SOUTH UNIMAK AND SHUMAGIN ISLANDS JUNE SALMON FISHERY

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By

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INTRODUCTION

Figures 1, 2, and 3 indicate the location of the South Unimak and Shumagin Islands commercial salmon fisheries. The Shumagin Islands fishery takes place primarily along Popof, Unga, and Korovin Islands in the northern portion of the Shumagin Islands Section. Popof Head on Popof Island is usually the center of activity. The South Unimak (also called False Pass) fishery occurs in two major locations along the south side of Unimak Island. One area is from Ikatan Bay to Cape Lazaref on the southeast end of Unimak Island while the other is the vicinity of Cape Lutke on the southwest end of the island. Table 1 lists the South Unimak and Shumagin Islands sockeye and chum salmon catches from 1960 through 1997 and Table 2 lists sockeye salmon harvests prior to 1960. Unfortunately chum salmon harvest data for June prior to 1960 was not separated from the total season harvest figures. Appendices A.1, A.2, and A.3 list the harvests of all species of salmon during 1970 through 1997.

SOUTH UNIMAK HISTORY

The South Unimak June fishery dates back to at least 1911 (Table 2), though records prior to Statehood are sporadic.

Traps were operated in Ikatan and Morzhovoi Bays with 36 reported in 1919. The number of traps gradually decreased through the 1920s and 1930s and settled at 5-6 through the 1940s and 1950s. Records first reflect seine gear catches in 1935 (19 vessels), and indicate a little over a dozen seine vessels seasonally through 1940. Records reflect only half-a-dozen seiners from the mid 1940s through the 1950s, although it is believed effort increased to around 50 vessels in the early 1950s.

From 1960 through 1975 seine effort ranged from 5 to 26 vessels. Since 1975 seine effort has increased and peaked in 1992 when 111 vessels fished at South Unimak. Seiners move between the South Unimak and Shumagin Islands fisheries. When the Shumagins are closed, nearly the entire Area M purse seine fleet will be at South Unimak. Seine effort has declined in recent years at South Unimak due to poor fishing and low prices. The number of seiners fishing at South Unimak was 69, 64, and 52 for 1995, 1996, and 1997 respectively.

Records of gillnet catches prior to 1960 are not reliable, however, gillnet gear was used in this fishery (drift nets beginning in the 1950s). Gillnet effort (almost entirely drift nets) generally ranged from 20 to 45 vessels between 1960 and 1965. Drift gillnet effort increased to between 120 and 155 vessels in 1970 through 1973, fell to 80 in 1975 and rebounded to between 101 and 120 during 1976 through 1978. During 1979 through 1997 drift gillnet gear has ranged from 129 to 157, comparable to the 1970 through 1973 level. In 1997, 142 drift gillnet permit holders participated in the South Unimak June fishery.

Set gillnet gear accounts for a small portion of the South Unimak catch. The set net harvest averaged 1.9 percent of the sockeye and 0.8 percent of the chum salmon harvested at South Unimak during 1988 through 1997. Set gillnet gear has increased from 0 to 2 in 1970 through 1975 to

between 13 and 25 during 1989-1996. During the 1997 June fishery 31 set gillnet permits were fished, including 9 permits that moved to South Unimak late in the month after the Shumagin Islands fishery closed.

SHUMAGIN ISLANDS HISTORY

The Shumagin Islands June fishery dates back to at least 1911 (Table 2). However this fishery seems to not have developed significantly until 1922 when 550,000 sockeye were harvested. As with the case at South Unimak, information prior to Statehood is sporadic.

Traps were first recorded in the Shumagin Islands in 1919. The number of traps generally totaled 3 to 6 units and peaked at 8 in 1937. Seine catches have been recorded since 1911 and over 30 seiners fished the islands in 1943 and 1944. From 1962 through 1975, the seine effort usually consisted of 15-25 vessels. During 1984 through 1997, purse seine vessels numbered in the 45 to 77 range in the Shumagin Islands June fishery. During June 1997, 50 purse seine limited entry permit holders made at least one delivery in the Shumagin Islands Section. Normally some vessels move to South Unimak during mid and late June because of crowded conditions in the Shumagin Islands and the anticipation of better fishing at Unimak by some fishermen, this was not the case in 1996 and 1997 due to the poor fishing at South Unimak by seiners.

During 1970 through 1983 the number of set gillnet permit holders fishing in the Shumagin Islands during June ranged from 5 to 22. This increased to between 30 and 40 during periods when the Southeastern District Mainland fishery was closed in 1985 and 1986. From 1987 through 1996 the number of set gillnetters operating during June ranged from 44 to 53. In 1997, 49 set gillnet permit holders participated in the Shumagin Islands June fishery.

Drift gillnet gear is not allowed in the Shumagin Islands. The total units of gear operated in the South Unimak and Shumagin Islands for the years 1970 through 1997 are listed in Table 3.

REGULATIONS GOVERNING SOUTH UNIMAK AND SHUMAGIN ISLANDS FISHERIES

During the late 1960s and early 1970s, controversy arose between Peninsula-Aleutians and Bristol Bay fishermen concerning the South Unimak and Shumagin Islands June fisheries.

Beginning in 1975, the Alaska Board of Fish and Game established guideline harvest levels (GHLs) based on average historic catch levels. The GHL for the Shumagin Islands is 1.5% of the latest inshore Bristol Bay projected sockeye salmon harvest, while the South Unimak fishery was allocated 6.8% of the Bristol Bay inshore projected sockeye salmon harvest. The guideline harvest levels were further broken down into four time period harvest to distribute the catches throughout the month of June.

Although chum salmon have always been caught during the June fisheries, the unusually large catches of chum salmon in 1982 and 1983 caused concern by fishermen in the Arctic-Yukon-Kuskokwim Region. Beginning with the 1984 season, the Board of Fisheries (BOF) placed a limit on fishing time; not to exceed 96 hours per week and not more than 72 consecutive hours in order to allow "escapement windows". The purpose of the "windows" was to limit the chum harvest. Due to the high sockeye catch rate (and low chum to sockeye ratios) during 1984 and 1985, these restrictions were not implemented.

In 1986, the BOF placed a 400,000 chum salmon catch ceiling on both fisheries combined, eliminated fishing during the first 10 days of June, and eliminated fishing during the last quota period, June 26-30 (along with the sockeye quota for that period). These restrictions were for 1986 only. The additional restrictions during 1986 were the primary reasons for less than half of the combined South Unimak-Shumagin sockeye allocation being harvested.

In 1987, no restrictions were placed on the fishery that were additional to 1985 regulations. However, during 1988 and 1989 an annual 500,000 chum salmon catch ceiling was placed on both fisheries combined, by the BOF.

In 1988, the abundance of chum salmon was comparable to sockeye at South Unimak. This resulted in less than 40% of the South Unimak sockeye allocation being harvested before the chum salmon ceiling was reached. The sockeye abundance seemed higher in the Shumagin Islands and that fishery was able to harvest its allocation.

In 1989, the sockeye abundance was very high and the sockeye allocations were exceeded with very limited fishing time. The Shumagin Islands Section sockeye catch was 397,000 with an allocation of 264,000, while 1,348,000 sockeye were harvested at South Unimak with an allocation of 1,199,000 fish. A total of only 72 hours fishing time was allowed in the Shumagin Islands Section during 4 days. At South Unimak, 84 hours of fishing time was allowed with openings occurring during 5 separate days.

The 1989 chum salmon catch was 48,000 in the Shumagin Islands Section and 408,000 at South Unimak for a total of 436,700 fish. The ratio of chum to sockeye was high during the early part of the fishery and became unusually low towards the end.

After the 1989 season, the BOF made the following changes in regards to the South Unimak and Shumagin Islands June fisheries:

(1) The starting date of the fishery was delayed until June 13 because the chum percentage is normally higher during early June.

(2) The chum salmon ceiling for both fisheries combined was raised from 500,000 to 600,000.

(3) The "window regulations" were eliminated as there did not seem to be a need for both a chum ceiling and windows.

(4) The sockeye allocation periods and allocations were changed. The percent of the total allocation by period being the same for each fishery.

June 13-18	35%
June 19-25	45%
June 26-30	20%
TOTAL	100%

If catches in either fishery fall below the guidelines in the June 13-18 period, those unharvested sockeye, up to a maximum of five percent of the total allocation for that fishery, may be harvested during the June 19-25 period. The June 26-30 period cannot be used to make up for underharvests during the first two periods. The best available information and thinking was that the sockeye stock composition between the first two periods was very similar, however the June 26-30 stock composition at South Unimak-Shumagins may be dominated by fewer and later stocks.

(5) Unlimited seine leads were eliminated at South Unimak and leads of 50 to 150 fathoms are the only legal lengths for the entire Alaska Peninsula.

(6) For the first time, maximum depth restrictions were placed on seine and gillnet gear. For the entire Alaska Peninsula Area seine gear may not exceed 375 meshes in depth. Seine mesh size may not exceed 3-1/2 inches except the first 25 meshes above the lead line may not be more than 7 inches. No gillnet gear used along the South Peninsula may exceed 90 meshes in depth.

(7) The area comprising the South Unimak fishery was expanded to include the following portions of the Southwestern District located outside the Ikatan Bay Section:

(a) all waters north and west of a line from Cape Pankof Light to Thin Point.

(b) all waters enclosed by a line from Thin Point to Stag Point on Deer Island to Dolgoi Cape and from Bluff Point on Dolgoi Island to Arch Point.

In 1990, sockeye were not available in large numbers in the Shumagin Islands Section or at South Unimak despite the fact that Bristol Bay experienced one of its largest runs on record. Windy weather plagued fishing operations but fish abundance also seemed low, especially in view of the huge run that arrived in Bristol Bay. The Shumagin Islands sockeye salmon harvest was 256,000 fish compared to a guideline harvest level of 240,000. The Shumagin Islands Section was open to fishing for a total of 184 hours during 9 days. At South Unimak, the harvest was 1,091,000 sockeye salmon (1,087,000 allocation). A total of 64,000 chum salmon were caught in the Shumagin Islands Section and 455,000 were caught at South Unimak for a combined total of 519,000. The South Unimak fishery was open to fishing for 269 hours during 13 days.

In 1991, the fisheries were delayed until June 15 in an attempt to minimize the chum harvest. The percentage of chum salmon is normally high during early June and is lower when sockeye salmon

are peaking during mid June. Test fish results during 1991 confirmed this. The Shumagin Islands fishery harvested 333,300 of its 347,000 sockeye allocation and harvested 102,600 chum salmon.

At South Unimak, in 1991, a total of 1,216,000 sockeye (357,000 below the allocation) and 670,000 chum salmon were caught. The total South Unimak and Shumagin Islands chum salmon catch of 773,000 fish exceeded the cap by 173,000. The reason for the cap being exceeded was an unexpected large number of small chum salmon appearing at Cape Lutke and Sanak Island on June 24 and 25. The average weight of seine caught chum salmon dropped from 6.3 pounds on June 23 to 5.7 pounds on June 24 and 25. Some of the seine caught chum salmon on June 24 and 25 were said to be "skinny snakelike fish with no roe". During July, there are sometimes large numbers of chum salmon as described above in the vicinities of Sanak Island, Cape Lutke, Cape Lazaref, and in the eastern portion of the Aleutian Islands Area. These fish are of little or no economic value and appear in such large numbers that the department has had to close these areas to commercial salmon fishing. Past closures include: Cape Lutke in 1983, so many small chums were caught in such a short time that the department has not reopened this location in early or mid July during subsequent years. Akutan District in 1985, the only time that commercial salmon fishing effort was reported in this district during July. The Otter Cove and Sanak Islands Sections were closed to seining during July in 1989 and 1990.

Since 1991, the Alaska Department of Fish and Game (ADF&G) has been much more cautious when establishing fishing periods. The department has also closed the waters around Sanak Island to commercial salmon fishing during June. The Sanak Island waters are not a major sockeye harvest location and were only fished sporadically. However Sanak Island waters, at least during some years, contain large numbers of chum salmon.

The potential impact of the chum cap on the ability of the South Unimak and Shumagin Islands June fisheries to harvest their sockeye allocations is greater than the record indicates. In 1989 and 1990, the South Peninsula fisheries would have lost large numbers of sockeye due to the chum cap if the Bristol Bay sockeye run had been forecasted perfectly, resulting in much larger South Peninsula sockeye allocations (Appendix A.4).

It was evident that harvesting sockeye allocations with a chum salmon cap is very difficult and sometimes impossible, especially if the sockeye allocation is large. At its fall 1991 meeting, the BOB changed the chum salmon cap to 40% of the combined South Unimak and Shumagin Islands sockeye allocation and not to exceed 900,000 fish. However, this change generated much controversy from fishermen in the Arctic-Yukon-Kuskokwim (AYK) Region as the chum salmon cap would be 900,000 in 1992 and likely that amount for the next two or three years, based on initial long range Bristol Bay projections. The BOF decided to take the chum cap issue up again at it's spring 1992 meeting and the cap was again changed to 700,000 chum salmon, regardless of the sockeye allocation.

In 1992, the sockeye salmon allocations were 1,959,000 and 432,000 fish for the South Unimak and Shumagin Islands fisheries respectively. The fishery was delayed until June 15 due to the number of chum salmon in the Shumagin Islands test fishing. As of June 15 until the end of the fishery on June 26, sockeye to chum salmon ratios were very good. A total of 2,046,000 sockeye salmon were

harvested at South Unimak while the Shumagin Islands harvest was 412,000. The combined chum salmon harvest from both fisheries combined was 426,000.

In 1992, fishermen began pooling their chum salmon catches to reduce the incentive for targeting chum salmon. Instead of a fisherman being paid for the chum salmon he/she caught, payment was an average amount from all members that joined the pooling. In subsequent years this program has expanded to include nearly all, if not the entire fleet and was used through 1997.

In 1993, the South Unimak and Shumagin Islands sockeye salmon allocations were 2,375,000 and 524,000 fish respectively. Test fishing in the Shumagin Islands during June 7-11 indicated acceptable sockeye to chum salmon ratios. Consequently, fishing began on June 13, the earliest date allowed by the management plan. Sockeye to chum salmon ratios remained high in both fisheries until the last week in June. The Shumagin Islands sockeye to chum salmon ratio was 1.8 to 1 on June 26 as compared to 9.0 to 1 during the previous fishing day of June 21. The South Unimak sockeye to chum salmon ratio was 1.3 to 1 on June 29, well down from the June 27 ratio of 8.8 to 1. The total 1993 sockeye salmon harvest was 2,367,000 fish at South Unimak and 607,000 in the Shumagin Islands. The combined chum salmon catch from both fisheries was 532,000 fish.

In 1993, AYK chum salmon stocks were at low levels and very little commercial fishing was allowed on chum salmon. Subsistence fishing for chum salmon was not allowed in certain locations. Consequently, even though 1993-94 was not scheduled to be a BOF meeting year for the Alaska Peninsula Area, two meetings were devoted to the South Unimak-Shumagin Islands June fishery. The first meeting was non regulatory but resulted in the second meeting.

Changes made by the BOF during the spring meeting of 1994 in regards to the South Unimak-Shumagin Islands fisheries were to allow ADF&G to open the season earlier than June 13 if sockeye to chum ratios were favorable, and to completely eliminate the time period allocations. Elimination of time period allocations would have resulted in a substantially lower number of chums being harvested in 1993.

The 1994 sockeye salmon allocations were a record high, totaling 2,938,000 fish at South Unimak and 648,000 in the Shumagins. Test fishing in the Shumagin Islands indicated that sockeye to chum salmon ratios were poor and no fishing was allowed in the Shumagins until June 18. Test fishing initiated at South Unimak on June 15 and 16 had somewhat better results than results in the Shumagins and fishing started on June 17.

The 1994 fishery was characterized by low catch rates of sockeye and chum salmon but record June pink salmon catches. Sockeye to chum ratios were mediocre during most of the fishery and deteriorated at the end.

The total sockeye salmon harvest was very disappointing to fishermen and processors in the Alaska Peninsula Area. At South Unimak, 1,001,000 sockeye salmon (34% of allocation) were harvested. In the Shumagins 460,000 sockeye salmon (71% of allocation) were harvested. The combined chum salmon catch was 582,000 fish.

The 1994 Bristol Bay sockeye run was below forecast level but was still a very strong run which produced a Bristol Bay inshore harvest of over 35 million fish.

The sockeye salmon simply were not available in large numbers to the South Unimak and Shumagin Islands fisheries. Fishermen reported a drastic change in currents and colder inshore water temperatures.

Large numbers of chum salmon were reported to be in the South Unimak fishery throughout June but fishermen avoided areas with high chum concentrations. These tactics apparently not only decreased the chum salmon catch but reduced the fleets ability to harvest sockeye as the two species were reported to be together in large numbers at some locations.

Following the 1994 season, the BOF implemented the following changes:

1. June fishery cannot begin prior to June 11.

2. After June 24, in either the South Unimak or Shumagin Islands fishery, if the sockeye salmon guideline harvest level and the maximum allowable harvest of chum salmon have not been attained, and if the ratio of sockeye to chum salmon is two to one or less on any day, the next daily fishing period for seine and drift gillnet gear shall be of six hour duration in that fishery. After June 24, the South Unimak or Shumagin Islands fishery shall close for all gear types if the ratio of sockeye to chum salmon is two to one or less for any three aggregate days.

3. The BOF stated its intent that the maximum harvest or less of 700,000 chum salmon supersedes attempts to reach the sockeye salmon guideline harvest levels.

4. The BOF eliminated mesh size requirements for gillnets during the June fisheries.

In 1995, the sockeye salmon guideline harvest levels were another record high with 2,987,000 fish allocated to South Unimak and 659,000 to the Shumagin Islands for a total of 3,646,000.

Test fishing in the Shumagin Islands and at South Unimak indicated that the sockeye to chum salmon ratios were slightly higher than in 1994. Consequently both fisheries were opened on June 13, considerably earlier than in 1994. However, the sockeye salmon harvest rates were again low, similar to what occurred during 1994. Almost continuous fishing was allowed in both fisheries until the end of June, through June 30 at South Unimak, and June 29 in the Shumagin Islands where the sockeye salmon allocation was harvested.

In 1995, the South Unimak harvest was 1,451,000 sockeye and 342,000 chum salmon; the fishery was 1,536,000 under the guideline harvest level. The Shumagin Islands catch totaled 654,000 sockeye and 195,000 chum salmon and was only 5,000 under the sockeye salmon guideline harvest level. The combined harvest of both fisheries was 2,105,000 sockeye and 537,000 chum salmon; 1,541,000 sockeye salmon less than the guideline harvest level and 163,000 chum salmon less than the 700,000 cap. The combined sockeye guideline harvest level was not achieved because sockeye salmon were not available in large numbers at South Unimak. The Bristol Bay sockeye harvest was slightly larger than the forecast.

The 1996 South Unimak sockeye salmon guideline harvest level was 2,564,000 fish while that of the Shumagin Islands was 566,000. Based on test fishing results, the South Unimak fishery did not begin until June 15 and the Shumagin Islands did not open until June 18.

Sockeye salmon harvest rates were extremely low in both South Unimak and Shumagin Islands fisheries and almost continuous fishing was allowed. At South Unimak, despite continuous fishing from June 18 through June 30, only 572,500 sockeye salmon (23.3% of the allocation) were harvested. In the Shumagin Islands Section 456,500 sockeye salmon were caught, bringing the combined South Unimak-Shumagin Islands sockeye salmon harvest to 1,029,000 (33% of the allocation). The Bristol Bay sockeye run was smaller than forecasted but was still a very large run. A total of 360,000 chum salmon were harvested (130,000 at South Unimak and 230,000 in the Shumagin Islands), 340,000 fish below the 700,000 cap.

A summary of the 1962 through 1997 South Unimak-Shumagin Islands June regulatory history is in Table 4.

Appendix A.5 lists the total number of days and hours of fishing allowed by year during 1976 through 1997.

1997 SEASON SUMMARY

Based on the Bristol Bay forecast, the 1997 June guideline harvest levels were 1,840,000 and 406,000 sockeye salmon for the South Unimak and Shumagin Islands fisheries respectively.

Test fishing was conducted in both fisheries to determine when the sockeye to chum salmon ratios were high enough to allow a fishery. In contrast to previous seasons, when the test fishing goals set early in the season were at the level needed to harvest the entire sockeye salmon guideline harvest level, in 1997 if the ratio was over one to one an early fishing period would be considered. This was done because it appears that the best sockeye salmon fishing time was lost in prevous years while waiting for the ratio to improve. Advanced notice time prior to a fishing period was also reduced to as little as three hours.

The Shumagin Islands test fishing program remained unchanged from previous years, using one boat (usually a different one each day) to fish the east side of Popof Island. The South Unimak test fishing program was expanded to include three vessels. When weather permitted, two vessels fished at Cape Lutke while the other one worked the Cape Pankof to Cape Lazaref vicinity.

The South Unimak test fishing sockeye to chum salmon ratio reached 1.9 to 1 on June 12 and a fishing period was announced for June 13. Due to price disputes, fishing effort consisted of 58 to 97 gillnet boats from June 13 until June 18 when the price dispute was resolved. Sockeye to chum salmon ratios were very good at South Unimak ranging from 4.2 on June 22 to 10.8 on June 30 and almost continuous fishing was allowed from 6:00 a.m. June 13 through June 30. Sockeye catch rates were much stronger than in 1996 but the South Unimak fishery again fell far short of it's

guideline harvest level. A total of 418 hours was allowed all gear types at South Unimak during 18 days.

The total South Unimak harvest was 1,179,179 sockeye and 196,016 chum salmon. Table 5 lists the daily sockeye and chum salmon catches. At South Unimak, drift gillnet gear caught 76.0 percent of the total sockeye harvest and 65.1 percent of the chum salmon harvest. Purse seiners caught 14.8 percent of the sockeye salmon and 30.1 percent of the chum salmon. Set gillnetters accounted for 9.2 percent (a new high) of the sockeye and 4.8 percent of the chum salmon (Table 6). Daily sockeye per chum salmon catch ratios by gear are depicted in Figure 4.

The test fishing in the Shumagin Islands on June 11 resulted in a 2.3 to 1 sockeye to chum salmon ratio and a fishing period was announced for June 12. However no significant fishing occurred until June 18 due to a price dispute.

The Shumagin Islands fishery sockeye to chum salmon ratios were in excess of 3 to 1 except on June 19 when the tatio was 2.9 to 1. Fishing was allowed each day until June 26 when the sockeye guideline harvest level was reached. A total of 237 hours was allowed seine gear during 14 days in the Shumagin Islands while set gillnet gear was allowed 281 hours during 15 days. Set gillnetters are guaranteed 16 hours per day if the other gear types are restricted below that amount due to chum salmon concerns. The 1997 daily sockeye and chum salmon catches are listed in Table 5.

The total Shumagin Islands harvest was 449,002 sockeye and 126,309 chum salmon. Seiners harvested 75.5 percent of the sockeye and 93.8 percent of the chum salmon. Set gillnetters harvested the balance. Daily sockeye per chum salmon catch ratios by gear are depicted in Figure 5. The composition of sockeye and chum salmon harvests by gear during 1970 through 1997 are listed in Table 6.

The 1997 Bristol Bay sockeye run was much smaller than forecasted. The actual Bristol Bay Area harvest of 12,309,000 sockeye salmon was slightly under half of the forecasted inshore harvest of 24.8 million fish.

Appendix A.4 shows the South Unimak-Shumagin Islands sockeye salmon guideline harvest levels and what the guideline harvest levels would have been if the Bristol Bay sockeye salmon run had been perfectly forecasted.

It is not known what impact gear regulation changes during recent years have had on reducing chum salmon catches or reallocation among gear groups. Appendix A.6 lists the sockeye per chum salmon ratios by gear from 1970 through 1997.

Table 1. South Unimak and Shumagin islands June sockeye and chum salmon harvest[a], in number of fish, 1960-1997.

	Sockeye			Chum		
Year	South Unimak	Shumagin Islands	Total	South Unimak	Shumagin Islands	Total
1960	137,000	19,000	156,000	84,000	11,000	95,000
1961	199,000	55,000	254,000	157,000	36,000	193,000
1962	272,000	54,000	326,000	209,000	61,000	270,000
1963	116,000	33,000	149,000	36,000	36,000	72,000
1964	159,000	85,000	244,000	161,000	67,000	228,000
1965	568,000	207,000	775,000	121,000	45,000	166,000
1966	528,000	54,000	582,000	215,000	17,000	232,000
1967	186,000	69,000	255,000	73,000	51,000	124,000
1968	342,000	233,000	575,000	115,000	51,000	166,000
1969	781,000	76,000	857,000	254,000	13,000	267,000
1970	1,510,399	139,735	1,650,134	397,003	44,909	441,912
1971	422,760	39,341	462,101	405,311	103,886	509,197
1972	426,799	74,398	501,197	411,019	107,810	518,829
1973	222,586	22,964	245,550	177,720	22,910	200,630
1974	0	0	0	0	0	0
1975	190,774	49,325	240,099	65,279	35,543	100,822
1976	233,211	72,016	305,227	336,238	74,109	410,347
1977	195,680	45,912	241,592	94,215	21,899	116,114
1978	418,959	67,876	486,835	103,429	18,479	121,908
1979	672,293	179,139	851,432	63,153	40,953	104,106
1980	2,731,148	475,127	3,206,275	458,499	50,366	508,865
1981	1,470,563	350,572	1,821,135	509,911	54,071	563,982
1982	1,668,153	450,548	2,118,701	933,728	161,316	1,095,044
1983	1,547,369	416,494	1,963,863	616,390	169,277	785,667
1984	1,131,365	256,838	1,388,203	227,913	109,207	337,120
1985	1,454,969	336,431	1,791,400	324,825	109,004	433,829
1986	315,370	156,027	471,397	252,721	99,048	351,769
1987	653,536	140,567	794,103	406,077	37,064	443,141
1988	474,457	282,230	756,687	464,765	61,946	526,711
1989	1,347,547	396,958	1,744,505	407,635	47,528	455,163
1990	1,090,710	255,585	1,346,295	455,238	63,501	518,739
1991	1,215,658	333,272	1,548,930	670,103	102,602	772,705
1992	2,046,022	411,834	2,457,856	323,891	102,312	426,203
1993	2,366,573	607,171	2,973,744	381,941	150,306	532,247
1994	1,001,250	460,013	1,461,263	374,409	207,756	582,165
1995	1,451,490	653,831	2,105,321	342,307	195,126	537,433
1996	572,495	456,475	1,028,970	129,889	229,931	359,820
1997	1,179,179	449,002	1,628,181	196,016	126,309	322,325

[a] Number of salmon do not include test fish catches.

Table 2. South Unimak and Shumagin Islands sockeye salmon harvest, 1911-1959.

Year	South Unimak	Shumagin Islands	Total
1911	58,000	3,000	61,000
1912	144,000	31,000	175,000
1913	415,000	0	415,000
1914	610,000	0	610,000
1915	251,000	0	251,000
1916	539,000	0	539,000
1917	1,322,000	34,000	1,356,000
1918	733,000	44,000	777,000
1919	545,000	32,000	577,000
1920	954,000	60,000	1,014,000
1921	831,000	0	831,000
1922	2,775,000	550,000	3,325,000
1923	1,340,000	343,000	1,683,000
1924	971,000	237,000	1,208,000
1925	357,000	374,000	731,000
1926	1,898,000	491,000	2,389,000
1927	455,000	185,000	640,000
1928-1933		Unavailable	
1934	516,000	1,019,000	1,535,000
1935	210,000	549,000	759,000
1936	1,531,000	1,490,000	3,021,000
1937	803,000	498,000	1,301,000
1938	164,000	454,000	618,000
1939	474,000	707,000	1,181,000
1940	479,000	713,000	1,192,000
1941	206,000	294,000	496,000
1942	152,000	412,000	546,000
1943	428,000	1,356,000	1,784,000
1944	188,000	264,000	452,000
1945	218,000	375,000	593,000
1946	342,000	257,000	599,000
1947	782,000	229,000	1,011,000
1948	276,000	126,000	402,000
1949	84,000	167,000	251,000
1950	292,000	134,000	426,000
1951	82,000	35,000	117,000
1952	191,000	121,000	312,000
1953	191,000	105,000	296,000
1954	325,000	49,000	374,000
1955	315,000	52,000	367,000
1956	290,000	47,000	337,000
1957	50,000	44,000	94,000
1958	104,000	28,000	132,000
1959	58,000	78,000	136,000

Table 3. Salmon gear in South Peninsula waters during June, 1970-1997.

	Gear			
Year	Purse Seine[a]	Drift Gillnet	Set Gillnet	Total
1970	39	156	16	202
1971	37	122	8	166
1972	32	150	7	185
1973	16	121	7	142
1974	0	0	0	0
1975	20	81	8	108
1976	25	108	16	147
1977	17	101	13	131
1978	23	120	16	159
1979	40	132	26	196
1980	68	129	29	225
1981	83	135	25	243
1982	90	138	23	251
1983	100	146	35	282
1984	101	147	32	280
1985	107	150	48	305
1986	99	156	43	298
1987	86	144	60	290
1988	90	148	63	301
1989	99	145	61	305
1990	109	153	59	322
1991	112	157	65	335
1992	112	141	68	322
1993	116	140	72	328
1994	114	145	65	324
1995	112	151	68	331
1996	99	147	67	313
1997	81	142	69	292
1988-97 Average	104.4	146.9	65.7	317.3

[a] During the peak of the South Peninsula June fishery, (June 12-26), approximately 40-50 purse seine permit holders fish the Shumagin Islands Section fishery. During the few occasions when the South Unimak fishery is open and the Shumagin Islands fishery is closed, nearly the entire purse seine fleet fishes at South Unimak. Drift gillnet effort declines after June 20 as the fleet begins moving to the Port Moller fishery.

Table 4. South Unimak and Shumagin Islands June fisheries regulation history, 1960-1997.

Year	South Unimak	Shumagin Islands
1960-65	4.5 days per week	4.5 days per week
1966	4.5 days per week	7 days per week
1967-70	7 days per week	7 days per week
1971-72	5 days per week	7 days per week
1973	*Four 13 hour fishing periods per week	3.5 days per week
	*Both fisheries were closed by emergency order during June 25-28 due to indications of the Bristol Bay run being below escapement requirements.	
1974	No fishery	No fishery
1975-83	*6.8% of predicted Bristol Bay catch	1.5% of predicted Bristol Bay catch
	*Each sockeye allocation is broken down into time period guideline harvest levels.	
June 1 - 11	5%	9%
June 12 - 18	29%	28%
June 19 - 25	51%	41%
June 26 - 30	15%	22%
	100%	100%
1984-89	No more than 96 hours per 7 day period and no more than 72 hours of consecutive fishing time in each fishery (windows).	
1986	*6.8% allocation minus June 26-30 segment Windows No fishing before June 11	1.5% allocation minus June 26-30 segment Windows No fishing before June 11
	A 400,000 chum salmon ceiling placed on both fisheries combined.	

-Continued-

Table 4. (page 2 of 3)

Dates	South Unimak	Shumagin Islands
1987	*Same as during 1984-85 for both fisheries.	
1988-89	*6.8 of predicted Bristol Bay catch Windows	1.5% of predicted Bristol Bay catch Windows
	A 500,000 chum salmon ceiling placed on both fisheries combined.	
1990-91	The chum ceiling was increased from 500,000 to 600,000.	
	The "Window Regulations" implemented in 1984 to limit the amount of fishing time that could be allowed were deleted.	
	The season was delayed until June 13 and the time period sockeye allocations for both fisheries were changed as follow:	
	June 13-18 35% June 19-25 45% June 26-30 20%	
	The gear depth for seines was limited to 375 meshes of which mesh size may not exceed 3-1/2 inches except for the first 25 meshes above the lead line which may not exceed 7 inches.	
	The gear depth on gillnets along the South Peninsula was limited to no more than 90 meshes.	
	Seine leads may not exceed 150 fathoms for the entire Alaska Peninsula.	
1992-93	The chum ceiling was increased from 600,000 to 700,000 fish. The other regulations were the same as in effect for 1990 and 1991.	
1994	Sockeye time period allocations eliminated. ADF&G given flexibility to open fishery prior to June 13 if sockeye to chum ratios are favorable.	

-Continued-

Table 4. (page 3 of 3)

Dates	South Unimak	Shumagin Islands
1995-97	The amount of fishing time allowed for seine and drift gillnet gear after June 24 is limited if the sockeye to chum salmon ratio is two to one or less. The Board of Fisheries stated it's intent that the maximum harvest or less of 700,000 chum salmon supersedes attempts to reach the sockeye guideline harvest levels. The fisheries could not be extended into July regardless of weather during late June. Fishery cannot begin prior to June 11. Removed mesh size requirements for gillnets.	

Table 5. South Unimak and Shumagin Islands June sockeye and chum salmon daily catches, 1997.

Date	South Unimak		Shumagin Islands		Combined	
	Sockeye	Chum	Sockeye	Chum	Sockeye	Chum
June 1-11	Closed to commercial salmon fishing.					
12 [a]			576	171	576	171
13 [a]	41,889	4,888	Fishery Closed		41,889	4,888
14 [a]	48,953	7,216	0	0	48,953	7,216
15 [a]	39,282	5,928	668	291	39,950	6,219
16 [a]	62,567	8,894	0	0	62,567	8,894
17 [a]	56,021	8,035	592	136	56,613	8,171
18	94,816	15,762	34,857	10,645	129,673	26,407
19	108,535	18,956	62,695	21,312	171,230	40,268
20	114,720	17,781	44,625	8,988	159,345	26,769
21	84,391	13,041	64,871	17,987	149,262	31,028
22	75,544	18,090	34,509	10,563	110,053	28,653
23	72,959	15,513	57,911	16,025	130,870	31,538
24	79,606	16,357	34,248	10,599	113,854	26,956
25	85,973	12,724	54,239	15,247	140,212	27,971
26	76,206	10,220	59,211	14,345	135,417	24,565
27	60,408	11,142	Fishery Closed		60,408	11,142
28	41,660	7,742	"	"	41,660	7,742
29	14,285	1,749	"	"	14,285	1,749
30	21,364	1,978	"	"	21,364	1,978
Total	1,179,179	196,016	449,002	126,309	1,628,181	322,325

[a] Fishermen on strike.

Table 6. South Unimak and Shumagin Islands June fisheries, composition of commercial sockeye and chum salmon harvest in percent by gear type, 1970-1997.

	South Unimak						Shumagin Islands			
	Sockeye			Chum			Sockeye		Chum	
Year	Purse Seine	Drift Gillnet	Set Gillnet	Purse Seine	Drift Gillnet	Set Gillnet	Purse Seine	Set Gillnet	Purse Seine	Set Gillnet
1970	47.5	52.0	0.5	31.8	68.0	0.2	92.0	8.0	94.1	5.9
1971	25.3	74.7	0.0	19.5	80.5	0.0	89.4	10.6	96.8	3.2
1972	12.5	87.5	0.0	9.3	90.7	0.0	96.9	3.1	98.5	1.5
1973	9.6	90.0	0.4	6.6	93.3	0.1	87.3	12.7	94.3	5.7
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	22.9	77.0	0.1	28.9	71.1	0.0	97.5	2.5	97.4	2.6
1976	17.3	81.6	1.1	14.2	85.7	0.1	95.5	4.5	97.1	2.9
1977	15.2	83.9	0.9	10.5	89.2	0.3	94.9	5.1	99.0	1.0
1978	18.4	81.0	0.6	9.9	90.0	0.1	97.0	3.0	96.3	3.7
1979	70.6	29.2	0.2	30.1	69.8	0.2	92.4	7.6	95.7	4.3
1980	76.4	23.1	0.5	79.2	20.7	0.1	96.4	3.6	97.3	2.7
1981	50.7	47.1	2.2	63.5	36.2	0.3	94.8	5.2	98.7	1.3
1982	54.1	44.7	1.2	46.1	53.7	0.2	97.3	2.7	98.9	1.1
1983	60.4	38.7	0.9	65.8	34.0	0.1	97.4	2.6	99.6	0.4
1984	63.3	35.7	1.0	60.2	39.7	0.1	94.7	5.3	99.3	0.7
1985	61.3	38.0	0.7	38.7	61.1	0.2	94.8	5.2	96.0	4.0
1986	46.7	51.7	1.6	43.8	55.9	0.3	85.0	15.0	95.0	5.0
1987	36.5	61.4	2.2	38.3	61.1	0.7	76.0	24.0	93.4	6.6
1988	29.8	67.0	3.2	33.5	65.8	0.6	72.1	27.9	82.6	17.4
1989	59.4	38.0	2.5	52.1	47.3	0.7	90.9	9.1	93.6	6.4
1990 [a]	56.8	41.5	1.7	57.9	41.7	0.4	85.3	14.7	93.1	6.9
1991 [a]	53.5	44.4	2.1	61.2	38.2	0.6	80.6	19.4	93.3	6.7
1992 [a]	58.3	37.4	4.3	63.2	35.6	1.2	90.9	9.1	96.3	3.7
1993 [a]	59.1	38.1	2.8	66.2	31.6	2.2	87.5	12.5	97.9	2.1
1994 [a]	57.3	37.1	5.7	63.9	34.6	1.5	75.4	24.6	96.5	3.5
1995 [a,b]	42.1	54.6	3.3	47.1	50.5	2.4	81.5	18.5	93.7	6.3
1996 [a,b]	22.2	73.7	4.1	32.0	66.3	1.7	75.0	25.0	95.9	4.1
1997 [a,b]	14.8	76.0	9.2	30.1	65.1	4.8	75.5	24.5	93.8	6.2
1970-79 Average	23.9	65.7	0.4	16.1	73.8	0.1	84.3	5.7	86.9	3.1
1980-89 Average	53.9	44.5	1.6	52.1	47.6	0.3	89.9	10.1	95.4	4.6
1990-97 Average	45.5	50.4	4.2	52.7	45.5	1.9	81.5	18.5	95.1	4.9

[a] Gear depth limitations in effect.

[b] Gillnet mesh size restrictions eliminated.

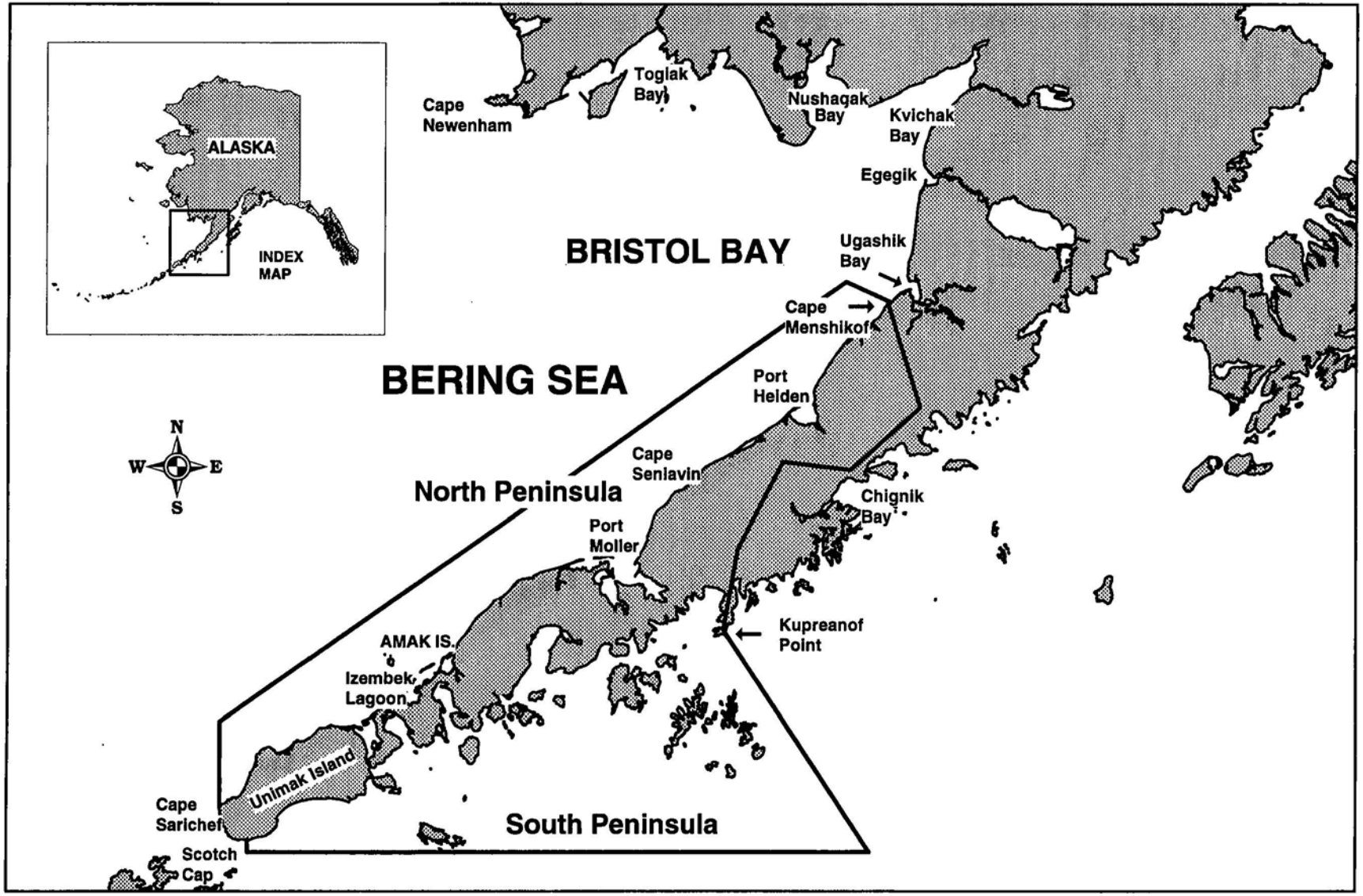


Figure 1. The Alaska Peninsula Management Area, denoting the North and South Peninsula.

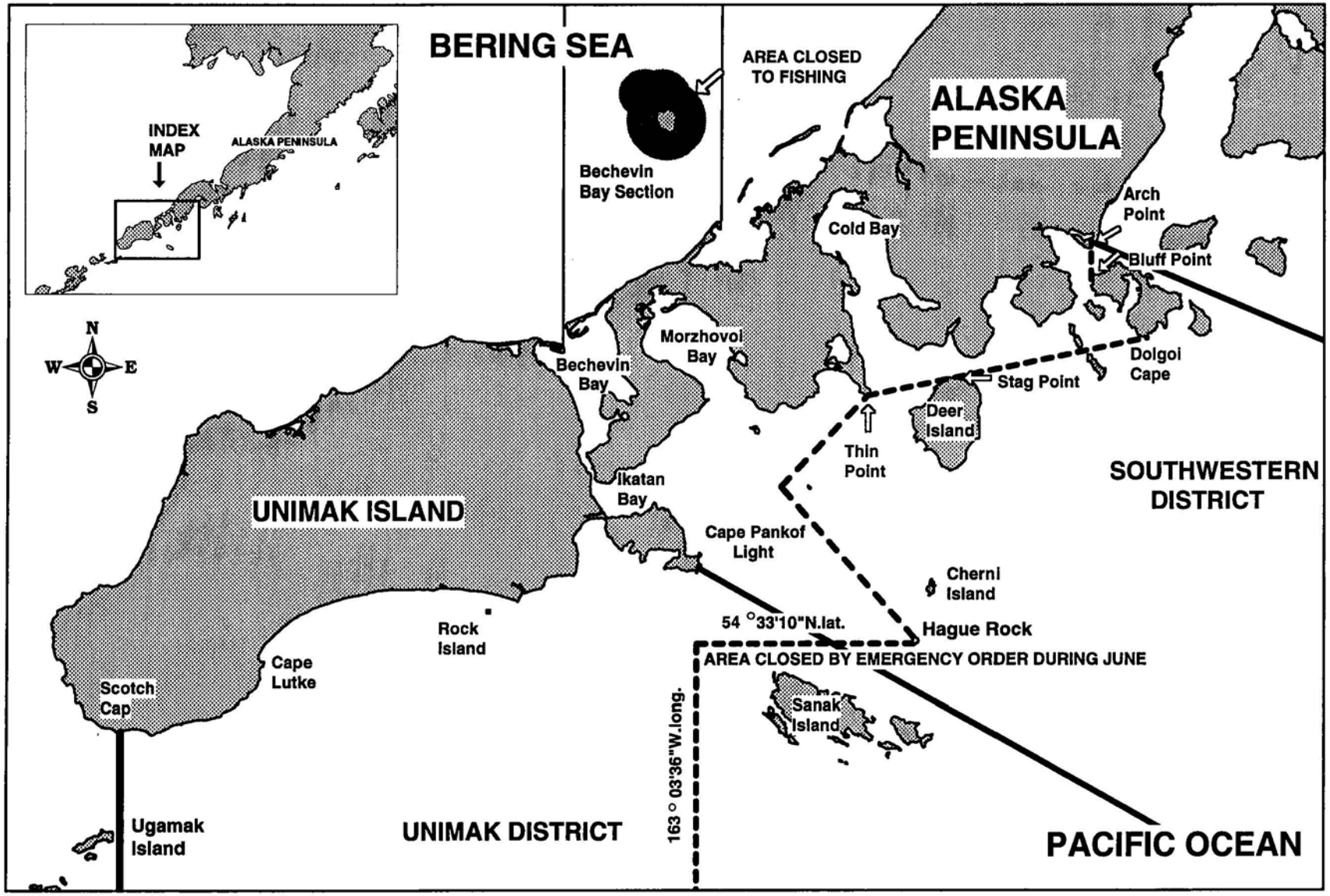


Figure 2. Map of the South Unimak June fishery.

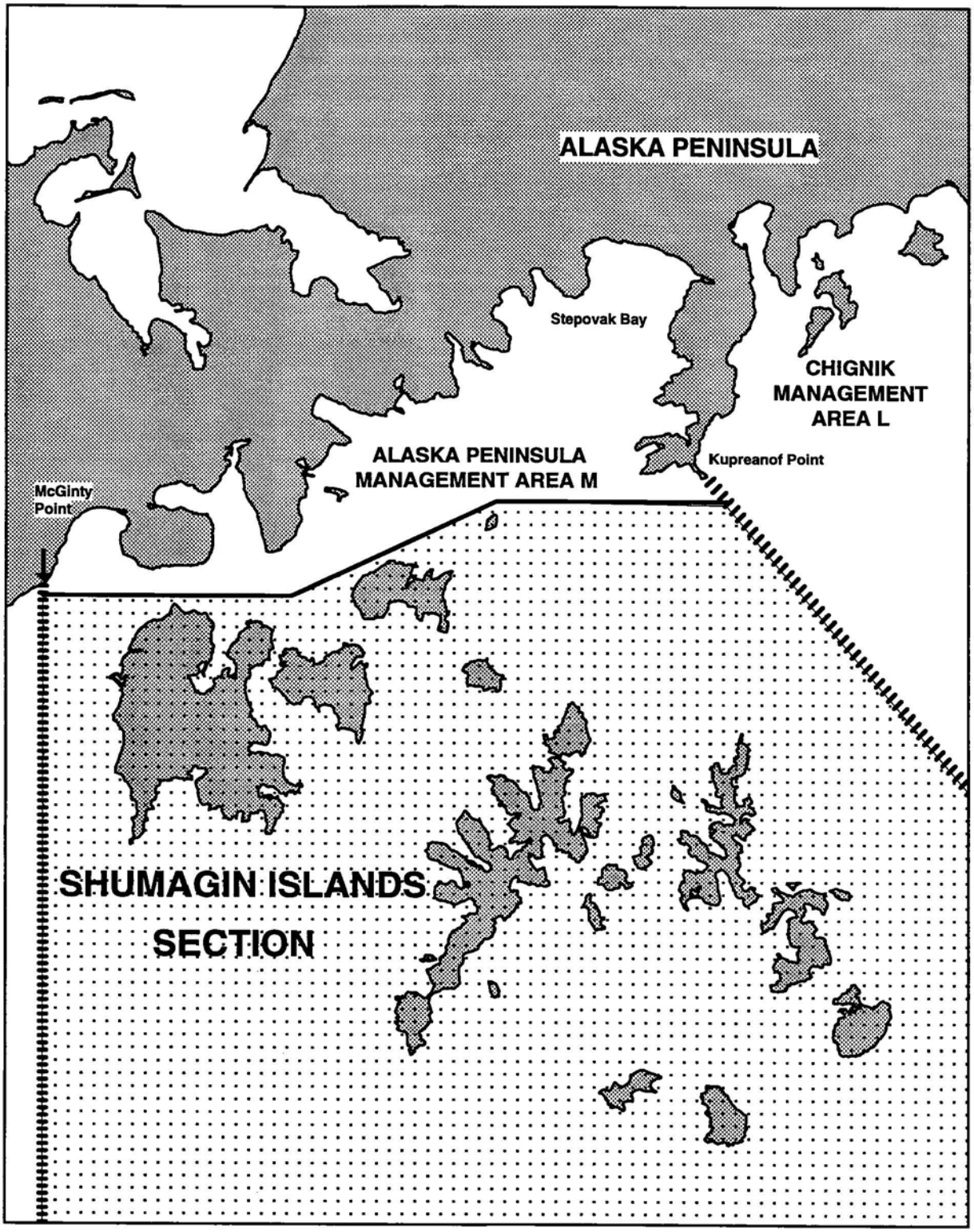


Figure 3. Map of the Shumagin Islands Section.

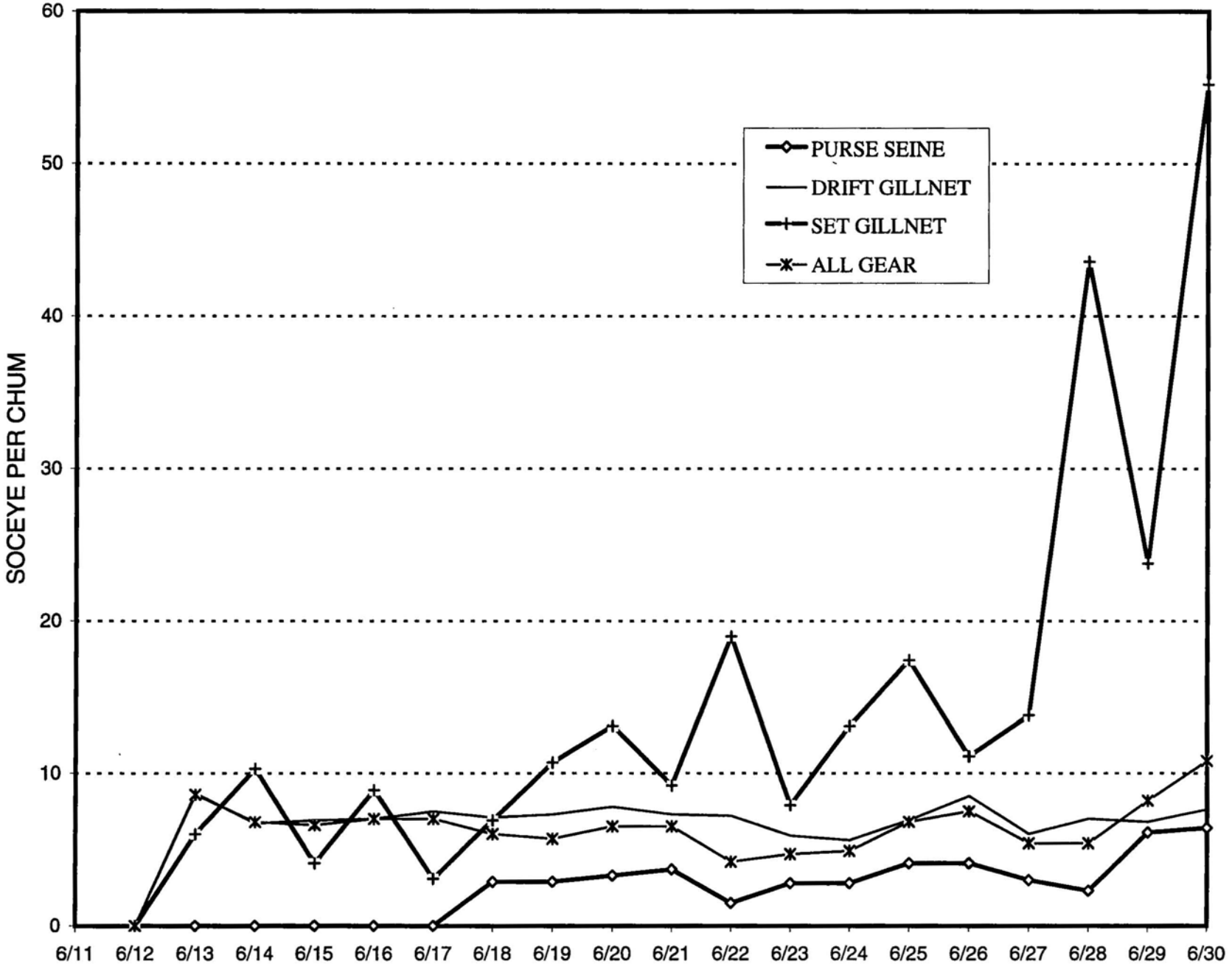


Figure 4. South Unimak June sockeye to chum ratio by gear by day, 1997.

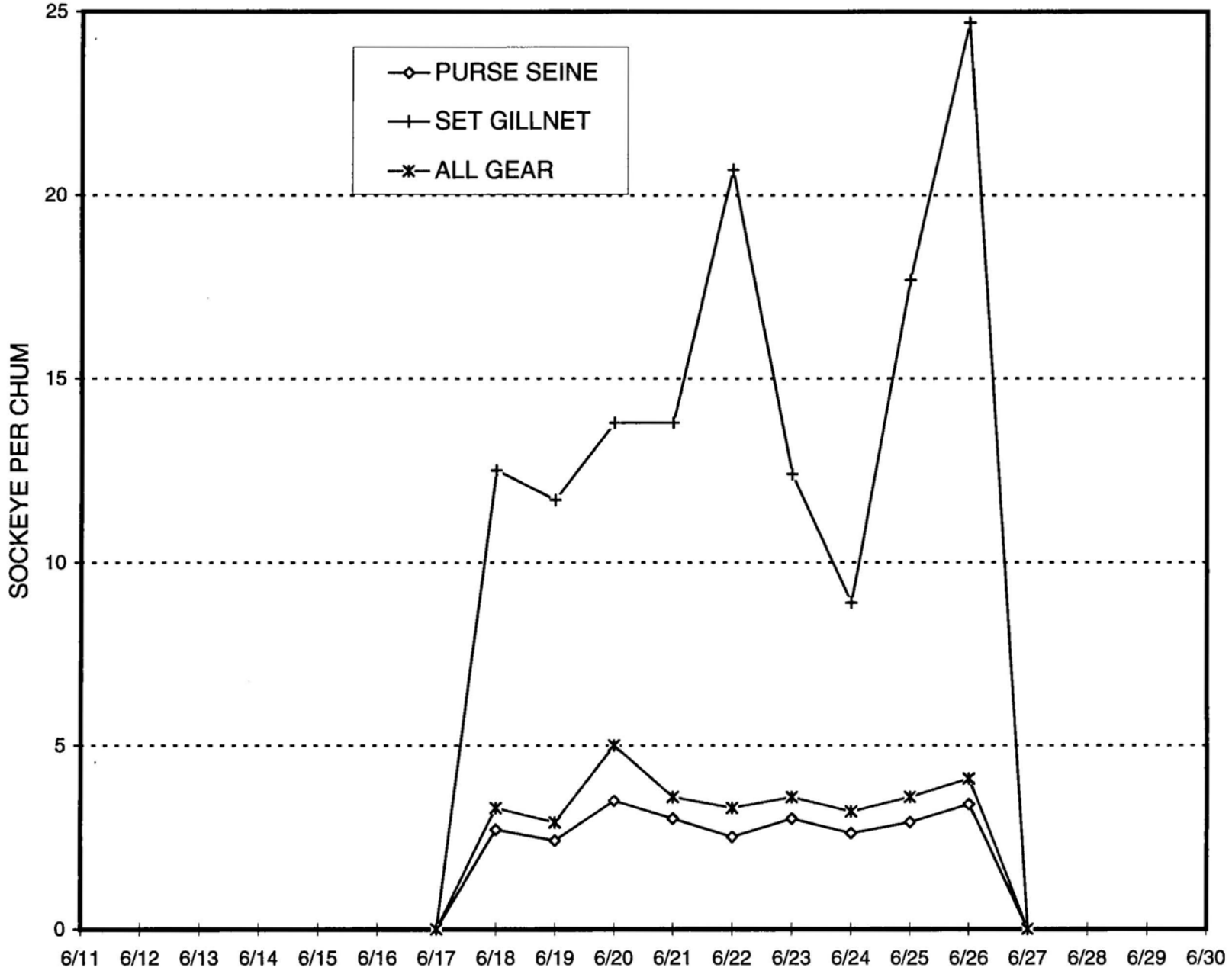


Figure 5. Shumagin Islands June sockeye to chum ration by gear by day, 1997.

APPENDIX

Appendix A.1. South Unimak and Shumagin Islands June salmon harvest[a], in number of fish, by species, 1970-1997.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1970	1,016	1,650,134	48	107,445	441,912	2,200,555
1971	828	462,101	1	19,240	509,197	991,367
1972	642	501,197	20	17,924	518,829	1,038,612
1973	247	245,550	28	19,430	200,630	465,885
1974	0	0	0	0	0	0
1975	117	240,099	1	5,247	100,822	346,286
1976	2,134	305,227	3	23,902	410,347	741,613
1977	521	241,592	0	5,398	116,114	363,625
1978	536	486,835	3	89,942	121,908	699,224
1979	1,053	851,432	290	154,813	104,106	1,111,694
1980	3,193	3,206,275	853	1,526,306	508,865	5,245,492
1981	5,672	1,821,135	320	451,252	563,982	2,842,361
1982	7,131	2,118,701	1,241	1,718,825	1,095,044	4,940,942
1983	13,463	1,963,863	496	55,875	785,667	2,819,364
1984	3,854	1,388,203	14	919,876	337,120	2,649,067
1985	5,777	1,791,400	2,468	106,615	433,829	2,340,089
1986	1,895	471,397	2	291,989	351,769	1,117,052
1987	5,163	794,103	380	16,982	443,141	1,259,769
1988	4,064	756,687	255	180,224	526,711	1,467,941
1989	2,758	1,744,505	0	199,235	455,163	2,401,661
1990	10,335	1,346,359	1	515,297	518,755	2,390,747
1991	4,567	1,553,150	12	620,108	776,120	2,953,957
1992	3,760	2,462,675	4	643,348	428,136	3,537,923
1993	9,552	2,978,453	1,233	81,176	533,270	3,603,684
1994	7,590	1,461,263	1,579	2,492,514	582,165	4,545,111
1995	14,747	2,105,321	6,042	178,635	537,433	2,842,178
1996	2,845	1,028,970	13,219	377,684	359,820	1,782,538
1997	5,811	1,628,181	560	605,937	322,325	2,562,814

[a] Numbers of salmon do not include test fish catches.

Appendix A.2. South Unimak June salmon harvest[a], in number of fish, by speices, 1970-1997.

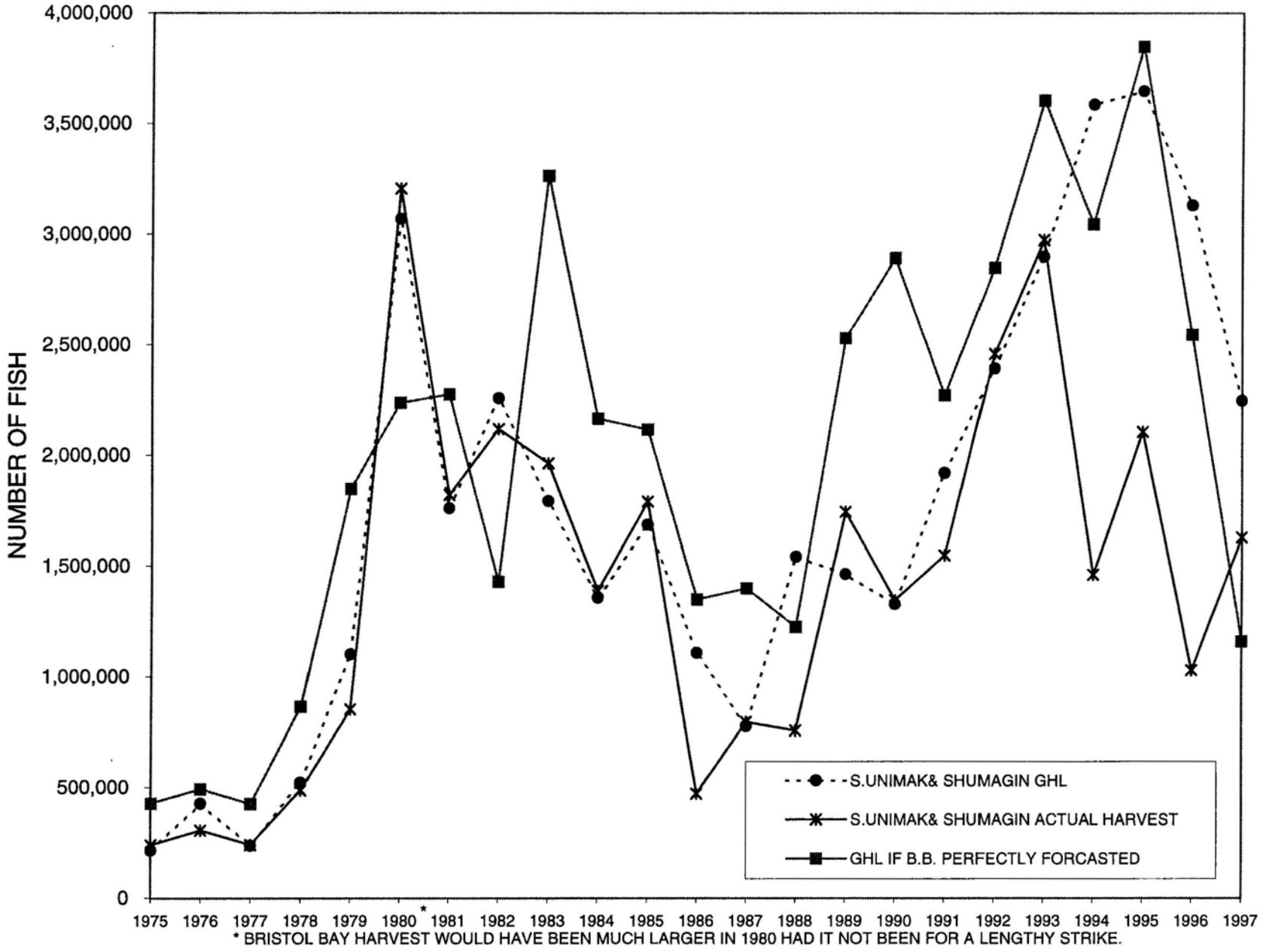
Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1970	868	1,510,399	46	87,717	397,003	1,996,033
1971	549	422,760	0	11,608	405,311	840,228
1972	400	426,799	4	11,906	411,019	850,128
1973	145	222,586	11	11,152	177,720	411,614
1974	0	0	0	0	0	0
1975	101	190,774	1	3,205	65,279	259,360
1976	1,829	233,211	3	18,259	336,238	589,540
1977	393	195,680	0	3,397	94,215	293,685
1978	269	418,959	3	47,380	103,429	570,040
1979	578	672,293	38	49,000	63,153	785,062
1980	2,927	2,731,148	853	1,140,611	458,499	4,334,038
1981	4,455	1,470,563	83	325,004	509,911	2,310,016
1982	5,577	1,668,153	1,241	1,032,154	933,728	3,640,853
1983	8,186	1,547,369	493	40,441	616,390	2,212,879
1984	2,024	1,131,365	0	470,688	227,913	1,831,990
1985	4,101	1,454,969	2	69,811	324,825	1,853,708
1986	1,363	315,370	1	150,674	252,721	720,129
1987	4,017	653,536	380	11,342	406,077	1,075,352
1988	2,125	474,457	11	86,678	464,765	1,028,036
1989	2,263	1,347,547	0	154,168	407,635	1,911,613
1990	8,465	1,090,710	1	444,442	455,238	1,998,856
1991	3,066	1,216,035	5	500,922	670,409	2,390,437
1992	2,373	2,046,022	3	501,127	323,891	2,873,416
1993	4,587	2,366,573	506	37,735	381,941	2,791,342
1994	4,468	1,001,250	1,271	1,731,741	374,409	3,113,139
1995	7,850	1,451,490	5,102	119,094	342,307	1,925,843
1996	1,228	572,495	11,730	146,799	129,889	862,141
1997	3,041	1,179,179	501	332,262	196,016	1,710,999

[a] Numbers of salmon do not include test fish catches.

Appendix A.3. Shumagin Islands June salmon harvest[a], in number of fish, by species, 1970-1997.

Year	Chinook	Sockeye	Coho	Pink	Chum	Total
1970	148	139,735	2	19,728	44,909	204,522
1971	279	39,341	1	7,632	103,886	151,139
1972	242	74,398	16	6,018	107,810	188,484
1973	102	22,964	17	8,278	22,910	54,271
1974	0	0	0	0	0	0
1975	16	49,325	0	2,042	35,543	86,926
1976	305	72,016	0	5,643	74,109	152,073
1977	128	45,912	0	2,001	21,899	69,940
1978	267	67,876	0	42,562	18,479	129,184
1979	475	179,139	252	105,813	40,953	326,632
1980	266	475,127	0	385,695	50,366	911,454
1981	1,217	350,572	237	126,248	54,071	532,345
1982	1,554	450,548	0	686,671	161,316	1,300,089
1983	5,277	416,494	3	15,434	169,277	606,485
1984	1,830	256,838	14	449,188	109,207	817,077
1985	1,676	336,431	2,466	36,804	109,004	486,381
1986	532	156,027	1	141,315	99,048	396,923
1987	1,146	140,567	0	5,640	37,064	184,417
1988	1,939	282,230	244	93,546	61,946	439,905
1989	495	396,958	0	45,067	47,528	490,048
1990	1,868	255,585	0	70,798	63,501	391,752
1991	1,407	333,272	7	118,215	102,602	555,503
1992	1,387	411,834	1	140,963	102,312	656,497
1993	4,879	607,171	727	43,401	150,306	806,484
1994	3,122	460,013	308	760,773	207,756	1,431,972
1995	6,897	653,831	940	59,541	195,126	916,335
1996	1,617	456,475	1,489	230,885	229,931	920,397
1997	2,770	449,002	59	273,675	126,309	851,815

[a] Numbers of salmon do not include test fish catches.



Appendix A.4. South Unimak - Shumagin Is. June salmon guideline harvest levels vs. hindsight guideline harvest levels.

Appendix A.5. South Unimak and Shumagin Islands June fisheries, number of fishing days and hours allowed by year, 1976-1997.[a]

	South Unimak		Shumagin Islands	
Year	Days	Hours	Days	Hours
1976	21	504	15	360
1977	11	264	21	504
1978	23	552	23	552
1979	33	792	28	672
1980	26	624	26	624
1981	24	576	20	480
1982	30	720	22	528
1983	11	264	10	228
1984	5	98	6	122
1985	9	144	9	142
1986	8	148	8	148
1987	12	226	5	76
1988	8	110	9	151
1989	5	84	4	72
1990	13	267	9	198
1991	8	158	5	88
1992	8	139	5	42.5
1993	10	176	8	140
1994	14	262	13	249
1995	18	366	17	339
1996	16	372	13	276
1997	18	418	14	237

[a] This includes fishing time allowed but not utilized due to price disputes.

Appendix A.6. South Unimak and Shumagin Islands June fisheries, sockeye per chum salmon ratio by gear type, 1970-1997.

	South Unimak				Shumagin islands		
Year	Purse Seine	Drift Gillnet	Set Gillnet	Total	Purse Seine	Set Gillnet	Total
1970	5.7	2.9	9.4	3.8	3.0	4.2	3.1
1971	1.4	1.0	0.0	1.0	0.3	0.0	0.4
1972	1.4	1.0	0.4	1.0	0.7	1.5	0.7
1973	1.8	1.2	4.4	1.3	0.9	2.2	1.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	2.3	3.2	0.0	2.9	1.4	0.0	1.4
1976	0.8	0.7	8.3	0.7	1.0	1.5	1.0
1977	3.0	2.0	5.8	2.1	2.0	10.6	2.1
1978	7.6	3.6	23.5	4.1	3.7	3.0	3.7
1979	25.0	4.5	15.1	10.6	4.2	7.7	4.4
1980	5.7	6.7	55.0	6.0	9.4	12.4	9.4
1981	2.3	3.8	21.0	2.9	6.2	25.4	6.5
1982	2.1	1.5	11.1	1.8	2.7	6.7	2.8
1983	2.3	2.9	14.9	2.5	2.4	16.3	2.5
1984	5.2	4.5	36.4	5.0	2.2	19.2	2.4
1985	7.1	2.8	14.8	4.3	3.0	4.0	3.1
1986	1.3	1.2	6.7	1.2	1.4	4.7	1.6
1987	1.5	1.6	5.2	1.6	3.1	13.8	3.8
1988	0.9	1.0	5.2	1.0	4.0	7.3	4.6
1989	3.8	2.7	12.7	3.3	8.1	11.9	8.4
1990 [a]	2.4	2.4	11.3	3.5	3.7	8.6	4.0
1991 [a]	1.6	2.1	6.5	1.8	2.8	9.5	3.2
1992 [a]	5.8	6.6	23.3	6.3	3.8	9.9	4.0
1993 [a]	5.5	7.5	8.0	6.2	3.6	24.1	4.0
1994 [a]	2.4	2.9	10.2	2.7	1.7	15.8	2.2
1995 [a,b]	3.8	4.6	5.6	4.2	2.9	9.9	3.4
1996 [a,b]	3.1	4.9	10.2	4.4	1.6	12.0	2.0
1997 [a,b]	3.0	7.0	11.5	6.0	2.9	14.0	3.6

[a] Gear depth limitations in effect.

[b] Gillnet mesh size restrictions eliminated.