

SNAKE RIVER SALMON COUNTING TOWER
PROJECT SUMMARY REPORT, 2000

By

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and

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REGIONAL INFORMATIONAL REPORT¹ No. 3A01-19

Alaska Department of Fish & Game
Commercial Fisheries Division, AYK Region
333 Raspberry Road
Anchorage, Alaska 99518-1599

October 2000

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PROJECT SPONSORSHIP

This project was funded through a cooperative agreement between Kawerak Inc. and the Alaska Department of Fish and Game.

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ABSTRACT

For six consecutive years, the Alaska Department of Fish and Game has operated a salmon counting tower on the Snake River. Located approximately 5 miles from Nome or about 15 minutes by boat upstream from the boat harbor, the Snake River counting tower is a cooperative project funded and operated by the Kawerak Corporation. The objective of the project is to obtain daily and seasonal information concerning the timing and magnitude of the chum, pink, king and coho salmon escapement to the Snake River. Counting began on 29 June and ended on 25 August 2000. The crew counted 24 half-hour counts each day. The counts for each half-hour shift were doubled to produce the expanded hourly counts for each species. The expanded counts for 2000 were: 1,911 chum salmon, 4,723 pink salmon, 28 king salmon, and 406 coho salmon. The chum and coho salmon counts past the tower were the second lowest since the project started in 1995. The pink salmon count was the lowest even year escapement recorded to date. The king salmon count past the tower was similar to previous years.

INTRODUCTION

The Snake River counting tower is a cooperative project funded and operated by the Kawerak Corporation. The Alaska Department of Fish & Game (ADF&G) analyzed the tower count data and produced this report as its contribution to this cooperative effort.

This was the sixth consecutive year a counting tower has been operated on the Snake River (Rob 1995, 1997, 1998, 1999 and Kohler 2000). The project is operated to obtain timely and accurate escapement information required for the active management of the salmon stocks throughout the season. The Snake River drains into Norton Sound at the Port of Nome (Figure 1).

OBJECTIVES

The objective of the project is to obtain daily and seasonal information concerning the timing and magnitude of the chum, pink, king and coho salmon escapement to the Snake River.

METHODS

The Snake River counting tower camp is located approximately 5 miles from Nome where the Snake River turns north. The camp is approximately 15 minutes by boat from the Nome boat harbor.

A tent camp with two tent frames and an outhouse was established during late June. A 15-foot high scaffolding tower erected on the east bank of the river served as an observation platform. A 50 x 8 foot vinyl canvas flash panel was placed on the river bottom directly in front of the tower. A weir built from the mid-stream end of the flash panel to the opposite bank directed the fish over the flash panel. An array of 120-volt lights mounted on the tower illuminated the flash panel during periods of low light and darkness.

The counting schedule began on 29 June and ended on 25 August. The three-person crew counted 24 half-hour counts each day from 12 noon to 1130 hours the following day. One day off was scheduled weekly. Daily counts were radioed to the Nome office of the Kawerak Corporation, which relayed them to the Nome office of ADF&G every morning. These numbers were then expanded to approximate the time periods not counted.

The expanded counts for this report were calculated using the following methods. Hourly expanded counts were calculated by multiplying the half-hour counts by two. The 24-hour counts for the days off were estimated by adding the counts of each hour of the day before,

to the counts of each hour of the day following, and dividing the result by two. This calculation was done for all species counted.

The expanded counts for the days missed were linearly interpolated. For a day with the normal 24-hour count missed, the count for the missing day was calculated by adding the counts of each hour of the day before the missed period, to the counts of each hour of the day following the missed period, and dividing the result by two. If two or more days were missed, the count for the missing days was calculated by adding the counts of each hour of the day before the missed period, to the counts of each hour of the day following the missed period, and dividing the result by two.¹

Expanded counts for the calendar days were then calculated to give daily totals that can be compared to those of previous years (Rob 1999).

RESULTS

Table 1 shows the expanded daily and cumulative totals for each salmon species. Figure 2 shows the cumulative migration of all salmon species. The expanded counts were: 1,911 chum salmon, 4,723 pink salmon, 28 king salmon, and 406 coho salmon (Tables 2-5). The reported total hourly counts were: 1,366 chum salmon, 3,516 pink salmon, 22 king salmon, and 292 coho salmon (Tables 6-9). Dolly Varden were not counted.

Chum salmon were observed on 7 July, the ninth day of counting. Pink salmon were first observed on 8 July. Coho salmon were first observed on 18 July. King salmon were first observed on 3 August. The daily peak count of 240 chum salmon occurred on 8 July; the daily peak count of 406 pink salmon occurred on 30 July; the daily peak count of 132 coho salmon occurred on 22 August (Table 1).

During the period from 7 July through 1 August, 81% of the chum salmon returned (Table 2, Figures 3-4). During the period from 8 July through 3 August, 88% of pink salmon returned (Table 3, Figures 5-6). Coho salmon were counted passing the tower from 18 July to 23 August (Table 5, Figures 7-8).

All species observed exhibited a diurnal pattern of migration. The greatest chum salmon passage occurred during the period from 2200 to 0400 hours when 87% passed the tower (Table 2, Figure 9). The greatest pink salmon passage occurred during the period from 2000 and 0500 hours when 88% passed the tower (Table 3, Figure 10). The greatest coho salmon passage occurred between 0000 and 0600 hours when 93% passed the tower (Table 5, Figure 11).

An aerial survey of the Snake River flown on 22 August produced a count of 998 coho salmon of which 970 were above the counting tower. This represents 243% of the expanded coho salmon tower count of 400 on that date.

¹ From Rob 1999

DISCUSSION

This was the sixth consecutive year of operation for the Kawerak Incorporated, Snake River counting tower project. Counting began on 29 June. The first chum salmon were counted eight days later. Counting ended on 25 August. Counts were missed from 4 August through 6 August and from 10 August through 20 August.

The chum salmon escapement in 2000 was near average in timing and the second lowest recorded since the project began in 1995 (Figures 12 and 15). The odd year pink salmon escapement in 1999 was much later than previous years (Figure 13) and was also the weakest recorded since the project began (Figure 16). The pink salmon escapement in 2000 was the lowest even-year escapement recorded to date (Figure 17). There was no escapement of king salmon estimated in 1995, 5 king salmon were estimated in 1996, 12 king salmon were estimated in 1997, 0 king salmon in 1998, 10 king salmon in 1999, there were 28 estimated this year (Rob 1995, 1997, 1998, 1999, Kohler 2000 and Appendix 1). The observed coho salmon escapement in 1995, 1997 and 1998 was about one week later than in 1996 for the period of operation (Figure 14). The 2000 coho salmon run timing was about average (Figure 14) and the escapement magnitude was below average (Figure 18).

The data summary within this report should be used with caution, as there were problems with the data collection methods before 12 July. Extrapolations were made for data for the period from 10 August to 21 August, lack of personnel in the field prevented accurate counts. Appendix 2 shows a comparison between the percentage of salmon by species that were estimated each year from 1995 to 2000.

A counting tower on the Snake River is valuable because documentation of salmon escapement counts provides fishery managers a relatively consistent tool to assess returns to this Nome area watershed for four different salmon species.

ACKNOWLEDGMENTS

The ADF&G thanks Kawerak Incorporated for funding and operating this project. Gene Sandone reviewed a draft of this report.

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Table 1. Expanded daily and cumulative salmon migration past the Snake River counting tower, Norton Sound, 2000.

Date	Daily Chum	Cumulative Chum	Daily Pink	Cumulative Pink	Daily King	Cumulative King	Daily Coho	Cumulative Coho
29-Jun	0	0	0	0	0	0	0	0
30-Jun	0	0	0	0	0	0	0	0
1-Jul	0	0	0	0	0	0	0	0
2-Jul	0	0	0	0	0	0	0	0
3-Jul	0	0	0	0	0	0	0	0
4-Jul	0	0	0	0	0	0	0	0
5-Jul	0	0	0	0	0	0	0	0
6-Jul	0	0	0	0	0	0	0	0
7-Jul	20	20	0	0	0	0	0	0
8-Jul	240	260	162	162	0	0	0	0
9-Jul	20	280	80	242	0	0	0	0
10-Jul	106	386	282	524	0	0	0	0
11-Jul	224	610	358	882	0	0	0	0
12-Jul	34	644	130	1,012	0	0	0	0
13-Jul	68	712	44	1,056	0	0	0	0
14-Jul	114	826	79	1,135	0	0	0	0
15-Jul	135	961	115	1,250	0	0	0	0
16-Jul	30	991	-11	1,239	0	0	0	0
17-Jul	4	995	16	1,255	0	0	0	0
18-Jul	46	1,041	148	1,403	0	0	10	10
19-Jul	16	1,057	128	1,531	0	0	6	16
20-Jul	36	1,093	162	1,693	0	0	0	16
21-Jul	69	1,162	397	2,090	0	0	28	44
22-Jul	70	1,232	255	2,345	0	0	14	58
23-Jul	94	1,326	224	2,569	0	0	0	58
24-Jul	16	1,342	66	2,635	0	0	14	72
25-Jul	10	1,352	98	2,733	0	0	4	76
26-Jul	36	1,388	117	2,850	0	0	18	94
27-Jul	10	1,398	52	2,902	0	0	0	94
28-Jul	17	1,415	33	2,935	0	0	0	94
29-Jul	48	1,463	270	3,205	0	0	4	98
30-Jul	56	1,519	406	3,611	0	0	14	112
31-Jul	16	1,535	232	3,843	0	0	4	116
1-Aug	8	1,543	80	3,923	0	0	8	124
2-Aug	12	1,555	154	4,077	0	0	10	134
3-Aug	0	1,555	78	4,155	4	4	12	146
4-Aug	-1	1,554	47	4,202	2	6	7	153
5-Aug	-1	1,553	47	4,249	2	8	7	160
6-Aug	-1	1,552	45	4,294	2	10	7	167
7-Aug	-2	1,550	41	4,335	2	12	4	171
8-Aug	62	1,612	59	4,394	16	28	4	175
9-Aug	46	1,658	43	4,437	0	28	16	191
10-Aug	23	1,681	26	4,463	0	28	7	198
11-Aug	23	1,704	26	4,489	0	28	7	205
12-Aug	23	1,727	26	4,515	0	28	7	212
13-Aug	23	1,750	26	4,541	0	28	7	219
14-Aug	23	1,773	26	4,567	0	28	7	226
15-Aug	23	1,796	26	4,593	0	28	7	233
16-Aug	23	1,819	26	4,619	0	28	7	240
17-Aug	23	1,842	26	4,645	0	28	7	247
18-Aug	23	1,865	26	4,671	0	28	7	254
19-Aug	23	1,888	26	4,697	0	28	7	261
20-Aug	23	1,911	26	4,723	0	28	7	268
21-Aug	0	1,911	0	4,723	0	28	0	268
22-Aug	0	1,911	0	4,723	0	28	132	400
23-Aug	0	1,911	0	4,723	0	28	6	406
24-Aug	0	1,911	0	4,723	0	28	0	406
25-Aug	0	1,911	0	4,723	0	28	0	406
Total	1,911	1,911	4,723	4,723	28	28	406	406

Table 2. Expanded daily hourly chum salmon migration past the Snake River counting tower, Norton Sound, 2000.

Outlined areas indicate hours not counted. Numbers in outlined areas indicate estimated passage.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total		
29-Jun	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%	
30-Jun	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%	
1-Jul	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%	
2-Jul	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%	
3-Jul	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%	
4-Jul	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%	
5-Jul	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%	
6-Jul	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%	
7-Jul	14	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1.0%	
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168	72	240	12.6%	
9-Jul	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1.0%	
10-Jul	0	6	24	40	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	5.5%	
11-Jul	106	44	2	0	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224	11.7%	
12-Jul	2	4	4	18	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	1.8%	
13-Jul	18	2	28	-10	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	3.6%	
14-Jul	0	4	0	28	14	4	0	0	0	0	0	14	0	0	0	19	2	28	2	0	-1	0	0	0	0	114	6.0%	
15-Jul	0	3	0	18	2	2	0	0	3	0	0	7	0	0	0	38	4	56	4	0	-2	0	0	0	0	135	7.1%	
16-Jul	0	3	0	18	2	2	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	30	1.6%	
17-Jul	0	2	0	8	-10	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	0	4	0.2%	
18-Jul	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	30	46	2.4%	
19-Jul	2	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0.8%	
20-Jul	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	20	36	1.9%	
21-Jul	30	4	12	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8	69	3.6%	
22-Jul	15	2	22	16	14	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-4	70	3.7%	
23-Jul	0	0	32	22	26	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	4.9%	
24-Jul	0	6	10	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	-4	0	0	0	0	0	16	0.8%	
25-Jul	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0.5%	
26-Jul	0	10	16	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	1.9%	
27-Jul	10	-8	0	0	2	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0.5%	
28-Jul	0	0	0	6	0	-4	0	6	0	0	0	0	0	0	0	0	1	2	0	2	0	1	0	0	3	17	0.9%	
29-Jul	1	6	10	10	2	-2	0	3	0	0	0	0	0	0	0	0	2	4	0	4	0	2	0	0	6	48	2.5%	
30-Jul	2	12	20	14	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	56	2.9%	
31-Jul	2	0	8	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0.8%	
1-Aug	0	0	0	0	-2	2	0	0	0	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8	0.4%	
2-Aug	0	4	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0.6%	
3-Aug	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%
4-Aug	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-0.1%	
5-Aug	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-0.1%	
6-Aug	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-0.1%	
7-Aug	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-0.1%	
8-Aug	0	2	52	8	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	3.2%	
9-Aug	4	34	12	4	-8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	2.4%	
10-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
11-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
12-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
13-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
14-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
15-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
16-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
17-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
18-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
19-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
20-Aug	2	17	6	2	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	1.2%	
21-Aug	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%
22-Aug	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%
23-Aug	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%
24-Aug	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%
25-Aug	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%
Total	234	344	336	270	160	17	6	15	12	0	6	21	0	0	0	59	13	96	8	2	-5	3	179	135	1,911	100.0%	100.0%	
	12.2%	18.0%	17.6%	14.1%	8.4%	0.9%	0.3%	0.8%	0.6%	0.0%	0.3%	1.1%	0.0%	0.0%	0.0%	3.1%	0.7%	5.0%	0.4%	0.1%	-0.3%	0.2%	9.4%	7.1%				

Table 3. Expanded daily hourly pink salmon migration past the Snake River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total
29-Jun	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
1-Jun	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
2-Jun	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
3-Jun	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
4-Jun	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
5-Jun	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
6-Jun	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
7-Jun	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
8-Jun	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
9-Jun	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
10-Jun	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
11-Jun	150	26	12	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150
12-Jun	8	36	6	44	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
13-Jun	24	2	8	8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	24
14-Jun	0	2	6	6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jun	-1	9	25	-1	-5	-3	-3	-1	2	-1	-6	4	-5	-3	-2	14	1	3	19	7	18	0	0	0	-1
16-Jun	-1	9	25	-1	-5	-3	-3	-1	2	-1	-6	4	-5	-3	-2	14	1	3	19	7	18	0	0	0	-1
17-Jun	-2	16	44	-12	-18	-12	-6	-2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2
18-Jun	-6	2	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-6
19-Jun	20	54	32	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
20-Jun	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
21-Jun	30	16	188	104	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
22-Jun	11	14	115	98	25	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
23-Jun	-8	18	42	92	42	8	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-8
24-Jun	6	12	50	2	2	8	-12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
25-Jun	52	8	-6	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
26-Jun	0	32	32	32	8	-16	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-Jun	26	-24	0	0	0	14	0	34	-2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
28-Jun	2	-52	0	0	0	-12	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
29-Jun	23	20	10	2	47	-6	13	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
30-Jun	44	92	32	4	94	0	2	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
31-Jul	4	54	10	46	10	70	4	10	14	4	-2	4	0	0	0	0	0	0	0	0	0	0	0	0	4
1-Aug	34	36	0	-12	4	4	0	0	0	0	26	4	0	0	0	0	0	0	0	0	0	0	0	0	34
2-Aug	2	44	56	22	2	18	10	0	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3-Aug	8	14	8	2	8	16	2	0	4	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8
4-Aug	1	9	4	1	4	10	2	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5-Aug	1	9	4	1	4	10	2	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6-Aug	1	9	4	1	4	10	2	0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7-Aug	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-6
8-Aug	0	26	8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9-Aug	0	14	4	-10	4	-10	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Aug	0	7	2	2	2	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Aug	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
22-Aug	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
23-Aug	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
24-Aug	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
25-Aug	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
26-Aug	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
27-Aug	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
28-Aug	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
29-Aug	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
Total	433	582	850	521	477	166	68	39	40	12	9	-18	-22	116	-20	51	20	79	59	31	108	192	166	542	4723

Outlined areas indicate hours not counted. Numbers in outlined areas indicate estimated passage.

Table 4. Expanded daily hourly king salmon migration past the Snake River counting tower, Norton Sound, 1999.

Outlined areas indicate hours not counted. Numbers in outlined areas indicate estimated passage.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total	
29-Jun	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%
30-Jun	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%
1-Jul	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%
2-Jul	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%
3-Jul	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%
4-Jul	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%
5-Jul	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%
6-Jul	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%
7-Jul	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%
8-Jul	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%
9-Jul	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%
10-Jul	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%
11-Jul	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%
12-Jul	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%
13-Jul	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%
14-Jul	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%
15-Jul	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%
16-Jul	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%
17-Jul	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%
18-Jul	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%
19-Jul	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%
20-Jul	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%
21-Jul	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%
22-Jul	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%
23-Jul	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%
24-Jul	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%
25-Jul	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%
26-Jul	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%
27-Jul	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%
28-Jul	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%
29-Jul	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%
30-Jul	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%
31-Jul	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%
1-Aug	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%
2-Aug	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%
3-Aug	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	14.3%
4-Aug	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7.1%
5-Aug	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7.1%
6-Aug	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7.1%
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	7.1%
8-Aug	4	0	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	57.1%
9-Aug	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%
10-Aug	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%
11-Aug	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%
12-Aug	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%
13-Aug	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%
14-Aug	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%
15-Aug	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%
16-Aug	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%
17-Aug	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%
18-Aug	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%
19-Aug	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%
20-Aug	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%
21-Aug	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%
22-Aug	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%
23-Aug	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%
24-Aug	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%
25-Aug	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%
Total	14	0	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	28	100.0%
	50.0%	0.0%	0.0%	28.6%	14.3%	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%	0.0%	7.1%	0.0%	0.0%	0.0%	100.0%	

Table 5. Expanded daily hourly coho salmon migration past the Snake River counting tower, Norton Sound, 2000.

Outlined areas indicate hours not counted. Numbers in outlined areas indicate estimated passage.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total	
29-Jun	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%
30-Jun	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%
1-Jul	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%
2-Jul	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%
3-Jul	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%
4-Jul	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%
5-Jul	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%
6-Jul	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%
7-Jul	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%
8-Jul	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%
9-Jul	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%
10-Jul	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%
11-Jul	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%
12-Jul	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%
13-Jul	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%
14-Jul	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%
15-Jul	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%
16-Jul	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%
17-Jul	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%
18-Jul	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2.5%
19-Jul	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5%
20-Jul	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%
21-Jul	16	0	10	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	6.9%
22-Jul	8	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	3.4%
23-Jul	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%
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	3.4%	
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	1.0%
26-Jul	0	0	8	0	6	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	4.4%
27-Jul	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%
28-Jul	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%
29-Jul	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1.0%
30-Jul	4	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	14	3.4%
31-Jul	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1.0%
1-Aug	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2.0%
2-Aug	0	2	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2.5%
3-Aug	0	2	0	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	3.0%
4-Aug	0	1	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1.7%
5-Aug	0	1	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1.7%
6-Aug	0	1	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1.7%
7-Aug	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	1.0%
8-Aug	4	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	0	-2	4	1.0%
9-Aug	4	6	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	16	3.9%
10-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
11-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
12-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
13-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
14-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
15-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
16-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
17-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
18-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
19-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
20-Aug	2	3	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	-1	7	1.7%
21-Aug	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%
22-Aug	10	30	18	28	14	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	24	0	0	132	32.5%	
23-Aug	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1.5%
24-Aug	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%
25-Aug	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%
Total	92	79	60	62	43	27	13	6	0	0	0	0	0	0	0	0	0	0	0	0	2	26	0	4	-8	406	100.0%
	22.7%	19.5%	14.8%	15.3%	10.6%	6.7%	3.2%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	6.4%	0.0%	1.0%	-2.0%	100.0%	

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total	
29-Jun	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	
30-Jun	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	
1-Jul	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	
2-Jul	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	
3-Jul	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	
4-Jul	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	
5-Jul	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	
6-Jul	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	
7-Jul	14	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1.5%	
8-Jul	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	
9-Jul	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	
10-Jul	0	6	24	24	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	70	5.1%	
11-Jul	106	44	2	2	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	224	16.4%	
12-Jul	2	4	4	18	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	2.5%	
13-Jul	18	2	28	-10	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	5.0%	
14-Jul	0	4	0	28	14	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	4.7%	
15-Jul	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	7.3%	
16-Jul	0	2	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.2%	
17-Jul	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	3.4%	
18-Jul	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	3.4%	
19-Jul	2	12	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.2%	
20-Jul	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	2.6%	
21-Jul	30	4	12	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	4.2%	
22-Jul	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	
23-Jul	0	0	32	22	26	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	6.9%	
24-Jul	0	6	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.2%	
25-Jul	6	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0.7%	
26-Jul	0	10	16	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	2.6%	
27-Jul	10	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0.7%	
28-Jul	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.6%	
29-Jul	2	12	20	14	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	1.3%	
30-Jul	2	0	8	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	4.1%	
31-Jul	2	0	8	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.2%	
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.6%	
2-Aug	0	4	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0.9%	
3-Aug	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	
4-Aug	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	
5-Aug	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	
6-Aug	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	
7-Aug	0	2	52	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	4.5%	
8-Aug	0	4	34	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	3.4%	
9-Aug	4	34	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	3.4%	
10-Aug	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	
11-Aug	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	
12-Aug	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	
13-Aug	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	
14-Aug	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	
15-Aug	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	
16-Aug	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	
17-Aug	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	
18-Aug	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	
19-Aug	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	
20-Aug	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	
21-Aug	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	
22-Aug	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	
23-Aug	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	
24-Aug	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	
25-Aug	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	
26-Aug	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	
27-Aug	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	
28-Aug	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	
29-Aug	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	
Total	196	146	238	166	148	10	4	12	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1,366	100.0%

Outlined areas indicate hours not counted

Table 6. Reported hourly chum salmon observations at the Snake River counting tower, Norton Sound, 2000.

Table 7. Reported hourly pink salmon observations at the Snake River counting tower, Norton Sound, 2000.

Outlined areas indicate hours not counted

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total		
29-Jun	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%	
30-Jun																										0	0.0%	
1-Jul	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%	
2-Jul	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%	
3-Jul	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%	
4-Jul	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%	
5-Jul	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%	
6-Jul	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%	
7-Jul	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%	
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	62	162	4.6%	
9-Jul	0	-2	4	0	0	0	0	0	0	0	0	0	-2	0	-2	0	0	0	0	0	0	0	0	0	0	-2	-0.1%	
10-Jul	0	10	24	164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	210	6.0%	
11-Jul	160	12	26	12	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	358	10.2%	
12-Jul	8	36	-6	44	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130	3.7%	
13-Jul	24	2	8	-2	8	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	1.3%	
14-Jul	0	2	6	10	8	6	0	0	0	0	0	-4	8	0	0	0	0	0	0	0	0	0	0	0	0	36	1.0%	
15-Jul																											106	3.0%
16-Jul																											-32	-0.9%
17-Jul	-2	16	44	-12	-18	-12	-6	-2	4	-2	0	0	6	0	-2	-2	-2	0	2	0	0	0	0	0	0	16	0.5%	
18-Jul	-6	8	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	16	6	0	0	0	0	0	124	4.2%		
19-Jul	20	54	32	6	0	2	0	0	2	0	0	0	0	0	0	0	0	0	2	-2	6	0	6	0	0	128	3.6%	
20-Jul	0	-6	24	0	0	0	0	0	0	8	0	0	0	0	0	2	0	-2	0	0	0	28	20	88	162	4.6%		
21-Jul	30	16	188	104	8	0	-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	20	88	336	9.6%		
22-Jul																											-16	-0.5%
23-Jul	-8	12	42	92	42	8	16	0	0	0	0	0	0	0	2	2	0	2	-4	0	6	10	2	0	224	6.4%		
24-Jul	6	18	-50	2	8	-12	0	0	0	-4	2	0	0	4	-2	0	2	-6	4	-18	0	2	-2	12	66	1.9%		
25-Jul	52	8	-6	-6	0	0	0	0	0	0	-2	0	0	0	8	2	-2	0	-2	6	4	2	0	34	98	2.8%		
26-Jul	0	32	-32	32	46	-16	8	-16	2	0	0	8	0	-2	-2	2	2	-8	-4	0	0	0	0	2	118	3.4%		
27-Jul	26	-24	0	0	0	14	0	34	-2	2	0	-2	0	0	0	0	0	6	0	-2	-2	0	0	2	52	1.5%		
28-Jul	2	-52	-12	0	0	-12	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-50	-1.4%	
29-Jul																											152	4.3%
30-Jul	44	92	32	4	94	0	2	0	8	0	-4	0	0	0	6	10	20	24	-4	0	6	32	20	20	406	11.5%		
31-Jul	4	54	10	46	10	70	4	10	14	4	-2	-4	-4	0	0	2	4	14	-2	0	-2	0	2	-2	232	6.6%		
1-Aug	34	36	0	-12	-4	4	0	0	0	4	28	-4	0	0	0	-2	0	0	0	0	0	-4	0	-4	80	2.3%		
2-Aug	2	44	56	22	2	18	10	0	-4	0	0	0	-6	2	0	0	4	2	0	6	2	-4	-2	0	154	4.4%		
3-Aug	8	14	8	2	8	16	2	0	4	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72	2.0%	
4-Aug																											0	0.0%
5-Aug																											0	0.0%
6-Aug																											2	0.1%
7-Aug	-6	4	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	-4	36	1.0%		
8-Aug	0	26	8	6	0	0	-2	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	1.5%	
9-Aug	0	14	14	4	-10	8	0	2	0	-2	0	-4	0	14	-4	-2	-2	2	0	0	0	0	0	0	0	34	1.0%	
10-Aug																											0	0.0%
11-Aug																											0	0.0%
12-Aug																											0	0.0%
13-Aug																											0	0.0%
14-Aug																											0	0.0%
15-Aug																											0	0.0%
16-Aug																											0	0.0%
17-Aug																											0	0.0%
18-Aug																											0	0.0%
19-Aug																											0	0.0%
20-Aug																											0	0.0%
21-Aug	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%
22-Aug	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%
23-Aug	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%
24-Aug	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%
25-Aug	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%
Total	398	426	586	516	386	100	52	30	26	16	14	2	-12	12	8	42	32	52	40	12	106	146	162	364	3,516	100.0%	100.0%	

Table 8. Reported hourly king salmon observations at the Snake River counting tower, Norton Sound, 2000.

Outlined areas indicate hours not counted

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total						
29-Jun	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%						
30-Jun																									0	0.0%						
1-Jul	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%						
2-Jul	0	0	0	0									0	0	0	0											0	0.0%				
3-Jul	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%						
4-Jul	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%						
5-Jul	0	0			0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0.0%						
6-Jul	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%						
7-Jul	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%						
8-Jul	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%						
9-Jul	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%						
10-Jul	0	0	0	0									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%				
11-Jul	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%						
12-Jul	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0.0%						
13-Jul	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%						
14-Jul	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%						
15-Jul																									0	0.0%						
16-Jul												0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
17-Jul	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%						
18-Jul	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%						
19-Jul	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%						
20-Jul	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%						
21-Jul	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%						
22-Jul																									0	0.0%						
23-Jul	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%						
24-Jul	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%						
25-Jul	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%						
26-Jul	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%						
27-Jul	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%						
28-Jul	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%						
29-Jul																									0	0.0%						
30-Jul	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%						
31-Jul	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%						
1-Aug	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%						
2-Aug	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%						
3-Aug	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	18.2%						
4-Aug																									0	0.0%						
5-Aug																									0	0.0%						
6-Aug																			0	0.0%												
7-Aug	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	9.1%						
8-Aug	4	0	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	72.7%						
9-Aug	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%						
10-Aug																									0	0.0%						
11-Aug																									0	0.0%						
12-Aug																									0	0.0%						
13-Aug																									0	0.0%						
14-Aug																									0	0.0%						
15-Aug																									0	0.0%						
16-Aug																									0	0.0%						
17-Aug																									0	0.0%						
18-Aug																									0	0.0%						
19-Aug																									0	0.0%						
20-Aug																									0	0.0%						
21-Aug	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%						
22-Aug	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%						
23-Aug	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%						
24-Aug	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%						
25-Aug	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%						
Total	8	0	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	100.0%						
	36.4%	0.0%	0.0%	36.4%	18.2%	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%	0.0%	0.0%	100.0%							

Table 9. Reported hourly coho salmon observations at the Snake River counting tower, Norton Sound, 2000.

Outlined areas indicate hours not counted

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total																
29-Jun	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%															
30-Jun																									0	0.0%																
1-Jul	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%															
2-Jul	0	0	0	0									0	0	0													0	0.0%													
3-Jul	0	0	0	0									0	0	0													0	0.0%													
4-Jul	0	0	0	0					0	0	0					0	0	0									0	0.0%														
5-Jul	0			0					0	0	0					0	0	0									0	0.0%														
6-Jul	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%															
7-Jul	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%															
8-Jul	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%															
9-Jul	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%														
10-Jul	0	0	0									0	0	0													0	0.0%														
11-Jul	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%															
12-Jul	0	0	0	0	0	0	0	0					0	0	0									0	0.0%																	
13-Jul	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%															
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0													0	0.0%																
15-Jul																									0	0.0%																
16-Jul												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%							
17-Jul	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%														
18-Jul	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3.4%															
19-Jul	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2.1%															
20-Jul	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%															
21-Jul	16	0	10	0	0	0	2	0	0	0	0	0													28	9.6%																
22-Jul																									0	0.0%																
23-Jul	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%															
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	14	4.8%																
25-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	1.4%															
26-Jul	0	0	8	0	6	0	0	4	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	6.2%															
27-Jul	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%															
28-Jul	0	0	0	0	0	0	0	0	0															0	0.0%																	
29-Jul																									0	0.0%																
30-Jul	4	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	14	4.8%															
31-Jul	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1.4%														
1-Aug	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2.7%															
2-Aug	0	2	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3.4%																
3-Aug	0	2	0	0	4	6	0	0	0	0	0	0	0	0	0	0									12	4.1%																
4-Aug																									0	0.0%																
5-Aug																									0	0.0%																
6-Aug																			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%
7-Aug	0	0	0	0	0	0	2	0	0	0	0	0													0	0	2	0	0	0	0	0	0	4	1.4%							
8-Aug	4	0	0	2	0	2	0	0	0	0	0	0													0	0	0	0	-2	0	-2	0	0	4	1.4%							
9-Aug	4	6	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0									18	6.2%														
10-Aug																									0	0.0%																
11-Aug																									0	0.0%																
12-Aug																									0	0.0%																
13-Aug																									0	0.0%																
14-Aug																									0	0.0%																
15-Aug																									0	0.0%																
16-Aug																									0	0.0%																
17-Aug																									0	0.0%																
18-Aug																									0	0.0%																
19-Aug																									0	0.0%																
20-Aug																									0	0.0%																
21-Aug	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%														
22-Aug	10	30	18	28	14	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	24	0	0	0	132	45.2%															
23-Aug	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2.1%															
24-Aug	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%														
25-Aug	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%														
Total	60	42	44	40	26	18	8	6	0	0	0	0	0	0	0	0	0	0	0	0	2	26	12	4	4	252	100.0%															
	20.5%	14.4%	15.1%	13.7%	8.9%	6.2%	2.7%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	8.9%	4.1%	1.4%	1.4%	100.0%																

Figure 1. Area location map of the Snake River counting tower project site, Norton Sound, 2000.

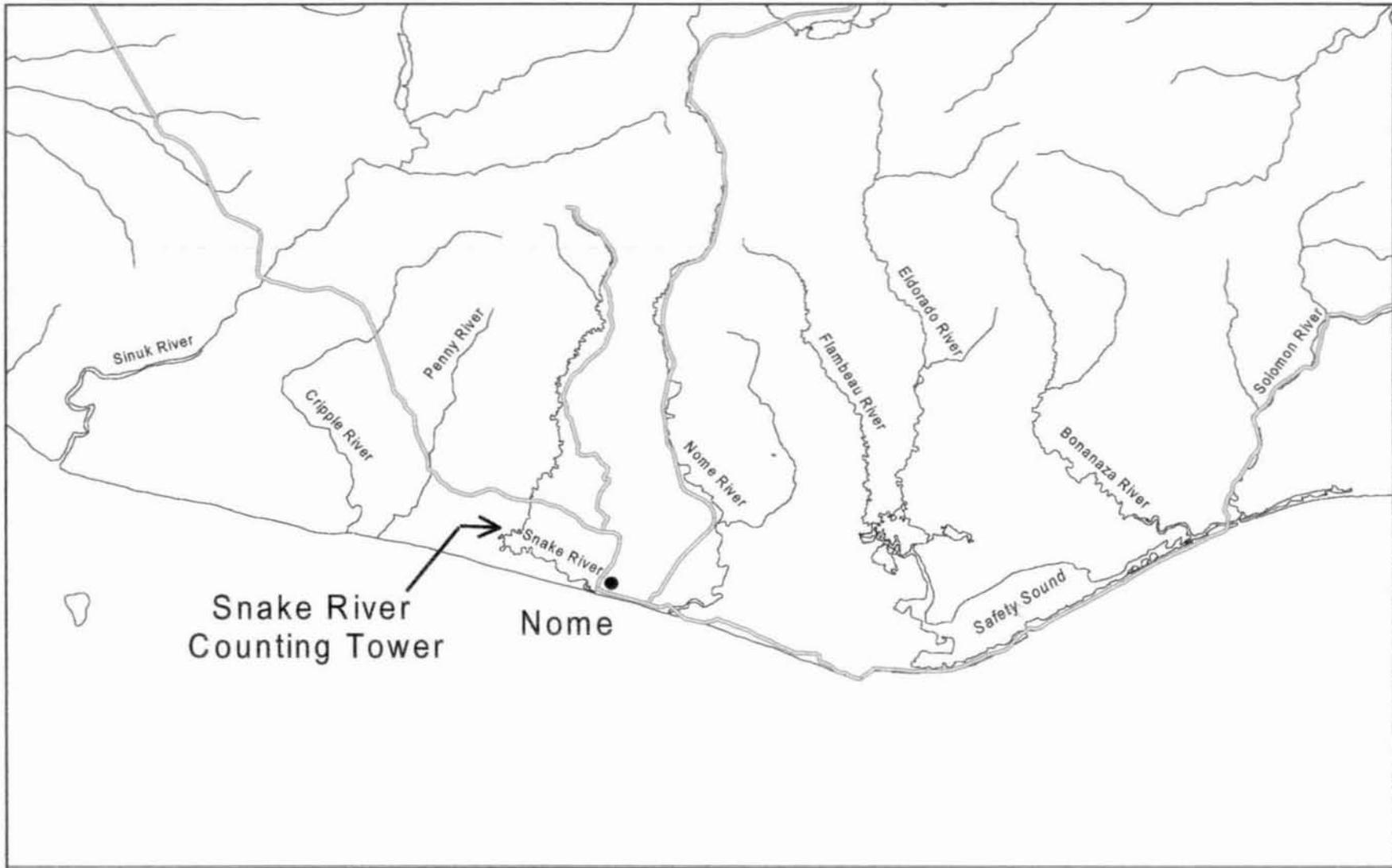


Figure 2. Cumulative migration of all species past the Snake River counting tower, Norton Sound, 2000.

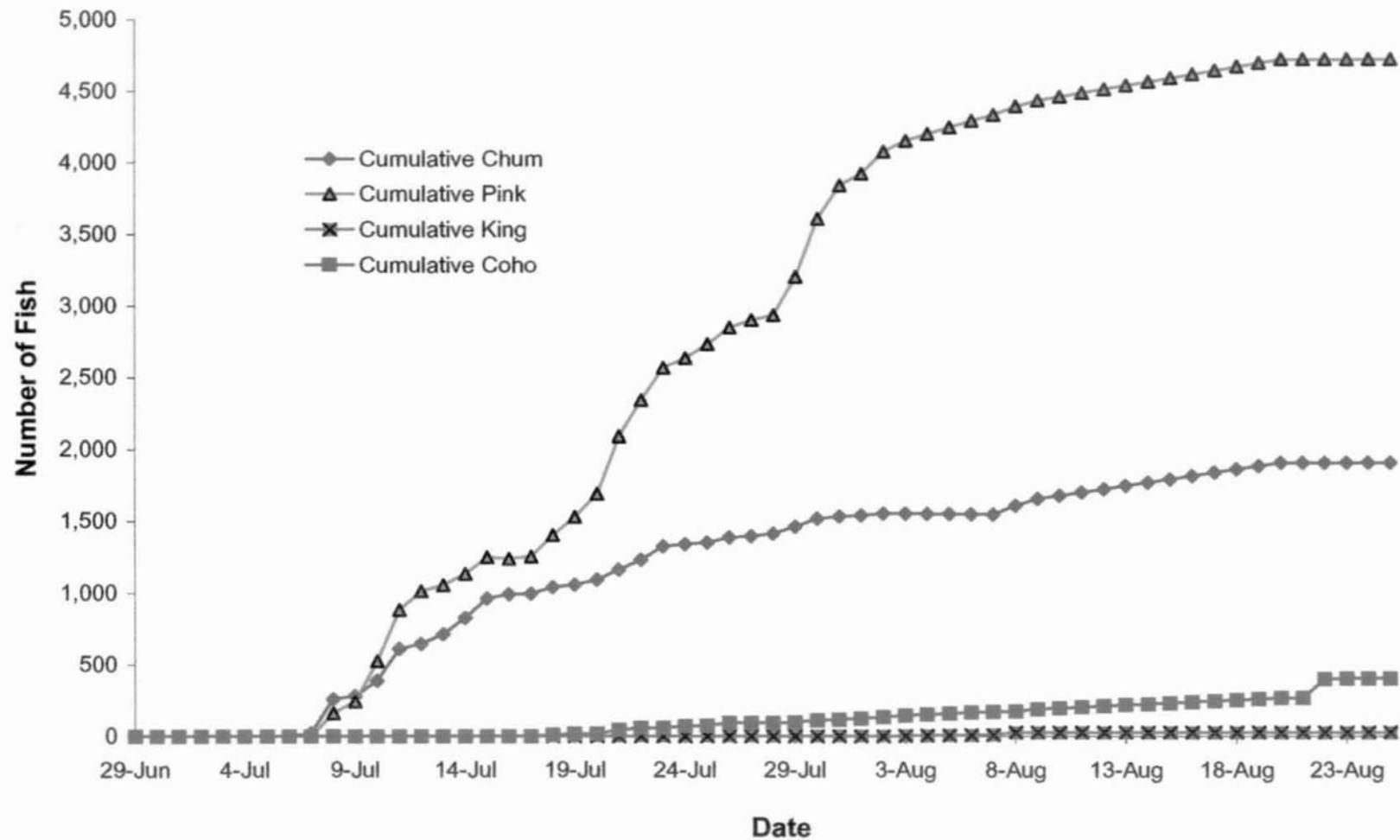


Figure 3. Daily chum salmon migration past the Snake River counting tower, Norton Sound, 2000.

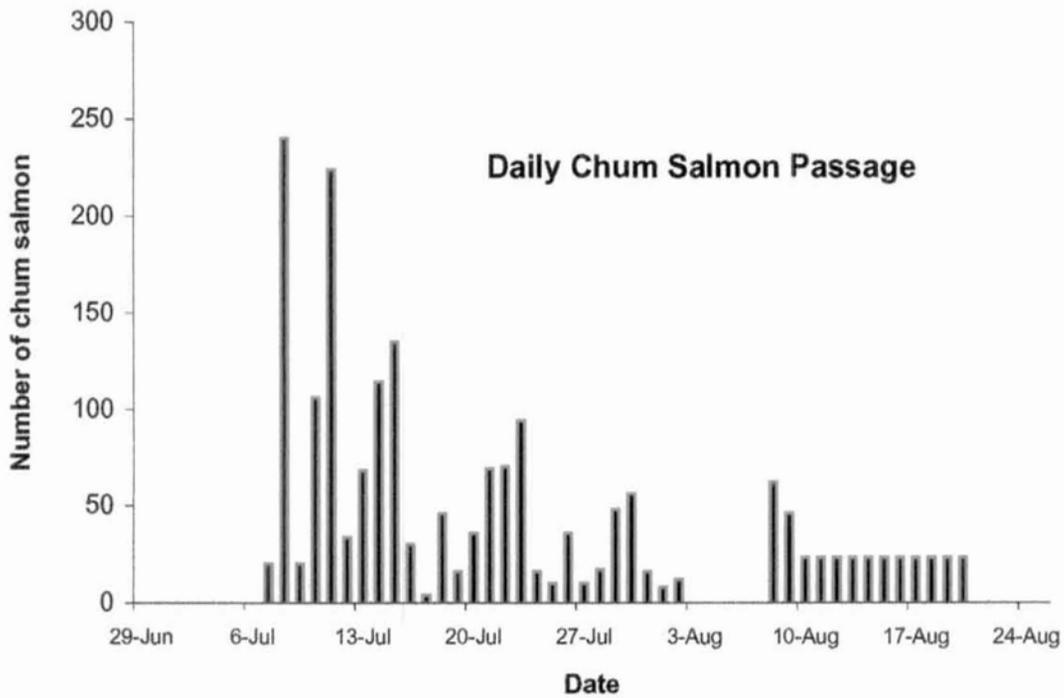


Figure 4. Cumulative chum salmon migration past the Snake River counting tower, Norton Sound, 2000.

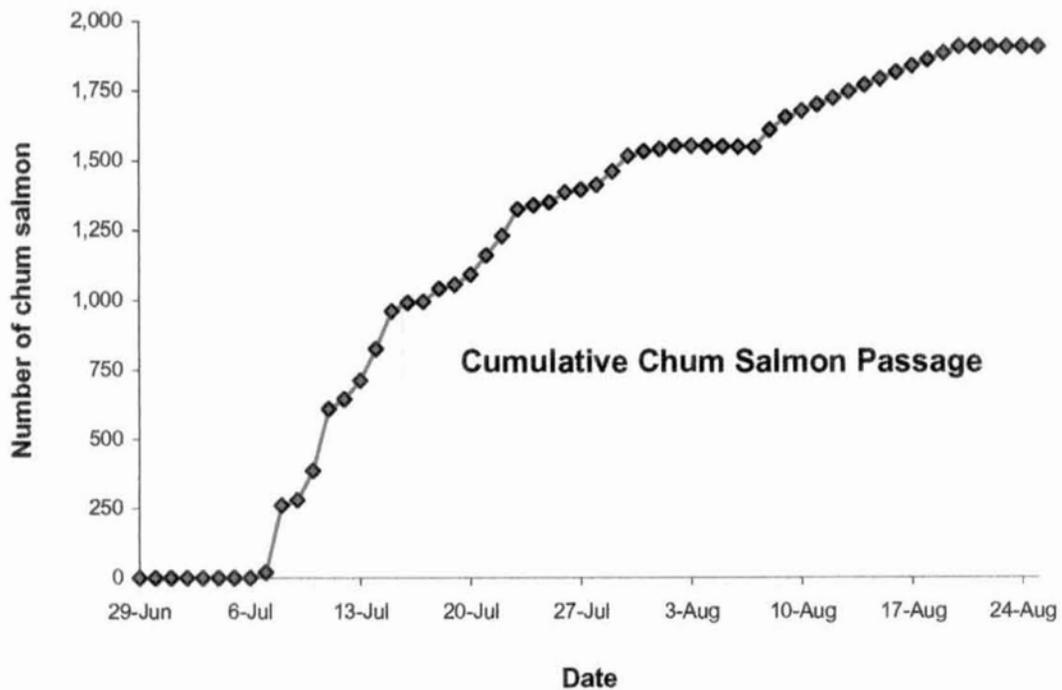


Figure 5. Daily pink salmon migration past the Snake River counting tower, Norton Sound, 2000.

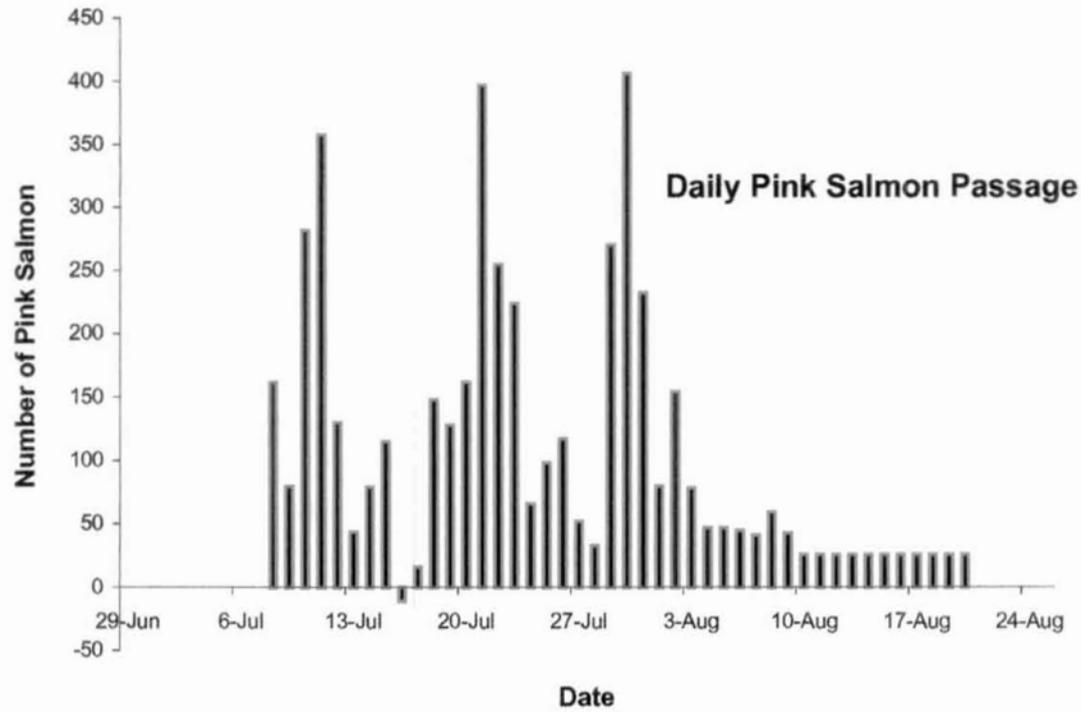


Figure 6. Cumulative pink salmon migration past the Snake River counting tower, Norton Sound, 2000.

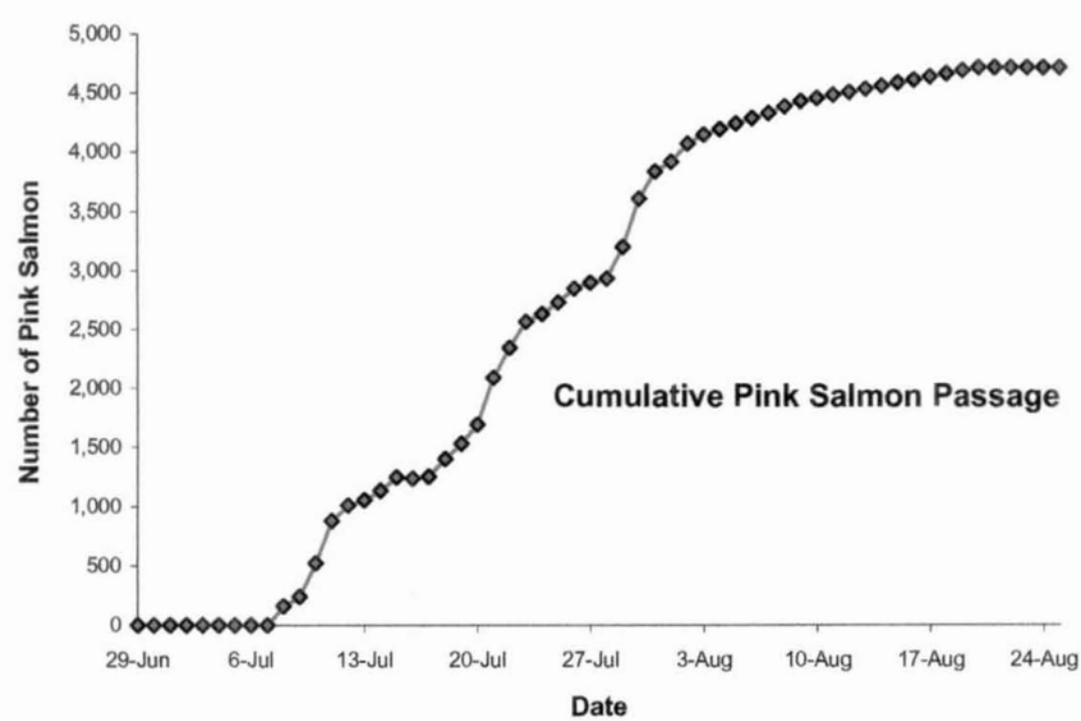


Figure 7. Daily coho salmon migration past the Snake River counting tower, Norton Sound, 2000.

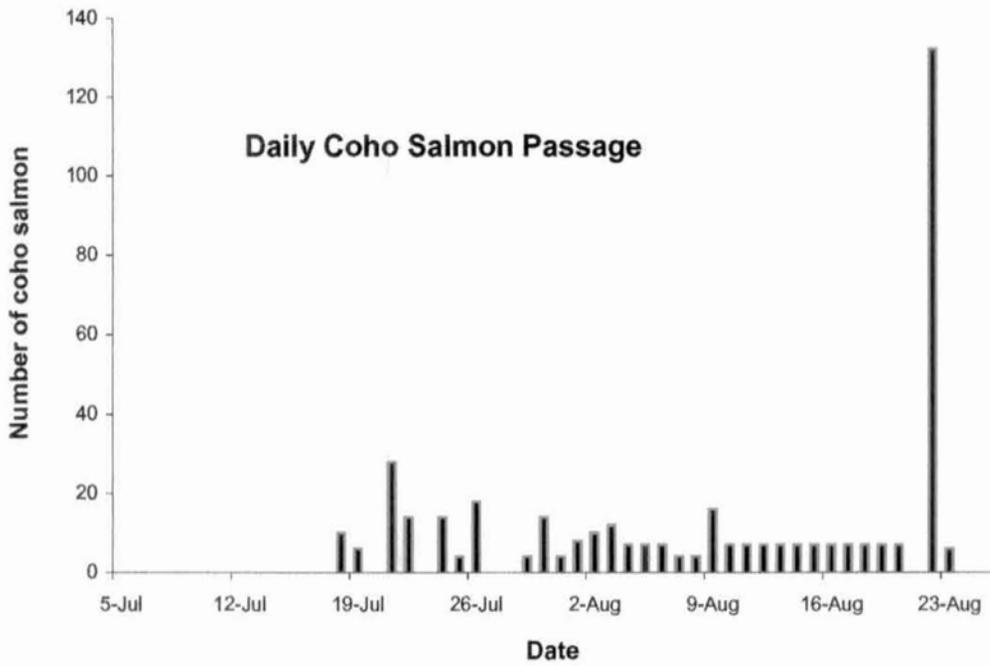


Figure 8. Cumulative coho salmon migration past the Snake River counting tower, Norton Sound, 2000.

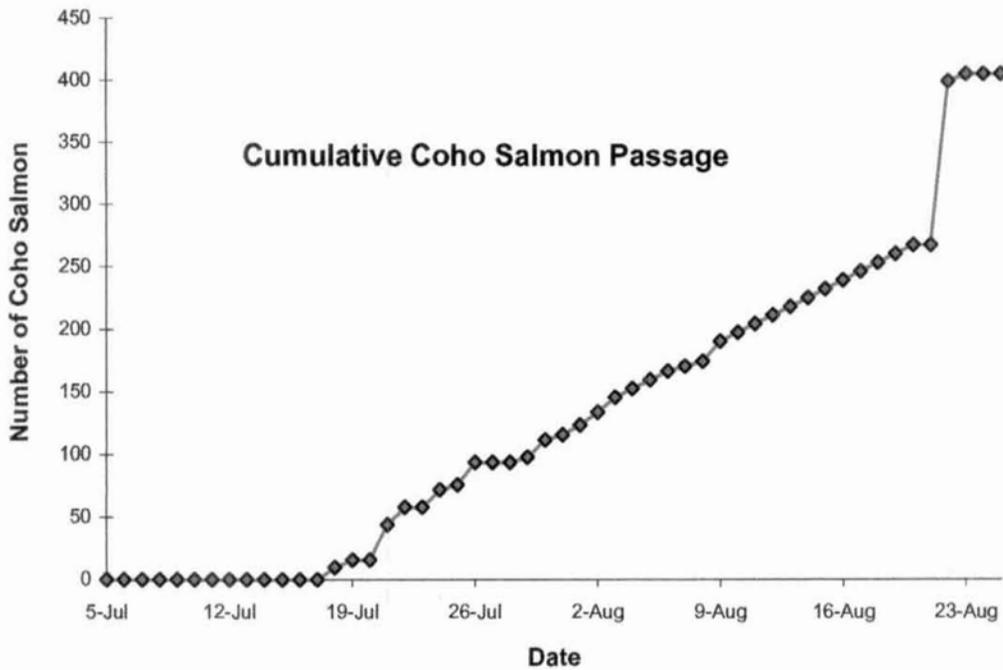


Figure 9. Diurnal pattern of chum salmon migration past the Snake River counting tower, Norton Sound, 2000.

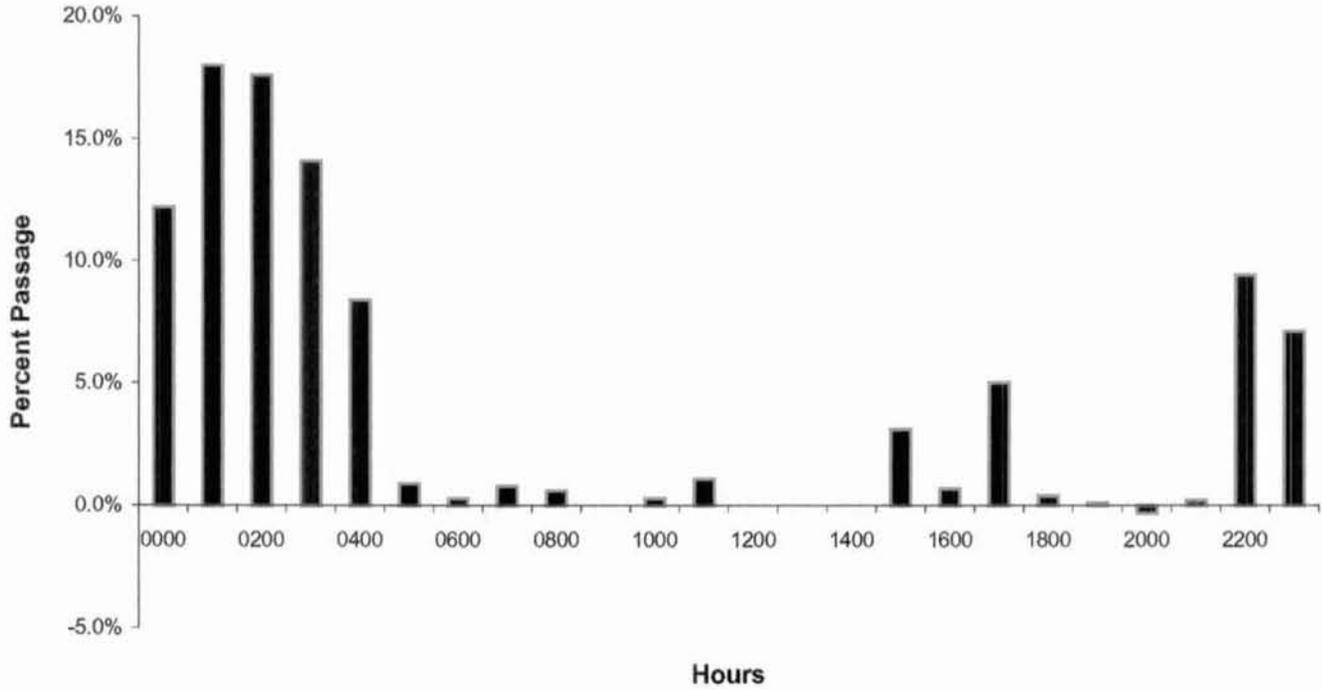


Figure 10. Diurnal pattern of pink salmon migration past the Snake River counting tower, Norton Sound, 2000.

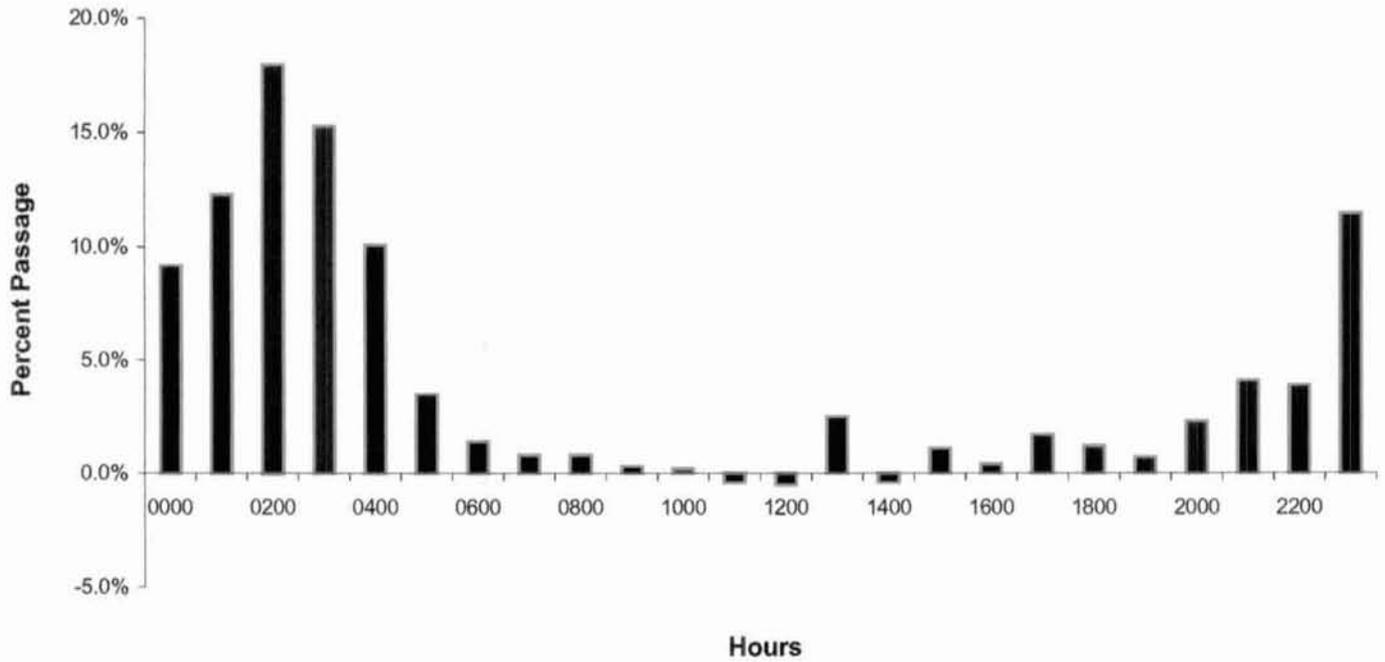


Figure 11. Diurnal pattern of coho salmon migration past the Snake River counting tower, Norton Sound, 2000.

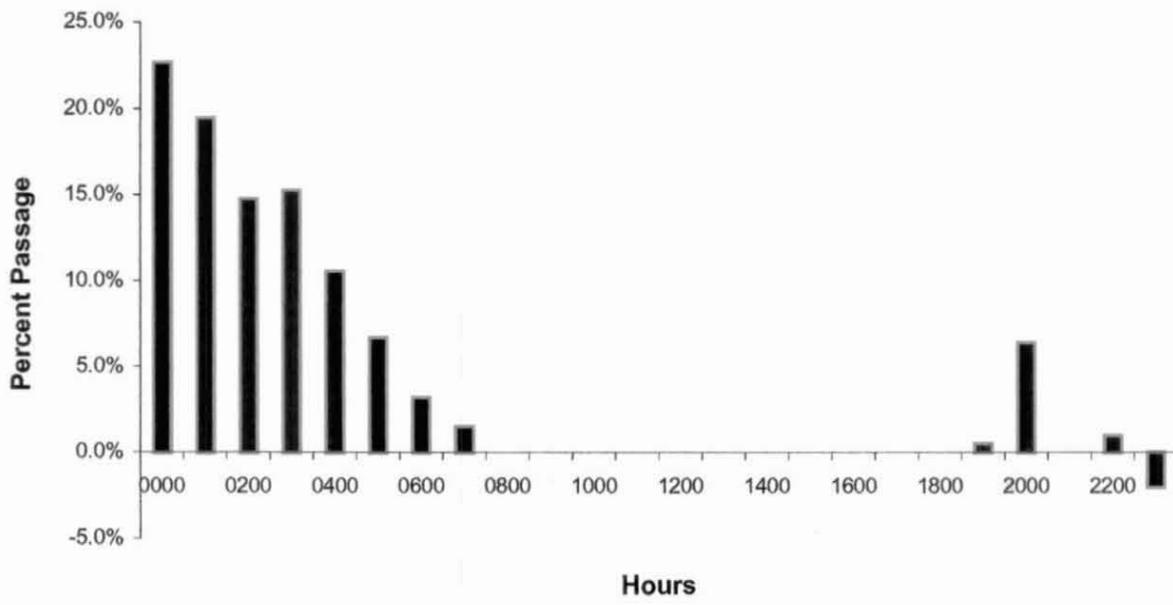


Figure 14. Coho salmon run-timing past the Snake River counting tower, Norton Sound, 1995-2000.

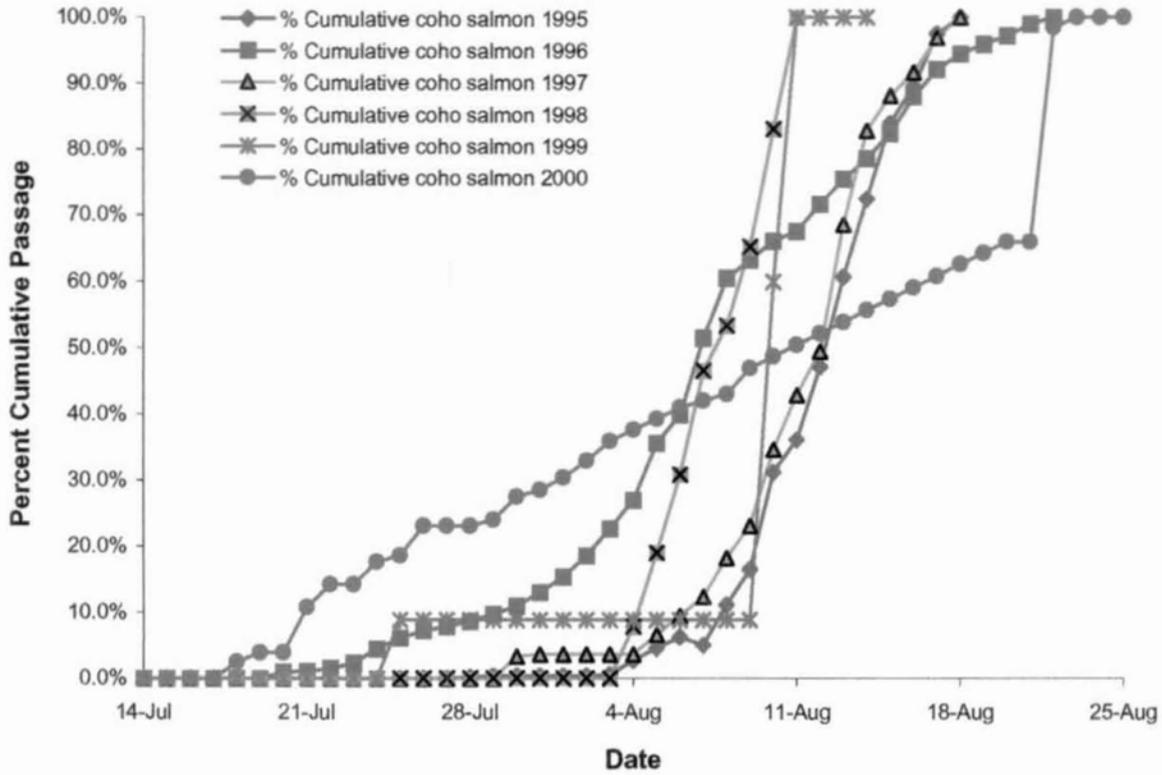
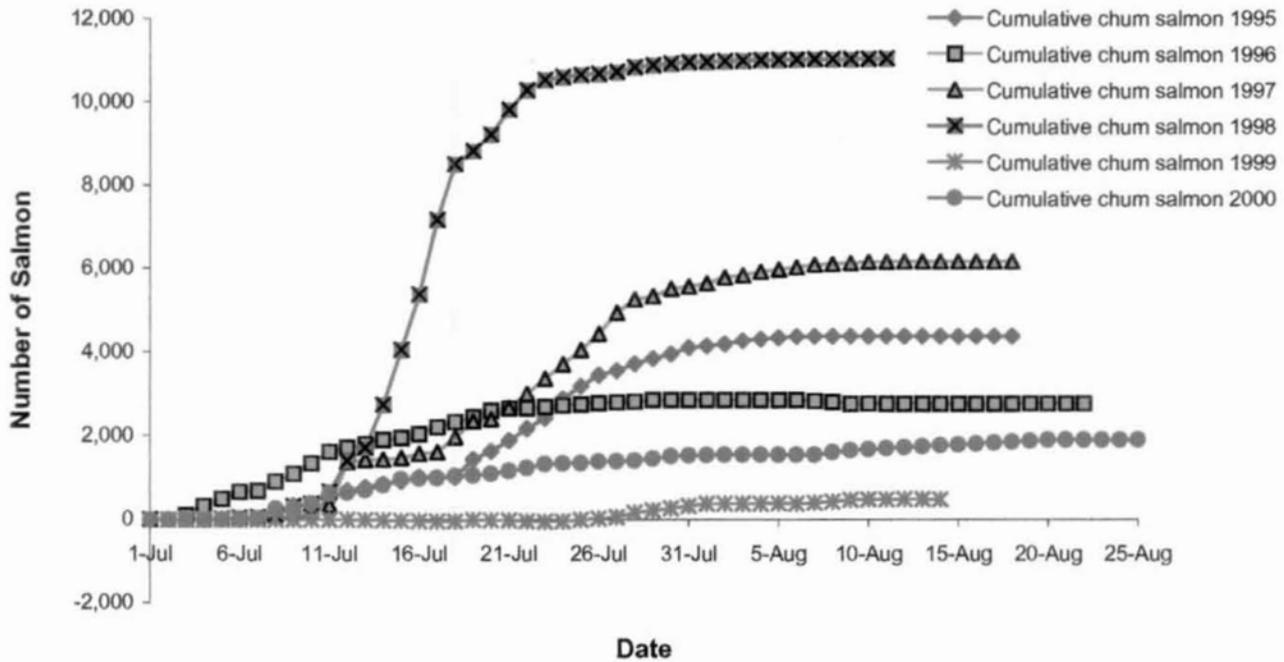


Figure 15. Cumulative chum salmon migration past the Snake River counting tower, Norton Sound, 1995-2000.



Appendix 1. Historical salmon escapement at the Snake River counting tower, 1995-2000.

Year	Operating period	Chum	Pink	King	Coho
1995	July 1-Aug 18	4,393	917	0	856
1996	July 3-Aug 22	2,772	44,558	5	1,638
1997	July 7-Aug 18	6,184	6,742	12	1,157
1998	July 1-Aug 11	11,067	219,679	0	178
1999	July 1-Aug 14	484	116	10	90
2000	June 29-Aug 25	1,911	4,723	28	406

Appendix 2. Percentage of salmon counts estimated at the Snake River counting tower project 1995-2000.

Year	Operating period	Chum	Pink	King	Coho
1995	July 1-Aug 18	33.3%	37.9%	0.0%	40.0%
1996	July 3-Aug 22	12.0%	33.1%	20.0%	45.2%
1997	July 7-Aug 18	27.4%	46.6%	0.0%	41.1%
1998	July 1-Aug 11	41.0%	34.7%	0.0%	23.6%
1999	July 1-Aug 14	33.9%	-9.7%	-40.0%	0.0%
2000	June 29-Aug 25	28.5%	25.6%	21.4%	28.1%