

ANNUAL SUMMARY OF YAKUTAT FINFISH
AND
SHELLFISH OPERATIONS, 1993



By

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ABSTRACT

The 1993 Yakutat set gillnet fishery produced a cumulative catch of 598,830 salmon which was 82% above the average since 1960. It was the second highest catch recorded for the Yakutat area since 1941. It was worth about \$2,900,000 to the 158 active permit holders. The catch included 345,997 sockeye, 237,549 coho, 1,310 chinook, 4,065 chum and 9,909 pink salmon. Sockeye harvests ranged from above average in the Situk-Ahmklin, East, Alsek and Lost fisheries to below average for most of the other areas. The 1993 sockeye harvest of 345,997 was the highest since 1938 and accounted for 58% of the total salmon harvest in the Yakutat area. The Situk-Ahmklin catch of 104,049 was the fourth highest harvest since 1954, and the East River catch of 189,207 was the highest on record. Sockeye escapements were generally above average throughout the Yakutat area. Coho harvests for the Situk-Ahmklin, Itatio, Lost, and Tsiu Rivers were above average, while catches for most other systems were below average. The Situk-Ahmklin fishery was the area's top producer with a catch of 136,910, the highest harvest since 1954. The area's total coho salmon harvest of 237,549 was the second highest since 1941 and was 42% above the recent 10-year average. The area's chinook harvest was 8% above the recent 10-year average. Chinook salmon non-sale in the Situk-Ahmklin and Lost Rivers remained in effect for six of the eight weeks of the return. The Situk-Ahmklin catch of 789 was 52% above average and accounted for 60% of the total chinook harvest. The pink salmon harvest of 9,909 fish and the chum salmon harvest of 4,065 fish were well below average. Most of the pink salmon (8,757 fish) were caught in the Situk-Ahmklin fishery incidental to the sockeye harvest. The East River contribution of 3,423 chum salmon accounted for 84% of the Yakutat area chum salmon harvest.

INTRODUCTION/OVERVIEW

Yakutat Area Set Gillnet - 1993

The Yakutat set gillnet fishery (Figure 1) produced a cumulative catch of 598,830 salmon, which was 35% above the recent 10-year average (Tables 1 and 2). Sockeye salmon made up 58% of this year's harvest, while coho salmon accounted for 40%. Catches of pink and chum salmon were below average. The chinook salmon harvest of 1,310 was 8% above the recent 10-year average. The non-sale of chinook salmon from the Situk-Ahrnklin Inlet and Lost River fisheries remained in effect for six of the eight weeks of the return. The average setnet income of \$18,461 was 26% below the previous 10-year average (Table 3).

Sockeye Salmon

The sockeye harvest of 345,997 was 51% above the recent 10-year average, and was the highest catch since 1938 (Table 2). The Situk-Ahrnklin Inlet catch of 104,049 was the third highest since 1966. For the third year in a row, and only the fourth time since 1946, the Situk-Ahrnklin fishery recorded a catch of over 100,000. The Situk-Ahrnklin Inlet accounted for 30% of the total Yakutat area harvest. The return-per-spawner (R/S) was approximately 4:1. A total of 61,792 sockeye salmon passed through the Situk River Weir, slightly exceeding the escapement goal. The East River sockeye salmon catch of 189,207 was the highest catch on record. It was 69% above the recent 5-year average and accounted for 55% of the area harvest. The R/S from a parent-year escapement of 30,000 was approximately 7.8:1, the second highest on record.

The Alsek River catch of 20,043 was 36% above the recent 5-year average and was the second highest in the past ten years. The Klukshu Weir sockeye count of 16,740 was 13% below average for the years the weir has been in operation (1976 -1993). The Alsek abundance models predicted slightly higher catch and escapement levels. The Yakutat Bay harvest of 19,176 was 32% below the recent 5-year average, but well above the long term historical average. The combined Manby Shore fisheries catch of 3,873 was 78% below average, and the Akwe River catch of 3,973 was 39% below average.

Coho Salmon

The coho harvest of 237,549 was the second highest since 1954 and was 42% above the recent 10-year average (Table 2). The Situk-Ahrnklin Inlet with a catch of 136,910, and the Tsiu River, with a catch of 56,736, were the peak producers. The Situk-Ahrnklin fishery alone accounted for 58% of the Yakutat area harvest. The two rivers together, recorded 82% of the total harvest. The Itilio River and Lost River coho catches were above average, while most other areas, including the Alsek, East, Akwe, and Kaliakh Rivers,

Yakutat Bay, and the Manby streams were below average. Escapement counts ranged from below average to above average.

All streams from Cape Yakataga to 1/2 mile west of the Yahtse, except the Big River and Jetty Creek, remained closed to commercial fishing in 1993. Coho salmon were harvested from Jetty Creek and Big River. The average weight for all coho landed in Yakutat was 7.1 lbs per fish. This compares to the 1992 average weight of 9.6 lbs. The 1992 weight average is typical for coho salmon. The low average in 1993 implies a feed problem, the origins of which are unknown. Coho salmon landed in the troll fishery were also small, with an average of 5.6 lbs for the Yakutat districts.

The 1993 season was characterized by an extended period of drought. Precipitation was below average through August, and many small streams and tributaries were dry by early June. The drought did not appear to affect adult salmon migrations, but there may have been a considerable mortality on rearing coho in the small streams and tributaries. Ophir Creek, a local indicator of water conditions, was dry by early June. Some protection was afforded to both sockeye and coho salmon in Ophir Creek by two reservoir ponds dug in 1989 specifically for that purpose. This kind of protection was not available in most other systems, and many juveniles were probably lost.

Chinook Salmon

The chinook salmon harvest of 1,310 was 8% above the recent 10-year average (Table 2). Chinook salmon non-sale for the Situk-Ahmklin Inlet and Lost River was in effect for six of the eight weeks of the season. The chinook harvest of 789 from the Situk-Ahmklin fishery was above average. The final weir count of 871 large chinook slightly exceeded the upper range of the escapement goal. The Yakutat Bay catch of 148 was 45% below average.

The Alsek River harvest of 300 was 59% above the recent 5-year average. Catches were affected by the earlier opening date, as most of the harvest was recorded during the first week of the season. The Klukshu Weir escapement of 3,302 was the second highest on record since the weir was first operated in 1976. The harvest of 13 chinook salmon in the East River was below the recent 5-year average of 37. The Akwe River catch of 30 was 81% below the recent 5-year average.

Pink Salmon

The pink salmon harvest of 9,909 was 68% below the recent 10-year average (Table 2). The Situk-Ahmklin Inlet catch of 8,757 accounted for 88% of the Yakutat area harvest. A peak escapement count of 13,000 in Humpback Creek exceeded the escapement goal of 10,000, but there was little economic incentive to target pink salmon and no harvest was recorded from this area. Approximately 16,000 pinks were counted through the Situk Weir. Almost no harvest was recorded from the East, Alsek, Akwe, or Lost Rivers, and none at all from any of the fisheries west of Yakutat Bay.

Chum Salmon

The chum salmon production was also poor. The area harvest of 4,065 was 73% below the recent 10-year average (Table 2). The East River was the major chum salmon producer, but the catch of 3,423 was 67% below the recent 5-year average and accounted for 84% of the total harvest. Chum escapement was observed in the East River, but chum there are mixed with both coho and sockeye salmon, and no separate counts were made.

Yakutat Area Troll - 1993

The 1993 troll season in the Yakutat area opened on July 1. Trolling for chinook salmon was not open during the month of June as it had been during the four previous years. Chinook harvest was allowed during three periods this summer, from July 1-6, from August 21-25, and from September 12 through the end of the trolling season on September 20. Both the chinook and the coho harvest were more than double the previous 10-year average. Overall effort was slightly below average, with 125 vessels (29 hand troll and 96 power troll) reporting harvest from the Yakutat districts (Tables 4, 5, and 6).

A chronology of the Yakutat trolling season is as follows: the winter troll season, for chinook salmon only, closed on April 14 with a catch for the calendar year of 64 recorded from Yakutat Bay. Yakutat Bay is the only area open to trolling during the winter. Trolling reopened at 12:01 a.m. on July 1 for all species of salmon except coho. This period closed at 11:59 p.m. on July 6. On July 2 it was projected that the chinook escapement goal in the Situk River would not be met, and the state waters in the area of the mouth of the Situk-Ahrnklin Inlet were closed to trolling from July 4-15. The general summer season for all species except chinook salmon reopened at 12:01 a.m., July 12. An 8-day allocation closure occurred from August 13-20. When the fishery reopened on August 21, chinook salmon were allowed to be retained for five days, through August 25. On August 7, specific Yakutat restrictions established by the Board of Fisheries in 1984 went into effect. These restrictions closed state waters off the mouths of the Situk-Ahrnklin Inlet and Lost River to trolling for the season, and made weekly troll time in other state waters of Yakutat from approximately Grand Plateau Glacier to Sitkagi Bluffs the same as weekly setnet time on the Situk-Ahrnklin fishery through September 20, the last day of the summer troll season (Figure 2). The August 21 troll opening coincided with a closure of the Situk-Ahrnklin setnet fishery, and trolling did not reopen in the state waters from Grand Plateau Glacier to Sitkagi Bluffs until noon, Monday, August 23. On September 3 it was announced that approximately 11,000 fish remained to be taken on the quota, and trolling for chinook salmon remained open from September 12 through the end of the season.

The chinook salmon troll catch of 15,194 was 119% above the recent 10-year average (Table 6). Over 6,000 chinook salmon, or 41% of the total harvest, were landed during the third week in September. The peak effort week of 20 hand and 64 power trollers occurred during Statistical Week 38. Trolling accounted for 92% of the chinook harvested in Yakutat (Table 7).

The troll coho catch of 270,355 was the highest catch in the past ten years, and 145% above the 10-year average. Trolling accounted for 53% of the coho harvested in Yakutat. Troll-caught coho averaged 5.6 lbs per fish, which was well below average. Coho returns were strong to both Southeast Alaska and Yakutat. The power troll effort of 96 vessels was 2% below the recent 10-year average of 104, and well below the peak effort levels of 1985, 1986, and 1990. The peak effort week of 84 trollers (20 hand and 64 power trollers) occurred during the second week of September. The total effort of 125 vessels was 8% below the recent 10-year average. Trolling was concentrated in state and federal waters off the Yakutat forelands and in Yakutat Bay. Effort in the waters of the Yakataga District was very light with only one vessel fishing district 191. The approximate exvessel value of troll caught chinook and coho salmon caught in the Yakutat area was \$2,257,141 (Table 8).

SALMON - YAKUTAT DISTRICT

Alsek River

The Alsek River sockeye harvest of 20,043 was 36% above the recent 5-year average, and the second highest catch in the past ten years. The 1988 parent-year index escapement of approximately 7,700 sockeye through the Klukshu Weir produced a catch of 20,043 sockeye and a Klukshu River escapement of 16,740 (Tables 9 and 10). The catch slightly exceeded the 1992 catch of 19,310. The weir count of 16,740 was 13% below the average of 19,330 for the years in which the weir has been operated.

Based on the 1988 escapement of 585 early and 8,756 late run sockeye, both the early and late sockeye returns were expected to be below average. The initial opening was delayed by emergency order from the first to the second week in June. This opening was limited to one 24-hour period in order to conserve chinook salmon and the early segment of the sockeye return. Catches and catch per unit of effort (CPUE) were carefully monitored inseason to assess run strength for possible extensions of fishing time. Parent-year escapement information and the model projections were also factors in determining the weekly fishing periods. Fishery performance during the first two weeks of the season indicated that the early segment of the sockeye return was strong. Fishing time was extended to two days during the second week of the season, and to three days during the third week of the season. Fishing time was reduced to two days during the next two weeks. Both the abundance models and the CPUE figures continued to indicate a strong return, and fishing time was extended to three days for the last two weeks of July. With the decrease in effort because of the East River sockeye return, the Alsek fishery was extended to four days for the first week of August before returning to three days for the final week of the sockeye season.

The adjustments to the weekly fishing periods relied heavily on fishery performance data, and the decision of whether or not to extend any given period was often based on catch and CPUE figures gathered in-season during that particular period. Both the harvest rate and the regression abundance models, tend to get more accurate with time and are of limited use for management purposes early in the season. The

1988 parent-year escapement figures indicated below average returns in 1993. During the second week of the season, catch and CPUE were well above average, and fishing time was extended to three days for the third week of the season. Catch and CPUE for the next two weeks remained about average. The decision not to extend time during this period was made with the poor parent-year in mind. Fishing time was eventually added as both the models and the fishery performance continued to show an above average return. Catch and CPUE figures were again affected by the additional effort that was directed toward the Alsek stocks during closed periods on the East River through the third week of July. The Alsek River openings of two and three days coincided with one and two day openings for the East River. During the second week of July, both rivers remained on a 2-day period, and effort in the Alsek fishery remained low that week. During the rest of the early part of the season, several setnetters fished the first 24 hours on the East River, then switched over to the Alsek fishery to take advantage of the extra fishing time. Indications of good catches and CPUE during the first 24 hours in the Alsek became attenuated as East River setnetters moved into marginal or less productive sets on the Alsek River. The peak effort of 30 setnetters was recorded during the first and second weeks of the season, and effort levels remained high until the East River sockeye return began to show strength during the last week in July.

The harvest rate and the regression models both overestimated the Klukshu River return. The harvest rate model final estimate exceeded the actual return by about 15%, and the regression model over estimated it by about 8%. Effective escapement through the Klukshu Weir is figured by deducting the Indian food harvest above the weir from the total weir count. A total of 1,149 sockeye salmon were harvested in the food fishery above the weir, along with 12 sockeye taken for brood stock. This left an effective escapement of 15,579. The escapement counts for the Tanis River were below average, while the escapement count of 4,800 in Basin Creek was the highest count ever recorded for that system (Table 10). The Village Creek count of 3,135 was below average, but the counter has only been used in recent years and has a history of technical problems.

The Klukshu Weir sockeye salmon escapement counts have been divided into early and late return segments. The cutoff date between the two segments is August 15. The 1993 early return escapement of 5,369 came primarily from the 1988 early return escapement of 585. This produced an estimated return-per-spawner (R/S) of approximately 9.2:1. This R/S ratio does not take into account any United States harvest. An adjustment of approximately five weeks to allow for travel time from the fishery area to the weir showed that 13,602 sockeye, or 68% of the total harvest, were probably early return fish. If 60% of this catch were Klukshu River fish, then the R/S becomes almost 23:1. Applying the same reasoning, but allowing six weeks travel time instead of five only lowers the R/S to 20:1. The R/S figures for the late run were much lower. This year's catch and Klukshu escapement off the parent-year late return escapement of approximately 8,760 sockeye showed a R/S of around 1.7:1. Using the same computations for the total 1993 return off the total 1988 escapement, the R/S ratio becomes 3.7:1.

At the present time, these R/S figures are conjecture and must be viewed as an oversimplification. The Klukshu River contribution has been estimated at 37% to 60%, and probably varies from year to year. A total drainage enumeration has not been possible. Percentages of contributions for other Alsek systems have not been estimated. Annual escapements to Village Creek were high in the previous three years, even with some counter problems. This year's escapement of 3,135 was a return off a parent-year

escapement of 433, again, without counting any U.S. interception, a R/S of approximately 7.2:1. The 1988 count of 433 was incomplete due to equipment malfunction, and the actual R/S was probably lower. Early return contributions of U.S. stocks are unknown. Basin Creek is flown only a few times a year, and escapement is usually not seen until late in the season. Tanis River stocks also show up late in the season, but any interception of Tanis stocks occurs in the intertidal area and most of the commercial effort is too far upstream to have much of an effect on Tanis fish.

The chinook salmon harvest of 300 was 59% above the recent 5-year average and was 42% above the 1983 to 1992 average. However, it was well below the average since 1960 of 870. A total of 228, or 76% of all the chinook harvested, were caught during the initial one day opening. The catch of 13 chinook salmon in the East River was 65% below the recent 5-year average. The Klukshu escapement of 3,215 (after deduction of 87 taken above the weir) was 49% above the average and the second highest count in the history of the weir (1976-1993).

The coho salmon harvest of 1,215 was 72% below the recent 5-year average. Fishing times were maintained at three days per week for the first five weeks of the season. Fishery performance remained poor and fishing time was reduced to two days for the fourth week in September. The Alsek was closed for the final two weeks of the season as a conservation measure. The preliminary Klukshu Weir count of 788 was 44% below average; however, the weir is usually removed prior to completion of the coho return. Coho escapement counts for the Tanis River and Cabin Creek were below average. The chum salmon catch of 49 was 91% below average.

Range markers were used to delineate the commercial surf fishing area on the east side of the river mouth. No markers were placed on the west side due to surf action there. Markers used to close the mouths of Williams, Gines, and Emile Creeks may have been removed by flood conditions, and may need to be replaced in 1994.

East River

The East River sockeye salmon harvest of 189,207 was the highest catch on record and 69% above the recent 5-year average (Table 11). This marked the sixth year since 1985 that the fishery has recorded a catch of over 100,000. The East River harvest accounted for 55% of the area's sockeye production. The fishery remained on extended fishing time during the peak of the sockeye season. The peak week count of 84 fishers during the second week of August was slightly above the recent 5-year average. A record weekly catch of 66,461 fish was recorded during that same week. The chinook harvest of 13 was 65% below the recent 5-year average.

The commercial fishery opened on June 28. Fishing time of one day per week was maintained for the first two weeks of the season because of inadequate escapement. Fishing time was increased to two days during the second and third weeks of July. The escapement built steadily and the weekly fishing periods were increased to three, four, and five days by the third week in August. An escapement survey on

August 23 revealed that the escapement goal had been exceeded, and the fishery remained open from August 23 through September 3. This was the longest continuous fishing period on record for the East River fishery. Fishing time was returned to the normal fall fishing time of three days per week for the remainder of the coho season.

As is usual for the East River fishery, catch and effort were divided between the three user groups by fishing location: inriver, surf, and ocean (Table 12). The inriver setnetters caught approximately 36% of the harvest; the first time on record that the inriver fishers accounted for less than 50% of the catch. The surf fishers caught approximately 40% of the harvest. Excellent weather conditions favored the ocean fishers in 1993, and 24% of the catch was taken in the ocean area, which was fished for four weeks during the sockeye return. The ocean nets were most effective during the first two weeks of August, the peak of the return. The ocean nets accounted for approximately 47% of the catch during the first week of August, and approximately 31% during the second week. The surf nets were most effective during the second week of August. Of the 66,461 sockeye harvested that week, surf fishers accounted for approximately 49% and inriver fishers accounted for approximately 20%.

The Doame River sockeye escapement counts were well above average. A survey flight on June 21 revealed the peak escapement count of 2,200 sockeye in the Doame. A later survey on September 22 revealed 3,200 sockeye in a small tributary of the lower Doame. The East River escapement built slowly until the last week of July, but improved rapidly from that point on. An aerial survey on August 23 revealed a peak escapement count of 45,000 (Table 13). This count exceeded the upper end goal by 10,000 fish. The R/S in the East River was approximately 7.8:1, the second highest on record, and well above the average R/S of approximately 4.1:1 (Table 14). The 1993 return of 234,200 fish came from a parent-year escapement of approximately 30,000.

A peak count of 39 setnetters fished the surf area during the second week of August. This compares to the peak count of 26 that fished the surf area during the same week in 1992. With the exception of the four or five nets in the immediate vicinity of the mouth, all of the gear in the surf area consisted of pulley systems. The majority of these pulley systems were located to the east of the river mouth for a distance of approximately one mile. No markers were placed on either side of the mouth to delineate the pulley-free zone of 100 yards, and no pulley systems were observed within the 100-yard limit.

The East River coho salmon catch of 4,529 was 62% below the recent 5-year average. However, the recent average contains the two highest catches on record, and this year's harvest was almost double the long term historical average. Effort remained high during the early part of the run as sockeye were still being targeted. The peak count of 39 fishers during the last week of August was above average. Effort levels dropped to 28 and then 19 during the first two weeks of September. A total of 2,614 coho, or 58% of the harvest, were caught during those two weeks. Fishing time was maintained at 5.5 days during the early part of the coho run to allow harvest of the late portion of the sockeye run. The normal 3-day period was maintained for the last five weeks of the season. The river was open, but not fished, during the last week of the season. A peak escapement count of 3,500 coho was recorded in the East River on October 6. A survey that same day revealed 6,000 coho in the Doame River, and this count was well above average.

The chum salmon catch of 3,423 was 67% below the recent 5-year average of 10,358. The East fishery is the major chum producer in Yakutat, and this catch accounted for 84% of the Yakutat area harvest. As chum salmon were mixed with sockeye and coho salmon, no separate escapement counts were made.

Akwe River

This year marked the fourth year in a row of poor sockeye production for the Akwe River. The sockeye salmon harvest of 3,973 was 39% below the recent 5-year average (Table 15). This was the second poorest catch since 1978. To some extent, the poor catches of the past three years have been a function of reduced effort on the Akwe. An average of five setnetters have fished the river for sockeye in the three recent years, while the average for the previous ten years was 12. The Akwe fishery opened on June 28, and fishing time was maintained at 1.5 days for the first two weeks of the season. Fishery performance improved during the third opening, and fishing time was extended to the normal 2.5 day opening for the next two weeks. As fishing performance declined, fishing time was returned to 1.5 days for the last week of the sockeye season. Fishing time remained at the reduced level of two days during the first two weeks of the fall to assist sockeye escapement. The peak effort of four setnetters was recorded during the first week of the sockeye season. The peak week harvest of 1,767, approximately 45% of the total harvest, was recorded during the third week of the season. The chinook harvest of 30 was 81% below the recent 5-year average.

Aerial surveys of the Akwe River in recent years have been of little value in determining escapement due to the turbidity of the river. With very low water levels throughout the 1993 season, the visibility was much improved over previous years and a peak aerial count of 800 sockeye salmon was recorded on July 16. A foot survey of a main spawning tributary located near the outlet of Akwe Lake was conducted on August 28 and a total of 3,800 sockeye salmon were observed (Table 16).

During the coho salmon season, fishing time was set at two days until the final three weeks of the season. CPUE at this time was above average, and the river was open to three days fishing time for the final three weeks. The coho harvest of 3,168 was 60% below the recent 5-year average. The Akwe River was not fished during the first two weeks of the season. Effort remained well below historical levels, with a peak count of six fishers during the fourth week of September. This was 45% below the average effort.

Markers were placed on the Akwe River 1/2 mile upstream of the mid-tide level to reduce the problem of fishing mixed stocks of Itallo and Akwe fish in the common mouth area. The catch of 39 chum salmon was well below average for the Akwe fishery, and did not indicate a great interception of Itallo chums. Some straying of all species occurs, and it is likely that some New Itallo River-bound salmon are intercepted in the Akwe River fishery.

Italo River

The New Italo River was not opened to commercial fishing in 1993. The Middle Italo and Old Italo Rivers were open for the last four weeks of the coho season. Fishing time for the Middle Italo River remained at three days for the first two weeks, and was extended to four days for the last two weeks of the season. Fishing time for the Old Italo River remained at three days for the first week, and was extended to four days for the last three weeks. Both systems were fished this year. The coho harvest of 2,898 was 94% above the previous 5-year average (Table 17). A total of 1,972, or 68% of the Italo harvest, were caught in the Old Italo fishery.

Sockeye escapement counts, while still well below historical levels, showed considerable improvement over the counts of recent years (Table 18). The peak escapement count of 800 for the New Italo was recorded on July 16. A survey of Italo Lake conducted on September 3 revealed the peak escapement count of 3,200, the highest escapement count for the lake since 1985.

A survey of the Middle Italo River conducted on September 10 revealed 3,500 coho salmon in the system, of which 500 were above the markers. The Middle Italo fishery occurred after this date, and it is probable that some of the fish seen during this survey were harvested. A flight on October 6 revealed an escapement count of 650 above the markers. The peak escapement count of 4,000 in the Old Italo River was recorded during the same survey of October 6. This count was well above average. Upstream markers were used in both the Old and Middle Italo Rivers to delineate closed water areas.

Dangerous River

The Dangerous River was opened to commercial fishing on June 14. Fishing time remained at 2.5 days through the end of the sockeye season. The river was not fished during the first four weeks of the season. The harvest of 1,655 sockeye salmon was 48% above the recent 5-year average (Table 19). Fall fishing time remained at three days through Statistical Week 38. From Statistical Week 39-41, the weekly fishing period was four days. The Dangerous River was fished for coho salmon during the last three weeks of the season. The coho harvest of 869 was 382% above the recent 5-year average. A total of five permit holders fished the Dangerous River in 1993, and this level of effort was well above average. Escapement surveys are limited due to the glacial nature of the river. No surveys were conducted of the upper river. Three coho surveys of the clear water tributaries just east of the delta were conducted and the peak count of 100 coho was observed on October 6 (Table 20).

Situk-Ahrnklin Inlet

The Situk-Ahrnklin Inlet fishery in 1993 recorded excellent catches of chinook, sockeye, and coho salmon, and a below average catch of pink and chum salmon (Table 21). This year, the Situk-Ahrnklin fishery, alone, generated 41% of the Yakutat area setnet income (Table 22). The fishery exvessel value of about \$1,200,000 was 38% above the average since 1975. An exvessel value of over \$1,000,000 occurred for the seventh year in a row (Table 23). Commercial fishers were allowed to retain and sell part of their chinook harvest for the third year in a row. The sockeye harvest of 104,049 was 11% above the recent 5-year average. It was the fourth highest catch since 1945 and the third year in a row with a harvest of more than 100,000. The Situk-Ahrnklin sockeye catch accounted for 30% of the area harvest and was exceeded only by the East River harvest. The coho harvest of 136,910 was 89% above average and the highest catch since 1954. The Situk-Ahrnklin coho harvest accounted for 58% of the area's total catch. The pink salmon catch of 8,757 was 55% below average. Sockeye escapement exceeded the escapement goal by approximately 6,200 fish. The pink escapement through the Situk Weir was below average. The peak coho escapement count was well above average.

For the sixth year in a row the Situk Weir was placed in the lower river and used for inseason management of the sockeye and chinook fisheries (Table 24). Excellent weather combined with low water levels prevailed throughout the season, and the weir was maintained without problems through August 5.

Chinook Salmon

A comprehensive management plan for Situk River chinook salmon has been in effect since 1991. The plan mandated various chinook salmon conservation measures based on an ascending scale of projected escapement through the Situk Weir. A projected level of 750 large, 3-ocean spawners through the weir is necessary before commercial fishers would be allowed to retain and sell the fish. Prior to making the projection, a chinook salmon non-sale policy was implemented for the initial opening on June 14, and remained in effect until June 22. All setnetters were asked to work their gear frequently, and to release live chinook. Setnetters were allowed to retain dead fish for their own use, and were required to report the dead fish on fish tickets. More than 750 large, 3-ocean fish were projected through the weir at this time, and the non-sale of chinook salmon was rescinded effective 6:00 a.m., June 22. By July 2 more than 400 large spawners had passed through the weir, but it was estimated that approximately 200 of them had been harvested in the sport fishery. Chinook salmon non-sale was reinstated effective 6:00 a.m., July 4. Non-sale remained in effect through August 16. The total reported personal use harvest during periods of non-sale was 78 large (>28 inches) and 48 small (<28 inches) chinook. Approximately 23% of the large chinook that passed through the weir were net-marked. This compares to 51% in 1989 and 48% in 1990, two years in which non-sale was in effect for the entire season, to 37% in 1991 when the policy was in effect for the first three weeks of the season, and to 11% in 1992 when the policy was in effect for the first two weeks of the season. These data indicate some survival of netted and released fish. The spawning success of netted and released fish is still unknown.

Beginning June 22, fishers were allowed to retain and sell chinook salmon until non-sale was reinstated on July 4. During this open period, 788 of the 789 chinook harvested in the fishery were caught. The chinook harvest of 789 was 52% above the recent 5-year average and was 40% above average for the ten years prior to the implementation of the non-sale policy in 1989. The final weir count of 4,101 consisted of 871 large spawners, 490 2-ocean jacks, and 2,740 1-ocean jacks. The effective escapement of 770 large spawners exceeded the upper end goal range by 20 fish. The effective escapement was calculated by adding approximately 100 spawners below the weir to the weir count after it was removed and deducting an estimated sport fish harvest of 200 large spawners above the weir. Records of the sport harvest above the weir were incomplete, and the actual harvest may be slightly higher. The spawning success rate of hooked and released fish is still unknown.

Sockeye Salmon

The southeast end of the Situk-Ahmklin Inlet was opened by emergency order on June 14 for a 24-hour period. Regulatory markers were placed in both Divide Slough and in the estuary approximately two miles east of the western tip of Black Sand Island. A total of 35 setnetters fished in the open area and harvested 2,465 fish. In 1992, during a similar Ahmklin River opening in this week, 1,266 sockeye salmon were harvested by 60 fishers in the 24-hour opening. Similar openings occurred in 1990 and 1991. The 1991 opening of 2.5 days for the southeast end of the estuary recorded a harvest of 11,468 sockeye salmon by 50 fishers. The entire estuary was open for 2.5 days in 1990, but it was determined that over 90% of the 9,238 fish harvested were of Ahmklin River origin. This year's catch was almost double the 1992 catch, and escapement counts, while still below average, showed improvement over the 1992 counts. An aerial survey on July 19 revealed the peak escapement count of 3,000.

The entire Situk-Ahmklin Inlet opened to commercial fishing on June 21. Escapement counts were more than adequate at this time, and fishing time was extended to 4.5 days during the first week. Fishing time was maintained at 5.5 days for the next four weeks before returning to 4.5 days during the last week of July. The end of the sockeye return remained strong, and fishing time was extended from the normal three day period to four days during the first two weeks of the fall fishing. For the past five years, fishing time has been adjusted in an effort to keep escapement levels down to the goal of 40,000 -55,000 sockeye. This was the first time since 1988 that weekly fishing time was not extended to seven days. The peak harvest week occurred during the second week of July when 17,644 fish were caught. The peak count of 78 setnetters also fished during that week, and this level of effort was 7% below the previous 5-year average.

A total of 61,792 sockeye salmon passed through the Situk Weir prior to its removal on August 6. This exceeded the upper end of the escapement goal by approximately 6,200 fish. The total return was calculated by adding inriver catch, escapement and subsistence catch to half of the catches of the interceptive fisheries, Yakutat Bay, Manby Shore, and the Lost River, and deducting the Ahmklin River sockeye catch from the total. The 1993 return of approximately 186,800 came primarily from the 1988 escapement of 46,700, yielding a return-per-spawner (R/S) of 4:1. This was the highest R/S in the past ten years and was well above the 10-year average of 1.9:1.

Emigrant steelhead were monitored at the weir during the sockeye season. The weir was not installed until after the majority of the steelhead had left the system. A total of 232 steelhead were counted down through the weir, all by June 17. Interception of steelhead in the commercial fishery totaled approximately 15 fish through August 28. Another 160 steelhead were harvested during the fall coho fishery.

Coho Salmon

The return of coho to the Situk-Ahmklin Inlet was strong. The harvest of 136,910 was the highest since 1954, and marked the second year in a row of a harvest of over 130,000. Effort remained above average for most of the season with a peak count of 73 setnetters fishing the fourth week of September. This was one of the highest efforts for coho on record. Effort remained above average through the end of the season.

Fishing time was set at three days for the first three weeks of the season. Catches and escapement counts indicated the strong return, and fishing time was increased to four days for the final five weeks of the season. A float trip on September 23 revealed a peak escapement count of 10,700. This was the fourth highest count ever recorded in the Situk River. Final escapement was estimated to be above average. An aerial survey of the Old Situk River conducted on October 6 revealed 800 fish. A total of 2,900 were seen at the confluence of the Ahmklin and Antlen Rivers on September 15. An aerial survey of the Antlen River, on October 6 revealed 2,000 fish.

Pink and Chum Salmon

The pink salmon harvest of 8,757 was 55% below the recent 5-year average and accounted for 88% of all pinks caught in the Yakutat area. A total of 16,285 pink salmon were counted through the Situk Weir before it was removed. The chum salmon harvest of 433 was 20% below the recent 5-year average.

Lost River

The Lost River was opened on June 21. The catch of 3,999 sockeye salmon was 38% above the recent 5-year average, and marked the fifth year in a row of above average catches (Table 26). To some extent, this has been a function of increased fishing time in the Lost fishery as a result of the strength of the sockeye return to the Situk River. The initial opening was extended to 3.5 days. As time was added to the Situk-Ahmklin fishery, time was also added to the Lost fishery, and the river was open to 4.5 days for the next three weeks of the season. Fishing time was then reduced to 3.5 days for the last two weeks of the sockeye season to assist the Lost River escapement. A peak count of five setnetters fished during the second and third weeks of July. Three pulley systems were used in the surf area within the one-half mile radius at the mouth of the river. This was the first observed use of pulley systems on the Lost River fishery. Documenting escapement early in the season has proven difficult and a peak count of 375 was

not recorded until August 9 (Table 27). This was the second lowest escapement count on record. With the amount of effort witnessed this year and subsequent poor escapement, it may not be possible in the future to add fishing time to the Lost River fishery as fishing time is increased in the Situk-Ahrnklin fishery.

Retention of chinook salmon was allowed during the first two weeks of the season, and 17 fish were harvested. This harvest was 6% above average, but the average includes one year, 1990, when chinook salmon non-sale remained in effect throughout the season. The harvest of 17 was below average for all other years during this 5-year period. Chinook salmon non-sale was then in effect from July 4 - August 16. No chinook salmon were harvested after the non-sale was rescinded on August 16.

The coho salmon catch of 9,310 was 53% above the recent 5-year average and was the fifth highest catch since 1964. The fishery was extended to four days for the last five weeks of the season. A peak effort of six setnetters fished during the third week of September. A peak escapement count of 5,436 was recorded on September 22 during a float count of Tawah Creek. Escapement for the Lost River drainage was above average.

Yakutat Bay

The Yakutat Bay sockeye catch of 19,176 was 32% below the recent 5-year average (Table 28). The recent average contains some of the highest recorded harvests for the Bay, and this year's catch was well above the long term historical average. The southern half of Yakutat Bay opened on June 14 for the normal 2.5 day period. As the Situk sockeye return developed, fishing time for the Bay was extended to 3.5 days during the second week of the season, and to 4.5 days for the next three weeks. The Bay was not extended beyond 4.5 days in any week to afford some protection to stocks bound for other systems. Fishing time was reduced to 3.5 days for the final two weeks of the sockeye season.

Catches for the first two weeks of the season were slow, but picked up in the third week. Harvest remained fairly steady from that point through the end of the season. The peak weekly catches of approximately 4,200 fish were recorded during the first and the last weeks of July. Catches during those two weeks accounted for 44% of the sockeye harvest. The peak effort level of 25 fishers was recorded during the first week of July. This level of effort was 36% below the recent 5-year average. Chinook salmon are harvested incidental to the sockeye fishery. The total chinook harvest of 148 was 45% below the recent 5-year average.

The coho salmon catch of 4,398 was 13% below the recent 5-year average. These years contain strong coho catches for the Bay, and this year's catch is almost twice the 1960 to 1992 average. Fishing time was set at three days for the first five weeks of the season, and was extended to four days for the last five weeks of the season. A peak count of four setnetters fished the Bay during the first two weeks of September.

Pink salmon returns to Humpback Creek were not strong, and Humpback Creek was not fished for pinks in 1993. A peak escapement count of 13,000 was recorded on September 3 (Table 29). This count exceeded the escapement goal of 10,000. The Yakutat Bay pink salmon harvest of 1,054 was 96% below the recent 5-year average. One of those years, 1988, recorded a harvest of almost 100,000 fish.

Manby Fisheries

The combined Manby Shore fisheries sockeye harvest of 3,873 was 78% below the previous 5-year average (Table 30). The coho catch of 5,349 was 54% below the 5-year average. Sockeye catches from the Manby Shore Ocean fishery totaled 3,634 and accounted for 94% of the catch (Table 31). The Manby Shore stream fisheries accounted for 95% of the coho harvest. Catches for individual streams were not compiled separately prior to 1986.

The Manby Shore Ocean fishery opened on June 21; the inside fisheries on June 28. Due to the strength of the Situk sockeye return, the ocean fishery was extended to a fishing time of 3.5 days for the first week of the season. Fishing time was then extended to 4.5 days for the next three weeks of the season. The ocean fishery was then returned to 3.5 days for the final two weeks of the season. A peak count of six setnetters fished during the first week of the season. This effort level was 65% below average. Sudden Stream remained on the normal fishing time of 2.5 days throughout the sockeye season and contributed small catches to the Yakutat area sockeye harvest. The ocean area was fished for four weeks of the season, while Sudden Stream was fished for only two weeks. A peak week harvest in the ocean fishery of 1,834 was recorded during the second week of the season and accounted for 50% of the harvest.

Spoon River, Sudden Stream, and Esker Creek were all fished for coho salmon in 1993 (Tables 32 and 33). Manby Stream was not fished this year. Esker Creek accounted for 97% of the coho harvest from these systems. The Manby streams remained on three days fishing time for the entire season, with the exception of Esker Creek. Esker Creek was extended to four days during the second full week of September. Escapement counts are limited due to the glacial nature of most of the Manby area streams. The peak count of 1,620 in Esker Creek was above average. The peak escapement count of 2,000 in Manby Stream was also above average. The peak count of 30 in Spoon River was well below average (Table 34).

Yana River to Icy Bay

Fewer than three setnetters fished the Yana River, Yahrtse River, and Jetty Creek for coho in 1993, and all catch records are confidential. All three systems were fished in 1993. Jetty Creek was open for the final four weeks of the season. Fishing time for Jetty Creek was extended to four days during the first two weeks before returning to three days for the last two weeks. As part of the remainder of the Yakutat

District, the Yana and Yahtse Rivers remained on three days fishing time for the entire season. Markers were placed approximately 1,300 yards upstream from the mouth of Jetty Creek.

Coho escapement counts for Jetty Creek were below average, but the peak count of 1,200 was seen on two occasions, September 15 and 22, and escapement was estimated to be adequate (Table 36). The peak count of 250 in the Yana River was below average. The peak count of 120 in the Yahtse River was also below average.

SALMON - YAKATAGA DISTRICT

The Yakataga District, including the Kaliakh River, opened on June 16. The Tsiu River remained closed until the coho season to protect the relatively small sockeye population in that system, but all other Yakataga systems were open throughout the sockeye season. No effort was recorded for the district during the sockeye season. Coho salmon catches for the Tsiu River were the fourth highest on record while coho catches for the Kaliakh River were below average. The Big River, the outlet stream of Midtimber Lake, and the ocean waters of the remainder of the district contributed small catches to the total for the district. The total Yakataga District harvest was 65,632, or 28% of the catch for the Yakutat area (Table 36). The Kiklukh River, locally referred to as Eight Mile Creek, and the Tashalich River were not fished by commercial setnetters in 1993.

Cost factors prohibit the department from dispatching airplanes from Yakutat to the Yakataga District for escapement survey purposes only. Surveys are usually done as planes become available on the ground at the Tsiu River. This has not been a problem over the years, as both local air taxis regularly flew in and out of the district in support of commercial fishing activities. This year proved to be the exception. No surveys were completed on the Tsiu River after September 10. A final survey was attempted on October 3, when on-ground monitoring activities were terminated. This survey had to be abandoned due to inclement weather. The Big River, located just west of Icy Bay, was surveyed from Yakutat as part of the Icy Bay area surveys. The Big River was open for three days a week for the final four weeks of the season, but it was not fished during the last two weeks. Escapement counts for the Big River are documented in Table 35. The peak coho escapement count of 2,500 was slightly below average.

Kaliakh River

The Kaliakh River was opened initially for coho salmon on August 2 with the commencement of fall fishing time. The Kaliakh was not fished until August 30. The coho catch of 7,980 was 17% below the recent 5-year average. (Table 37). A peak count of eight setnetters fished the river during the last full week of September. This level of effort was 27% below average. Only one setnetter fished the Kaliakh River exclusively, all others fished the Tsiu River, and switched to the Kaliakh fishery during closed

periods on the Tsiu River. Area buying operations were centered on the ocean spit west of the Tsiu River which required the transport of Kaliakh fish to, and across, the Tsiu River. Kaliakh fish were moved by truck to the Tsiu River and were transported across it by skiff.

Beginning with the first Monday in August, the Kaliakh River was open to the normal fishing time of three days per week through the second week of September. No effort was recorded for the first week. Effort remained low while fishery performance data indicated strength in the return. Fishing time increased to four days during the second full week of September, and remained at four days for the remainder of the season. A peak week catch of 4,244 was recorded during the second full week of September and accounted for 53% of the total catch.

No escapement surveys were conducted for the Kaliakh River in 1993. Due to the remoteness of the spawning tributaries and the fact that fish do not usually appear until after the fishery closes, the Kaliakh survey is normally flown only once late in the season. The final survey on October 3 was abandoned due to inclement weather. Personal communication with a moose hunting guide revealed that he had flown over the Kultieth River, the main spawning tributary, during the week of September 19. At that time he noted several large schools of fish in the Kultieth. Actual numbers are unknown. Fishery performance indicated a good return of coho salmon, and final escapement was estimated to be average to above average.

Tsiu River

The Tsiu River coho catch of 56,736 was the fourth highest catch on record. The previous 5-year average contains two record harvests, and the 1993 catch was average for that period of time (Table 38). The Tsiu fishery accounted for 86% of the Yakataga District harvest. This catch was second only to that of the Situk-Ahmklin harvest. The river remained closed, as in past years, during the sockeye season to protect the small sockeye population.

The Tsiu River opened on August 23. Fishing time remained at two days for the first two weeks of the season. Escapement counts remained ahead of schedule, and fishing time was extended to three days for the next four weeks of the season. The fishery was open for four days during the final week of the season. A peak effort of 22 setnetters fished the river during the second week of September. The effort level was 18% below the recent 5-year average. Over 27,000 coho salmon, or 48% of the total catch, were harvested during the second and third weeks of September.

A flight on September 10 revealed a peak escapement count of 17,500 (Table 39). Of these, 14,000 were observed in the Tsiu lagoon and 3,500 were seen in the Tsiuat River. This proved to be the last effective escapement survey during the season, as no planes were available in the district until the end of the season. An attempt was made to survey the Tsiu River on October 3, but only 800 were observed above the markers. Visibility was very poor due to inclement weather and the survey was abandoned. The final escapement was estimated to be average to above average.

Four pulley systems were used in the Tsiu fishery throughout the season. Pulley systems were also used to fish the ocean area outside the 1/2 mile perimeter during closed periods. As it constitutes part of the remainder of the district, this area has an allowable gear limit of 25 fathoms, rather than the 15 fathoms allowed for the Tsiu fishery. This area was fished for two weeks during the season. The Tsivat overflow channel, which joins the Tsiu River approximately 300 yards upstream from the terminus, was not fished this year. The subsistence period for the Tsiu River was changed by emergency order to a 12-hour period on Sundays to avoid any conflict with possible commercial openings on Saturdays.

Fish buying and flying activity has shifted in recent years from the east side of the Tsiu River to the spit on the west side. The traditional east side runways now remain under water for much of the season and are unusable. The spit on the west side can accommodate the DC-3 and C-46 aircraft which were used to haul fish this year. The use of the west side as a staging area does mean that all Kaliakh fish and some Tsiu fish must be moved across the Tsiu River. All Kaliakh fish and most Tsiu fish were transported by skiff, but some setnetters also used 4-wheelers with trailers. The ATV activity will likely continue, but the crossing of an anadromous fish stream by any vehicle requires a Title 16 permit. Permission to cross would most likely not be given during this critical stage (the spawning immigration) of salmon life history.

Most of the Tsiu River, and all of the spawning grounds for the Tsiu system, lie within the confines of the Yakataga State Game Refuge. Besides the main-stem Tsiu and Tsivat Rivers, numerous small tributaries contribute important spawning and rearing area. As freshwater wetlands, the area also provides habitat important to waterfowl and raptors, and to moose, bears, wolves and coyotes. Public use of the refuge has increased dramatically over the past few years. Commercial fishermen, of course, access the refuge for the purpose of moose hunting. Two sport fishing lodges on the Tsiu River cater to approximately 30 sport fishermen per week throughout the season. One hunting lodge is located within the refuge. One air boat has been operated in the refuge during the past three years for moose hunting purposes, and the owners have plans to add a second air boat in 1994.

For all these user groups, the preferred method for gaining access to the refuge is by the use of ATV's. Two main ATV trails, one just west of the Tsiu River and one just east of the Tsivat River, head deep into the refuge, and several individual tracks branch off from the main trails. Most of the trails, including both main trails, cross several spawning tributaries. Roy Nowlin, with the Division of Wildlife Conservation, flew over the refuge on October 12. At that time he observed these trails and noted siltation downstream from the crossings. The season for moose hunting coincides with coho spawning activity, and it is probable that thousands of coho eggs are being lost through the use of ATV's. It is also probable that the air boat has changed usage patterns of waterfowl. It is recommended that this issue be addressed in the near future. It is also recommended that either the Title 16 statute be enforced, or the use of ATV's be banned in the Yakataga State Game Refuge.

YAKUTAT AREA SUBSISTENCE AND PERSONAL USE - 1993

In 1993, 129 subsistence permits were issued for the Yakutat area (Table 40). This was down from the 133 permits issued in 1992. No personal use permits were issued for the Yakutat area in 1993. To date, 99.2% of the permits issued have been returned.

The area-wide extrapolated subsistence catch of 444 chinook salmon was 12% above average (Table 41). Approximately 44% of the chinook harvest came from the Situk-Ahrnklin Inlet, while Yakutat Bay contributed 37%, and both the Alsek River and Akwe River contributed approximately 9% of the harvest. Catches were also recorded from the Ankau Creek. A total of approximately 126 chinook salmon were taken by commercial fishers during the Situk-Ahrnklin commercial fishery during the periods of chinook salmon non-sale.

The area-wide extrapolated subsistence catch of 5,017 sockeye salmon was 47% above average. The Situk-Ahrnklin Inlet accounted for 82% of the sockeye harvest and 64% of the coho harvest. The area-wide extrapolated coho harvest of 2,233 was 53% above average.

YAKUTAT AREA SHELLFISH - 1993

Dungeness Crab

Dungeness crab is the major shellfish species harvested in the Yakutat area. The 1993 harvest of Dungeness crab was about 765,857 lbs. This was 45% below the 1992 harvest of approximately 1,400,000 lbs, and 73% below the 1991 harvest of approximately 2,800,000 lbs. A total of 199 landings were made by the 41 vessels (8 local, 33 non-local) participating in the fishery. The average price was about \$.90/lb. for an exvessel value of approximately \$689,271.

Tanner Crab

A total of five boats (4 local, 1 non-local) fished Tanner crab in 1993. A total of 36 landings were made, and the harvest was 116,071 lbs. The average price was \$1.25/lb for an exvessel value of approximately \$145,089.

King Crab

Fewer than three vessels fished king crab during the 1992-1993 season, thus all catch information is confidential.

Shrimp

A preliminary total of 42 landings were made by six boats that pot-fished shrimp in 1993. The harvest was 3,606 lbs. As fewer than three vessels trawled for shrimp in 1993 the catches are confidential.

Scallops

Two open periods were established for scallops in 1993, with an allowable harvest of 125,000 lbs each fishing period. The first period was from January 1 - February 28. A total of five vessels harvested approximately 115,000 lbs during this period. The second period was from July 1 through noon, July 11. A total of eight vessels harvested approximately 141,000 lbs. The total harvest was approximately 256,000 lbs. An average price of \$3.50/lb resulted in an exvessel value of approximately \$896,000.

1993 HALIBUT

The 1993 halibut season consisted of two 24-hour periods (noon to noon): June 10-11 and September 8-9. A trip limit was in effect for the second opening. The total catch of 514,832 lbs was 29% below the 1992 harvest of 720,419 lbs. An average price of \$1.30/lb resulted in an exvessel value of approximately \$669,282, which is 2% below the 1992 value.

1993 BLACKCOD (SABLEFISH)

The Eastern Gulf of Alaska regulatory area for blackcod includes the Southeast, East Yakutat, and West Yakutat management areas, and extends roughly from Dixon Entrance to Valdez. Yakutat is located between the East and West Yakutat management areas. All three areas opened on May 15. A total of 2,632,582 lbs were landed in Yakutat. This was approximately 650,000 lbs more than for the 1992 deliveries. The average price was \$1.65/lb, for a total exvessel value of approximately \$4,378,410.

Table 1. Harvest of salmon in the Yakutat area set gillnet fishery by fishing period, 1993.

| Week | Ending Date | Chinook | Sockeye | Coho | Pink | Chum | Total |
|---------------|-------------|---------|---------|---------|-------|-------|---------|
| 25 | 6/19 | 243 | 3,887 | 2 | 0 | 0 | 4,132 |
| 26 | 6/26 | 394 | 18,330 | 17 | 1 | 2 | 18,744 |
| 27 | 7/03 | 555 | 22,180 | 202 | 12 | 33 | 22,982 |
| 28 | 7/10 | 55 | 24,434 | 349 | 227 | 15 | 25,080 |
| 29 | 7/17 | 29 | 32,967 | 303 | 585 | 12 | 33,896 |
| 30 | 7/24 | 17 | 31,913 | 275 | 798 | 19 | 33,020 |
| 31 | 7/31 | 8 | 39,130 | 395 | 1,578 | 30 | 41,137 |
| 32 | 8/07 | 1 | 52,916 | 320 | 3,024 | 67 | 56,328 |
| 33 | 8/14 | 3 | 72,735 | 554 | 3,071 | 218 | 76,581 |
| 34 | 8/21 | 0 | 14,430 | 428 | 213 | 142 | 15,213 |
| 35 | 8/28 | 2 | 23,207 | 12,099 | 342 | 1,435 | 37,085 |
| 36 | 9/04 | 1 | 8,336 | 20,716 | 49 | 1,260 | 30,362 |
| 37 | 9/11 | 0 | 1,028 | 49,849 | 8 | 567 | 51,452 |
| 38 | 9/18 | 1 | 467 | 57,469 | 0 | 199 | 58,136 |
| 39 | 9/25 | 1 | 14 | 54,940 | 1 | 55 | 55,011 |
| 40 | 10/2 | 0 | 23 | 28,037 | 0 | 8 | 28,068 |
| 41 | 10/09 | 0 | 0 | 11,594 | 0 | 3 | 11,597 |
| Totals | | 1,310 | 345,997 | 237,549 | 9,909 | 4,065 | 598,830 |

Table 2. Ten year comparison of Yakutat area setnet effort and salmon harvest.

| Year | Effort | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|--------|---------|---------|---------|---------|--------|---------|------|
| 1983 | 131 | 812 | 155,545 | 80,974 | 23,615 | 11,119 | 272,035 | 292 |
| 1984 | 137 | 944 | 102,274 | 182,720 | 19,387 | 31,838 | 337,163 | 284 |
| 1985 | 149 | 1,146 | 236,582 | 202,166 | 16,070 | 12,399 | 468,363 | 338 |
| 1986 | 153 | 1,341 | 151,672 | 91,284 | 7,183 | 16,635 | 268,115 | 359 |
| 1987 | 155 | 1,766 | 258,884 | 126,103 | 12,690 | 14,744 | 414,187 | 442 |
| 1988 | 160 | 894 | 162,188 | 205,866 | 120,205 | 29,247 | 518,400 | 466 |
| 1989 | 164 | 810 | 329,563 | 176,847 | 59,319 | 16,238 | 582,777 | 517 |
| 1990 | 161 | 664 | 344,461 | 148,890 | 30,839 | 5,813 | 530,667 | 517 |
| 1991 | 162 | 1,750 | 229,854 | 166,380 | 3,051 | 2,979 | 404,014 | 544 |
| 1992 | 165 | 2,025 | 313,840 | 290,343 | 18,467 | 7,620 | 632,295 | 529 |
| Ave. | 154 | 1,215 | 228,486 | 167,157 | 31,083 | 14,863 | 442,802 | 429 |
| 1993 | 158 | 1,310 | 345,997 | 237,549 | 9,909 | 4,065 | 598,830 | 462 |
| * Deviation | | | | | | | | |
| 1993 | +3% | +8% | +51% | +42% | -68% | -73% | +35% | +8% |

* percent deviation from 10-year average.

Table 3. Total average earnings from commercial fishing, excluding shellfish, Yakutat area, 1975-1993.

| Year | Total Finfish Income ^a | Total Salmon Troll Income | Total Salmon Setnet Income | No. of Active Setnet Permits | Aver. Earning Per Setnet Permit | Previous 10 Year Aver. Setnet Income | Total Setnet-Troll Salmon Income |
|------|-----------------------------------|---------------------------|----------------------------|------------------------------|---------------------------------|--------------------------------------|----------------------------------|
| 1975 | \$ 737,270 ^b | \$ 29,185 ^c | \$ 708,085 | 104 | \$ 6,809 | - | \$ 737,270 |
| 1976 | 1,252,865 ^b | 33,082 ^c | 1,219,783 | — | 9,758 | - | 1,252,865 |
| 1977 | 2,155,718 ^b | 89,108 ^c | 2,066,610 | 130 | 15,897 | - | 2,155,718 |
| 1978 | 3,066,121 ^b | 396,330 | 2,669,791 | 151 | 17,681 | - | 3,066,121 |
| 1979 | 3,317,191 | 70,016 | 3,168,975 | 166 | 17,762 | - | 3,238,991 |
| 1980 | 2,090,752 ^b | 161,000 | 1,929,752 | 150 | 12,059 | - | 2,090,752 |
| 1981 | 2,428,949 ^b | 101,820 | 2,327,129 | 152 | 15,310 | - | 2,428,949 |
| 1982 | 2,908,629 | 672,490 | 2,084,139 | 149 | 13,988 | - | 2,756,629 |
| 1983 | 1,553,472 | 82,313 | 1,273,159 | 131 | 9,719 | - | 1,355,472 |
| 1984 | 3,128,096 ^d | 560,307 | 2,375,789 | 137 | 17,341 | - | 2,936,096 |
| 1985 | 4,268,029 ^d | 879,932 | 3,010,579 | 149 | 20,205 | \$13,632 | 3,890,511 |
| 1986 | 6,019,829 | 988,055 | 1,981,807 | 153 | 12,953 | 14,972 | 2,969,862 |
| 1987 | 9,767,778 | 1,180,928 | 5,077,589 | 155 | 32,759 | 15,292 | 6,258,517 |
| 1988 | 19,026,072 | 1,601,344 | 8,944,228 | 160 | 55,901 | 16,978 | 10,545,572 |
| 1989 | 11,220,922 | 1,214,305 | 4,174,510 | 164 | 25,454 | 20,800 | 5,388,815 |
| 1990 | 10,691,082 | 1,203,003 | 4,493,681 | 161 | 27,911 | 21,569 | 5,696,684 |
| 1991 | 7,665,394 | 530,387 | 2,248,558 | 162 | 13,880 | 23,155 | 2,778,945 |
| 1992 | 10,747,823 | 1,424,650 | 5,238,058 | 165 | 31,746 | 23,011 | 6,662,708 |
| 1993 | 10,221,615 | 2,257,141 | 2,916,782 | 158 | 18,461 | 24,787 | 5,173,923 |

^a Through 1985, data includes salmon setnet, salmon hand and power troll, and halibut. Starting in 1986, data also includes blackcod.

^b Excludes halibut, thus is salmon only (no blackcod harvest before 1984).

^c Hand troll only; no power troll data, or no power trolling done.

^d Excludes blackcod landings of 178,000 lb. in 1984, 52,000 lb. in 1985, by non-local boats.

Table 4. Harvest of chinook salmon in the Yakutat area troll fishery by fishing period, 1993.

| Week | Ending Date | Hand Boats | Hand Catch | Power Boats | Power Catch | Total Boats | Total Catch |
|--------|-------------|------------|------------|-------------|-------------|-------------|-------------|
| 1-16 | 4/16 | 5 | 64 | 0 | 0 | 5 | 64 |
| 27 | 7/03 | 6 | 60 | 2 | 154 | 8 | 214 |
| 28 | 7/10 | 9 | 174 | 10 | 1,665 | 19 | 1,839 |
| 29-33 | 8/14 | Not | open | | | | |
| 34 | 8/21 | 0 | 0 | 1 | 110 | 1 | 110 |
| 35 | 8/28 | 19 | 37 | 41 | 3,712 | 60 | 3,749 |
| 36-37 | 9/11 | Not | open | | | | |
| 38 | 9/18 | 20 | 13 | 64 | 6,175 | 84 | 6,188 |
| 39 | 9/25 | 12 | 1 | 18 | 3,029 | 30 | 3,030 |
| Totals | | 29 | 349 | 96 | 14,845 | 125 | 15,194 |

Table 5. Harvest of coho salmon in the Yakutat area troll fishery by fishing period, 1993.

| Week | Ending Date | Hand Boats | Hand Catch | Power Boats | Power Catch | Total Boats | Total Catch |
|---------------|-------------|------------|------------|-------------|-------------|-------------|-------------|
| 27 | 7/03 | 6 | 23 | 2 | 284 | 8 | 307 |
| 28 | 7/10 | 9 | 13 | 10 | 1,403 | 19 | 1,416 |
| 29 | 7/17 | 8 | 259 | 6 | 4,918 | 14 | 5,177 |
| 30 | 7/24 | 14 | 3,118 | 6 | 2,711 | 20 | 5,829 |
| 31 | 7/31 | 14 | 1,788 | 20 | 10,128 | 34 | 11,916 |
| 32 | 8/07 | 15 | 1,805 | 25 | 12,320 | 40 | 14,125 |
| 33 | 8/14 | 16 | 1,581 | 27 | 18,477 | 43 | 20,058 |
| 35 | 8/28 | 19 | 5,966 | 41 | 17,406 | 60 | 23,372 |
| 36 | 9/04 | 22 | 5,675 | 45 | 47,970 | 67 | 53,645 |
| 37 | 9/11 | 18 | 4,558 | 58 | 53,537 | 76 | 58,095 |
| 38 | 9/18 | 20 | 4,629 | 64 | 56,620 | 84 | 61,249 |
| 39 | 9/25 | 4 | 407 | 18 | 14,759 | 22 | 15,166 |
| Totals | | 29 | 29,822 | 96 | 240,533 | 125 | 270,355 |

Table 6. Harvest comparison of chinook and coho salmon in the Yakutat area troll fishery, 1983-1993.

| Year | Chinook | Coho | Total | Hand | Power | Total |
|-------------|---------|---------|---------|------|-------|-------|
| 1983 | 3,852 | 19,409 | 23,261 | 41 | 24 | 65 |
| 1984 | 8,512 | 78,523 | 87,035 | 40 | 87 | 127 |
| 1985 | 8,963 | 199,115 | 208,078 | 58 | 139 | 197 |
| 1986 | 9,973 | 155,487 | 165,460 | 38 | 137 | 175 |
| 1987 | 7,552 | 83,257 | 90,809 | 38 | 126 | 164 |
| 1988 | 5,696 | 54,451 | 60,147 | 37 | 79 | 116 |
| 1989 | 5,532 | 134,033 | 139,565 | 34 | 83 | 117 |
| 1990 | 9,956 | 133,719 | 143,675 | 39 | 137 | 176 |
| 1991 | 7,277 | 54,807 | 62,084 | 26 | 62 | 88 |
| 1992 | 2,117 | 189,213 | 191,330 | 29 | 102 | 131 |
| Ave. | 6,943 | 110,201 | 117,144 | 38 | 98 | 136 |
| 1993 | 15,194 | 270,355 | 285,589 | 29 | 96 | 125 |
| * Deviation | | | | | | |
| 1993 | +119% | +145% | +144% | -24% | -2% | -8% |

* deviation from 10-year average.

Table 7. Harvest of salmon in the Yakutat area setnet fishery by fishing area, 1993.

| Area | Chinook | Sockeye | Coho | Pink | Chum | Total |
|-------------------|------------|---------|---------|-------|-------|---------|
| Alsek | 300 | 20,043 | 1,215 | 0 | 49 | 21,607 |
| East | 13 | 189,207 | 4,529 | 25 | 3,423 | 197,197 |
| Akwe | 30 | 3,973 | 3,168 | 10 | 39 | 7,220 |
| Italio | 0 | 1 | 926 | 0 | 1 | 928 |
| Old Italio | 0 | 1 | 1,972 | 0 | 0 | 1,973 |
| Dangerous | 6 | 1,655 | 869 | 13 | 8 | 2,551 |
| Situk | 789 | 104,049 | 136,910 | 8,757 | 433 | 250,938 |
| Lost | 17 | 3,999 | 9,310 | 47 | 17 | 13,390 |
| Yakutat Bay | 148 | 19,176 | 4,398 | 1,054 | 72 | 24,848 |
| Manby Shore | 6 | 3,634 | 266 | 3 | 22 | 3,931 |
| Manby Stream | Not fished | | | | | |
| Spoon | * | * | * | * | * | * |
| Sudden | * | * | * | * | * | * |
| Esker | 0 | 1 | 4,908 | 0 | 0 | 4,909 |
| Yahitse | * | * | * | * | * | * |
| Yana | * | * | * | * | * | * |
| Jetty Creek | * | * | * | * | * | * |
| Big River | * | * | * | * | * | * |
| Kaliakh | 0 | 0 | 7,824 | 0 | 1 | 7,825 |
| Tsiu | 1 | 20 | 56,736 | 0 | 0 | 56,757 |
| Tashalich | Not fished | | | | | |
| Kiklukh | Not fished | | | | | |
| Yakataga District | * | * | * | * | * | * |
| Totals | 1,310 | 345,997 | 237,549 | 9,909 | 4,065 | 598,830 |
| Troll | 15,194 | | 270,355 | | | 285,549 |
| Catch | 16,504 | 345,997 | 507,904 | 9,909 | 4,065 | 884,379 |

* Fewer than 3 permits, all catch figures are confidential.

Table 8. Exvessel dollar value of Yakutat fisheries to fishermen, 1993.^a

| Salmon | | | |
|------------------------|------------------|-----------------|------------------|
| Species | Setnet | Troll (Hand) | Troll (Power) |
| Chinook | \$ 18,139 | \$ 8,376 | \$ 356,280 |
| Sockeye | 1,697,307 | | |
| Coho | 1,181,230 | 208,754 | 1,683,731 |
| Pink | 7,394 | | |
| Chum | 12,712 | | |
| Total | 2,916,782 | 217,130 | 2,040,011 |
| Total Blackcod | | | \$ 4,378,410 |
| Total Halibut | | | 669,282 |
| Total Tanner | | | 126,243 |
| Total Dungeness | | | 689,271 |
| Total Scallops | | | 896,000 |
| Total Finfish Income | | | 10,221,615 |
| Total Shellfish Income | | | 1,711,514 |
| Total Fishing Income | | | 11,933,129 |

^a Figures used to calculate values: Setnet (chinook, 19,297 lbs. @ \$.94/lb; sockeye, 2,020,604 lbs. @ \$.84/lb; coho, 1,686,517 lbs. @ \$.70/lb; pink, 38,918 lbs @ \$.19/lb; chum, 28,890 lbs. @ \$.44/lb); Troll (chinook, 243,104 lbs. @ \$1.50/lb; coho, 1,513,988 lbs. @ \$1.25/lb). Halibut, 514,832 lbs. @ \$1.30/lb.; Blackcod, 2,653,582 lbs @ \$1.65/lb; Dungeness crab, 765,857 lbs. @ \$.90/lb.; Scallops, 256,000 lbs. @ \$3.50/lb.

Table 9. Harvest of salmon in the Alsek River set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|--------|-------------|--------|---------|---------|-------|------|------|--------|------|
| 25 | 6/19 | 29 | 228 | 1,125 | 0 | 0 | 0 | 1,353 | 1.0 |
| 26 | 6/26 | 30 | 59 | 6,267 | 0 | 0 | 0 | 6,326 | 2.0 |
| 27 | 7/03 | 30 | 11 | 3,681 | 0 | 0 | 0 | 3,692 | 3.0 |
| 28 | 7/10 | 28 | 0 | 2,529 | 0 | 0 | 0 | 2,529 | 2.0 |
| 29 | 7/17 | 6 | 1 | 1,656 | 0 | 0 | 0 | 1,657 | 2.0 |
| 30 | 7/24 | 10 | 0 | 1,946 | 0 | 0 | 0 | 1,946 | 3.0 |
| 31 | 7/31 | 7 | 0 | 1,637 | 0 | 0 | 1 | 1,638 | 3.0 |
| 32 | 8/07 | 3 | 0 | 692 | 0 | 0 | 0 | 692 | 4.0 |
| 33-34 | 8/21 | 4 | 0 | 409 | 11 | 0 | 0 | 420 | 6.0 |
| 35-36 | 9/04 | 4 | 1 | 85 | 66 | 0 | 1 | 153 | 6.0 |
| 37 | 9/11 | 6 | 0 | 7 | 471 | 0 | 4 | 482 | 3.0 |
| 38 | 9/18 | 7 | 0 | 8 | 414 | 0 | 23 | 445 | 3.0 |
| 39 | 9/25 | 5 | 0 | 1 | 253 | 0 | 20 | 274 | 2.0 |
| 40-41 | 10/9 | Closed | | | | | | | |
| Totals | | 30 | 300 | 20,043 | 1,215 | 0 | 49 | 21,607 | 31.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-------|---------|---------|-------|-------|-------|--------|------|
| 1988 | 30 | 223 | 6,286 | 4,986 | 7 | 907 | 12,409 | 34.0 |
| 1989 | 28 | 240 | 13,513 | 5,833 | 3 | 1,029 | 20,618 | 38.0 |
| 1990 | 25 | 78 | 16,852 | 1,437 | 0 | 495 | 18,862 | 38.0 |
| 1991 | 21 | 103 | 17,552 | 5,956 | 0 | 103 | 23,704 | 49.0 |
| 1992 | 26 | 301 | 19,310 | 3,310 | 1 | 136 | 23,058 | 46.0 |
| Ave. | 26 | 189 | 14,701 | 4,304 | 2 | 534 | 19,730 | 41.0 |
| 1993 | 30 | 300 | 20,043 | 1,215 | 0 | 49 | 21,607 | 31.0 |
| * Deviation | | | | | | | | |
| 1993 | +15% | +59% | +36% | -72% | -100% | -91% | +10% | -24% |

* deviation from 5-year average.

Table 10. Alek River and Klukshu River Weir escapement, 1993.

| Date | Area | Sockeye | Coho | Remarks |
|------|-----------------|---------|------|-----------------------|
| 7/16 | Tanis #1 and #2 | | | None seen |
| 7/28 | Tanis # 2 | 25 | | None seen in Tanis #1 |
| 8/04 | Tanis # 1 | 4 | | |
| 8/04 | Tanis # 2 | 60 | | |
| 9/03 | Tanis # 1 | 150 | | |
| 9/03 | Tanis # 2 | 750 | | |
| 9/03 | Cabin Creek | | | None seen |
| 9/22 | Cabin Creek | | | None seen |
| 9/22 | Tanis # 1 | | 200 | |
| 9/22 | Tanis # 2 | | 550 | |
| 9/22 | Gines Creek | | | None seen |
| 9/22 | Basin Creek | 4,800 | | |
| 10/6 | Tanis # 1 | | 450 | |
| 10/6 | Tanis # 2 | | 250 | |
| 10/6 | Cabin Creek | | 50 | |

Klukshu Weir^a

| Chinook | Sockeye | Coho | Total |
|---------|---------|------|--------|
| 3,302 | 16,740 | 788 | 20,848 |

^a A food fishery harvest of 62 chinook and 1,149 sockeye, plus 25 chinook and 12 sockeye taken for brood stock above the weir deducted from the weir counts leaves an effective escapement of 3,215 chinook and 15,579 sockeye. The weir was removed prior to the end of the coho run.

Table 11. Harvest of salmon in the East River set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|-----------|-----------|----------------|--------------|-----------|--------------|----------------|-------------|
| 27 | 7/03 | 33 | 1 | 91 | 0 | 0 | 0 | 92 | 1.0 |
| 28 | 7/10 | 32 | 5 | 344 | 0 | 0 | 0 | 349 | 1.0 |
| 29 | 7/17 | 37 | 2 | 9,609 | 0 | 0 | 0 | 9,611 | 2.0 |
| 30 | 7/24 | 50 | 1 | 8,621 | 4 | 5 | 2 | 8,633 | 2.0 |
| 31 | 7/31 | 58 | 2 | 21,010 | 9 | 1 | 4 | 21,026 | 3.0 |
| 32 | 8/07 | 80 | 0 | 38,306 | 26 | 12 | 30 | 38,374 | 4.0 |
| 33 | 8/14 | 84 | 1 | 66,461 | 79 | 3 | 146 | 66,690 | 4.0 |
| 34 | 8/21 | 42 | 0 | 13,838 | 57 | 0 | 127 | 14,022 | 5.0 |
| 35 | 8/28 | 39 | 1 | 22,071 | 889 | 4 | 1,296 | 24,261 | 5.5 |
| 36 | 9/04 | 28 | 0 | 7,893 | 1,505 | 0 | 1,174 | 10,572 | 5.5 |
| 37 | 9/11 | 19 | 0 | 897 | 1,109 | 0 | 499 | 2,505 | 3.0 |
| 38 | 9/18 | 3 | 0 | 65 | 574 | 0 | 131 | 770 | 3.0 |
| 39-40 | 10/2 | 3 | 0 | 1 | 277 | 0 | 14 | 293 | 6.0 |
| 41 | 10/9 | Not | Fished | | | | | | 3.0 |
| Totals | | 84 | 13 | 189,207 | 4,529 | 25 | 3,423 | 197,197 | 48.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-----------|-----------|----------------|---------------|------------|---------------|----------------|-------------|
| 1988 | 81 | 40 | 61,483 | 20,148 | 2,628 | 24,453 | 108,752 | 39.0 |
| 1989 | 92 | 43 | 145,516 | 7,287 | 678 | 13,724 | 167,248 | 43.0 |
| 1990 | 103 | 45 | 161,378 | 7,482 | 352 | 4,578 | 174,015 | 36.0 |
| 1991 | 79 | 49 | 45,334 | 3,857 | 2 | 2,196 | 51,438 | 30.0 |
| 1992 | 62 | 7 | 144,300 | 21,550 | 6 | 6,838 | 172,701 | 44.0 |
| Ave. | 83 | 37 | 111,674 | 12,065 | 733 | 10,358 | 134,831 | 38.4 |
| 1993 | 84 | 13 | 189,207 | 4,529 | 25 | 3,423 | 197,197 | 48.0 |

* Deviation

| | | | | | | | | |
|------|-----|------|------|------|------|------|------|------|
| 1992 | +1% | -65% | +69% | -62% | -97% | -67% | +46% | +25% |
|------|-----|------|------|------|------|------|------|------|

* deviation from 5-year average

Table 12. Harvest of sockeye salmon in the inriver, surf, and ocean East River fisheries, 1993.

| Week | Ending Date | Area | Sockeye Catch | % Sockeye Catch |
|---------------------|-------------|---------|---------------|-----------------|
| 30 | 7/24 | Inriver | 5,258 | 61.0 |
| | | Surf | 2,054 | 23.8 |
| | | Ocean | 1,309 | 15.2 |
| 31 | 7/31 | Inriver | 2,348 | 11.2 |
| | | Surf | 12,405 | 59.0 |
| | | Ocean | 6,257 | 29.8 |
| 32 | 8/07 | Inriver | 11,457 | 29.9 |
| | | Surf | 8,979 | 23.4 |
| | | Ocean | 17,870 | 46.7 |
| 33 | 8/14 | Inriver | 13,313 | 20.0 |
| | | Surf | 32,683 | 49.2 |
| | | Ocean | 20,465 | 30.8 |
| 34 | 8/21 | Inriver | 10,798 | 78.1 |
| | | Surf | 3,040 | 21.9 |
| | | Ocean | Not fished | |
| Totals ^a | | Inriver | 67,822 | 35.8 |
| | | Surf | 75,484 | 39.9 |
| | | Ocean | 45,901 | 24.3 |

^a Totals include catches from weeks not listed in this table.

Table 13. East River escapement, 1993.

| Date | Sockeye | Coho | Remarks |
|------|---------|-------|-----------------------------|
| 6/11 | 350 | | None seen in Doame River |
| 6/15 | 300 | | 50 in Doame River |
| 6/21 | 50 | | 2,200 in Doame River |
| 6/23 | 600 | | 1,400 in Doame River |
| 6/27 | 700 | | |
| 6/29 | 800 | | |
| 7/04 | | | None seen, poor visibility |
| 7/07 | | | None seen, poor visibility |
| 7/11 | 5,000 | | |
| 7/14 | 6,000 | | |
| 7/16 | 4,800 | | |
| 7/19 | 5,800 | | |
| 7/21 | 7,100 | | Poor visibility |
| 7/25 | 10,000 | | Poor visibility |
| 7/27 | 15,000 | | |
| 8/01 | 23,000 | | |
| 8/04 | 28,000 | | Very low water |
| 8/08 | 32,000 | | |
| 8/11 | 25,000 | | Poor visibility |
| 8/14 | | | None seen, poor visibility |
| 8/17 | 28,000 | | Poor visibility |
| 8/23 | 45,000 | | |
| 9/03 | 39,500 | | |
| 9/22 | 3,200 | 1,400 | In Doame River/Ranney Creek |
| 10/6 | | 3,500 | 6,000 in Doame River |

Table 14. East River return-per-spawner since 1975.

| Year | Total Return | Parent Year Escapement | Return Per Spawner | Rank |
|------|--------------|------------------------|--------------------|------|
| 1976 | 79,816 | 10,000 | 7.98 | 1 |
| 1993 | 234,207 | 30,000 | 7.81 | 2 |
| 1982 | 177,785 | 25,000 | 7.11 | 3 |
| 1985 | 245,851 | 35,000 | 7.02 | 4 |
| 1992 | 187,300 | 38,000 | 4.93 | 5 |
| 1983 | 147,204 | 30,000 | 4.91 | 6 |
| 1990 | 203,378 | 44,000 | 4.62 | 7 |
| 1977 | 61,309 | 15,000 | 4.08 | 8 |
| 1984 | 68,023 | 18,000 | 3.78 | 9 |
| 1975 | 44,530 | 12,000 | 3.71 | 10 |
| 1979 | 81,262 | 22,000 | 3.69 | 11 |
| 1988 | 99,483 | 29,000 | 3.43 | 12 |
| 1989 | 175,516 | 60,000 | 2.93 | 13 |
| 1987 | 167,723 | 65,000 | 2.58 | 14 |
| 1991 | 75,334 | 34,000 | 2.22 | 15 |
| 1981 | 82,365 | 40,000 | 2.06 | 16 |
| 1978 | 56,003 | 35,000 | 1.60 | 17 |
| 1986 | 120,355 | 80,000 | 1.50 | 18 |
| 1980 | 66,530 | 50,000 | 1.33 | 19 |

Average return per spawner since 1975: 4.07:1.

Table 15. Harvest of salmon in the Akwe River set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|----------|-----------|--------------|--------------|-----------|-----------|--------------|-------------|
| 27 | 7/03 | 4 | 20 | 137 | 0 | 0 | 0 | 157 | 1.5 |
| 28 | 7/10 | 3 | 4 | 484 | 0 | 1 | 0 | 489 | 1.5 |
| 29 | 7/17 | 3 | 3 | 1,767 | 0 | 0 | 0 | 1,770 | 2.5 |
| 30 | 7/24 | 3 | 1 | 623 | 0 | 0 | 2 | 626 | 2.5 |
| 31-33 | 8/14 | 6 | 1 | 943 | 3 | 8 | 27 | 982 | 5.5 |
| 34-35 | 8/28 | Not | fished | | | | | | 4.0 |
| 36-37 | 9/11 | 4 | 1 | 15 | 173 | 1 | 7 | 197 | 4.0 |
| 38 | 9/18 | 4 | 0 | 2 | 1,028 | 0 | 3 | 1,033 | 2.0 |
| 39 | 9/25 | 6 | 0 | 2 | 1,272 | 0 | 0 | 1,274 | 3.0 |
| 40 | 10/2 | 3 | 0 | 0 | 208 | 0 | 0 | 208 | 3.0 |
| 41 | 10/9 | 4 | 0 | 0 | 484 | 0 | 0 | 484 | 3.0 |
| Totals | | 6 | 30 | 3,973 | 3,168 | 10 | 39 | 7,220 | 32.5 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|--------------------|-------------|-------------|--------------|--------------|-------------|-------------|---------------|-------------|
| 1988 | 13 | 100 | 12,476 | 13,705 | 1,686 | 2,288 | 30,255 | 39.0 |
| 1989 | 16 | 192 | 8,653 | 10,278 | 491 | 314 | 19,928 | 27.0 |
| 1990 | 15 | 193 | 3,996 | 6,718 | 11 | 42 | 10,960 | 26.0 |
| 1991 | 6 | 265 | 4,172 | 5,697 | 2 | 67 | 10,203 | 26.0 |
| 1992 | 6 | 41 | 3,034 | 3,402 | 1 | 13 | 6,491 | 30.5 |
| Ave. | 11 | 158 | 6,466 | 7,960 | 438 | 545 | 15,567 | 29.7 |
| 1993 | 6 | 30 | 3,973 | 3,168 | 10 | 39 | 7,220 | 32.5 |
| * Deviation | | | | | | | | |
| 1993 | -45% | -81% | -39% | -60% | -98% | -93% | -54% | +9% |

* deviation from 5-year average

Table 16. Akwe River escapement, 1993.

| Date | Sockeye | Chinook | Remarks |
|------|---------|---------|--|
| 6/21 | 350 | 4 | Poor visibility |
| 6/23 | 300 | | Poor visibility |
| 6/29 | 100 | | Also, 25 seen intertidal |
| 7/07 | | | None seen |
| 7/12 | 100 | | Poor visibility |
| 7/14 | | | 700 seen intertidal |
| 7/16 | 800 | | |
| 8/28 | 3,543 | 9 | 243 sockeye, 6 chinook dead, also 5 pinks seen |

Table 17. Harvest of salmon in the combined Italo rivers set gillnet fishery by fishing period, 1993 and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|--------|-------------|-------|---------|---------|-------|------|------|-------|------|
| 38 | 9/18 | 4 | 0 | 2 | 886 | 0 | 1 | 889 | 3.0 |
| 39 | 9/25 | 4 | 0 | 0 | 886 | 0 | 0 | 886 | 4.0 |
| 40-41 | 10/9 | 8 | 0 | 0 | 1,126 | 0 | 0 | 1,126 | 4.0 |
| Totals | | 6 | 0 | 2 | 2,898 | 0 | 1 | 2,901 | 11.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-------|---------|---------|-------|-------|------|-------|------|
| 1988/90 | 7 | 0 | 5 | 4,821 | 6 | 16 | 4,848 | 39.0 |
| 1991 | 3 | 0 | 0 | 1,778 | 0 | 0 | 1,778 | 5.0 |
| 1992 | 3 | 0 | 0 | 870 | 0 | 0 | 870 | 9.0 |
| Ave. | 3 | 0 | 1 | 1,494 | 1 | 3 | 1,499 | 10.6 |
| 1993 | 6 | 0 | 2 | 2,898 | 0 | 1 | 2,901 | 11.0 |
| * Deviation | | | | | | | | |
| 1993 | +100% | 0 | +100% | +94% | -100% | -67% | +94% | +4% |

* deviation from 5-year average

Table 18. Italo River and Italo Lake escapement, 1993.

| Date | Area | Sockeye | Coho | Pink | Remarks |
|------|--------------|---------|-------|-------|------------------------|
| 6/21 | New Italo | 450 | | | Intertidal |
| 6/23 | New Italo | 550 | | | |
| 6/27 | New Italo | 200 | | | Plus 150 intertidal |
| 6/27 | Italo Lake | 250 | | | |
| 6/29 | New Italo | 300 | | | Intertidal |
| 7/04 | New Italo | 25 | | | Poor visibility |
| 7/07 | New Italo | | | | None seen |
| 7/11 | New Italo | 700 | | | Plus 1,600 intertidal |
| 7/11 | Italo Lake | | | | None seen |
| 7/16 | New Italo | 800 | | | Plus 900 intertidal |
| 9/03 | Old Italo | | 125 | | |
| 9/03 | Middle Italo | | 30 | | |
| 9/03 | New Italo | 150 | 550 | 4,800 | |
| 9/03 | Italo Lake | 3,200 | | | |
| 9/10 | Old Italo | | 2,580 | | |
| 9/10 | Middle Italo | | 3,500 | | Only 500 above markers |
| 9/10 | New Italo | | 50 | | |
| 9/22 | Old Italo | | 2,300 | | Plus 220 intertidal |
| 9/22 | Middle Italo | | | | 900 intertidal |
| 10/6 | Old Italo | | 4,000 | | |
| 10/6 | Middle Italo | | 650 | | |
| 10/6 | Italo Lake | 800 | | | |

Table 19. Harvest of salmon in the Dangerous River set gillnet fishery, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|----------|----------|--------------|------------|-----------|----------|--------------|-------------|
| 25-28 | 7/10 | Not | fished | | | | | | 10.0 |
| 29-31 | 7/31 | 3 | 4 | 841 | 2 | 12 | 2 | 861 | 7.5 |
| 32-34 | 8/21 | 3 | 2 | 814 | 1 | 1 | 4 | 822 | 9.0 |
| 35-38 | 9/18 | Not | fished | | | | | | 12.0 |
| 39-41 | 10/9 | 5 | 0 | 0 | 866 | 0 | 2 | 868 | 12.0 |
| Totals | | 5 | 6 | 1,655 | 869 | 13 | 8 | 2,551 | 50.5 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|----------|-----------|--------------|------------|----------|----------|--------------|-------------|
| 1988 | 3 | 0 | 1,305 | 0 | 0 | 0 | 1,305 | 41.5 |
| 1989/90 | 5 | 0 | 1,832 | 875 | 2 | 7 | 2,716 | 95.0 |
| 1991/92 | 4 | 104 | 2,444 | 23 | 1 | 1 | 2,573 | 96.5 |
| Ave. | 2 | 21 | 1,116 | 180 | 1 | 2 | 1,319 | 46.6 |
| 1993 | 5 | 6 | 1,655 | 869 | 13 | 8 | 2,551 | 50.5 |
| * Deviation | | | | | | | | |
| 1993 | +150% | -71% | +48% | +382% | +1,200% | +300% | +93% | +8% |

* deviation from 5-year average

Table 20. Dangerous River escapement, 1993.

| Date | Coho | Remarks |
|-------|------|---------|
| 9/10 | 30 | |
| 9/22 | 70 | |
| 10/06 | 100 | |

Table 21. Harvest of salmon in the Situk-Ahrnklin Inlet set gillnet fishery, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|--------|-------------|-------|---------|---------|---------|-------|------|---------|------|
| 25 | 6/19 | 35 | | 2,465 | 0 | 0 | 0 | 2,465 | 1.0 |
| 26 | 6/26 | 70 | 304 | 9,666 | 2 | 1 | 0 | 9,973 | 4.5 |
| 27 | 7/03 | 74 | 484 | 13,489 | 22 | 7 | 3 | 14,005 | 5.5 |
| 28 | 7/10 | 65 | | 16,375 | 46 | 160 | 2 | 16,583 | 5.5 |
| 29 | 7/17 | 78 | | 17,644 | 86 | 467 | 3 | 18,200 | 5.5 |
| 30 | 7/24 | 73 | | 15,182 | 149 | 618 | 10 | 15,957 | 5.5 |
| 31 | 7/31 | 59 | | 10,999 | 162 | 1,383 | 11 | 12,551 | 4.5 |
| 32 | 8/07 | 37 | | 10,915 | 148 | 2,843 | 22 | 13,928 | 4.0 |
| 33 | 8/14 | 36 | | 5,236 | 383 | 2,713 | 46 | 8,378 | 4.0 |
| 34 | 8/21 | 20 | 0 | 270 | 343 | 193 | 14 | 870 | 3.0 |
| 35 | 8/28 | 42 | 0 | 936 | 4,884 | 316 | 137 | 6,273 | 3.0 |
| 36 | 9/04 | 53 | 0 | 371 | 13,146 | 47 | 71 | 13,635 | 3.0 |
| 37 | 9/11 | 66 | 0 | 86 | 30,214 | 8 | 51 | 30,359 | 4.0 |
| 38 | 9/18 | 71 | 0 | 383 | 29,630 | 0 | 37 | 30,050 | 4.0 |
| 39 | 9/25 | 73 | 1 | 9 | 34,092 | 1 | 21 | 34,124 | 4.0 |
| 40 | 10/2 | 68 | 0 | 23 | 16,985 | 0 | 4 | 17,012 | 4.0 |
| 41 | 10/9 | 51 | 0 | 0 | 6,618 | 0 | 1 | 6,619 | 4.0 |
| Totals | | 78 | 789 | 104,049 | 136,910 | 8,757 | 433 | 250,938 | 69.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-------|---------|---------|---------|--------|------|---------|-------|
| 1988 | 83 | 300 | 52,128 | 61,689 | 15,323 | 886 | 130,326 | 53.5 |
| 1989 | 94 | 1 | 99,945 | 39,318 | 42,974 | 883 | 183,071 | 73.75 |
| 1990 | 60 | 0 | 90,735 | 45,075 | 23,895 | 283 | 159,988 | 74.08 |
| 1991 | 87 | 786 | 120,074 | 89,434 | 2,534 | 186 | 213,014 | 72.0 |
| 1992 | 96 | 1,504 | 105,154 | 133,957 | 13,552 | 389 | 254,556 | 74.75 |
| Ave. | 84 | 518 | 93,607 | 73,895 | 19,656 | 525 | 188,191 | 69.6 |
| 1993 | 78 | 789 | 104,024 | 136,910 | 8,757 | 433 | 250,938 | 69.0 |
| * Deviation | | | | | | | | |
| 1993 | -7% | +52% | +11% | +89% | -55% | -20% | +33% | -1% |

* deviation from 5-year average

Table 22. Exvessel value of Situk-Ahrnklin set gillnet fishery, 1975 -1993.

| Year | Yakutat Setnet Income | Situk Setnet Income | Percent Value of Situk |
|-------------|-----------------------|---------------------|------------------------|
| 1975 | \$ 713,860 | \$ 256,760 | 36% |
| 1976 | 1,214,550 | 485,680 | 40% |
| 1977 | 2,065,055 | 890,630 | 43% |
| 1978 | 3,066,120 | 767,690 | 25% |
| 1979 | 3,239,000 | 715,280 | 22% |
| 1980 | 2,090,750 | 419,070 | 20% |
| 1981 | 2,333,300 | 612,050 | 26% |
| 1982 | 2,084,140 | 372,000 | 18% |
| 1983 | 1,355,470 | 205,750 | 15% |
| 1984 | 2,375,790 | 575,120 | 24% |
| 1985 | 3,010,580 | 524,560 | 17% |
| 1986 | 1,981,807 | 180,677 | 9% |
| 1987 | 5,077,589 | 1,248,984 | 25% |
| 1988 | 8,944,228 | 2,601,441 | 29% |
| 1989 | 4,174,510 | 1,244,788 | 30% |
| 1990 | 4,493,681 | 1,189,260 | 26% |
| 1991 | 2,248,558 | 1,183,752 | 53% |
| 1992 | 5,236,718 | 2,063,143 | 39% |
| Ave. | 3,094,761 | 863,146 | 28% |
| 1993 | 2,916,782 | 1,192,148 | 41% |
| * Deviation | | | |
| 1993 | -6% | +38% | +46% |

* deviation from average

Table 23. Dollar value of salmon harvest in the Situk-Ahmklin set gillnet fishery, 1975-1993.^a

| Year | Chinook | Sockeye | Coho | Pink | Chum | Total |
|------|----------|------------|------------|----------|--------|------------|
| 1975 | \$ 7,000 | \$ 128,000 | \$ 114,560 | \$ 7,000 | \$ 4 | \$ 256,760 |
| 1976 | 24,000 | 345,300 | 108,000 | 8,300 | 80 | 485,680 |
| 1977 | 21,000 | 588,560 | 255,530 | 25,230 | 310 | 890,630 |
| 1978 | 10,000 | 333,150 | 417,270 | 7,140 | 126 | 767,690 |
| 1979 | 29,560 | 430,350 | 223,950 | 31,200 | 220 | 715,280 |
| 1980 | 22,540 | 155,130 | 218,190 | 23,100 | 106 | 419,070 |
| 1981 | 25,000 | 237,710 | 308,270 | 40,440 | 625 | 612,050 |
| 1982 | 5,610 | 170,940 | 191,240 | 3,800 | 410 | 372,000 |
| 1983 | 4,830 | 101,000 | 96,300 | 3,300 | 315 | 205,750 |
| 1984 | 12,310 | 50,740 | 498,530 | 10,640 | 2,400 | 575,120 |
| 1985 | 11,330 | 122,770 | 385,000 | 4,750 | 710 | 524,560 |
| 1986 | 3,276 | 59,771 | 116,648 | 688 | 294 | 180,677 |
| 1987 | 23,908 | 755,662 | 454,035 | 9,682 | 5,394 | 1,248,984 |
| 1988 | 10,350 | 1,018,060 | 1,522,176 | 40,223 | 10,632 | 2,601,441 |
| 1989 | No Sale | 899,505 | 283,090 | 58,445 | 3,748 | 1,244,788 |
| 1990 | No Sale | 816,615 | 352,937 | 18,638 | 1,070 | 1,189,260 |
| 1991 | 12,071 | 651,684 | 518,138 | 1,399 | 460 | 1,183,752 |
| 1992 | 29,404 | 929,241 | 1,093,096 | 9,816 | 1,586 | 2,063,143 |
| 1993 | 11,553 | 503,262 | 669,648 | 6,479 | 1,206 | 1,192,148 |

^a (Average price/lb) x (average lb/fish) x (total fish delivered)

Table 24. Situk Weir escapement counts, 1993.

| Chinook ^a | Sockeye | Coho | Pink | Chum | Total |
|----------------------|---------|------|--------|------|--------|
| 4,101 | 61,792 | 0 | 16,285 | 0 | 82,178 |

^a Includes 871 large, 490 two ocean, 2,740 one ocean fish.

Table 25. Situk-Ahmklin escapement surveys, 1993.

| Date | Area | Sockeye | Pink | Coho | Remarks |
|------|-----------------------|---------|-------|--------|-----------------------------|
| 6/20 | Ahmklin/Antlen Rivers | 250 | | | Poor visibility |
| 6/26 | Ahmklin/Antlen Rivers | 2,500 | | | Boat survey |
| 7/19 | Ahmklin/Antlen Rivers | 3,000 | | | Aerial survey of confluence |
| 7/28 | Mountain Stream | 2,000 | | | |
| 7/28 | Mountain Lake | 100 | | | At inlet stream |
| 8/28 | Situk River | 3,000 | 7,000 | | Lake to Nine Mile Bridge |
| 8/28 | Situk River | | | | 700 live, 64 dead chinook |
| 9/06 | Situk River | | | 4,000 | Nine Mile to landing |
| 9/14 | Situk River | | | 6,740 | Nine Mile to landing |
| 9/15 | Ahmklin/Antlen Rivers | | | 2,900 | At confluence |
| 9/23 | Situk River | | | 10,700 | Nine Mile to landing |
| 10/6 | Antlen River | | | 2,000 | Aerial survey |
| 10/6 | Situk River | | | 400 | |
| 10/6 | Old Situk | | | 800 | Aerial survey |

Table 26. Harvest of salmon in the Lost River set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|----------|-----------|--------------|--------------|-----------|-----------|---------------|-------------|
| 26 | 6/26 | 3 | 1 | 454 | 0 | 0 | 0 | 455 | 3.5 |
| 27 | 7/03 | 4 | 16 | 787 | 0 | 0 | 0 | 803 | 4.5 |
| 28 | 7/10 | 3 | | 203 | 0 | 0 | 0 | 203 | 4.5 |
| 29 | 7/17 | 5 | | 569 | 0 | 7 | 0 | 576 | 4.5 |
| 30 | 7/24 | 5 | | 1,122 | 0 | 19 | 0 | 1,141 | 3.5 |
| 31 | 7/31 | 3 | | 471 | 0 | 7 | 1 | 479 | 3.5 |
| 32-34 | 8/21 | 4 | 0 | 288 | 18 | 13 | 2 | 321 | 9.0 |
| 35-36 | 9/04 | 5 | 0 | 89 | 1,083 | 1 | 6 | 1,179 | 6.0 |
| 37 | 9/11 | 3 | 0 | 12 | 2,139 | 0 | 4 | 2,155 | 4.0 |
| 38 | 9/18 | 6 | 0 | 4 | 1,670 | 0 | 3 | 1,677 | 4.0 |
| 39 | 9/25 | 5 | 0 | 0 | 2,900 | 0 | 1 | 2,901 | 4.0 |
| 40-41 | 10/9 | 6 | 0 | 0 | 1,500 | 0 | 0 | 1,500 | 8.0 |
| Totals | | 6 | 17 | 3,999 | 9,310 | 47 | 17 | 13,390 | 59.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-------|---------|---------|--------|------|------|--------|------|
| 1988 | 6 | 22 | 2,316 | 5,905 | 478 | 41 | 8,762 | 48.0 |
| 1989 | 4 | 15 | 3,090 | 5,737 | 816 | 20 | 9,678 | 56.5 |
| 1990 | 4 | | 3,093 | 4,922 | 218 | 5 | 8,238 | 58.5 |
| 1991 | 5 | 21 | 2,789 | 3,621 | 7 | 3 | 6,441 | 54.5 |
| 1992 | 5 | 20 | 3,170 | 10,244 | 33 | 1 | 13,468 | 59.5 |
| Ave. | 5 | 16 | 2,892 | 6,086 | 271 | 14 | 9,317 | 55.5 |
| 1993 | 6 | 17 | 3,999 | 9,310 | 47 | 17 | 13,390 | 59.0 |
| * Deviation | | | | | | | | |
| 1993 | +20% | +6% | +38% | +53% | -83% | -95% | +21% | +6% |

* deviation from 5-year average

Table 27. Lost River escapement, 1993.

| Date | Area | Sockeye | Coho | Pink | Remarks |
|------|-------------|---------|-------|------|------------------|
| 6/27 | Tawah Creek | | | | 1 chinook seen |
| 7/11 | Tawah Creek | 5 | | | |
| 7/14 | Tawah Creek | | | | None seen |
| 7/19 | Tawah Creek | | | | None seen |
| 7/20 | Tawah Creek | 35 | | | Under REL Bridge |
| 7/22 | Tawah Creek | 70 | | | Under REL Bridge |
| 7/25 | Tawah Creek | 70 | | | Under REL Bridge |
| 7/27 | Ophir Creek | | | | None seen |
| 7/27 | Tawah Creek | 25 | | | Under REL Bridge |
| 8/01 | Tawah Creek | 30 | | | Under REL Bridge |
| 8/09 | Tawah Creek | 375 | | | |
| 8/26 | Tawah Creek | 128 | 136 | 155 | |
| 9/10 | Tawah Creek | | 1,286 | 146 | |
| 9/15 | Tawah Creek | | 4,400 | | |
| 9/22 | Tawah Creek | | 5,436 | | |

Table 28. Harvest of salmon in the Yakutat Bay set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|-----------|------------|---------------|--------------|--------------|-----------|---------------|-------------|
| 25 | 6/19 | 18 | 15 | 297 | 2 | 0 | 0 | 312 | 2.5 |
| 26 | 6/26 | 19 | 27 | 982 | 5 | 0 | 1 | 1,015 | 3.5 |
| 27 | 7/03 | 18 | 21 | 2,161 | 21 | 5 | 12 | 2,220 | 4.5 |
| 28 | 7/10 | 25 | 45 | 4,202 | 206 | 63 | 10 | 4,526 | 4.5 |
| 29 | 7/17 | 21 | 21 | 1,493 | 215 | 99 | 9 | 1,837 | 4.5 |
| 30 | 7/24 | 15 | 14 | 3,669 | 122 | 156 | 5 | 3,966 | 3.5 |
| 31 | 7/31 | 15 | 5 | 4,227 | 224 | 186 | 11 | 4,653 | 3.5 |
| 32 | 8/07 | 8 | 0 | 1,762 | 136 | 157 | 6 | 2,061 | 3.0 |
| 33 | 8/14 | 5 | 0 | 287 | 88 | 346 | 3 | 724 | 3.0 |
| 34-35 | 8/28 | 4 | 0 | 39 | 61 | 42 | 1 | 143 | 6.0 |
| 36 | 9/04 | 4 | 0 | 31 | 187 | 0 | 6 | 224 | 3.0 |
| 37 | 9/11 | 4 | 0 | 24 | 793 | 0 | 5 | 822 | 4.0 |
| 38-39 | 9/25 | 5 | 0 | 2 | 1,498 | 0 | 2 | 1,502 | 8.0 |
| 40-41 | 10/9 | 4 | 0 | 0 | 840 | 0 | 1 | 841 | 8.0 |
| Totals | | 25 | 148 | 19,176 | 4,398 | 1,054 | 72 | 24,848 | 61.5 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-----------|------------|---------------|--------------|---------------|------------|---------------|-------------|
| 1988 | 34 | 196 | 14,239 | 3,164 | 99,965 | 651 | 118,215 | 64.5 |
| 1989 | 47 | 297 | 24,528 | 4,712 | 14,299 | 309 | 44,145 | 69.0 |
| 1990 | 42 | 304 | 41,858 | 5,472 | 6,178 | 359 | 54,171 | 62.75 |
| 1991 | 38 | 392 | 28,581 | 5,296 | 506 | 397 | 35,172 | 57.5 |
| 1992 | 32 | 147 | 31,706 | 6,567 | 4,866 | 236 | 43,522 | 58.5 |
| Ave. | 39 | 267 | 28,182 | 5,042 | 25,163 | 390 | 59,045 | 62.5 |
| 1993 | 25 | 148 | 19,176 | 4,398 | 1,054 | 72 | 24,848 | 61.5 |
| * Deviation | | | | | | | | |
| 1993 | -36% | -45% | -32% | -13% | -96% | -82% | -58% | -2% |

* deviation from 5-year average

Table 29. Yakutat Bay area escapement, 1993.

| Date | Area | Coho | Pink | Remarks |
|------|----------------|------|--------|----------------------|
| 8/08 | Humpback Creek | | 100 | Intertidal |
| 9/03 | Humpback Creek | | 13,000 | |
| 9/09 | Ankau Creek | 350 | | Very poor visibility |
| 9/15 | Ankau Creek | 400 | | |

Table 30. Harvest of salmon in the Manby Shore Ocean and Streams set gillnet fisheries by fishing periods, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|----------|----------|--------------|--------------|----------|-----------|--------------|-------------|
| 26 | 6/26 | 6 | 3 | 961 | 10 | 0 | 1 | 975 | 3.5 |
| 27 | 7/03 | 5 | 2 | 1,834 | 159 | 0 | 18 | 2,013 | 4.5 |
| 28 | 7/10 | 3 | 1 | 297 | 97 | 3 | 3 | 401 | 4.5 |
| 29 | 7/17 | Not | fished | | | | | | 4.5 |
| 30-32 | 8/07 | 4 | 0 | 779 | 0 | 0 | 0 | 779 | 10.0 |
| 33-37 | 9/11 | Not | fished | | | | | | 15.0 |
| 38 | 9/18 | 3 | 0 | 1 | 3,128 | 0 | 0 | 3,129 | 3.0 |
| 39-41 | 10/9 | 5 | 0 | 1 | 1,955 | 0 | 0 | 1,956 | 9.0 |
| Totals | | 6 | 6 | 3,873 | 5,349 | 3 | 22 | 9,253 | 54.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|-------------|-----------|-----------|---------------|---------------|-----------|-----------|---------------|-------------|
| 1988 | 15 | 13 | 11,923 | 20,844 | 106 | 1 | 32,887 | 52.5 |
| 1989 | 25 | 33 | 33,078 | 7,150 | 47 | 6 | 40,304 | 51.5 |
| 1990 | 18 | 44 | 25,666 | 16,295 | 3 | 41 | 42,049 | 54.5 |
| 1991 | 9 | 30 | 10,971 | 5,609 | 0 | 26 | 16,636 | 50.5 |
| 1992 | 16 | 5 | 4,983 | 8,112 | 7 | 5 | 13,112 | 51.0 |
| Ave. | 17 | 25 | 17,324 | 11,602 | 33 | 16 | 28,998 | 52.0 |
| 1993 | 6 | 6 | 3,873 | 5,349 | 3 | 22 | 9,253 | 54.0 |
| * Deviation | | | | | | | | |
| 1993 | -65% | -76% | -78% | -54% | -91% | +38% | -68% | +4% |

* deviation from 5-year average

Table 31. Harvest of salmon in the Manby Shore Ocean set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|-------|---------|---------|------|------|------|-------|------|
| 26 | 6/26 | 6 | 3 | 961 | 10 | 0 | 1 | 975 | 3.5 |
| 27 | 7/03 | 5 | 2 | 1,834 | 159 | 0 | 18 | 2,013 | 4.5 |
| 28-30 | 7/24 | 5 | 1 | 839 | 97 | 3 | 3 | 943 | 12.5 |
| Totals | | 6 | 6 | 3,634 | 266 | 3 | 22 | 3,931 | 20.5 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days* |
|-------------|-------|---------|---------|---------|------|------|--------|-------|
| 1988 | 9 | 12 | 9,153 | 1 | 0 | 0 | 9,166 | 16.5 |
| 1989 | 21 | 23 | 30,370 | 8 | 22 | 2 | 30,425 | 24.0 |
| 1990 | 17 | 44 | 20,465 | 65 | 3 | 33 | 20,610 | 27.5 |
| 1991 | 9 | 30 | 8,413 | 24 | 0 | 26 | 8,493 | 21.0 |
| 1992 | 16 | 5 | 4,526 | 2 | 7 | 4 | 4,544 | 21.0 |
| Ave. | 14 | 23 | 14,585 | 20 | 6 | 13 | 14,648 | 22.0 |
| 1993 | 6 | 6 | 3,634 | 266 | 3 | 22 | 3,931 | 20.5 |
| * Deviation | | | | | | | | |
| 1993 | -57% | -74% | -75% | +1,330% | -50% | +69% | -73% | -7% |

- deviation from 5-year average
- * Days open to fishing are through statistical week 30.

Table 32. Harvest of salmon in the Manby Stream set gillnet fishery, 1993, and 5-year catch comparison.

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days ^a / |
|-------------|-------|---------|---------|-------|-------|-------|-------|---------------------|
| 1988 | 6 | 0 | 18 | 7,247 | 17 | 1 | 7,283 | 22.0 |
| 1989 | 7 | 0 | 8 | 2,627 | 25 | 3 | 2,663 | 17.0 |
| 1990 | 3 | 0 | 1 | 4,783 | 0 | 0 | 4,784 | 18.0 |
| 1991 | 3 | 0 | 0 | 2,313 | 0 | 0 | 2,313 | 18.0 |
| 1992 | 4 | 0 | 122 | 3,795 | 0 | 1 | 3,918 | 18.0 |
| Ave. | 5 | 0 | 30 | 4,153 | 8 | 1 | 4,192 | 18.6 |
| 1993 | Not | fished | | | | | | 18.0 |
| * Deviation | | | | | | | | |
| 1993 | -100% | -100% | -100% | -100% | -100% | -100% | -100% | -3% |

* deviation from 5-year average

Table 33. Harvest of salmon in the combined Esker Creek, Spoon River, and Sudden Stream set gillnet fisheries, 1993, and 5-year catch comparison.

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days* |
|-------------|-------|---------|---------|--------|-------|------|--------|-------|
| 1988 | 11 | 0 | 17 | 11,825 | 89 | 1 | 11,932 | 22.0 |
| 1989 | 4 | 0 | 13 | 4,263 | 0 | 1 | 4,277 | 17.0 |
| 1990 | 4 | 0 | 10 | 11,393 | 0 | 0 | 11,403 | 19.0 |
| 1991 | 5 | 0 | 0 | 3,272 | 0 | 0 | 3,272 | 19.0 |
| 1992 | 5 | 0 | 335 | 4,315 | 0 | 0 | 4,650 | 18.0 |
| Ave. | 6 | 0 | 75 | 7,014 | 18 | 0 | 7,107 | 19.0 |
| 1993 | 5 | 0 | 239 | 5,083 | 0 | 0 | 5,322 | 19.0 |
| * Deviation | | | | | | | | |
| 1993 | -17% | 0 | +219% | -28% | -100% | 0 | -25% | 0 |

* deviation from 5-year average

* Days open to fishing for statistical weeks 34-39.

Table 34. Manby streams escapement, 1993.

| Date | Area | Coho | Remarks |
|------|---------------|-------|---------------------|
| 9/09 | Manby Stream | | None seen |
| 9/09 | Spoon River | | None seen |
| 9/15 | Esker Creek | 1,620 | |
| 9/15 | Sudden Stream | 150 | |
| 9/15 | Spoon River | | None seen |
| 9/15 | Manby Stream | 350 | |
| 9/22 | Esker Creek | 900 | |
| 9/22 | Spoon River | 30 | |
| 9/22 | Manby Stream | 2,000 | Also 400 pinks seen |
| 10/6 | Esker Creek | 350 | |
| 10/6 | Sudden Stream | 920 | |

Table 35. Yana River to Icy Bay escapement, 1993.

| Date | Area | Coho | Remarks |
|------|----------------|-------|--|
| 8/22 | Big River | | None seen |
| 8/22 | Jetty Creek | | None seen |
| 8/22 | Yana River | | None seen |
| 8/25 | Yahse River | | None seen |
| 8/25 | Yana River | | None seen |
| 8/25 | Jetty Creek | | None seen |
| 9/09 | Big River | 2,500 | |
| 9/09 | Yana River | 25 | |
| 9/09 | Yahse River | | None seen |
| 9/09 | Jetty Creek | 150 | Another 150 intertidal |
| 9/09 | Pt. Riou Creek | | 300 seen intertidal |
| 9/15 | Big River | 900 | Poor visibility |
| 9/15 | Yahse River | | None seen |
| 9/15 | Pt. Riou Creek | 50 | |
| 9/15 | Yana River | 30 | |
| 9/15 | Jetty Creek | 1,200 | Another 300 intertidal, also 400 pinks |
| 9/22 | Yahse River | 100 | Another 20 intertidal |
| 9/22 | Yana River | 250 | |
| 9/22 | Jetty Creek | 1,200 | Poor visibility |
| 9/22 | Big River | 750 | |
| 9/22 | Pt. Riou Creek | 38 | |
| 10/3 | Big River | 300 | Poor visibility |
| 10/3 | Jetty Creek | 50 | Poor visibility |

Table 36. Harvest comparison of coho salmon in the Yakutat and Yakataga Districts, 1993.

| Year | Yakutat District | Yakataga District | Total | % Yakataga |
|-------------|------------------|-------------------|---------|------------|
| 1983 | 56,854 | 24,120 | 80,974 | 30% |
| 1984 | 118,279 | 64,441 | 182,720 | 35% |
| 1985 | 114,924 | 87,242 | 202,166 | 43% |
| 1986 | 61,258 | 30,026 | 91,284 | 33% |
| 1987 | 73,807 | 52,296 | 126,103 | 41% |
| 1988 | 136,634 | 69,232 | 205,866 | 34% |
| 1989 | 92,970 | 83,877 | 176,847 | 47% |
| 1990 | 100,088 | 48,802 | 148,890 | 33% |
| 1991 | 123,519 | 42,861 | 166,380 | 25% |
| 1992 | 193,148 | 97,195 | 290,343 | 33% |
| Ave. | 107,148 | 60,009 | 167,157 | 35% |
| 1993 | 171,425 | 66,124 | 237,549 | 28% |
| * Deviation | | | | |
| 1993 | +60% | +9% | +42% | |

* deviation from 10-year average

Table 37. Harvest of salmon in the Kaliakh River set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|----------|----------|----------|--------------|----------|----------|--------------|-------------|
| 25-35 | 8/28 | Not | fished | | | | | | 29.5 |
| 36 | 9/04 | 4 | 0 | 0 | 126 | 0 | 0 | 126 | 3.0 |
| 37 | 9/11 | 5 | 0 | 0 | 1,147 | 0 | 0 | 1,147 | 3.0 |
| 38 | 9/18 | 7 | 0 | 0 | 4,244 | 0 | 1 | 4,255 | 4.0 |
| 39 | 9/25 | 8 | 0 | 0 | 2,215 | 0 | 0 | 2,215 | 4.0 |
| 40-41 | 10/09 | 4 | 0 | 0 | 248 | 0 | 0 | 248 | 8.0 |
| Totals | | 8 | 0 | 0 | 7,980 | 0 | 1 | 7,981 | 51.5 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days* |
|-------------|-------|---------|---------|--------|------|------|--------|-------|
| 1988 | 14 | 0 | 2 | 8,867 | 0 | 0 | 8,869 | 27.0 |
| 1989 | 11 | 0 | 0 | 16,858 | 0 | 0 | 16,858 | 25.35 |
| 1990 | 18 | 0 | 7 | 13,775 | 0 | 3 | 13,785 | 20.0 |
| 1991 | 7 | 0 | 0 | 4,379 | 0 | 0 | 4,379 | 25.0 |
| 1992 | 6 | 0 | 0 | 4,138 | 0 | 0 | 4,138 | 25.0 |
| Ave. | 11 | 0 | 2 | 9,603 | 0 | 1 | 9,606 | 24.5 |
| 1993 | 8 | 0 | 0 | 7,980 | 0 | 1 | 7,981 | 25.0 |
| * Deviation | | | | | | | | |
| 1992 | -27% | 0 | -100% | -17% | 0 | 0 | -17% | +2% |

- * deviation from 5-year average
- * For 5-year comparison, days are for coho season only.

Table 38. Harvest of salmon in the Tsiu River set gillnet fishery by fishing period, 1993, and 5-year catch comparison.

| Week | Ending Date | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|---------------|-------------|-------|---------|---------|--------|------|------|--------|------|
| 35 | 8/28 | 17 | 0 | 20 | 5,947 | 0 | 0 | 5,967 | 2.0 |
| 36 | 9/04 | 18 | 0 | 0 | 4,816 | 0 | 0 | 4,816 | 2.0 |
| 37 | 9/11 | 22 | 0 | 0 | 13,560 | 0 | 0 | 13,560 | 3.0 |
| 38 | 9/18 | 20 | 1 | 0 | 13,898 | 0 | 0 | 13,899 | 3.0 |
| 39 | 9/25 | 21 | 0 | 0 | 9,191 | 0 | 0 | 9,191 | 3.0 |
| 40 | 10/2 | 16 | 0 | 0 | 6,904 | 0 | 0 | 6,904 | 3.0 |
| 41 | 10/9 | 13 | 0 | 0 | 2,420 | 0 | 0 | 2,420 | 4.0 |
| Totals | | 22 | 1 | 20 | 56,736 | 0 | 0 | 56,757 | 20.0 |

5-Year Comparison

| Year | Boats | Chinook | Sockeye | Coho | Pink | Chum | Total | Days |
|--------------------|-------|---------|---------|--------|-------|-------|--------|-------|
| 1988 | 38 | 0 | 24 | 56,116 | 3 | 3 | 56,146 | 20.0 |
| 1989 | 24 | 0 | 41 | 62,939 | 2 | 0 | 62,982 | 18.75 |
| 1990 | 29 | 0 | 31 | 33,785 | 2 | 0 | 33,818 | 10.0 |
| 1991 | 23 | 0 | 0 | 38,195 | 0 | 1 | 38,196 | 21.1 |
| 1992 | 23 | 0 | 57 | 92,343 | 0 | 1 | 92,401 | 25.0 |
| Ave. | 27 | 0 | 31 | 56,676 | 1 | 1 | 56,708 | 19.0 |
| 1993 | 22 | 1 | 20 | 56,736 | 0 | 0 | 56,757 | 20.0 |
| * Deviation | | | | | | | | |
| 1993 | -18% | +100% | -35% | 0 | -100% | -100% | 0 | +5% |

* deviation from 5-year average

Table 39. Tsiu and Tsivat Rivers coho salmon escapements, 1993.

| Date | Below markers/Tsiu | Above markers/Tsiu | Tsivat | Remarks |
|------|--------------------|--------------------|--------|----------------------|
| 8/22 | 1,500 | 2,300 | | |
| 8/25 | 3,000 | 200 | | |
| 8/26 | 2,300 | 4,800 | 35 | |
| 8/29 | 4,500 | 3,000 | | Poor visibility |
| 9/05 | 5,100 | 9,500 | | |
| 9/10 | 1,000 | 14,000 | 3,500 | |
| 10/3 | | 800 | | Very Poor visibility |

Table 40. Yakutat subsistence salmon harvest, 1993.^a

| Location ^b | Chinook | Sockeye | Coho | Pink | Chum | Other | Total |
|-----------------------|------------|--------------|--------------|----------|----------|----------|--------------|
| Alsek (6) | 38 | 96 | 28 | 0 | 0 | 0 | 162 |
| East (4) | 0 | 235 | 0 | 0 | 0 | 0 | 235 |
| Akwe (5) | 44 | 74 | 42 | 0 | 0 | 0 | 160 |
| Yakutat Bay (16) | 163 | 166 | 90 | 0 | 0 | 0 | 419 |
| Situk (83) | 188 | 3,894 | 1,376 | 6 | 1 | 0 | 5,465 |
| Tsiu (2) | 0 | 0 | 112 | 0 | 0 | 0 | 112 |
| Ophir (1) | 0 | 0 | 7 | 0 | 0 | 0 | 7 |
| Ankau (2) | 2 | 92 | 178 | 0 | 0 | 0 | 272 |
| Lost (0) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tawah Creek (2) | 0 | 0 | 23 | 0 | 0 | 0 | 23 |
| Ahmklin (6) | 5 | 166 | 49 | 0 | 0 | 0 | 220 |
| Esker (1) | 0 | 0 | 42 | 0 | 0 | 0 | 42 |
| Yana (1) | 0 | 0 | 100 | 0 | 0 | 0 | 100 |
| Italio (0) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sudden (2) | 0 | 254 | 168 | 0 | 0 | 0 | 422 |
| Totals | 440 | 4,977 | 2,215 | 6 | 1 | 0 | 7,639 |

| | | |
|--|-----|-------|
| Number of permits issued | 129 | |
| Number of permits returned | 128 | 99.2% |
| Number of permittees that fished | 104 | |
| Number of permittees that did not fish | 24 | |

^a Preliminary data.

^b Number in parenthesis shows number of permits reporting harvest from that area. Some permits reported catch from more than one area.

Table 41. Yakutat historical subsistence salmon harvest, 1980-1992.^a

| Year | Chinook | | | Sockeye | | | Coho | | | Other |
|-------------------|----------------|----------------|----------------|---------|-------|-------|-------|-------|-------|------------------------|
| | A ^b | B ^c | C ^d | A | B | C | A | B | C | |
| 1980 | 284 | ? | ? | 961 | ? | ? | 982 | ? | ? | |
| 1981 | 167 | ? | ? | 952 | ? | ? | 1,701 | ? | ? | |
| 1982 | 198 | ? | ? | 1,645 | ? | ? | 2,180 | ? | ? | |
| 1983 | 188 | ? | ? | 1,175 | ? | ? | 360 | ? | ? | |
| 1984 | 233 | 56% | 416 | 890 | 56% | 1,598 | 572 | 56% | 1,021 | |
| 1985 | 230 | 52% | 442 | 1,003 | 52% | 1,929 | 59 | 7% | 843 | |
| 1986 | 301 | 88% | 342 | 2,357 | 88% | 2,678 | 586 | 89% | 658 | 92 pinks |
| 1987 | 372 | 92% | 404 | 3,598 | 92% | 3,911 | 883 | 80% | 1,104 | |
| 1988 | 196 | 90% | 218 | 2,119 | 90% | 2,354 | 1,293 | 92% | 1,405 | 99 pinks; 64 chums |
| 1989 | 284 | 79% | 359 | 3,537 | 79% | 4,477 | 894 | 79% | 1,131 | 220 pinks; 49 chums |
| 1990 | 355 | 75% | 473 | 3,152 | 75% | 4,202 | 784 | 75% | 1,045 | 1 pink; 16 chums |
| 1991 | 375 | 99% | 379 | 4,030 | 99% | 4,071 | 2,222 | 99% | 2,244 | 32 chums |
| 1992 | 549 | 99.2% | 553 | 5,469 | 99.2% | 5,513 | 3,645 | 99.2% | 3,674 | 37 pinks; 12 chum |
| Ave. ^e | 322 | | 398 | 2,906 | | 3,415 | 1,215 | | 1,458 | 6 pinks; |
| 1993 | 440 | 99.2% | 444 | 4,977 | 99.2% | 5,017 | 2,215 | 99.2% | 2,233 | 1 chum |
| * Deviation | | | | | | | | | | |
| 1993 | | | +12% | | | +47% | | | +53% | |

- ^a deviation from 9-year average
- ^b Data available only for years starting in 1980.
- ^c A=Actual recorded harvest.
- ^d B=Percent of permits returned.
- ^e C=Extrapolated total harvest estimate; (i.e. C = A divided by B).
- ^f 9-year average from 1984 - 1992.

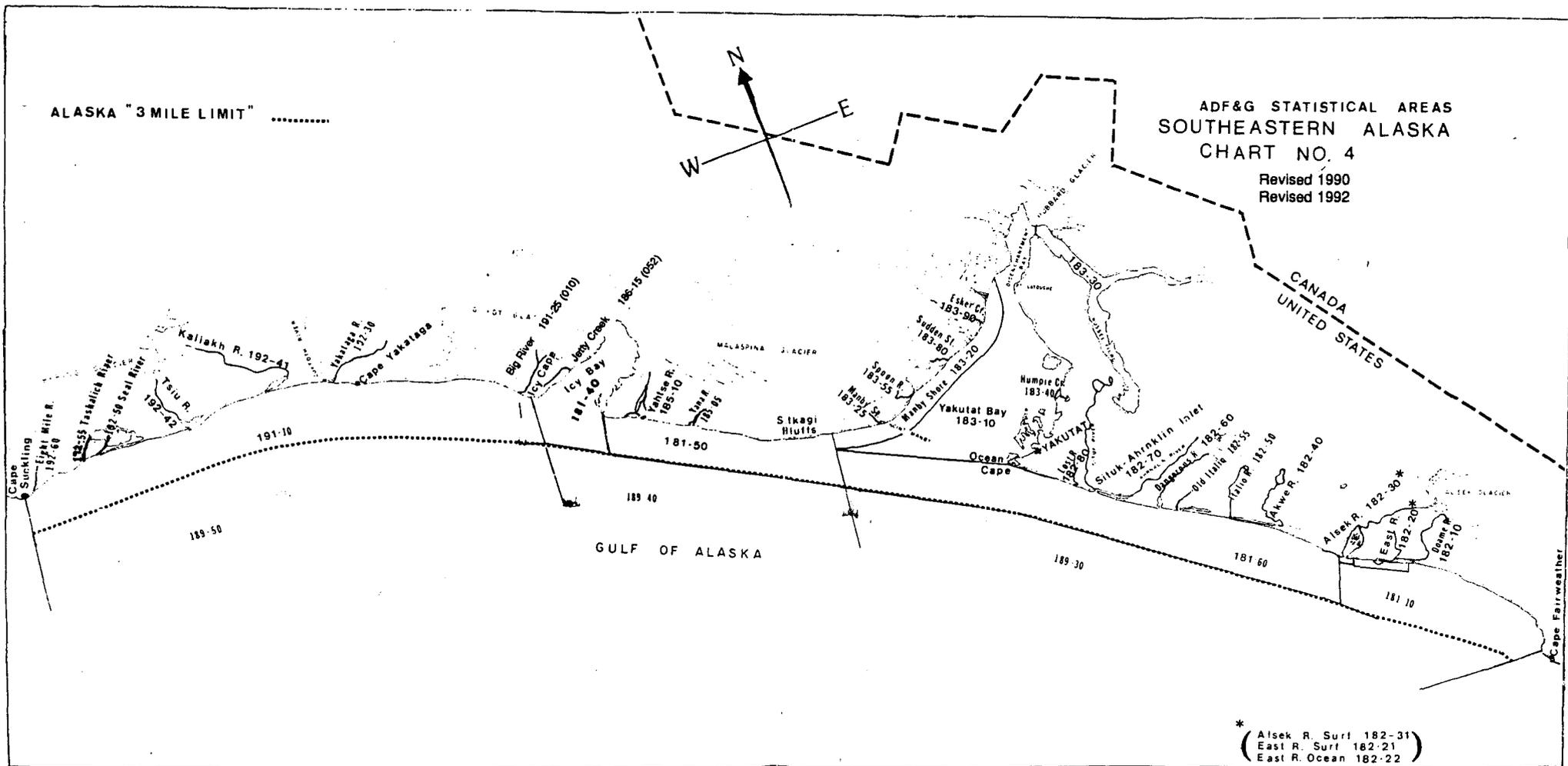


Figure 1. Yakutat area map - area D.

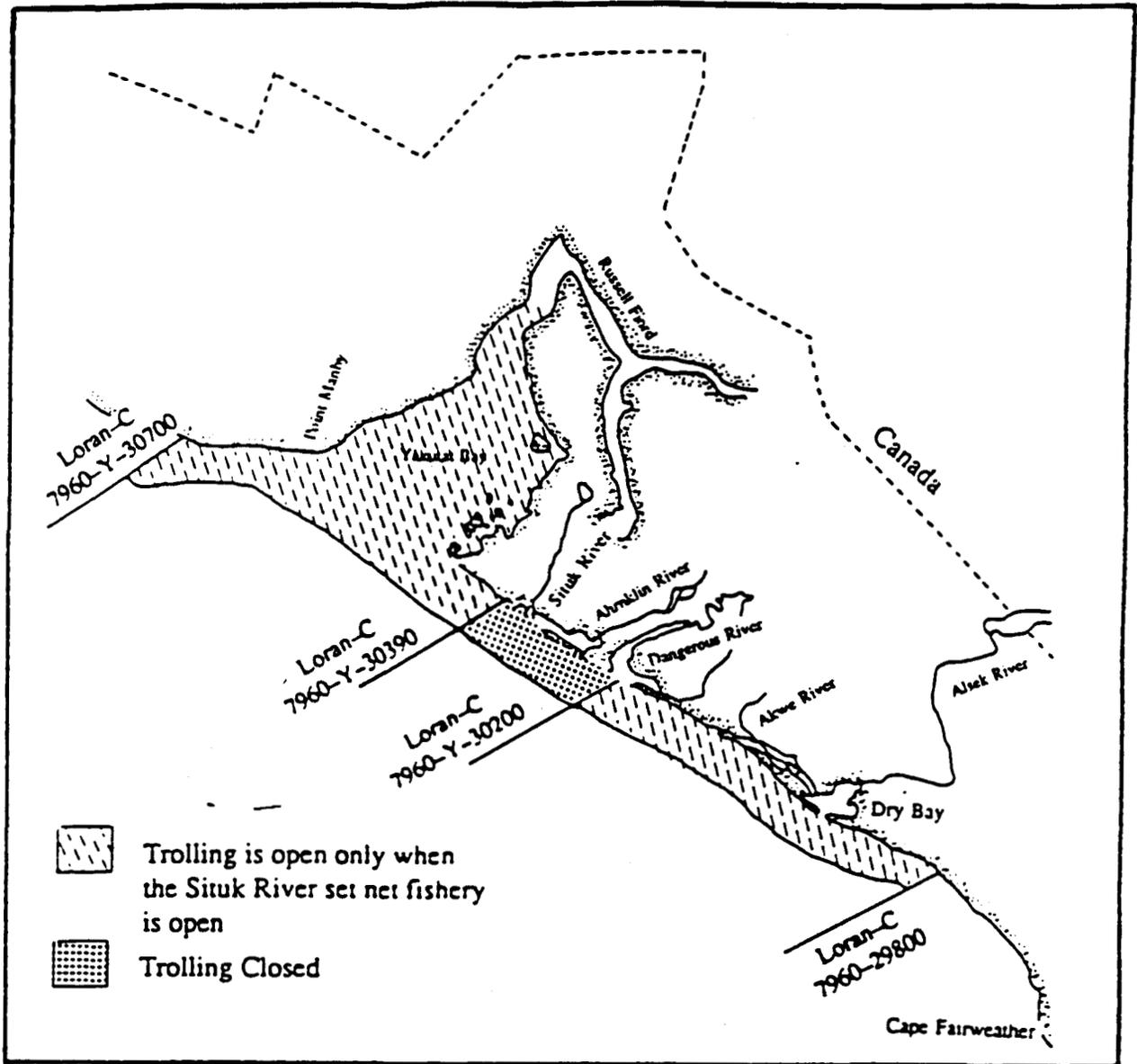


Figure 2. Yakutat area troll closures.

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