

1988  
NORTON SOUND DISTRICT  
SALMON REPORT  
to the  
Alaska Board of Fisheries

By  
Sue Merkouris  
and  
Charles Lean

Regional Information Report <sup>1</sup> No. 3N88-36

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

December 1988

-----  
1 The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accomodate needs for up-to-date information, reports in this series may contain preliminary data.

|

|

TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iii
1988 NORTON SOUND SALMON SEASON SUMMARY.....	1
Commercial Fishery.....	1
Subsistence Fishery.....	2
SEASON SUMMARY BY SUBDISTRICT.....	2
Nome - subdistrict 1.....	2
Golovin - subdistrict 2.....	3
Moses Point - subdistrict 3.....	4
Norton Bay - subdistrict 4.....	5
Shaktoolik - subdistrict 5.....	6
Unalakleet - subdistrict 6.....	7
ESCAPEMENT.....	7
MANAGEMENT CONCERNS.....	9

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Commercial salmon catches by species, Norton Sound District, 1961-1988.....	11
2. Norton Sound salmon dollar value and average price paid to the fishermen, by species, 1988.....	12
3. Norton Sound salmon season summary by subdistrict, 1988.....	13
4. Aerial survey counts of Norton Sound streams and associated chum salmon escapement goals, 1988.....	14
5. Commercial salmon catches from Nome, subdistrict 1, set gill nets, 1988.....	15
6. Commercial salmon catches from Golovin, subdistrict 2, set gill nets, 1988.....	16
7. Commercial salmon catches from Moses Point, sub-district 3, set gill nets, 1988.....	17
8. Commercial salmon catches from Norton Bay, sub-district 4, set gill nets, 1988.....	18
9. Commercial salmon catches from Shaktoolik, sub-district 5, set gill nets, 1988.....	19
10. Commercial salmon catches from Unalakleet, sub-district 6, set gill nets, 1988.....	20
11. Nome (subdistrict 1) subsistence salmon catches, Norton Sound District, 1988.....	21

## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Norton Sound commercial salmon fishing subdistricts..	22

## 1988 NORTON SOUND SALMON SEASON SUMMARY

### Commercial Fishery

The commercial salmon fishing regulations state that the Norton Sound season opens on a date established by emergency order between June 8 and June 20 in subdistricts 2, 3, 4, 5, and 6, and on July 1 in subdistrict 1. For the first time in five years, spring breakup and the salmon returns were timed so that season openings could occur within these regulatory dates. The Golovin, Moses Point, and Norton Bay subdistricts opened June 20 for 48 hours; the Shaktoolik and Unalakleet subdistricts opened June 20 for 24 hours; the Nome subdistrict opened July 1 for 24 hours. The season, which closes on August 31 by regulation in subdistricts 1, 2, and 3, closed on August 30 in subdistrict 1 and on August 31 in subdistricts 2 and 3. The season, which closes on September 7 by regulation in subdistricts 4, 5, and 6, closed on August 31 in subdistrict 4 and on September 7 in subdistricts 5 and 6 (Figure 1).

The 1988 Norton Sound commercial salmon harvest totaled 225,166 fish, which was comprised of 4,096 chinook, 1,252 sockeye, 37,247 coho, 74,604 pink, and 107,967 chum salmon (Table 1).

The chinook harvest was 60% and 56% below the 1983-1987 and 1978-1987 averages, respectively. The sockeye harvest was the highest on record. The coho harvest was the fourth highest on record, however was 7% and 5% below the 1983-1987 and 1978-1987 averages, respectively. This phenomenon is the result of increasing coho returns to the district in recent years, especially during the 1982-1984 seasons. The pink harvest was 53% above and 48% below the 1983-1987 and 1978-1987 averages, respectively. The chum harvest was 37% below both the 1983-1987 and the 1978-1987 averages. Historical catch data for the Norton Sound district is presented in Table 1.

A total of 204 CFEC permits were renewed, with 152 actually fished during the 1988 season. The number of participating fishermen this season was slightly below the 1983-1987 average of 159 fishermen.

Two domestic processors operated in Norton Sound during 1988. In addition, a joint venture between KEG (Koyuk-Elim-Golovin) Fisheries, and NPL Alaska, Inc., operated during the 1988 season. Under a permit issued by the Governor, two Japanese freezer ships were authorized to buy Norton Sound salmon directly from domestic fishermen. Their operations were limited to internal waters of Golovin Bay and Norton Bay for processing of all salmon species caught in the aforementioned internal waters.

Additionally, the joint venture ships were permitted to process pink salmon (only) purchased directly from fishermen fishing the newly designated (1987) internal waters of the Shaktoolik and Unalakleet subdistricts. In 1988, the two freezer ships operated in Norton Sound and as in past years, were located in Golovin Bay and in Norton Bay near Moses Point. Although the pink salmon return to the Shaktoolik and Unalakleet subdistricts was relatively strong, no deliveries were made by these fishermen to the joint venture vessels. Some fishermen in both villages expressed interest in marketing their pink salmon catches to the Japanese processors, but were discouraged by high costs of tendering this relatively low value species over the significant distance to the ship location. A few fishermen from Nome, Moses Point, and Unalakleet also sold coho salmon to Nome and Anchorage businesses as permitted under catcher-seller status.

Commercial fishermen received approximately \$754,751.00 for their catch in 1988. These earnings rank as the seventh highest since the commercial fishery was initiated in 1961, and was 4% above the 1983-1987 average. This relatively high dollar value was attributed to strong salmon prices. Prices paid to the fishermen averaged \$1.26 per pound for chinook, \$1.16 per pound for sockeye, \$1.13 per pound for coho, \$0.19 per pound for pink, and \$0.39 per pound for chum salmon. These data are summarized in Table 2. Both chinook and coho salmon prices paid were the highest on record; the chum salmon price was the second highest on record (\$0.41 in 1979); the pink salmon price was 23% higher than the 1983-1987 average price paid of \$0.15 per pound.

### Subsistence Fishery

Household subsistence surveys were not conducted during the 1988 season in Norton Sound villages due to budgetary restrictions. Daily surveys of Unalakleet River and ocean subsistence fishermen were conducted during the chinook salmon return. Although total harvests by subsistence fishers were not documented, effort and catch information was used to judge timing and magnitude of the chinook salmon return. The commercial fishery was delayed until it was apparent subsistence needs were being met and chinook salmon were beginning their upstream migration. In the Nome subdistrict, subsistence harvests were tabulated from the return of permits which are required by regulation in this subdistrict. Table 11 lists salmon harvests by stream from the Nome subdistrict during 1988.

### SEASON SUMMARY BY SUBDISTRICT

#### Nome - subdistrict 1

The commercial salmon season opened July 1 by emergency order. Five fishermen harvested 2 chinook, 54 coho, 182 pink and 1,628

chum salmon for a combined total of 1,866 fish (Tables 3 and 5). The chum salmon harvest was 7% below the 1983-1987 average of 7,072 fish. Fishing effort was well below the 1983-1987 average of 12 fishermen. One buyer operated in the Nome subdistrict for four periods, from July 1-July 12; however just three of these periods were actually fished. A few salmon were sold by fishermen operating under catcher-seller permits during the July 28-29 and August 18-19 periods. Inclement weather conditions prevented fishing from August 1-16, and August 22-30. The Nome subdistrict was closed on August 30.

During the 1988 season, a total of 177 subsistence permits were issued in the Nome subdistrict. Preliminary data indicates 90 permits were fished of the 140 returned to date. A total of 8,457 salmon were reported by these 90 permits; this catch was comprised of 50 chinook, 133 sockeye, 1,003 coho, 1,793 pink, and 5,478 chum salmon. These data are summarized in table 11.

#### Golovin - subdistrict 2

Commercial landings began on June 20. Twenty-one fishermen harvested 108 chinook, 921 sockeye, 2,149 coho, 31,559 pink, and 33,348 chum salmon for a combined total of 68,085 fish (Tables 3 and 6). The chum salmon harvest was 39% and 34% below the 1983-1987 and 1978-1987 averages of 54,455 and 50,684 fish, respectively. This catch comprised 31% of the entire Norton Sound district chum salmon harvest in 1988.

The Golovin Co-op freezer plant did not operate in 1988. On June 20, a Japanese freezer ship affiliated with the joint venture began buying operations in Golovin Bay. The freezer ship ceased buying operations and departed Norton Sound on August 5.

The Golovin subdistrict fished a normal schedule of two 48 hour periods a week from June 20-July 13. In addition to this schedule, additional small mesh openings were allowed from July 3-July 14; gill nets with a mesh size of 4 1/2" or less could be set or drifted. The purpose of these additional openings was to target the pink salmon return without overexploiting chum salmon. By July 13, it was apparent the chum salmon return to this subdistrict was weaker than normal. On July 14, an emergency order went into effect which placed this subdistrict on a fishing schedule of two 48 hour periods a week with a small mesh restriction (4 1/2" or less) to allow further exploitation of pink salmon without overharvesting the less abundant chum salmon. This mesh restriction was in effect until July 31. Larger mesh gear periods (6" or less) were re-instated from August 1 until the season closure on August 31, to target the coho salmon return, since the chum salmon return was largely over.

On August 6, a domestic processor began buying operations in subdistricts 2 and 3. This buyer did not contact department employees in Nome nor Unalakleet prior to commencing operation. Department employees in Unalakleet relayed the following information to the Nome office on August 10: the domestic buyer operating in Shaktoolik had transported equipment for buying salmon to Moses Point. This buyer had made arrangements with the local fishermen there to buy salmon during the August coho return, and was also registered with the Department to operate a buying station in Moses Point. On August 10, he flew over the Moses Point landing and observed his equipment being used, without his permission or knowledge by an unknown individual to buy salmon from subdistrict 3 fishermen.

From August 11-15, attempts by Department staff to contact the buyer were unsuccessful. Inclement weather prevented an on-site visit by the local Fish and Wildlife protection officer. An August 16, the individual operating a buying station at Moses Point came into the Nome office since he had heard ADF&G personnel were trying to contact him. At this time, the buyer was cited for failure to register prior to operating in Norton sound (5AAC 04.365) and failure to meet buyer reporting requirements (5AAC 39.130). Also at this time, it was learned he had been operating in the Golovin subdistrict as well, since August 6. Following a meeting with Department and Fish and Wildlife Protection personnel, the buyer was registered and given specific reporting/fish ticket requirements. Completed fish harvest tickets were submitted to the Department within an agreed upon deadline.

Although it appears fishermen were paid for their fish, this incident serves to point out monitoring problems associated with an area as large as Norton Sound, which does not attract competitive buying operations in the smaller, more remote fishing subdistricts.

All salmon bought during August were flown out iced in-the-round, to Anchorage for further processing. All buying operations ceased by August 20, and the season closed on August 31.

#### Moses Point - subdistrict 3

The Elim Fishermen's Co-op plant at Moses Point did not operate during the 1988 season. A Japanese freezer ship affiliated with the joint venture began buying operations on June 20. The vessel was located inside of the line which designates the internal waters of Norton Bay, as defined by the federal government.

Thirty-six commercial fishermen harvested 663 chinook, 93 sockeye, 3,974 coho, 13,703 pink and 18,585 chum salmon for a

combined total of 37,018 fish (Tables 3 and 7). Fishing effort slightly above the 1983-1987 average of 33 fishermen. The chinook harvest was 29% above the 1983-1987 average of 515 fish. The chum harvest was 32% and 39% below the 1983-1987 and 1978-1987 average catches of 27,533 and 30,269 fish, respectively. The pink salmon harvest was 10% above but 24% below the 1983-1987 and 1978-1987 average catches of 12,397 and 18,019 fish, respectively. The coho salmon harvest was 45% above the 1983-1987 average catch of 2,740 fish in this subdistrict which has historically experienced sporadic buying operations during August. Preliminary expanded count totals on the Kwiniuk River indicated an escapement of 12,686 chum salmon (Table 4).

As in subdistrict 2, a below average chum salmon return (as indicated by an accumulative expanded count of 11,038 chum to date on the Kwiniuk River tower) to subdistrict 3 precipitated an emergency order on July 13. This placed the Moses Point fishermen on a fishing schedule of two 48 hour periods per week, with a 4 1/2" mesh restriction to target pink salmon from July 14-July 31. Additional small mesh openings from July 3-July 14 were also allowed as in the Golovin subdistrict. Larger mesh openings (6" or less) were also re-instated from August 1 until the season closure on August 31.

As explained in the Golovin subdistrict summary, a domestic buyer operated in the Moses Point subdistrict from August 6 - 20. In addition, a second domestic processor operated during the August 11 - 13 period. All salmon purchased by the domestic operators were flown out, iced, in-the-round, to Anchorage via Nome and Unalakleet for further processing. One commercial fisherman, as permitted by catcher-seller status, sold fresh coho salmon to a Nome restaurant during August. All commercial salmon ventures ceased by August 24, and the season closed on August 31.

#### Norton Bay - subdistrict 4

The Norton Bay fishermen delivered to the Japanese freezer ship anchored near Moses Point from the season opening date of June 20 through its departure on August 5. This subdistrict was on a regular fishing schedule of two 48 hour periods a week during the entire season, the only exception being a district-wide emergency order issued July 12 which placed all subdistricts on restricted mesh openings (6" or less) on July 14 (see Management Concerns Section). In addition, small mesh "pink gear" openings were allowed from July 3-14. These openings provided an additional 36 hours per week of fishing time, to target pink salmon. No one fished these small mesh openings in Norton Bay. No buyer was present during the open periods from August 8-31; the season was closed on August 31.

Thirteen commercial fishermen harvested 434 chinook, 2 sockeye,

709 coho, 1,749 pink, and 7,521 chum salmon for a combined total of 10,415 fish (Tables 3 and 8). The chinook salmon harvest was 52% and 33% above the 1983-1987 and 1978-1987 average catches of 285 and 325 fish, respectively. The pink salmon catch was 67% above but 33% below 1983-1987 and 1978-1987 average catches of 1,044 and 2,265 fish, respectively. The coho salmon catch was 58% above the 1983-1987 but slightly below 1978-1987 average catches of 449 and 727 fish, respectively. The chum salmon catch was 4% above but 18% below the 1983-1987 and 1978-1987 average catches of 7,225 and 9,179 fish, respectively.

#### Shaktoolik - subdistrict 5

The Shaktoolik subdistrict opened by emergency order on June 20 for a 24 hour period. Initial periods were set at 24 hours in length from June 20-28 (periods 1, 2, and 3). On June 30, fishing time was increased to two 48 hour periods a week (Table 9). On June 30, an emergency order was issued which allowed additional "pink gear" periods from July 3-July 14, however, no one fished these additional small mesh openings. On July 14, an emergency order went into effect which placed a maximum mesh size restriction of six inches, district-wide. The intent of this regulation was to prevent further targeting of chinook salmon due to an apparent below average return. The Shaktoolik subdistrict fished on the regular schedule of two 48 hour periods a week throughout the season. The domestic buyer based in Shaktoolik elected to cease operations following the August 31 period closure. This subdistrict was without a buyer for the remaining two periods; the season closed by regulation on September 7.

One domestic buyer operated in Shaktoolik during 1988. In addition, the joint venture freezer ship located in Norton Bay had been permitted to buy pink salmon directly from the fishermen of this subdistrict since a limited domestic market existed for this salmon species. However, no pink salmon deliveries were made to the freezer ship by Shaktoolik fishermen. The domestic buyer operated during 21 of 23 open periods. All fish were iced and flown out in-the-round to Anchorage via Unalakleet for processing. The domestic buyer bought pink salmon caught incidentally during the first four periods of the season.

Twenty-one fishermen harvested 671 chinook, 79 sockeye, 6,096 coho, 3,681 pink, and 21,521 chum salmon for a combined total of 32,048 fish (Tables 3 and 9). The chinook harvest was 74% and 68% below the 1983-1987 and 1978-1987 average catches of 2,591 and 2,092 fish, respectively. The coho salmon harvest was 22% and 19% below 1983-1987 and 1978-1987 average catches of 7,847 and 7,516 fish, respectively. The chum salmon harvest was 25% and 22% below the 1983-1987 and 1978-1987 average catches of

28,647 and 27,544 fish, respectively.

#### Unalakleet - subdistrict 6

The Unalakleet subdistrict receives the most fishing effort in Norton Sound, and has historically not had problems obtaining buyers for their salmon, with the exception of pink salmon. This season, the joint venture was authorized to buy pink salmon directly from Unalakleet fishermen. Although interest was expressed, the high costs associated with tendering this relatively low value salmon species discouraged attempts to market pink salmon to the Japanese freezer ship located in Norton Bay, near Moses Point. The domestic buyer operating in Unalakleet purchased some pink salmon from June 20-July 7.

The commercial fishing periods, openings, and closures in the Unalakleet subdistrict were the same as those in the Shaktoolik subdistrict. Because of their close proximity (shared boundary) and the difficulty in obtaining timely escapement information, the Unalakleet inriver test net was used frequently as an index of salmon abundance and escapement in subdistricts 5 and 6. Table 10 summarizes catch and effort data by period for the Unalakleet subdistrict.

A total of 69 fishermen harvested 2,218 chinook, 157 sockeye, 24,265 coho, 23,730 pink, and 25,364 chum salmon for a combined total of 75,734 fish (Table 3). The chinook salmon harvest was the lowest on record since 1976, and was 68% and 64% below the 1983-1987 and 1978-1987 average catches of 6,837 and 6,233 fish, respectively. The coho harvest was 10% and 13% below the 1983-1987 and 1978-1987 average catches of 27,020 and 27,723 fish, respectively. The pink salmon harvest was well above the 1983-1987 average harvest of 5,259 fish but 65% below 1978-1987 average harvest of 68,137 fish. This is due primarily to the lack of a market in recent years, and weak odd year returns since 1985. The chum salmon harvest was 44% and 42% below the 1983-1987 and 1978-1987 average catches of 45,082 and 44,084 fish, respectively.

One domestic buyer operated throughout the entire season, including two of the four special "pink periods"; a second domestic buyer operated in Unalakleet during the coho salmon return, from August 1-20. All salmon were flown out iced, in-the-round, to Anchorage to fresh markets or for further processing. The Norton Sound Fishermen's Co-op plant did not operate, however, this facility was leased to receive and ice the salmon delivered dockside.

#### ESCAPEMENT

Table 4 lists aerial survey and tower escapement counts in the

major index streams of Norton Sound. In general, weather conditions were fairly cooperative. Lower levels of rainfall than normal kept stream water levels low throughout June and July. Peak surveys were obtained in many subdistrict 1, 2, and 4 streams. Several surveys flown in to determine peak counts (subdistricts 3, 5, and 6) were found to be past peak for chum salmon. Many streams also experienced the strongest pink salmon returns since 1984. Surveys were flown on select streams in all six subdistricts for coho salmon in late August and early September. In general, weather conditions were fairly good for these surveys.

The Nome subdistrict of Norton Sound received the most intensive survey efforts, with multiple aerial stream surveys being conducted as well as three boat surveys of the Nome River. Salmon stocks local to the Nome area are limited, easily accessed (extensive road system) and exposed to extensive subsistence and sport fishing pressure.

Chum salmon escapements in the Nome subdistrict appeared to be below average. In the Nome River, the highest chum count (973) was obtained during a July 20 aerial survey. Chum salmon escapements appeared below average in the Eldorado, Flambeau, Sinuk, and Solomon Rivers as well (Table 4).

Chum salmon escapements in three Golovin subdistrict streams (Fish, Niukluk, Boston) appeared below average although a peak survey was attained on only the Niukluk River. Chum salmon escapements in the Moses Point subdistrict streams (Kwiniuk and Tubutulik) also were at below average levels. Although both subdistricts were allowed to fish with only "pink gear" from July 13-31, average escapement levels of chum salmon may not have been attained. Numerous pink salmon in both subdistricts also complicated documentation of chum salmon counts (Table 4).

Chum salmon escapement counts in the Norton Bay subdistrict were near average; since pink salmon were numerous in both the Ungalik and Inglutalik Rivers, it is likely average chum salmon escapements were achieved but could not be documented because of species identification problems.

The Shaktoolik River appeared to have above average chum salmon escapements. Conversely, the Unalakleet system appeared to have below average chum counts, however, pink salmon were very abundant, therefore, the chum counts documented (Table 4) should be considered very minimal due to species identification problems.

The Unalakleet and Shaktoolik subdistricts contain the major chinook salmon returns although the Norton Bay, Moses Point and Golovin subdistricts are gradually producing more chinook in recent years. Chinook escapements were above average overall in

the Unalakleet system, although low water levels appeared to have affected chinook migration. More chinook were observed in the main Unalakleet River and Old Woman than usual; conversely, fewer were observed in the North River. Chinook escapements appeared below average in the Shaktoolik River (subdistrict 4) and the Ungalik River (subdistrict 4), but were above average in the Inglutalik (subdistrict 4). Chinook salmon in the Moses Point subdistrict appeared average to above average, with a record aerial survey count of chinook in the Tubutulik River of 561 fish. In the Golovin subdistrict, the chinook producing Boston Creek had average escapement, with below average escapement observed on the Fish River (Table 4).

The major coho producing streams in Norton Sound are also in the Shaktoolik and Unalakleet subdistricts, although coho salmon are found in nearly all of the chum producing streams throughout the district. Because of the inclement weather normally experienced in this area during August and September, escapement data for all subdistricts is somewhat sketchy. This year, however, coho salmon counts were documented in more streams than usual. Most counts were obtained under fair to good viewing conditions, and were flown at or near peak spawning activity.

Overall, coho salmon escapements appeared to be very good. The Nome River count was the highest on record. The Sinuk River count was above average. The Niukluk River system count of 1,095 was well above average. The Ungalik River count of 358 was much higher than the only other data point of 20 (1987). The Shaktoolik River count of 1,124 was better than the only other data point of 746 (1987). The Unalakleet River counts were well below the escapement documented during the record return in 1982 (3,648), but were comparable to counts attained in 1980, 1981, 1984, and 1987.

Pink salmon escapements were fair to excellent in Norton Sound. Although pink salmon escapement goals are not established for most streams, many pink counts were higher than in recent (1985-1987) years. Counts on subdistrict 2, 3, 4, 5, and 6 streams greatly exceeded escapements experienced since 1985 but were generally below even year escapements from 1978-1984. Escapements in subdistrict 1 were lower than most even year return escapement counts since 1980, but similar to recent odd year returns (1983, 1985).

#### **MANAGEMENT CONCERNS**

Once again chum salmon escapements in the streams of the Nome, Golovin Bay and Moses Point subdistricts fell short of escapement goals. This lack of escapement in the Nome River is particularly disturbing when one considers that the Board of Fisheries approved regulations during the 1987 winter board meetings further restricting both subsistence and sport fisheries on the

Nome River in addition to restrictions in place since 1984. Sport fishermen were restricted to only 3 chum salmon per day and subsistence beach seining was eliminated for all salmon in the Nome River. There was very little subsistence fishing occurring within the Nome River during the 1988 season. Surveys indicate that roughly half the escapement goal spawned in the Nome River, less than 1000 chum salmon. Apparently ocean subsistence fishing may also have to be reduced to bring this salmon stock back to its former size.

Both the Moses Point and Golovin commercial fisheries are multi-species fisheries, especially during even years. Although the chum salmon catches indicated a below average run strength throughout the Norton Sound District, only these two subdistricts had an unrestricted market for pink salmon. An emergency order was written to restrict net mesh size to target pink salmon and allow more chum salmon to escape into spawning areas. This strategy was most successful in the Golovin subdistrict in meeting the chum salmon escapement goal. However, in the Moses Point subdistrict chum salmon escapement reached only half the goal (Table 4). On the other hand pink salmon escapement was 2.3 times the pink escapement goal of 75,000. The Golovin Bay drainage also fell short of the chum salmon escapement goals, but judging from aerial survey and subsistence fishing observations, chum escapement was approximately 70% of the goal. Management actions governing chum salmon harvest would have been more restrictive had the pink salmon migration not been so strong.

Table 1. Commercial salmon catches by species, Norton Sound District, 1961-1988.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1961	5,300	35	13,807	34,327	48,332	101,801
1962	7,286	18	9,156	33,187	182,784	232,431
1963	6,613	71	16,765	55,625	154,789	233,863
1964	2,018	126	98	13,567	148,862	164,671
1965	1,449	30	2,030	220	36,795	40,524
1966	1,553	14	5,755	12,778	80,245	100,345
1967	1,804	--	2,379	28,879	41,756	74,818
1968	1,045	--	6,885	71,179	45,300	124,499
1969	2,392	--	6,836	86,949	82,795	178,972
1970	1,853	--	4,423	64,908	107,034	178,218
1971	2,593	--	3,127	4,895	131,362	141,977
1972	2,938	--	454	45,182	100,920	149,494
1973	1,918	--	9,282	46,499	119,098	176,797
1974	2,951	--	2,092	148,519	162,267	315,829
1975	2,393	2	4,593	32,388	212,485	251,861
1976	2,243	11	6,934	87,916	95,956	193,060
1977	4,500	5	3,690	48,675	200,455	257,325
1978	9,819	12	7,335	325,503	189,279	531,948
1979	10,706	--	31,438	167,411	140,789	350,344
1980	6,311	40	29,842	227,352	180,792	444,337
1981	7,929	56	31,562	232,479	169,708	441,734
1982	5,892	10	91,690	230,281	183,335	511,208
1983	10,308	27	49,735	76,913	319,437	456,420
1984	8,455	6	67,875	119,381	146,442	342,159
1985	19,491	166	21,968	3,647	134,928	180,200
1986	6,303	233	35,600	41,260	146,912	230,308
1987	7,080	207	24,279	2,260	102,457	136,283
1988	4,096	1,252	37,247	74,604	107,967	225,166
5-Yr Avg. 1/ 10,327	128	39,891	48,692	170,035	269,074	
10-Yr Avg. 2/ 9,229	76	39,132	142,649	171,408	362,494	
1/ 1983-1987						
2/ 1978-1987						

Table 2. Norton Sound salmon dollar value and average price paid to the fishermen, by species, 1988.

Species	Dollar value	Average price paid
Chinook	\$ 84,989.00	\$ 1.26
Sockeye	10,000.00	1.16
Coho	316,490.00	1.13
Pink	42,545.00	0.19
Chum	300,727.00	0.39
	-----	
Total	\$ 754,751.00	1/

Table 3. Norton Sound salmon season summary by subdistrict, 1988.

s.d.	fm	Chinook / lbs	Sockeye/lbs	Coho / lbs	Pink/lbs	Chum /lbs	Total /Total lbs
1	5	2 / 20	0 / 0	54 / 407	182 / 526	1628 / 10960	1866 / 11913
2	21	108 / 1517	921 / 6257	2149 / 15734	31559 / 94777	33348 / 238482	68085 / 356767
3	36	663 / 11504	93 / 685	3974 / 31038	13703 / 41461	18585 / 130702	37018 / 215391
4	13	434 / 7388	2 / 16	709 / 5263	1749 / 5088	7521 / 51505	10415 / 69260
5	21	671 / 9800	79 / 553	6096 / 44893	3681 / 12934	21521 / 153240	32048 / 221420
6	69	2218 / 36919	157 / 1077	24265 / 183323	23730 / 72180	25364 / 182278	75734 / 475777
Total	152 1/	4096 / 67148	1252 / 8588	37247 / 280658	74604 / 226966	107967 / 767168	225166 / 1350528
Avg. wt.		16.4	6.9	7.5	3.0	7.1	

13

1/ Several fishermen fished more than one subdistrict.

Table 4. Aerial survey counts of Norton Sound streams and associated chum salmon escapement goals, 1988.

Stream name	Chum	Chum Goal	Pink	Chinook	Coho
Nome R. 1/2/	973	2,000	2,490	3	1,280 3/
Flambeau R. 2/	765	3,300	10	3	-
Eldorado R. 2/	2,645	5,300	1,045	17	78
Sinuk R. 1/2/	2,070	-	4,652	3	563
Solomon R.	25	-	570	0	-
Fish R. 1/	1,240	17,500	29,950	36	-
Niukluk R. 2/	6,501	8,000	8,160	18	1,095 4/
Boston Cr. 1/	1,040	2,500	7,400	163	-
Tubutulik R. 1/5/	4,660	12,000	114,150	561	-
Kwiniuk R. 6/	12,686	25,000	174,541	232	444 7/
Ungalik R. 1/2/	1,770	-	99,600	53	358
Inglutalik R.	5,100	-	10,740	788	-
Shaktoolik R. 1/	13,242	11,000	192,135	410	1,124
North R. 1/	30	4,500	112,770	202	240
Unalakleet System 1/8/	1,620	-	148,170	1,234	1,129

- 1/ Species identification problem due to numerous pink salmon; pink count may include some chum salmon.
- 2/ Peak chum salmon counts.
- 3/ Peak coho salmon count obtained by adding upper river boat survey count on 9/01 to lower river aerial count on 9/02.
- 4/ Includes 474 coho salmon counted in Ophir Creek.
- 5/ Numerous pink salmon masked some chum salmon; applying the Kwiniuk River tower count ratio to date of 12:1 pink to chum, the chum escapement on this survey may have been as high as 9,500 salmon.
- 6/ Preliminary expanded tower counts.
- 7/ Aerial survey count.
- 8/ Includes Old Woman aerial survey counts.

Table 5. Commercial salmon catches from Koon, subdistrict 1, Norton Sound, set gill nets, 1968.

Period Dates	Hours Fished	No. of Fishermen	Period Catch and Catch Per Unit Effort								Cumulative Catch and Catch Per Unit Effort							
			CHINOOK	CPUE	COHO	CPUE	PINK	CPUE	CHUM	CPUE	CHINOOK	CPUE	COHO	CPUE	PINK	CPUE	CHUM	CPUE
1 7/01-7/02	24	2	0	0.00	0	0.00	39	0.81	352	7.33	0	0.00	0	0.00	39	0.81	352	7.33
2 7/04-7/05	24	2	1	0.02	0	0.00	54	1.13	819	17.69	1	0.01	0	0.00	93	0.97	1,201	12.51
3 7/07-7/08	24	0	NO ONE FISHED								1	0.01	0	0.00	93	0.97	1,201	12.51
4 7/11-7/12	24	3	0	0.00	0	0.00	77	1.07	333	4.63	1	0.01	0	0.00	170	1.01	1,534	9.13
5 7/14-7/15	24	0	NO BUYER								1	0.01	0	0.00	170	1.01	1,534	9.13
6 7/18-7/19	24	0	NO BUYER								1	0.01	0	0.00	170	1.01	1,534	9.13
7 7/21-7/22	24	0	NO BUYER								1	0.01	0	0.00	170	1.01	1,534	9.13
8 7/25-7/25	24	0	NO BUYER								1	0.01	0	0.00	170	1.01	1,534	9.13
9 7/28-7/29	24	2	1	0.02	5	0.10	12	0.25	94	1.96	2	0.01	5	0.02	182	0.84	1,628	7.54
10 8/01-8/02	24	0	STORMY								2	0.01	5	0.02	182	0.84	1,628	7.54
11 8/04-8/05	24	0	STORMY								2	0.01	5	0.02	182	0.84	1,628	7.54
12 8/08-8/09	24	0	STORMY								2	0.01	5	0.02	182	0.84	1,628	7.54
13 8/11-8/12	24	0	STORMY								2	0.01	5	0.02	182	0.84	1,628	7.54
14 8/15-8/16	24	0	STORMY								2	0.01	5	0.02	182	0.84	1,628	7.54
15 8/18-8/19	24	1	0	0.00	49	2.04	0	0.00	0	0.00	2	0.01	54	1.10	182	0.76	1,628	6.78
16 8/22-8/23	24	0	STORMY								2	0.01	54	1.10	182	0.76	1,628	6.78
17 8/25-8/26	24	0	STORMY								2	0.01	54	1.10	182	0.76	1,628	6.78
18 8/29-8/30	24	0	STORMY								2	0.01	54	1.10	182	0.76	1,628	6.78
Season Total	120 1/ 5		2		54		182		1,628		2		54		182		1,628	

1/ Total hours actually fished.

Table 6. Commercial salmon catches from Golovin, subdistrict 2, Norton Sound, set gill nets, 1968.

1/	Period Catch and Catch Per Unit Effort										Cumulative Catch and Catch Per Unit Effort												
	Period Dates	Hours Fished	No. of Fishermen	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE					
1	6/20-6/22	48	14	24	0.04	5	0.01	0	0.00	303	0.45	3,877	5.77	24	0.04	5	0.01	0	0.00	303	0.45	3,877	5.77
2	6/23-6/25	48	15	12	0.02	13	0.02	0	0.00	489	0.68	4,209	5.85	36	0.03	18	0.01	0	0.00	792	0.57	8,086	5.81
3	6/27-6/29	48	18	10	0.01	232	0.27	0	0.00	2,560	2.96	5,071	5.87	46	0.02	250	0.11	0	0.00	3,352	1.49	13,157	5.83
4	6/30-7/02	48	20	15	0.02	201	0.21	0	0.00	2,320	2.42	5,601	5.83	61	0.02	451	0.14	0	0.00	3,672	1.76	18,758	5.83
P1	7/03-7/04	24	10	1	0.00	15	0.06	0	0.00	2,486	10.36	665	2.77	1	0.00	15	0.06	0	0.00	2,486	10.36	665	2.77
5	7/04-7/06	48	19	7	0.01	156	0.17	0	0.00	2,157	2.37	4,599	5.04	68	0.02	607	0.15	0	0.00	7,829	1.90	23,357	5.66
P2	7/06-7/07	12	7	0	0.00	4	0.05	0	0.00	624	7.43	194	2.31	1	0.00	19	0.06	0	0.00	3,110	9.60	859	2.65
6	7/07-7/09	48	18	4	0.00	140	0.16	0	0.00	3,826	4.43	4,251	4.92	72	0.01	747	0.15	0	0.00	11,655	2.33	27,608	5.53
P3	7/10-7/11	24	7	0	0.00	16	0.10	0	0.00	1,497	8.91	345	2.05	1	0.00	35	0.07	0	0.00	4,607	9.36	1,204	2.45
7	7/11-7/13	48	17	3	0.00	75	0.09	0	0.00	2,692	3.30	1,974	2.42	75	0.01	822	0.14	0	0.00	14,347	2.47	29,582	5.09
P4	7/13-7/14	12	4	0	0.00	4	0.08	0	0.00	1,040	21.67	124	2.58	1	0.00	39	0.07	0	0.00	5,647	10.46	1,328	2.46
P5	7/15-7/16	48	9	0	0.00	2	0.00	0	0.00	4,563	10.56	371	0.86	1	0.00	41	0.04	0	0.00	10,210	10.50	1,699	1.75
P6	7/18-7/20	48	9	0	0.00	13	0.03	0	0.00	3,192	7.39	613	1.42	1	0.00	54	0.04	0	0.00	13,402	9.55	2,312	1.65
P7	7/21-7/23	48	8	0	0.00	9	0.02	3	0.01	1,069	2.78	352	0.92	1	0.00	63	0.04	3	0.00	14,471	8.09	2,654	1.49
P8	7/25-7/27	48	5	4	0.02	2	0.01	12	0.05	1,226	5.11	166	0.69	3	0.00	65	0.03	15	0.01	15,697	7.74	2,830	1.40
P9	7/28-7/30	48	7	4	0.01	9	0.03	30	0.09	1,192	3.55	190	0.57	9	0.00	74	0.03	45	0.02	16,889	7.14	3,020	1.28
8	8/01-8/03	48	10	2	0.00	7	0.01	257	0.54	240	0.50	313	0.65	77	0.01	829	0.13	257	0.54	14,587	2.32	29,895	4.75
9	8/04-8/06	48	8	8	0.02	6	0.02	334	0.87	83	0.22	159	0.41	85	0.01	835	0.13	591	0.68	14,670	2.20	30,054	4.50
10	8/08-8/10	48	10	7	0.01	4	0.01	600	1.25	0	0.00	119	0.25	92	0.01	839	0.12	1,191	0.89	14,670	2.05	30,173	4.22
11	8/11-8/13	48	7	4	0.01	3	0.01	361	1.87	0	0.00	90	0.27	96	0.01	842	0.11	1,552	0.92	14,670	1.96	30,263	4.04
12	8/15-8/17	48	5	1	0.00	0	0.00	225	0.94	0	0.00	13	0.05	97	0.01	842	0.11	1,777	0.92	14,670	1.90	30,276	2.92
13	8/18-8/20	48	8	2	0.01	5	0.01	327	0.85	0	0.00	52	0.14	99	0.01	847	0.10	2,104	0.91	14,670	1.81	30,328	3.74
14	8/22-8/24	48	0	NO BUYER																			
15	8/25-8/27	48	0	NO BUYER																			
16	8/29-8/31	48	0	NO BUYER																			
Season Total			936	4/ 21	108	921	2,149	31,559	33,348	108	921	2,149	31,559	33,348									

1/ Special "pink gear" periods designated by "P".

2/ Cumulative figures calculated by mesh size restriction in effect for respective period.

3/ Cumulative coho boat hours begin when 100 coho were caught.

4/ Total hours fished, all mesh sizes.

Table 7. Commercial salmon catches from Moses Point, subdistrict 3, Norton Sound, set gill nets, 1968.

17 Period Dates	Hours Fished	No. of Fishermen	Period Catch and Catch Per Unit Effort								Cumulative Catch and Catch Per Unit Effort												
			CHINOOK	CPUE	SOCKEYE	CPUE	COHO	CPUE	PINK	CPUE	CHUM	CPUE	CHINOOK	CPUE	SOCKEYE	CPUE	COHO	CPUE	PINK	CPUE	CHUM	CPUE	
1	6/20-6/22	48	21	165	0.16	0	0.00	0	0.00	163	0.16	3,086	3.06	165	0.16	0	0.00	0	0.00	163	0.16	3,086	3.06
2	6/23-6/25	48	24	218	0.19	0	0.00	0	0.00	482	0.42	3,282	2.85	383	0.18	0	0.00	0	0.00	645	0.30	6,368	2.95
3	6/27-6/29	48	27	156	0.12	0	0.00	0	0.00	1,660	1.28	3,955	3.03	539	0.16	0	0.00	0	0.00	2,305	0.67	10,323	2.99
4	6/30-7/02	48	23	47	0.04	15	0.01	0	0.00	1,286	1.16	1,708	1.53	586	0.13	15	0.00	0	0.00	3,591	0.79	12,031	2.64
P1	7/03-7/04	24	8	9	0.05	1	0.01	0	0.00	598	3.20	201	1.05	9	0.05	1	0.01	0	0.00	998	5.20	201	1.05
5	7/04-7/06	48	21	24	0.02	46	0.05	0	0.00	2,513	2.49	2,678	2.66	610	0.11	61	0.01	0	0.00	6,104	1.10	14,709	2.64
P2	7/06-7/07	12	9	1	0.01	0	0.00	0	0.00	965	8.94	132	1.22	10	0.03	1	0.00	0	0.00	1,963	6.54	333	1.11
6	7/07-7/09	48	22	18	0.02	14	0.01	0	0.00	2,184	2.07	1,538	1.51	628	0.09	75	0.01	0	0.00	8,288	1.25	16,307	2.46
P3	7/10-7/11	24	5	1	0.01	0	0.00	0	0.00	455	3.79	56	0.47	11	0.03	1	0.00	0	0.00	2,418	5.76	389	0.93
7	7/11-7/13	48	14	10	0.01	8	0.01	0	0.00	673	1.00	746	1.11	638	0.09	83	0.01	0	0.00	8,961	1.23	17,053	2.34
P4	7/13-7/14	12	1	0	0.00	0	0.00	0	0.00	40	3.33	9	0.75	11	0.03	1	0.00	0	0.00	2,458	5.69	398	0.92
P5	7/15-7/16	48	7	1	0.00	2	0.01	0	0.00	1,717	5.11	20	0.06	12	0.02	3	0.00	0	0.00	4,175	5.44	418	0.54
P6	7/18-7/20	48	7	0	0.00	1	0.00	0	0.00	364	1.04	168	0.50	12	0.01	4	0.00	0	0.00	4,539	4.11	586	0.53
P7	7/21-7/23	48	6	4	0.01	1	0.00	2	0.01	156	0.54	96	0.33	16	0.01	5	0.00	2	0.00	4,695	3.37	682	0.49
P8	7/25-7/27	48	8	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	16	0.01	5	0.00	2	0.00	4,695	3.37	682	0.49
P9	7/28-7/30	48	3	2	0.01	3	0.02	14	0.10	37	0.26	108	0.75	18	0.01	8	0.01	16	0.01	4,732	3.08	790	0.51
8	8/01-8/03	48	9	2	0.00	2	0.00	133	0.31	9	0.02	175	0.41	640	0.06	85	0.01	133	0.31	8,970	1.16	17,228	2.23
9	8/04-8/06	48	15	3	0.00	0	0.00	276	0.38	1	0.00	116	0.16	643	0.08	85	0.01	409	0.35	8,971	1.06	17,344	2.05
10	8/08-8/10	48	21	1	0.00	0	0.00	748	0.74	0	0.00	270	0.27	644	0.07	85	0.01	1,157	0.53	8,971	0.95	17,514	1.86
11	8/11-8/13	48	17	0	0.00	0	0.00	972	1.19	0	0.00	14	0.02	644	0.06	85	0.01	2,129	0.71	8,971	0.87	17,628	1.72
12	8/15-8/17	48	19	0	0.00	0	0.00	978	1.07	0	0.00	50	0.05	644	0.06	85	0.01	3,107	0.80	8,971	0.80	17,678	1.58
13	8/18-8/20	48	19	1	0.00	0	0.00	774	0.85	0	0.00	117	0.13	645	0.05	85	0.01	3,881	0.81	8,971	0.74	17,795	1.47
14	8/22-8/24	48	1	0	0.00	0	0.00	77	1.60	0	0.00	0	0.00	645	0.05	85	0.01	3,958	0.81	8,971	0.74	17,795	1.47
15	8/25-8/27	48	0	NO BUYER																			
16	8/29-8/31	48	0	NO BUYER																			
Season Total			936 4/ 36	663	93	3,974	13,703	18,585	663	93	3,974	13,703	18,585										

1/ Special "pink gear" periods designated by "P".

2/ Cumulative figures calculated by mesh size restriction in effect for respective period.

3/ Cumulative coho boat hours began when 100 coho were caught.

4/ Total hours fished, all mesh sizes.

Table 2. Commercial salmon catches from Norton Bay, subdistrict 4, Norton Sound, set gill nets, 1968.

1/	Period Catch and Catch Per Unit Effort										Cumulative Catch and Catch Per Unit Effort 2/							
	Period Dates	Hours Fished	No. of Fishermen	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CPUE	
1	6/30-6/22	48	4	54 0.28	0 0.00	0 0.00	0 0.00	272 1.42				54 0.28	0 0.00	0 0.00	0 0.00	272 1.42		
2	6/23-6/25	48	8	235 0.51	0 0.00	0 0.00	9 0.02	681 1.77				289 0.50	0 0.00	0 0.00	9 0.02	953 1.65		
3	6/27-6/29	48	9	73 0.17	0 0.00	0 0.00	98 0.23	793 1.84				362 0.36	0 0.00	0 0.00	107 0.11	1,746 1.73		
4	6/30-7/02	48	6	26 0.09	0 0.00	0 0.00	101 0.35	339 1.18				368 0.30	0 0.00	0 0.00	208 0.16	2,085 1.61		
P1	7/03-7/04	24	0	NO ONE FISHED														
5	7/04-7/06	48	9	14 0.03	0 0.00	0 0.00	170 0.39	1,079 2.50				402 0.23	0 0.00	0 0.00	378 0.22	3,164 1.83		
P2	7/06-7/07	12	0	NO ONE FISHED														
6	7/07-7/09	48	7	4 0.01	0 0.00	0 0.00	369 1.10	962 2.86				406 0.20	0 0.00	0 0.00	747 0.36	4,126 2.00		
P3	7/10-7/11	24	0	NO ONE FISHED														
7	7/11-7/13	48	4	1 0.01	0 0.00	0 0.00	93 0.48	185 0.96				407 0.18	0 0.00	0 0.00	840 0.37	4,311 1.91		
P4	7/13-7/14	12	0	NO ONE FISHED														
8	7/14-7/16	48	6	1 0.00	0 0.00	0 0.00	71 0.25	1,091 3.79				408 0.16	0 0.00	0 0.00	911 0.36	5,402 2.12		
9	7/18-7/20	48	9	9 0.02	1 0.00	1 0.00	639 1.48	668 4.55				417 0.14	1 0.00	1 0.00	1,550 0.52	6,070 2.04		
10	7/21-7/23	48	5	0 0.00	0 0.00	4 0.02	83 0.35	223 0.93				417 0.13	1 0.00	5 0.00	1,633 0.51	6,293 1.96		
11	7/25-7/27	48	7	7 0.02	0 0.00	23 0.07	37 0.11	399 1.15				424 0.12	1 0.00	28 0.01	1,670 0.47	6,692 1.88		
12	7/28-7/30	48	8	7 0.02	1 0.00	148 0.39	71 0.18	568 1.48				431 0.11	2 0.00	176 0.46	1,741 0.44	7,260 1.84		
13	8/01-8/03	48	7	3 0.01	0 0.00	428 1.27	8 0.02	241 0.72				434 0.10	2 0.00	604 0.83	1,749 0.41	7,501 1.76		
14	8/04-8/06	48	6	0 0.00	0 0.00	105 0.36	0 0.00	20 0.07				434 0.10	2 0.00	709 0.70	1,749 0.38	7,521 1.65		
15	8/08-8/10	48	0	NO BUYER														
16	8/11-8/13	48	0	NO BUYER														
17	8/15-8/17	48	0	NO BUYER														
18	8/18-8/20	48	0	NO BUYER														
19	8/22-8/24	48	0	NO BUYER														
20	8/25-8/27	48	0	NO BUYER														
21	8/29-8/31 3/	48	0	NO BUYER														
Season Total			672 4/ 13	434	2	709	1,749	7,521	434	2	709	1,749	7,521					

1/ Special "pink gear" periods designated by "P".

2/ Cumulative coho boat hours began when 100 coho were caught.

3/ Commercial fishing season closed by emergency order on August 31.

4/ Total hours actually fished.

Table 2. Commercial salmon catches from Shaktoolik, subdistrict 3, Norton Sound, set gill nets, 1988.

1/	Period Catch and Catch Per Unit Effort										Cumulative Catches and Catch Per Unit Effort 2/												
	Period Dates	Hours Fished	No. of Fishermen	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE					
1	6/20-6/21	24	17	137	0.34	0	0.00	44	0.11	544	1.33	137	0.34	0	0.00	0	0.00	44	0.11	544	1.33		
2	6/23-6/24	24	15	124	0.34	0	0.00	482	1.34	873	2.43	261	0.34	0	0.00	0	0.00	526	0.68	1,417	1.85		
3	6/27-6/28	24	17	123	0.30	0	0.00	2,944	7.22	2,453	6.02	384	0.33	0	0.00	0	0.00	3,470	2.95	3,872	3.29		
4	6/30-7/02	48	17	103	0.13	0	0.00	211	0.26	4,349	5.33	487	0.24	0	0.00	0	0.00	3,681	1.85	4,221	4.13		
P1	7/03-7/04	24	0	NO ONE FISHED																			
5	7/04-7/06	48	18	37	0.04	1	0.00	0	0.00	2,429	2.81	524	0.18	1	0.00	0	0.00	3,681	1.29	10,650	3.71		
P2	7/06-7/07	12	0	NO ONE FISHED																			
6	7/07-7/09	48	20	42	0.04	2	0.00	0	0.00	2,788	2.90	566	0.15	3	0.00	0	0.00	3,681	0.96	13,438	3.52		
P3	7/10-7/11	24	0	NO ONE FISHED																			
7	7/11-7/13	48	18	24	0.03	2	0.00	0	0.00	1,901	2.20	590	0.13	5	0.00	0	0.00	3,681	0.79	15,339	3.28		
P4	7/13-7/14	12	0	NO ONE FISHED																			
8	7/14-7/16	48	17	25	0.03	6	0.01	3	0.00	1,406	1.72	615	0.11	11	0.00	3	0.00	3,681	0.67	16,745	3.03		
9	7/18-7/20	48	2	5	0.05	1	0.01	6	0.06	405	4.22	520	0.11	12	0.00	9	0.00	3,681	0.66	17,150	3.07		
10	7/21-7/23	48	13	13	0.02	2	0.00	10	0.02	1,426	2.29	633	0.10	14	0.00	19	0.00	3,681	0.59	18,576	2.99		
11	7/25-7/27	48	10	6	0.01	2	0.00	17	0.04	420	0.88	639	0.10	16	0.00	36	0.01	3,681	0.55	18,996	2.84		
12	7/28-7/30	48	20	5	0.01	4	0.00	309	0.32	0	0.00	817	0.85	644	0.08	20	0.00	345	0.36	3,681	0.48	19,813	2.59
13	8/01-8/03	48	17	8	0.01	9	0.01	494	0.61	0	0.00	531	0.65	652	0.08	29	0.00	839	0.47	3,681	0.43	20,344	2.40
14	8/04-8/06	48	17	8	0.01	6	0.01	452	0.55	0	0.00	298	0.37	660	0.07	35	0.00	1,291	0.50	3,681	0.40	20,642	2.22
15	8/08-8/10	48	16	1	0.00	8	0.01	872	1.14	0	0.00	406	0.53	661	0.07	43	0.00	2,163	0.64	3,681	0.37	21,048	2.09
16	8/11-8/13	48	11	4	0.01	1	0.00	574	1.09	0	0.00	165	0.31	665	0.06	44	0.00	2,737	0.70	3,681	0.35	21,217	2.00
17	8/15-8/17	48	13	1	0.00	11	0.02	616	0.99	0	0.00	42	0.07	666	0.06	55	0.00	3,353	0.74	3,681	0.33	21,255	1.90
18	8/18-8/20	48	14	1	0.00	2	0.00	744	1.11	0	0.00	79	0.12	667	0.06	57	0.00	4,097	0.79	3,681	0.31	21,334	1.80
19	8/22-8/24	48	10	1	0.00	3	0.01	607	1.26	0	0.00	79	0.16	668	0.05	60	0.00	4,704	0.83	3,681	0.30	21,413	1.73
20	8/25-8/27	48	15	1	0.00	16	0.02	880	1.22	0	0.00	45	0.06	669	0.05	76	0.01	5,584	0.87	3,681	0.28	21,458	1.64
21	8/29-8/31	48	9	2	0.00	3	0.01	504	1.17	0	0.00	62	0.14	671	0.05	79	0.01	6,088	0.89	3,681	0.27	21,520	1.59
22	9/01-9/03	48	0	NO BUYER																			
23	9/05-9/07	48	0	NO BUYER																			
Season Total	1,008 3/	21		671		79		6,088		3,681		21,520		671		79		6,088		3,681		21,520	

1/ Special "pink gear" periods designated by "P".  
 2/ Cumulative coho boat hours began when 100 coho were caught.  
 3/ Total hours actually fished.

Table 10. Commercial salmon catches from Unalakleet, subdistrict E, Norton Sound, set gill nets, 1988.

1/	Period Catch and Catch Per Unit Effort										Cumulative Catch and Catch Per Unit Effort 2/ 3/							
	Period Dates	Hours Fished	No. of Fishermen	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE	CHINOOK CPUE	SOCKEYE CPUE	COHO CPUE	PINK CPUE	CHUM CPUE
1	6/20-6/21	24	45	572 0.53	0 0.00	0 0.00	305 0.28	442 0.41	572 0.53	0 0.00	0 0.00	305 0.28	442 0.41	572 0.53	0 0.00	0 0.00	305 0.28	442 0.41
2	6/23-6/24	24	48	630 0.55	1 0.00	0 0.00	762 0.66	952 0.83	1,202 0.54	1 0.00	0 0.00	1,067 0.48	1,394 0.62	1,202 0.54	1 0.00	0 0.00	1,067 0.48	1,394 0.62
3	6/27-6/28	24	48	361 0.31	0 0.00	0 0.00	7,592 6.59	2,957 2.57	1,563 0.46	1 0.00	0 0.00	8,659 2.56	4,351 1.23	1,563 0.46	1 0.00	0 0.00	8,659 2.56	4,351 1.23
4	6/30-7/02	48	38	216 0.12	2 0.00	0 0.00	6,153 3.37	2,895 1.21	1,779 0.34	3 0.00	0 0.00	14,812 2.84	6,556 1.26	1,779 0.34	3 0.00	0 0.00	14,812 2.84	6,556 1.26
P1	7/03-7/04	24	7	12 0.07	0 0.00	0 0.00	3,840 34.76	330 1.96	12 0.07	0 0.00	0 0.00	3,840 34.76	330 1.96	12 0.07	0 0.00	0 0.00	3,840 34.76	330 1.96
5	7/04-7/06	48	31	78 0.05	6 0.00	0 0.00	13 0.02	2,301 1.55	1,657 0.28	9 0.00	0 0.00	14,845 2.22	8,857 1.32	1,657 0.28	9 0.00	0 0.00	14,845 2.22	8,857 1.32
P2	7/06-7/07	12	8	8 0.08	0 0.00	0 0.00	3,045 31.72	56 0.58	29 0.08	0 0.00	0 0.00	8,885 33.66	386 1.46	29 0.08	0 0.00	0 0.00	8,885 33.66	386 1.46
6	7/07-7/09	48	31	81 0.05	4 0.00	0 0.00	0 0.00	2,746 1.85	1,938 0.24	13 0.00	0 0.00	14,845 1.81	11,603 1.42	1,938 0.24	13 0.00	0 0.00	14,845 1.81	11,603 1.42
P3	7/10-7/11	24	0	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	20 0.08	0 0.00	0 0.00	8,885 33.66	386 1.46	20 0.08	0 0.00	0 0.00	8,885 33.66	386 1.46
7	7/11-7/13	48	28	30 0.02	2 0.00	3 0.00	0 0.00	1,329 0.99	1,968 0.21	15 0.00	3 0.00	14,845 1.56	12,932 1.36	1,968 0.21	15 0.00	3 0.00	14,845 1.56	12,932 1.36
P4	7/13-7/14	12	0	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	20 0.08	0 0.00	0 0.00	8,885 33.66	386 1.46	20 0.08	0 0.00	0 0.00	8,885 33.66	386 1.46
8	7/14-7/16	48	32	32 0.02	2 0.00	3 0.00	0 0.00	2,700 1.76	2,000 0.18	17 0.00	6 0.00	14,845 1.34	15,632 1.41	2,000 0.18	17 0.00	6 0.00	14,845 1.34	15,632 1.41
9	7/18-7/20	48	27	42 0.03	1 0.00	18 0.01	0 0.00	1,205 0.93	2,042 0.17	18 0.00	24 0.00	14,845 1.20	16,837 1.36	2,042 0.17	18 0.00	24 0.00	14,845 1.20	16,837 1.36
10	7/21-7/23	48	22	20 0.02	10 0.01	38 0.04	0 0.00	1,510 1.43	2,062 0.15	28 0.00	62 0.00	14,845 1.11	18,347 1.37	2,062 0.15	28 0.00	62 0.00	14,845 1.11	18,347 1.37
11	7/25-7/27	48	12	8 0.01	0 0.00	41 0.07	0 0.00	460 0.80	2,070 0.15	28 0.00	103 0.18	14,845 1.06	18,807 1.34	2,070 0.15	28 0.00	103 0.18	14,845 1.06	18,807 1.34
12	7/28-7/30	48	39	20 0.01	5 0.00	1,230 0.66	0 0.00	1,542 0.82	2,090 0.13	33 0.00	1,333 0.54	14,845 0.94	20,349 1.28	2,090 0.13	33 0.00	1,333 0.54	14,845 0.94	20,349 1.28
13	8/01-8/03	48	51	24 0.01	12 0.00	2,927 1.20	0 0.00	927 0.38	2,114 0.12	45 0.00	4,260 0.87	14,845 0.81	21,276 1.16	2,114 0.12	45 0.00	4,260 0.87	14,845 0.81	21,276 1.16
14	8/04-8/06	48	54	15 0.01	4 0.00	1,763 0.58	0 0.00	691 0.27	2,129 0.10	49 0.00	6,023 0.80	14,845 0.71	21,967 1.05	2,129 0.10	49 0.00	6,023 0.80	14,845 0.71	21,967 1.05
15	8/08-8/10	48	35	16 0.01	17 0.01	4,940 1.87	0 0.00	984 0.37	2,145 0.09	66 0.00	10,963 1.08	14,845 0.63	22,951 0.97	2,145 0.09	66 0.00	10,963 1.08	14,845 0.63	22,951 0.97
16	8/11-8/13	48	48	6 0.00	3 0.00	2,428 1.05	0 0.00	444 0.19	2,151 0.08	69 0.00	13,391 1.08	14,845 0.57	23,395 0.91	2,151 0.08	69 0.00	13,391 1.08	14,845 0.57	23,395 0.91
17	8/15-8/17	48	49	9 0.00	12 0.01	2,202 0.94	0 0.00	247 0.11	2,160 0.08	81 0.00	15,593 1.06	14,845 0.53	23,642 0.84	2,160 0.08	81 0.00	15,593 1.06	14,845 0.53	23,642 0.84
18	8/18-8/20	48	52	6 0.00	14 0.01	1,783 0.71	0 0.00	237 0.09	2,166 0.07	95 0.00	17,376 1.00	14,845 0.48	23,879 0.78	2,166 0.07	95 0.00	17,376 1.00	14,845 0.48	23,879 0.78
19	8/22-8/24	48	36	11 0.01	14 0.01	2,436 1.41	0 0.00	407 0.24	2,177 0.07	109 0.00	19,812 1.04	14,845 0.46	24,286 0.75	2,177 0.07	109 0.00	19,812 1.04	14,845 0.46	24,286 0.75
20	8/25-8/27	48	46	1 0.00	14 0.01	2,253 1.02	0 0.00	232 0.11	2,178 0.06	123 0.00	22,065 1.04	14,845 0.43	24,518 0.71	2,178 0.06	123 0.00	22,065 1.04	14,845 0.43	24,518 0.71
21	8/29-8/31	48	37	9 0.01	14 0.01	883 0.50	0 0.00	184 0.10	2,187 0.06	137 0.00	22,948 1.00	14,845 0.41	24,702 0.68	2,187 0.06	137 0.00	22,948 1.00	14,845 0.41	24,702 0.68
22	9/01-9/03	48	28	6 0.00	13 0.01	816 0.61	0 0.00	158 0.12	2,193 0.06	150 0.00	23,764 0.97	14,845 0.39	24,860 0.66	2,193 0.06	150 0.00	23,764 0.97	14,845 0.39	24,860 0.66
23	9/05-9/07	48	24	5 0.00	7 0.01	468 0.41	0 0.00	117 0.10	2,198 0.06	157 0.00	24,232 0.95	14,845 0.38	24,977 0.64	2,198 0.06	157 0.00	24,232 0.95	14,845 0.38	24,977 0.64
Season Total			1,140 4/ 69	2,218	157	24,265	21,730	25,364	2,218	157	24,265	21,730	25,364					

1/ Special "pink gear" periods designated by "P".

2/ Cumulative figures calculated by mesh size restriction in effect for respective period.

3/ Cumulative coho boat hours began when 100 coho were caught.

4/ Total hours fished, all mesh sizes.

TABLE 11. Nome (subdistrict 1) subsistence salmon catches, Norton Sound District, 1988.

Location	Permits Issued	Permits Returned	Permits Fished	Chinook	Sockeye	Coho	Pink	Chum	Total
Nome River	21	20	8	0	4	137	16	41	198
Marine Waters	93	71	51	47	123	443	888	3958	5459
Sinuk River	4	4	1	0	4	0	11	57	72
Eldorado River	23	17	15	3	0	175	544	1227	1949
Flambeau River	8	7	2	0	0	71	4	81	156
Snake River	13	11	6	0	2	98	158	31	289
Penny River	0	0	0	0	0	0	0	0	0
Solomon River	6	5	3	0	0	9	74	17	100
Feather River	0	0	0	0	0	0	0	0	0
Bonanza River	7	3	3	0	0	4	86	47	137
Cripple River	2	2	1	0	0	66	12	19	97
Safety Sound	0	0	0	0	0	0	0	0	0
Eld/Flam Rivers	0	0	0	0	0	0	0	0	0
Totals	177	140	90	50	133	1003	1793	5478	8457

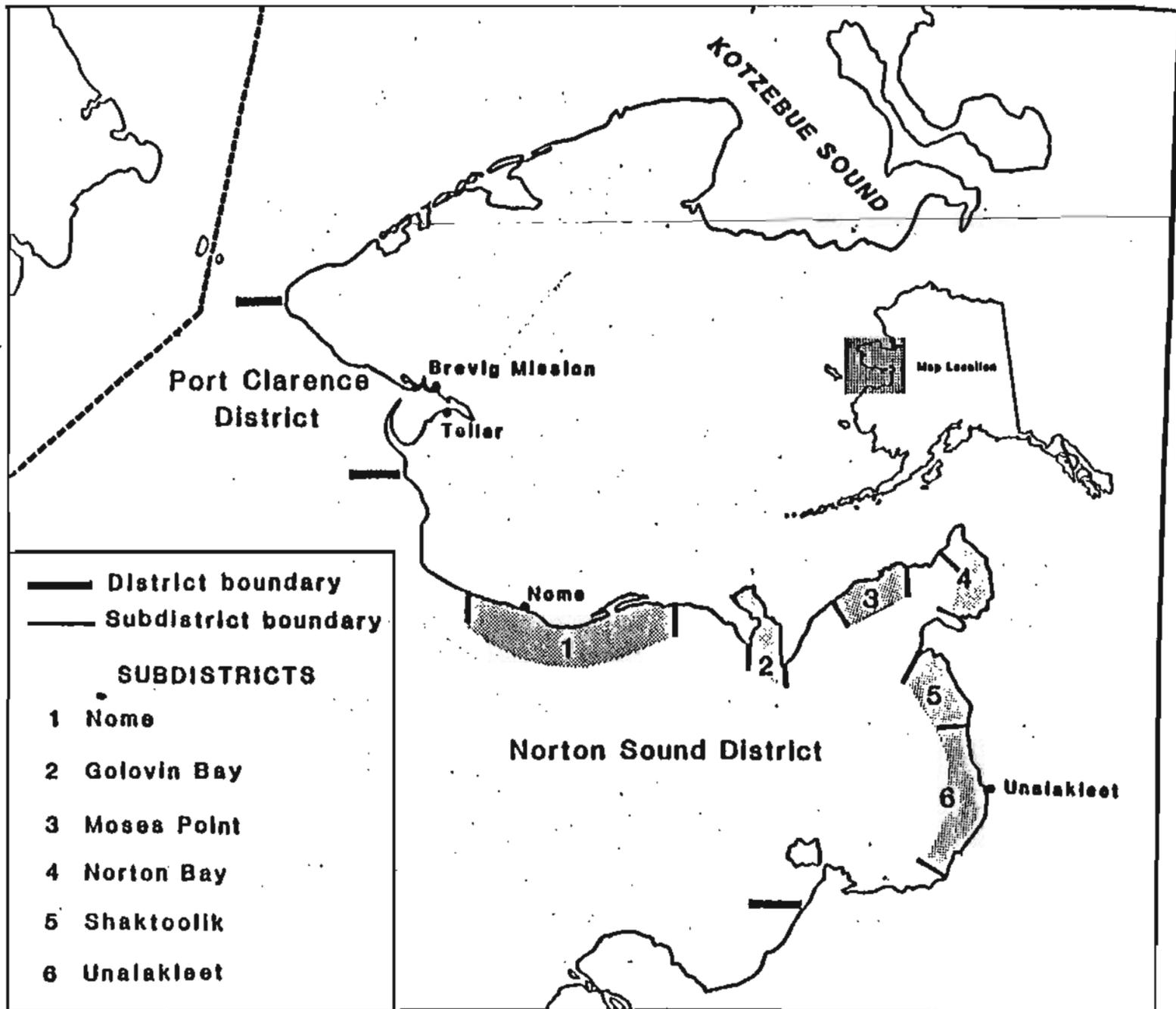


Figure 1. Norton Sound commercial salmon fishing subdistricts.



Vertical line on the left side of the page.