	12	20	9	15	7	12	10	2	5	224	17,893
03-Aug	1	12	18	6	2	0	4	8	8	1	6	20	25	58	48	39	32	78	46	26	24	16	42	51	571	18,464
04-Aug	38	8	19	12	5	13	21	26	28	13	15	45	33	72	24	58	34	24	58	36	18	8	11	22	641	19,105
05-Aug	16	9	17	11	4	6	18	7	13	23	10	14	20	12	27	21	36	29	17	12	10	7	14	7	360	19,465
06-Aug	10	15	9	6	0	6	5	8	11	2	12	7	6	21	18	36	48	38	9	18	12	6	9	11	323	19,788
07-Aug	3	2	12	14	3	8	9	4	3	2	2	10	8	5	6	16	20	15	23	22	27	5	15	12	246	20,034
08-Aug	14	5	13	1	5	1	13	5	6	1	5	1	4	17	11	20	10	31	60	31	22	13	26	23	338	20,372
Total	391	377	451	403	265	298	282	289	281	351	464	809	1,180	1,272	1,397	1,484	1,368	1,722	1,801	1,907	1,426	833	822	499	20,372	

101

Appendix A.25. Crescent River north bank sonar counts by hour, 28 June through 8 August 1995. Counts expressed as percentage of daily total.

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total
28-Jun	0.0	0.0	0.0	0.0	0.0	33.3	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
29-Jun	0.0	0.0	33.3	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	99.9
30-Jun	6.5	0.0	2.2	2.2	2.2	0.0	0.0	0.0	0.0	0.0	6.5	8.7	8.7	4.3	10.9	0.0	2.2	28.3	6.5	2.2	0.0	0.0	0.0	8.7	100.1
01-Jul	25.0	6.3	0.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	9.4	3.1	0.0	3.1	0.0	0.0	6.3	9.4	6.3	3.1	6.3	0.0	0.0	12.5	100.2
02-Jul	0.0	8.0	12.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	4.0	0.0	4.0	0.0	4.0	0.0	0.0	16.0	16.0	4.0	8.0	0.0	0.0	20.0	100.0
03-Jul	0.0	5.5	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	15.1	8.2	0.0	4.1	8.2	9.6	9.6	6.8	1.4	2.7	9.6	5.5	100.1
04-Jul	3.8	8.9	5.1	10.1	2.5	7.6	0.0	0.0	0.0	2.5	1.3	0.0	3.8	19.0	10.1	5.1	3.8	1.3	6.3	2.5	3.8	1.3	1.3	0.0	100.1
05-Jul	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	2.0	4.0	10.0	6.0	10.0	12.0	4.0	6.0	10.0	14.0	8.0	4.0	2.0	100.0
06-Jul	0.0	0.3	0.0	0.7	0.3	0.0	0.3	0.0	1.3	2.0	0.3	5.0	1.7	2.0	8.9	13.2	11.9	17.8	17.8	11.6	5.0	0.0	0.0	0.0	100.1
07-Jul	0.0	0.6	0.0	0.0	3.1	0.0	1.9	0.0	0.0	0.0	0.0	1.3	1.3	3.8	2.5	10.0	6.3	3.8	31.9	11.9	16.3	5.0	0.6	0.0	100.3
08-Jul	1.3	0.0	0.3	0.0	0.3	0.2	0.4	0.3	1.5	1.4	2.4	5.2	5.5	6.1	9.5	10.1	21.2	12.9	7.1	6.1	3.5	3.3	1.0	0.3	99.9
09-Jul	0.0	0.0	0.5	1.5	1.5	0.2	1.2	0.6	0.4	0.2	0.4	2.9	3.7	2.5	3.8	2.4	12.0	26.4	24.6	7.3	2.9	3.2	1.3	0.6	100.1
10-Jul	2.3	1.4	0.3	0.4	4.3	2.7	1.8	1.7	0.9	1.7	3.1	2.8	1.7	5.9	13.5	4.1	5.8	14.8	11.1	9.3	6.1	2.1	1.4	0.8	100.0
11-Jul	0.6	1.8	0.5	1.1	0.3	1.1	0.4	0.8	0.5	3.0	0.8	3.8	2.0	4.3	1.4	3.6	1.6	5.8	28.3	14.5	12.9	5.5	4.4	0.8	99.8
12-Jul	2.4	1.7	0.7	0.7	0.3	0.4	1.6	0.5	0.7	1.3	2.7	9.4	3.2	2.7	1.7	1.4	1.5	3.6	23.5	23.4	9.4	3.4	2.7	1.1	100.0
13-Jul	0.5	1.5	0.3	0.9	0.9	1.1	2.1	1.5	1.2	1.5	4.0	2.4	3.0	1.9	1.3	1.4	0.8	1.0	13.5	29.8	17.9	7.9	2.8	0.9	100.1
14-Jul	0.6	1.1	0.4	0.7	0.7	0.7	1.0	1.2	2.2	1.7	2.0	4.9	3.0	1.9	2.0	1.1	1.2	0.7	9.8	21.0	24.0	10.7	4.5	2.5	99.6
15-Jul	1.4	2.7	1.3	0.6	0.1	0.4	0.2	0.8	0.9	1.0	5.8	1.6	4.8	3.8	2.0	3.3	1.6	2.8	1.3	5.1	19.2	23.1	10.5	5.8	100.1
16-Jul	2.0	3.2	2.6	3.0	0.9	2.5	0.7	1.6	0.8	3.0	7.4	5.7	4.2	1.8	2.3	0.4	1.0	0.7	0.8	1.2	12.2	18.6	14.4	8.9	99.9
17-Jul	2.1	2.6	4.2	4.2	4.2	4.2	4.2	0.6	1.6	1.0	3.7	7.1	4.0	3.7	4.0	1.0	0.1	0.4	0.5	0.7	1.5	16.0	16.5	12.0	100.1
18-Jul	7.2	4.5	4.8	2.1	0.8	1.3	0.9	0.3	0.1	0.4	1.2	1.2	2.8	2.9	3.8	4.3	1.0	2.0	1.2	0.6	0.6	14.7	23.8	17.6	100.1
19-Jul	24.8	3.2	6.8	6.0	5.8	2.7	1.4	1.4	1.2	2.6	0.5	1.4	6.0	6.5	3.7	8.2	4.4	2.4	0.7	1.2	1.2	0.2	0.3	7.7	100.3
20-Jul	18.2	11.6	12.2	9.8	3.3	2.3	1.1	0.1	0.9	1.3	0.5	1.4	2.6	6.0	4.2	5.8	3.3	6.2	1.5	1.1	0.9	1.7	1.2	3.0	100.2
21-Jul	4.1	4.2	3.6	3.6	2.8	3.8	3.8	4.7	2.0	1.6	0.9	2.2	4.6	4.5	5.5	10.5	12.0	10.0	5.7	4.8	2.4	1.5	0.9	0.5	100.2
22-Jul	0.1	0.3	0.0	0.3	0.9	1.8	3.5	3.6	2.3	1.6	3.5	3.7	5.5	5.2	4.6	11.7	19.5	14.8	8.6	4.8	1.6	1.0	0.4	0.5	99.8

-Continued-

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total
23-Jul	3.3	2.1	6.8	24.3	12.7	6.0	4.3	1.9	0.4	0.4	1.1	1.1	3.0	3.3	2.5	5.1	4.3	5.1	3.7	2.1	2.5	2.2	1.0	0.8	100.0
24-Jul	1.6	1.4	1.5	4.5	8.3	4.3	1.7	0.7	0.7	0.2	1.4	2.5	1.3	0.8	1.7	5.4	2.4	4.1	16.4	18.1	13.1	5.3	1.5	1.3	100.2
25-Jul	1.4	1.7	2.5	2.2	2.5	5.5	1.8	2.6	2.2	1.5	2.5	1.4	2.5	1.0	1.6	1.8	2.3	21.5	13.3	11.0	6.2	2.9	4.7	3.5	100.1
26-Jul	1.0	4.3	2.9	3.2	9.1	13.5	6.7	2.9	0.9	1.0	2.1	1.4	1.8	1.1	2.3	0.3	2.9	5.2	10.7	6.7	9.9	5.8	2.4	1.8	99.9
27-Jul	2.5	3.8	7.9	9.9	4.5	3.9	2.1	1.0	0.9	0.5	0.4	0.5	1.8	4.5	1.5	2.1	1.6	1.4	4.5	7.9	10.2	12.9	9.5	4.3	100.1
28-Jul	0.7	2.4	2.5	3.8	3.0	6.7	6.9	1.2	1.6	1.5	0.9	1.6	4.2	2.6	1.9	2.8	2.1	2.1	6.9	19.2	11.6	4.9	5.4	3.4	99.9
29-Jul	3.8	1.9	4.2	1.6	1.0	1.4	0.7	0.8	1.0	1.2	1.1	2.9	6.5	4.9	5.7	7.9	6.2	4.5	4.9	8.6	11.4	10.1	5.3	2.1	99.7
30-Jul	0.6	0.3	1.1	1.0	1.0	2.8	2.6	2.5	5.8	3.7	6.2	8.9	6.1	3.8	3.4	3.8	2.2	4.2	1.2	7.1	13.8	8.9	7.1	1.9	100.0
31-Jul	7.3	1.0	3.2	4.5	3.2	5.8	2.3	2.8	2.8	2.7	1.0	2.2	2.8	2.3	4.5	3.3	4.6	3.3	2.2	1.7	7.6	16.4	10.4	2.2	100.1
01-Aug	9.4	20.0	3.7	5.1	7.4	5.7	1.4	2.0	1.4	2.0	8.9	2.6	1.7	2.3	1.7	1.7	3.1	0.6	2.9	1.4	4.0	1.7	2.9	6.3	99.9
02-Aug	5.2	9.0	10.0	8.3	4.4	2.8	0.9	0.4	1.3	0.0	0.2	0.7	0.4	0.7	5.5	5.5	6.3	4.8	5.7	2.0	2.2	5.0	4.1	14.6	100.0
03-Aug	5.4	4.2	6.2	3.7	0.5	0.6	0.8	0.1	0.3	0.3	0.3	0.7	1.9	3.4	2.2	3.1	4.7	10.4	4.9	4.5	2.9	3.2	13.8	22.0	100.1
04-Aug	5.3	2.0	4.3	7.0	4.8	4.7	6.2	3.8	5.1	2.7	2.1	1.5	2.9	7.0	2.9	3.5	5.4	6.4	3.9	1.9	2.3	0.7	4.0	9.7	100.1
05-Aug	12.7	10.7	12.9	1.5	3.1	5.4	7.6	5.9	2.6	2.6	2.3	3.4	1.4	2.8	2.8	2.1	3.6	2.1	2.8	3.6	2.2	1.7	1.8	2.3	99.9
06-Aug	4.4	12.3	8.6	4.3	6.3	4.4	4.1	3.0	1.3	1.5	1.4	3.8	3.8	5.3	4.8	5.1	5.7	4.3	2.4	4.0	3.7	1.6	2.1	1.6	99.8
07-Aug	2.2	13.2	12.3	6.8	4.3	3.0	3.9	1.7	1.9	0.4	2.1	3.7	2.3	0.8	3.6	2.3	3.6	4.4	7.7	7.0	5.2	2.9	1.9	2.6	99.8
08-Aug	2.9	2.7	6.1	4.5	4.8	1.8	2.0	0.5	1.4	0.1	1.4	1.3	1.3	3.3	3.9	1.8	4.2	8.3	14.1	9.9	3.9	4.5	8.2	7.0	99.9
Total	3.3	3.1	3.5	4.0	3.1	3.0	2.7	1.9	1.7	1.4	2.5	3.4	3.6	3.6	3.6	4.7	5.7	6.7	7.6	7.7	7.1	6.4	5.4	4.3	100.0

101

Appendix A.26. Crescent River south bank sonar counts by hour, 28 June through 8 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
28-Jun	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
29-Jun	0.0	7.7	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	7.7	7.7	7.7	0.0	7.7	7.7	0.0	7.7	15.4	0.0	0.0	100.1	
30-Jun	0.0	6.5	0.0	3.2	3.2	3.2	0.0	3.2	0.0	0.0	3.2	0.0	3.2	12.9	3.2	6.5	19.4	0.0	19.4	0.0	6.5	0.0	6.5	100.1	
01-Jul	4.5	4.5	4.5	0.0	0.0	0.0	0.0	0.0	18.2	4.5	0.0	0.0	9.1	22.7	13.6	0.0	4.5	13.6	0.0	0.0	0.0	0.0	0.0	99.7	
02-Jul	7.4	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	3.7	0.0	11.1	3.7	0.0	11.1	7.4	0.0	0.0	7.4	0.0	25.9	11.1	99.9
03-Jul	2.0	0.0	0.0	2.0	1.0	0.0	0.0	2.0	3.1	0.0	0.0	0.0	4.1	7.1	18.4	4.1	22.4	18.4	3.1	2.0	5.1	0.0	2.0	3.1	99.9
04-Jul	0.7	2.1	2.1	0.0	2.9	0.7	0.0	1.4	0.0	3.6	2.9	3.6	7.1	7.1	17.1	10.7	10.7	12.1	8.6	4.3	0.0	0.7	1.4	0.0	99.8
05-Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.5	5.4	5.4	13.1	25.4	16.2	10.0	8.5	6.2	3.1	3.8	0.8	0.0	0.0	100.2
06-Jul	0.0	0.0	0.3	0.0	0.0	1.6	0.0	0.0	0.0	1.0	1.3	1.3	4.2	9.0	15.5	11.6	21.0	8.1	5.2	8.7	8.4	1.6	0.6	0.6	100.0
07-Jul	5.0	0.4	0.4	0.0	0.0	0.4	0.4	0.4	0.8	0.0	0.8	0.8	1.7	3.7	3.3	6.2	8.7	20.2	7.0	16.9	21.5	0.8	0.4	0.0	99.8
08-Jul	0.0	0.4	0.2	1.1	0.0	0.2	0.0	0.2	0.4	0.9	3.1	3.5	6.2	8.0	17.1	10.0	12.5	20.0	9.6	2.7	3.1	0.5	0.2	0.2	100.1
09-Jul	0.0	0.1	0.0	0.8	0.5	0.4	0.4	0.4	0.1	0.4	1.6	2.2	5.5	4.7	3.9	3.2	3.0	30.3	23.9	11.4	3.4	1.4	1.7	0.8	100.1
10-Jul	0.7	1.2	1.4	2.8	3.2	3.7	0.9	0.9	0.4	0.2	1.9	1.8	3.9	8.3	9.2	10.8	5.3	14.8	16.0	3.7	4.8	2.1	0.9	1.2	100.1
11-Jul	0.1	2.6	1.5	1.2	0.7	0.4	0.4	0.6	0.4	1.9	1.5	2.8	1.7	2.5	5.1	6.2	2.8	14.8	13.1	15.4	20.8	1.7	1.6	0.3	100.1
12-Jul	1.8	1.7	0.6	0.8	0.7	0.0	0.2	0.7	1.3	2.1	2.0	5.0	4.5	3.7	3.1	2.5	3.3	2.7	27.0	18.9	9.1	3.9	1.6	2.6	99.8
13-Jul	0.5	1.1	0.2	0.5	0.2	1.2	2.3	2.1	2.3	3.2	4.4	7.4	5.1	4.6	3.7	3.1	3.5	1.1	13.8	20.4	11.0	5.1	2.6	0.8	100.2
14-Jul	0.6	1.7	0.9	1.0	0.3	0.2	0.9	0.7	2.9	2.6	3.3	5.0	3.6	2.3	1.2	3.4	2.1	2.6	3.1	37.0	14.9	4.3	3.8	1.5	99.9
15-Jul	2.4	2.4	0.5	0.0	0.0	0.2	0.7	0.5	1.2	2.2	3.4	4.6	4.4	11.5	3.7	6.1	3.4	2.4	0.0	9.5	11.0	6.4	19.8	3.4	99.7
16-Jul	3.8	3.4	2.9	2.0	0.8	0.8	0.6	1.8	2.4	6.6	0.3	11.5	10.2	2.1	5.9	3.5	2.1	2.5	2.5	0.0	3.6	15.4	11.2	4.3	100.2
17-Jul	2.1	1.4	3.6	1.3	0.5	0.8	0.3	0.8	1.0	1.2	1.5	8.3	14.2	8.7	4.5	2.7	2.3	3.5	2.2	1.5	1.9	15.0	14.4	6.4	100.1
18-Jul	2.6	3.6	1.3	1.0	2.3	0.6	0.0	0.4	0.6	1.3	1.4	4.6	11.7	4.5	6.1	6.6	4.0	1.6	1.4	1.4	2.9	9.8	18.8	11.3	99.8
19-Jul	4.9	1.2	1.0	1.6	1.0	2.9	0.4	0.6	1.9	0.6	6.0	1.2	6.0	19.3	10.9	17.0	6.8	6.0	1.0	2.5	2.3	0.8	0.2	3.9	100.0
20-Jul	5.1	2.5	4.0	2.2	0.7	1.3	1.2	1.0	0.5	0.8	1.5	2.9	8.6	9.6	13.6	15.0	10.4	8.6	4.2	1.2	0.8	2.0	0.5	1.7	99.9
21-Jul	1.6	4.7	11.1	5.5	3.0	2.5	2.4	2.5	1.3	1.6	2.5	3.8	6.3	2.9	3.0	5.8	11.5	9.6	8.0	4.9	2.9	1.7	0.6	0.3	100.0
22-Jul	0.1	0.2	0.3	0.3	0.6	1.6	1.4	3.3	1.4	1.1	2.7	4.2	7.1	4.4	11.0	16.3	16.3	11.6	6.1	5.5	2.3	1.1	0.7	0.5	100.1

-Continued-

		Counts by Hour																								Daily
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	
23-Jul	1.6	0.7	2.2	11.0	6.9	2.7	0.9	1.4	1.2	0.8	1.2	1.8	3.2	13.6	7.2	6.3	9.4	7.7	5.2	4.0	6.9	2.9	0.7	0.5	100.0	
24-Jul	2.0	2.2	1.2	0.5	2.9	0.7	2.2	0.5	0.0	0.2	4.9	2.2	1.2	6.6	8.8	7.6	4.9	4.9	17.4	12.8	7.4	1.7	4.7	2.2	99.7	
25-Jul	0.7	1.0	2.3	1.4	0.7	1.7	1.4	0.7	1.1	2.1	1.3	2.0	7.3	1.0	0.9	8.5	1.1	18.6	22.1	12.3	5.4	2.9	2.6	0.7	99.8	
26-Jul	1.4	1.4	1.4	0.9	1.9	6.7	3.3	0.9	0.8	1.4	0.8	2.5	1.9	6.2	7.3	10.2	5.1	4.2	10.2	11.8	12.7	4.3	1.9	0.9	100.1	
27-Jul	2.4	0.6	2.0	1.6	0.2	0.4	1.6	2.0	1.4	3.0	5.7	6.3	6.9	5.5	4.5	3.2	4.7	3.7	8.7	12.2	13.2	3.6	3.9	2.8	100.1	
28-Jul	1.6	1.4	1.0	1.6	1.0	2.1	3.4	1.4	0.7	1.4	1.1	2.6	4.4	4.1	7.0	0.9	2.8	5.0	9.4	29.8	12.5	2.1	1.4	1.4	100.1	
29-Jul	9.0	6.0	1.8	1.8	0.6	1.2	3.0	0.6	0.6	0.0	0.6	2.4	8.7	4.8	3.6	5.1	5.7	4.2	2.7	6.0	9.3	11.7	8.1	2.4	99.9	
30-Jul	1.2	1.2	2.2	0.8	0.7	2.0	2.0	3.0	2.2	3.7	3.7	5.1	9.6	3.5	8.6	4.7	2.0	2.5	3.4	9.1	15.2	6.9	5.4	1.0	99.7	
31-Jul	1.3	1.3	1.7	0.8	0.8	0.0	0.4	1.3	0.8	1.3	2.5	3.0	5.1	6.8	9.3	8.5	9.7	4.2	1.3	4.2	11.0	10.6	6.8	7.2	99.9	
01-Aug	0.7	8.3	4.0	2.2	2.9	2.2	0.4	1.4	0.7	5.1	6.5	4.3	4.3	3.6	12.6	7.6	4.7	5.1	3.2	2.5	2.5	7.6	3.6	4.0	100.0	
02-Aug	6.7	4.9	3.6	4.5	0.9	0.9	2.7	0.4	1.8	0.4	0.0	2.2	5.4	12.1	12.5	5.4	8.9	4.0	6.7	3.1	5.4	4.5	0.9	2.2	100.1	
03-Aug	0.2	2.1	3.2	1.1	0.4	0.0	0.7	1.4	1.4	0.2	1.1	3.5	4.4	10.2	8.4	6.8	5.6	13.7	8.1	4.6	4.2	2.8	7.4	8.9	100.4	
04-Aug	5.9	1.2	3.0	1.9	0.8	2.0	3.3	4.1	4.4	2.0	2.3	7.0	5.1	11.2	3.7	9.0	5.3	3.7	9.0	5.6	2.8	1.2	1.7	3.4	99.6	
05-Aug	4.4	2.5	4.7	3.1	1.1	1.7	5.0	1.9	3.6	6.4	2.8	3.9	5.6	3.3	7.5	5.8	10.0	8.1	4.7	3.3	2.8	1.9	3.9	1.9	99.9	
06-Aug	3.1	4.6	2.8	1.9	0.0	1.9	1.5	2.5	3.4	0.6	3.7	2.2	1.9	6.5	5.6	11.1	14.9	11.8	2.8	5.6	3.7	1.9	2.8	3.4	100.2	
07-Aug	1.2	0.8	4.9	5.7	1.2	3.3	3.7	1.6	1.2	0.8	0.8	4.1	3.3	2.0	2.4	6.5	8.1	6.1	9.3	8.9	11.0	2.0	6.1	4.9	99.9	
08-Aug	4.1	1.5	3.8	0.3	1.5	0.3	3.8	1.5	1.8	0.3	1.5	0.3	1.2	5.0	3.3	5.9	3.0	9.2	17.8	9.2	6.5	3.8	7.7	6.8	100.1	
Total	1.9	1.9	2.2	2.0	1.3	1.5	1.4	1.4	1.4	1.7	2.3	4.0	5.8	6.2	6.9	7.3	6.7	8.5	8.8	9.4	7.0	4.1	4.0	2.4	100.1	

105

Appendix A.27. Crescent River north bank sonar counts by sector, 28 June through 8 August 1995.

Counts by Sector													Daily Total	Cum Total
Date	1	2	3	4	5	6	7	8	9	10	11	12		
28-Jun	0	0	0	0	0	0	1	1	0	0	1	0	3	3
29-Jun	0	0	1	1	0	0	0	0	0	0	0	1	3	6
30-Jun	23	17	5	1	0	0	0	0	0	0	0	0	46	52
01-Jul	9	12	9	1	1	0	0	0	0	0	0	0	32	84
02-Jul	6	14	5	0	0	0	0	0	0	0	0	0	25	109
03-Jul	9	33	15	6	4	4	1	1	0	0	0	0	73	182
04-Jul	12	38	17	6	0	1	2	2	0	1	0	0	79	261
05-Jul	17	22	8	3	0	0	0	0	0	0	0	0	50	311
06-Jul	153	125	23	0	0	2	0	0	0	0	0	0	303	614
07-Jul	130	24	2	2	1	0	0	1	0	0	0	0	160	774
08-Jul	288	441	151	22	4	4	8	1	0	1	0	0	920	1,694
09-Jul	388	530	151	14	5	2	5	4	1	0	0	0	1,100	2,794
10-Jul	227	446	193	21	8	4	0	2	0	0	0	0	901	3,695
11-Jul	286	395	218	26	14	3	1	2	1	0	0	0	946	4,641
12-Jul	534	646	254	31	7	7	5	1	0	0	0	1	1,486	6,127
13-Jul	508	617	223	38	7	7	5	4	2	0	0	0	1,411	7,538
14-Jul	543	862	375	51	20	5	6	9	1	0	0	0	1,872	9,410
15-Jul	339	590	399	68	15	4	6	3	0	0	0	1	1,425	10,835
16-Jul	345	480	396	110	25	13	8	3	4	2	0	0	1,386	12,221
17-Jul	409	730	734	213	102	99	4	3	2	0	0	0	2,296	14,517
18-Jul	417	542	488	103	31	28	18	7	2	0	0	0	1,636	16,153
19-Jul	178	107	127	46	45	51	17	11	4	2	0	0	588	16,741
20-Jul	330	299	209	38	38	24	9	1	0	1	2	0	951	17,692
21-Jul	1,026	1,051	304	29	5	2	0	0	2	0	0	0	2,419	20,111
22-Jul	1,740	2,070	499	23	5	4	4	1	0	1	1	0	4,348	24,459
23-Jul	815	985	595	56	21	9	4	1	0	1	2	0	2,489	26,948
24-Jul	471	570	252	15	10	10	3	1	1	0	0	0	1,333	28,281
25-Jul	368	390	251	49	37	33	7	0	1	3	0	0	1,139	29,420
26-Jul	411	339	235	53	40	63	11	3	2	0	0	0	1,157	30,577
27-Jul	308	202	103	21	75	63	13	9	3	1	0	0	798	31,375
28-Jul	204	120	140	69	105	83	18	11	2	2	1	1	756	32,131
29-Jul	730	570	185	37	10	4	4	1	0	1	1	0	1,543	33,674
30-Jul	659	995	555	37	36	20	6	2	0	1	1	0	2,312	35,986
31-Jul	181	133	154	32	44	41	7	4	5	2	0	0	603	36,589
01-Aug	120	60	53	15	37	47	4	7	3	2	0	2	350	36,939
02-Aug	104	74	75	28	57	62	15	10	19	11	3	0	458	37,397
03-Aug	169	207	249	80	154	228	120	124	61	19	5	0	1,416	38,813
04-Aug	167	197	184	108	149	277	174	138	82	17	7	2	1,502	40,315
05-Aug	210	167	175	85	65	128	62	70	43	8	5	2	1,020	41,335
06-Aug	146	103	132	53	78	139	76	70	51	5	4	3	860	42,195
07-Aug	181	36	75	15	31	97	79	112	72	12	13	2	725	42,920
08-Aug	97	30	27	42	52	118	133	101	39	24	107	15	785	43,705
Total	13,258	15,269	8,246	1,648	1,338	1,686	836	721	403	117	153	30	43,705	

Appendix A.28. Crescent River south bank sonar counts by sector, 28 June through 8 August 1995.

Date	Counts by Sector												Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12		
28-Jun	0	2	0	0	0	0	0	0	0	0	0	0	2	2
29-Jun	11	2	0	0	0	0	0	0	0	0	0	0	13	15
30-Jun	30	1	0	0	0	0	0	0	0	0	0	0	31	46
01-Jul	12	10	0	0	0	0	0	0	0	0	0	0	22	68
02-Jul	27	0	0	0	0	0	0	0	0	0	0	0	27	95
03-Jul	91	7	0	0	0	0	0	0	0	0	0	0	98	193
04-Jul	136	4	0	0	0	0	0	0	0	0	0	0	140	333
05-Jul	124	6	0	0	0	0	0	0	0	0	0	0	130	463
06-Jul	309	1	0	0	0	0	0	0	0	0	0	0	310	773
07-Jul	233	9	0	0	0	0	0	0	0	0	0	0	242	1,015
08-Jul	538	12	0	0	0	0	0	0	0	0	0	0	550	1,565
09-Jul	740	30	0	0	0	0	0	0	0	0	0	0	770	2,335
10-Jul	550	17	0	0	0	0	0	0	0	0	0	0	567	2,902
11-Jul	673	16	0	0	0	0	0	0	0	0	0	0	689	3,591
12-Jul	812	26	0	0	0	0	0	0	0	0	0	0	838	4,429
13-Jul	626	26	0	0	0	0	0	0	0	0	0	0	652	5,081
14-Jul	823	37	0	0	0	0	0	0	0	0	0	0	860	5,941
15-Jul	386	23	0	0	0	0	0	0	0	0	0	0	409	6,350
16-Jul	711	5	0	0	0	0	0	0	0	0	0	0	716	7,066
17-Jul	777	3	0	0	0	0	0	0	0	0	0	0	780	7,846
18-Jul	689	3	0	0	0	0	0	0	0	0	0	0	692	8,538
19-Jul	511	2	0	0	0	0	0	0	0	0	0	0	513	9,051
20-Jul	593	1	0	0	0	0	0	0	0	0	0	0	594	9,645
21-Jul	1,047	3	0	0	0	0	0	0	0	0	0	0	1,050	10,695
22-Jul	1,531	1	0	0	0	0	0	0	0	0	0	0	1,532	12,227
23-Jul	1,042	0	0	0	0	0	0	0	0	0	0	0	1,042	13,269
24-Jul	407	0	0	0	0	0	0	0	0	0	0	0	407	13,676
25-Jul	649	49	0	0	0	0	0	0	0	0	0	0	698	14,374
26-Jul	602	43	0	0	0	0	0	0	0	0	0	0	645	15,019
27-Jul	450	57	0	0	0	0	0	0	0	0	0	0	507	15,526
28-Jul	637	68	0	0	0	0	0	0	0	0	0	0	705	16,231
29-Jul	319	14	0	0	0	0	0	0	0	0	0	0	333	16,564
30-Jul	553	39	0	0	0	0	0	0	0	0	0	0	592	17,156
31-Jul	205	31	0	0	0	0	0	0	0	0	0	0	236	17,392
01-Aug	212	65	0	0	0	0	0	0	0	0	0	0	277	17,669
02-Aug	172	52	0	0	0	0	0	0	0	0	0	0	224	17,893
03-Aug	381	190	0	0	0	0	0	0	0	0	0	0	571	18,464
04-Aug	533	108	0	0	0	0	0	0	0	0	0	0	641	19,105
05-Aug	311	49	0	0	0	0	0	0	0	0	0	0	360	19,465
06-Aug	263	60	0	0	0	0	0	0	0	0	0	0	323	19,788
07-Aug	157	89	0	0	0	0	0	0	0	0	0	0	246	20,034
08-Aug	174	164	0	0	0	0	0	0	0	0	0	0	338	20,372
Total	19,047	1,325	0	0	0	0	0	0	0	0	0	0	20,372	

Appendix A.29. Crescent River north bank sonar counts by sector, 28 June through 8 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
28-Jun	0.0	0.0	0.0	0.0	0.0	0.0	33.3	33.3	0.0	0.0	33.3	0.0	99.9
29-Jun	0.0	0.0	33.3	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	99.9
30-Jun	50.0	37.0	10.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.1
01-Jul	28.1	37.5	28.1	3.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.9
02-Jul	24.0	56.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
03-Jul	12.3	45.2	20.5	8.2	5.5	5.5	1.4	1.4	0.0	0.0	0.0	0.0	100.0
04-Jul	15.2	48.1	21.5	7.6	0.0	1.3	2.5	2.5	0.0	1.3	0.0	0.0	100.0
05-Jul	34.0	44.0	16.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
06-Jul	50.5	41.3	7.6	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.1
07-Jul	81.3	15.0	1.3	1.3	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	100.1
08-Jul	31.3	47.9	16.4	2.4	0.4	0.4	0.9	0.1	0.0	0.1	0.0	0.0	99.9
09-Jul	35.3	48.2	13.7	1.3	0.5	0.2	0.5	0.4	0.1	0.0	0.0	0.0	100.2
10-Jul	25.2	49.5	21.4	2.3	0.9	0.4	0.0	0.2	0.0	0.0	0.0	0.0	99.9
11-Jul	30.2	41.8	23.0	2.7	1.5	0.3	0.1	0.2	0.1	0.0	0.0	0.0	99.9
12-Jul	35.9	43.5	17.1	2.1	0.5	0.5	0.3	0.1	0.0	0.0	0.0	0.1	100.1
13-Jul	36.0	43.7	15.8	2.7	0.5	0.5	0.4	0.3	0.1	0.0	0.0	0.0	100.0
14-Jul	29.0	46.0	20.0	2.7	1.1	0.3	0.3	0.5	0.1	0.0	0.0	0.0	100.0
15-Jul	23.8	41.4	28.0	4.8	1.1	0.3	0.4	0.2	0.0	0.0	0.0	0.1	100.1
16-Jul	24.9	34.6	28.6	7.9	1.8	0.9	0.6	0.2	0.3	0.1	0.0	0.0	99.9
17-Jul	17.8	31.8	32.0	9.3	4.4	4.3	0.2	0.1	0.1	0.0	0.0	0.0	100.0
18-Jul	25.5	33.1	29.8	6.3	1.9	1.7	1.1	0.4	0.1	0.0	0.0	0.0	99.9
19-Jul	30.3	18.2	21.6	7.8	7.7	8.7	2.9	1.9	0.7	0.3	0.0	0.0	100.1
20-Jul	34.7	31.4	22.0	4.0	4.0	2.5	0.9	0.1	0.0	0.1	0.2	0.0	99.9
21-Jul	42.4	43.4	12.6	1.2	0.2	0.1	0.0	0.0	0.1	0.0	0.0	0.0	100.0
22-Jul	40.0	47.6	11.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	99.9
23-Jul	32.7	39.6	23.9	2.2	0.8	0.4	0.2	0.0	0.0	0.0	0.1	0.0	99.9
24-Jul	35.3	42.8	18.9	1.1	0.8	0.8	0.2	0.1	0.1	0.0	0.0	0.0	100.1
25-Jul	32.3	34.2	22.0	4.3	3.2	2.9	0.6	0.0	0.1	0.3	0.0	0.0	99.9
26-Jul	35.5	29.3	20.3	4.6	3.5	5.4	1.0	0.3	0.2	0.0	0.0	0.0	100.1
27-Jul	38.6	25.3	12.9	2.6	9.4	7.9	1.6	1.1	0.4	0.1	0.0	0.0	99.9
28-Jul	27.0	15.9	18.5	9.1	13.9	11.0	2.4	1.5	0.3	0.3	0.1	0.1	100.1
29-Jul	47.3	36.9	12.0	2.4	0.6	0.3	0.3	0.1	0.0	0.1	0.1	0.0	100.1
30-Jul	28.5	43.0	24.0	1.6	1.6	0.9	0.3	0.1	0.0	0.0	0.0	0.0	100.0
31-Jul	30.0	22.1	25.5	5.3	7.3	6.8	1.2	0.7	0.8	0.3	0.0	0.0	100.0
01-Aug	34.3	17.1	15.1	4.3	10.6	13.4	1.1	2.0	0.9	0.6	0.0	0.6	100.0
02-Aug	22.7	16.2	16.4	6.1	12.4	13.5	3.3	2.2	4.1	2.4	0.7	0.0	100.0
03-Aug	11.9	14.6	17.6	5.6	10.9	16.1	8.5	8.8	4.3	1.3	0.4	0.0	100.0
04-Aug	11.1	13.1	12.3	7.2	9.9	18.4	11.6	9.2	5.5	1.1	0.5	0.1	100.0
05-Aug	20.6	16.4	17.2	8.3	6.4	12.5	6.1	6.9	4.2	0.8	0.5	0.2	100.1
06-Aug	17.0	12.0	15.3	6.2	9.1	16.2	8.8	8.1	5.9	0.6	0.5	0.3	100.0
07-Aug	25.0	5.0	10.3	2.1	4.3	13.4	10.9	15.4	9.9	1.7	1.8	0.3	100.1
08-Aug	12.4	3.8	3.4	5.4	6.6	15.0	16.9	12.9	5.0	3.1	13.6	1.9	100.0
Total	30.3	34.9	18.9	3.8	3.1	3.9	1.9	1.6	0.9	0.3	0.4	0.1	100.1

Appendix A.30. Crescent River south bank sonar counts by sector, 28 June through 8 August 1995. Counts expressed as percentage of daily total.

Counts by Sector													
Date	1	2	3	4	5	6	7	8	9	10	11	12	Daily Total
28-Jun	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
29-Jun	84.6	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
30-Jun	96.8	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
01-Jul	54.5	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
02-Jul	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
03-Jul	92.9	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
04-Jul	97.1	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
05-Jul	95.4	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
06-Jul	99.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
07-Jul	96.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
08-Jul	97.8	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
09-Jul	96.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
10-Jul	97.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
11-Jul	97.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
12-Jul	96.9	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
13-Jul	96.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
14-Jul	95.7	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
15-Jul	94.4	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
16-Jul	99.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
17-Jul	99.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
18-Jul	99.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
19-Jul	99.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
20-Jul	99.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
21-Jul	99.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
22-Jul	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
23-Jul	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
24-Jul	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
25-Jul	93.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
26-Jul	93.3	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
27-Jul	88.8	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
28-Jul	90.4	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
29-Jul	95.8	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
30-Jul	93.4	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
31-Jul	86.9	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
01-Aug	76.5	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
02-Aug	76.8	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
03-Aug	66.7	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
04-Aug	83.2	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
05-Aug	86.4	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
06-Aug	81.4	18.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
07-Aug	63.8	36.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
08-Aug	51.5	48.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Total	93.5	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0

Appendix A.31. Estimated salmon escapement adjacent to the north bank of the Yentna River, 7 July through 10 August 1995. Species composition of daily sonar counts based on fish wheel catches.

Date	Sockeye		Pink		Chum		Coho		Chinook	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
07-Jul	44	44	136	136	9	9	64	64	14	14
08-Jul	28	72	85	221	6	15	40	104	9	23
09-Jul	31	103	96	317	7	22	45	149	10	33
10-Jul	52	155	160	477	11	33	75	224	17	50
11-Jul	41	196	124	601	9	42	59	283	13	63
12-Jul	35	231	106	707	7	49	50	333	11	74
13-Jul	26	257	78	785	6	55	37	370	8	82
14-Jul	34	291	105	890	7	62	49	419	11	93
15-Jul	12	303	174	1,064	13	75	47	466	10	103
16-Jul	13	316	196	1,260	15	90	51	517	12	115
17-Jul	38	354	560	1,820	43	133	149	666	33	148
18-Jul	198	552	540	2,360	223	356	321	987	0	148
19-Jul	173	725	473	2,833	195	551	281	1,268	0	148
20-Jul	375	1,100	506	3,339	169	720	136	1,404	0	148
21-Jul	268	1,368	381	3,720	89	809	246	1,650	0	148
22-Jul	420	1,788	607	4,327	197	1,006	116	1,766	0	148
23-Jul	281	2,069	815	5,142	335	1,341	100	1,866	0	148
24-Jul	255	2,324	1,382	6,524	224	1,565	119	1,985	0	148
25-Jul	292	2,616	1,799	8,323	397	1,962	302	2,287	0	148
26-Jul	565	3,181	1,446	9,769	427	2,389	287	2,574	0	148
27-Jul	975	4,156	1,441	11,210	852	3,241	158	2,732	0	148
28-Jul	630	4,786	1,361	12,571	671	3,912	379	3,111	15	163
29-Jul	222	5,008	670	13,241	267	4,179	206	3,317	0	163
30-Jul	177	5,185	875	14,116	212	4,391	99	3,416	0	163
31-Jul	171	5,356	852	14,968	177	4,568	43	3,459	0	163
01-Aug	180	5,536	447	15,415	253	4,821	80	3,539	0	163
02-Aug	125	5,661	564	15,979	156	4,977	66	3,605	0	163
03-Aug	140	5,801	815	16,794	281	5,258	98	3,703	0	163
04-Aug	174	5,975	400	17,194	329	5,587	410	4,113	0	163
05-Aug	157	6,132	397	17,591	272	5,859	122	4,235	0	163
06-Aug	266	6,398	219	17,810	228	6,087	149	4,384	16	179
07-Aug	100	6,498	136	17,946	116	6,203	53	4,437	0	179
08-Aug	57	6,555	129	18,075	146	6,349	55	4,492	0	179
09-Aug	42	6,597	96	18,171	108	6,457	41	4,533	0	179
10-Aug	24	6,621	56	18,227	63	6,520	24	4,557	0	179

Appendix A.32. Estimated salmon escapement adjacent to the south bank of the Yentna River, 7 July through 10 August 1995. Species composition of daily sonar counts based on fish wheel catches.

Date	Sockeye		Pink		Chum		Coho		Chinook	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
07-Jul	25	25	36	36	2	2	39	39	3	3
08-Jul	44	69	65	101	5	7	69	108	5	8
09-Jul	73	142	108	209	6	13	114	222	9	17
10-Jul	73	215	108	317	6	19	114	336	9	26
11-Jul	97	312	142	459	9	28	151	487	11	37
12-Jul	100	412	146	605	10	38	155	642	12	49
13-Jul	31	443	188	793	5	43	75	717	6	55
14-Jul	25	468	150	943	4	47	60	777	5	60
15-Jul	23	491	142	1,085	3	50	56	833	5	65
16-Jul	38	529	235	1,320	6	56	93	926	8	73
17-Jul	552	1,081	1,389	2,709	105	161	1,243	2,169	0	73
18-Jul	1,066	2,147	2,681	5,390	204	365	2,399	4,568	0	73
19-Jul	5,341	7,488	4,247	9,637	514	879	3,668	8,236	0	73
20-Jul	10,841	18,329	3,535	13,172	741	1,620	3,535	11,771	0	73
21-Jul	10,778	29,107	4,498	17,670	972	2,592	5,268	17,039	0	73
22-Jul	9,734	38,841	3,751	21,421	525	3,117	3,817	20,856	0	73
23-Jul	4,860	43,701	4,750	26,171	846	3,963	3,623	24,479	0	73
24-Jul	5,645	49,346	6,492	32,663	1,223	5,186	3,407	27,886	0	73
25-Jul	8,130	57,476	6,887	39,550	756	5,942	3,912	31,798	47	120
26-Jul	9,645	67,121	6,136	45,686	971	6,913	5,492	37,290	0	120
27-Jul	10,919	78,040	5,080	50,766	590	7,503	5,754	43,044	0	120
28-Jul	7,291	85,331	6,487	57,253	1,519	9,022	5,772	48,816	0	120
29-Jul	6,139	91,470	5,650	62,903	1,640	10,662	3,522	52,338	0	120
30-Jul	4,117	95,587	4,164	67,067	1,499	12,161	1,603	53,941	47	167
31-Jul	2,257	97,844	2,410	69,477	862	13,023	1,073	55,014	0	167
01-Aug	2,681	100,525	3,144	72,621	1,127	14,150	1,240	56,254	0	167
02-Aug	2,540	103,065	3,528	76,149	1,684	15,834	2,344	58,598	0	167
03-Aug	2,045	105,110	2,883	79,032	1,561	17,395	3,367	61,965	0	167
04-Aug	1,323	106,433	3,035	82,067	1,498	18,893	1,623	63,588	0	167
05-Aug	1,876	108,309	1,178	83,245	1,702	20,595	2,618	66,206	0	167
06-Aug	3,493	111,802	730	83,975	1,461	22,056	1,560	67,766	0	167
07-Aug	1,655	113,457	596	84,571	861	22,917	1,126	68,892	0	167
08-Aug	218	113,675	327	84,898	1,044	23,961	327	69,219	0	167
09-Aug	402	114,077	394	85,292	452	24,413	287	69,506	0	167
10-Aug	480	114,557	471	85,763	540	24,953	343	69,849	0	167

Appendix A.33. Yentna River north bank sonar counts by hour, 7 July through 10 August 1995.

Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
7-Jul	36	4	20	9	4	22	4	14	4	9	7	7	17	24	7	21	4	2	9	8	12	18	0	5	267	267
8-Jul	6	3	4	13	9	18	7	9	8	9	4	6	4	13	10	4	1	2	4	7	10	9	4	4	168	435
9-Jul	11	9	1	4	15	4	27	1	5	4	1	8	6	7	3	21	17	6	5	11	2	5	12	4	189	624
10-Jul	21	17	11	4	17	7	10	10	11	1	7	8	5	23	10	7	15	34	18	9	2	11	19	38	315	939
11-Jul	7	13	7	13	8	4	18	5	6	3	1	18	2	27	24	4	7	5	3	2	3	20	35	11	246	1,185
12-Jul	6	7	8	15	1	5	3	3	12	7	4	5	6	11	6	9	6	3	25	5	6	9	14	33	209	1,394
13-Jul	4	10	8	3	2	5	11	7	13	4	3	1	6	4	20	6	3	14	9	6	8	4	0	4	155	1,549
14-Jul	8	4	11	13	4	3	7	6	4	10	11	18	3	9	9	5	11	12	16	14	9	2	7	10	206	1,755
15-Jul	16	13	14	10	19	14	11	10	8	4	6	6	15	13	6	22	10	7	10	11	9	7	12	3	256	2,011
16-Jul	8	14	2	12	0	13	9	7	14	12	9	8	10	18	13	16	12	6	14	16	21	20	15	18	287	2,298
17-Jul	28	33	48	11	19	29	19	38	18	19	24	53	41	44	30	25	35	16	26	44	53	77	49	44	823	3,121
18-Jul	36	42	61	41	54	52	61	17	26	6	35	25	49	20	72	43	52	64	45	77	124	137	101	42	1,282	4,403
19-Jul	61	35	40	32	81	28	22	19	34	22	31	25	48	46	50	24	61	36	38	114	90	66	64	55	1,122	5,525
20-Jul	28	62	45	26	29	39	40	32	44	55	15	66	71	32	66	74	37	134	59	57	39	42	47	47	1,186	6,711
21-Jul	62	50	58	43	44	19	45	29	5	12	29	26	48	80	41	23	40	59	32	24	30	77	52	56	984	7,695
22-Jul	36	53	54	50	41	38	45	18	37	11	9	28	62	44	73	27	39	119	115	106	103	94	64	74	1,340	9,035
23-Jul	60	37	30	29	24	34	13	17	80	16	36	40	79	89	34	50	128	135	102	107	114	133	88	56	1,531	10,566
24-Jul	87	85	114	72	66	65	14	26	31	24	66	18	43	141	112	100	57	117	180	106	77	104	198	77	1,980	12,546
25-Jul	165	82	67	80	93	63	73	66	49	48	60	60	110	164	181	163	152	110	138	130	145	258	213	120	2,790	15,336
26-Jul	1531	0	50	107	96	81	65	107	41	67	38	114	125	94	59	108	99	100	139	123	282	207	181	189	4,003	19,339
27-Jul	2001	43	122	112	94	118	93	113	87	89	47	87	55	82	145	106	185	206	205	286	155	212	234	250	5,127	24,466
28-Jul	2821	82	140	114	59	87	77	74	69	82	59	110	56	61	95	97	133	125	134	120	140	284	260	216	5,495	29,961
29-Jul	1412	3	86	63	78	82	37	13	20	50	44	40	57	28	25	41	25	42	38	60	56	54	38	44	2,436	32,397
30-Jul	53	29	39	49	91	30	39	18	65	19	14	23	52	31	27	85	65	117	120	60	69	70	98	100	1,363	33,760
31-Jul	88	58	69	19	21	51	31	35	16	34	25	30	145	124	67	45	83	84	68	21	45	55	11	18	1,243	35,003

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Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
1-Aug	84	32	18	2	1	11	10	4	14	12	16	30	16	25	18	54	41	56	56	76	89	62	162	71	960	35,963
2-Aug	36	27	25	33	24	16	19	24	61	30	13	29	25	30	39	36	39	58	56	71	49	67	64	40	911	36,874
3-Aug	55	45	32	42	26	16	26	40	27	34	27	37	54	26	45	43	67	138	78	99	71	107	114	85	1,334	38,208
4-Aug	69	52	64	46	34	34	23	29	49	17	24	52	55	47	54	75	45	64	92	105	45	68	73	97	1,313	39,521
5-Aug	97	36	32	43	2	24	17	65	32	28	27	32	76	33	21	27	15	27	36	48	59	42	59	70	948	40,469
6-Aug	13	46	26	26	27	11	26	23	10	8	32	33	30	14	48	86	50	55	70	49	46	51	40	58	878	41,347
7-Aug	54	27	22	2	22	8	18	23	16	10	20	9	24	29	6	8	5	21	1	16	12	28	12	12	405	41,752
8-Aug	18	22	6	9	11	7	9	9	12	11	22	24	21	24	35	13	17	27	8	27	10	20	13	12	387	42,139
9-Aug	24	7	4	8	14	1	4	4	5	11	9	12	14	18	9	14	20	13	18	26	11	11	18	12	287	42,426
10-Aug	2	8	7	10	17	10	3	5	2	3	7	14	1	10	16	12	4	2	1	3	4	12	7	7	167	42,593
Total	9,044	1,090	1,345	1,165	1,147	1,049	936	920	935	781	782	1,102	1,431	1,485	1,476	1,494	1,580	2,016	1,968	2,044	2,000	2,443	2,378	1,982	42,593	

113

Appendix A.34. Yentna River south bank sonar counts by hour, 7 July through 10 August 1995.

Date	Counts by Hour																								Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
7-Jul	0	1	1	2	2	0	3	0	0	5	1	8	3	2	6	13	4	6	6	5	8	16	5	8	105	
8-Jul	3	8	7	9	4	14	3	3	7	2	20	5	11	19	8	4	8	5	5	16	7	9	2	9	188	
9-Jul	13	8	10	4	6	10	3	21	8	2	12	14	9	14	22	25	21	15	16	27	14	11	12	13	310	
10-Jul	9	16	15	15	11	7	8	8	11	2	9	18	9	11	6	23	5	14	16	16	21	21	25	14	310	
11-Jul	12	37	18	19	19	14	3	8	14	17	26	12	25	13	22	9	12	10	19	14	21	30	15	21	1,323	
12-Jul	10	16	19	16	14	23	16	15	5	39	18	13	16	13	16	13	37	36	24	7	8	12	16	21	423	
13-Jul	13	14	12	12	10	5	24	12	17	9	12	21	11	11	17	14	11	8	7	25	15	9	4	12	305	
14-Jul	13	10	14	6	7	15	10	6	2	11	14	13	16	10	13	9	16	8	8	6	6	7	11	13	244	
15-Jul	18	14	7	5	5	12	16	8	9	11	9	9	7	0	7	13	2	8	13	8	19	8	12	9	229	
16-Jul	16	21	2	9	12	7	11	5	3	7	10	11	20	15	28	20	15	23	17	25	24	26	26	27	380	
17-Jul	31	28	68	64	61	61	92	75	124	90	145	136	92	139	168	168	154	171	236	175	261	274	224	252	3,289	
18-Jul	190	257	258	276	238	287	219	136	281	260	338	393	182	248	264	264	264	264	255	306	240	309	289	332	6,350	
19-Jul	366	286	335	272	281	400	266	351	423	413	357	450	551	509	607	715	693	576	945	1,081	1,223	909	952	809	13,770	
20-Jul	822	792	679	610	712	644	552	659	736	757	594	951	897	708	877	962	714	736	675	604	1,001	989	1,109	872	18,652	
21-Jul	753	672	999	845	919	862	778	1,021	839	844	710	959	622	806	1,183	887	1,088	1,092	1,024	894	1,008	948	698	1,065	21,516	
22-Jul	1,006	770	888	726	764	759	653	663	540	663	667	708	559	576	823	895	997	779	712	972	766	602	808	531	17,827	
23-Jul	454	496	478	391	266	362	382	367	426	346	370	615	529	513	494	667	890	947	1,001	738	750	998	767	832	14,079	
24-Jul	543	771	835	759	691	570	717	745	621	609	901	557	449	762	796	515	674	838	831	822	537	736	729	759	16,767	
25-Jul	670	832	662	831	763	627	685	661	693	682	731	642	1,099	1,014	1,125	910	881	1,141	831	762	963	978	863	686	115,154	
26-Jul	657	631	632	629	688	693	716	801	818	737	1,044	1,136	1,005	1,039	1,141	1,269	930	1,210	1,049	1,208	1,067	1,135	1,015	994	22,244	
27-Jul	868	813	925	876	743	786	740	761	779	677	834	725	1,011	586	838	1,067	1,060	1,139	1,306	1,343	1,156	1,235	1,156	919	22,343	
28-Jul	921	996	925	718	657	754	765	697	882	911	965	888	660	870	666	704	1,181	1,065	1,191	1,141	820	778	992	922	21,069	
29-Jul	776	796	576	760	760	687	593	845	768	748	596	936	727	556	1,083	719	646	661	545	570	518	732	797	536	16,951	
30-Jul	491	617	674	574	588	455	548	330	453	441	435	439	335	385	503	654	538	480	388	389	475	495	441	302	11,430	
31-Jul	287	236	350	293	256	237	216	225	198	201	130	261	276	237	302	281	351	359	229	310	336	353	391	287	6,602	
																										235,525

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Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total	Cum Total
1-Aug	301	273	216	201	184	184	190	176	211	263	229	225	247	362	371	502	342	612	606	342	504	586	617	418	8,192	243,717
2-Aug	641	571	433	537	369	498	365	320	402	266	322	284	260	304	295	277	420	480	512	536	640	525	479	360	10,096	253,813
3-Aug	463	502	380	446	390	420	403	411	374	408	303	307	372	349	488	471	396	345	591	514	507	365	282	6	9,856	263,669
4-Aug	303	308	362	268	244	289	222	233	264	264	157	413	260	196	296	246	343	344	302	468	354	561	418	364	7,479	271,148
5-Aug	306	353	286	289	354	307	400	385	364	383	221	291	383	305	292	310	218	287	234	396	257	280	249	224	7,374	278,522
6-Aug	207	262	253	276	290	339	374	389	301	380	261	408	313	421	251	262	393	300	373	329	232	269	236	125	7,244	285,766
7-Aug	162	169	268	275	188	238	311	192	206	206	183	231	117	173	98	155	145	129	135	97	136	160	122	142	4,238	290,004
8-Aug	77	35	23	58	84	80	88	134	79	106	66	107	97	60	86	93	129	73	68	81	78	57	100	57	1,916	291,920
9-Aug	73	76	71	60	57	53	107	72	64	53	73	80	61	43	72	16	64	55	70	74	78	73	52	38	1,535	293,455
10-Aug	38	68	85	66	52	112	82	112	63	63	68	82	86	97	97	37	27	69	103	93	69	90	90	85	1,834	295,289
Total	11,514	11,757	11,769	11,201	10,694	10,817	10,568	10,855	10,994	10,886	10,842	12,360	11,330	11,380	13,376	13,205	13,686	14,303	14,362	14,414	14,140	14,628	14,027	12,118	295,289	

Appendix A.35. Yentna River north bank sonar counts by hour, 7 July through 10 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
7-Jul	13.5	1.5	7.5	3.4	1.5	8.2	1.5	5.2	1.5	3.4	2.6	2.6	6.4	9.0	2.6	7.9	1.5	0.7	3.4	3.0	4.5	6.7	0.0	1.9	100.0
8-Jul	3.6	1.8	2.4	7.7	5.4	10.7	4.2	5.4	4.8	5.4	2.4	3.6	2.4	7.7	6.0	2.4	0.6	1.2	2.4	4.2	6.0	5.4	2.4	2.4	100.5
9-Jul	5.8	4.8	0.5	2.1	7.9	2.1	14.3	0.5	2.6	2.1	0.5	4.2	3.2	3.7	1.6	11.1	9.0	3.2	2.6	5.8	1.1	2.6	6.3	2.1	99.7
10-Jul	6.7	5.4	3.5	1.3	5.4	2.2	3.2	3.2	3.5	0.3	2.2	2.5	1.6	7.3	3.2	2.2	4.8	10.8	5.7	2.9	0.6	3.5	6.0	12.1	100.1
11-Jul	2.8	5.3	2.8	5.3	3.3	1.6	7.3	2.0	2.4	1.2	0.4	7.3	0.8	11.0	9.8	1.6	2.8	2.0	1.2	0.8	1.2	8.1	14.2	4.5	99.7
12-Jul	2.9	3.3	3.8	7.2	0.5	2.4	1.4	1.4	5.7	3.3	1.9	2.4	2.9	5.3	2.9	4.3	2.9	1.4	12.0	2.4	2.9	4.3	6.7	15.8	100.0
13-Jul	2.6	6.5	5.2	1.9	1.3	3.2	7.1	4.5	8.4	2.6	1.9	0.6	3.9	2.6	12.9	3.9	1.9	9.0	5.8	3.9	5.2	2.6	0.0	2.6	100.1
14-Jul	3.9	1.9	5.3	6.3	1.9	1.5	3.4	2.9	1.9	4.9	5.3	8.7	1.5	4.4	4.4	2.4	5.3	5.8	7.8	6.8	4.4	1.0	3.4	4.9	100.0
15-Jul	6.3	5.1	5.5	3.9	7.4	5.5	4.3	3.9	3.1	1.6	2.3	2.3	5.9	5.1	2.3	8.6	3.9	2.7	3.9	4.3	3.5	2.7	4.7	1.2	100.0
16-Jul	2.8	4.9	0.7	4.2	0.0	4.5	3.1	2.4	4.9	4.2	3.1	2.8	3.5	6.3	4.5	5.6	4.2	2.1	4.9	5.6	7.3	7.0	5.2	6.3	100.1
17-Jul	3.4	4.0	5.8	1.3	2.3	3.5	2.3	4.6	2.2	2.3	2.9	6.4	5.0	5.3	3.6	3.0	4.3	1.9	3.2	5.3	6.4	9.4	6.0	5.3	99.7
18-Jul	2.8	3.3	4.8	3.2	4.2	4.1	4.8	1.3	2.0	0.5	2.7	2.0	3.8	1.6	5.6	3.4	4.1	5.0	3.5	6.0	9.7	10.7	7.9	3.3	100.3
19-Jul	5.4	3.1	3.6	2.9	7.2	2.5	2.0	1.7	3.0	2.0	2.8	2.2	4.3	4.1	4.5	2.1	5.4	3.2	3.4	10.2	8.0	5.9	5.7	4.9	100.1
20-Jul	2.4	5.2	3.8	2.2	2.4	3.3	3.4	2.7	3.7	4.6	1.3	5.6	6.0	2.7	5.6	6.2	3.1	11.3	5.0	4.8	3.3	3.5	4.0	4.0	100.1
21-Jul	6.3	5.1	5.9	4.4	4.5	1.9	4.6	2.9	0.5	1.2	2.9	2.6	4.9	8.1	4.2	2.3	4.1	6.0	3.3	2.4	3.0	7.8	5.3	5.7	99.9
22-Jul	2.7	4.0	4.0	3.7	3.1	2.8	3.4	1.3	2.8	0.8	0.7	2.1	4.6	3.3	5.4	2.0	2.9	8.9	8.6	7.9	7.7	7.0	4.8	5.5	100.0
23-Jul	3.9	2.4	2.0	1.9	1.6	2.2	0.8	1.1	5.2	1.0	2.4	2.6	5.2	5.8	2.2	3.3	8.4	8.8	6.7	7.0	7.4	8.7	5.7	3.7	100.0
24-Jul	4.4	4.3	5.8	3.6	3.3	3.3	0.7	1.3	1.6	1.2	3.3	0.9	2.2	7.1	5.7	5.1	2.9	5.9	9.1	5.4	3.9	5.3	10.0	3.9	100.2
25-Jul	5.9	2.9	2.4	2.9	3.3	2.3	2.6	2.4	1.8	1.7	2.2	2.2	3.9	5.9	6.5	5.8	5.4	3.9	4.9	4.7	5.2	9.2	7.6	4.3	99.9
26-Jul	5.6	3.7	1.8	3.9	3.5	3.0	2.4	3.9	1.5	2.5	1.4	4.2	4.6	3.4	2.2	4.0	3.6	3.7	5.1	4.5	10.3	7.6	6.6	6.9	99.9
27-Jul	5.8	4.2	3.6	3.3	2.7	3.4	2.7	3.3	2.5	2.6	1.4	2.5	1.6	2.4	4.2	3.1	5.4	6.0	6.0	8.3	4.5	6.2	6.8	7.3	99.8
28-Jul	9.2	6.0	4.6	3.7	1.9	2.8	2.5	2.4	2.3	2.7	1.9	3.6	1.8	2.0	3.1	3.2	4.4	4.1	4.4	3.9	4.6	9.3	8.5	7.1	100.0
29-Jul	10.3	4.9	6.3	4.6	5.7	6.0	2.7	1.0	1.5	3.7	3.2	2.9	4.2	2.1	1.8	3.0	1.8	3.1	2.8	4.4	4.1	4.0	2.8	3.2	79.8
30-Jul	3.9	2.1	2.9	3.6	6.7	2.2	2.9	1.3	4.8	1.4	1.0	1.7	3.8	2.3	2.0	6.2	4.8	8.6	8.8	4.4	5.1	5.1	7.2	7.3	100.1
31-Jul	7.1	4.7	5.6	1.5	1.7	4.1	2.5	2.8	1.3	2.7	2.0	2.4	11.7	10.0	5.4	3.6	6.7	6.8	5.5	1.7	3.6	4.4	0.9	1.4	100.1

-Continued-

## Counts by Hour

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Total
1-Aug	8.8	3.3	1.9	0.2	0.1	1.1	1.0	0.4	1.5	1.3	1.7	3.1	1.7	2.6	1.9	5.6	4.3	5.8	5.8	7.9	9.3	6.5	16.9	7.4	100.1
2-Aug	4.0	3.0	2.7	3.6	2.6	1.8	2.1	2.6	6.7	3.3	1.4	3.2	2.7	3.3	4.3	4.0	4.3	6.4	6.1	7.8	5.4	7.4	7.0	4.4	100.1
3-Aug	4.1	3.4	2.4	3.1	1.9	1.2	1.9	3.0	2.0	2.5	2.0	2.8	4.0	1.9	3.4	3.2	5.0	10.3	5.8	7.4	5.3	8.0	8.5	6.4	99.5
4-Aug	5.3	4.0	4.9	3.5	2.6	2.6	1.8	2.2	3.7	1.3	1.8	4.0	4.2	3.6	4.1	5.7	3.4	4.9	7.0	8.0	3.4	5.2	5.6	7.4	100.2
5-Aug	10.2	3.8	3.4	4.5	0.2	2.5	1.8	6.9	3.4	3.0	2.8	3.4	8.0	3.5	2.2	2.8	1.6	2.8	3.8	5.1	6.2	4.4	6.2	7.4	99.9
6-Aug	1.5	5.2	3.0	3.0	3.1	1.3	3.0	2.6	1.1	0.9	3.6	3.8	3.4	1.6	5.5	9.8	5.7	6.3	8.0	5.6	5.2	5.8	4.6	6.6	100.2
7-Aug	13.3	6.7	5.4	0.5	5.4	2.0	4.4	5.7	4.0	2.5	4.9	2.2	5.9	7.2	1.5	2.0	1.2	5.2	0.2	4.0	3.0	6.9	3.0	3.0	100.1
8-Aug	4.7	5.7	1.6	2.3	2.8	1.8	2.3	2.3	3.1	2.8	5.7	6.2	5.4	6.2	9.0	3.4	4.4	7.0	2.1	7.0	2.6	5.2	3.4	3.1	100.1
9-Aug	8.4	2.4	1.4	2.8	4.9	0.3	1.4	1.4	1.7	3.8	3.1	4.2	4.9	6.3	3.1	4.9	7.0	4.5	6.3	9.1	3.8	3.8	6.3	4.2	100.0
10-Aug	1.2	4.8	4.2	6.0	10.2	6.0	1.8	3.0	1.2	1.8	4.2	8.4	0.6	6.0	9.6	7.2	2.4	1.2	0.6	1.8	2.4	7.2	4.2	4.2	100.2
Total	5.7	4.4	3.7	3.2	3.2	2.9	2.6	2.5	2.6	2.2	2.2	3.1	4.0	4.1	4.1	4.1	4.4	5.6	5.5	5.7	5.5	6.8	6.6	5.5	100.2

Appendix A.36. Yentna River south bank sonar counts by hour, 7 July through 10 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Hour																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
7-Jul	0.0	1.0	1.0	1.9	1.9	0.0	2.9	0.0	0.0	4.8	1.0	7.6	2.9	1.9	5.7	12.4	3.8	5.7	5.7	4.8	7.6	15.2	4.8	7.6	100.2
8-Jul	1.6	4.3	3.7	4.8	2.1	7.4	1.6	1.6	3.7	1.1	10.6	2.7	5.9	10.1	4.3	2.1	4.3	2.7	2.7	8.5	3.7	4.8	1.1	4.8	100.2
9-Jul	4.2	2.6	3.2	1.3	1.9	3.2	1.0	6.8	2.6	0.6	3.9	4.5	2.9	4.5	7.1	8.1	6.8	4.8	5.2	8.7	4.5	3.5	3.9	4.2	100.0
10-Jul	2.9	5.2	4.8	4.8	3.5	2.3	2.6	2.6	3.5	0.6	2.9	5.8	2.9	3.5	1.9	7.4	1.6	4.5	5.2	5.2	6.8	6.8	8.1	4.5	99.9
11-Jul	2.9	9.0	4.4	4.6	4.6	3.4	0.7	2.0	3.4	4.1	6.3	2.9	6.1	3.2	5.4	2.2	2.9	2.4	4.6	3.4	5.1	7.3	3.7	5.1	99.7
12-Jul	2.4	3.8	4.5	3.8	3.3	5.4	3.8	3.5	1.2	9.2	4.3	3.1	3.8	3.1	3.8	3.1	8.7	8.5	5.7	1.7	1.9	2.8	3.8	5.0	100.2
13-Jul	4.3	4.6	3.9	3.9	3.3	1.6	7.9	3.9	5.6	3.0	3.9	6.9	3.6	3.6	5.6	4.6	3.6	2.6	2.3	8.2	4.9	3.0	1.3	3.9	100.0
14-Jul	5.3	4.1	5.7	2.5	2.9	6.1	4.1	2.5	0.8	4.5	5.7	5.3	6.6	4.1	5.3	3.7	6.6	3.3	3.3	2.5	2.5	2.9	4.5	5.3	100.1
15-Jul	7.9	6.1	3.1	2.2	2.2	5.2	7.0	3.5	3.9	4.8	3.9	3.9	3.1	0.0	3.1	5.7	0.9	3.5	5.7	3.5	8.3	3.5	5.2	3.9	100.1
16-Jul	4.2	5.5	0.5	2.4	3.2	1.8	2.9	1.3	0.8	1.8	2.6	2.9	5.3	3.9	7.4	5.3	3.9	6.1	4.5	6.6	6.3	6.8	6.8	7.1	99.9
17-Jul	0.9	0.9	2.1	1.9	1.9	1.9	2.8	2.3	3.8	2.7	4.4	4.1	2.8	4.2	5.1	5.1	4.7	5.2	7.2	5.3	7.9	8.3	6.8	7.7	100.0
18-Jul	3.0	4.0	4.1	4.3	3.7	4.5	3.4	2.1	4.4	4.1	5.3	6.2	2.9	3.9	4.2	4.2	4.2	4.2	4.0	4.8	3.8	4.9	4.6	5.2	100.0
19-Jul	2.7	2.1	2.4	2.0	2.0	2.9	1.9	2.5	3.1	3.0	2.6	3.3	4.0	3.7	4.4	5.2	5.0	4.2	6.9	7.9	8.9	6.6	6.9	5.9	100.1
20-Jul	4.4	4.2	3.6	3.3	3.8	3.5	3.0	3.5	3.9	4.1	3.2	5.1	4.8	3.8	4.7	5.2	3.8	3.9	3.6	3.2	5.4	5.3	5.9	4.7	99.9
21-Jul	3.5	3.1	4.6	3.9	4.3	4.0	3.6	4.7	3.9	3.9	3.3	4.5	2.9	3.7	5.5	4.1	5.1	5.1	4.8	4.2	4.7	4.4	3.2	4.9	99.9
22-Jul	5.6	4.3	5.0	4.1	4.3	4.3	3.7	3.7	3.0	3.7	3.7	4.0	3.1	3.2	4.6	5.0	5.6	4.4	4.0	5.5	4.3	3.4	4.5	3.0	100.0
23-Jul	3.2	3.5	3.4	2.8	1.9	2.6	2.7	2.6	3.0	2.5	2.6	4.4	3.8	3.6	3.5	4.7	6.3	6.7	7.1	5.2	5.3	7.1	5.4	5.9	99.8
24-Jul	3.2	4.6	5.0	4.5	4.1	3.4	4.3	4.4	3.7	3.6	5.4	3.3	2.7	4.5	4.7	3.1	4.0	5.0	5.0	4.9	3.2	4.4	4.3	4.5	99.8
25-Jul	3.4	4.2	3.4	4.2	3.9	3.2	3.5	3.3	3.5	3.5	3.7	3.3	5.6	5.1	5.7	4.6	4.5	5.8	4.2	3.9	4.9	5.0	4.4	3.5	100.3
26-Jul	3.0	2.8	2.8	2.8	3.1	3.1	3.2	3.6	3.7	3.3	4.7	5.1	4.5	4.7	5.1	5.7	4.2	5.4	4.7	5.4	4.8	5.1	4.6	4.5	99.9
27-Jul	3.9	3.6	4.1	3.9	3.3	3.5	3.3	3.4	3.5	3.0	3.7	3.2	4.5	2.6	3.8	4.8	4.7	5.1	5.8	6.0	5.2	5.5	5.2	4.1	99.7
28-Jul	4.4	4.7	4.4	3.4	3.1	3.6	3.6	3.3	4.2	4.3	4.6	4.2	3.1	4.1	3.2	3.3	5.6	5.1	5.7	5.4	3.9	3.7	4.7	4.4	100.0
29-Jul	4.6	4.7	3.4	4.5	4.5	4.1	3.5	5.0	4.5	4.4	3.5	5.5	4.3	3.3	6.4	4.2	3.8	3.9	3.2	3.4	3.1	4.4	4.7	3.2	100.1
30-Jul	4.3	5.4	5.9	5.0	5.1	4.0	4.8	2.9	4.0	3.9	3.8	3.8	2.9	3.4	4.4	5.7	4.7	4.2	3.4	3.4	4.2	4.3	3.9	2.6	100.0
31-Jul	4.3	3.6	5.3	4.4	3.9	3.6	3.3	3.4	3.0	3.0	2.0	4.0	4.2	3.6	4.6	4.3	5.3	5.4	3.5	4.7	5.1	5.3	5.9	4.3	100.0

-Continued-

Counts by Hour

Date	Counts by Hour																								Daily
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
1-Aug	3.7	3.3	2.6	2.5	2.2	2.2	2.3	2.1	2.6	3.2	2.8	2.7	3.0	4.4	4.5	6.1	4.2	7.5	7.4	4.2	6.2	7.2	7.5	5.5	99.9
2-Aug	6.3	5.7	4.3	5.3	3.7	4.9	3.6	3.2	4.0	2.6	3.2	2.8	2.6	3.0	2.9	2.7	4.2	4.8	5.1	5.3	6.3	5.2	4.7	3.6	100.0
3-Aug	4.7	5.1	3.9	4.5	4.0	4.3	4.1	4.2	3.8	4.1	3.1	3.1	3.8	3.5	5.0	4.8	4.0	3.5	6.0	5.2	5.1	3.7	2.9	3.7	100.1
4-Aug	4.1	4.1	4.8	3.6	3.3	3.9	3.0	3.1	3.5	3.5	2.1	5.5	3.5	2.6	4.0	3.3	4.6	4.6	4.0	6.3	4.7	7.5	5.6	4.9	100.1
5-Aug	4.1	4.8	3.9	3.9	4.8	4.2	5.4	5.2	4.9	5.2	3.0	3.9	5.2	4.1	4.0	4.2	3.0	3.9	3.2	5.4	3.5	3.8	3.4	3.0	100.0
6-Aug	2.9	3.6	3.5	3.8	4.0	4.7	5.2	5.4	4.2	5.2	3.6	5.6	4.3	5.8	3.5	3.6	5.4	4.1	5.1	4.5	3.2	3.7	3.3	1.7	99.9
7-Aug	3.8	4.0	6.3	6.5	4.4	5.6	7.3	4.5	4.9	4.9	4.3	5.5	2.8	4.1	2.3	3.7	3.4	3.0	3.2	2.3	3.2	3.8	2.9	3.4	100.1
8-Aug	4.0	1.8	1.2	3.0	4.4	4.2	4.6	7.0	4.1	5.5	3.4	5.6	5.1	3.1	4.5	4.9	6.7	3.8	3.5	4.2	4.1	3.0	5.2	3.0	99.9
9-Aug	4.8	5.0	4.6	3.9	3.7	3.5	7.0	4.7	4.2	3.5	4.8	5.2	4.0	2.8	4.7	1.0	4.2	3.6	4.6	4.8	5.1	4.8	3.4	2.5	100.4
10-Aug	2.1	3.7	4.6	3.6	2.8	6.1	4.5	6.1	3.4	3.4	3.7	4.5	4.7	5.3	5.3	2.0	1.5	3.8	5.6	5.1	3.8	4.9	4.9	4.6	100.0
Total	3.9	4.0	4.0	3.8	3.6	3.7	3.6	3.7	3.7	3.7	3.7	4.2	3.8	3.8	4.5	4.5	4.6	4.8	4.9	4.9	4.8	4.9	4.7	4.2	100.0

119

Appendix A.37. Yentna River north bank sonar counts by sector, 7 July through 10 August 1995.

Date	Counts by Sector												Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12		
7-Jul	110	75	39	13	21	4	4	1	0	0	0	0	267	267
8-Jul	32	43	28	43	17	3	0	0	0	0	1	1	168	435
9-Jul	44	41	50	22	22	2	0	3	1	1	0	3	189	624
10-Jul	69	62	67	59	15	7	4	0	0	3	1	28	315	939
11-Jul	31	52	69	61	26	0	2	1	0	2	2	0	246	1,185
12-Jul	32	36	49	71	6	7	6	0	0	0	0	2	209	1,394
13-Jul	28	24	22	32	17	15	4	10	1	0	1	1	155	1,549
14-Jul	44	28	31	33	23	23	10	6	1	6	0	1	206	1,755
15-Jul	62	39	45	58	25	9	6	3	1	3	0	5	256	2,011
16-Jul	89	31	38	33	35	23	18	12	3	2	1	2	287	2,298
17-Jul	79	71	184	168	92	66	36	53	17	14	7	36	823	3,121
18-Jul	46	240	331	281	143	103	74	34	14	3	1	12	1,282	4,403
19-Jul	20	293	347	197	111	64	38	24	14	3	4	7	1,122	5,525
20-Jul	30	227	364	240	97	72	34	23	12	12	15	60	1,186	6,711
21-Jul	24	153	278	278	109	58	22	22	5	5	3	27	984	7,695
22-Jul	34	325	458	296	116	63	25	9	3	2	3	6	1,340	9,035
23-Jul	37	171	390	529	205	99	45	31	9	9	3	3	1,531	10,566
24-Jul	34	317	811	481	207	49	33	21	9	4	5	9	1,980	12,546
25-Jul	35	448	1,095	633	269	126	81	57	17	6	3	20	2,790	15,336
26-Jul	40	285	789	794	451	167	80	48	26	16	4	25	2,725	18,061
27-Jul	63	469	976	920	561	237	92	54	20	15	6	13	3,426	21,487
28-Jul	80	487	959	835	372	170	50	48	24	10	7	14	3,056	24,543
29-Jul	137	293	522	229	93	35	14	16	6	2	11	7	1,365	25,908
30-Jul	115	393	522	183	76	28	15	8	4	2	1	16	1,363	27,271
31-Jul	41	267	500	252	105	54	14	6	2	0	0	2	1,243	28,514
1-Aug	32	316	388	171	35	9	8	1	0	0	0	0	960	29,474
2-Aug	47	201	337	192	81	34	8	6	2	0	0	3	911	30,385
3-Aug	54	298	429	270	143	76	35	10	1	0	2	16	1,334	31,719
4-Aug	84	329	455	240	100	48	22	8	7	6	4	10	1,313	33,032
5-Aug	105	422	272	103	27	5	4	4	0	0	1	5	948	33,980
6-Aug	102	343	266	100	32	18	9	1	2	0	2	3	878	34,858
7-Aug	52	194	97	34	16	7	3	0	0	1	0	1	405	35,263
8-Aug	84	170	73	32	19	5	1	1	0	2	0	0	387	35,650
9-Aug	81	119	45	24	8	4	3	1	1	0	0	1	287	35,937
10-Aug	27	81	45	10	2	0	0	1	1	0	0	0	167	36,104
Total	2,024	7,343	11,371	7,917	3,677	1,690	800	523	203	129	88	339	36,104	

Appendix A.38. Yentna River south bank sonar counts by sector, 7 July through 10 August 1995.

Date	Counts by Sector												Daily Total	Cum Total
	1	2	3	4	5	6	7	8	9	10	11	12		
7-Jul	32	10	29	15	7	11	0	0	0	0	1	0	105	105
8-Jul	70	35	14	28	16	16	4	1	0	0	2	2	188	293
9-Jul	8	86	69	45	33	37	10	1	17	2	2	0	310	603
10-Jul	24	69	79	49	35	44	3	2	3	1	1	0	310	913
11-Jul	18	99	79	90	42	47	18	8	5	3	0	1	410	1,323
12-Jul	41	105	64	64	36	60	20	17	12	4	0	0	423	1,746
13-Jul	44	62	66	42	27	37	8	7	5	6	1	0	305	2,051
14-Jul	57	38	36	67	34	7	1	0	0	0	0	4	244	2,295
15-Jul	56	28	39	59	29	10	2	0	0	0	0	6	229	2,524
16-Jul	107	58	69	72	33	24	9	4	3	1	0	0	380	2,904
17-Jul	161	278	676	701	591	477	200	86	25	17	5	72	3,289	6,193
18-Jul	287	555	1,143	1,539	1,236	810	387	171	94	63	34	31	6,350	12,543
19-Jul	243	2,065	3,645	3,008	2,184	1,555	500	264	114	99	40	53	13,770	26,313
20-Jul	313	3,000	6,099	4,481	2,410	1,300	442	319	151	76	31	30	18,652	44,965
21-Jul	488	3,062	6,564	5,381	3,157	1,658	498	315	204	108	42	39	21,516	66,481
22-Jul	593	3,529	6,296	3,958	1,883	910	255	184	118	64	19	18	17,827	84,308
23-Jul	421	2,344	4,364	3,246	1,904	1,002	375	225	101	53	23	21	14,079	98,387
24-Jul	576	2,430	4,681	3,929	2,619	1,479	497	281	158	77	28	12	16,767	115,154
25-Jul	577	2,957	5,788	4,637	2,843	1,671	517	370	193	89	28	62	19,732	134,886
26-Jul	178	2,033	7,166	5,688	3,852	1,664	706	386	292	117	36	126	22,244	157,130
27-Jul	87	1,746	6,639	5,717	4,038	1,912	927	518	357	208	80	114	22,343	179,473
28-Jul	68	1,720	6,641	5,252	3,661	1,758	881	484	310	185	53	56	21,069	200,542
29-Jul	238	918	4,798	4,323	3,110	1,658	808	501	330	163	55	49	16,951	217,493
30-Jul	30	489	3,175	3,349	2,263	1,055	525	252	140	98	18	36	11,430	228,923
31-Jul	67	356	1,805	1,844	1,418	561	220	166	104	38	17	6	6,602	235,525
1-Aug	122	593	2,297	2,051	1,492	736	284	277	242	63	21	14	8,192	243,717
2-Aug	71	693	2,431	2,595	1,868	1,027	460	514	270	103	41	23	10,096	253,813
3-Aug	95	733	2,290	2,488	1,892	1,030	540	432	183	91	46	36	9,856	263,669
4-Aug	22	1,001	2,171	1,745	1,189	579	323	183	100	67	20	79	7,479	271,148
5-Aug	76	893	2,147	1,883	1,203	529	251	165	89	61	32	45	7,374	278,522
6-Aug	73	957	2,250	1,824	990	517	242	191	98	42	20	40	7,244	285,766
7-Aug	24	320	1,263	1,221	714	378	148	89	43	20	5	13	4,238	290,004
8-Aug	22	127	601	576	286	166	77	36	11	10	3	1	1,916	291,920
9-Aug	27	64	433	491	266	149	50	25	18	10	1	1	1,535	293,455
10-Aug	10	59	498	564	327	227	90	33	17	4	2	3	1,834	295,289
Total	5,326	33,512	86,405	73,022	47,688	25,101	10,278	6,507	3,807	1,943	707	993	295,289	

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Appendix A.39. Yentna River north bank sonar counts by sector, 7 July through 10 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
7-Jul	41.2	28.1	14.6	4.9	7.9	1.5	1.5	0.4	0.0	0.0	0.0	0.0	100.1
8-Jul	19.0	25.6	16.7	25.6	10.1	1.8	0.0	0.0	0.0	0.0	0.6	0.6	100.0
9-Jul	23.3	21.7	26.5	11.6	11.6	1.1	0.0	1.6	0.5	0.5	0.0	1.6	100.0
10-Jul	21.9	19.7	21.3	18.7	4.8	2.2	1.3	0.0	0.0	1.0	0.3	8.9	100.1
11-Jul	12.6	21.1	28.0	24.8	10.6	0.0	0.8	0.4	0.0	0.8	0.8	0.0	99.9
12-Jul	15.3	17.2	23.4	34.0	2.9	3.3	2.9	0.0	0.0	0.0	0.0	1.0	100.0
13-Jul	18.1	15.5	14.2	20.6	11.0	9.7	2.6	6.5	0.6	0.0	0.6	0.6	100.0
14-Jul	21.4	13.6	15.0	16.0	11.2	11.2	4.9	2.9	0.5	2.9	0.0	0.5	100.1
15-Jul	24.2	15.2	17.6	22.7	9.8	3.5	2.3	1.2	0.4	1.2	0.0	2.0	100.1
16-Jul	31.0	10.8	13.2	11.5	12.2	8.0	6.3	4.2	1.0	0.7	0.3	0.7	99.9
17-Jul	9.6	8.6	22.4	20.4	11.2	8.0	4.4	6.4	2.1	1.7	0.9	4.4	100.1
18-Jul	3.6	18.7	25.8	21.9	11.2	8.0	5.8	2.7	1.1	0.2	0.1	0.9	100.0
19-Jul	1.8	26.1	30.9	17.6	9.9	5.7	3.4	2.1	1.2	0.3	0.4	0.6	100.0
20-Jul	2.5	19.1	30.7	20.2	8.2	6.1	2.9	1.9	1.0	1.0	1.3	5.1	100.0
21-Jul	2.4	15.5	28.3	28.3	11.1	5.9	2.2	2.2	0.5	0.5	0.3	2.7	99.9
22-Jul	2.5	24.3	34.2	22.1	8.7	4.7	1.9	0.7	0.2	0.1	0.2	0.4	100.0
23-Jul	2.4	11.2	25.5	34.6	13.4	6.5	2.9	2.0	0.6	0.6	0.2	0.2	100.1
24-Jul	1.7	16.0	41.0	24.3	10.5	2.5	1.7	1.1	0.5	0.2	0.3	0.5	100.3
25-Jul	1.3	16.1	39.2	22.7	9.6	4.5	2.9	2.0	0.6	0.2	0.1	0.7	99.9
26-Jul	1.5	10.5	29.0	29.1	16.6	6.1	2.9	1.8	1.0	0.6	0.1	0.9	100.1
27-Jul	1.8	13.7	28.5	26.9	16.4	6.9	2.7	1.6	0.6	0.4	0.2	0.4	100.1
28-Jul	2.6	15.9	31.4	27.3	12.2	5.6	1.6	1.6	0.8	0.3	0.2	0.5	100.0
29-Jul	10.0	21.5	38.2	16.8	6.8	2.6	1.0	1.2	0.4	0.1	0.8	0.5	99.9
30-Jul	8.4	28.8	38.3	13.4	5.6	2.1	1.1	0.6	0.3	0.1	0.1	1.2	100.0
31-Jul	3.3	21.5	40.2	20.3	8.4	4.3	1.1	0.5	0.2	0.0	0.0	0.2	100.0
1-Aug	3.3	32.9	40.4	17.8	3.6	0.9	0.8	0.1	0.0	0.0	0.0	0.0	99.8
2-Aug	5.2	22.1	37.0	21.1	8.9	3.7	0.9	0.7	0.2	0.0	0.0	0.3	100.1
3-Aug	4.0	22.3	32.2	20.2	10.7	5.7	2.6	0.7	0.1	0.0	0.1	1.2	99.8
4-Aug	6.4	25.1	34.7	18.3	7.6	3.7	1.7	0.6	0.5	0.5	0.3	0.8	100.2
5-Aug	11.1	44.5	28.7	10.9	2.8	0.5	0.4	0.4	0.0	0.0	0.1	0.5	99.9
6-Aug	11.6	39.1	30.3	11.4	3.6	2.1	1.0	0.1	0.2	0.0	0.2	0.3	99.9
7-Aug	12.8	47.9	24.0	8.4	4.0	1.7	0.7	0.0	0.0	0.2	0.0	0.2	99.9
8-Aug	21.7	43.9	18.9	8.3	4.9	1.3	0.3	0.3	0.0	0.5	0.0	0.0	100.1
9-Aug	28.2	41.5	15.7	8.4	2.8	1.4	1.0	0.3	0.3	0.0	0.0	0.3	99.9
10-Aug	16.2	48.5	26.9	6.0	1.2	0.0	0.0	0.6	0.6	0.0	0.0	0.0	100.0
Total	5.6	20.3	31.5	21.9	10.2	4.7	2.2	1.4	0.6	0.4	0.2	0.9	99.9

Appendix A.40. Yentna River south bank sonar counts by sector, 7 July through 10 August 1995. Counts expressed as percentage of daily total.

Date	Counts by Sector												Daily Total
	1	2	3	4	5	6	7	8	9	10	11	12	
7-Jul	30.5	9.5	27.6	14.3	6.7	10.5	0.0	0.0	0.0	0.0	1.0	0.0	100.1
8-Jul	37.2	18.6	7.4	14.9	8.5	8.5	2.1	0.5	0.0	0.0	1.1	1.1	99.9
9-Jul	2.6	27.7	22.3	14.5	10.6	11.9	3.2	0.3	5.5	0.6	0.6	0.0	99.8
10-Jul	7.7	22.3	25.5	15.8	11.3	14.2	1.0	0.6	1.0	0.3	0.3	0.0	100.0
11-Jul	4.4	24.1	19.3	22.0	10.2	11.5	4.4	2.0	1.2	0.7	0.0	0.2	100.0
12-Jul	9.7	24.8	15.1	15.1	8.5	14.2	4.7	4.0	2.8	0.9	0.0	0.0	99.8
13-Jul	14.4	20.3	21.6	13.8	8.9	12.1	2.6	2.3	1.6	2.0	0.3	0.0	99.9
14-Jul	23.4	15.6	14.8	27.5	13.9	2.9	0.4	0.0	0.0	0.0	0.0	1.6	100.1
15-Jul	24.5	12.2	17.0	25.8	12.7	4.4	0.9	0.0	0.0	0.0	0.0	2.6	100.1
16-Jul	28.2	15.3	18.2	18.9	8.7	6.3	2.4	1.1	0.8	0.3	0.0	0.0	100.2
17-Jul	4.9	8.5	20.6	21.3	18.0	14.5	6.1	2.6	0.8	0.5	0.2	2.2	100.2
18-Jul	4.5	8.7	18.0	24.2	19.5	12.8	6.1	2.7	1.5	1.0	0.5	0.5	100.0
19-Jul	1.8	15.0	26.5	21.8	15.9	11.3	3.6	1.9	0.8	0.7	0.3	0.4	100.0
20-Jul	1.7	16.1	32.7	24.0	12.9	7.0	2.4	1.7	0.8	0.4	0.2	0.2	100.1
21-Jul	2.3	14.2	30.5	25.0	14.7	7.7	2.3	1.5	0.9	0.5	0.2	0.2	100.0
22-Jul	3.3	19.8	35.3	22.2	10.6	5.1	1.4	1.0	0.7	0.4	0.1	0.1	100.0
23-Jul	3.0	16.6	31.0	23.1	13.5	7.1	2.7	1.6	0.7	0.4	0.2	0.1	100.0
24-Jul	3.4	14.5	27.9	23.4	15.6	8.8	3.0	1.7	0.9	0.5	0.2	0.1	100.0
25-Jul	2.9	15.0	29.3	23.5	14.4	8.5	2.6	1.9	1.0	0.5	0.1	0.3	100.0
26-Jul	0.8	9.1	32.2	25.6	17.3	7.5	3.2	1.7	1.3	0.5	0.2	0.6	100.0
27-Jul	0.4	7.8	29.7	25.6	18.1	8.6	4.1	2.3	1.6	0.9	0.4	0.5	100.0
28-Jul	0.3	8.2	31.5	24.9	17.4	8.3	4.2	2.3	1.5	0.9	0.3	0.3	100.1
29-Jul	1.4	5.4	28.3	25.5	18.3	9.8	4.8	3.0	1.9	1.0	0.3	0.3	100.0
30-Jul	0.3	4.3	27.8	29.3	19.8	9.2	4.6	2.2	1.2	0.9	0.2	0.3	100.1
31-Jul	1.0	5.4	27.3	27.9	21.5	8.5	3.3	2.5	1.6	0.6	0.3	0.1	100.0
1-Aug	1.5	7.2	28.0	25.0	18.2	9.0	3.5	3.4	3.0	0.8	0.3	0.2	100.1
2-Aug	0.7	6.9	24.1	25.7	18.5	10.2	4.6	5.1	2.7	1.0	0.4	0.2	100.1
3-Aug	1.0	7.4	23.2	25.2	19.2	10.5	5.5	4.4	1.9	0.9	0.5	0.4	100.1
4-Aug	0.3	13.4	29.0	23.3	15.9	7.7	4.3	2.4	1.3	0.9	0.3	1.1	99.9
5-Aug	1.0	12.1	29.1	25.5	16.3	7.2	3.4	2.2	1.2	0.8	0.4	0.6	99.8
6-Aug	1.0	13.2	31.1	25.2	13.7	7.1	3.3	2.6	1.4	0.6	0.3	0.6	100.1
7-Aug	0.6	7.6	29.8	28.8	16.8	8.9	3.5	2.1	1.0	0.5	0.1	0.3	100.0
8-Aug	1.1	6.6	31.4	30.1	14.9	8.7	4.0	1.9	0.6	0.5	0.2	0.1	100.1
9-Aug	1.8	4.2	28.2	32.0	17.3	9.7	3.3	1.6	1.2	0.7	0.1	0.1	100.2
10-Aug	0.5	3.2	27.2	30.8	17.8	12.4	4.9	1.8	0.9	0.2	0.1	0.2	100.0
Total	1.8	11.3	29.3	24.7	16.1	8.5	3.5	2.2	1.3	0.7	0.2	0.3	99.9

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