

**NORTON SOUND AND KOTZEBUE SOUND MANAGEMENT AREA**

**SALMON CATCH AND ESCAPEMENT REPORT, 2002**



By

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## ABSTRACT

The 2002 commercial and subsistence harvest and escapement information for the five species of Pacific salmon *Oncorhynchus* found in the Norton Sound and Port Clarence Management Area and the one species of *Oncorhynchus* found in the Kotzebue Sound Management Area in significant abundance were presented, along with available age, sex, and length information. The 2002 Norton Sound District commercial harvest totaled 2,365 salmon and was composed of 5 chinook (*O. tshawytscha*), 600 chum (*O. keta*), 1,759 coho (*O. kisutch*) and 1 sockeye salmon (*O. keta*). The commercial harvest was 98% below the 1992-2001 averages for both chinook and chum salmon, and 97% below for coho salmon. No pink salmon (*O. gorbuscha*) were purchased in 2002 and sockeye salmon (*O. keta*) are only present in small numbers in this area. Six counting tower projects and two weir projects were operational in Norton Sound in 2002 to provide more complete information on salmon spawning escapements, to collect biological data (age, sex, length), and those data are reported here. In the Kotzebue District, the commercial harvest totaled 8,390 chum salmon. No incidental catch of chinook salmon was reported. Subsistence catches of these species plus whitefish, sheefish, northern pike and burbot also occur in the Kotzebue District. The chum salmon commercial harvest in 2002 was 3% of the 1980-2001 average of 214,233 fish.

KEY WORDS: Norton Sound, Kotzebue Sound, harvest, escapement, *Oncorhynchus tshawytscha*, *O. nerka*, *O. keta*, *O. kisutch*, *O. gorbuscha*, age-sex-length composition.

## INTRODUCTION

The Norton Sound, Port Clarence, and Kotzebue Sound commercial salmon management districts include all waters of Alaska from Point Romanof, south of Stebbins, to Point Hope, north of Kotzebue. The Port Clarence District has been closed to commercial salmon fishing since 1966. The Norton Sound District includes all waters of Alaska from Point Romanof to Cape Douglas (Figures 1 and 2) and consists of six subdistricts: 1 (Nome), 2 (Golovin), 3 (Moses Point), 4 (Norton Bay), 5 (Shaktoolik), and 6 (Unalakleet). These subdistricts are intended to concentrate commercial harvests on stocks that spawn in the watersheds flowing into the respective subdistricts. The Kotzebue Sound District includes all waters of Alaska from Point Hope to Cape Prince of Wales, but commercial salmon fishing is restricted to Subdistricts 1 and 2, consisting of ocean waters north of the Baldwin Peninsula (Figures 3 and 4). Subdistrict 2, Noatak River mouth, normally remains closed unless the chum salmon return is estimated to be substantially above average.

Five species of Pacific salmon are found in the Norton Sound area. In descending order of economic importance in 2002, they are coho salmon (*Oncorhynchus kisutch*), chum salmon (*O. keta*), chinook salmon (*O. tshawytscha*), sockeye salmon (*O. nerka*), and pink salmon (*O. gorbuscha*). In Norton Sound the pink salmon returns during 2002 were the largest of the five species, followed by chum, coho, chinook, and sockeye salmon. In the Kotzebue Sound District, chum salmon are the predominant species.

This report presents catch, escapement and ASL data for the Norton Sound and Kotzebue Sound management areas for 2002. Knowledge of the runs magnitude, distribution, timing, and age-sex-length (ASL) composition for both the harvest and escapement by stock is fundamental to managing salmon fisheries and achieving full production. ASL composition of samples from selected salmon harvests and escapements in the Norton Sound and Kotzebue Sound areas have been reported since 1962 and are presented in this report for 2002.

Fishery statistics for the Norton Sound and Kotzebue Sound areas are available from several additional sources. Commercial and subsistence harvest and spawning escapement data from 1961 to 2002 are summarized in the Norton Sound - Port Clarence - Kotzebue Sound Annual Management Report (Brennan et al. *In Prep*). In addition, results from escapement assessment projects are analyzed and reported annually. For the 2002 season these included test fishery projects on the Unalakleet River (Jones, *In Prep*) and the Kobuk River (Menard, *In Prep*), counting tower projects on the Kwiniuk, Niukluk, North, Eldorado, Pilgrim, and Snake Rivers, and weirs on the Nome River and at the outlet of Glacial Lake (Sinik River Drainage) (Kohler, *In Prep*).

Historic ASL data for Norton Sound and Kotzebue Sound salmon from 1962 to 1982 are summarized in an unpublished report series entitled ADF&G Arctic-Yukon-Kuskokwim Region Age-Sex-Size Composition of Salmon. Beginning with the 1983 season, these data have been published in an annual report (Bigler and Lean 1984, 1986; Blaney and Lingnau 1995; Buklis 1991a, 1991b; Hamner 1987, 1989a, 1989b; Lingnau 1992, 1994a, 1994b; Lingnau 1995, 1996, 1997, 1998). Beginning in 1999, ASL data have been reported in annual Catch and Escapement Reports (Kohler 2000, 2001)

## METHODS

### *Harvest and Escapement*

Commercial catch data presented in this report were compiled from harvest receipts, i.e., *fish tickets*, which document each sale by a licensed fisher. These data were summarized by microcomputer in the Nome ADF&G office during the fishing season.

Funds were dedicated beginning in 1994 to conduct in-depth subsistence harvest surveys for most villages in the Kotzebue, Port Clarence the Norton Sound Districts. These surveys were continued in 2002. Villages surveyed in the Norton Sound and Port Clarence Areas were Elim, Golovin, Koyuk, Shaktoolik, St. Michael, Stebbins, White Mountain, Unalakleet, Teller, and Brevig Mission. In the Kotzebue area, only the villages of Noatak and Noorvik were surveyed. During community surveys the members of each household were asked how many salmon were caught for subsistence use. Surveyors assumed fishers could accurately recall their harvests, which may have occurred over a period of several months. A subsistence permit is required to subsistence fish in the Nome Subdistrict, and catch limits are set by permit for each species by river.

The Division of Subsistence has conducted other in-depth subsistence harvest interviews in the region. These studies include the city of Kotzebue in 1986 (Georgette and Loon 1993), the village of Unalakleet in 1989-1990 (Magdanz and Seitz 1993), Elim in 1992-1993 (Jim Magdanz, ADF&G, Nome, personal communication), the Nome Subdistrict from 1975-1991 (Magdanz 1992), and Brevig Mission, Golovin and Shishmaref in 1989 (Conger and Magdanz 1990).

Historically, aerial surveys have been the primary method for monitoring salmon escapements to the Norton Sound and Kotzebue Sound drainages although a number of escapement projects are now operating in Norton Sound. Aerial surveys do not provide a total estimate of salmon spawning abundance but are an index of relative abundance for the surveyed streams. To compare aerial surveys across years, surveys are attempted in approximately the same time frame each year for the same index areas. Weather conditions, pilots and surveyors are variables in aerial survey counts. Comparing commercial catch statistics to previous years may provide an index of run strength and timing. Test fishing provides an index of escapement and species composition for turbid or large drainages that are difficult to monitor visually, but does not provide an estimate of total abundance. Test fishery catch and catch per unit effort (CPUE) statistics are used as an index of relative abundance. A test fishing project on the Unalakleet River (Unalakleet Subdistrict) was used to index escapement into that drainage. In the Kotzebue Sound area a test fishing project was conducted on the Kobuk River near the village of Kiana to index salmon escapements into the Kobuk River system. Limited test drift net fishing on the Noatak River was conducted to collect ASL information. Counting towers and weirs provide a better estimate of escapement. The following projects conducted during the 2002 season provided data on salmon escapement abundance and timing in Norton Sound: Nome River weir and Snake and Eldorado River towers in Subdistrict 1, Niukluk River tower in Subdistrict 2, Kwiniuk River tower in Subdistrict 3, the North River tower in Subdistrict 6 and the Pilgrim River tower in the Port Clarence District. This was the second year that tower and weir counting project dates were extended to enumerate the coho salmon runs into

the Nome, Snake, Eldorado, Niukluk, Kwiniuk, North, and Pilgrim Rivers.

### *Age, Sex, and Length Data Collection*

Fish age was determined from scales by reading annuli (winter checks). Scales were removed from the left side of the fish, three scale rows above midline along a line crossed by a diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin. Scales were mounted on gum cards in the field and impressions were later made in cellulose acetate cards using a scale press. The acetate cards were read with the aid of a microfiche reader and ages were reported in European notation (the first digit refers to the freshwater age and does not include the year spent in the gravel; the second digit refers to the ocean age) (Koo 1962). Sex was determined by examining external characteristics, such as: snout, vent, body symmetry, extruded eggs, ovipositor or milt of live fish. The sex of dead fish was determined by examining the gonads, if necessary. Fish length was measured from mid-eye to fork-of-tail (fork length) to the nearest 0.5 cm. In some cases sex and length data but no ageable scales were obtained from fish, and in other cases ageable scales were collected without corresponding sex or length data. Therefore, numbers of fish in a length-by-age summary table may differ from numbers of fish in a sex-by-age summary table for a given fishery or escapement sample.

### *Sample Size*

Minimum sample size goals were established for temporal strata based upon simultaneous interval estimation of age class composition. Two methods of determining sample size goals, based on different methods of constructing simultaneous confidence intervals, have been employed. For most purposes, sample size goals were developed using the method of Thompson (1987). Sample size goals were established such that 95% simultaneous confidence intervals would be of width 0.2. This objective is satisfied with a sample size of 128 scales per strata, although the goal was increased to account for the expected number of unreadable scales in any particular instance. In the Kotzebue commercial fishery, where age composition is an important index of run strength, a sample size goal was developed using more stringent standards based on the method of Bromaghin (1993). The ages of chum salmon were categorized into three age classes; age 4, age 5, and age 3 or age 6. The sample size goal was chosen such that the width of 95% simultaneous confidence intervals (Goodman 1965) would not exceed 0.15. A sample of 249 fish per stratum satisfied this objective. The sample size goal was increased to 280 fish per stratum to account for the expected number of unreadable scales.

## **RESULTS**

Commercial fishery samples were collected from chum and coho salmon in Norton Sound Subdistricts 5 and 6. No commercial fishery samples were collected to estimate age and sex

composition of the harvest for chum salmon in the Kotzebue District in 2002. Chinook, chum, and coho salmon were sampled from the Unalakleet River set gillnet test fishing catch. Because of the selectivity of the 5-7/8 in (149 mm) stretched-mesh gillnets used on the test net project, the samples are not an unbiased estimate of spawning escapement age, sex, and size composition. Chum and coho salmon escapement samples were collected from projects on the Niukluk, Eldorado, Nome, Snake, Pilgrim, and Kwiniuk Rivers using beach seines. In the Kotzebue District, chum salmon from drift test fishing catches were sampled on both the Kobuk and Noatak Rivers. Comparisons of age, sex, and size composition between samples in this report are non-statistical comparisons. Temporal distribution of some samples may be of concern. Some sample sizes are marginally adequate and may not have been collected proportionally to the catch or abundance.

## *Norton Sound*

### **Commercial and Subsistence Harvest**

The 2002 Norton Sound commercial harvest totaled 2,365 salmon and was composed of 1,759 coho, 600 chum, 5 chinook, and 1 sockeye salmon (Table 1). Subdistrict 6 accounted for 60% of the total commercial salmon harvest (in numbers of fish) in 2002, followed by 40% for Subdistrict 5 (Appendix A).

Coho salmon accounted for 88% of the total fishery value followed by chum salmon (11%), and chinook salmon (1%). Only one buyer purchased fish during the 2002 season. Salmon were delivered to Unalakleet via tender and aircraft for processing. The salmon were headed and gutted, then shipped air freight to markets. A few fishers sold their catch locally and to wholesale distributors, as permitted under catcher/seller regulations. The average price paid was \$0.39 per pound for chinook salmon, \$0.20 per pound for coho salmon, \$0.07 per pound for chum salmon and \$0.20 per pound for sockeye salmon. The total exvessel value of the raw fish was \$2,941, 98% below the recent 5-year average and 99% below the recent 10-year average.

Although many of the residents of Norton Sound are dependent to some extent on the fish and game resources of the area, subsistence salmon catches generally were not monitored from 1983 through 1993, except in the Nome Subdistrict. Before 1983, the department conducted annual household surveys in many of the villages. For the last 5 years in which these surveys were conducted, 1978-1982, the average annual subsistence harvest in the Norton Sound area was 73,000 salmon for all species combined. This number should be considered a minimum estimate because not all households were contacted. In the Nome Subdistrict (Figure 2), subsistence permits require fishers to document their harvest by species. In 2002, 149 Tier I subsistence permits were issued. A total of 111 permits were returned. The reported Tier I permit harvest of 2,237 salmon was composed of 19 chinook, 173 sockeye, 407 coho, 240 chum, and 1,398 pink salmon (Table 2). Of the 38 Tier II subsistence permits issued, 37 permits were returned. The reported Tier II permit harvest of 3,708 salmon was composed of 3 chinook, 71 sockeye, 359 coho, 919 chum, and 2,356 pink salmon (Table 3).

Funds have been dedicated to conduct comprehensive subsistence surveys in Norton Sound and

Kotzebue Sound since 1994. The villages surveyed in 2002 are listed in the methods section.

Results of the survey for 2002 estimated 115,642 salmon were harvested for subsistence purposes in Norton Sound and Port Clarence (Table 4). This estimate includes the permit fishery in Northern Norton Sound. The largest contribution to the harvest was pink salmon, followed by chum, coho, chinook, and sockeye salmon. The village of Unalakleet took the largest quantity of salmon (27,069). Port Clarence villages (Teller and Brevig Mission) harvested an estimated 11,932 salmon. Sockeye salmon were the most abundant followed by pink, chum, coho, and chinook salmon.

### **Escapement Abundance**

Aerial survey escapement information is only an indication of run strength. The aerial survey methodology of enumerating salmon does not provide estimates of total escapement abundance because of the many diverse influences under which they are conducted. Aerial survey escapement results from Norton Sound for 2002 are found in Table 5. Poor survey conditions prohibited the completion of chinook salmon escapement surveys in most of Norton Sound. The Unalakleet test net catches, the Kwiniuk and Niukluk towers, commercial catch rates, and subsistence reports were the primary assessment tools for judging chinook salmon run strength. Almost all indicators suggested chinook salmon escapements were below average throughout Norton Sound. Chum salmon

Escapements were below average throughout most of the management area in 2002 although Kwiniuk River was 37% above average. Survey conditions were good in the Nome Subdistrict where chum salmon escapement goals were achieved in only four of the seven rivers with established goals. The 2002 coho salmon return to Norton Sound was below average and reversed the pattern of above average escapements in the even-numbered years. Subsistence restrictions were implemented in the Nome and Golovin Subdistrict and reduced commercial fishing time occurred throughout the Norton Sound District.

Several new cooperative escapement projects have been implemented in recent years. These projects are listed under METHODS, *Harvests and Escapements* and the counts for 2002 are presented in Appendix B. The projects with chum salmon escapement goals are the Kwiniuk River tower with a biological escapement goal (BEG) of 10,000-20,200, the Nome River weir BEG 2,900-4,300, the Snake River tower BEG 1,600-2,500, the Flambeau River 4,100-6,300 and the Eldorado River BEG 6,000-9,200. The Kwiniuk River had tower counts of 37,864 chum salmon, 1,114,616 pink salmon, 1,632 chinook salmon, and 6,459 coho salmon (Appendix Table B.1). The Nome River weir enumerated 35,057 pink salmon, 1,720 chum salmon, 3,418 coho salmon, 7 chinook salmon, 29 sockeye salmon, and 563 Dolly Varden (Appendix Table B.2). Counts past the Niukluk River tower were 33,979 chum salmon, 636,404 pink salmon, 7,269 coho salmon, 542 chinook salmon, and 2,574 Dolly Varden (Appendix Table B.3). Snake River tower counts were 2,776 chum salmon, 4,103 pink salmon, 409 coho salmon and 9 chinook salmon (Appendix Table B.4). The Eldorado River tower project counted 10,243 chum salmon, 119,098 pink salmon, 26 chinook salmon and 623 coho salmon (Appendix Table B.5). The North River tower, a tributary of the Unalakleet River, counted 321,756 pink salmon, 5,918 chum salmon, 1,484 chinook salmon and 3,020 coho salmon (Appendix Table B.6). The Pilgrim River tower project counted 5,590 chum salmon, 3,882 pink salmon, 3,888 sockeye salmon, 150 chinook salmon, and 246 coho salmon

(Appendix Table B.7). A weir at the outlet of Glacial Lake in the upper Sinuk River drainage counted 1,047 sockeye salmon (Appendix Table B.8). Projects were not funded to enumerate entire runs of some salmon species; therefore some species counts should be considered conservative estimates.

### **Age, Sex, and Length Composition**

No chinook salmon commercial harvest samples were collected in Subdistrict 5 and Subdistrict 6 during 2002. A sample of 42 chinook salmon from the Unalakleet River test fishery was comprised of 66.7% age-1.3, and 19.0% age-1.2, with 92.9% of the total being male (Table 6). Mean lengths by age group from the Unalakleet River test fish catch ranged from 566 mm for age-1.2 males to 965 mm for age-2.4 females.

The Subdistrict 5 chum salmon commercial catch sample dominate age composition was 65.0% age-0.3 and 27.5% age-0.4. Males accounted for 56.7% of the sample (Table 7). The Subdistrict 6 chum salmon commercial catch sample age composition was 67.9% age-0.3 and 22.3% age-0.4. Males accounted for 53.6% of the sample (Table 8). A sample of 707 chum salmon from the Unalakleet River test fishery was 47.2% age-0.3 and 46.0% age-0.4. Males comprised of 53.5% of the sample (Table 9). Age class 0.3 dominated the 2002 chum salmon escapement into most Norton Sound drainages, which is normal. The combined escapement sample from the Kwiniuk River above and below the tower was 92% age-0.3. The Niukluk River escapement sample was 76.0% age-0.3 and 16.8% age-0.4. The Nome River escapement sample was 64.5% age-0.3 and 29.5% age-0.4. The Snake River escapement sample was 64.0% age-0.3 and 33.5% age-0.4. The Eldorado River escapement sample was 88.3% age-0.3. The Pilgrim River escapement sample was 80.5% age-0.3 and 14.0% age-0.4. Females comprised 56.8% of the sample at Kwiniuk, 45.5% at Niukluk River, 53.6% at the Nome River, 59.2% at the Snake River, 51.0% at the Eldorado River, and 41.0% at the Pilgrim. Mean lengths by age group for all samples collected ranged from 527 mm for age-0.2 females from the Pilgrim River sample to 636 mm for age-0.4 males from the Kwiniuk River sample (Table 10).

Age class 2.1 dominated the subdistricts 5 and 6 coho commercial catch, accounting for 79.6% and 83.5%, respectively (Tables 11 and 12). There were 160 coho salmon sampled from the Unalakleet River test fishery with 68.1% being age-2.1 (Table 13). Coho salmon escapement samples from the Kwiniuk, Nome, Snake, Eldorado, and Niukluk Rivers were 87.9%, 80.6%, 87.5%, 85.2%, and 93.7% age-2.1 respectively (Table 14). Mean lengths by age group for all samples collected ranged from 503 mm for age-1.1 females in the Nome River escapement sample to 646 mm for age-3.1 males from the Eldorado River sample.

## *Kotzebue Sound*

### **Commercial Harvest**

The commercial harvest in the Kotzebue District during 2002 consisted of 8,390 chum salmon. No chinook salmon or Dolly Varden were purchased in 2002 (Table 15), because no buyers were present in Kotzebue during the season. One of the three participating fisherman, operating as a catcher seller, marketed the fish through Great Pacific Fisheries. The 2002 harvest was 4% of the 20-year (1982-2001) average of 214,223. Only 3 permits were fished this year making it the lowest participation level since the beginning of the fishery.

The reported total sale was 74,341 pounds of chum salmon (average weight 8.9 pounds) at an average price of \$0.10 per pound. The total exvessel value was \$7,572 to Kotzebue area fishermen with an average of \$2,524 for each participating permit holder (Table 16). The fish were packed in ice and flown in the round to Anchorage.

Limited commercial harvest of miscellaneous finfish has been allowed since statehood, normally under the auspices of a permit, which delineates harvest levels, open areas, legal gear, etc. No commercial harvest of whitefish, pike, or burbot was reported during the 2002 commercial season. Sheefish are caught and sold primarily between mid-November and late March. Although some permit holders annually renew their permits, no fish tickets were turned in to the department and the extent of the harvest and its value is unknown.

### **Subsistence Harvest**

Results from the Division of Subsistence survey indicate an estimated subsistence harvest of 16,955 salmon in the Kotzebue Sound area in 2002, with nearly 100% of the harvest being chum salmon (Table 17). This greatly underestimates the harvest because only the villages of Noatak and Noorvik were surveyed. The city of Kotzebue traditionally has the largest harvest with an average estimated subsistence harvest of 40,654 salmon for the period from 1995 to 2001.

### **Escapement Abundance**

Only one aerial survey was conducted in the Kotzebue District in 2002 under unacceptable viewing conditions. One aerial survey was canceled because of weather and one survey was canceled because no aircraft was available. Previous escapements and aerial survey goals are shown in Table 18. The only other indicator of escapement in the district was the test fishing project on the Kobuk River, which was 76% of the average index for the period 1993 to 2001 (Table 19).

### **Age, Sex, and Length Composition**

Age groups 0.3 and 0.4 typically dominate the commercial chum salmon catch, with smaller percentages of age-0.2 and age-0.5 fish. No commercial catch sampling was conducted in 2002.

The age composition from the Kobuk River chum salmon drift gillnet test fishing samples was 24.4% age-0.3 and 67.6% age-0.4 (Appendix Table C.1). Approximately fifty-five percent of the samples from the Kobuk River were female. Mean lengths from the drift test fish samples ranged from 624 mm for age-0.5 males to 570 mm for age-0.2 females from the Kobuk River sample. Sufficient test fishing catch samples from the Kobuk River were collected to stratify the season's age composition into three periods. The age composition from the Noatak River chum salmon drift gillnet test fishing samples was 42.2% age-0.3 and 53.5% age-0.4. Approximately fifty-eight percent of the samples from the Noatak River were female (Appendix Table C.2).

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Table 1. Norton Sound commercial salmon effort, catch, and weight (pounds) by subdistrict, 2002.

| Subdistrict | Number of Fishermen | Chinook  |        | Sockeye  |        | Coho     |        | Pink     |        | Chum     |        | Total    |        |
|-------------|---------------------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|----------|--------|
|             |                     | No. Fish | Weight |
| 1           |                     |          |        |          |        |          |        |          |        |          |        |          |        |
| 2           |                     | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      |
| 3           |                     | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      |
| 4           | 0                   | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      | 0        | 0      |
| 5           | 7                   | 1        | 10     | 0        | 0      | 680      | 5212   | 0        | 0      | 261      | 2091   | 942      | 7313   |
| 6           | 5                   | 4        | 40     | 1        | 11     | 1079     | 7760   | 0        | 0      | 339      | 2464   | 1423     | 10275  |
| Total       | 12                  | 5        | 50     | 1        | 11     | 1759     | 12972  | 0        | 0      | 600      | 4555   | 2365     | 17588  |

Table 2. Subsistence Tier I permit harvests of salmon in Norton Sound and Port Clarence, 2002.

|                | Number of Permits |            |           | Number of Salmon Harvested |            |            |              |            |              |
|----------------|-------------------|------------|-----------|----------------------------|------------|------------|--------------|------------|--------------|
|                | Issued            | Returned   | Fished    | Chinook                    | Sockeye    | Coho       | Pink         | Chum       | Total        |
| Marine Waters  | 33                | 26         | 11        | 1                          | 4          | 141        | 153          | 70         | 369          |
| Nome River     | 28                | 20         | 5         | 0                          | 4          | 95         | 101          | 64         | 264          |
| Snake River    | 0                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Eldorado River | 7                 | 4          | 3         | 0                          | 0          | 0          | 156          | 0          | 156          |
| Flambeau River | 1                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Bonanza River  | 15                | 11         | 8         | 0                          | 0          | 59         | 184          | 22         | 265          |
| Safety Sound   | 12                | 11         | 4         | 0                          | 0          | 12         | 211          | 39         | 262          |
| Solomon River  | 6                 | 3          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Penny River    | 0                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Cripple Creek  | 0                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Sinuk River    | 1                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Feather River  | 0                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Fish River     | 1                 | 1          | 1         | 0                          | 0          | 0          | 80           | 0          | 80           |
| Niukluk River  | 16                | 13         | 9         | 0                          | 0          | 80         | 509          | 32         | 621          |
| Port Clarence  | 0                 | 0          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Kuzitrin River | 2                 | 1          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| Pilgrim River  | 26                | 20         | 8         | 18                         | 165        | 20         | 4            | 13         | 220          |
| Unknown River  | 1                 | 1          | 0         | 0                          | 0          | 0          | 0            | 0          | 0            |
| <b>Total</b>   | <b>149</b>        | <b>111</b> | <b>49</b> | <b>19</b>                  | <b>173</b> | <b>407</b> | <b>1,398</b> | <b>240</b> | <b>2,237</b> |

Table 3. Subsistence Tier II permit harvests of salmon in Norton Sound and Port Clarence, 2002.

|                | Number of Permits   |          |        | Number of Salmon Harvested |         |      |       |      | Total |
|----------------|---------------------|----------|--------|----------------------------|---------|------|-------|------|-------|
|                | Issued <sup>a</sup> | Returned | Fished | Chinook                    | Sockeye | Coho | Pink  | Chum |       |
| Marine Waters  | 28                  | 28       | 21     | 0                          | 71      | 270  | 1547  | 689  | 2577  |
| Nome River:    | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Snake River    | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Eldorado River | 5                   | 5        | 5      | 0                          | 0       | 89   | 565   | 85   | 739   |
| Flambeau River | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Bonanza River  | 1                   | 1        | 1      | 3                          | 0       | 0    | 3     | 0    | 6     |
| Safety Sound   | 2                   | 2        | 2      | 0                          | 0       | 0    | 201   | 115  | 316   |
| Solomon River  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Penny River    | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Cripple Creek  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Sinuk River    | 2                   | 1        | 1      | 0                          | 0       | 0    | 40    | 30   | 70    |
| Feather River  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Fish River     | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Niukluk River  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Port Clarence  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Kuzitrin River | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Pilgrim River  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Unknown River  | 0                   | 0        | 0      | 0                          | 0       | 0    | 0     | 0    | 0     |
| Total          | 38                  | 37       | 30     | 3                          | 71      | 359  | 2,356 | 919  | 3,708 |

<sup>a</sup> One Tier II fisher never picked up permit.

Table 4. Estimates of subsistence harvests of salmon from Norton Sound and Port Clarence area villages, 2002.

| Village               | Chinook | Chum   | Pink   | Sockeye | Coho   | Total Salmon |
|-----------------------|---------|--------|--------|---------|--------|--------------|
| Nome                  | 4       | 1,114  | 3,161  | 79      | 666    | 5,024        |
| Golovin               | 42      | 1,144  | 7,827  | 66      | 979    | 10,058       |
| Niukluk River Permits | 0       | 32     | 589    | 0       | 80     | 701          |
| White Mountain        | 27      | 706    | 6,014  | 0       | 581    | 7,328        |
| Elim                  | 565     | 1,451  | 8,345  | 14      | 1,801  | 12,177       |
| Koyuk                 | 557     | 3,971  | 6,049  | 0       | 509    | 11,086       |
| Shaktoolik            | 1,230   | 800    | 8,769  | 4       | 2,169  | 12,972       |
| Unalakleet            | 2,367   | 3,877  | 15,557 | 280     | 4,988  | 27,069       |
| Stebbins              | 450     | 3,586  | 7,459  | 300     | 2,324  | 14,119       |
| St. Michael           | 227     | 1,136  | 583    | 20      | 989    | 2,957        |
| Brevig Mission        | 65      | 1,534  | 2,347  | 2,127   | 1,741  | 7,815        |
| Pilgrim R. Permits    | 18      | 13     | 4      | 165     | 20     | 220          |
| Teller                | 50      | 1,152  | 1,043  | 1,440   | 433    | 4,117        |
| Total                 | 5,602   | 20,516 | 67,748 | 4,495   | 17,280 | 115,642      |

Table 5. Salmon survey counts of Norton Sound streams and associated salmon escapement goals, 2002.

| Stream Name                | Chinook                 |                             |                           |                             | Chum                    |                              |                           |                             | Coho                    |                             |                           |                             | Sockeye                 |                             |                           |                             | Pink                    |                             |                           |                             |
|----------------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|------------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|-------------------------|-----------------------------|---------------------------|-----------------------------|
|                            | Weir/<br>Tower<br>Count | Escapement<br>Goal<br>Range | Aerial<br>Survey<br>Count | Escapement<br>Goal<br>Range | Weir/<br>Tower<br>Count | Escapement<br>Goal<br>Range  | Aerial<br>Survey<br>Count | Escapement<br>Goal<br>Range | Weir/<br>Tower<br>Count | Escapement<br>Goal<br>Range | Aerial<br>Survey<br>Count | Escapement<br>Goal<br>Range | Weir/<br>Tower<br>Count | Escapement<br>Goal<br>Range | Aerial<br>Survey<br>Count | Escapement<br>Goal<br>Range | Weir/<br>Tower<br>Count | Escapement<br>Goal<br>Range | Aerial<br>Survey<br>Count | Escapement<br>Goal<br>Range |
| Salmon L.                  |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |
| Grand Central R.           |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             |                         |                             | 3,520                     | Combined                    |                         |                             |                           |                             |
| Pilgrim R.                 | 168                     |                             |                           |                             | 5,538                   |                              |                           |                             | 216                     |                             |                           |                             | 4,012                   |                             | 71                        | 4,000 - 8,000               |                         |                             |                           |                             |
| Glacial L.                 |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             | 1,047                   |                             |                           | 800 - 1,600                 |                         |                             |                           |                             |
| Simuk R.                   |                         |                             |                           |                             |                         | 4,000 - 6,200                | 1,682                     |                             |                         |                             | 1,200                     |                             |                         |                             | 1,105                     |                             |                         |                             |                           | 28,487                      |
| Cripple R.                 |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           | 2,900                       |
| Penny R.                   |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           | 280                         |
| Snake R.                   | 7                       |                             |                           |                             | 2,669                   | 1,600 - 2,500 <sup>a</sup>   |                           |                             | 396                     |                             |                           |                             | 8                       |                             |                           |                             |                         |                             |                           | 4,042                       |
| Norne R.                   | 7                       |                             |                           |                             | 1,720                   | 2,900 - 4,300 <sup>b</sup>   |                           |                             | 3,418                   |                             |                           |                             | 29                      |                             |                           |                             |                         |                             |                           | 35,057                      |
| Flambeau R.                |                         |                             |                           |                             |                         | 4,100 - 6,300                | 1,876                     |                             |                         |                             |                           | 186                         |                         |                             |                           |                             |                         |                             |                           | 1,102                       |
| Eldorado R.                | 25                      |                             |                           |                             | 10,260                  | 6,000 - 9,200 <sup>b</sup>   |                           |                             | 516                     |                             |                           |                             | 10                      |                             |                           |                             |                         |                             |                           | 115,674                     |
| Bonanza R.                 |                         |                             | 8                         |                             |                         | 2,300 - 3,400                | 595                       |                             |                         |                             |                           | 1,080                       |                         |                             |                           |                             |                         |                             |                           | 17,095                      |
| Solomon R.                 |                         |                             |                           |                             |                         | 1,100 - 1,600                | 325                       |                             |                         |                             |                           | 315                         |                         |                             |                           |                             |                         |                             |                           | 9,170                       |
| Fish R.                    |                         |                             |                           | Combined                    |                         |                              |                           | Combined                    |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |
| Boston Cr.                 |                         |                             |                           | 100 - 250                   |                         |                              |                           | 23,200 - 46,400             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |
| Niakluk R.                 | 542                     |                             |                           |                             | 33,979                  |                              |                           |                             | 7,269                   |                             | 1,122                     | Combined                    |                         |                             |                           |                             |                         | 436,404                     |                           | 8,400                       |
| Ophir Cr.                  |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           | 950 - 1,900                 |                         |                             |                           |                             |                         |                             |                           |                             |
| Kwiniuk R.                 | 1,632                   | 300 - 550                   |                           |                             | 37,864                  | 11,500 - 23,000 <sup>c</sup> |                           |                             | 8,459                   |                             |                           | 650 - 1,300                 |                         |                             |                           |                             |                         | 1,114,616                   |                           | 12,500                      |
| Tubutulik R.               |                         |                             | 42 <sup>d</sup>           |                             |                         | 9,200 - 18,400 <sup>c</sup>  | 180 <sup>d</sup>          |                             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           | 182,000                     |
| Inglutalik R. <sup>e</sup> |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |
| Ungalik R. <sup>e</sup>    |                         |                             |                           |                             |                         |                              |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |                         |                             |                           |                             |
| Shaktoolik R.              |                         |                             | 82                        | 400 - 800                   |                         |                              | 465                       |                             |                         |                             | 677                       |                             |                         |                             |                           |                             |                         |                             | 48,000                    | 29,250                      |
| Unalakeet R.               |                         |                             | 28                        | Combined                    |                         |                              | 1,099                     | Combined                    |                         |                             | 1,615                     |                             |                         |                             |                           |                             |                         |                             |                           | 16,090                      |
| Old Woman R.               |                         |                             | 33                        | 550 - 1,100                 |                         |                              | 236                       | 2,400 - 4,800               |                         |                             | 347                       |                             |                         |                             |                           |                             |                         |                             |                           | 6,635                       |
| North R.                   | 1,484                   | 1,200 - 2,400               |                           |                             | 5,918                   |                              |                           |                             | 2,966                   |                             | 800                       | 550 - 1,100                 |                         |                             |                           |                             |                         | 321,756                     |                           | 8,500                       |

<sup>a</sup> Counts should be considered minimums due to counting conditions or well after peak spawning date.

<sup>b</sup> The Board of Fisheries also established an OEG with the same range as the BEG.

<sup>c</sup> This represents the OEG in regulation. The BEG is 10,000-20,000 for the Kwiniuk River and 8,000-16,000 (expanded aerial counts) for the Tubutulik River.

Table 6 . Unalakleet River chinook salmon test fish sample age and sex composition, and mean length, 2002

|                 |                               | Brood Year and (Age Group) |               |               |               |               |               |        |
|-----------------|-------------------------------|----------------------------|---------------|---------------|---------------|---------------|---------------|--------|
|                 |                               | 1998<br>(1.2)              | 1997<br>(1.3) | 1996<br>(1.4) | 1997<br>(2.2) | 1996<br>(2.4) | 1995<br>(1.5) | Total  |
| Sampling Dates: | 6/7-7/13                      |                            |               |               |               |               |               |        |
| Sample Size:    | 42                            |                            |               |               |               |               |               |        |
| Male            | Percent of Sample             | 19.05%                     | 66.67%        | 4.76%         | 2.38%         |               |               | 92.9%  |
|                 | Number in Catch               | 8                          | 28            | 2             | 1             |               |               | 39     |
|                 | Mean length (mm) <sup>a</sup> | 566                        | 713           | 790           | 665           |               |               |        |
| Female          | Percent of Sample             | 0.00%                      | 0.00%         | 2.38%         |               | 2.38%         | 2.38%         | 7.1%   |
|                 | Number in Catch               | 0                          |               | 1             |               | 1             | 1             | 3      |
|                 | Mean length (mm) <sup>a</sup> |                            |               | 800           |               | 965           | 790           |        |
| Total           | Percent of Sample             | 19.0%                      | 66.7%         | 7.1%          | 2.4%          | 2.4%          | 2.4%          | 100.0% |
|                 | Number in Catch               | 8                          | 28            | 3             | 1             | 1             | 1             | 42     |

<sup>a</sup> Length was from mid-eye to fork of tail.

Table 7. Norton Sound Subdistrict 5 chum salmon commercial catch sample age and sex composition, and mean length, 2002.

|                          |                               | Brood Year and (Age Group) |               |               |               | Total  |
|--------------------------|-------------------------------|----------------------------|---------------|---------------|---------------|--------|
|                          |                               | 1999<br>(0.2)              | 1998<br>(0.3) | 1997<br>(0.4) | 1996<br>(0.5) |        |
| Sampling Dates: 8/7-8/14 |                               |                            |               |               |               |        |
| Sample Size: 120         |                               |                            |               |               |               |        |
| Male                     | Percent of Sample             | 1.7%                       | 33.3%         | 19.2%         | 2.5%          | 56.7%  |
|                          | Number                        | 2                          | 40            | 23            | 3             | 68     |
|                          | Mean length (mm) <sup>a</sup> | 585                        | 596           | 593           | 655           |        |
| Female                   | Percent of Sample             | 2.5%                       | 31.7%         | 8.3%          | 0.8%          | 43.3%  |
|                          | Number                        | 3                          | 38            | 10            | 1             | 52     |
|                          | Mean length (mm) <sup>a</sup> | 550                        | 612           | 620           | 615           |        |
| Totals                   | Percent of Sample             | 4.2%                       | 65.0%         | 27.5%         | 3.3%          | 100.0% |
|                          | Number                        | 5                          | 78            | 33            | 4             | 120    |

<sup>a</sup> Length was from mid-eye to fork of tail.

Table 8. Norton Sound Subdistrict 6 chum salmon commercial catch sample age and sex composition, and mean length, 2002.

|                           |                               | Brood Year and (Age Group) |       |       |       |        |
|---------------------------|-------------------------------|----------------------------|-------|-------|-------|--------|
|                           |                               | 1999                       | 1998  | 1997  | 1996  | Total  |
|                           |                               | (0.2)                      | (0.3) | (0.4) | (0.5) |        |
| Sampling Dates: 7/30-8/21 |                               |                            |       |       |       |        |
| Sample Size: 112          |                               |                            |       |       |       |        |
| Male                      | Percent of Sample             | 2.7%                       | 32.1% | 16.1% | 2.7%  | 53.6%  |
|                           | Number                        | 3                          | 36    | 18    | 3     | 60     |
|                           | Mean length (mm) <sup>a</sup> | 543                        | 575   | 601   | 627   |        |
| Female                    | Percent of Sample             | 3.6%                       | 35.7% | 6.3%  | 0.9%  | 46.4%  |
|                           | Number                        | 4                          | 40    | 7     | 1     | 52     |
|                           | Mean length (mm) <sup>a</sup> | 586                        | 608   | 626   | 650   |        |
| Totals                    | Percent of Sample             | 6.3%                       | 67.9% | 22.3% | 3.6%  | 100.0% |
|                           | Number                        | 7                          | 76    | 25    | 4     | 112    |

<sup>a</sup> Length was from mid-eye to fork of tail.

Table 9. Unalakleet River chum salmon test fishing catch sample age and sex composition, and mean length, 2002.

|                          |                              | Brood Year and (Age Group) |               |               |               | Total   |
|--------------------------|------------------------------|----------------------------|---------------|---------------|---------------|---------|
|                          |                              | 1999<br>(0.2)              | 1998<br>(0.3) | 1997<br>(0.4) | 1996<br>(0.5) |         |
| Stratum Dates: 6/7-6/30  |                              |                            |               |               |               |         |
| Sampling Dates: 6/7-6/30 |                              |                            |               |               |               |         |
| Sample Size: 226         |                              |                            |               |               |               |         |
| Male                     | Percent of Sample            | 0.00%                      | 4.87%         | 17.26%        | 0.44%         | 22.57%  |
|                          | Number in Sample             | 0                          | 11            | 39            | 1             | 51      |
|                          | Avg. Length(mm) <sup>1</sup> |                            | 592           | 610           | 595           |         |
| Female                   | Percent of Sample            | 0.00%                      | 30.09%        | 43.81%        | 3.54%         | 77.43%  |
|                          | Number in Sample             | 0                          | 68            | 99            | 8             | 175     |
|                          | Avg. Length(mm) <sup>1</sup> |                            | 597           | 620           | 639           |         |
| Total                    | Percent of Sample            | 0.00%                      | 34.96%        | 61.06%        | 3.98%         | 100.00% |
|                          | Number in Sample             | 0                          | 79            | 138           | 9             | 226     |
| Stratum Dates: 7/1-7/8   |                              |                            |               |               |               |         |
| Sampling Dates: 7/1-7/8  |                              |                            |               |               |               |         |
| Sample Size: 206         |                              |                            |               |               |               |         |
| Male                     | Percent of Sample            | 0.49%                      | 36.41%        | 29.61%        | 6.31%         | 72.82%  |
|                          | Number in Sample             | 1                          | 75            | 61            | 13            | 150     |
|                          | Avg. Length(mm) <sup>1</sup> | 610                        | 604           | 613           | 605           |         |
| Female                   | Percent of Sample            | 0.49%                      | 9.71%         | 14.08%        | 2.91%         | 27.18%  |
|                          | Number in Sample             | 1                          | 20            | 29            | 6             | 56      |
|                          | Avg. Length(mm) <sup>1</sup> | 570                        | 589           | 603           | 616           |         |
| Total                    | Percent of Sample            | 0.97%                      | 46.12%        | 43.69%        | 9.22%         | 100.00% |
|                          | Number in Sample             | 2                          | 95            | 90            | 19            | 206     |
| Stratum Dates: 7/9-8/26  |                              |                            |               |               |               |         |
| Sampling Dates: 7/9-8/26 |                              |                            |               |               |               |         |
| Sample Size: 275         |                              |                            |               |               |               |         |
| Male                     | Percent of Sample            | 1.45%                      | 42.18%        | 18.18%        | 2.55%         | 64.36%  |
|                          | Number in Sample             | 4                          | 116           | 50            | 7             | 177     |
|                          | Avg. Length(mm) <sup>1</sup> | 568                        | 603           | 612           | 641           |         |
| Female                   | Percent of Sample            | 0.00%                      | 16.00%        | 17.09%        | 2.55%         | 35.64%  |
|                          | Number in Sample             | 0                          | 44            | 47            | 7             | 98      |
|                          | Avg. Length(mm) <sup>1</sup> |                            | 596           | 600           | 589           |         |
| Total                    | Percent of Sample            | 1.45%                      | 58.18%        | 35.27%        | 5.09%         | 100.00% |
|                          | Number in Sample             | 4                          | 160           | 97            | 14            | 275     |
| Stratum Dates: 6/7-8/26  |                              |                            |               |               |               |         |
| Sampling Dates: 6/7-8/26 |                              |                            |               |               |               |         |
| Sample Size: 707         |                              |                            |               |               |               |         |
| Season Total             |                              |                            |               |               |               |         |
| Male                     | Percent of Sample            | 0.71%                      | 28.57%        | 21.22%        | 2.97%         | 53.5%   |
|                          | Number in Sample             | 5                          | 202           | 150           | 21            | 378     |
|                          | Avg. Length(mm) <sup>1</sup> | 576                        | 602           | 616           | 624           |         |
| Female                   | Percent of Sample            | 0.14%                      | 18.67%        | 24.75%        | 2.97%         | 46.5%   |
|                          | Number in Sample             | 1                          | 132           | 175           | 21            | 329     |
|                          | Avg. Length(mm) <sup>1</sup> | 570                        | 593           | 604           | 601           |         |
| Total                    | Percent of Sample            | 0.8%                       | 47.2%         | 46.0%         | 5.9%          | 100.0%  |
|                          | Number in Sample             | 6                          | 334           | 325           | 42            | 707     |

<sup>1</sup> Length was measured from mid-eye to fork-of-tail.

Table 10. Norton Sound District chum salmon escapement sample age and sex composition, and mean length, 2002.

|                 |                               | Brood Year and (Age Group) |               |               |               | Total  |
|-----------------|-------------------------------|----------------------------|---------------|---------------|---------------|--------|
|                 |                               | 1999<br>(0.2)              | 1998<br>(0.3) | 1997<br>(0.4) | 1996<br>(0.5) |        |
| Kwiniuk River   |                               |                            |               |               |               |        |
| Sampling Dates: | 6/19-6/30                     |                            |               |               |               |        |
| Sample Size:    | 484                           |                            |               |               |               |        |
| Male            | Percent of Sample             | 0.0%                       | 38.4%         | 4.3%          | 0.4%          | 43.2%  |
|                 | Number                        | 0                          | 186           | 21            | 2             | 209    |
|                 | Mean length (mm) <sup>a</sup> |                            | 625           | 636           | 600           |        |
| Female          | Percent of Sample             | 0.2%                       | 53.7%         | 2.3%          | 0.6%          | 56.8%  |
|                 | Number                        | 1                          | 260           | 11            | 3             | 275    |
|                 | Mean length (mm) <sup>a</sup> | 575                        | 607           | 604           | 618           |        |
| Total           | Percent of Sample             | 0.2%                       | 92.1%         | 6.6%          | 1.0%          | 100.0% |
|                 | Number                        | 1                          | 446           | 32            | 5             | 484    |
| Niukluk River   |                               |                            |               |               |               |        |
| Sampling Dates: | 7/4-9/3                       |                            |               |               |               |        |
| Sample Size:    | 446                           |                            |               |               |               |        |
| Male            | Percent of Sample             | 0.0%                       | 40.8%         | 9.2%          | 4.5%          | 54.5%  |
|                 | Number                        | 0                          | 182           | 41            | 20            | 243    |
|                 | Mean length (mm) <sup>a</sup> |                            | 587           | 608           | 621           |        |
| Female          | Percent of Sample             | 0.2%                       | 35.2%         | 7.6%          | 2.5%          | 45.5%  |
|                 | Number                        | 1                          | 157           | 34            | 11            | 203    |
|                 | Mean length (mm) <sup>a</sup> | 557                        | 561           | 577           | 585           |        |
| Total           | Percent of Sample             | 0.2%                       | 76.0%         | 16.8%         | 7.0%          | 100.0% |
|                 | Number                        | 1                          | 339           | 75            | 31            | 446    |
| Nome River      |                               |                            |               |               |               |        |
| Sampling Dates: | 7/4-8/22                      |                            |               |               |               |        |
| Sample Size:    | 440                           |                            |               |               |               |        |
| Male            | Percent of Sample             | 0.2%                       | 27.7%         | 15.7%         | 2.7%          | 46.4%  |
|                 | Number                        | 1                          | 122           | 69            | 12            | 204    |
|                 | Mean length (mm) <sup>a</sup> | 568                        | 596           | 617           | 627           |        |
| Female          | Percent of Sample             | 0.5%                       | 36.8%         | 13.9%         | 2.5%          | 53.6%  |
|                 | Number                        | 2                          | 162           | 61            | 11            | 236    |
|                 | Mean length (mm) <sup>a</sup> | 563                        | 562           | 584           | 576           |        |
| Total           | Percent of Sample             | 0.7%                       | 64.5%         | 29.5%         | 5.2%          | 100.0% |
|                 | Number                        | 3                          | 284           | 130           | 23            | 440    |

(continued)

Table 10. ( Page 2 of 2)

|                          |                               | Brood Year and (Age Group) |       |       |       |        |
|--------------------------|-------------------------------|----------------------------|-------|-------|-------|--------|
|                          |                               | 1999                       | 1998  | 1997  | 1996  | Total  |
|                          |                               | (0.2)                      | (0.3) | (0.4) | (0.5) |        |
| Snake River              |                               |                            |       |       |       |        |
| Sampling Dates: 7/4-9/3  |                               |                            |       |       |       |        |
| Sample Size: 475         |                               |                            |       |       |       |        |
| Male                     | Percent of Sample             | 0.6%                       | 24.6% | 14.7% | 0.8%  | 40.8%  |
|                          | Number                        | 3                          | 117   | 70    | 4     | 194    |
|                          | Mean length (mm) <sup>a</sup> | 585                        | 605   | 625   | 632   |        |
| Female                   | Percent of Sample             | 0.6%                       | 39.4% | 18.7% | 0.4%  | 59.2%  |
|                          | Number                        | 3                          | 187   | 89    | 2     | 281    |
|                          | Mean length (mm) <sup>a</sup> | 536                        | 574   | 585   | 604   |        |
| Total                    | Percent of Sample             | 1.3%                       | 64.0% | 33.5% | 1.3%  | 100.0% |
|                          | Number                        | 6                          | 304   | 159   | 6     | 475    |
| Eldorado River           |                               |                            |       |       |       |        |
| Sampling Dates: 7/4-9/3  |                               |                            |       |       |       |        |
| Sample Size: 367         |                               |                            |       |       |       |        |
| Male                     | Percent of Sample             | 0.8%                       | 43.3% | 3.0%  | 1.9%  | 49.0%  |
|                          | Number                        | 3                          | 159   | 11    | 7     | 180    |
|                          | Mean length (mm) <sup>a</sup> | 541                        | 594   | 603   | 620   |        |
| Female                   | Percent of Sample             | 0.8%                       | 45.0% | 3.5%  | 1.6%  | 51.0%  |
|                          | Number                        | 3                          | 165   | 13    | 6     | 187    |
|                          | Mean length (mm) <sup>a</sup> | 577                        | 559   | 583   | 599   |        |
| Total                    | Percent of Sample             | 1.6%                       | 88.3% | 6.5%  | 3.5%  | 100.0% |
|                          | Number                        | 6                          | 324   | 24    | 13    | 367    |
| Pilgrim River            |                               |                            |       |       |       |        |
| Sampling Dates: 7/20-8/6 |                               |                            |       |       |       |        |
| Sample Size: 471         |                               |                            |       |       |       |        |
| Male                     | Percent of Sample             | 0.0%                       | 45.9% | 10.6% | 2.5%  | 59.0%  |
|                          | Number                        | 0                          | 216   | 50    | 12    | 278    |
|                          | Mean length (mm) <sup>a</sup> |                            | 604   | 626   | 624   |        |
| Female                   | Percent of Sample             | 0.2%                       | 34.6% | 3.4%  | 2.8%  | 41.0%  |
|                          | Number                        | 1                          | 163   | 16    | 13    | 193    |
|                          | Mean length (mm) <sup>a</sup> | 527                        | 567   | 577   | 578   |        |
| Total                    | Percent of Sample             | 0.2%                       | 80.5% | 14.0% | 5.3%  | 100.0% |
|                          | Number                        | 1                          | 379   | 66    | 25    | 471    |

<sup>a</sup> Length was from mid-eye to fork of tail.

Table 11. Norton Sound Subdistrict 5 coho salmon commercial catch sample age and sex composition, and mean length, 2002.

|                 |                               | Brood Year and (Age Group) |               |               |        |
|-----------------|-------------------------------|----------------------------|---------------|---------------|--------|
|                 |                               | 1999<br>(1.1)              | 1998<br>(2.1) | 1997<br>(3.1) | Total  |
| Sampling Dates: | 8/7-8/14                      |                            |               |               |        |
| Sample Size:    | 152                           |                            |               |               |        |
| Male            | Percent of Sample             | 0.7%                       | 48.7%         | 8.6%          | 57.9%  |
|                 | Number                        | 1                          | 74            | 13            | 88     |
|                 | Mean length (mm) <sup>a</sup> | 610                        | 587           | 618           |        |
| Female          | Percent of Sample             | 0.7%                       | 30.9%         | 10.5%         | 42.1%  |
|                 | Number                        | 1                          | 47            | 16            | 64     |
|                 | Mean length (mm) <sup>a</sup> | 535                        | 581           | 596           |        |
| Total           | Percent of Sample             | 1.3%                       | 79.6%         | 19.1%         | 100.0% |
|                 | Number                        | 2                          | 121           | 29            | 152    |

<sup>a</sup> Length was from mid-eye to fork-of-tail.

Table 12. Norton Sound Subdistrict 6 coho salmon commercial catch sample age and sex composition, and mean length, 2002.

|                 |                               | Brood Year and (Age Group) |               |               |        |
|-----------------|-------------------------------|----------------------------|---------------|---------------|--------|
|                 |                               | 1999<br>(1.1)              | 1998<br>(2.1) | 1997<br>(3.1) | Total  |
| Sampling Dates: | 7/26-8/21                     |                            |               |               |        |
| Sample Size:    | 333                           |                            |               |               |        |
| Male            | Percent of Sample             | 2.7%                       | 51.7%         | 5.7%          | 60.1%  |
|                 | Number                        | 9                          | 172           | 19            | 200    |
|                 | Mean length (mm) <sup>a</sup> | 581                        | 575           | 590           |        |
| Female          | Percent of Sample             | 1.5%                       | 31.8%         | 6.6%          | 39.9%  |
|                 | Number                        | 5                          | 106           | 22            | 133    |
|                 | Mean length (mm) <sup>a</sup> | 588                        | 573           | 581           |        |
| Total           | Percent of Sample             | 4.2%                       | 83.5%         | 12.3%         | 100.0% |
|                 | Number                        | 14                         | 278           | 41            | 333    |

<sup>a</sup> Length was from mid-eye to fork-of-tail.

Table 13. Unalakleet River coho salmon test fishing catch sample age and sex composition, and mean length, 2002.

|                          |                               | Brood Year and (Age Group) |               |               |        |
|--------------------------|-------------------------------|----------------------------|---------------|---------------|--------|
|                          |                               | 1999<br>(1.1)              | 1998<br>(2.1) | 1997<br>(3.1) | Total  |
| Sampling Dates: 7/24-9/8 |                               |                            |               |               |        |
| Sample Size:             |                               | 160                        |               |               |        |
| Male                     | Percent of Sample             | 6.25%                      | 32.50%        | 8.75%         | 47.50% |
|                          | Number                        | 10                         | 52            | 14            | 76     |
|                          | Mean length (mm) <sup>a</sup> | 621                        | 605           | 594           |        |
| Female                   | Percent of Sample             | 7.50%                      | 35.63%        | 9.38%         | 52.50% |
|                          | Number                        | 12                         | 57            | 15            | 84     |
|                          | Mean length (mm) <sup>a</sup> | 612                        | 603           | 612           |        |
| Total                    | Percent of Sample             | 13.8%                      | 68.1%         | 18.1%         | 100.0% |
|                          | Number                        |                            | 109           | 29            | 160    |

<sup>a</sup> Length was from mid-eye to fork-of-tail.

Table 14. Norton Sound District coho salmon escapement sample age and sex composition, and mean length, 2002.

|                           |                               | Brood Year and (Age Group) |               |               |               | Total  |
|---------------------------|-------------------------------|----------------------------|---------------|---------------|---------------|--------|
|                           |                               | 1999<br>(1.1)              | 1998<br>(2.1) | 1997<br>(3.1) | 1996<br>(4.1) |        |
| <b>Kwiniuk River</b>      |                               |                            |               |               |               |        |
| Sampling Dates: 8/3-8/23  |                               |                            |               |               |               |        |
| Sample Size:              |                               | 157                        |               |               |               |        |
| Male                      | Percent of Sample             | 3.82%                      | 52.87%        | 3.82%         |               | 60.51% |
|                           | Number                        | 6                          | 83            | 6             |               | 95     |
|                           | Mean length (mm) <sup>a</sup> | 543                        | 601           | 596           |               |        |
| Female                    | Percent of Sample             | 3.82%                      | 35.03%        | 0.64%         |               | 39.49% |
|                           | Number                        | 6                          | 55            | 1             |               | 62     |
|                           | Mean length (mm) <sup>a</sup> | 578                        | 603           | 625           |               |        |
| Total                     | Percent of Sample             | 7.6%                       | 87.9%         | 4.5%          |               | 100.0% |
|                           | Number                        | 12                         | 138           | 7             |               | 157    |
| <b>Nome River</b>         |                               |                            |               |               |               |        |
| Sampling Dates: 8/11-8/28 |                               |                            |               |               |               |        |
| Sample Size:              |                               | 139                        |               |               |               |        |
| Male                      | Percent of Sample             | 0.00%                      | 40.29%        | 10.07%        | 0.72%         | 51.08% |
|                           | Number                        | 0                          | 56            | 14            | 1             | 71     |
|                           | Mean length (mm) <sup>a</sup> |                            | 581           | 617           | 638           |        |
| Female                    | Percent of Sample             | 1.44%                      | 40.29%        | 7.19%         |               | 48.92% |
|                           | Number                        | 2                          | 56            | 10            |               | 68     |
|                           | Mean length (mm) <sup>a</sup> | 503                        | 571           | 585           |               |        |
| Total                     | Percent of Sample             | 1.4%                       | 80.6%         | 17.3%         | 0.7%          | 100.0% |
|                           | Number                        | 2                          | 112           | 24            | 1             | 139    |
| <b>Snake River</b>        |                               |                            |               |               |               |        |
| Sampling Dates: 8/26-9/4  |                               |                            |               |               |               |        |
| Sample Size:              |                               | 192                        |               |               |               |        |
| Male                      | Percent of Sample             | 2.60%                      | 47.40%        | 5.21%         |               | 55.21% |
|                           | Number                        | 5                          | 91            | 10            |               | 106    |
|                           | Mean length (mm) <sup>a</sup> | 594                        | 597           | 593           |               |        |
| Female                    | Percent of Sample             | 0.00%                      | 40.10%        | 4.09%         |               | 44.19% |
|                           | Number                        | 0                          | 77            | 9             |               | 86     |
|                           | Mean length (mm) <sup>a</sup> |                            | 586           | 611           |               |        |
| Total                     | Percent of Sample             | 2.6%                       | 87.5%         | 9.9%          |               | 100.0% |
|                           | Number                        | 5                          | 168           | 19            |               | 192    |

(Continued)

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|                          |                               | Brood Year and (Age Group) |        |       |       |        |
|--------------------------|-------------------------------|----------------------------|--------|-------|-------|--------|
|                          |                               | 1999                       | 1998   | 1997  | 1996  | Total  |
|                          |                               | (1.1)                      | (2.1)  | (3.1) | (4.1) |        |
| Eldorado River           |                               |                            |        |       |       |        |
| Sampling Dates: 8/17-9/7 |                               |                            |        |       |       |        |
| Sample Size:             |                               | 61                         |        |       |       |        |
| Male                     | Percent of Sample             | 0.00%                      | 44.26% | 8.20% |       | 52.46% |
|                          | Number                        | 0                          | 27     | 5     |       | 32     |
|                          | Mean length (mm) <sup>a</sup> |                            | 603    | 646   |       |        |
| Female                   | Percent of Sample             | 1.64%                      | 40.98% | 4.92% |       | 47.54% |
|                          | Number                        | 1                          | 25     | 3     |       | 29     |
|                          | Mean length (mm) <sup>a</sup> | 630                        | 632    | 635   |       |        |
| Total                    | Percent of Sample             | 1.6%                       | 85.2%  | 13.1% |       | 100.0% |
|                          | Number                        | 1                          | 52     | 8     |       | 61     |
| Niukluk River            |                               |                            |        |       |       |        |
| Sampling Dates: 8/13-9/8 |                               |                            |        |       |       |        |
| Sample Size:             |                               | 143                        |        |       |       |        |
| Male                     | Percent of Sample             | 0.00%                      | 54.55% | 2.10% |       | 56.64% |
|                          | Number                        | 0                          | 78     | 3     |       | 81     |
|                          | Mean length (mm) <sup>a</sup> |                            | 596    | 638   |       |        |
| Female                   | Percent of Sample             | 0.70%                      | 39.16% | 3.50% |       | 43.36% |
|                          | Number                        | 1                          | 56     | 5     |       | 62     |
|                          | Mean length (mm) <sup>a</sup> | 527                        | 594    | 611   |       |        |
| Total                    | Percent of Sample             | 0.7%                       | 93.7%  | 5.6%  |       | 100.0% |
|                          | Number                        | 1                          | 134    | 8     |       | 143    |

<sup>a</sup> Length was from mid-eye to fork-of-tail.

Table 15. Kotzebue District Commercial catch, weight, and average weight of chum salmon, chinook salmon, and Dolly Varden by period, 2002.

| Week        | Number of Fishermen | Chum   |        |          | Chinook |        |          | Dolly Varden |        |          |
|-------------|---------------------|--------|--------|----------|---------|--------|----------|--------------|--------|----------|
|             |                     | Number | Pounds | Avg. Wt. | Number  | Pounds | Avg. Wt. | Number       | Pounds | Avg. Wt. |
| 7/14 - 7/20 | 1                   | 20     | 160    | 8.0      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |
| 7/21 - 7/27 | 1                   | 629    | 5,713  | 9.1      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |
| 7/28 - 8/3  | 2                   | 1,919  | 18,084 | 9.4      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |
| 8/4 - 8/10  | 2                   | 2,202  | 19,644 | 8.9      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |
| 8/11 - 8/17 | 2                   | 578    | 5,190  | 9.0      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |
| 8/18 - 8/24 | 1                   | 3,042  | 25,550 | 8.4      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |
| Totals      | 3                   | 8,390  | 74,341 | 8.9      | 0       | 0      | 0.0      | 0            | 0      | 0.0      |

Table 16. Kotzebue District chum salmon catch and dollar value 1962-2002.

| Year              | Total Catch | Number Fishermen * | Season Catch per Fisherman | Gross Value of Catch to Fishermen <sup>b</sup> |
|-------------------|-------------|--------------------|----------------------------|--|
| 1962              | 129,948     | 84                 | 1,547                      | \$4,500  |
| 1963              | 54,445      | 61                 | 893                        | \$9,140  |
| 1964              | 76,449      | 52                 | 1,470                      | \$34,660                                       |
| 1965              | 40,025      | 45                 | 889                        | \$18,000                                       |
| 1966              | 30,764      | 44                 | 699                        | \$25,000                                       |
| 1967              | 29,400      | 30                 | 980                        | \$28,700                                       |
| 1968              | 30,212      | 59                 | 512                        | \$46,000                                       |
| 1969              | 59,335      | 52                 | 1,141                      | \$71,000                                       |
| 1970              | 159,664     | 82                 | 1,947                      | \$186,000                                      |
| 1971              | 154,956     | 91                 | 1,703                      | \$200,000                                      |
| 1972              | 169,664     | 104                | 1,631                      | \$260,000                                      |
| 1973              | 375,432     | 148                | 2,537                      | \$925,000                                      |
| 1974              | 627,912     | 185                | 3,394                      | \$1,822,784                                    |
| 1975              | 563,345     | 267                | 2,110                      | \$1,365,648                                    |
| 1976              | 159,796     | 220                | 726                        | \$580,375                                      |
| 1977              | 195,895     | 224                | 875                        | \$1,033,950                                    |
| 1978              | 111,494     | 208                | 536                        | \$575,260                                      |
| 1979              | 141,623     | 181                | 782                        | \$990,263                                      |
| 1980              | 367,284     | 176                | 2,087                      | \$1,446,633                                    |
| 1981              | 677,239     | 187                | 3,622                      | \$3,246,793                                    |
| 1982              | 417,790     | 199                | 2,099                      | \$1,961,518                                    |
| 1983              | 175,762     | 189                | 930                        | \$420,736                                      |
| 1984              | 320,206     | 181                | 1,769                      | \$1,148,884                                    |
| 1985              | 521,406     | 189                | 2,759                      | \$2,137,368                                    |
| 1986              | 261,436     | 187                | 1,398                      | \$931,241                                      |
| 1987              | 109,467     | 160                | 684                        | \$515,000                                      |
| 1988              | 352,915     | 193                | 1,829                      | \$2,581,333                                    |
| 1989              | 254,617     | 165                | 1,543                      | \$613,823                                      |
| 1990              | 163,263     | 153                | 1,067                      | \$438,044                                      |
| 1991              | 239,923     | 142                | 1,690                      | \$437,948                                      |
| 1992              | 289,184     | 149                | 1,941                      | \$533,731                                      |
| 1993 <sup>c</sup> | 73,071      | 114                | 641                        | \$235,061                                      |
| 1994 <sup>d</sup> | 153,452     | 109                | 1,408                      | \$233,512                                      |
| 1995              | 290,730     | 92                 | 3,160                      | \$316,031                                      |
| 1996 <sup>e</sup> | 82,110      | 55                 | 1,493                      | \$56,310                                       |
| 1997              | 142,720     | 68                 | 2,099                      | \$187,978                                      |
| 1998              | 55,907      | 45                 | 1,242                      | \$70,587                                       |
| 1999              | 138,605     | 60                 | 2,310                      | \$179,781                                      |
| 2000              | 159,802     | 64                 | 2,497                      | \$246,786                                      |
| 2001 <sup>f</sup> | 211,672     | 66                 | 3,207                      | \$322,650                                      |
| Average           | 214,223     | 127                | 1,646                      | \$660,951                                      |
| 2002              | 8,390       | 3                  | 2,797                      | \$7,572  |

<sup>a</sup> During 1962-1966 and 1968-1971 figures represent the number of vessels licensed to fish in the Kotzebue District, not the number of fishermen.

<sup>b</sup> Some estimates between 1962 and 1981 include only chum value which in figures represent over 99% of the total value. Figures after 1981 represent the chum value as well as incidental species such as Dolly Varden, whitefish and other salmon.

<sup>c</sup> Includes 2,000 chum salmon and \$3,848 from the Sikusuliaq springs Hatchery terminal fishery.

<sup>d</sup> Includes 4,000 chum salmon commercially caught but not sold on July 29.

<sup>e</sup> Includes 2,200 chum salmon commercially caught but not sold on July 29.

<sup>f</sup> Includes 10 chum salmon commercially caught but not sold on July 16.

Information Prior to 1997 From Regional Information Report no. 3A97-30

Table 17. Estimates of subsistence harvests of salmon in the Kotzebue Sound Area, 2002.

| Village <sup>1</sup> | Chinook | Chum   | Pink | Sockeye | Coho | Total<br>Salmon |
|----------------------|---------|--------|------|---------|------|-----------------|
| Ambler               | NA      | NA     | NA   | NA      | NA   | 0               |
| Kiana                | NA      | NA     | NA   | NA      | NA   | 0               |
| Kobuk                | NA      | NA     | NA   | NA      | NA   | 0               |
| Kotzebue             | NA      | NA     | NA   | NA      | NA   | 0               |
| Noatak               | 0       | 2,937  | 0    | 0       | 11   | 2,948           |
| Noorvik              | 3       | 13,943 | 8    | 9       | 44   | 14,007          |
| Total                | 3       | 16,880 | 8    | 9       | 55   | 16,955          |

<sup>1</sup> The Kotzebue Sound communities of Ambler, Kiana, Kobuk, Kotzebue, and Shungnak, though normally included, were not surveyed in 2002.

Table 18. Kotzebue District chum salmon aerial survey escapement indices and current goals for primary index streams, 1962-2002.

| Year <sup>a</sup> | Noatak River<br>(64,000-128,000) | Eli River<br>(Combined with Noatak) | Squirrel River<br>(7,200-14,400) | Salmon River<br>(3,200-6,400) | Tuluksuk River<br>(1,200-2,400) | Upper Kobuk Mainstem<br>(8,000-16,000) |
|-------------------|----------------------------------|-------------------------------------|----------------------------------|-------------------------------|---------------------------------|--|
| 1962              | 168000                           | 9080                                | 5384                             | 12936                         | 10841                           | 8224                                   |
| 1963              | 1970 <sup>b</sup>                | 35 <sup>b</sup>                     | 2200                             | 1535                          | 670                             | 4535                                   |
| 1964              | 89798                            |                                     | 8009                             | 9353                          | 2685                            | 7985                                   |
| 1965              | 6152 <sup>b</sup>                |                                     | 7230                             | 1500 <sup>b</sup>             |                                 | 2750                                   |
| 1966              | 101640                           | 120                                 | 1350                             | 3957                          | 1383                            | 1474                                   |
| 1967              | 29120 <sup>b</sup>               |                                     | 3332                             | 2116                          | 169                             | 2405                                   |
| 1968              | 39394                            | 5502                                | 6746                             | 3367                          | 823                             | 2370                                   |
| 1969              | 33945                            | 68                                  | 6714                             | 2561                          | 158                             | 7500 <sup>b</sup>                      |
| 1970              | 138145                           |                                     | 4418                             | 3000 <sup>b</sup>             | 2000 <sup>b</sup>               | 13908                                  |
| 1971              | 41056                            |                                     | 6628                             | 5453                          | 1384                            | 17202                                  |
| 1972              | 64315 <sup>b</sup>               | 3286 <sup>b</sup>                   | 32126                            | 2073 <sup>b</sup>             |                                 | 18155                                  |
| 1973              | 32144                            |                                     | 12345                            | 6891                          |                                 | 2470 <sup>b</sup>                      |
| 1974              | 129640                           | 22249                               | 32523                            | 29190                         | 8312                            | 28120                                  |
| 1975              | 96509                            | 1302                                | 32256                            | 9721                          | 1344 <sup>b</sup>               | 10702                                  |
| 1976              | 44574                            | 1205                                | 7229                             | 1161                          | 758                             | 2522 <sup>b</sup>                      |
| 1977              | 11221 <sup>b</sup>               | 742 <sup>b</sup>                    | 1964 <sup>b</sup>                |                               |                                 |  |
| 1978              | 37817                            | 5525                                | 1863                             | 814 <sup>b</sup>              | 368 <sup>b</sup>                | 1981 <sup>b</sup>                      |
| 1979              | 15721 <sup>b</sup>               | 1794 <sup>b</sup>                   | 1500 <sup>b</sup>                | 674 <sup>b</sup>              | 382 <sup>b</sup>                | 2008                                   |
| 1980              | 164474                           | 10277                               | 13563                            | 8456                          | 1165                            | 11472                                  |
| 1981              | 116352                           |                                     | 9854                             | 4709                          | 1114                            | 8848                                   |
| 1982              | 20682 <sup>b</sup>               | 189 <sup>b</sup>                    | 7690                             | 1821 <sup>c</sup>             | 1322                            | 14674                                  |
| 1983              | 79773                            | 3044                                | 5115                             | 1677                          | 2637                            | 33746                                  |
| 1984              | 67873                            | 5027                                | 5473                             | 1471                          | 1132                            | 10621                                  |
| 1985              | 45525 <sup>b</sup>               | 855 <sup>b</sup>                    | 6160                             | 2884                          | 5089                            | 6278                                   |
| 1986              | 37227 <sup>b</sup>               | 4308 <sup>b</sup>                   | 4982                             | 1971                          | 4257                            | 6015                                   |
| 1987              | 5515 <sup>b</sup>                | 2780 <sup>b</sup>                   | 2708 <sup>c</sup>                | 3333                          | 206                             | 8210                                   |
| 1988              | 45930 <sup>b</sup>               | 8639 <sup>b</sup>                   | 4848 <sup>b</sup>                | 6208                          | 3122                            | 11895 <sup>b</sup>                     |
| 1989              |                                  |                                     |                                  |                               |                                 |  |
| 1990              | 23345 <sup>b</sup>               | 3000                                | 5500                             | 6335                          | 2275                            | 15355                                  |
| 1991              | 82750                            | 2940                                | 4606                             | 5845                          | 744                             | 24526                                  |
| 1992              | 34335 <sup>b</sup>               | 701 <sup>b</sup>                    | 2765                             | 1345                          | 1162                            | 11803                                  |
| 1993              | 25415 <sup>b</sup>               | 4795                                | 4463                             | 13880                         | 1196                            | 12158                                  |
| 1994              |                                  |                                     |                                  |                               |                                 |  |
| 1995              | 159260                           | 7860                                | 10605                            | 13988                         | 3901                            | 35725                                  |
| 1996              | 306900                           | 30040                               | 21795                            | 21740                         | 8200                            | 74770                                  |
| 1997              | <sup>d</sup>                     | <sup>d</sup>                        | 4779 <sup>b</sup>                | 1181 <sup>b</sup>             | 164 <sup>b</sup>                | 8513 <sup>b</sup>                      |
| 1998              | 3121 <sup>b</sup>                | <sup>d</sup>                        | <sup>d</sup>                     | <sup>d</sup>                  | <sup>d</sup>                    | 816 <sup>b</sup>                       |
| 1999              | 59225 <sup>b</sup>               | 24860                               | 13513                            | 28220 <sup>b</sup>            | 2906 <sup>b</sup>               | 25360                                  |
| 2000 <sup>e</sup> |                                  |                                     |                                  |                               |                                 |  |
| 2001              |                                  |                                     |                                  |                               |                                 | 13420                                  |
| 2002 <sup>e</sup> |                                  |                                     |                                  |                               |                                 |  |

<sup>a</sup> Typically, three aerial surveys are attempted yearly at different intervals for each tributary to assess escapements prior to the peak, at the peak and after the peak of the run. Indices listed in this table are the largest survey observed for each tributary during the given year.

<sup>b</sup> Poor survey conditions or incomplete, early or late survey.

<sup>c</sup> Survey by foot or boat.

<sup>d</sup> Unacceptable conditions.

<sup>e</sup> No surveys were conducted in 2000 and 2002.

Table 19. Kook River drum salmon drift test fish mean daily and cumulative CPUE, 1993-2002.

| Date   | 1993  |        | 1994   |          | 1995  |          | 1996   |          | 1997   |        | 1998  |        | 1999   |          | 2000   |          | 2001     |          | 2002   |        | Average Daily CPUE | Cumulative Average |        |  |
|--------|-------|--------|--------|----------|-------|----------|--------|----------|--------|--------|-------|--------|--------|----------|--------|----------|----------|----------|--------|--------|--------------------|--------------------|--------|--|
|        | Daily | Cum.   | Daily  | Cum.     | Daily | Cum.     | Daily  | Cum.     | Daily  | Cum.   | Daily | Cum.   | Daily  | Cum.     | Daily  | Cum.     | Daily    | Cum.     | Daily  | Cum.   | 1993-2002          | 1993-2002          |        |  |
| 05-Jul |       |        |        |          |       |          |        |          |        |        |       |        |        |          |        |          |          | 0        | 0      | 5.00   | 5.00               |                    |        |  |
| 06-Jul |       |        |        |          |       |          |        |          |        |        |       |        |        |          |        |          |          | 2.59     | 2.59   | 3.39   | 8.39               | 0.598              | 0.598  |  |
| 07-Jul |       |        |        |          |       |          |        |          |        |        |       |        |        |          |        | 1.28     | 1.28     | 2.44     | 5.03   | 12.50  | 20.89              | 1.822              | 2.22   |  |
| 08-Jul |       |        |        |          |       |          |        |          |        |        |       |        |        |          |        | 0.83     | 2.11     | 0.83     | 5.86   | 5.98   | 26.87              | 0.764              | 2.98   |  |
| 09-Jul |       |        |        |          |       |          | 12.77  | 12.77    | 5.85   | 5.85   |       |        |        |          |        | 0        | 2.11     | 10.72    | 16.58  | 1.70   | 28.57              | 3.104              | 6.00   |  |
| 10-Jul |       |        |        |          |       |          | 15.00  | 27.77    | 0.00   | 5.85   | 5.22  | 5.22   |        |          |        | 2.5      | 4.61     | 8.39     | 24.97  | 6.83   | 38.40              | 3.794              | 9.88   |  |
| 11-Jul |       |        |        |          |       |          | 98.38  | 129.15   | 5.31   | 11.16  | 0.85  | 6.07   | 0      | 0        |        | 3.44     | 8.05     | 20.07    | 45.04  | 22.86  | 58.26              | 15.001             | 24.97  |  |
| 12-Jul | 11.18 | 11.18  |        |          | 0.00  | 0.00     | 45.54  | 171.09   | 7.19   | 18.35  |       |        |        |          |        | 3.45     | 11.50    | 12.03    | 57.07  | 31.54  | 89.80              | 11.153             | 36.13  |  |
| 13-Jul | 14.22 | 25.40  | 0.00   | 0.00     | 0.93  | 0.93     | 74.29  | 245.98   | a      | 18.35  | 15.89 | 21.96  | 0      | 0.00     | 2.64   | 14.04    | 17.32    | 74.98    | 21.67  | 111.47 | 14.886             | 50.81              |        |  |
| 14-Jul | 20.57 | 45.97  | 2.68   | 2.68     | 2.80  | 3.73     | a      | 245.98   | 8.25   | 24.69  | 7.53  | 29.49  | 0      | 0.00     | 8.57   | 22.81    | 45.57    | 120.58   | 28.05  | 139.52 | 12.202             | 63.01              |        |  |
| 15-Jul | 35.08 | 81.05  | 2.58   | 5.26     | 2.77  | 6.50     | 83.75  | 329.73   | 3.65   | 28.25  | 14.07 | 43.58  | 0      | 0.00     | 0.87   | 23.48    | 38.86    | 158.42   | 14.27  | 153.79 | 19.59              | 82.60              |        |  |
| 16-Jul | 13.19 | 94.24  | 11.35  | 16.61    | a     | 8.50     | 71.36  | 401.08   | 14.28  | 42.53  | 17.33 | 60.89  | 0      | 0.00     | 3.38   | 26.86    | 32.80    | 192.22   | 35.27  | 189.06 | 19.805             | 102.50             |        |  |
| 17-Jul | 17.27 | 111.51 |        | a        | 16.61 | 0.00     | 6.50   | 55.49    | 456.57 | 15.17  | 57.70 | 5.07   | 65.96  | 4.26     | 4.26   | 12.77    | 39.83    | 48.77    | 240.98 | 36.50  | 225.59             | 19.53              | 122.03 |  |
| 18-Jul | a     | 111.51 | 7.16   | 23.77    | 1.81  | 8.31     | 89.89  | 546.43   | 16.12  | 73.82  | 9.02  | 74.98  | 8.48   | 12.74    | 3.58   | 43.21    | 36.98    | 277.97   | 24.41  | 249.97 | 19.742             | 141.77             |        |  |
| 19-Jul | 10.71 | 122.22 | 12.40  | 36.17    | 9.89  | 18.20    | 54.74  | 601.17   | 17.98  | 91.80  |       | 74.98  | 5.89   | 18.83    | 19.51  | 62.72    | 67.08    | 345.05   | 30.30  | 280.27 | 22.85              | 164.62             |        |  |
| 20-Jul | 2.79  | 124.98 | 3.65   | 39.82    | 18.30 | 34.50    | 63.70  | 664.87   | a      | 91.80  | 18.86 | 93.64  | 5.11   | 23.74    | 14.57  | 77.29    | 28.05    | 371.10   | 44.91  | 325.18 | 19.571             | 184.19             |        |  |
| 21-Jul | 3.20  | 128.18 | 7.30   | 47.12    | 38.54 | 73.04    | 52.12  | 716.99   | 18.53  | 110.33 | 11.87 | 105.51 | 23.75  | 47.49    | 27.69  | 104.98   | 29.51    | 400.61   | 38.30  | 381.48 | 24.881             | 209.07             |        |  |
| 22-Jul | 5.52  | 133.70 | 3.56   | 50.68    | 21.18 | 94.22    | 50.97  | 787.96   | 13.28  | 123.81 | 0     | 105.51 | 11.91  | 59.40    | 41.00  | 145.98   | 108.87   | 509.58   | 33.85  | 395.33 | 29.024             | 238.10             |        |  |
| 23-Jul | 27.15 | 160.85 | 16.49  | 67.17    | 50.58 | 144.80   | 91.36  | 859.32   | 10.79  | 134.40 | 28.59 | 135.09 | 6.09   | 65.49    | 18.29  | 182.27   | 50.79    | 560.37   | 40.00  | 435.33 | 33.012             | 272.01             |        |  |
| 24-Jul | 9.08  | 169.91 | a      | 67.17    | 28.46 | 173.29   | 91.69  | 951.21   | 22.86  | 157.25 | 27.33 | 162.42 | 24.95  | 90.44    | 14.42  | 176.89   | 58.98    | 619.33   | 62.76  | 488.09 | 34.089             | 306.10             |        |  |
| 25-Jul | a     | 169.91 | 14.38  | 81.55    | 40.16 | 213.42   | 78.80  | 1,028.01 | 21.57  | 178.83 | 24.88 | 187.10 | 28.73  | 119.17   | 22.98  | 199.87   | 80.59    | 699.92   | 45.64  | 543.73 | 35.553             | 341.85             |        |  |
| 26-Jul | 15.22 | 185.13 | 47.65  | 129.20   | 35.15 | 248.57   | 55.88  | 1,083.89 | 14.66  | 193.49 |       | 187.10 | 39.72  | 158.89   | 40.28  | 240.15   | 94.06    | 793.98   | 34.29  | 578.02 | 37.671             | 379.32             |        |  |
| 27-Jul | 8.08  | 193.19 | 40.66  | 169.86   | 63.94 | 312.51   | 29.79  | 1,113.48 | 18.46  | 211.95 | 23.91 | 211.01 | 80.39  | 239.28   | 41.52  | 281.67   | 65.06    | 859.04   | 50.41  | 628.43 | 45.22              | 424.54             |        |  |
| 28-Jul | 16.38 | 209.55 | 57.83  | 227.69   | 62.49 | 375.00   | 49.06  | 1,162.54 | 30.33  | 242.48 | 51.91 | 262.92 | 239.28 | 62.34    | 344.01 | 58.24    | 947.28   | a        | 628.43 | 38.870 | 463.42             |                    |        |  |
| 29-Jul | 0.93  | 210.48 | 33.62  | 261.31   | 46.11 | 421.11   | 70.13  | 1,232.67 | 28.13  | 270.61 | 34.16 | 297.06 | 58.00  | 294.28   | 96.00  | 440.01   | 54.33    | 1,001.61 | 25.74  | 654.17 | 44.415             | 507.83             |        |  |
| 30-Jul | 0.92  | 211.40 | 69.21  | 330.52   | 57.86 | 478.97   | 35.29  | 1,267.96 | 22.33  | 292.94 | 24.59 | 321.67 | 49.66  | 343.94   | 138.20 | 578.21   | 35.36    | 1,036.97 | 28.90  | 683.07 | 48.232             | 554.07             |        |  |
| 31-Jul | 12.58 | 223.98 | a      | 330.52   | 29.89 | 508.86   | 82.27  | 1,350.23 | 32.67  | 328.51 | 15.69 | 337.36 | 190.53 | 504.47   | 85.87  | 684.08   | 39.83    | 1,075.80 | 18.33  | 701.40 | 47.535             | 601.70             |        |  |
| 01-Aug | a     | 223.98 | 82.16  | 412.68   | 72.91 | 581.77   | 187.67 | 1,517.90 | 41.41  | 386.92 | 25.44 | 386.80 | 145.02 | 649.49   | 101.18 | 785.24   | 61.50    | 1,137.10 | 27.85  | 729.25 | 72.512             | 674.21             |        |  |
| 02-Aug | 6.74  | 230.72 | 65.12  | 477.80   | 48.71 | 630.48   | 62.02  | 1,579.92 | 22.41  | 389.33 |       | 382.80 | 41.67  | 651.16   | 84.37  | 828.61   | 16.55    | 1,153.65 | 19.93  | 749.18 | 34.752             | 708.97             |        |  |
| 03-Aug | 54.46 | 285.21 | 71.79  | 549.59   | 48.40 | 678.88   | 48.7   | 1,628.62 | 35.21  | 424.54 | 28.67 | 389.47 | 33.19  | 724.35   | 44.32  | 873.93   | 44.21    | 1,197.86 | 25.31  | 774.49 | 43.220             | 752.19             |        |  |
| 04-Aug | 44.23 | 329.44 | 108.98 | 658.57   | 53.00 | 731.88   | 85.93  | 1,694.55 | 26.67  | 451.21 | 42.35 | 431.82 | 74.23  | 798.58   | 77.14  | 951.07   | 30.71    | 1,228.57 | a      | 774.49 | 52.324             | 804.52             |        |  |
| 05-Aug | 89.30 | 418.74 | 59.74  | 718.31   | 49.95 | 781.83   | 80.33  | 1,754.88 | 24.47  | 475.88 | 8.57  | 440.39 | 108.04 | 906.62   | 67.26  | 1,018.33 | 43.64    | 1,272.21 | 12.86  | 787.35 | 52.416             | 856.93             |        |  |
| 06-Aug | 18.80 | 437.34 | 102.56 | 820.87   | a     | 781.83   | 80.47  | 1,835.35 | 42.25  | 517.93 | 6.00  | 446.39 | 82.79  | 989.41   | 38.92  | 1,057.25 | 30.00    | 1,302.21 | 23.05  | 810.40 | 42.484             | 899.40             |        |  |
| 07-Aug | 20.52 | 457.86 | a      | 820.87   | 48.39 | 828.22   | 90.99  | 1,926.34 | 36.00  | 553.93 | 5.11  | 451.50 | 82.73  | 1,072.14 | 37.50  | 1,094.75 | 26.31    | 1,328.52 | 10.18  | 820.58 | 35.573             | 934.97             |        |  |
| 08-Aug | a     | 457.86 | 62.75  | 883.62   | 44.02 | 872.24   | 146.94 | 2,073.28 | 45.07  | 599.00 | 16.40 | 467.90 |        | 1,072.14 | 93.37  | 1,188.12 | 34.40    | 1,362.92 | 11.96  | 832.54 | 45.491             | 980.46             |        |  |
| 09-Aug | 1.84  | 459.70 | 95.86  | 980.48   | 66.22 | 940.46   | 108.11 | 2,179.39 | 55.14  | 654.14 | 17.20 | 485.10 | 58.58  | 1,127.72 | 81.50  | 1,269.62 | 23.01    | 1,385.93 | 8.80   | 841.14 | 51.408             | 1,031.87           |        |  |
| 10-Aug | 12.83 | 472.33 | 45.83  | 1,026.31 | 58.33 | 998.79   | 58.95  | 2,236.34 | a      | 654.14 | 9.48  | 494.56 | 44.73  | 1,172.45 | 113.87 | 1,383.49 | 54.88    | 1,440.81 | 15.27  | 856.41 | 40.995             | 1,072.86           |        |  |
| 11-Aug | 18.11 | 490.44 | 57.02  | 1,083.33 | 37.95 | 1,034.74 | a      | 2,236.34 | 43.45  | 697.59 | 10.29 | 504.85 | 58.13  | 1,230.58 | 50.57  | 1,434.06 | 73.64    | 1,514.45 | 11.10  | 867.51 | 36.026             | 1,108.89           |        |  |
| 12-Aug | 3.74  | 494.18 | 90.54  | 1,173.87 | 63.92 | 1,098.66 | 72.29  | 2,308.63 | 37.38  | 734.95 | 19.44 | 524.29 | 48.5   | 1,279.08 | 24.86  | 1,458.92 | 47.23    | 1,561.68 | 7.66   | 875.17 | 41.554             | 1,150.44           |        |  |
| 13-Aug |       |        | 11.36  | 1,185.23 | a     | 1,098.66 | 114.63 | 2,423.26 | 45.93  | 780.88 | 10.21 | 534.50 | 78.37  | 1,357.45 | 14.57  | 1,473.49 | 13.04    | 1,574.72 |        |        | 28.811             | 1,179.25           |        |  |
| 14-Aug |       |        | a      | 1,185.23 | 29.35 | 1,128.01 | 158.13 | 2,581.39 | 16.01  | 796.89 | 3.85  | 538.35 |        |          |        | 7.83     | 1,481.32 |          |        |        |                    |                    |        |  |
| 15-Aug |       |        |        | 1,208.59 | 35.04 | 1,188.31 |        |          |        |        |       |        |        |          |        |          |          |          |        |        |                    |                    |        |  |
| 17-Aug |       |        | 0.00   | 1,208.59 |       |          |        |          |        |        |       |        |        |          |        |          |          |          |        |        |                    |                    |        |  |

a Regular day off.

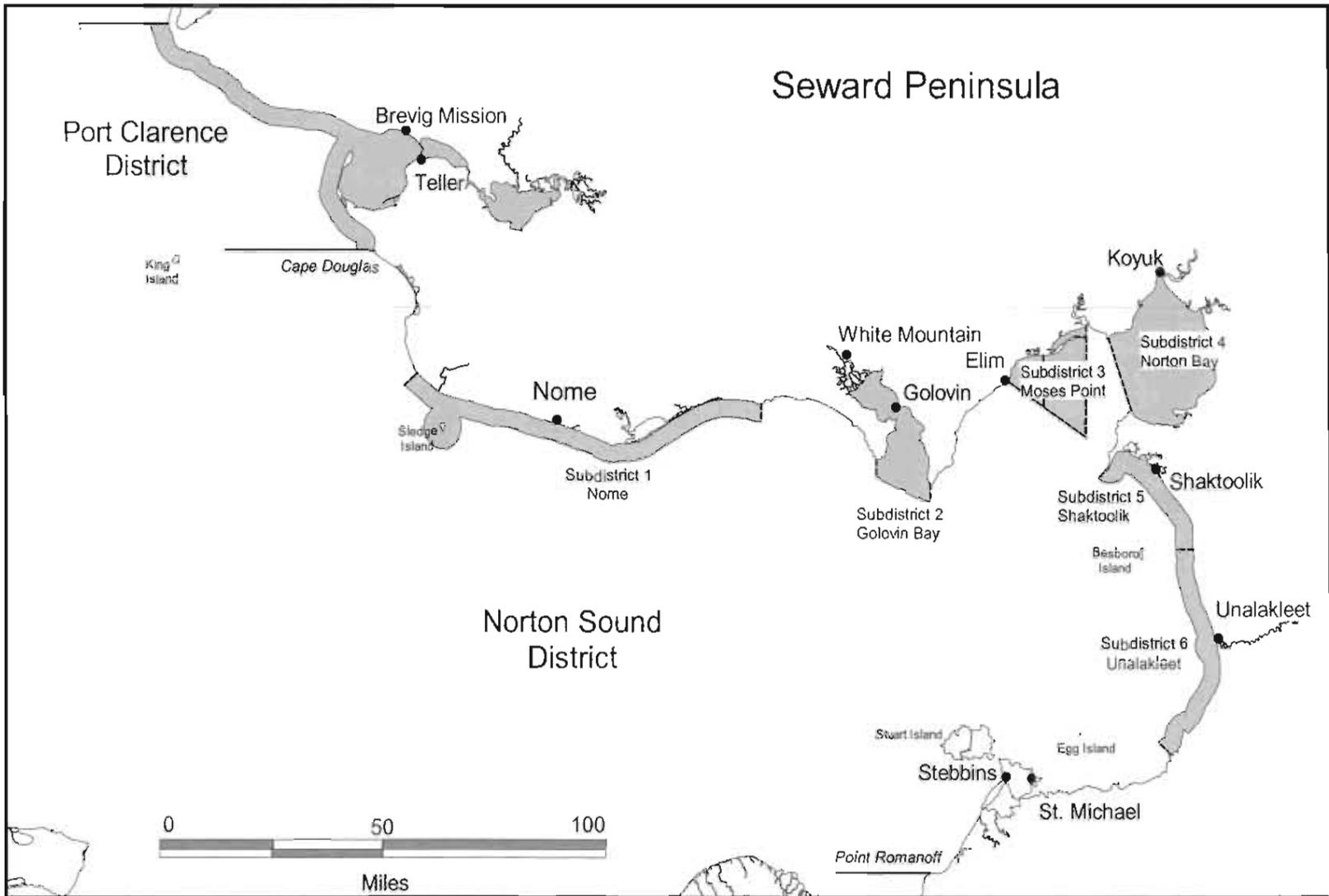


Figure 1. Norton Sound commercial salmon fishing districts and subdistricts.

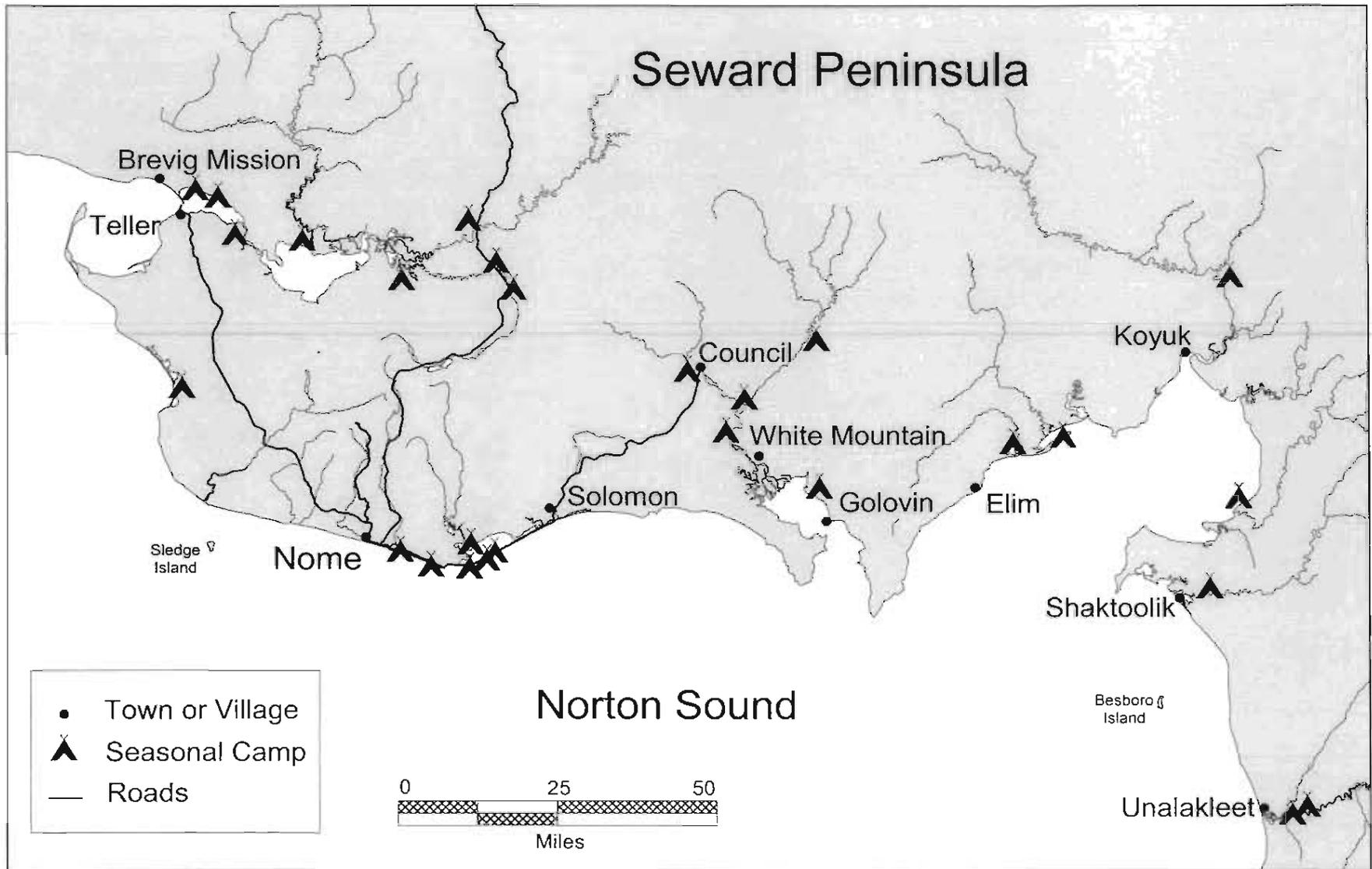


Figure 2. Northern Norton Sound subsistence salmon fishing sites.

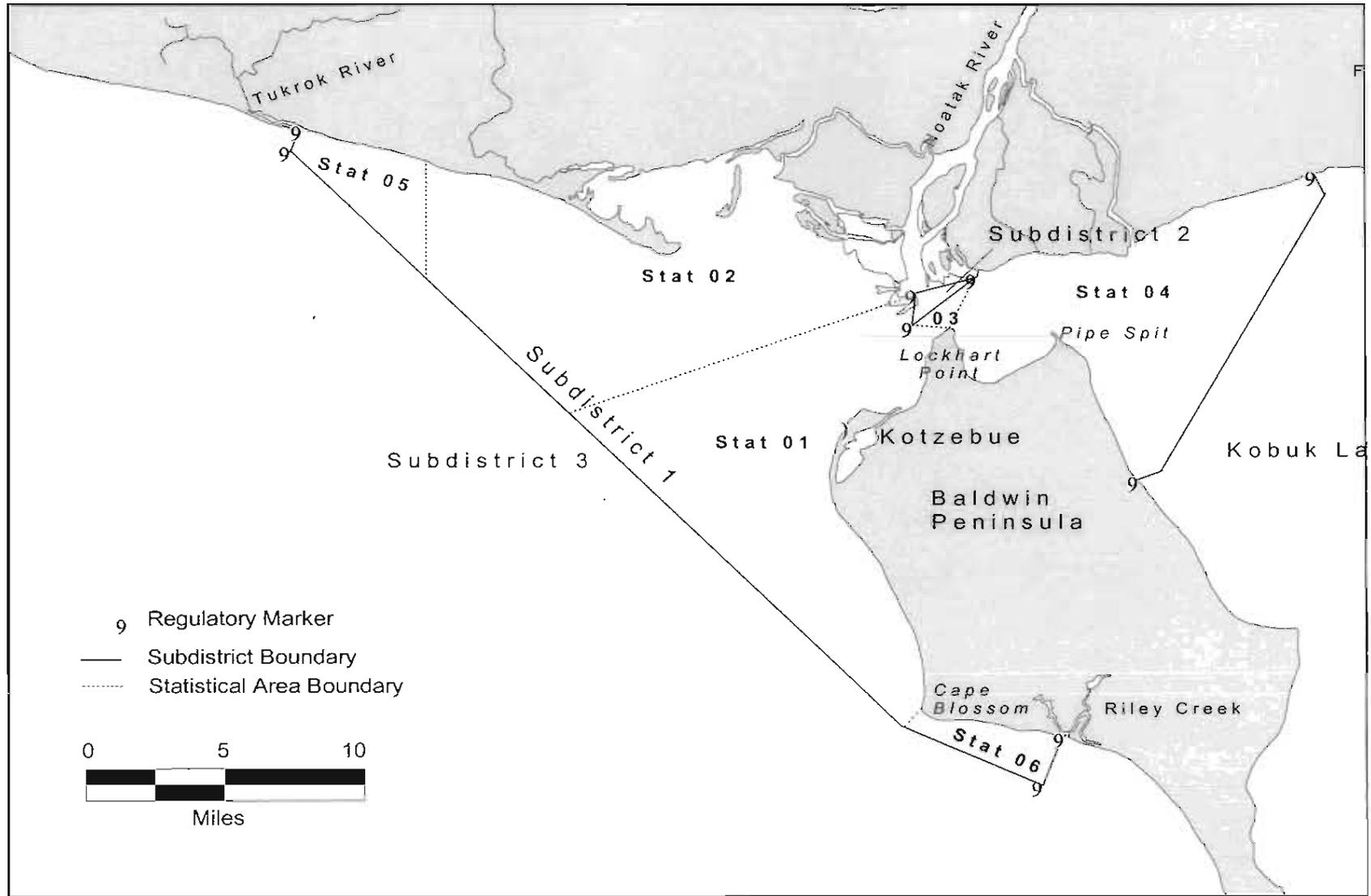


Figure 4. Kotzebue Sound commercial fishing subdistricts and statistical areas.

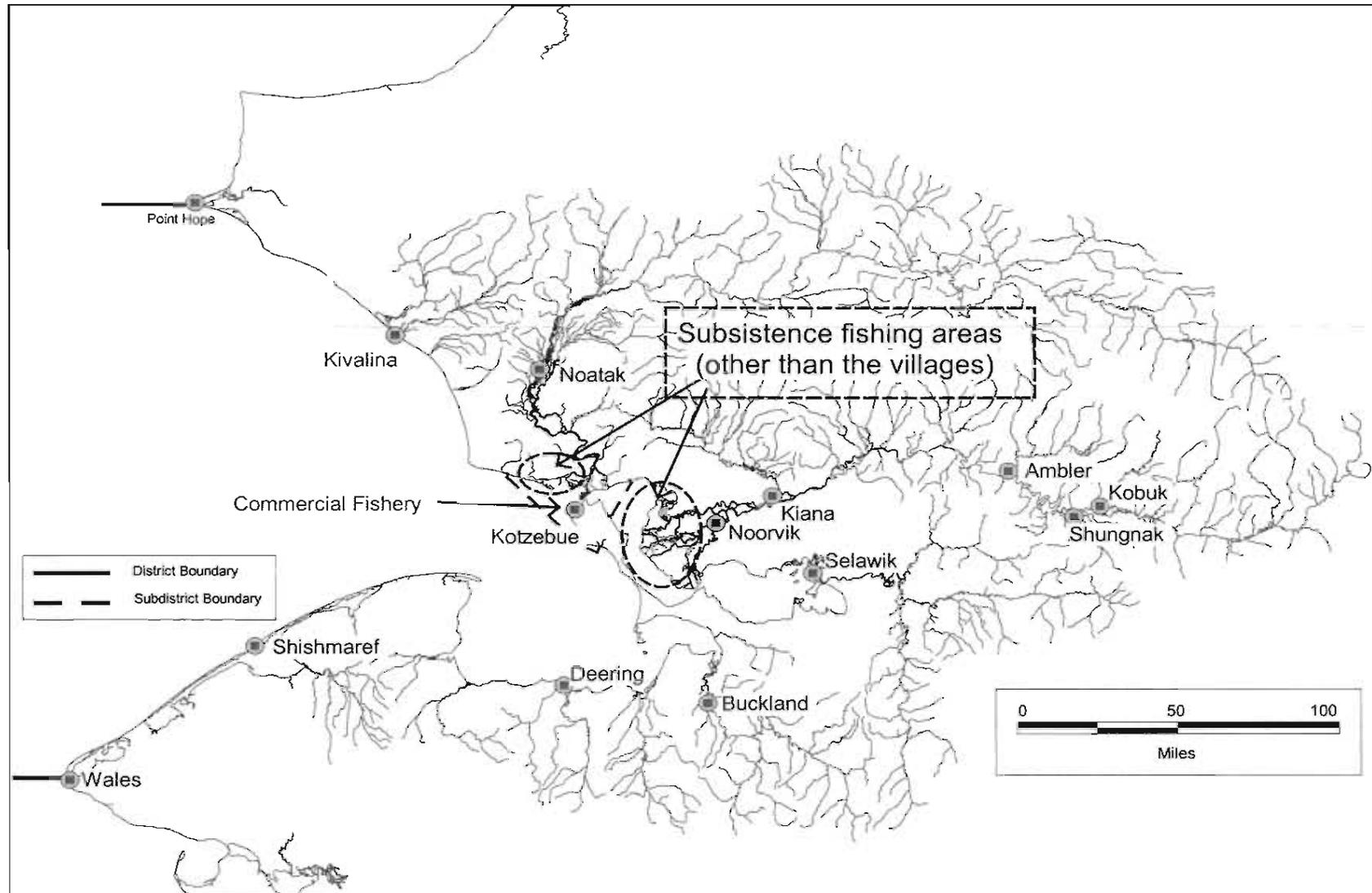


Figure 3. Kotzebue Sound commercial fishing district, villages, and subsistence fishing areas.

Appendix Table A.1. Commercial salmon set gillnet catches from Shaktoolik, Subdistrict 5, Norton Sound, 2002.

| Period       | Length of period (hrs) | Date      | # FM | Period Catch and Catch Per Unit Effort |              |            |           |            | Cumulative Catch and Catch Per Unit Effort |         |              |      |           |      |           |      |
|--------------|------------------------|-----------|------|--|--------------|------------|-----------|------------|--|---------|--------------|------|-----------|------|-----------|------|
|              |                        |           |      | Chinook                                | Chinook CPUE | Chum       | Chum CPUE | Coho       | Coho CPUE                                  | Chinook | Chinook CPUE | Chum | Chum CPUE | Coho | Coho CPUE |      |
| 1            | 24                     | 7/25-7/26 | 0    | NO FISHING EFFORT                      |              |            |           |            |  |         |              |      |           |      |           |      |
| 2            | 24                     | 7/29-7/30 | 2    | 0                                      | 0.00         | 25         | 0.52      | 69         | 1.44                                       | 0       | 0.00         | 25   | 0.52      | 69   | 1.44      |      |
| 3            | 24                     | 8/01-8/02 | 2    | 0                                      | 0.00         | 42         | 0.88      | 73         | 1.52                                       | 0       | 0.00         | 67   | 0.70      | 142  | 1.48      |      |
| 4            | 24                     | 8/05-8/06 | 5    | 1                                      | 0.01         | 51         | 0.43      | 83         | 0.69                                       | 1       | 0.00         | 118  | 0.55      | 225  | 1.04      |      |
| 5            | 24                     | 8/08-8/09 | 4    | 0                                      | 0.00         | 104        | 1.08      | 241        | 2.51                                       | 1       | 0.00         | 222  | 0.71      | 466  | 1.49      |      |
| 6            | 24                     | 8/12-8/13 | 6    | 0                                      | 0.00         | 39         | 0.27      | 214        | 1.49                                       | 1       | 0.00         | 261  | 0.57      | 680  | 1.49      |      |
| 7            | 24                     | 8/15-8/16 | 0    | NO FISHING EFFORT                      |              |            |           |            |  |         | 1            | 0.00 | 261       | 0.57 | 680       | 1.49 |
| 8            | 24                     | 8/19-8/20 | 0    | NO FISHING EFFORT                      |              |            |           |            |  |         | 1            | 0.00 | 261       | 0.57 | 680       | 1.49 |
| <b>Total</b> | <b>192</b>             |           |      | <b>1</b>                               |              | <b>261</b> |           | <b>680</b> |  |         |              |      |           |      |           |      |

Total number of permits fished = 7

Appendix Table A.2. Commercial salmon set gillnet catches from Unalakleet, Subdistrict 6, Norton Sound, 2002.

| Period | Length of period (hrs) | Date      | # FM | Period Catch and Catch Per Unit Effort |              |      |           |       | Cumulative Catch and Catch Per Unit Effort |         |              |      |           |       |           |
|--------|------------------------|-----------|------|--|--------------|------|-----------|-------|--|---------|--------------|------|-----------|-------|-----------|
|        |                        |           |      | Chinook                                | Chinook CPUE | Chum | Chum CPUE | Coho  | Coho CPUE                                  | Chinook | Chinook CPUE | Chum | Chum CPUE | Coho  | Coho CPUE |
| 1      | 24                     | 7/25-7/26 | 2    | 1                                      | 0.02         | 113  | 2.35      | 6     | 0.13                                       | 1       | 0.02         | 113  | 2.35      | 6     | 0.13      |
| 2      | 24                     | 7/29-7/30 | 1    | 1                                      | 0.04         | 79   | 3.29      | 76    | 3.17                                       | 2       | 0.03         | 192  | 2.67      | 82    | 1.14      |
| 3      | 24                     | 8/01-8/02 | 1    | 0                                      | 0.00         | 38   | 1.58      | 131   | 5.46                                       | 2       | 0.02         | 230  | 2.40      | 213   | 2.22      |
| 4      | 24                     | 8/05-8/06 | 3    | 1                                      | 0.01         | 26   | 0.36      | 147   | 2.04                                       | 3       | 0.02         | 256  | 1.52      | 360   | 2.14      |
| 5      | 24                     | 8/08-8/09 | 2    | 1                                      | 0.02         | 58   | 1.21      | 560   | 11.67                                      | 4       | 0.02         | 314  | 1.45      | 920   | 4.26      |
| 6      | 24                     | 8/12-8/13 | 2    | 0                                      | 0.00         | 10   | 0.21      | 66    | 1.38                                       | 4       | 0.02         | 324  | 1.23      | 986   | 3.73      |
| 7      | 24                     | 8/15-8/16 | 0    | NO FISHING EFFORT                      |              |      |           |       | 4  | 0.02    | 324          | 1.23 | 986       | 3.73  |           |
| 8      | 24                     | 8/19-8/20 | 1    | 0                                      | 0.00         | 15   | 0.63      | 93    | 3.88                                       | 4       | 0.01         | 339  | 1.18      | 1,079 | 3.76      |
| Total  |                        |           |      | 4                                      |              | 339  |           | 1,079 |  |         |              |      |           |       |           |

Total number of permits fished = 5

Appendix Table B.1. Expanded daily and cumulative migration of all salmonid species past the Kwiniuk River counting tower, Norton Sound, 2002.

| Date   | Daily chum salmon | Cumulative chum salmon | Daily pink salmon | Cumulative pink salmon | Daily chinook salmon | Cumulative chinook salmon | Daily coho salmon | Cumulative coho salmon | Daily Dolly Varden | Cumulative Dolly Varden |
|--------|-------------------|------------------------|-------------------|------------------------|----------------------|---------------------------|-------------------|------------------------|--------------------|-------------------------|
| 17-Jun | 24                | 24                     | 126               | 126                    | 0                    | 0                         | 0                 | 0                      | 0                  | 0                       |
| 18-Jun | 741               | 765                    | 522               | 648                    | 3                    | 3                         | 0                 | 0                      | 9                  | 9                       |
| 19-Jun | 639               | 1,404                  | 1,164             | 1,812                  | 3                    | 6                         | 0                 | 0                      | 6                  | 15                      |
| 20-Jun | 426               | 1,830                  | 846               | 2,658                  | 3                    | 9                         | 0                 | 0                      | -9                 | 6                       |
| 21-Jun | 528               | 2,358                  | 1,410             | 4,068                  | 6                    | 15                        | 0                 | 0                      | 6                  | 12                      |
| 22-Jun | 939               | 3,297                  | 5,631             | 9,699                  | 0                    | 15                        | 0                 | 0                      | 15                 | 27                      |
| 23-Jun | 1,026             | 4,323                  | 5,673             | 15,372                 | 3                    | 18                        | 0                 | 0                      | 6                  | 33                      |
| 24-Jun | 339               | 4,662                  | -1,344            | 14,028                 | -3                   | 15                        | 0                 | 0                      | 0                  | 33                      |
| 25-Jun | 1,482             | 6,144                  | 3,438             | 17,466                 | 6                    | 21                        | 0                 | 0                      | 0                  | 33                      |
| 26-Jun | 663               | 6,807                  | 2,889             | 20,355                 | 15                   | 36                        | 0                 | 0                      | 0                  | 33                      |
| 27-Jun | 2,988             | 9,795                  | 25,275            | 45,630                 | 18                   | 54                        | 0                 | 0                      | 0                  | 33                      |
| 28-Jun | 1,644             | 11,439                 | 29,133            | 74,763                 | 135                  | 189                       | 0                 | 0                      | 0                  | 33                      |
| 29-Jun | 1,821             | 13,260                 | 35,379            | 110,142                | 462                  | 651                       | 0                 | 0                      | 45                 | 78                      |
| 30-Jun | 231               | 13,491                 | 5,718             | 115,860                | 18                   | 669                       | 0                 | 0                      | 9                  | 87                      |
| 1-Jul  | 534               | 14,025                 | 20,879            | 136,739                | 42                   | 711                       | 0                 | 0                      | 0                  | 87                      |
| 2-Jul  | 477               | 14,502                 | 24,684            | 161,423                | 15                   | 726                       | 0                 | 0                      | 6                  | 93                      |
| 3-Jul  | 747               | 15,249                 | -6,822            | 154,601                | 474                  | 1,200                     | 0                 | 0                      | 0                  | 93                      |
| 4-Jul  | 1,413             | 16,662                 | 23,850            | 178,451                | 39                   | 1,239                     | 0                 | 0                      | 0                  | 93                      |
| 5-Jul  | 1,647             | 18,309                 | 66,423            | 244,874                | 39                   | 1,278                     | 0                 | 0                      | 6                  | 99                      |
| 6-Jul  | 2,811             | 21,120                 | 133,425           | 378,299                | 84                   | 1,362                     | 0                 | 0                      | 0                  | 99                      |
| 7-Jul  | 1,581             | 22,701                 | 65,139            | 443,438                | 51                   | 1,413                     | 0                 | 0                      | 0                  | 99                      |
| 8-Jul  | 2,286             | 24,987                 | 69,687            | 513,125                | 60                   | 1,473                     | 0                 | 0                      | 0                  | 99                      |
| 9-Jul  | 447               | 25,434                 | 36,153            | 549,278                | 9                    | 1,482                     | 0                 | 0                      | 0                  | 99                      |
| 10-Jul | 2,208             | 27,732                 | 138,348           | 687,626                | 27                   | 1,509                     | 0                 | 0                      | 3                  | 102                     |
| 11-Jul | 2,571             | 30,303                 | 111,759           | 799,385                | 42                   | 1,551                     | 0                 | 0                      | 9                  | 111                     |
| 12-Jul | 468               | 30,771                 | 58,224            | 857,609                | 9                    | 1,560                     | 6                 | 6                      | 0                  | 111                     |
| 13-Jul | 498               | 31,269                 | 37,767            | 895,376                | 6                    | 1,566                     | 0                 | 6                      | 0                  | 111                     |
| 14-Jul | 963               | 32,232                 | 59,013            | 954,389                | 6                    | 1,572                     | 0                 | 6                      | 3                  | 114                     |
| 15-Jul | 351               | 32,583                 | 50,445            | 1,004,834              | 6                    | 1,578                     | 0                 | 6                      | 0                  | 114                     |
| 16-Jul | 852               | 33,435                 | 41,910            | 1,046,744              | 9                    | 1,587                     | 0                 | 6                      | 0                  | 114                     |
| 17-Jul | 507               | 33,942                 | 23,352            | 1,070,096              | 15                   | 1,602                     | 0                 | 6                      | 0                  | 114                     |
| 18-Jul | 585               | 34,527                 | 13,737            | 1,083,833              | 0                    | 1,602                     | 0                 | 6                      | 0                  | 114                     |
| 19-Jul | 669               | 35,196                 | 9,204             | 1,093,037              | 9                    | 1,611                     | 0                 | 6                      | 0                  | 114                     |
| 20-Jul | 573               | 35,769                 | 2,181             | 1,095,218              | 18                   | 1,629                     | 0                 | 6                      | 0                  | 114                     |
| 21-Jul | 345               | 36,114                 | 2,811             | 1,098,029              | -3                   | 1,626                     | 0                 | 6                      | 0                  | 114                     |
| 22-Jul | 159               | 36,273                 | 1,179             | 1,099,208              | 3                    | 1,629                     | 3                 | 9                      | 0                  | 114                     |
| 23-Jul | 165               | 36,438                 | 1,302             | 1,100,510              | 0                    | 1,629                     | -3                | 6                      | 0                  | 114                     |
| 24-Jul | 258               | 36,696                 | 1,212             | 1,101,722              | 0                    | 1,629                     | 12                | 18                     | 0                  | 114                     |
| 25-Jul | 219               | 36,915                 | 2,805             | 1,104,527              | 3                    | 1,632                     | 12                | 30                     | 0                  | 114                     |
| 26-Jul | 33                | 36,948                 | 800               | 1,105,427              | 0                    | 1,632                     | 3                 | 33                     | 0                  | 114                     |
| 27-Jul | 284               | 37,152                 | 1,404             | 1,106,831              | 0                    | 1,632                     | -3                | 30                     | 0                  | 114                     |
| 28-Jul | 123               | 37,275                 | 1,227             | 1,108,058              | 0                    | 1,632                     | 3                 | 33                     | 0                  | 114                     |
| 29-Jul | 93                | 37,368                 | 1,095             | 1,109,153              | 0                    | 1,632                     | 3                 | 36                     | 0                  | 114                     |
| 30-Jul | -11               | 37,357                 | 1,245             | 1,110,398              | -3                   | 1,629                     | 9                 | 45                     | 0                  | 114                     |
| 31-Jul | 99                | 37,456                 | 732               | 1,111,130              | 12                   | 1,641                     | 12                | 57                     | 0                  | 114                     |
| 1-Aug  | 93                | 37,549                 | 477               | 1,112,222              | -3                   | 1,641                     | 138               | 231                    | 67                 | 232                     |
| 2-Aug  | 72                | 37,708                 | 489               | 1,112,711              | 0                    | 1,641                     | 51                | 282                    | 105                | 337                     |
| 3-Aug  | 42                | 37,750                 | 372               | 1,113,083              | 0                    | 1,641                     | 111               | 393                    | 252                | 589                     |
| 4-Aug  | 36                | 37,786                 | 183               | 1,113,266              | -3                   | 1,638                     | 273               | 666                    | 114                | 703                     |
| 5-Aug  | 6                 | 37,792                 | 135               | 1,113,401              | 0                    | 1,638                     | 78                | 744                    | 75                 | 778                     |
| 6-Aug  | 0                 | 37,792                 | 219               | 1,113,620              | 0                    | 1,638                     | 69                | 813                    | 81                 | 859                     |
| 7-Aug  | 0                 | 37,792                 | 207               | 1,113,827              | 0                    | 1,638                     | 33                | 846                    | 84                 | 943                     |
| 8-Aug  | 0                 | 37,792                 | 204               | 1,114,031              | -3                   | 1,635                     | 66                | 912                    | 90                 | 1,033                   |
| 9-Aug  | 3                 | 37,795                 | 111               | 1,114,142              | 0                    | 1,635                     | 33                | 945                    | 144                | 1,177                   |
| 10-Aug | 0                 | 37,795                 | 111               | 1,114,253              | 0                    | 1,635                     | 9                 | 954                    | 6                  | 1,183                   |
| 11-Aug | 3                 | 37,798                 | 30                | 1,114,283              | -3                   | 1,632                     | 147               | 1,101                  | 3                  | 1,186                   |
| 12-Aug | 0                 | 37,798                 | 96                | 1,114,379              | 0                    | 1,632                     | 48                | 1,149                  | 0                  | 1,196                   |
| 13-Aug | 6                 | 37,804                 | 54                | 1,114,433              | 0                    | 1,632                     | 27                | 1,176                  | 9                  | 1,204                   |
| 14-Aug | 6                 | 37,810                 | 36                | 1,114,469              | 0                    | 1,632                     | 99                | 1,275                  | 3                  | 1,207                   |
| 15-Aug | 3                 | 37,813                 | 39                | 1,114,508              | 0                    | 1,632                     | 228               | 1,503                  | 18                 | 1,225                   |
| 16-Aug | 3                 | 37,816                 | 9                 | 1,114,517              | 0                    | 1,632                     | 69                | 1,572                  | 6                  | 1,231                   |
| 17-Aug | 3                 | 37,819                 | 15                | 1,114,532              | 0                    | 1,632                     | 624               | 2,196                  | 45                 | 1,276                   |
| 18-Aug | 3                 | 37,822                 | 9                 | 1,114,541              | 0                    | 1,632                     | 291               | 2,487                  | 9                  | 1,285                   |
| 19-Aug | 0                 | 37,822                 | 0                 | 1,114,541              | 0                    | 1,632                     | 60                | 2,547                  | -18                | 1,267                   |
| 20-Aug | 0                 | 37,822                 | 0                 | 1,114,541              | 0                    | 1,632                     | 42                | 2,589                  | 0                  | 1,267                   |
| 21-Aug | 3                 | 37,825                 | 3                 | 1,114,544              | 0                    | 1,632                     | 606               | 3,195                  | 39                 | 1,306                   |
| 22-Aug | 0                 | 37,825                 | 6                 | 1,114,550              | 0                    | 1,632                     | 207               | 3,402                  | -81                | 1,225                   |
| 23-Aug | 3                 | 37,828                 | 0                 | 1,114,550              | 0                    | 1,632                     | 213               | 3,615                  | 3                  | 1,228                   |
| 24-Aug | 0                 | 37,828                 | 9                 | 1,114,559              | 0                    | 1,632                     | 21                | 3,636                  | 0                  | 1,228                   |
| 25-Aug | 3                 | 37,831                 | 0                 | 1,114,559              | 0                    | 1,632                     | 36                | 3,672                  | 0                  | 1,228                   |
| 26-Aug | 3                 | 37,834                 | 9                 | 1,114,568              | 0                    | 1,632                     | 69                | 3,741                  | -3                 | 1,231                   |
| 27-Aug | 0                 | 37,834                 | 0                 | 1,114,568              | 0                    | 1,632                     | 51                | 3,792                  | 12                 | 1,243                   |
| 28-Aug | 0                 | 37,834                 | 0                 | 1,114,568              | 0                    | 1,632                     | 156               | 3,948                  | 0                  | 1,243                   |
| 29-Aug | 6                 | 37,840                 | 3                 | 1,114,571              | 0                    | 1,632                     | 513               | 4,461                  | 6                  | 1,249                   |
| 30-Aug | 0                 | 37,840                 | 3                 | 1,114,574              | 0                    | 1,632                     | 63                | 4,524                  | 0                  | 1,249                   |
| 1-Sep  | 0                 | 37,840                 | 9                 | 1,114,583              | 0                    | 1,632                     | 138               | 4,662                  | 120                | 1,369                   |
| 2-Sep  | 6                 | 37,846                 | 3                 | 1,114,586              | 0                    | 1,632                     | 150               | 4,812                  | 36                 | 1,405                   |
| 3-Sep  | 0                 | 37,846                 | 6                 | 1,114,592              | 0                    | 1,632                     | 483               | 5,295                  | 0                  | 1,405                   |
| 4-Sep  | 9                 | 37,855                 | 12                | 1,114,604              | 0                    | 1,632                     | 558               | 5,853                  | 0                  | 1,405                   |
| 5-Sep  | 6                 | 37,861                 | 9                 | 1,114,613              | 0                    | 1,632                     | 219               | 6,072                  | 3                  | 1,408                   |
| 6-Sep  | 0                 | 37,861                 | 3                 | 1,114,616              | 0                    | 1,632                     | 285               | 6,357                  | -549               | 859                     |
| 7-Sep  | 0                 | 37,861                 | -6                | 1,114,610              | 0                    | 1,632                     | 60                | 6,417                  | -1,545             | -686                    |
| 8-Sep  | 0                 | 37,861                 | 0                 | 1,114,610              | 0                    | 1,632                     | 0                 | 6,417                  | -492               | -1,178                  |
| 9-Sep  | 3                 | 37,864                 | 3                 | 1,114,613              | 0                    | 1,632                     | 6                 | 6,423                  | 0                  | -1,178                  |
| 10-Sep | 0                 | 37,864                 | 3                 | 1,114,616              | 0                    | 1,632                     | 15                | 6,438                  | 0                  | -1,178                  |
| 11-Sep | 0                 | 37,864                 | 0                 | 1,114,616              | 0                    | 1,632                     | 21                | 6,459                  | 0                  | -1,178                  |
| Total  | 37,864            |                        | 1,114,616         |                        | 1,632                |                           | 6,459             |                        | -1,178             |                         |

Appendix Table B.2. Daily passage of all salmonid species at the Nome River weir, Norton Sound, 2002.

| Date   | Cumulative        |             |                   |                        | Cumulative           |                |                   |                        | Daily Dolly Varden | Daily Sockeye Salmon | Cumulative Sockeye Salmon |
|--------|-------------------|-------------|-------------------|------------------------|----------------------|----------------|-------------------|------------------------|--------------------|----------------------|---------------------------|
|        | Daily chum salmon | chum salmon | Daily pink salmon | Cumulative pink salmon | Daily chinook salmon | chinook salmon | Daily coho salmon | Cumulative coho salmon |                    |                      |                           |
| 29-Jun | 0                 | 0           | 0                 | 0                      | 0                    | 0              | 0                 | 0                      | 0                  | 0                    | 0                         |
| 30-Jun | 1                 | 1           | 0                 | 0                      | 0                    | 0              | 0                 | 0                      | 1                  | 1                    | 0                         |
| 1-Jul  | 1                 | 2           | 2                 | 2                      | 0                    | 0              | 0                 | 0                      | 0                  | 1                    | 0                         |
| 2-Jul  | 1                 | 3           | 7                 | 9                      | 0                    | 0              | 0                 | 0                      | 0                  | 1                    | 0                         |
| 3-Jul  | 3                 | 6           | 7                 | 16                     | 0                    | 0              | 0                 | 0                      | 1                  | 2                    | 0                         |
| 4-Jul  | 8                 | 14          | 14                | 30                     | 0                    | 0              | 0                 | 0                      | 2                  | 4                    | 0                         |
| 5-Jul  | 14                | 28          | 33                | 63                     | 0                    | 0              | 0                 | 0                      | 2                  | 6                    | 0                         |
| 6-Jul  | 20                | 48          | 21                | 84                     | 0                    | 0              | 0                 | 0                      | 6                  | 12                   | 0                         |
| 7-Jul  | 33                | 81          | 83                | 167                    | 0                    | 0              | 0                 | 0                      | 0                  | 12                   | 0                         |
| 8-Jul  | 166               | 247         | 486               | 653                    | 0                    | 0              | 0                 | 0                      | 0                  | 12                   | 0                         |
| 9-Jul  | 102               | 349         | 598               | 1251                   | 0                    | 0              | 0                 | 0                      | 2                  | 14                   | 0                         |
| 10-Jul | 19                | 368         | 321               | 1572                   | 1                    | 1              | 0                 | 0                      | 5                  | 19                   | 0                         |
| 11-Jul | 65                | 433         | 862               | 2434                   | 0                    | 1              | 2                 | 2                      | 3                  | 22                   | 1                         |
| 12-Jul | 14                | 447         | 854               | 3288                   | 0                    | 1              | 0                 | 2                      | 12                 | 34                   | 1                         |
| 13-Jul | 60                | 507         | 1,294             | 4582                   | 0                    | 1              | 5                 | 7                      | 4                  | 38                   | 1                         |
| 14-Jul | 189               | 696         | 4,085             | 8667                   | 1                    | 2              | 0                 | 7                      | 3                  | 41                   | 2                         |
| 15-Jul | 51                | 747         | 1,912             | 10579                  | 0                    | 2              | 1                 | 8                      | 3                  | 44                   | 2                         |
| 16-Jul | 29                | 776         | 1,656             | 12235                  | 1                    | 3              | 0                 | 8                      | 1                  | 45                   | 2                         |
| 17-Jul | 115               | 891         | 7,383             | 19618                  | 0                    | 3              | 0                 | 8                      | 7                  | 52                   | 2                         |
| 18-Jul | 71                | 962         | 3,794             | 23412                  | 0                    | 3              | 2                 | 10                     | 7                  | 59                   | 2                         |
| 19-Jul | 146               | 1108        | 5,475             | 28887                  | 1                    | 4              | 0                 | 10                     | 4                  | 63                   | 2                         |
| 20-Jul | 15                | 1123        | 708               | 29595                  | 1                    | 5              | 0                 | 10                     | 0                  | 63                   | 2                         |
| 21-Jul | 0                 | 1123        | 60                | 29655                  | 0                    | 5              | 0                 | 10                     | 1                  | 64                   | 2                         |
| 22-Jul | 3                 | 1128        | 55                | 29710                  | 0                    | 5              | 0                 | 10                     | 0                  | 64                   | 2                         |
| 23-Jul | 12                | 1138        | 20                | 29730                  | 0                    | 5              | 0                 | 10                     | 4                  | 68                   | 2                         |
| 24-Jul | 34                | 1172        | 109               | 29839                  | 0                    | 5              | 0                 | 10                     | 2                  | 70                   | 3                         |
| 25-Jul | 82                | 1254        | 1,092             | 30931                  | 0                    | 5              | 0                 | 10                     | 12                 | 82                   | 4                         |
| 26-Jul | 7                 | 1261        | 282               | 31213                  | 0                    | 5              | 1                 | 11                     | 7                  | 89                   | 4                         |
| 27-Jul | 9                 | 1270        | 458               | 31671                  | 0                    | 5              | 0                 | 11                     | 11                 | 100                  | 4                         |
| 28-Jul | 9                 | 1279        | 264               | 31935                  | 0                    | 5              | 1                 | 12                     | 11                 | 111                  | 4                         |
| 29-Jul | 9                 | 1288        | 309               | 32244                  | 0                    | 5              | 0                 | 12                     | 8                  | 117                  | 4                         |
| 30-Jul | 13                | 1301        | 218               | 32462                  | 0                    | 5              | 0                 | 12                     | 4                  | 121                  | 5                         |
| 31-Jul | 20                | 1321        | 432               | 32894                  | 0                    | 5              | 1                 | 13                     | 11                 | 132                  | 7                         |
| 1-Aug  | 19                | 1340        | 389               | 33283                  | 0                    | 5              | 0                 | 13                     | 12                 | 144                  | 8                         |
| 2-Aug  | 11                | 1351        | 287               | 33570                  | 0                    | 5              | 2                 | 15                     | 16                 | 160                  | 11                        |
| 3-Aug  | 9                 | 1360        | 155               | 33725                  | 0                    | 5              | 0                 | 15                     | 10                 | 170                  | 13                        |
| 4-Aug  | 46                | 1406        | 192               | 33917                  | 0                    | 5              | 1                 | 16                     | 10                 | 180                  | 15                        |
| 5-Aug  | 37                | 1443        | 300               | 34217                  | 0                    | 5              | 2                 | 16                     | 17                 | 197                  | 15                        |
| 6-Aug  | 2                 | 1445        | 17                | 34234                  | 0                    | 5              | 0                 | 16                     | 3                  | 200                  | 15                        |
| 7-Aug  | 8                 | 1453        | 54                | 34288                  | 0                    | 5              | 0                 | 16                     | 2                  | 202                  | 15                        |
| 8-Aug  | 15                | 1468        | 50                | 34338                  | 0                    | 5              | 0                 | 16                     | 2                  | 204                  | 15                        |
| 9-Aug  | 16                | 1484        | 59                | 34397                  | 1                    | 6              | 0                 | 16                     | 8                  | 212                  | 15                        |
| 10-Aug | 17                | 1501        | 54                | 34451                  | 0                    | 6              | 0                 | 16                     | 4                  | 216                  | 15                        |
| 11-Aug | 12                | 1513        | 50                | 34501                  | 0                    | 6              | 2                 | 20                     | 15                 | 231                  | 15                        |
| 12-Aug | 14                | 1527        | 29                | 34530                  | 0                    | 6              | 0                 | 20                     | 1                  | 232                  | 15                        |
| 13-Aug | 14                | 1539        | 29                | 34543                  | 0                    | 6              | 0                 | 20                     | 3                  | 235                  | 15                        |
| 14-Aug | 6                 | 1545        | 12                | 34555                  | 0                    | 6              | 1                 | 21                     | 4                  | 239                  | 15                        |
| 15-Aug | 12                | 1557        | 18                | 34573                  | 0                    | 6              | 0                 | 21                     | 5                  | 244                  | 15                        |
| 16-Aug | 7                 | 1564        | 5                 | 34578                  | 0                    | 6              | 0                 | 21                     | 2                  | 246                  | 15                        |
| 17-Aug | 14                | 1578        | 14                | 34592                  | 0                    | 6              | 0                 | 21                     | 17                 | 263                  | 16                        |
| 18-Aug | 15                | 1593        | 10                | 34602                  | 0                    | 6              | 3                 | 24                     | 6                  | 269                  | 16                        |
| 19-Aug | 13                | 1606        | 21                | 34623                  | 0                    | 6              | 9                 | 33                     | 4                  | 273                  | 16                        |
| 20-Aug | 12                | 1618        | 40                | 34663                  | 0                    | 6              | 88                | 121                    | 31                 | 304                  | 16                        |
| 21-Aug | 6                 | 1624        | 24                | 34687                  | 0                    | 6              | 48                | 169                    | 15                 | 319                  | 17                        |
| 22-Aug | 15                | 1639        | 54                | 34741                  | 0                    | 6              | 239               | 408                    | 49                 | 368                  | 20                        |
| 23-Aug | 3                 | 1642        | 17                | 34758                  | 0                    | 6              | 154               | 562                    | 12                 | 380                  | 20                        |
| 24-Aug | 2                 | 1644        | 10                | 34768                  | 0                    | 6              | 55                | 617                    | 13                 | 393                  | 21                        |
| 25-Aug | 5                 | 1649        | 5                 | 34773                  | 1                    | 7              | 3                 | 620                    | 0                  | 393                  | 21                        |
| 26-Aug | 6                 | 1655        | 7                 | 34780                  | 0                    | 7              | 176               | 796                    | 4                  | 397                  | 22                        |
| 27-Aug | 11                | 1666        | 16                | 34796                  | 0                    | 7              | 554               | 1350                   | 11                 | 408                  | 25                        |
| 28-Aug | 1                 | 1667        | 11                | 34807                  | 0                    | 7              | 211               | 1561                   | 1                  | 409                  | 25                        |
| 29-Aug | 3                 | 1670        | 5                 | 34812                  | 0                    | 7              | 140               | 1701                   | 7                  | 416                  | 25                        |
| 30-Aug | 4                 | 1674        | 9                 | 34821                  | 0                    | 7              | 88                | 1789                   | 5                  | 421                  | 25                        |
| 31-Aug | 5                 | 1679        | 10                | 34831                  | 0                    | 7              | 55                | 1844                   | 4                  | 425                  | 25                        |
| 1-Sep  | 9                 | 1688        | 19                | 34850                  | 0                    | 7              | 227               | 2071                   | 21                 | 446                  | 25                        |
| 2-Sep  | 0                 | 1688        | 4                 | 34854                  | 0                    | 7              | 35                | 2106                   | 1                  | 447                  | 25                        |
| 3-Sep  | 0                 | 1688        | 2                 | 34856                  | 0                    | 7              | 0                 | 2106                   | 1                  | 448                  | 25                        |
| 4-Sep  | 9                 | 1697        | 76                | 34932                  | 0                    | 7              | 925               | 3031                   | 81                 | 529                  | 29                        |
| 5-Sep  | 11                | 1708        | 52                | 34984                  | 0                    | 7              | 119               | 3150                   | 12                 | 541                  | 29                        |
| 6-Sep  | 8                 | 1716        | 49                | 35033                  | 0                    | 7              | 219               | 3369                   | 7                  | 548                  | 29                        |
| 7-Sep  | 0                 | 1716        | 13                | 35046                  | 0                    | 7              | 37                | 3406                   | 5                  | 553                  | 29                        |
| 8-Sep  | 0                 | 1716        | 0                 | 35046                  | 0                    | 7              | 0                 | 3406                   | 0                  | 553                  | 29                        |
| 9-Sep  | 1                 | 1717        | 4                 | 35050                  | 0                    | 7              | 0                 | 3406                   | 3                  | 556                  | 29                        |
| 10-Sep | 1                 | 1718        | 1                 | 35051                  | 0                    | 7              | 1                 | 3407                   | 1                  | 557                  | 29                        |
| 11-Sep | 2                 | 1720        | 6                 | 35057                  | 0                    | 7              | 11                | 3418                   | 6                  | 563                  | 29                        |
|        | 1720              |             | 35057             |                        | 7                    |                | 3418              |                        | 563                |                      | 29                        |

Appendix Table B.3. Expanded daily and cumulative migration of all salmonid species past the Nukuk River counting tower, Norton Sound, 2002.

| Date   | Daily chum salmon | Cumulative chum salmon | Daily pink salmon | Cumulative pink salmon | Daily chinook salmon | Cumulative chinook salmon | Daily coho salmon | Cumulative coho salmon | Daily Dolly Varden | Cumulative Dolly Varden |
|--------|-------------------|------------------------|-------------------|------------------------|----------------------|---------------------------|-------------------|------------------------|--------------------|-------------------------|
| 25-Jun | 45                | 45                     | -3                | -3                     | 0                    | 0                         | 0                 | 0                      | -9                 | -9                      |
| 26-Jun | 219               | 264                    | 333               | 330                    | 0                    | 0                         | 0                 | 0                      | 0                  | -9                      |
| 27-Jun | 1629              | 1893                   | 3,762             | 4092                   | 15                   | 15                        | 0                 | 0                      | 138                | 129                     |
| 28-Jun | 306               | 2199                   | 4,557             | 8649                   | 60                   | 75                        | 0                 | 0                      | 30                 | 159                     |
| 29-Jun | 459               | 2658                   | 3,750             | 12399                  | 15                   | 90                        | 0                 | 0                      | 66                 | 225                     |
| 30-Jun | 228               | 2886                   | 1,638             | 14037                  | 21                   | 111                       | 0                 | 0                      | 54                 | 279                     |
| 1-Jul  | 1874              | 4760                   | 14,286            | 28323                  | 3                    | 114                       | 0                 | 0                      | 78                 | 357                     |
| 2-Jul  | 726               | 5486                   | 10,155            | 38478                  | 132                  | 246                       | 0                 | 0                      | 45                 | 402                     |
| 3-Jul  | 192               | 5678                   | 9,852             | 48330                  | 39                   | 285                       | 0                 | 0                      | 87                 | 489                     |
| 4-Jul  | 624               | 6302                   | 18,403            | 66733                  | 60                   | 345                       | 0                 | 0                      | 45                 | 534                     |
| 5-Jul  | 573               | 6875                   | 10,641            | 77374                  | 0                    | 345                       | 0                 | 0                      | 69                 | 603                     |
| 6-Jul  | 585               | 7460                   | 31,272            | 108646                 | 60                   | 405                       | 0                 | 0                      | 18                 | 621                     |
| 7-Jul  | 1,113             | 8573                   | 33,825            | 142471                 | 24                   | 429                       | 0                 | 0                      | 30                 | 651                     |
| 8-Jul  | 1,140             | 9713                   | 32,439            | 174910                 | 3                    | 432                       | 0                 | 0                      | 6                  | 657                     |
| 9-Jul  | 1,731             | 11444                  | 43,980            | 218890                 | 30                   | 462                       | 0                 | 0                      | 54                 | 711                     |
| 10-Jul | 1,899             | 13343                  | 54,168            | 273058                 | 18                   | 480                       | 0                 | 0                      | 54                 | 765                     |
| 11-Jul | 1,131             | 14474                  | 33,711            | 306789                 | 9                    | 489                       | 0                 | 0                      | 33                 | 798                     |
| 12-Jul | 678               | 15152                  | 18,840            | 325609                 | 3                    | 492                       | 0                 | 0                      | 8                  | 804                     |
| 13-Jul | 909               | 16061                  | 22,824            | 348433                 | 21                   | 513                       | 0                 | 0                      | 0                  | 804                     |
| 14-Jul | 1,668             | 17729                  | 40,107            | 388540                 | 15                   | 528                       | 6                 | 6                      | 3                  | 807                     |
| 15-Jul | 1,104             | 18833                  | 26,442            | 414982                 | 9                    | 537                       | 6                 | 12                     | 6                  | 813                     |
| 16-Jul | 1,047             | 19880                  | 26,331            | 441313                 | 0                    | 537                       | 6                 | 18                     | 0                  | 813                     |
| 17-Jul | 2,352             | 22232                  | 55,923            | 497236                 | 6                    | 543                       | 3                 | 21                     | 3                  | 816                     |
| 18-Jul | 1,335             | 23567                  | 43,002            | 540238                 | 6                    | 549                       | 3                 | 24                     | 0                  | 816                     |
| 19-Jul | 1,584             | 25151                  | 39,621            | 579859                 | 0                    | 549                       | 9                 | 33                     | 6                  | 822                     |
| 20-Jul | 1,077             | 26228                  | 23,679            | 603538                 | 3                    | 552                       | 0                 | 33                     | 0                  | 822                     |
| 21-Jul | 636               | 26864                  | 13,899            | 617437                 | 0                    | 552                       | 0                 | 33                     | 0                  | 822                     |
| 22-Jul | 540               | 27404                  | 5,034             | 622471                 | 6                    | 558                       | 3                 | 36                     | 9                  | 831                     |
| 23-Jul | 516               | 27920                  | 2,241             | 624712                 | 0                    | 558                       | 6                 | 42                     | 6                  | 837                     |
| 24-Jul | 957               | 28877                  | 2,775             | 627487                 | 3                    | 561                       | 0                 | 42                     | 6                  | 843                     |
| 25-Jul | 600               | 29477                  | 2,115             | 629602                 | 0                    | 561                       | 6                 | 48                     | 0                  | 843                     |
| 26-Jul | 309               | 29786                  | 879               | 630481                 | 0                    | 561                       | 0                 | 48                     | 12                 | 855                     |
| 27-Jul | 531               | 30317                  | 744               | 631225                 | 0                    | 561                       | 0                 | 48                     | 3                  | 858                     |
| 28-Jul | 354               | 30671                  | 825               | 632050                 | -37                  | 524                       | 0                 | 48                     | 0                  | 858                     |
| 29-Jul | 309               | 30980                  | 423               | 632473                 | 3                    | 527                       | 0                 | 48                     | 21                 | 879                     |
| 30-Jul | 399               | 31379                  | 567               | 633040                 | 12                   | 639                       | 0                 | 48                     | 27                 | 906                     |
| 31-Jul | 332               | 31711                  | 447               | 633487                 | 0                    | 539                       | 0                 | 48                     | 12                 | 918                     |
| 1-Aug  | 360               | 32071                  | 600               | 634087                 | 3                    | 542                       | 117               | 165                    | 27                 | 945                     |
| 2-Aug  | 318               | 32389                  | 525               | 634612                 | 0                    | 542                       | 15                | 180                    | 90                 | 1035                    |
| 3-Aug  | 141               | 32530                  | 309               | 634921                 | 0                    | 542                       | 30                | 210                    | 69                 | 1104                    |
| 4-Aug  | 186               | 32716                  | 198               | 635119                 | 0                    | 542                       | 54                | 264                    | 159                | 1263                    |
| 5-Aug  | 192               | 32908                  | 327               | 635446                 | 0                    | 542                       | 12                | 276                    | 93                 | 1356                    |
| 6-Aug  | 165               | 33073                  | 231               | 635677                 | 3                    | 545                       | 9                 | 285                    | 63                 | 1419                    |
| 7-Aug  | 249               | 33322                  | 159               | 635836                 | -3                   | 542                       | 69                | 354                    | 51                 | 1470                    |
| 8-Aug  | 138               | 33560                  | 54                | 635996                 | 0                    | 545                       | 45                | 444                    | 63                 | 1566                    |
| 9-Aug  | 102               | 33652                  | 117               | 636073                 | 0                    | 545                       | 108               | 552                    | 9                  | 1575                    |
| 10-Aug | 66                | 33718                  | 54                | 636127                 | -3                   | 542                       | 171               | 723                    | 60                 | 1635                    |
| 11-Aug | 90                | 33808                  | 63                | 636190                 | 0                    | 542                       | 27                | 750                    | 36                 | 1671                    |
| 12-Aug | 51                | 33859                  | 69                | 636259                 | 0                    | 542                       | 204               | 954                    | 45                 | 1716                    |
| 13-Aug | 9                 | 33868                  | -15               | 636244                 | 0                    | 542                       | 36                | 990                    | 39                 | 1755                    |
| 14-Aug | 9                 | 33877                  | 36                | 636280                 | 0                    | 542                       | 231               | 1221                   | 42                 | 1797                    |
| 15-Aug | 18                | 33895                  | 12                | 636292                 | 3                    | 545                       | 528               | 1749                   | 51                 | 1848                    |
| 16-Aug | 36                | 33931                  | 18                | 636310                 | -3                   | 542                       | 279               | 2028                   | 27                 | 1875                    |
| 17-Aug | 0                 | 33931                  | 9                 | 636319                 | 0                    | 542                       | 402               | 2430                   | 18                 | 1893                    |
| 18-Aug | 6                 | 33937                  | 6                 | 636325                 | 0                    | 542                       | 153               | 2583                   | 24                 | 1917                    |
| 19-Aug | -3                | 33934                  | 6                 | 636331                 | 0                    | 542                       | 177               | 2760                   | 39                 | 1956                    |
| 20-Aug | 3                 | 33937                  | 39                | 636370                 | 0                    | 542                       | 474               | 3234                   | 21                 | 1977                    |
| 21-Aug | -6                | 33931                  | 15                | 636385                 | 0                    | 542                       | 213               | 3447                   | 54                 | 2031                    |
| 22-Aug | 0                 | 33931                  | -3                | 636382                 | 0                    | 542                       | 135               | 3582                   | 99                 | 2130                    |
| 23-Aug | 27                | 33958                  | 6                 | 636388                 | 0                    | 542                       | 327               | 3909                   | 24                 | 2154                    |
| 24-Aug | 6                 | 33964                  | 3                 | 636391                 | 0                    | 542                       | 183               | 4092                   | 30                 | 2184                    |
| 25-Aug | 0                 | 33964                  | 0                 | 636391                 | 0                    | 542                       | 48                | 4140                   | 27                 | 2211                    |
| 26-Aug | -3                | 33961                  | 0                 | 636391                 | 0                    | 542                       | 339               | 4479                   | 42                 | 2253                    |
| 27-Aug | 9                 | 33970                  | 0                 | 636391                 | 0                    | 542                       | 857               | 5136                   | 39                 | 2292                    |
| 28-Aug | 0                 | 33970                  | 1                 | 636392                 | 0                    | 542                       | 480               | 5616                   | 42                 | 2334                    |
| 29-Aug | 9                 | 33979                  | -3                | 636389                 | 0                    | 542                       | 288               | 5904                   | 24                 | 2358                    |
| 30-Aug | 0                 | 33979                  | 3                 | 636392                 | 0                    | 542                       | 288               | 6192                   | 57                 | 2415                    |
| 1-Sep  | 0                 | 33979                  | 0                 | 636392                 | 0                    | 542                       | 429               | 6621                   | 78                 | 2493                    |
| 2-Sep  | 0                 | 33979                  | 0                 | 636392                 | 0                    | 542                       | 219               | 6840                   | 27                 | 2520                    |
| 3-Sep  | -3                | 33976                  | 3                 | 636395                 | 0                    | 542                       | 168               | 7008                   | 27                 | 2547                    |
| 4-Sep  | -3                | 33973                  | 0                 | 636395                 | 0                    | 542                       | 183               | 7191                   | 24                 | 2571                    |
| 5-Sep  | 0                 | 33973                  | 3                 | 636398                 | 0                    | 542                       | 27                | 7218                   | 12                 | 2583                    |
| 6-Sep  | 3                 | 33976                  | 3                 | 636401                 | 0                    | 542                       | -90               | 7128                   | -3                 | 2580                    |
| 7-Sep  | 0                 | 33976                  | 0                 | 636401                 | 0                    | 542                       | 78                | 7206                   | 0                  | 2580                    |
| 8-Sep  | 0                 | 33976                  | 3                 | 636404                 | 0                    | 542                       | 78                | 7284                   | 0                  | 2580                    |
| 9-Sep  | 0                 | 33976                  | 0                 | 636404                 | 0                    | 542                       | -12               | 7272                   | 9                  | 2589                    |
| 10-Sep | 3                 | 33979                  | 0                 | 636404                 | 0                    | 542                       | -3                | 7269                   | -15                | 2574                    |
| Total  | 33979             |                        | 636404            |                        | 542                  |                           | 7269              |                        | 2574               |                         |

Appendix Table B.4. Expanded daily and cumulative salmon migration past the Snake River counting tower, Norton Sound, 2002.

| Date   | Cumulative |      | Cumulative |      | Cumulative    |         | Cumulative |      |
|--------|------------|------|------------|------|---------------|---------|------------|------|
|        | Daily Chum | Chum | Daily Pink | Pink | Daily Chinook | Chinook | Daily Coho | Coho |
| 1-Jul  | 0          | 0    | 0          | 0    | 0             | 0       | 0          | 0    |
| 2-Jul  | 93         | 93   | 0          | 0    | 0             | 0       | 0          | 0    |
| 3-Jul  | 0          | 93   | 0          | 0    | 0             | 0       | 0          | 0    |
| 4-Jul  | 15         | 108  | 18         | 18   | 0             | 0       | 0          | 0    |
| 5-Jul  | 114        | 222  | 3          | 21   | 0             | 0       | 0          | 0    |
| 6-Jul  | -6         | 216  | 6          | 27   | 0             | 0       | 0          | 0    |
| 7-Jul  | 0          | 216  | 3          | 30   | 0             | 0       | 0          | 0    |
| 8-Jul  | 0          | 216  | 18         | 48   | 0             | 0       | 0          | 0    |
| 9-Jul  | 27         | 243  | 57         | 105  | 0             | 0       | 0          | 0    |
| 10-Jul | 180        | 423  | 123        | 228  | 0             | 0       | 0          | 0    |
| 11-Jul | 369        | 792  | -36        | 192  | 0             | 0       | 0          | 0    |
| 12-Jul | -6         | 786  | 84         | 276  | 0             | 0       | 0          | 0    |
| 13-Jul | 69         | 855  | 234        | 510  | 0             | 0       | 0          | 0    |
| 14-Jul | 78         | 933  | 696        | 1206 | 0             | 0       | 0          | 0    |
| 15-Jul | 345        | 1278 | 642        | 1848 | 0             | 0       | 0          | 0    |
| 16-Jul | 363        | 1641 | 756        | 2604 | 0             | 0       | 0          | 0    |
| 17-Jul | 303        | 1944 | 126        | 2730 | 0             | 0       | 0          | 0    |
| 18-Jul | 30         | 1974 | 484        | 3214 | 0             | 0       | 0          | 0    |
| 19-Jul | 198        | 2172 | 21         | 3235 | 0             | 0       | 0          | 0    |
| 20-Jul | 5          | 2177 | 43         | 3278 | 2             | 2       | 0          | 0    |
| 21-Jul | 26         | 2203 | 23         | 3301 | 0             | 2       | 0          | 0    |
| 22-Jul | 29         | 2232 | 29         | 3330 | 1             | 3       | 0          | 0    |
| 23-Jul | 15         | 2247 | 23         | 3353 | 0             | 3       | 0          | 0    |
| 24-Jul | 1          | 2248 | 126        | 3479 | 0             | 3       | 0          | 0    |
| 25-Jul | 122        | 2370 | 45         | 3524 | 0             | 3       | 0          | 0    |
| 26-Jul | 0          | 2370 | 52         | 3576 | 0             | 3       | 0          | 0    |
| 27-Jul | 41         | 2411 | 6          | 3582 | 0             | 3       | 0          | 0    |
| 28-Jul | 14         | 2425 | 11         | 3593 | 1             | 4       | 0          | 0    |
| 29-Jul | 11         | 2436 | 38         | 3631 | 1             | 5       | 0          | 0    |
| 30-Jul | 38         | 2474 | 43         | 3674 | 0             | 5       | 0          | 0    |
| 31-Jul | 31         | 2505 | 42         | 3716 | 0             | 5       | 1          | 1    |
| 1-Aug  | 24         | 2529 | 48         | 3764 | 0             | 5       | 0          | 1    |
| 2-Aug  | 10         | 2539 | 30         | 3794 | 0             | 5       | 0          | 1    |
| 3-Aug  | 30         | 2569 | 21         | 3815 | 0             | 5       | 0          | 1    |
| 4-Aug  | 23         | 2592 | 1          | 3816 | 0             | 5       | 0          | 1    |
| 5-Aug  | 11         | 2603 | 18         | 3834 | 0             | 5       | 0          | 1    |
| 6-Aug  | 29         | 2632 | 22         | 3856 | 1             | 6       | 0          | 1    |
| 7-Aug  | 14         | 2646 | 10         | 3866 | 1             | 7       | 0          | 1    |
| 8-Aug  | 6          | 2652 | 15         | 3881 | 0             | 7       | 0          | 1    |
| 9-Aug  | 12         | 2664 | 6          | 3887 | 0             | 7       | 0          | 1    |
| 10-Aug | 7          | 2671 | 12         | 3899 | 0             | 7       | 0          | 1    |
| 11-Aug | 7          | 2678 | 1          | 3900 | 0             | 7       | 0          | 1    |
| 12-Aug | 5          | 2683 | 12         | 3912 | 0             | 7       | 0          | 1    |
| 13-Aug | 12         | 2695 | 9          | 3921 | 1             | 8       | 0          | 1    |
| 14-Aug | 12         | 2707 | 5          | 3926 | 0             | 8       | 0          | 1    |
| 15-Aug | 5          | 2712 | 5          | 3931 | 0             | 8       | 0          | 1    |
| 16-Aug | 5          | 2717 | 1          | 3936 | 0             | 8       | 0          | 1    |
| 17-Aug | 8          | 2725 | 7          | 3943 | 0             | 8       | 0          | 1    |
| 18-Aug | 5          | 2732 | 1          | 3944 | 0             | 8       | 0          | 1    |
| 19-Aug | 6          | 2738 | 2          | 3946 | 0             | 8       | 0          | 1    |
| 20-Aug | 2          | 2740 | 4          | 3950 | 0             | 8       | 0          | 1    |
| 21-Aug | 12         | 2752 | 4          | 3954 | 0             | 8       | 0          | 1    |
| 22-Aug | 4          | 2756 | 4          | 3958 | 0             | 8       | 0          | 1    |
| 23-Aug | 0          | 2756 | 5          | 3963 | 0             | 8       | 0          | 1    |
| 24-Aug | 0          | 2756 | 2          | 3965 | 0             | 8       | 0          | 1    |
| 25-Aug | 1          | 2757 | 3          | 3968 | 0             | 8       | 0          | 1    |
| 26-Aug | 0          | 2757 | 1          | 3969 | 0             | 8       | 7          | 8    |
| 27-Aug | 0          | 2757 | 0          | 3969 | 0             | 8       | 65         | 73   |
| 28-Aug | 1          | 2758 | 0          | 3969 | 0             | 8       | 21         | 94   |
| 29-Aug | 1          | 2759 | 0          | 3969 | 0             | 8       | 0          | 94   |
| 30-Aug | 1          | 2760 | 6          | 3975 | 0             | 8       | 11         | 105  |
| 31-Aug | 1          | 2761 | 5          | 3980 | 0             | 8       | 23         | 128  |
| 1-Sep  | 3          | 2764 | 11         | 3991 | 0             | 8       | 49         | 177  |
| 2-Sep  | 0          | 2764 | 5          | 3996 | 0             | 8       | 31         | 208  |
| 3-Sep  | 0          | 2764 | 3          | 3999 | 0             | 8       | 8          | 216  |
| 4-Sep  | 1          | 2765 | 5          | 4004 | 0             | 8       | 30         | 246  |
| 5-Sep  | 1          | 2766 | 3          | 4007 | 0             | 8       | 36         | 282  |
| 6-Sep  | 2          | 2768 | 9          | 4016 | 0             | 8       | 12         | 294  |
| 7-Sep  | 0          | 2768 | 16         | 4032 | 0             | 8       | 19         | 313  |
| 8-Sep  | 1          | 2769 | 1          | 4033 | 0             | 8       | 5          | 318  |
| 9-Sep  | 0          | 2769 | 26         | 4059 | 0             | 8       | 24         | 342  |
| 10-Sep | 7          | 2776 | 6          | 4065 | 0             | 8       | 2          | 344  |
| 11-Sep | 0          | 2776 | 2          | 4067 | 0             | 8       | 4          | 348  |
| 12-Sep | 0          | 2776 | 8          | 4075 | 0             | 8       | 3          | 351  |
| 13-Sep | 0          | 2776 | 10         | 4085 | 0             | 8       | 1          | 352  |
| 14-Sep | 0          | 2776 | 0          | 4085 | 0             | 8       | 2          | 354  |
| 15-Sep | 0          | 2776 | 10         | 4095 | 1             | 9       | 55         | 409  |
| 16-Sep | 0          | 2776 | 8          | 4103 | 0             | 9       | 0          |      |
| Total  | 2776       |      | 4103       |      | 9             |         | 409        |      |

Appendix Table B.5. Expanded daily and cumulative migration of all salmon species past the Eldorado River counting tower, Norton Sound, 2002.

| Date   | Chum   | Cumulative Chum | Pink    | Cumulative Pink | Chinook | Cumulative Chinook | Coho | Cumulative Coho |
|--------|--------|-----------------|---------|-----------------|---------|--------------------|------|-----------------|
| 25-Jun | 0      | 0               | 0       | 0               | 0       | 0                  | 0    | 0               |
| 26-Jun | 6      | 6               | 54      | 54              | 0       | 0                  | 0    | 0               |
| 27-Jun | 228    | 234             | 573     | 627             | 0       | 0                  | 0    | 0               |
| 28-Jun | 825    | 1,059           | 1002    | 2,229           | 0       | 0                  | 0    | 0               |
| 29-Jun | 174    | 1,233           | 1770    | 3,999           | 0       | 0                  | 0    | 0               |
| 30-Jun | 450    | 1,683           | 2454    | 6,453           | 0       | 0                  | 0    | 0               |
| 1-Jul  | 276    | 1,959           | 2628    | 9,081           | 0       | 0                  | 0    | 0               |
| 2-Jul  | 66     | 2,025           | 1209    | 10,290          | 0       | 0                  | 0    | 0               |
| 3-Jul  | 591    | 2,616           | 4599    | 14,889          | 3       | 3                  | 0    | 0               |
| 4-Jul  | 342    | 2,958           | 8433    | 23,322          | 0       | 3                  | 0    | 0               |
| 5-Jul  | 615    | 3,573           | 8178    | 31,500          | 0       | 3                  | 0    | 0               |
| 6-Jul  | 570    | 4,143           | 7467    | 38,967          | 0       | 3                  | 0    | 0               |
| 7-Jul  | 99     | 4,242           | 3675    | 42,642          | 0       | 3                  | 0    | 0               |
| 8-Jul  | 501    | 4,743           | 8418    | 51,060          | 17      | 15                 | 0    | 0               |
| 9-Jul  | 213    | 4,956           | 6309    | 57,459          | 3       | 18                 | 0    | 0               |
| 10-Jul | 498    | 5,454           | 6954    | 64,413          | 0       | 18                 | 0    | 0               |
| 11-Jul | 321    | 5,775           | 9918    | 74,331          | 0       | 18                 | 0    | 0               |
| 12-Jul | 318    | 6,093           | 6666    | 80,997          | 0       | 18                 | 0    | 0               |
| 13-Jul | 219    | 6,312           | 2283    | 83,280          | 0       | 18                 | 0    | 0               |
| 14-Jul | 459    | 6,771           | 8739    | 92,019          | 0       | 18                 | 0    | 0               |
| 15-Jul | 468    | 7,239           | 6306    | 98,325          | 0       | 18                 | 0    | 0               |
| 16-Jul | 552    | 7,791           | 7341    | 105,666         | 0       | 18                 | 0    | 0               |
| 17-Jul | 243    | 8,034           | 4446    | 110,112         | 0       | 18                 | 0    | 0               |
| 18-Jul | 336    | 8,370           | 3411    | 113,523         | 0       | 18                 | 0    | 0               |
| 19-Jul | 240    | 8,610           | 2583    | 116,106         | 0       | 18                 | 0    | 0               |
| 20-Jul | 219    | 8,829           | 843     | 116,949         | 0       | 18                 | 0    | 0               |
| 21-Jul | 153    | 8,982           | 381     | 117,330         | 0       | 18                 | 0    | 0               |
| 22-Jul | 177    | 9,159           | 558     | 117,888         | 0       | 18                 | 0    | 0               |
| 23-Jul | 333    | 9,492           | 318     | 118,206         | 0       | 18                 | 0    | 0               |
| 24-Jul | 243    | 9,735           | 162     | 118,368         | 0       | 18                 | 0    | 0               |
| 25-Jul | 27     | 9,762           | 123     | 118,491         | 0       | 18                 | 0    | 0               |
| 26-Jul | 87     | 9,849           | 150     | 118,641         | 0       | 18                 | 0    | 0               |
| 27-Jul | 81     | 9,930           | 138     | 118,779         | 0       | 18                 | 0    | 0               |
| 28-Jul | 18     | 9,948           | 99      | 118,878         | 0       | 18                 | 0    | 0               |
| 29-Jul | 12     | 9,960           | 63      | 118,941         | 0       | 18                 | 0    | 0               |
| 30-Jul | 0      | 9,960           | 36      | 118,977         | 0       | 18                 | 0    | 0               |
| 31-Jul | 39     | 9,999           | 63      | 119,040         | 3       | 21                 | 27   | 27              |
| 1-Aug  | 24     | 10,023          | 16      | 119,056         | 0       | 21                 | 9    | 36              |
| 2-Aug  | 15     | 10,038          | 6       | 119,061         | 0       | 21                 | 12   | 48              |
| 3-Aug  | 9      | 10,047          | 0       | 119,061         | 0       | 21                 | 3    | 51              |
| 4-Aug  | 0      | 10,047          | 0       | 119,061         | 0       | 21                 | 0    | 51              |
| 5-Aug  | 3      | 10,050          | 0       | 119,061         | 0       | 21                 | 6    | 57              |
| 6-Aug  | 0      | 10,050          | 6       | 119,067         | 0       | 21                 | 0    | 57              |
| 7-Aug  | 6      | 10,056          | 3       | 119,070         | 0       | 21                 | 0    | 57              |
| 8-Aug  | 0      | 10,056          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 9-Aug  | 129    | 10,184          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 10-Aug | 9      | 10,203          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 11-Aug | -8     | 10,197          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 12-Aug | 6      | 10,203          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 13-Aug | 0      | 10,203          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 14-Aug | 6      | 10,209          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 15-Aug | 1      | 10,210          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 16-Aug | 2      | 10,212          | 0       | 119,070         | 0       | 21                 | 0    | 57              |
| 17-Aug | 0      | 10,212          | 1       | 119,071         | 0       | 21                 | 1    | 58              |
| 18-Aug | 4      | 10,216          | 0       | 119,071         | 0       | 21                 | 3    | 61              |
| 19-Aug | 0      | 10,216          | 0       | 119,071         | 0       | 21                 | 0    | 61              |
| 20-Aug | 0      | 10,216          | 0       | 119,071         | 0       | 21                 | 1    | 62              |
| 21-Aug | 1      | 10,217          | 0       | 119,071         | 1       | 22                 | 1    | 63              |
| 22-Aug | 1      | 10,218          | 0       | 119,071         | 0       | 22                 | 2    | 65              |
| 23-Aug | 0      | 10,218          | 0       | 119,071         | 1       | 23                 | 2    | 67              |
| 24-Aug | 1      | 10,219          | 0       | 119,071         | 0       | 23                 | 1    | 68              |
| 25-Aug | 0      | 10,219          | 0       | 119,071         | 0       | 23                 | 0    | 68              |
| 26-Aug | 2      | 10,221          | 0       | 119,071         | 0       | 23                 | 2    | 70              |
| 27-Aug | 3      | 10,224          | 0       | 119,071         | 0       | 23                 | 0    | 70              |
| 28-Aug | 3      | 10,227          | 0       | 119,071         | 2       | 25                 | 42   | 112             |
| 29-Aug | 0      | 10,227          | 3       | 119,074         | 0       | 25                 | 0    | 112             |
| 30-Aug | 0      | 10,227          | 0       | 119,074         | 0       | 25                 | 0    | 112             |
| 31-Aug | 3      | 10,230          | 0       | 119,074         | 0       | 25                 | 0    | 112             |
| 1-Sep  | 0      | 10,230          | 0       | 119,074         | 0       | 25                 | 2    | 114             |
| 2-Sep  | 3      | 10,233          | 0       | 119,074         | 0       | 25                 | 3    | 117             |
| 3-Sep  | 5      | 10,238          | 1       | 119,075         | 0       | 25                 | 2    | 119             |
| 4-Sep  | 1      | 10,239          | 1       | 119,076         | 0       | 25                 | 40   | 159             |
| 5-Sep  | 3      | 10,242          | 0       | 119,076         | 0       | 25                 | 70   | 229             |
| 6-Sep  | 0      | 10,242          | 7       | 119,083         | 0       | 25                 | 212  | 441             |
| 7-Sep  | 0      | 10,242          | 5       | 119,088         | 0       | 25                 | 172  | 613             |
| 8-Sep  | 0      | 10,242          | 4       | 119,092         | 0       | 25                 | 5    | 618             |
| 9-Sep  | 0      | 10,242          | 5       | 119,097         | 1       | 26                 | 5    | 623             |
| 10-Sep | 1      | 10,243          | 1       | 119,098         | 0       | 26                 | 0    | 623             |
| Total  | 10,243 |                 | 119,098 |                 | 26      |                    | 623  |                 |

Appendix Table B.6. Expanded daily and cumulative migration of all salmon species past the North River counting tower, Norton Sound, 2002.

| Date   | Daily Chum | Cumulative Chum | Daily Pink | Cumulative pink | Daily chinook | Cumulative Chinook | Daily Coho | Cumulative Coho |
|--------|------------|-----------------|------------|-----------------|---------------|--------------------|------------|-----------------|
| 19-Jun | 0          | 0               | 4,074      | 4074            | 8             | 8                  | 0          | 0               |
| 20-Jun | 16         | 16              | 7,784      | 11858           | 6             | 14                 | 0          | 0               |
| 21-Jun | 8          | 24              | 6,684      | 18452           | 0             | 14                 | 0          | 0               |
| 22-Jun | 20         | 44              | 6,096      | 24548           | 4             | 18                 | 0          | 0               |
| 23-Jun | 54         | 98              | 12,070     | 36618           | 14            | 32                 | 0          | 0               |
| 24-Jun | 62         | 160             | 9,482      | 46100           | 18            | 50                 | 0          | 0               |
| 25-Jun | 34         | 194             | 3,188      | 49288           | 8             | 58                 | 0          | 0               |
| 26-Jun | 66         | 260             | 7,184      | 56472           | 16            | 74                 | 0          | 0               |
| 27-Jun | 94         | 354             | 6,514      | 62986           | 28            | 102                | 0          | 0               |
| 28-Jun | 146        | 500             | 16,948     | 79934           | 80            | 182                | 0          | 0               |
| 29-Jun | 58         | 558             | 4,922      | 84856           | 76            | 258                | 0          | 0               |
| 30-Jun | 26         | 584             | 8,262      | 93118           | 48            | 306                | 0          | 0               |
| 1-Jul  | 78         | 662             | 12,898     | 106016          | 38            | 344                | 0          | 0               |
| 2-Jul  | 96         | 758             | 36,218     | 142234          | 66            | 410                | 0          | 0               |
| 3-Jul  | 66         | 824             | 32,072     | 174306          | 184           | 594                | 0          | 0               |
| 4-Jul  | 130        | 954             | 17,506     | 191812          | 40            | 634                | 0          | 0               |
| 5-Jul  | 56         | 1012            | 24,506     | 216318          | 86            | 720                | 0          | 0               |
| 6-Jul  | 18         | 1030            | 5,114      | 221432          | 34            | 754                | 0          | 0               |
| 7-Jul  | 20         | 1050            | 6,710      | 228142          | 4             | 758                | 0          | 0               |
| 8-Jul  | 28         | 1078            | 7,640      | 235782          | 34            | 792                | 0          | 0               |
| 9-Jul  | 70         | 1148            | 8,032      | 243814          | 52            | 844                | 20         | 20              |
| 10-Jul | 142        | 1290            | 11,152     | 254966          | 66            | 910                | 22         | 42              |
| 11-Jul | 170        | 1460            | 12,096     | 267062          | 118           | 1028               | 20         | 62              |
| 12-Jul | 42         | 1502            | 8,426      | 275488          | 38            | 1066               | 0          | 62              |
| 13-Jul | 122        | 1624            | 8,624      | 284112          | 76            | 1142               | 4          | 66              |
| 14-Jul | 96         | 1720            | 7,388      | 291500          | 10            | 1152               | 0          | 66              |
| 15-Jul | 138        | 1858            | 6,460      | 297960          | 42            | 1194               | 0          | 66              |
| 16-Jul | 256        | 2114            | 7,028      | 304988          | 66            | 1260               | 0          | 66              |
| 17-Jul | 172        | 2286            | 5,136      | 310124          | 36            | 1296               | 0          | 66              |
| 18-Jul | 184        | 2470            | 2,806      | 312930          | 38            | 1334               | 0          | 66              |
| 19-Jul | 224        | 2694            | 3,220      | 316150          | 36            | 1370               | 0          | 66              |
| 20-Jul | 152        | 2846            | 1,780      | 317930          | 20            | 1390               | 0          | 66              |
| 21-Jul | 136        | 2982            | 1,060      | 318990          | 22            | 1412               | 0          | 66              |
| 22-Jul | 62         | 3044            | 844        | 319834          | 14            | 1426               | 0          | 66              |
| 23-Jul | 76         | 3120            | 376        | 320210          | 2             | 1428               | 0          | 66              |
| 24-Jul | 136        | 3256            | 362        | 320572          | 8             | 1436               | 0          | 66              |
| 25-Jul | 106        | 3362            | 596        | 321168          | 6             | 1442               | 0          | 66              |
| 26-Jul | 62         | 3424            | 116        | 321284          | 8             | 1450               | 2          | 68              |
| 27-Jul | 46         | 3470            | 104        | 321388          | 8             | 1458               | 2          | 70              |
| 28-Jul | 138        | 3608            | 184        | 321572          | 10            | 1468               | 8          | 78              |
| 29-Jul | 250        | 3858            | 84         | 321656          | 4             | 1472               | 4          | 82              |
| 30-Jul | 128        | 3986            | 54         | 321710          | 6             | 1478               | 32         | 114             |
| 31-Jul | 254        | 4240            | 20         | 321730          | 4             | 1482               | 30         | 144             |
| 1-Aug  | 252        | 4492            | 14         | 321744          | 2             | 1484               | 48         | 192             |
| 2-Aug  | 104        | 4596            | 12         | 321756          | 0             | 1484               | 0          | 192             |
| 3-Aug  | 24         | 4700            | 0          | 321756          | 0             | 1484               | 12         | 204             |
| 4-Aug  | 138        | 4838            | 0          | 321756          | 0             | 1484               | 96         | 300             |
| 5-Aug  | 188        | 5026            | 0          | 321756          | 0             | 1484               | 130        | 430             |
| 6-Aug  | 178        | 5204            | 0          | 321756          | 0             | 1484               | 156        | 586             |
| 7-Aug  | 122        | 5326            | 0          | 321756          | 0             | 1484               | 76         | 662             |
| 8-Aug  | 102        | 5428            | 0          | 321756          | 0             | 1484               | 52         | 714             |
| 9-Aug  | 94         | 5522            | 0          | 321756          | 0             | 1484               | 52         | 766             |
| 10-Aug | 36         | 5558            | 0          | 321756          | 0             | 1484               | 88         | 854             |
| 11-Aug | 12         | 5570            | 0          | 321756          | 0             | 1484               | 28         | 882             |
| 12-Aug | 38         | 5608            | 0          | 321756          | 0             | 1484               | 158        | 1040            |
| 13-Aug | 36         | 5644            | 0          | 321756          | 0             | 1484               | 60         | 1100            |
| 14-Aug | 26         | 5670            | 0          | 321756          | 0             | 1484               | 72         | 1172            |
| 15-Aug | 32         | 5702            | 0          | 321756          | 0             | 1484               | 216        | 1388            |
| 16-Aug | 14         | 5716            | 0          | 321756          | 0             | 1484               | 156        | 1544            |
| 17-Aug | 56         | 5772            | 0          | 321756          | 0             | 1484               | 252        | 1796            |
| 18-Aug | 90         | 5862            | 0          | 321756          | 0             | 1484               | 306        | 2102            |
| 19-Aug | 16         | 5878            | 0          | 321756          | 0             | 1484               | 178        | 2280            |
| 20-Aug | 22         | 5900            | 0          | 321756          | 0             | 1484               | 70         | 2350            |
| 21-Aug | 18         | 5918            | 0          | 321756          | 0             | 1484               | 84         | 2434            |
| 22-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 52         | 2486            |
| 23-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 10         | 2496            |
| 24-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 24         | 2520            |
| 25-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 108        | 2628            |
| 26-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 76         | 2704            |
| 27-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 102        | 2806            |
| 28-Aug | 0          | 5918            | 0          | 321756          | 0             | 1484               | 106        | 2912            |
| 29-Aug |            | 5918            |            | 321756          |               | 1484               | 54         | 2966            |
| Total  | 5918       |                 | 321756     |                 | 1484          |                    | 3020       |                 |

Appendix Table B.7. Expanded daily and cumulative migration of all salmon species past the Pilgrim River counting tower, Norton Sound, 2002.

| Date   | Daily chinook | Cumulative Chinook | Daily Chum | Cumulative Chum | Daily Pink | Cumulative pink | Daily Coho | Cumulative Coho | Daily sockeye salmon | Cumulative sockeye salmon |
|--------|---------------|--------------------|------------|-----------------|------------|-----------------|------------|-----------------|----------------------|---------------------------|
| 4-Jul  | 0             | 0                  | 24         | 24              | 6          | 6               | 0          | 0               | 102                  | 102                       |
| 5-Jul  | 0             | 0                  | 72         | 96              | 12         | 18              | 0          | 0               | 192                  | 294                       |
| 6-Jul  | 0             | 0                  | 66         | 162             | 54         | 72              | 0          | 0               | 132                  | 426                       |
| 7-Jul  | 0             | 0                  | 36         | 198             | 0          | 72              | 0          | 0               | 78                   | 504                       |
| 8-Jul  | 0             | 0                  | 12         | 210             | 48         | 120             | 0          | 0               | 156                  | 660                       |
| 9-Jul  | 0             | 0                  | 18         | 228             | 54         | 174             | 0          | 0               | 102                  | 762                       |
| 10-Jul | 0             | 0                  | 132        | 360             | 138        | 312             | 0          | 0               | 48                   | 810                       |
| 11-Jul | 0             | 0                  | 384        | 744             | 126        | 438             | 0          | 0               | 84                   | 894                       |
| 12-Jul | 12            | 12                 | 66         | 810             | 6          | 444             | 0          | 0               | 60                   | 954                       |
| 13-Jul | 30            | 42                 | 318        | 1128            | 432        | 876             | 0          | 0               | 774                  | 1728                      |
| 14-Jul | 24            | 66                 | 312        | 1440            | 372        | 1248            | 0          | 0               | 216                  | 1944                      |
| 15-Jul | 12            | 78                 | 396        | 1836            | 306        | 1554            | 0          | 0               | 354                  | 2298                      |
| 16-Jul | 30            | 108                | 132        | 1968            | 210        | 1764            | 0          | 0               | 270                  | 2568                      |
| 17-Jul | 18            | 126                | 264        | 2232            | 282        | 2046            | 0          | 0               | 168                  | 2736                      |
| 18-Jul | 0             | 126                | 246        | 2478            | 240        | 2286            | 0          | 0               | 258                  | 2994                      |
| 19-Jul | 0             | 126                | 780        | 3258            | 390        | 2676            | 0          | 0               | 294                  | 3288                      |
| 20-Jul | 6             | 132                | 300        | 3558            | 210        | 2886            | 0          | 0               | 216                  | 3504                      |
| 21-Jul | 0             | 132                | 156        | 3714            | 192        | 3078            | 0          | 0               | 108                  | 3612                      |
| 22-Jul | 0             | 132                | 36         | 3750            | 114        | 3192            | 0          | 0               | 108                  | 3720                      |
| 23-Jul | 18            | 150                | 66         | 3816            | 18         | 3210            | 0          | 0               | 36                   | 3756                      |
| 24-Jul | 0             | 150                | 24         | 3840            | 6          | 3216            | 0          | 0               | 18                   | 3774                      |
| 25-Jul | 0             | 150                | 0          | 3840            | -30        | 3186            | 0          | 0               | 0                    | 3774                      |
| 26-Jul | 12            | 162                | 6          | 3846            | 6          | 3192            | 0          | 0               | 0                    | 3774                      |
| 27-Jul | -6            | 156                | 78         | 3924            | -12        | 3180            | 0          | 0               | 36                   | 3810                      |
| 28-Jul | -6            | 150                | 156        | 4080            | 48         | 3228            | 0          | 0               | 18                   | 3828                      |
| 29-Jul | 6             | 156                | 256        | 4336            | 222        | 3450            | 0          | 0               | 60                   | 3888                      |
| 30-Jul | 6             | 162                | 138        | 4474            | 48         | 3498            | 0          | 0               | 0                    | 3888                      |
| 31-Jul | 0             | 162                | 180        | 4654            | 234        | 3732            | 0          | 0               | 0                    | 3888                      |
| 1-Aug  | -18           | 144                | 528        | 5182            | 150        | 3882            | 42         | 42              | 0                    | 3888                      |
| 2-Aug  | 0             | 144                | 30         | 5212            | 0          | 3882            | 0          | 42              | 0                    | 3888                      |
| 3-Aug  | 0             | 144                | 30         | 5242            | 12         | 3894            | 0          | 42              | 0                    | 3888                      |
| 4-Aug  | 6             | 150                | 60         | 5302            | 30         | 3924            | 6          | 48              | 0                    | 3888                      |
| 5-Aug  | 0             | 150                | 42         | 5344            | 18         | 3942            | 12         | 60              | 0                    | 3888                      |
| 6-Aug  | 0             | 150                | 120        | 5464            | -12        | 3930            | 0          | 60              | 0                    | 3888                      |
| 7-Aug  | 0             | 150                | -30        | 5434            | 0          | 3930            | 6          | 66              | 0                    | 3888                      |
| 8-Aug  | 0             | 150                | -6         | 5428            | -12        | 3918            | 0          | 66              | 0                    | 3888                      |
| 9-Aug  | -6            | 144                | -6         | 5422            | -6         | 3912            | 0          | 66              | 0                    | 3888                      |
| 10-Aug | 0             | 144                | -24        | 5398            | -6         | 3906            | 0          | 66              | 0                    | 3888                      |
| 11-Aug | 0             | 144                | -18        | 5380            | -18        | 3888            | 0          | 66              | 0                    | 3888                      |
| 12-Aug | 0             | 144                | 12         | 5392            | -6         | 3882            | 36         | 102             | 0                    | 3888                      |
| 13-Aug | 0             | 144                | -6         | 5386            | 0          | 3882            | 0          | 102             | 0                    | 3888                      |
| 14-Aug | 6             | 150                | 48         | 5434            | 0          | 3882            | 0          | 102             | 0                    | 3888                      |
| 15-Aug | 0             | 150                | 0          | 5434            | 6          | 3888            | 42         | 144             | 0                    | 3888                      |
| 16-Aug | 0             | 150                | 24         | 5458            | -6         | 3882            | 24         | 168             | 0                    | 3888                      |
| 17-Aug | 0             | 150                | 0          | 5458            | 0          | 3882            | 0          | 168             | 0                    | 3888                      |
| 18-Aug | 0             | 150                | -6         | 5506            | 0          | 3882            | 6          | 204             | 0                    | 3888                      |
| 19-Aug | 0             | 150                | 108        | 5614            | 0          | 3882            | 36         | 240             | 0                    | 3888                      |
| 20-Aug | 0             | 150                | 0          | 5614            | 0          | 3882            | 6          | 246             | 0                    | 3888                      |
| 21-Aug | 0             | 150                | 0          | 5614            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| 22-Aug | 0             | 150                | 30         | 5644            | 0          | 3882            | 12         | 258             | 0                    | 3888                      |
| 23-Aug | 0             | 150                | -36        | 5608            | 0          | 3882            | -6         | 252             | 0                    | 3888                      |
| 24-Aug | 0             | 150                | -6         | 5602            | 0          | 3882            | -12        | 240             | 0                    | 3888                      |
| 25-Aug | 0             | 150                | -12        | 5590            | 0          | 3882            | 6          | 246             | 0                    | 3888                      |
| 26-Aug | 0             | 150                | 0          | 5590            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| 27-Aug | 0             | 150                | 0          | 5590            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| 28-Aug | 0             | 150                | 0          | 5590            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| 29-Aug | 0             | 150                | 0          | 5590            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| 30-Aug | 0             | 150                | 0          | 5590            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| 31-Aug | 0             | 150                | 0          | 5590            | 0          | 3882            | 0          | 246             | 0                    | 3888                      |
| Total  | 150           |                    | 5590       |                 | 3882       |                 | 246        |                 | 3888                 |                           |

Appendix Table B.8. Daily passage of sockeye salmon at the Glacial Lake weir, Norton Sound, 2002.

| Date   | Daily sockeye salmon | Cumulative sockeye salmon |
|--------|----------------------|---------------------------|
| 25-Jun | 4                    | 4                         |
| 26-Jun | 43                   | 47                        |
| 27-Jun | 18                   | 65                        |
| 28-Jun | 21                   | 86                        |
| 29-Jun | 68                   | 154                       |
| 30-Jun | 72                   | 226                       |
| 1-Jul  | 14                   | 240                       |
| 2-Jul  | 26                   | 266                       |
| 3-Jul  | 18                   | 284                       |
| 4-Jul  | 0                    | 284                       |
| 5-Jul  | 0                    | 284                       |
| 6-Jul  | 0                    | 284                       |
| 7-Jul  | 127                  | 411                       |
| 8-Jul  | 0                    | 411                       |
| 9-Jul  | 58                   | 469                       |
| 10-Jul | 32                   | 501                       |
| 11-Jul | 111                  | 612                       |
| 12-Jul | 98                   | 710                       |
| 13-Jul | 83                   | 793                       |
| 14-Jul | 60                   | 853                       |
| 15-Jul | 0                    | 853                       |
| 16-Jul | 11                   | 864                       |
| 17-Jul | 69                   | 933                       |
| 18-Jul | 1                    | 934                       |
| 19-Jul | 61                   | 995                       |
| 20-Jul | 6                    | 1001                      |
| 21-Jul | 14                   | 1015                      |
| 22-Jul | 17                   | 1032                      |
| 23-Jul | 0                    | 1032                      |
| 24-Jul | 11                   | 1043                      |
| 25-Jul | 2                    | 1045                      |
| 26-Jul | 2                    | 1047                      |
| 1047   |                      |                           |

Appendix Table C. 1. Kobuk River drift gillnet test fishing chum salmon catch sample age and sex composition, and mean length by time period and season total, 2002.

|                    |                              | Brood Year and (Age Group) <sup>2</sup> |               |               |               |        |
|--------------------|------------------------------|---|---------------|---------------|---------------|--------|
|                    |                              | 1999<br>(0.2)                           | 1998<br>(0.3) | 1997<br>(0.4) | 1996<br>(0.5) | Total  |
| Stratum Dates:     |                              |   |               |               |               |        |
| Sampling Dates:    |                              | 7/5-7/18                                |               |               |               |        |
| Sample Size:       |                              | 221                                     |               |               |               |        |
| Male               | Percent of Sample            | 0.0%                                    | 7.2%          | 34.4%         | 4.5%          | 46.2%  |
|                    | Number in Sample             | 0                                       | 16            | 76            | 10            | 102    |
|                    | Avg. Length(mm) <sup>1</sup> |   | 633           | 638           | 634           |        |
| Female             | Percent of Sample            | 0.0%                                    | 4.5%          | 42.5%         | 6.8%          | 53.8%  |
|                    | Number in Sample             | 0                                       | 10            | 94            | 15            | 119    |
|                    | Avg. Length(mm) <sup>1</sup> |   | 591           | 610           | 601           |        |
| Total              | Percent of Sample            | 0.0%                                    | 11.8%         | 76.9%         | 11.3%         | 100.0% |
|                    | Number in Sample             | 0                                       | 26            | 170           | 25            | 221    |
| Stratum Dates:     |                              |   |               |               |               |        |
| Sampling Dates:    |                              | 7/19-7/28                               |               |               |               |        |
| Sample Size:       |                              | 206                                     |               |               |               |        |
| Male               | Percent of Sample            | 0.0%                                    | 11.0%         | 35.2%         | 3.5%          | 49.68% |
|                    | Number in Sample             | 0                                       | 34            | 109           | 11            | 154    |
|                    | Avg. Length(mm) <sup>1</sup> |   | 638           | 650           | 644           |        |
| Female             | Percent of Sample            | 0.3%                                    | 13.2%         | 33.2%         | 3.5%          | 50.32% |
|                    | Number in Sample             | 1                                       | 41            | 103           | 11            | 156    |
|                    | Avg. Length(mm) <sup>1</sup> | 565                                     | 612           | 620           | 610           |        |
| Total              | Percent of Sample            | 0.3%                                    | 24.2%         | 68.4%         | 7.1%          | 100.0% |
|                    | Number in Sample             | 1                                       | 75            | 212           | 22            | 310    |
| Stratum Dates:     |                              |   |               |               |               |        |
| Sampling Dates:    |                              | 7/29-8/12                               |               |               |               |        |
| Sample Size:       |                              | 259                                     |               |               |               |        |
| Male               | Percent of Sample            | 0.0%                                    | 11.6%         | 21.6%         | 4.2%          | 37.45% |
|                    | Number in Sample             | 0                                       | 30            | 56            | 11            | 97     |
|                    | Avg. Length(mm) <sup>1</sup> |   | 647           | 667           | 664           |        |
| Female             | Percent of Sample            | 0.0%                                    | 23.9%         | 37.1%         | 1.5%          | 62.55% |
|                    | Number in Sample             | 0                                       | 62            | 96            | 4             | 162    |
|                    | Avg. Length(mm) <sup>1</sup> |   | 612           | 621           | 633           |        |
| Total              | Percent of Sample            | 0.0%                                    | 35.5%         | 58.7%         | 5.8%          | 100.0% |
|                    | Number in Sample             | 0                                       | 92            | 152           | 15            | 259    |
| Stratum Dates:     |                              |   |               |               |               |        |
| Sampling Dates:    |                              | 7/5-8/12                                |               |               |               |        |
| Sample Size:       |                              | 790                                     |               |               |               |        |
|                    |                              | Season Total                            |               |               |               |        |
| Male               | Percent of Sample            | 0.0%                                    | 10.1%         | 30.5%         | 4.1%          | 44.7%  |
|                    | Number in Sample             | 0                                       | 80            | 241           | 32            | 353    |
|                    | Avg. Length(mm) <sup>1</sup> |   | 602           | 616           | 624           |        |
| Female             | Percent of Sample            | 0.13%                                   | 14.30%        | 37.09%        | 3.80%         | 55.3%  |
|                    | Number in Sample             | 1                                       | 113           | 293           | 30            | 437    |
|                    | Avg. Length(mm) <sup>1</sup> | 570                                     | 593           | 604           | 601           |        |
| Total <sup>3</sup> | Percent of Sample            | 0.1%                                    | 24.4%         | 67.6%         | 7.8%          | 100.0% |
|                    | Number in Sample             | 1                                       | 193           | 534           | 62            | 790    |

<sup>1</sup> Length was measured from mid-eye to fork-of-tail.

<sup>2</sup> The number of fish in each stratum age and sex category are derived from the sample percentages.

<sup>3</sup> The number of fish in total are the stratum sums; total percentages are derived from the sums.

Appendix Table C. 2. Noatak River chum salmon drift test fishing catch sample age and sex composition, and mean length, 2002

|                 |                               | Brood Year and (Age Group) |               |               |               |               |        |
|-----------------|-------------------------------|----------------------------|---------------|---------------|---------------|---------------|--------|
|                 |                               | 1999<br>(0.2)              | 1998<br>(0.3) | 1997<br>(0.4) | 1996<br>(0.5) | 1995<br>(0.5) | Total  |
| Sampling Dates: | 7/31-8/14                     |                            |               |               |               |               |        |
| Sample Size:    | 170                           |                            |               |               |               |               |        |
| Male            | Percent of Sample             | 0.0%                       | 19.4%         | 20.6%         | 1.8%          | 0.6%          | 42.4%  |
|                 | Number in Sample              | 0                          | 33            | 35            | 3             | 1             | 72     |
|                 | Mean length (mm) <sup>a</sup> |                            | 625           | 646           | 692           | 683           |        |
| Female          | Percent of Sample             | 0.6%                       | 22.4%         | 32.9%         | 1.8%          | 0.0%          | 57.6%  |
|                 | Number in Sample              | 1                          | 38            | 56            | 3             |               | 98     |
|                 | Mean length (mm) <sup>a</sup> | 590                        | 602           | 616           | 590           |               |        |
| Total           | Percent of Sample             | 0.6%                       | 41.8%         | 53.5%         | 3.5%          | 0.6%          | 100.0% |
|                 | Number in Sample              | 1                          | 71            | 91            | 6             | 1             | 170    |