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DIVISION OF COMMERCIAL FISHERIES

PRINCE WILLIAM SOUND AREA
ANNUAL FINFISH MANAGEMENT REPORT

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PREFACE

This is the twenty-third annual management report prepared since the State assumed control of the fisheries from the federal government in 1960. The 1981 and 1982 data is preliminary and will be finalized and corrected in subsequent reports. Data presented here supersedes information in previous management reports.

The report presents a brief description of the 1982 fishery and summarizes recent historical catch, escapement and related data on each species harvested by the commercial and subsistence salmon and herring fisheries.

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INTRODUCTION

The commercial fisheries management area encompasses all coastal waters and inland drainages entering the northcentral Gulf of Alaska between Cape Suckling and Cape Fairfield (Figure 1). The area includes the Bering River, Copper River and all of Prince William Sound along with a total adjacent land area of approximately 38,000 square miles.

The Prince William Sound Area consists of eleven management districts which correspond to the local geography and distribution of the five species of salmon harvested by the commercial fishery. The management objective for all districts is the achievement of desired escapement goals for major species while at the same time allowing for the orderly harvest of all fish surplus to spawning requirements. Escapement objectives were met in 1982 in all systems except for the Eshamy district which remained closed throughout the season. Harvests of surplus fish were optimized where possible in all districts.

Legal gear for the salmon fishery includes purse seines and both drift and set gill nets. Drift gill net fishermen are the most numerous, and are permitted to fish in the Bering River, Copper River, Coghill, Unakwik and Eshamy districts. In 1982, 525 drift gill net permit holders participated at least some time during the season. Set gill net gear is legal only in the Eshamy district, but this district remained closed this season. Purse seine gear is restricted to Prince William Sound proper and is utilized primarily to harvest pink and chum salmon. A total of 260 purse seine fishermen participated during the peak of that fishery this season.

The 1982 season harvest amounted to almost 24.7 million fish with an ex-vessel value of nearly \$41.5 million (Table 1). This compares to an annual salmon harvest for the Prince William Sound Area of approximately 10.5 million fish during the past decade (Tables 2 and 25 and Figure 2). Runs of all species exceeded pre-season expectations and were highlighted by all time record returns of pink salmon for the even year cycle in the purse seine districts along with chinook salmon in the Copper River district, coho salmon in both the Copper River and Bering River districts and sockeye salmon in the Coghill district.

Copper River District

The pre-season outlook suggested an above average sockeye salmon harvest of 700,000 - 900,000 fish after allowing for a desired escapement of 250,000 - 350,000 fish in the upriver spawning areas (Table 3). This was supported by a good parent year escapement and the presence of above average numbers of 2 - ocean age fish from the same brood year during the preceding season. Management strategy included a normal mid May season opener with the likelihood of two fishing periods each week depending on the amount of fishing effort and observed trends in catch and escapements. The projected season harvest was allocated into expected weekly harvest based on the historic pattern of catch in the commercial fishery. In-season escapement trends were monitored using sonar counters on the main Copper River coupled with aerial surveys of major spawning areas on the river delta not covered by the sonar (Figure 4). Adjustments in weekly fishing time were made based on the observed day to day changes in the status of the run compared to catch expectations and desired escapement goals.

The season opened on schedule on May 17 with a 36 hour period, but unresolved prices reduced effort and catches to an insignificant level. Reports from the limited amount of effort revealed that a significant show of fish didn't develop until the second day of the period. A second 36 hour period was announced for later in the week. A price settlement did not materialize until late on May 19, but was in time to permit the entire fleet to make the second period scheduled to open on the following day. The catch per unit effort was above average and the single period catch was over double the expected catch for the entire week. The period catch of almost 241,000 sockeye was the peak period of the season (Figure 6). The king salmon catch was also impressive with over 6,000 fish delivered during the same period. The combination of a large ocean swell and heavy catches contributed to the loss of several boats and two drownings late in this same period. Fish were reported to be present in abundance in outside waters of the district at the close of the period. An excellent show of fish was also visible above the fishery as far upriver as the Copper River highway on May 22. An unusually late spring breakup and low runoff delayed the breakup of the lower river, and ice jams congested delta channels until the last week of May. A delay in the normal upstream migration of fish was suspected due to the river conditions.

The sonar counter at Miles Lake was placed in the river and operational for the first time on May 23, but ice conditions limited the early counts to only a few hours. The results did reveal that an insignificant number of fish were migrating past the station by that time.

Because of the large harvest during the period closing on May 22 and the uncertainty over early escapements above the fishery, the next period was delayed an additional 24 hours until Tuesday, May 25. The period would have normally started on Monday morning, but a 72 hour closure was felt justified to permit adequate escapement balance against the large catch relative to pre-season expectations.

The sonar was continuously operational by May 24, and verified that escapements were increasing gradually, but daily counts remained below 1,000 fish through May 25.

The 36 hour fishing period on May 25 - 26 resulted in another unexpectedly large catch of 225,000 sockeye salmon and over 8,000 kings. This single period produced over 50,000 more fish than was anticipated for the entire week. The cumulative catch through May 26 stood at 468,000 sockeyes which was already 60% of the forecast season total. Most effort was again concentrated along the western end of the district, but there were reports of a buildup of fish on the Softuk end near the close of the period. Heavy ocean swell tended to reduce fishing effort in outside waters.

The first significant escapement reached the Miles Lake sonar site late on May 27 when the rate jumped to 2,400 fish per hour and the daily count exceeded 12,000 fish (Figures 4 and 5). With harvests progressing at an unprecedented rate and indications that a significant escapement was already in the lower end of the river, another period was permitted starting on the evening of May 28 following a two day closure. The length of the period was reduced to 24 hours to balance the anticipated weekly harvest with the observed escapement trend and to assure adequate escapement into the river for this segment of the run. The catch per unit effort dropped to less than half of the previous two periods, but produced an additional 85,000 sockeye salmon.

With the trend in catch and escapement showing a parallel pattern, an additional 24 hour period was announced to start on Monday evening, May 31, following another two day closure. The catch per effort remained at about the same level, and the period harvest of over 64,000 fish brought the cumulative sockeye catch to 612,000 fish. The catch stood at over 200,000 fish higher than projections for that date. The escapement rate observed at the Miles Lake station on the main Copper River escalated to levels that were ahead of normal, and by the end of May the count there exceeded 100,000 fish which is over 30,000 above optimum levels for that date. With both catch and escapement trends now running ahead of expectations, a decision was made to continue the season with a fishing pattern of 36 hour periods alternating with 48 hour closures until further notice after June 3. Under this arrangement, weekly periods were from 6:00 a.m. Monday until 6:00 p.m. Tuesday and from 6:00 p.m. Thursday until 6:00 a.m. Saturday. By the end of the first week of June it became apparent that additional fishing time was warranted with a continuing trend of higher than expected catches and escapement counts that remained ahead of optimum levels. The first period of the week was extended an additional 12 hours through 6:00 a.m. Wednesday, June 9 to better balance the harvest of surplus fish with the desired escapement requirements for the middle and later segments of the run. This pattern continued for the balance of the sockeye season, and despite a reduction in effort due to inclement weather through mid June, and a major shift of effort later in the season to the Coghill district, the arrangement appeared to provide a good balance. The season catch of 1.2 million sockeye salmon was the largest since 1919 and the third largest since the inception of the commercial fishery. This compares to the recent ten year average of about 479,000 fish (Table 5 and Figure 7).

The final upriver escapement of over 467,000 fish (Table 6 and Figure 4) exceeded the desired goal by over 100,000 fish with large escapements occurring during the early part of the season, and was due, in part, to the delay in the start of the fishing season as a result of the strike. Aerial surveys of the spawning grounds indicated good distribution of fish throughout the drainage (Table 8). Escapements into index spawning systems of the Copper River delta were at desired levels, but declined from levels observed in the recent three years due to a resumption of a more normal midseason fishing pattern (Tables 7 and 9).

Sampling of the commercial sockeye catch revealed a normal preponderance of five year old fish. Age-length data from sockeye salmon sampling are summarized in Table 11.

King salmon are harvested more or less incidental to the sockeye salmon with a small percentage of the fishing fleet fishing large mesh king gear for the first period or so. The king salmon run was also unexpectedly strong and continued later in the season than normal. The season catch of 49,000 king salmon established a new record for this species in the Copper River district. This compares to the recent ten year average of almost 24,000 fish (Table 5 and Figure 3). King salmon escapements into the main Copper River were above average and well distributed (Table 10). Age-length analysis data of king salmon sampled from the commercial catch are summarized in Table 13.

The coho salmon return was expected to be above average, and even before the normal start of the season, incidental catches of this species suggested an unusually strong run was developing. Unlike recent years, a price agreement was negotiated in time to permit full fishing effort for the official season

opener on August 9 for an 84 hour period from Monday through Thursday. Adequate processing capacity was available with a larger than usual number of both shore based and floating processors present this year. Statewide coho production was unusually large this year, and a saturated market ultimately led to a midseason renegotiation of local coho prices (Table 56). The reduced settlement averted a loss of processing capacity by buyers that threatened to cease operations midway through the season. Fishing effort was unusually large this year with a peak number of 373 boats making deliveries during late August and early September (Table 4). The fishery continued through the period ending on September 30, and although the season was never officially closed, buying was discontinued and effort ceased. The total catch of almost 453,000 fish established a new record for the area since reliable production data became available (Table 5 and Figure 8).

Aerial surveys of coho spawning systems flown during the fall provided an index to the escapement. Inclement weather and muddy streams make comparable annual escapement estimates difficult. Indications from this year's surveys and from information obtained from observations by sport fishermen verified that the run was strong and escapements were above average and well distributed (Table 11).

Age-length data of coho salmon sampled from the commercial catch are summarized in Table 14.

Subsistence Fishery

Subsistence fishing for salmon in the Prince William Sound Area is permitted in the commercial fishing districts as well as in selected areas of the upper Copper River. Catches are monitored through the use of a mandatory permit system that is available to only Alaska residents.

In the commercial districts subsistence fishing is restricted to methods, means and times that are consistent with those of the commercial fishery. The number of subsistence fishermen operating in these districts has fluctuated widely over the years, but catches have remained small. The number of subsistence permits and reported catches for the Copper River delta and Prince William Sound proper in recent years are outlined in Tables 15 - 18).

Subsistence fishing for salmon in the upper Copper River is permitted with dip nets and fishwheels in separate fishing districts. The parent year indicated an above average return for 1982, and a fully adequate escapement was anticipated including sufficient numbers to provide for an unrestricted subsistence fishery. The Department advised the public that even with the anticipated large return of salmon, restrictions could become necessary if escapement trends fell below minimum desired levels. Seven day per week (unrestricted) fishing time was announced in late May while acknowledging that sonar counts during the season might necessitate adjustments in fishing time. Sonar counts ultimately verified the anticipated sockeye return, thus no restrictions were applied to the subsistence fishery, and it opened June 1 as scheduled. Throughout the entire Copper River subsistence fishing season, sonar counts indicated a run in excess of the 350,000 salmon desired escapement level, thus no restrictions was applied per the requirements of the Management Plan. The entire season went without change and closed on September 30. The final sonar count of 467,306 fish (Table 6) supports the lack of restriction in the fishery.

The unrestricted fishery during 1981 - 1982 was in contrast to the 1980 season which was restricted for its entire duration and had special provisions made to take the chinook salmon present in normal abundance. In 1981 - 1982 no special restrictions were applied to any species.

In 1982 there were 5,475 dip net and 615 fishwheel permits issued for the upper Copper River subsistence fishery. The number of permits was significantly more for both types of gear and in total. Preliminary figures show individuals fishing these permits harvested 96,799 sockeye, 2,532 chinook, 1,246 coho and 157 fish of other species (Table 15). The total reported catch was the largest on record and 356 percent of the ten year average (Table 18).

The level of participation and the season harvest was also the highest ever reported for the Copper River delta gill net subsistence fishery (Table 15 and 16). Reported catches remain low relative to the upriver dip net and fishwheel fishery with a harvest of 802 fish from 108 permits issued. It is interesting to note that almost 38 percent of the permits were returned unused (Table 16). There were 35 permits issued for the remaining districts in Prince William Sound proper which is the highest in 23 years. However, the reported catch was only 143 fish.

Bering River District

The preseason outlook indicated an above normal fishery with a projected sockeye catch in the 40,000 - 60,000 range. The season was opened on June 14, and fishing periods were scheduled to coincide with those in the Copper River district to help distribute effort more evenly between the two districts. An aerial survey of the system on June 9 revealed a significant escapement already in the Bering River above the fishery and appeared to be about normal for that date. The peak sockeye catch occurred during the 48 hour period on June 21 - 23 with a catch of over 29,000 fish (Table 19). Fishing effort continued uninterrupted throughout the regular season in contrast to the last few years when tender support had been withdrawn from the district for portions of the season.

A significant amount of the season harvest came from the waters offshore of Kayak Island between Cape Suckling and Pinnacle Rock. This continues a trend observed in recent years which has involved a shift in effort toward these outside cape areas which intercept a mixture of fish of unknown origin. Fishermen have experienced difficulty in marketing some of these fish due to the prevalence of feeding chum and coho salmon that tend to deteriorate rapidly after capture.

The total catch for the season was almost 132,000 sockeye salmon and was second only to the peak catch in 1979 of 139,000 fish (Table 20 and Figure 9). The average sockeye harvest in this district during the past ten years was 40,000 fish.

Sockeye salmon escapements into index lakes and streams were about average, and were within the range of desired escapements for this species (Table 9). Age-length data for sockeye salmon sampled from the commercial catch are summarized in Table 12.

Fishing effort in the Bering River district during the coho season was above recent historic levels. Lack of markets has reduced effort in recent years

but a large number of buyers and a fairly competitive early season market resulted in the availability of tenders in the district throughout the season. The season opened on August 9, and the weekly periods coincided with those in the Copper River district. Peak effort occurred during the second week of September when 104 boats fished this district. The season harvest of nearly 145,000 coho salmon established a new record for this district surpassing the previous mark by over 30,000 fish reported in 1979 (Table 20 and Figure 10). Aerial surveys of index spawning areas in this district indicated escapements were also above average.

Coghill and Unakwik Districts

An above average harvest was anticipated here, and the season was opened on June 21 for regular Monday through Thursday weekly fishing periods. This was about three days later than the normal June 18 opening because of calendar date shifts. Escapement counts through the Coghill River weir remained below desired levels until June 19, and didn't indicate the necessity of an earlier opening. A late spring breakup may have contributed to the apparent delay in early escapements. Ice floes in Coghill River prevented the operation of the weir between June 9 and 14.

The first full week of fishing produced almost 354,000 sockeye salmon in the Coghill district alone which is over triple the average season harvest for this species (Table 31). Escapement counts also increased rapidly after June 19, and by the 22nd the lower end of the optimum escapement goal of 40,000 fish was secured (Table 34). The sockeye escapement into Coghill River surpassed 60,000 by midnight June 24, and the rate of escapement through the weir continued at near record levels. With the goal already assured the area was opened to continuous fishing after 9:00 p.m. Friday, June 25. The closed waters of College Fiord and adjacent to the mouth of Coghill River were also eliminated after noon on the opening day of the season in order to maximize the harvest of surplus fish. The run continued strong into the following week with an additional catch of nearly 325,000 sockeyes from both the Coghill and Unakwik districts, bringing the season cumulative to over 694,000 fish. Gill net effort peaked during the second week of the season with 239 fishermen participating.

After two weeks of continuous fishing the catch per unit effort began to decline sharply. The escapement goal in the Coghill River system has already been exceeded, but most of the fish had come from the early segment of the run, and the escapement rate was dropping rapidly by late June. In order to assure desired escapements from middle and late run stocks, the regular weekend closure was imposed after July 1 in the Unakwik district and on July 2 in the Coghill district. Normal Monday through Friday periods resumed after that time. Up until this time the entire harvest had been taken by gill net gear only since a recently adopted regulation prohibits purse seine gear in the Coghill district until the first Monday of July or until the opening of any other general purse seine district.

The total season sockeye catch of over 942,000 in the Coghill district established a new record and was nearly four times the previous mark recorded in 1978 (Table 32 and Figure 15).

Coghill sockeye salmon returns consisted of a high percentage of five year old fish which is normal for this district. The age composition of the sockeye

salmon sampled from both catch and escapement is summarized in Table 35.

The final Coghill River escapement was 180,000 sockeye salmon including a late run estimate of fish entering the river following the removal of the weir on July 21 (Tables 33 and 34 and Figure 15). This established a new record for this system and is the third consecutive year with extremely large escapements and should provide some valuable data on carrying capacity following an analysis of future returns from these escapements. The return information should help to better define the optimum escapement.

The Coghill River field camp climatological and stream observations are presented in Appendix Table C.

Harvests of both pink and chum salmon were also at unprecedented levels in the Coghill district this season. This occurred despite a reduction in late June fishing effort due to unresolved prices for these species. The total pink and chum salmon catch for all gear combined was over double the previous record reported in 1977 (Table 32). The season harvest of almost 139,000 salmon of all species in the Unakwik district establishes a new record also and compares to a ten year average of only 41,000 fish (Table 36 and 37). A more detailed discussion of the pink and chum salmon returns are included in the General Purse Seine Districts section of this report.

Eshamy District

The sockeye return to Eshamy Lake was disappointing and with no harvestable surplus of fish available the district remained closed the entire season. The final escapement of less than 6,800 fish into Eshamy Lake was less than half of the lower end of the desired escapement goal of 20,000 - 30,000 (Tables 39 and 40 and Figure 16). The age composition of the sockeye salmon sampled during the season is summarized in Table 35. Climatological and stream observations recorded at the Eshamy field station are presented in Appendix Table D.

General Purse Seine Districts

The outlook for the general purse seine districts indicated excellent returns of both pink and chum salmon. The midpoint of the forecasted return of wild stocks of pink salmon suggested a likely harvest of 16 million fish which would be a record harvest for the even year cycle. Due to the combination of a large carryover of canned salmon inventory, the prospects of a record statewide salmon harvest in 1982 and a depressed market devastated by a massive canned salmon recall resulting from cases of botulism poisoning, the prospects of a timely price settlement were poor. Because of the likelihood of a large statewide salmon harvest, preparations were made to utilize processing capacity of foreign buyers in areas where domestic capacity might prove inadequate to handle peak production. The season arrived with fishermen and processors highly polarized over pink salmon price negotiations.

Aerial surveys of the early buildup of pink and chum salmon were begun on June 24. The numbers of fish observed during these surveys appeared to be consistent with the pre-season forecast and for that stage of the run compared to recent even year run timing. There were further indications that the early chum run was developing at larger than expected levels. By the end of the first week of July the observed building trend in the early segment of the run

appeared to be consistent with the large forecast and prompted an opening of the purse seine season at 6:00 a.m. on Wednesday, July 7. The distribution of the brood year escapements in 1980 had been at optimum levels in all districts, and since a large surplus was expected, the entire area was opened at that time. Because most fishermen and processors were still deadlocked on prices, 28 seine boats fished the opener. By the end of the first period about 115,000 pink salmon and almost 50,000 chum salmon had been delivered (Table 21). Regular five day per week fishing periods remained in effect, and the catch per unit effort showed a gradual increase as the days passed. The first full week of fishing from July 12 - 16 produced an additional 296,000 pink salmon and 128,000 chums. Because of the reduced fishing effort, the tendency of these few fishermen to concentrate in localized areas and fish selectively for chum salmon, the use of daily catch data in evaluating the development of the pink salmon run became difficult. Daily aerial surveys of bays and streams revealed a buildup of fish into most streams and terminal closed areas at levels significantly above normal for that stage of the run. By late July the run was building rapidly, and with a likely peak during the first week of August, a large number of fish were present throughout the area that were surplus to escapement requirements. In order to maximize the harvest of excess fish and to optimize on the limited time still available, fishing time was extended until further notice through the normal weekend closure after Friday, July 30. A price settlement began to take shape by that time, and most fishermen and buyers were on the grounds by July 31. Fishermen were placed on strict limits immediately, and some boats were without guaranteed markets. The situation became chaotic with some fishermen ultimately dumping some of their catch that could not be sold before the fish began to spoil. No accurate estimate of the wastage was possible, but a large number of fish were lost by boats holding fish that could not find markets. Daily catches increased to over one million fish on July 31, and the peak catch of over 1.4 million pink salmon occurred on August 2 (Figure 11). By this time it became clear that the domestic capacity was not adequate to handle the surplus of fish that was available. At 6:00 p.m. on August 3 Prince William Sound was opened to processing by any foreign processor who held a valid permit for this area. By that date two Korean and one Taiwanese companies held permits and showed some interest and capacity to handle fish. One Korean company began buying fish immediately followed by the second Korean company which started buying on August 4. The Taiwanese operation was late in arriving on the grounds, and didn't buy any fish until immediately prior to the closure of the area to foreign processing. The three foreign buyers with a combined total of five vessels managed to purchase and process nearly 1.2 million fish (Table 23). The area was closed to foreign buyers effective 1:00 a.m. August 13 when it appeared that domestic processors were capable of handling the declining daily catches. Domestic capacity was actually larger than pre-season expectations when several additional floating processors arrived in the area. Export capacity also developed above anticipated levels when salmon returns to Kodiak and Southeastern failed to develop as forecasted. The season remained open to continuous fishing in all districts for over four consecutive weeks from late July until late August, and pink salmon catches remained at or above 250,000 fish until August 19. By that date the harvest of pink and chum salmon had exceeded 20 million fish. The peak effort occurred in the seine fishery during early August when 260 permit holders delivered fish (Table 21).

The chum salmon harvest from the Port Fidalgo subdistrict in the Eastern district alone was over 250,000 fish, and the catch per boat was declining rapidly there by mid August. Aerial surveys indicated concentrated fishing effort at the

head of Port Fidalgo and a decline in the buildup of chum salmon in the bays and off the mouths of the streams in this area. A closure of Port Fidalgo sub-district was announced effective 9:00 p.m. August 20 to assure adequate escapements, and the closure remained in effect for the duration of the season.

By late August the number of late run stocks of both chum and pink salmon were declining rapidly throughout the Sound, and a general closure was announced with the end of the regular weekly period at 9:00 p.m. on Friday, August 27. A surplus of late run chum and pink salmon did exist, however, in streams of Galena Bay in the Eastern district, and waters at the head of the bay continued open until further notice. This isolated area was also closed for the remainder of the season after 9:00 p.m., September 2 after all boats finally quit fishing. The season harvest of 20.3 million pink salmon established a new even year record for this species. This catch included harvests on predominantly wild stocks of fish, but also included significant contributions from returns to both private and State hatcheries in the Sound.

The pink salmon escapement index totalled 2.1 million fish with goals attained or exceeded in all districts (Table 26 and Figures 12 and 13). This exceeded all previous even year escapement estimates since accurate data first became available, and distribution was near optimum with the exception of a few isolated areas such as lower Montague Island (Table 27).

The total run of chum salmon amounted to almost 1.7 million fish (Table 26 and Figure 14). The total run was second only in size to the record return last season. Only one other year saw a larger commercial harvest when 1.8 million chums were harvested during the 1945 season. The estimated season escapement of over 326,000 fish was the second largest in the last 18 years and was exceeded only by a 547,000 fish escapement in 1973. Escapements were at desired levels for most areas except for the Northwestern, Southwestern and Montague districts (Table 26 and Figure 14). Due to loss of spawning and rearing areas in these districts as a result of the 1964 earthquake, desired escapements in these systems are no longer possible through time and area management of the commercial fishery (Table 28). Age composition data for chum salmon samples from the commercial catch is summarized in Table 29.

The sockeye catch in the general purse seine districts was 56,000 (Table 21). This compares to a ten year average of almost 67,000 sockeye salmon (Table 24). Escapements of sockeye salmon into various systems scattered throughout the districts are summarized in Table 30.

Hatcheries

Returns to major hatchery facilities including Cannery Creek and San Juan were within expected ranges. With these and other facilities reaching full production capacity management activities are requiring more than simple monitoring of their returns. The first inseason adjustments of fishing time and area in the common property fishery were required of the management staff in 1982.

From a release of 14.4 million pink salmon fry at the State hatchery at Cannery Creek in the spring of 1981, the adult return to the facility was expected to be about 560,000 fish. Even allowing for a high percentage of hatchery returns in the common property fishery, a surplus of fish over brood stock needs was anticipated to be available in the terminal area. Aerial surveys in late July revealed a significant buildup of pink salmon adjacent to

Cannery Creek. All of these early fish were surplus to hatchery requirements, and an opening of the area adjacent to the mouth of Cannery Creek was necessary to permit the harvest of these excess fish. The area was opened to seining until further notice after 9:00 a.m. Friday, July 30. By August 11 over 160,000 pink salmon had been harvested near the hatchery with an unknown number of additional fish intercepted in other approach areas of the fishery through which these fish migrate. In order to provide some additional protection for brood stock near the hatchery, a 300 yard closure was imposed around the mouth of the creek after 9:00 p.m. August 13. By August 16 a major buildup of new fish was evident and prompted a reopening of the terminal area for an additional 48 hours on August 17 - 19. Fishermen quickly cleaned up the buildup of fish on the opening. There appeared to be adequate fish remaining to satisfy brood stock requirements, but concern over high water temperatures and depressed oxygen levels in the creek and the possible spread of a developing fungus infection amongst brood fish required more conservative management in the collection of brood fish. The 300 yard closure was again replaced after midnight August 17 after only 12 hours into the scheduled 48 hour period. The area was never reopened, and all remaining fish were used to meet brood stock goals. The total pink salmon return to Cannery Creek was estimated to be 760,000 and an escapement of over 71,000. The catch by seine fishermen in the terminal area adjacent to the hatchery was reported to be 310,000 fish or almost 45 percent of the harvest.

The returns of pink salmon to the Prince William Sound Aquaculture Corporation hatchery at Port San Juan was expected to exceed six million fish in 1982. By August 6 the harvest of sales fish at the hatchery was over 515,000 fish with the run estimated to be only 25 percent complete and a peak still two weeks away. This situation was developing during the midst of peak production in the common property fishery with all processors operating at maximum capacity. No markets were available for the rapid buildup of fish in the hatchery's Special Harvest Area that were all surplus to sales and brood stock needs. A special 24 hour opening of the Special Harvest Area was permitted on August 7 - 8, and between 30 - 40 boats caught an estimated 300,000 - 450,000 fish. No additional openings were required during the remainder of the season.

The number of pink salmon returning to the Port San Juan hatchery was estimated to be 5.1 million fish. The interception by the commercial fishery totaled 3.2 million fish in addition to the 0.4 million caught during the special opening on August 7 - 8. The escapement to the hatchery, including revenue sales of over 1.3 million, amounted to slightly over 1.5 million pink salmon (Table 22).

Approximately 181 million pink, chum and coho salmon eggs were incubated at area hatcheries during 1982.

1983 OUTLOOK

Salmon returns are expected to produce a commercial harvest of 18.4 million fish for all species and districts.

The natural returns of pink salmon should produce a surplus of 12.2 million fish. The total run is above the average of 9.5 million for the odd year cycle. All management districts exceeded their escapement goals during the brood year, so the distribution of the 1983 return should permit fishing in all districts. Pink salmon returns to both State and private hatcheries are expected to contribute an additional 4.7 million fish to the commercial fishery in excess of brood

stock and sales requirements. This includes a projected surplus of pink salmon to the Main Bay hatchery in the Eshamy district which will allow an opening of a portion of the Eshamy district for the first time in three years.

The chum salmon return is expected to be about average with a forecasted harvest of 426,000 fish. Supplemental production of chum salmon to area hatcheries is expected to be insignificant.

The Copper River district is expected to have a less than average sockeye fishery with a surplus of 350,000 - 550,000 fish. The 1978 parent year escapement into the upper Copper River was below the desired goal with an apparent weakness on the early segments of the run. The parent year escapement into delta systems was above average, on the other hand, and this contribution along with the possible benefits of above average survival could bolster returns.

The chinook salmon return should result in about an average harvest, and will be taken incidental to the early sockeye season. The coho catch is projected to be somewhat above average with a catch of 150,000 - 250,000 fish.

The Bering River district should experience an average to slightly above return of both sockeye and coho salmon, with a projected season of 40,000 - 60,000 and 50,000 - 100,000 fish, respectively.

Sockeye salmon harvests in the Coghill and Unakwik district should be somewhat above average with a projected catch of 150,000 - 250,000 fish. The sockeye return to Eshamy Lake is not expected to produce a harvestable surplus, and with the exception of a terminal fishery near Main Bay hatchery to harvest surplus pink salmon, most of the Eshamy district is expected to remain closed throughout the season.

MISCELLANEOUS

During the course of each season miscellaneous data are collected on the commercial fisheries in Prince William Sound that do not relate to any particular fishery but provide a valuable reference for information unavailable elsewhere. Items of this nature are discussed briefly in this section.

The 1982 calendar weeks presented in Table 55 were used in reporting catch statistics where fishing was conducted on a schedule with standard weekly fishing periods. The calendar weeks are included here as a reference of those tables in the report that summarize catches by week. Whenever possible, however, catch statistics are summarized by fishing period dates to better reflect the management strategy and catch trends that aren't evident in the more general weekly catches.

A fair to good economic condition persists at the present time as indicated by the continuing trend of upgrading the area's fishing fleet and the addition of a number of new fishing vessels. Salmon prices declined in 1982, but were balanced by a harvest that was over double the long term average of 10.5 million harvest for all species and districts (Table 2). The trend has been sustained primarily by record returns of pink salmon in recent years in the purse seine fishery. The drift gill net fishery was bolstered in 1982 with all time record harvests of chinook salmon and coho salmon in the Copper/Bering River districts and sockeye salmon in the Coghill district.

Prices for all species of salmon were down from the previous year and tended to diminish the relative value of the above average and record harvests reported this season. Due to a combination of a large carryover in inventory and a depressed canned market impacted by a massive canned salmon recall, price negotiations were difficult. The lower relative value of the harvest has been further offset by high interest rates and an inflationary trend which has impacted all phases of the fishing and processing industry in recent years. Prices for sac roe herring were down only slightly from the previous season, and harvest remained at above average levels. Both prices and harvests continue to decline in the spawn on kelp fishery. The average prices paid for salmon, shellfish and miscellaneous fish are outlined in Table 56 and 57.

Average weights by species from the commercial catches are summarized in Table 58. With the exception of coho and chum salmon, fish were lighter in weight than the long term average and further contributed to the diminished value of the harvest compared to last year. The combined case pack, fresh, frozen and salmon exported to other areas for processing are summarized in Table 59. The data summarizing production for the 1982 season has been modified from previous years' reports with the elimination of weekly case pack figures and the addition of a table listing the season total for each type of production. Since catches are summarized by period for each district and species, the weekly production table is not as informative. The list of fin-fish buyers and processors operating in Prince William Sound are included in Appendix Table A.

HERRING SUMMARY

Introduction

The herring fisheries of the Prince William Sound area include: 1) a spring sac roe fishery; 2) a spring wild spawn on kelp fishery; 3) a pound herring spawn on kelp fishery; and 4) a fall and winter bait and food fish fishery.

The Northern, Eastern and Montague districts (Figure 17) have been established for the exclusive harvest of sac roe herring while fish for bait and food markets may be taken in the general district which includes all waters of the Sound exclusive of the sac roe districts. Wild spawn on kelp harvests can occur in all districts, but only the kelp beds located in the bays and beach areas of Valdez Arm and Port Fidalgo have contributed significantly to this fishery. To protect wild spawn on kelp harvest areas, the pound herring spawn on kelp fishery has been restricted to a base of operation in a portion of Landlocked Bay and Boulder Bay on the north side of Port Fidalgo. Guideline harvest levels regulate the harvest for each of these fisheries which collectively amount to an annual harvest equivalent to 7,500 metric tons of herring. The total value of these fisheries to fishermen in 1982 was approximately four million dollars. Tables 42 through 45 and Figures 24 and 25 present annual harvest information for the Prince William Sound herring fisheries for the past 13 years.

Sac Roe Seine Fishery

The management strategy for the sac roe seine fishery was changed somewhat for the 1982 season. Instead of opening all harvest districts on April 1, as had been done in the past, only the Northern and Eastern districts opened on that date. The Montague district was scheduled to open by field announcement after the assessment of this normally later spawning stock.

Hydroacoustic assessment surveys began in late February, but problems developed in the echo sounding equipment, and although casual observations of stock movement, etc. could be made, assessment estimates of stock abundance were not possible. Efforts were made to repair the assessment gear prior to the season, but the problem persisted leaving aerial surveys as the primary method of determining abundance and distribution of spawning stocks.

Due to the cyclic patterns of abundance exhibited by Prince William Sound herring over the past 10 years and the record 1981 harvest, an above average harvest was expected in all herring fisheries in 1982. Historic sac roe production and peak annual biomass estimates are illustrated in Figures 25 through 28.

Aerial surveys were initiated on March 23 and continued, as weather permitted, on almost a daily basis throughout the season (Table 46). Unlike the 1980 and 1981 seasons when herring were observed prior to the season opener, very little marine activity, such as feeding birds or sea mammals that would indicate the presence of herring, was observed during the initial survey (Tables 46 and 47).

As scheduled, the sac roe seine season opened on April 1. Some catches were made in outer Port Gravina at night, but all were released due to very low sac roe recovery. When it was apparent that only immature herring stocks were available, an announcement was made on April 2 closing the season until further notice.

Aerial and sonar surveys continued throughout all sac roe harvest districts, and although minor stocks were located in the Montague district during sonar surveys, the only major stock was again located in the Northern district, and the fish remained deep, only raising to seine depths during the late evening and early morning periods.

Monitoring of movement of this herring stock continued until April 12. Observations indicated that these fish were beginning to enter the closed water area of the district. In an effort to harvest a portion of this stock in waters open to fishing, an announcement was made reopening the season at noon on April 13. During this opener fishermen again made successful sets, but roe recovery was below acceptable percentages, and on April 15 the fishery was closed to await further developments. Following this second closure of the Northern district, sonar survey effort was concentrated in the Montague district while aerial surveys were expanded to include areas adjacent to all harvest districts.

On April 18 the first aerial observations of herring were recorded. During that survey an estimated 5,200 tons of herring were observed in the Montague district, and 1,200 tons were located in the Northern district. Samples obtained from the Montague district stock indicated that the sac roe was approaching maturity, but volume, to the extent that would have allowed a commercial fishery, was not available.

During the next four days herring schools observed from survey aircraft increased dramatically along beaches and bays of the Naked Island group and north shore. Roe recovery from herring obtained throughout this area varied between 10 - 14 percent.

After completion of aerial surveys on April 22, during which 21,520 tons of herring had been estimated (Table 46), a field announcement was made opening the season in a portion of the Northern district and the Naked Island group in the General district for two hours on April 23 (Figure 18). The fishery opened at 7:00 a.m. and closed at 9:00 a.m. The seine fleet was fairly evenly dispersed between the two open areas as was the supporting tender fleet.

When tender catch reports had been tabulated later that day, approximately 6,485 metric tons had been delivered to 21 processors. Table 41 presents catch and effort figures for this fishery.

Age, sex and size data from samples collected during the fishery are summarized in Tables 49 and 50. A special sample collected with a variable mesh gill net in Rocky Bay, Montague Island was also analyzed since no commercial fishery occurred on these stocks this season (Table 53).

Sac Roe Gill Net Fishery

The gill net harvest area of the Northern district was relocated to Eikelberg Bay and Long Bay in the western portion of that district (Figure 17). Aerial surveys flown immediately after the sac roe seine fishery indicated that approximately 12,000 - 15,000 tons of herring were available in these bays. The relocation of the fishery here allowed for a harvest of a portion of these stocks. The season was opened from 6:00 a.m. April 24 until 12:00 noon April 26.

Overall, fishing was allowed for a total of 54 hours during which 20 permit holders harvested 304.4 metric tons of 12 - 15 percent sac roe herring. Table 42 presents catch and effort data since the inception of this fishery.

Age, sex and size data from samples collected during the fishery are summarized in Table 51.

Wild Spawn on Kelp Fishery

The spawn on kelp fishery was opened by emergency order on May 5. In 1982 305 kelping permits were issued (Table 41), and eight buyers were on the kelping grounds to process the harvest. Historic spawn on kelp production is shown in Figure 29.

In conjunction with this fishery, pre-season underwater surveys are conducted in five study areas located within or adjacent to historic kelping areas. Estimates of standing seaweed crops and species compositions are obtained during these surveys. Estimates for 1982 indicated that the standing crop had increased over what was available in 1981.

The first spawning was observed on April 24, and was located in areas where the sac roe fishery had occurred (Figure 21). These areas are "non traditional" kelping areas and are of marginal value to kelp fishermen and processors due to silty nature of the waters in the areas and poor kelp quality. In the "traditional" kelping areas of Valdez Arm, spawning was first recorded on April 29 (Figure 22), and was continuous throughout the kelping season which opened on May 5. The peak of the spawning in the Montague district occurred almost a week later which is also a non traditional kelp harvest area (Figure 23).

The season was open 73 hours, and although kelp with good egg cover was somewhat spotty initially, quality improved as the season progressed. When the season closed on May 8 approximately 155 tons of the 187 ton guideline harvest level had been harvested by 151 divers.

At the end of the season a composite of all daily aerial spawning observations was constructed (Figures 21, 22 and 23). The resultant distribution and magnitude of spawning compared favorably to what has been recorded for the Northern district.

Pound Spawn on Kelp Fishery

The herring pound fishery in the Prince William Sound Area is the newest of the four fisheries that currently target on herring or herring spawn. The recent development of the pound culture of herring eggs on kelp has been an outgrowth of the wild spawn on kelp fishery that first occurred in 1969. The whims of both mother nature and the marketplace have determined whether any season was a success or failure for the hundreds of fishermen who participate in the wild kelp fishery. In order to be marketable the final product must contain clean kelp of a particular species, have herring spawn of adequate density, and occur within a relatively short span of time before the eggs begin to hatch. The impetus behind the development of the pound type fishery has been the desire to eliminate some of the uncertainties that have plagued the wild kelp fishery. The pound technique involves the confinement of mature herring in a small enclosure (pound) along with carefully selected kelp, and hopefully force the fish to deposit their eggs.

The rapid development of this new fishery has required additional monitoring efforts. In addition to being a new fishery, some special concerns for management exist in that the fishery involves not only the harvesting and processing of kelp and spawn on kelp, but also provides valuable information needed in formulating reasonable guidelines for future development of the fishery. The primary objective for the crew was assurance that pound operators were in compliance with permit specifications and commercial regulations. The crew maintained daily logs of the activities of each pound operator including documentation of the size and method of pound construction, the time, location, species and composition and quantity of kelp collected and placed in the pounds. In addition, the crew also made observations on the time, location and amount of finished product harvested and processed. Data gathered on production from individual pounds helped identify potential problem areas and will provide the basis for future management.

Based on the experience gained in earlier seasons, annual changes have been made in the regulations and permit specifications. Some changes have been made, for instance, in the areas open to pounding during the past two years (Figure 19). Several additional changes in both regulations and permit requirements were adopted for the 1982 season. The most important change included an increase in the guideline harvest level to 26 tons coupled with a 13 ton reduction in the wild spawn on kelp level to 187 tons. This represented a significant change since it involved the reallocation of the allowable harvest level between the two kelp fisheries.

Other significant changes for the 1982 season included the elimination of specific permit conditions from the codified regulations and replacing them

with a listing of general permit conditions which provide for increased flexibility in the field management of the fishery. The regulations were also modified to permit the removal of the entire kelp plant to facilitate their attachment on lines for placement in the pounds. This is in contrast to the wild kelp fishery where the harvest is limited to the removal of only that portion of the blade a minimum of four inches above the stipe (leaving the holdfast and the regenerative portion of the plant). This was felt to be justified since the kelp gathering process for pounds is very selective with very little likelihood that any kelp beds would be severely denuded. During the 1980 - 1981 seasons, the areas open to the harvest of kelp and herring had been much more restrictive in keeping with these more conservative standards (Figure 19).

There has been a steady increase in the participation and production from the pound fishery since regulations permitting this fishery were adopted in the fall of 1978 (Table 44). The interest in the pound fishery continued to grow in 1982, and 25 fishermen applied for permits prior to the deadline date. By April 1 it was determined that 20 of the permit holders had demonstrated sufficient intent to operate their pound to secure a share of the allocation. On April 2 each of these pound operators was notified of their equal share of the 26 tons of eggs on kelp and 325 tons of herring allocated to this fishery.

The herring were unusually late in their appearance in the pound area this year. By the time the herring arrived some of the kelp in place in the pounds was over two weeks old and had to be replaced by fresh plants prior to the introduction of herring.

The pound fishery was finally opened at noon on April 29 in selected portions of both Landlocked and Boulder Bays (Figure 20). All herring taken for use in the pounds were seined over a four day period between April 29 and May 2. Due to the rapid movement of the fish and advanced sexual maturity, the seining and harvesting activities were compressed into a very short period of time. Spawning began immediately in almost all pounds and was complete in only a few days following capture. Harvesting of eggs on kelp in the pounds began on May 5 and was completed by May 10. The combined production from all pounds amounted to 23.2 metric tons (Table 44).

Age, sex and size data from random samples collected from herring pounds are summarized in Table 52.

Herring Bait and Food Fishery

All of Prince William Sound, except designated sac roe harvest areas, is open after September 15 for the harvest of herring for bait and food markets. This fishery is primarily regulated by a 1,400 ton guideline harvest level. Legal gear for this fishery consists of seines, trawls and gill nets. However, in the past only trawls and seines have been used. In 1982 the only reported catches were from purse seine vessels.

The 1982 season opened as scheduled on September 15. Bait markets have been limited due to forecasted poor statewide crab fisheries, and sales to food markets have not yet materialized. Five seine vessels harvested an estimated 801.1 metric tons of bait herring (Table 45). The season closed by regulation on January 31, 1983. Table 45 and Figure 32 present comparative catch and effort data for this fishery.

Age, sex and size data from samples collected during the fishery are summarized in Table 54.

Herring Research

Herring research in Prince William Sound includes the biological sampling of the commercial harvest to assess overall population condition and recruitment into the fishery. Hydroacoustic surveys are also conducted from a Department vessel to help locate pre-spawning concentrations of herring and to monitor their movements prior to the sac roe season. Activities also include ground and aerial surveys of spawning areas to document the extent and magnitude of spawning. The ground observations include pre and post season underwater surveys which are aimed at evaluation effects of past kelp harvests and growth and recruitment of the kelp in harvested areas (Figures 30 and 31).

Figure 33 compares age data graphically between the sac roe gill net, sac roe seine and bait fisheries observed in 1982. Figure 34 displays age analysis comparisons for the years 1976 - 1982. Age, sex and size data from individual fisheries in 1982 are summarized in Tables 49 through 54.

1983 OUTLOOK

As indicated from the 1982 aerial surveys, age analysis studies and the above average harvest, it appears that the herring stocks in the Prince William Sound Area are in a healthy condition. A majority of the production during the past four years has come from the 1976 year class. By 1983 fish from this brood year will be seven years old, and historic data doesn't suggest a large surplus production potential beyond this age. If the present stocks maintain similar patterns of abundance (Figures 25 and 34) that have been exhibited in past cycles, all herring fisheries can be expected to produce average to somewhat below average catches unless another strong year class enters the fishery.

Sonar aerial surveys will be conducted during late winter and early spring prior to the opening of the sac roe season. These surveys will provide a better impression of the likely abundance distribution and age composition of the spawning stocks in traditional sac roe districts. As herring are located in the three sac roe districts and an assessment can be made, the fishery will be managed on a field announcement basis. The Northern district may be opened earlier if it appears that available stocks there will escapement the fishery and begin spawning before any significant harvest could occur in open outer areas.

A cyclic pattern is expected to impact the spawn on kelp fishery in a similar fashion. Due to fluctuations in herring abundance changes in timing, location and density of spawning in traditional harvest areas, there will be continued variation in the amount and quality of the harvest in spawn on kelp fishery. The seaweed crop appears to be maintaining an annual harvestable surplus. Present observations indicate that somewhat of a harvest rotation occurs in this fishery in that a particular area may be harvested quite heavily for one or two years resulting in the removal of the fronds of the adult plants. When this occurs harvesters move into unharvested areas allowing the previously cropped beds to recover.

With the present rate of harvest, as dictated by observed changes in herring stock levels, and barring any abnormal natural mortalities, the staff feels that the herring stocks can be maintained at levels similar to what has been observed over the past ten years.

Table 1. Preliminary salmon catch by district, Prince William Sound Area, 1982.

District	Chinook	Sockeye	Coho	Pink	Chum	Total
General Purse Seine	103	56,234	17,243	18,979,224 ¹	952,601	20,005,405
Coghil	112	942,539	198	1,225,154	391,573	2,559,576
Unakwik	1	48,646	4	89,171	1,114	138,936
Eshamy			C L O S E D			
P. W. S. Subtotal	216	1,047,419	17,445	20,293,549	1,345,288	22,703,917
Copper River	49,162	1,193,584	452,738	6,843	417	1,702,744
Bering River	254	131,645	144,651	47	333	276,930
Area Total	49,632	2,372,648	614,834	20,300,439	1,346,038	24,683,591

¹ Includes 1,356,918 fish from hatchery harvests.

Table 2. Commercial salmon catch by species from all Prince William Sound districts, 1973 - 1982.¹

Year	Catch by Species					TOTAL
	King	Sockeye	Coho	Pink	Chum	
1973	22,638	473,044	199,019	2,065,844	740,017	3,500,562
1974	20,602	741,340	76,041	458,619	89,210	1,385,812
1975	22,325	546,634	84,109	4,453,041	101,286	5,207,395
1976	32,755	1,009,035	160,495	3,022,429	370,668	4,595,382
1977	22,864	953,782	179,777	4,537,808	576,395	6,270,626
1978	30,435	505,509	312,930	2,917,499	489,771	4,256,144 ²
1979	20,078	369,583	315,774	15,638,258	349,615	16,693,308 ³
1980 ⁴	8,735	230,193	331,837	14,219,566	477,699	15,268,030 ⁵
1981 ⁴	21,374	795,392	382,347	20,183,844	1,884,845	23,267,802 ⁶
1982 ⁴	49,632	2,372,648	614,834	20,300,439	1,346,038	24,683,591 ⁷
10 Year Average	25,144	799,716	265,716	8,799,735	642,554	10,512,866

1 Includes catches by all gear types from the General Purse Seine, Coghill, Unakwik, Eshamy, Copper River and Bering River districts.

2 Includes 133,648 pinks from hatchery harvests.

3 Includes 223,761 pinks from hatchery harvests.

4 Preliminary

5 Includes 346,828 pinks from hatchery harvests.

6 Includes 707,037 pink, 118 chum and 1 sockeye salmon from hatchery harvest.

7 Includes 1,356,918 pink salmon from hatchery sales.

Table 3. Expected weekly catch and escapement in the Copper River district with a forecasted season catch of 700,000 - 900,000 and an escapement goal of 250,000 - 350,000.

Dates	Week	%	Anticipated Sockeye Catch ¹		Actual	Cumulative Escapement ²		Actual
			Minimum	Maximum		Minimum	Maximum	
5/16 - 22	21	15	105,000	135,000	240,774	11,750	16,440	³
5/23 - 29	22	21	147,000	189,000	306,796	48,750	68,230	89,452
5/30 - 6/5	23	19	133,000	171,000	152,539	101,000	141,370	189,568
6/ 6- 12	24	11	77,000	99,000	185,068	148,650	208,210	251,489
6/13 - 19	25	9	63,000	81,000	140,196	176,400	247,050	316,607
6/20 - 26	26	7	49,000	63,000	67,214	198,650	278,190	349,831
6/27 - 7/3	27	5	35,000	45,000	34,858	216,150	302,680	374,054
7/ 4 - 10	28	4	28,000	36,000	31,333	228,150	319,470	401,770
7/11 - 17	29	2	14,000	18,000	1,638	237,800	333,110	428,1
7/18 - 24	30	1	7,000	9,000	15,129	243,900	341,500	453,844
7/25 - 31	31	1	7,000	9,000	9,493	247,650	346,740	465,138
8/ 1 - 7	32	+	+	+	5,692	249,400	349,870	467,277 ⁴
Season Total ⁵			700,000	900,000	1,193,584 ⁶	250,000	350,000	467,277

¹ Based on average historic catches for comparable weeks.

² Sonar escapement counts at Miles Lake, includes all species. Does not include an additional 80,000 - 90,000 sockeye salmon needed for delta streams.

³ First sonar escapement counts on 5/24.

⁴ Sonar counter removed on 8/5.

⁵ Total harvest includes historic catches occurring prior to week 21 (5%) and after week 32 (less than 1%).

⁶ Includes last three weeks of the fishery.

Table 4. Commercial salmon catch by period and species, Copper River district, 1982.

Dates	Fishing ¹ Time (Hrs.) Effort		Catch by Species					Total
	King	Sockeye	Coho	Pink	Chum			
5/17-5/18	36	6 ²	272	2,778				3,050
5/20-5/22	36	396	5,847	237,996				243,843
5/25-5/26	36	450	9,368	228,959				238,327
5/28-5/29	24	438	5,323	77,837			16	83,176
5/31-6/ 1	24	444	4,627	67,105				71,732
6/ 3-6/ 5	36	438	5,515	85,434				90,949
6/ 7-6/ 9	48 ³	402	7,201	126,241			78	133,520
6/10-6/12	36	276	3,644	58,827			6	62,477
6/14-6/16	48	438	4,442	116,972			39	121,453
6/17-6/19	36	367	1,367	23,224			39	24,630
6/21-6/23	48	123	1,057	52,535	1		3	53,596
6/24-6/26	36	123	199	14,679	1	1	7	14,887
6/28-6/30	48	64	144	19,171				19,315
7/ 1-7/ 3	36	64	58	15,687			5	15,750
7/ 5-7/ 7	48	109	46	24,063	1	1	3	24,114
7/ 8-7/10	36	109	11	7,270	30	2		7,313
7/12-7/14	48	10	4	1,326	33		35	1,398
7/15-7/17	36	10		312				312
7/19-7/21	48	70	5	9,218	1,076	35	32	10,366
7/22-7/24	36	70	3	5,911	1,595	1		7,510
7/26-7/28	48	87	6	7,110	2,784	727	26	10,653
7/29-7/31	36	87		2,383	2,064	821	41	5,309
8/ 2-8/ 4	48	40	2	4,660	13,646	2,883	54	21,245
8/ 5-8/ 7	36	40	3	1,032	8,764	571	18	10,388
8/ 9-8/12	84	194	7	1,414	33,263	1,394	10	36,088
8/16-8/19	84	262	8	1,097	78,673	391	3	80,172
8/23-8/26	84	348	3	305	91,868	14	2	92,192
8/30-9/ 2	84	373		31	108,960	1		108,992
9/ 6-9/ 9	84	308		7	80,463	1		80,471
9/13-9/16	84	134			18,476			18,476
9/20-9/23	84	95			10,276			10,276
9/27-9/30	84	3			890			890
Total			49,162	1,193,584	452,864	6,843	417	1,702,870

¹ Fishing time regulated by emergency order between the season opening on May 17 and June 9. After that time two fixed weekly periods were permitted from 6 a.m. Monday until 6 a.m. Wednesday and from 6 p.m. Thursday until 6 a.m. Saturday. From August 9 until the end of the season a single 84 hour period was allowed each week from Monday through Thursday.

² Effort reduced because of unresolved fish prices.

³ A 36 hour period extended an additional 12 hours by field announcement.

Table 5. Copper River district salmon catch by species, 1973 - 1982.

Catch by Species						
Year	King	Sockeye	Coho	Pink	Chum	Total
1973	19,948	332,816	132,272	8,964	10,173	504,173
1974	18,980	607,766	46,635	9,839	664	683,874
1975	19,644	335,384	53,805	236	807	409,876
1976	31,483	865,254	111,900	3,392	178	1,012,207
1977	22,089	619,140	131,356	23,185	335	796,105
1978	29,062	249,872	220,338	3,512	2,233	505,017
1979	17,678	80,528	194,885	1,295	107	294,493
1980	8,454	18,908	225,299	3,966	198	256,825
1981 ¹	20,782	486,982	303,801	23,772	1,752	837,089
1982 ¹	49,162	1,193,584	452,864	6,843	417	1,702,870
10 Year Average	23,728	479,023	187,315	8,500	1,686	700,253

¹. Preliminary.

Table 6, Copper River sonar counts, Miles Lake site, 1982

S O C K E Y E					S O C K E Y E					
Date	North Bank	South Bank	Daily	Cum.	Date	North Bank	South Bank	Daily	Cum:	
MAY	24	8	82	90	JULY	1	162	2,028	2,190	358,667
	25	45	448	493		2	327	4,093	4,420	363,087
	26	93	930	1,023		3	426	5,325	5,751	368,838
	27	1,099	10,992	12,091		4	389	4,856	5,245	374,083
	28	4,300	43,003	47,303		5	370	4,625	4,995	379,078
	29	1,788	17,883	19,671		6	467	5,833	6,300	385,378
	30	798	7,983	8,781		7	457	5,714	6,171	391,549
	31	1,035	10,354	11,389		8	219	3,771	3,990	395,539
JUNE	1	1,399	13,986	15,385		9	114	2,096	2,210	397,749
	2	1,565	15,648	17,213		10	28	2,042	2,070	399,819
	3	1,217	12,166	13,383		11	147	1,833	1,980	401,799
	4	1,123	11,232	12,355		12	297	3,123	3,420	405,219
	5	1,346	13,460	14,806		13	253	3,779	4,032	409,251
	6	979	14,606	15,585		14	588	3,751	4,339	413,590
	7	785	11,721	12,506		15	400	4,314	4,714	418,304
	8	488	7,942	8,430		16	713	2,848	3,561	421,865
	9	324	6,693	7,017		17	320	2,605	2,925	424,790
	10	629	6,970	7,599		18	305	3,108	3,413	428,203
	11	921	6,958	7,879		19	277	4,019	4,296	432,499
	12	1,332	7,255	8,587		20	540	3,380	3,920	436,419
	13	807	9,125	9,932		21	458	3,591	4,049	440,468
	14	352	12,199	12,551		22	780	3,091	3,871	444,339
	15	1,015	11,662	12,677		23	321	2,778	3,099	447,438
	16	1,088	12,507	13,595		24	298	2,763	3,061	450,499
	17	963	11,067	12,030		25	323	3,051	3,374	453,873
	18	524	6,020	6,544		26	249	2,347	2,596	456,469
	19	350	4,019	4,369		27	215	2,032	2,247	458,716
	20	640	2,712	3,352		28	228	2,147	2,375	461,091
	21	536	2,810	3,346		29	137	1,289	1,426	462,517
	22	353	4,114	4,467		30	92	871	963	463,480
	23	357	6,674	7,031		31	113	1,063	1,176	464,656
	24	479	5,850	6,329	AUG.	1	49	462	511	465,167
	25	153	4,750	4,903		2	90	852	942	466,109
	26	327	4,089	4,416		3	47	447	494	466,603
	27	202	2,530	2,732		4	56	525	581	467,184
	28	161	2,013	2,174		5	12	110	122	467,306
	29	158	1,972	2,130						
	30	171	2,142	2,313						

Table 7. Sockeye salmon escapement estimates, Copper River District, 1970 - 1982.

Year	Aerial Survey Counts			Upper River Sonar Count ³
	Delta ¹	Upper River ²	District Total	
1970	36,712	73,945	110,657	
1971	45,270	70,232	115,502	
1972	49,235	32,031	81,266	
1973	26,801	64,345	91,146	
1974	18,493	29,417	47,910	
1975	32,060	11,190	43,250	
1976	41,000	24,276	65,276	
1977	40,455	72,763	113,218	
1978	65,850	23,488	89,338	194,372
1979	80,700	29,523	110,223	248,709
1980	119,150	55,595	174,745	283,856
1981	82,850	76,820	159,670	534,263
1982	62,000	89,945	151,945	467,277
Average	53,890	50,275	102,724	345,695

¹ Peak aerial survey counts for seven index spawning areas.

² Peak aerial survey counts for twenty index spawning areas.

³ Counting station located at Miles Lake outlet and includes all species with an escapement goal of 250,000 - 350,000 fish.

Table 8. Copper River aerial survey index of sockeye salmon spawning escapements, 1971 - 1982.

System	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Eyak Lake	5800	12275	6000	4625	17500	8500	8000	13450	13500	22500	11300	11700	
McKinley Lake	1200	5050	7800	2000	8000	6000	15000	18000	25000	27500	10000	9500	
39 Mile Creek	8270	14910	5511	2400	2500	3500	4500	6500	17500	18000	9500	13000	
Lake Tokun	20000	2000	8000	1468	1200	8500	4201	6600	6500	17000	8500	7000	
Little Martin Lake	3000	3000	1500	1500	2000	8000	1550	4500	4000	6500	2500	6000	
Martin Lake	2000	7000	2000	1500	460	4000	4094	10500	10000	17650	26050	5300	
Martin River Slough	5000	5000	1990	5000	400	2500	3100	6300	4200	10000	15000	9500	
Copper River Delta Subtotal	45270	49235	26801	18493	32060	41000	40455	65850	80700	119150	82850	62000	
Salmon Creek	275*	0	200	400	OP	300	275*	50	450	1500	250	850	
Tonsina Lake	500	250	300	200	250	900	432*	4	775	650	1725	1700	
Mahlo Creek	12400	1525	4500	500	314G	600	5200	300	450	1000	1800	3300	
St. Anne Creek	25100	1900	7400	2100	449G	1700	7000	1150	730	5000	4700	8800	
Mendeltna Creek	870	1950	1200	332	325	900	3900	725	350	1125	4830	400	
Keg Creek	810*	0	1435	190	256	125	725	1050	1300	2335	320	495	
Dickey Lake	170	73	2500	10	25	0	650	75	13	250	20	410	
Swede Lake	9	400	350	15	6	10	750	80	155	400	450	1400	
Paxson Lake Outlet	3400	2700	4300	1000	550	2100	3800	2500	1900	3800	1500	3800	
Inlet to Mud Creek	7900	5818	10500	14300	2100	4200	6000	2700	5400	8200	2200	1150	
Mud Creek and Lake	600	850	500	300	400	1100	650	150	460	740	810	1900	
Mud Cr. - Summit Lake	3250	1675	5700	2700	1200	1900	5900	800	2600	3075	3400	17400	
Fish Lake	700P	4500	6300	800	2800	900	8000	2650	1700	3175	8800	22560	
Bad Crossing #1 & #2	6	0	9275	650	5	16	8400	600	650	75	15000	4550	
Fish Creek	900	650	2200	450	200	250	6900	1300	350	900	10500	1700	
Mentasta Lake	2295	800	2700	700	450	600	3500	3600	2500	3200	7400	3250	
Suslota Lake	4550	4830	3400	400	0	100	300	1200	1000	1700	300	1800	
Tanada Lake	4093	930	10	3100	700	6700	9100	2625	5175	13700	11200	11680	
Long Lake	2000	3000	150	750	1100	2450	877	1425	3100	2650	1325	1700	
Tana River	404*	180	1425	520	60	25	404*	504	465	2130	290	1100	
Upper Copper River Subtotal	70232	32031	64345	29417	11190	24276	72763	23488	29523	55595	76820	89945	
TOTAL	115502	81266	91146	47910	43250	65276	113218	89338	110223	174745	159670	151945	

* = interpolated. P = poor. G = ground survey.

Table 9. Escapement estimates, Copper River delta and Bering River sockeye salmon.

Stream/Lake	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Eyak Lake	4,625	17,500	8,500	11,500	13,450	13,500	22,500	11,300	11,700	
McKinley Lake	2,000	8,000	6,000	15,000	18,000	25,000	27,550	10,000	9,500	
39 Mile	2,400	2,500	3,500	4,500	6,500	17,500	18,000	9,500	13,000	
Tokun Lake	1,468	1,200	8,500	4,201	6,600	6,500	17,000	8,500	7,000	
Tokun Outlet		2,000	2,500	700	4,000	10,000	7,100	7,350	300	
Martin Lake	1,000	460	4,000	4,094	10,500	10,000	17,650	26,050	5,300	
Pothole Lake		3,000	3,000	550	1,100	5,000	8,000	4,500	1,200	
Little Martin Lk.	1,500	2,000	8,000	1,550	4,500	4,000	6,500	2,500	6,000	
Martin River	4,000	1,500	1,500	1,450	3,500	8,200	3,500	5,350	1,000	
Ragged Pt. Lake	2,000	2,500	4,000	3,500	5,500	20,000	13,000	8,000	7,000	
Martin Sloughs	5,000	400	2,500	3,100	6,300	4,200	10,000	15,000	9,500	
Martin Lk. Outlet	4,000	1,500	2,500	1,450	3,500	-	9,000	3,800		
Total	27,993	42,560	54,500	51,595	83,450	123,900	159,800	111,850	71,500	
Bering Lake	20,580	4,000	40,000	8,000	7,000	13,500	12,000	20,000	7,300	
Dick Creek	6,600	1,971	2,000	1,500	6,300	11,000	11,000	20,000	9,500	
Shepard Creek	15,000	150	5,500	NC-glac.	6,000	NC-silt	7,800	9,000	10,500	
Kushtaka Lake	75	75	2,500	"	3,500	2,500	1,000	5,500	1,350	
Stillwater Creek	NS	300	NC-silt	"	-	NC-silt	NS	NS-silt	NS	
Total	42,255	6,496	50,000	9,500	22,800	27,000	31,800	54,500	28,650	

¹ Included in Martin Lake total.

Table 10. King salmon escapement index - Copper River.

Area	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
East Fork Chistochina R.	512	348	476	137	71	289	132	137	810	575	120	1,260
Gulkana River	269	1,200	623	1,317	741	777	1,090	921	1,380	718	754*	1,656
Mendeltna Creek	56	49	15	15	38*	35	73	52	5	3	51	70
Kaina Creek	81	89	172	55	123*	37	91	125	279	247	191	200
St. Anne Creek	4	25	26*	32	26*	15	10	24	16	8	19	35
Manker Creek	30	4	17	29	19*	6	15	20	16	35	23	49
Grayling Creek	45	47	47	49	48*	17	48*	92	153	66	107	127
Little Tonsina R.	200	129*	100	65	161	98	35	285	285	70	191	440
Indian River	20*	13	20*	4	6	61	20	9	29	24	20*	179
Total without interpolated counts	1,197	1,775	1,450	1,654	979	1,335	1,446	1,665	2,973	1,746	712	4,016
Counts missing	(1)	(1)	(2)		(5)		(2)				(2)	
Total with interpolated counts	1,217	1,904	1,496	1,654	1,233	1,335	1,514	1,665	2,973	1,746	1,486	4,016

* Interpolated. $22,239/12 = 1,853$

Table 11. Copper River Delta, Bering River, aerial survey estimates, coho salmon, 1964 - 1982.

System	1964	1965	1968	1969	1971	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Eyak Lake	4000	3500	150	416*	2070*	2000	175	7350	3000	3700	903*	6000	9200	2750+	7000	
Hatchery Cr.	300	400	3	88*	436*	213*	533*	592*	108*	543*	190*	568*	1905*	2500	125	
Power Creek	840*	229*	65*	88*	436*	213*	533*	592*	108*	543*	190*	568*	1905*	800	1500	
Ibek Creek	1950	2000	327*	250	2179*	1065*	4500	3500	540*	3500	1575	850	12110	10000	1100	
19 Mile Creek	50	300	33*	44*	218*	107*	267*	200	54*	35	95	500	100	1500	250	
McKinley Lake	1050*	287*	82*	110*	545*	266*	15	740*	135*	679*	238*	500	2500	1344*	500	
Salmon Creek	800	500	90*	350	599*	293*	733*	814*	149*	1300	262*	781*	2000	1700	4650	
26-27 Mile Cr.	280*	76*	22*	29*	145*	71*	178*	197*	36*	181*	63*	189*	635*	250	50	
39 Mile Creek	400	300	300	300	1380*	2950	6500	2500	342*	3000	4500	600	7100	1900	2000	
Goat Mt. Cr.	5300	497*	142*	500	944*	461*	1155*	1500	234*	1177*	412*	1230*	800	500	50	
Pleasant Cr.	8000	900	25	350	745*	500	550	100+	185*	1500	325*	970*	500	1837*	400	
Tokun Lake	200	200	450	150	272*	150	125	370*	68*	340*	119*	355*	2000	672*	400	
Tokun River	945*	258*	74*	99*	490*	150	333*	500	122*	611*	214*	639*	2200	800	2000	
L. Martin L.	1575*	430*	123*	300	817*	115	700	350	203*	1019*	357*	1065*	1500	6000	150	
Martin River	2695*	735*	300+	100	1160	1532	5500	525	347*	2000	150	460	12855	4000	7500	
Martin Lake	1085*	50	85*	350	563*	50	750	765*	140*	701*	246*	250	4500	1389*	9000	
Ragged Point	1155*	315*	90*	121*	2000	293*	733*	814*	149*	747*	262*	781*	2619*	200	2500	
Ragged Outlet	840*	229*	66*	88*	436*	213*	1800	150	108*	300	190*	568*	1905*	1000	50	
Martin Slough	14000	1400	1500	1000	15000	1425	1600	8000	1500	7300	1700	14500	22000	10900	1350	
Katalla R.					17000	1200	4200	2500	200	5000+	3200		8000	3000	11500	
Bering Lake					500	52	1000	50		165		1000	700	0	8000	
Dick Creek					1600	650	60	1200		500			1625	0	5500	
Shepard Cr.													0	600	muddy	
Gandil R.													600		muddy	
Nichawak R.													250		5000	

1 Years and streams without counts not surveyed due to weather, high water or turbulence. It should also be noted that counts were made as weather allowed and may or may not have been made during periods of peak abundance.

* Interpolated.

Table 12. Copper River district commercial catch of sockeye salmon, age and length (mm) by sex, 1982.

	AGE GROUP											TOTAL
	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	3.3	
MALES												
NUMBER	1,901	317	11,326	103,805	126	537,713	9,565	944	36,715	40	36	702,488
PERCENT	0.27	0.05	1.61	14.78	0.02	76.53	1.36	0.13	5.23	0.01	0.01	100.00
AV LENGTH	460.67	330.28	580.61	510.44	512.10	584.10	517.59	606.68	581.24	519.00	605.67	571.67
STD ERROR	11.08	8.98	5.60	2.94	0.00	1.13	8.66	10.26	4.38	22.00	0.00	1.96
SAMP SIZE	62	12	269	1,969	2	7,320	159	13	543	2	2	10,353
FEMALES												
NUMBER	614	47	10,987	59,188	0	381,034	8,453	237	30,336	0	0	490,896
PERCENT	0.13	0.01	2.24	12.06	0.00	77.61	1.72	0.05	6.18	0.00	0.00	100.00
AV LENGTH	484.04	302.50	564.19	513.52	0.00	564.46	507.54	614.64	565.40	0.00	0.00	557.29
STD ERROR	10.96	9.41	4.27	2.97	0.00	1.41	9.62	9.40	5.78	22.00	0.00	1.73
SAMP SIZE	23	2	286	1,310	0	5,627	149	4	465	0	0	7,866
SEXES COMBINED												
NUMBER	2,515	364	22,313	162,993	126	918,747	18,018	1,181	67,051	40	36	1,193,384
PERCENT	0.21	0.03	1.87	13.66	0.01	76.99	1.51	0.10	5.62	0.00	0.00	100.00
AV LENGTH	466.37	326.69	572.53	511.56	512.10	575.95	512.87	608.28	574.07	519.00	605.67	565.75
STD ERROR	11.02	9.14	4.87	2.96	0.00	1.22	9.06	10.02	4.85	22.00	0.00	1.86
SAMP SIZE	85	14	555	3,279	2	12,947	308	17	1,008	2	2	18,219

Table 13. Copper River district commercial catch of chinook salmon, age and length (mm) by sex, 1982

	AGE GROUP										TOTAL
	0.2	1.1	0.3	1.2	1.3	2.2	1.4	2.3	1.5	2.4	
MALES											
NUMBER	51	107	18	2,956	13,535	386	7,823	2,456	22	1,483	28,837
PERCENT	0.17	0.37	0.06	10.25	46.94	1.34	27.13	8.52	0.08	5.14	100.00
AV LENGTH	545.41	448.24	849.00	643.89	880.90	597.01	988.56	854.07	1060.00	969.51	882.20
STD ERROR	0.00	11.75	0.00	10.71	4.87	22.29	6.55	12.86	0.00	17.16	7.53
SAMP SIZE	2	4	1	128	557	17	335	106	1	62	1,213
FEMALES											
NUMBER	0	0	0	732	12,462	82	4,606	1,644	26	773	20,325
PERCENT	0.00	0.00	0.00	3.60	61.32	0.40	22.66	8.09	0.13	3.80	100.00
AV LENGTH	0.00	0.00	0.00	660.92	860.64	633.21	955.70	837.28	992.00	943.12	875.49
STD ERROR	0.00	0.00	0.00	8.23	3.89	21.00	7.49	12.07	0.00	18.61	6.18
SAMP SIZE	0	0	0	34	527	4	196	73	1	32	867
SEXES COMBINED											
NUMBER	51	107	18	3,688	25,997	468	12,429	4,100	48	2,256	49,162
PERCENT	0.10	0.22	0.04	7.50	52.88	0.95	25.28	8.34	0.10	4.59	100.00
AV LENGTH	545.41	448.24	849.00	647.28	871.19	603.35	976.38	847.34	1023.17	960.47	879.42
STD ERROR	0.00	11.75	0.00	10.19	4.40	22.05	6.90	12.54	0.00	17.65	6.97
SAMP SIZE	2	4	1	162	1,084	21	531	179	2	94	2,080

Table 14. Copper River and Bering River coho salmon age, length and analysis, commercial catch, 1982.

Copper River

Age Class	Males			Females			Total		
	Number	Percent	Average Length mm	Number	Percent	Average Length mm	Number	Percent	Average Length mm
1.1	12	7.1	613.6	11	8.4	610.2	23	7.7	612.0
2.1	156	92.9	637.5	119	90.8	636.5	275	92.0	637.1
3.1				1	.8	680.0	1	.3	680.0
Total	168	56.2	635.8	131	43.8	634.6	299	100.0	635.3

Bering River

Age Class	Males			Females			Total		
	Number	Percent	Average Length mm	Number	Percent	Average Length mm	Number	Percent	Average Length mm
2.1	34	54.0	666.8	29	46.0	642.0	63	100.0	655.4

Table 14. Copper River and Bering River coho salmon age, length and analysis, commercial catch, 1982.

Copper River

Age Class	Males			Females			Total		
	Number	Percent	Average Length mm	Number	Percent	Average Length mm	Number	Percent	Average Length mm
1.1	12	7.1	613.6	11	8.4	610.2	23	7.7	612.0
2.1	156	92.9	637.5	119	90.8	636.5	275	92.0	637.1
3.1				1	.8	680.0	1	.3	680.0
Total	168	56.2	635.8	131	43.8	634.6	299	100.0	635.3

Bering River

Age Class	Males			Females			Total		
	Number	Percent	Average Length mm	Number	Percent	Average Length mm	Number	Percent	Average Length mm
2.1	34	54.0	666.8	29	46.0	642.0	63	100.0	655.4

Table 15. Prince William Sound Area subsistence fishery, 1982.

Area	Number Permits Issued	Type of Gear	King	Sockeye	Coho	Other ²	Total
Upper Copper River ¹	5,475	Dip Net	1,900	59,713	975	26	62,614
Upper Copper River ¹	615	Fishwheel	632	37,086	271	131	38,120
Copper River Flats ³	108	Gill Net	60	634	106	2	802
Prince William Sound ⁴	34	Gill Net		82	2	54	139
Prince William Sound	1	Seine		2	2		4
Total	6,233		2,592	97,517	1,356	213	101,679

¹ Compiled from reports received through 1/31/83.

² Includes pink and chum salmon, whitefish, steelhead, cutthroat, Dolly Varden, lamprey, lingcod and grayling.

³ Catch from 45 fishermen; 42 did not fish; 19 permits were not returned; and 3 fishermen were unsuccessful.

⁴ Catch from 5 fishermen; 8 permits were not returned; 15 did not fish

Table 16. Copper River Delta gill net salmon subsistence catch and effort, 1960 - 1982.

Year	P E R M I T S					C A T C H				
	Issued	Unused	Returned		Total	King	Sockeye	Coho	Total	
			Unsuccessful	Successful						
1960	13	No Record	No Record	Unknown	No Record	60	137	158	158	
1961	14	"	"	"	14	44	135	99	296	
1962	14	"	"	"	No Record	3	13	3	182	
1963	8	0	2	6	8	14	157	157	173	
1964	5	2		3	3				14	
1965	31	5	2	13	20	12	459	85	556	
1966	45	10	2	19	31	47	175		222	
1967	61	19	9	28	56	83	153		236	
1968	17	8	1	6	15	11	36		47	
1969	49	13	7	13	33	16	63	85	164	
1970	32	3	1	23	27	66	179		245	
1971	29	9	12	5	26	10	32	4	46	
1972	104	5		75	80	149	569	53	771	
1973	94			89	89	153	326	180	659	
1974	9	2	2	1	5	5	4	2	11	
1975	2			2	2	0	5	0	5	
1976	27			14	14	1	10	0	11	
1977	23			22	22	10	71	0	81	
1978	34	19		9	28	37	18	12	67	
1979	49	20	4	17	41	45	26	17	88	
1980	39	17	6	12	35	19	27	17	63	
1981	72	21	4	26	51	48	145	104	297	
1982	108	42	3	45	90	60	634	106	802 ¹	

¹ Includes 1 pink and 1 chum.

Table 17. Prince William Sound salmon subsistence catch and effort, 1960 - 1982.¹

Year	P E R M I T S		C A T C H								Total
	Issued	Returned	King	Sockeye	Coho	Pink	Chum	Unknown ²			
1960	50			139	505	1,292	75		150	2,161	
1961	12		1	41	123	732	3			900	
1962	9				119	214	142			475	
1963	9		3		406	298	24			731	
1964	15			11		900				911	
1965	22	16				179	25			204	
1966	3	3		3	19	20	50			92	
1967	4	3			4	4				8	
1968	4	3			20	156		22		198	
1969	7	3			16					16	
1970	1	1								0	
1971	3	2				46				46	
1972	0										
1973	19	16			289					289	
1974	3	1								0	
1975	2	0								0	
1976	0									0	
1977	4	4								0	
1978	3	2								0	
1979	15	2								0	
1980	26	15		7	6					13	
1981	12	8		3	29		2			34	
1982	35	27		84	4	31	24			143	

¹ Includes only catches from Prince William Sound proper.

² Catches not reported by species.

Table 18. Copper River subsistence fishery data, 1948 - 1982.

Year	Reported Catch		Permits Issued		Reported Catch by Species			Estimated Total Catch	
	Dip Net	Fishwheel	Dip Net	Fishwheel	Total	Sockeye	Chinook		Coho
1948	5,100								
1949	5,500					1,601	535		
1952	2,136					3,057	88		
1954	3,145					1,767	319		
1955	2,086					7,241	281	108	
1957	7,753					12,909	354		
1958	13,263								
					Species Combined, and gear combined				
1960	1,179	5,660	44	33	77	6,739	136	25	8,803
1961	1,777	12,419	307	82	389	15,472	388	550	18,206
1962	3,203	11,101	435	117	552	14,543	848	381	18,486
1963	2,124	12,395	361	140	501	14,055	464	558	18,287
1964	4,133	7,749	794	200	994	11,915	725	103	16,340
1965	7,215	5,813	982	143	1,125	12,760	644	52	16,818
1966	7,452	9,188	1,132	138	1,270	16,718	555		21,896
1967	6,146	8,360	1,166	154	1,320	14,457	419		19,007
1968	8,040	6,071	1,235	143	1,378	14,819	644		20,283
1969	18,054	6,220	1,415	167	1,582	27,604	719	233	29,266
1970	22,700	9,886	3,220	267 ^{1/}	3,487	36,500	427	554	42,757
1971	28,115	9,370	4,168	374 ^{1/}	4,542	37,517	1,363	363 ^{2/}	48,449
1972	18,996	7,854	3,485	205	3,690	26,850	1,501	248 ^{2/}	32,468
1973	16,407	10,943	3,840	305	4,145	27,350	1,846	51 ^{3/}	29,428
1974	15,143	7,657	3,305	288	3,593	22,800	1,141	163 ^{4/}	26,001
1975	7,694	5,626	2,452	350	2,802	13,320	1,705		15,357
1976	12,130	8,321	2,512	451	2,963	20,451	2,017	17	23,623
1977	22,612	12,751	3,526	540	4,066	35,363	2,171	454	41,815
1978	12,569	6,638	3,313	392	3,705	19,207	2,050	633	22,029
1979	11,887	10,251	2,730	470	3,200	22,138	2,372	705	30,963
1980	14,650	9,805	2,804	399	3,203	21,437	2,256	639	35,081
1981	28,872	26,924	3,555	523	4,078	53,008	1,913	849	68,746
1982	62,614	38,120	5,475	615	6,090	96,799	2,532	1,246	110,006

1/ Last use of Dip Net/Fishwheel combination permits.

2/ First issue of permits at Chitina.

3/ Last "Blacklist" used.

4/ Issue of permits at Chitina and Glennallen only.

Table 19. Commercial salmon catch by period and species, Bering River district, 1982.

Dates	Fishing ¹ Time (Hrs.)	Effort	Catch by Species					Total
			King	Sockeye	Coho	Pink	Chum	
6/14-6/16	48	20	67	7,735		12	230	8,044
6/17-6/19	36	28	56	10,677			41	10,774
6/21-6/23	48	44	76	29,167				29,243
6/24-6/26	36	44	34	27,673				27,707
6/28-6/30	48	17	12	12,072		1		12,085
7/ 1-7/ 3	36	17	1	10,391				10,392
7/ 5-7/ 7	48	16	4	13,579				13,583
7/ 8-7/10	36	16	1	9,131				9,132
7/12-7/14	48	9		9,578				9,578
7/15-7/17			No Effort					
7/19-7/21	48	8		1,535			43	1,578
7/22-7/24			No Effort					
7/26-7/28			"	"				
7/29-7/31			"	"				
8/ 2-8/ 4			"	"				
8/ 5-8/ 7			"	"				
8/ 9-8/12	84	1			63	25		88
8/16-8/19	84	12	1	32	6,353	9	12	6,407
8/23-8/26	84	78		74	25,457		7	25,538
8/30-9/ 2	84	102	1	1	52,509			52,511
9/ 6-9/ 9	84	104	1		40,088			40,089
9/13-9/16	84	53			17,768			17,768
9/20-9/23	84	32			2,693			2,693
Total			254	131,645	144,931	47	333	277,210

¹ Fixed weekly periods permitted fishing throughout the season. From the season opening until August 7 two weekly periods were allowed from 6 a.m. Thursday until 6 a.m. Saturday. From August 9 until the end of the season a singly 84 hour period was permitted each week from Monday through Thursday.

Table 20. Bering River district salmon catch by species, 1973 - 1982.

Catch by Species						
Year	King	Sockeye	Coho	Pink	Chum	Total
1973	285	15,426	65,348	2	5	81,066
1974	32	4,208	28,615	7	2	32,864
1975	162	21,637	24,162	0	0	45,961
1976	228	30,908	42,423	43	1	73,603
1977	127	14,445	47,218	192	221	62,203
1978	331	33,554	91,097	266	2,391	127,639
1979	385	139,015	114,046	6,895	23,094	283,435
1980	0	0	108,872	0	0	108,872
1981 ¹	204	55,973	76,161	10,176	8,491	151,005
1982 ¹	254	131,645	144,931	47	333	277,210
Average ²	223	49,645	74,287	1,763	3,454	124,386

¹ Preliminary.

² Average of years fished. In 1980 the season did not open until August 11.

Table 21. Commercial salmon catch by species, by week in the general purse seine district, Prince William Sound, 1982.¹

Period	Effort ²	Catch by Species					Total
		King	Sockeye	Coho	Pink	Chum	
7/ 7-7/ 9 ³	28	4	8,865	43	115,349	49,934	174,195
7/12-7/16	31	60	18,742	183	295,738	127,725	442,448
7/19-7/23	29	9	4,622	465	614,411	92,857	712,364
7/25-7/31 ⁴	208	18	3,806	2,244	2,251,838	164,722	2,422,628
8/ 1-8/ 7 ⁵	260	6	7,036	6,938	6,418,580	273,419	6,705,979
8/ 8-8/14	252	6	8,580	5,173	5,317,643	177,115	5,508,517
8/15-8/21 ⁶	127		4,356	2,191	2,394,988	79,805	2,481,340
8/22-8/28 ⁷	30		317	6	214,104	3,123	217,550
TOTAL		103	56,324	17,243	17,622,651	968,700	18,665,021

¹ Includes only common property fishery catches from the Eastern, Northern, Northwestern, Southwestern, Montague and Southeastern districts.

² Effort was reduced until the last few days of July because of unresolved fish prices.

³ The season opened at 6 a.m. on Wednesday, July 7 and remained open thereafter for regular weekly periods from 6 a.m. Monday until 9 p.m. Friday.

⁴ Fishing was extended until further notice after 9 p.m. Friday, July 30 and remained open for continuous fishing for the duration of the season.

⁵ Prince William Sound was opened to foreign processors after 6 p.m. August 3 and remained open until 1 a.m. Friday, August 13.

⁶ The Port Fidalgo subdistrict of the Eastern district was closed for the remainder of the season after 9 p.m. Friday, August 20.

⁷ With the exception of the head of Galena Bay in the Eastern district all districts were closed for the duration of the season after 9 p.m. Friday, August 27. The Galena Bay area also closed for the season after 9 p.m. Thursday, September 2.

Table 22. Salmon harvests by species from private nonprofit hatcheries, Prince William Sound, 1978 - 1982.¹

Year	Number Hatcheries	Catch by Species			
		Sockeye	Pink	Chum	Total
1978	1		133,648		133,648
1979	1		223,761		223,761
1980 ²	2		346,928 ²	6	346,934
1981 ³	1	1	707,037	118	707,156
1982 ³	1		1,356,918		1,356,417
TOTAL	2	1	2,768,292	124	2,768,417

¹ Includes harvests of returns to Prince William Sound Aquaculture Corporation hatchery at Port San Juan, Evans Island and NERKA, Inc. hatchery at Perry Island.

² Includes 100 pink salmon harvested with set net gear at NERKA, Inc. hatchery at Perry Island.

³ Preliminary.

Table 23. Salmon catch by species and date reported by foreign processors, Prince William Sound, 1982.¹

Date	Catch by Species					Total
	King	Sockeye	Coho	Pink	Chum	
8/ 3 ²		38		101,066	617	101,721
4		21		56,409	345	56,775
5		28		72,861	445	73,334
6		23		61,109	373	61,505
7		34		90,489	553	91,076
8		62	1	163,350	998	164,411
9		45	1	119,869	732	120,647
10		41	1	109,292	668	110,002
11		68	1	180,978	1,106	182,153
12		72	2	191,555	1,170	192,799
13 ²		12		28,204	172	28,388
TOTAL	0	444	6	1,175,182	7,179	1,182,811

¹ Combined catch reports of three foreign companies. Total catch figures are based on fish ticket data while daily catches have been estimated based on inseason verbal reports.

² Opened to foreign buyers at 6:00 p.m. on August 3 and closed after 1:00 a.m. on August 13.

Table 24. Commercial salmon catch by species in the general purse seine districts, Prince William Sound, 1973 - 1982.¹

Year	Catch by Species					Total
	King	Sockeye	Coho	Pink	Chum	
1973	2,151	22,223	995	1,905,12	617,488	2,547,869
1974 ²	1,215		548	4		1,767
1975	1,744	29,842	5,753	4,208,074	65,410	4,310,823
1976	855	43,888	6,070	2,897,535	250,424	3,198,772
1977	450	104,863	691	3,861,972	395,329	4,363,305
1978	340	9,177	1,392	2,660,290	354,839	3,026,038
1979	769	61,990	4,942	15,114,847	263,500	15,446,048
1980	82	126,463	1,830	13,300,729	407,891	13,836,995
1981 ³	240	146,030	1,998	18,104,934	1,695,560	19,948,762
1982 ³	103	56,324	17,243	17,622,651	968,700	18,665,021
Average ⁴	748	66,756	4,546	8,852,894	557,682	9,482,626

¹ Includes purse seine catches from the Eastern, Northern, Northwestern, Southwestern, Montague and Southeastern districts. Also includes troll catches during 1973 - 1976.

² Purse seine season closed. Catches were made by troll gear.

³ Preliminary.

⁴ Average does not include 1974.

Table 25. Commercial salmon catch by all gear, by species, Prince William Sound, 1973 - 1982.¹

Catch by Species						
Year	King	Sockeye	Coho	Pink	Chum	Total
1973	2,405	124,802	1,399	2,056,878	729,839	2,915,323
1974 ²	1,590	129,366	801	448,773	88,544	669,074
1975	2,519	189,613	6,142	4,452,805	100,479	4,751,558
1976	1,044	112,809	6,171	3,018,991	370,478	3,509,493
1977	648	310,358	843	4,513,082	572,610	5,397,541
1978	1,042	222,083	1,495	2,913,721	485,147	3,623,488 ³
1979	2,015	150,040	6,843	15,630,068	326,414	16,115,380 ⁴
1980 ⁵	189	189,793	2,952	14,156,682	482,016	14,831,632 ⁶
1981 ⁵	388	252,437	2,385	20,149,896	1,874,602	22,279,708 ⁷
1982 ⁵	216	1,047,419	17,445	20,293,549	1,345,288	22,703,917 ⁸
10 Year Average	1,205	272,872	4,647	8,763,445	637,542	9,679,711

¹ Includes purse seine, drift gill net and set gill net catches from the general purse seine, Coghill, Unakwik and Eshamy districts in Prince William Sound proper. Also includes troll gear catches during 1973 - 1976.

² General purse seine season closed.

³ Includes 133,648 pink salmon from hatchery harvests.

⁴ Includes 223,761 pink salmon from hatchery harvests.

⁵ Preliminary

⁶ Includes 356,828 pink salmon and 6 chum salmon from hatchery harvests.

⁷ Includes 707,037 pink, 118 chum and 1 sockeye salmon from hatchery harvests.

⁸ Includes 1,324,909 pink salmon from hatchery harvests.

Table 26. Pink and chum salmon returns to Prince William Sound, 1982.¹

Pink Salmon					
District	Catch	Escapement Goal	Estimated Escapement	Total Run	
Eastern		403,750 - 484,500	566,530		
Northern		140,000 - 168,000	325,890		
Northwestern & Coghill		262,500 - 315,000	429,750		
Southwestern & Eshamy		112,500 - 135,000	189,190		
Montague		106,250 - 127,500	125,870		
Southeastern		225,000 - 270,000	470,000		
TOTAL	20,293,549	1,250,000 - 1,500,000	2,107,330		22,400,879
Chum Salmon					
District	Catch	Escapement Goal	Estimated Escapement	Total Run	
Eastern		87,200 - 109,000	175,950		
Northern		29,400 - 36,750	80,200		
Northwestern & Coghill		48,600 - 60,750	42,570		
Southwestern & Eshamy		3,400 - 4,250	1,670		
Montague		11,400 - 14,250	0		
Southeastern		20,000 - 25,000	26,090		
TOTAL	1,345,288	200,000 - 250,000	326,480		1,671,768

¹ Catches are preliminary and include 1,356,918 pink salmon from hatchery sales.

Table 27. Pink salmon runs, Prince William Sound, 1960 = 1982.

Year	ESCAPEMENTS										Commercial Catch	Total Run		
	Northwestern					Southwestern								
	Eastern	Northern	Coghill	Eshamy	Montague	Southeastern	Total	Eastern	Northern	Eshamy			Montague	Southeastern
1960	475,073	133,653	203,575	155,788	214,987	167,747	1,350,823	1,841,896	3,192,719					
61	706,790	123,900	448,180	133,990	289,290	496,830	2,198,980	2,298,218	4,497,198					
62	650,300	253,490	417,190	107,950	317,360	271,720	2,018,010	6,742,316	8,760,326					
63	378,050	77,760	354,230	49,760	78,750	417,190	1,355,740	5,295,378	6,651,118					
64	485,470	349,010	353,030	172,800	121,220	360,150	1,841,680	4,206,896	6,048,576					
1965	258,680	54,970	187,760	62,720	77,000	255,930	897,060	2,460,471	3,357,531					
66	489,800	255,710	200,940	110,980	42,050	201,150	1,300,630	2,699,418	4,000,048					
67	321,520	167,300	544,080	109,750	23,800	300,270	1,466,720	2,626,340	4,093,060					
68	360,300	136,630	201,790	165,510	44,100	183,440	1,091,770	2,452,168	3,543,938					
69	328,960	147,880	264,750	132,510	63,470	218,060	1,155,630	4,828,579	5,984,208					
1970	328,730	109,240	170,130	69,260	73,190	139,640	944,190	2,809,996	3,754,186					
71	529,820	161,540	614,530	104,080	337,540	373,900	2,121,410	7,310,964	9,432,374					
72	317,450	91,610	66,270	27,680	28,860	75,550	607,420	54,783	662,203					
73	264,850	44,840	563,510	66,030	106,340	184,340	1,229,910	2,056,878	3,206,798					
74	229,370	186,130	200,520	141,750	11,800	89,170	858,740	448,773	1,307,513					
1975	570,830	44,270	580,170	77,860	110,950	234,210	1,618,290	4,452,805	6,071,095					
76	446,470	123,380	116,730	51,200	12,260	115,560	865,600	3,018,994	3,884,594					
77	465,970	62,150	426,670	226,060	196,970	315,510	1,693,330	4,514,431	6,207,761					
78	268,940	159,870	200,950	220,610	48,680	156,830	1,055,610	2,780,073 ¹	3,835,683					
79	782,420	223,580	241,120	264,710	323,490	1,091,970	2,927,290	15,393,223 ¹	18,320,513					
1980	515,380	171,410	338,100	134,860	114,170	302,190	1,576,110	13,855,251 ¹	15,431,361					
81	768,000	259,850	588,880	193,750	506,140	594,890	2,911,510	19,442,859 ^{1/2}	22,354,369					
82	566,530	325,890	429,750	189,190	125,870	470,000	2,107,330	18,936,631 ^{1/2}	21,043,961					

¹ Does not include hatchery harvests.

² Preliminary.

Table 28. Chum salmon runs, Prince William Sound, 1960 - 1982.

Year	ESCAPEMENTS										Commercial Catch	Total Run			
	Northwestern					Southwestern									
	Eastern	Northern	Coghill	Eshamy	Montague	Southeastern	Total	Eastern	Northern	Coghill			Eshamy	Montague	Southeastern
1960	92,100	24,729	40,458	4,800	16,782	23,008	201,877	381,858	583,735						
61	117,950	50,420	70,940	4,750	34,380	59,910	338,350	224,401	562,751						
62	238,660	67,670	96,020	10,610	34,190	39,690	486,840	891,880	1,378,720						
63	148,090	68,390	114,250	5,330	15,070	20,030	371,160	942,900	1,314,060						
64	176,840	64,750	136,590	3,560	31,650	29,160	442,550	539,047	981,597						
1965	69,180	20,980	39,690	1,840	17,500	46,480	195,670	201,043	396,713						
66	85,480	39,440	42,150	3,420	32,720	20,160	223,370	426,628	649,998						
67	97,420	50,930	15,290	2,360	11,060	10,700	187,760	274,234	461,994						
68	99,350	31,530	37,310	5,100	1,590	21,400	196,280	342,939	539,219						
69	81,140	9,770	43,390	2,170	1,710	26,310	164,490	320,977	485,467						
1970	58,180	6,100	22,000	770	3,370	11,910	102,330	230,661	332,991						
71	79,930	16,190	34,570	1,210	25,620	9,260	166,780	574,265	741,045						
72	134,780	79,030	50,520	2,850	5,190	29,310	301,680	45,370	347,050						
73	267,210	143,420	89,790	1,130	2,930	42,110	546,590	729,839	1,276,429						
74	92,840	53,830	45,010	200	90	2,910	194,880	88,544	283,424						
1975	28,220	7,820	7,410	580	0	2,760	46,790	100,479	147,269						
76	17,870	26,520	38,460	90	0	950	83,890	370,478	454,368						
77	53,200	36,360	41,640	4,480	560	8,370	144,610	575,839	720,449						
78	102,290	25,410	27,650	500	0	6,030	161,880	485,147	647,027						
79	57,450	17,040	18,660	80	0	4,450	97,680	324,040	421,720						
1980	32,160	34,250	14,460	40	280	6,230	87,420	477,658 ¹	565,078						
81	92,240	39,740	47,590	770	0	21,890	202,230	1,874,484 ²	2,076,714						
82	175,950	80,200	42,750	1,670	0	26,090	326,480	1,345,288 ³	1,671,768						

¹ Preliminary. Does not include 6 chums harvested at San Juan hatchery.
² Preliminary. Does not include 118 chums harvested at San Juan hatchery.
³ Preliminary.

Table 29. Chum salmon age composition, by sex, Prince William Sound, 1982.

Sex	Age Class				Total
	3	4	5	6	
<u>Males</u>					
Number	28,450	685,398	125,380	0	839,228
Percent	3.39	81.67	14.94	0.00	50.20
<u>Females</u>					
Number	36,798	703,830	91,912	0	832,540
Percent	4.42	84.54	11.04	0.00	49.80
<u>Total</u>					
Number	65,248	1,389,228	217,292	0	1,671,768 ¹
Percent	3.90	83.10	13.00	0.00	100.00

¹ Total return comprised of a preliminary commercial catch figure of 1,345,288 and an escapement estimate of 326,480. Age composition based on commercial catch samples.

Table 30. Sockeye salmon escapement counts from selected systems in Prince William Sound, 1982.¹

SYSTEM		Date of Count											TOTAL ²	
Name	Number	7/13	7/14	7/19	7/21	7/24	7/26	7/27	7/28	7/31	8/3	8/11	8/16	TOTAL ²
Robe River	137							6,278 ³						6,278
Billy's Hole	218		1,500		1,500				3,200		2,500	1,200		3,200
Red Lake	300						3,000					800		3,000
Shrode Lake	476			1,200			2,500				1,200			2,500
Jackpot Lakes	608	3,000				3,000				2,000			2,000	3,000
Bainbridge	630	1,500				1,000				1,500				1,500
TOTAL														19,478

¹ All counts are aerial estimates of live fish unless indicated otherwise.

² Peak live count accepted as season escapement.

³ Combination ground count in Brownie Creek and Robe River along with aerial count of schooled fish in Robe Lake.

Table 31. Commercial catch of salmon by species by period, by gear type in the Coghill district, Prince William Sound, 1982.

Catch by Species							
Period	Effort	King	Sockeye	Coho	Pink	Chum	Total
<u>Drift Gill Net</u>							
6/21-6/26 ¹	224	38	353,706	1	869	21,154	375,768
6/27-7/ 2 ²	289	20	312,777	14	6,951	33,782	353,544
7/ 5-7/ 9 ³	246	25	206,251	3	19,676	43,500	269,455
7/12-7/16	62	3	40,445	27	2,304	12,863	55,642
7/19-7/23	105		10,370	99	28,059	67,390	105,918
7/26-7/31 ⁴	70	3	2,102	18	82,690	58,543	143,356
8/ 1-8/ 7	4		94		40,023	8,590	48,707
8/ 8-8/16	6		12	7	2,186	872	3,077
Total Gill Net		89	925,757	169	182,758	246,694	1,355,467
<u>Purse Seine</u>							
7/ 5-7/ 9 ³	11	4	14,640		32,324	19,198	66,166
7/12-7/16	3		226		4,795	448	5,469
7/19-7/23	11	16	854		141,852	41,760	184,482
7/26-7/31 ⁴	9		297	5	326,201	63,189	389,692
8/ 1-8/ 7	6	3	573	24	295,099	11,876	307,571
8/ 8-8/16	6		192		242,125	8,408	250,725
Total Purse Seine		23	16,782	29	1,042,396	144,879	1,204,109
<u>Combined Gear</u>							
6/21-6/26 ¹	224	38	353,706	1	869	21,154	375,768
6/27-7/ 2 ²	289	20	312,777	14	6,951	33,782	353,544
7/ 5-7/ 9 ³	257	29	207,771	3	52,000	62,698	335,621
7/12-7/16	65	3	40,671	27	7,099	13,311	61,111
7/19-7/23	116	16	11,224	99	169,911	109,150	290,400
7/26-7/31 ⁴	79	3	2,399	23	408,891	121,732	533,048
8/ 1-8/ 7	10	3	667	24	335,122	20,466	356,282
8/ 8-8/16	12		604	7	244,311	9,280	253,802
Total All Gear		112	942,539	198	1,225,154	391,573	2,559,576

¹ The season opened at 6 a.m. on June 21 for regular weekly fishing periods from Monday through Thursday but was extended an additional 24 hours from 9 p.m. Thursday, June 24 until 9 p.m. Friday, June 25. Fishing time was subsequently extended until further notice after 9 p.m. Friday, June 25. The closed waters area adjacent to the mouth of Coghill River was also reduced effective 12 noon June 21 which normally doesn't occur until July 1.

(Continued)

Table 31. (Continued.)

- 2 Following two weeks of continuous fishing, the district was closed for the weekend at 9 p.m. on Friday, July 2.
- 3 Fishing reopened on July 5 and continued thereafter for regular weekly periods from 6 a.m. Monday until 9 p.m. Friday. Seine gear was not permitted in the Coghill district until July 5 which was the first Monday in July.
- 4 Fishing was extended until further notice after 9 p.m. Friday, July 30 and remained open for continuous fishing for the duration of the season.

Table 32. Coghill district salmon catch by species and gear, 1973 - 1982.

Year	Peak Effort	Catch by Species					Total
		King	Sockeye	Coho	Pink	Chum	
<u>Drift Gill Net</u>							
1973	160	144	74,426	237	61,328	68,311	204,446
1974	212	156	95,610	103	98,149	51,428	245,446
1975	311	525	142,864	357	99,492	32,438	275,676
1976	229	102	54,334	72	53,219	89,170	196,897
1977	207	124	154,342	49	332,859	127,476	614,850
1978	420	469	193,899	64	49,527	110,679	354,638
1979	247	543	75,753	1,837	259,372	56,916	394,421
1980	112	107	56,957	1,053	355,684	68,071	481,872
1981 ¹	171	148	102,094	387	529,998	135,962	768,589
1982 ¹	289	89	925,757	169	182,758	246,694	1,355,467
10 Year Average		241	187,604	433	202,239	98,714	489,230
<u>Purse Seine</u>							
1973	73	40	2,856	18	68,918	16,403	88,235
1974	45	192	4,273	22	54,268	7,720	66,475
1975	45	246	4,985	30	145,155	2,561	152,977
1976	111	83	6,159	29	56,967	30,328	93,566
1977	47	40	16,436	50	230,215	37,102	283,843
1978	25	206	9,623	34	13,059	14,007	36,929
1979	29	692	3,047	55	38,560	5,709	48,063
1980	5	0	2,159	0	134,876	4,702	141,737
1981 ¹	15	0	1,746	0	19,306	22,941	43,993
1982 ¹	11	23	16,782	29	1,042,396	144,879	1,204,109
10 Year Average		152	6,807	27	180,372	28,635	215,992
<u>Combined Gear</u>							
1973	233	184	77,282	255	130,246	84,714	292,681
1974	257	348	99,883	125	152,417	59,148	311,921
1975	356	771	147,849	387	244,647	34,999	428,653
1976	340	185	60,493	101	110,186	119,498	290,463
1977	254	164	170,778	99	563,074	164,578	898,693
1978	445	675	203,522	98	62,586	124,686	391,567
1979	276	1,235	78,800	1,892	297,932	62,625	442,484
1980	117	107	59,116	1,053	490,560	72,773	623,609
1981 ¹	186	148	103,840	387	549,304	158,903	812,582
1982 ¹	289	112	942,539	198	1,225,154	391,573	2,559,576
10 Year Average		392	194,410	460	382,610	127,350	705,222

¹ Preliminary.

Table 33. Salmon escapement by species in the Coghill district, 1973 - 1982.

Year	Sockeye ¹	Pink ²	Chum ²
1973	13,281	561,200	78,810
1974	22,333	42,660	39,700
1975	34,855	570,950	7,100
1976	9,056	50,930	35,750
1977	31,562	338,750	41,640
1978	42,284	75,270	13,550
1979	48,281	66,230	13,150
1980	142,253	182,430	12,610
1981	156,112 ³	444,700	30,740
1982	180,314 ³	264,420	24,150
10 Year Average	68,033	259,754	28,505

¹ Coghill River only. Weir-tower estimates during 1973. Total weir count beginning in 1974.

² District totals include the west side of Port Wells.

³ Includes jacks.

Table 34. Coghill River weir salmon counts, 1982.

Date	Sockeye		Pink		Chum		King	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/ 4	3							
5	1	4						
6	18	22						
7	42	64						
8	10	74						
9	7	81						
10	5	86						
11	0	86						
12	0	86						
13	0	86						
14	0	86						
15	22	108						
16	131	239						
17	416	655						
18	1,487	2,142						
19	4,246	6,388						
20	7,146	13,534						
21	4,998	18,532						
22	22,290	40,822						
23	10,222	51,044						
24	10,510	61,554						
25	7,376	68,930	2					
26	8,013	76,943	1	3	1			
27	2,654	79,597	2	5				
28	2,355	81,952						
29	541	82,493						
30	2,195	84,688	1	6	1	2		
7/ 1	2,065	86,753						
2	2,418	89,171	7	13				
3	3,934	93,105	5	18				
4	8,805	101,910	3	21				
5	19,650	121,560	20	41	4	6		
6	3,494	125,054	17	58	11	17		
7	1,391	126,445	11	69	6	23		
8	1,627	128,072	29	98	7	30		
9	715	128,787	9	107	4	34		
10	2,742	131,529	64	171	9	43		
11	3,364	134,893	60	231	15	58		
12	2,286	137,179	31	262				
13	4,371	141,550	37	299	10	68		
14	3,170	144,720	31	330	6	74		
15	2,523	147,243	21	351	4	78		
16	1,889	149,132	52	403	3	81		

(Continued)

Table 34. (Continued).

Date	Sockeye		Pink		Chum		King	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
7/17	1,647	150,779	38	441	9	89		
18	3,041	153,820	59	500	18	107		
19	2,750	156,570	96	596	2	109		
20	1,239	157,809	73	669	5	114		
21	2,314	160,123	53	722	7	121		
TOTAL ¹		180,314		722		121		

¹ Total includes estimated 3,000 sockeye below the weir when pulled. Sockeye Jack count of 1,179 is not included in the daily count. An additional 10% sockeye estimated escapement passed the weir site after the weir was removed - 16,012.

Table 35. Coghill and Eshamy districts sockeye salmon commercial catch and escapement age composition, Prince William Sound, 1982.

<u>District</u>	<u>Age Class</u>						<u>Total</u>
	<u>1.1</u>	<u>1.2</u>	<u>1.3</u>	<u>2.1</u>	<u>2.2</u>	<u>2.3</u>	
<u>Coghill</u>							
Catch							
Number	0	4807	929249	0	1225	7258	942539 ^{a/}
Percent	0.00	0.51	98.59	0.00	0.13	0.77	100.00
Escapement							
Number	238	3487	153105	238	475	951	158494
Percent	0.15	2.20	96.60	0.15	0.30	0.60	100.00
Total							
Number	238	8294	1082354	238	1700	8209	1101033
Percent	0.02	0.76	98.30	0.02	0.15	0.75	100.00
<u>Eshamy^{b/}</u>							
Escapement							
Number	141	4009	1810	43	401	76	6480
Percent	2.17	61.87	27.93	0.67	6.19	1.17	100.00

^{a/} Preliminary.

^{b/} Eshamy district closed to commercial fishing in 1982.

Table 36. Commercial catch of salmon by species by period, by gear type in the Unakwik district, Prince William Sound, 1982.

Period	Effort	Catch by Species					Total
		King	Sockeye	Coho	Pink	Chum	
<u>Drift Gill Net</u>							
6/21-6/26 ¹	18		15,961		7	174	16,142
6/27-7/1 ²	19		11,973		16	127	12,116
7/5-7/9 ³	13	1	16,430		311	141	16,883
7/12-7/16			No Effort				
7/19-7/23	5		4,280			155	4,435
Total Gill Net		1	48,644		334	597	49,576
<u>Purse Seine</u>							
8/8-8/14 ⁴	6		2		65,828	457	66,287
8/15-8/21	6			4	23,009	60	23,073
Total Purse Seine			2	4	88,837	517	89,360
<u>Combined Gear</u>							
Total		1	48,646	4	89,171	1,114	138,936

- ¹ The season was opened at 6 a.m. on June 21 for regular weekly periods from Monday through Thursday but was extended an additional 24 hours from 9 p.m. Thursday, June 24 until 9 p.m. Friday, June 25. Fishing time was subsequently extended until further notice after 9 p.m. Friday, June 25.
- ² Following two weeks of continuous fishing the district was closed for the weekend at 9 p.m. on Thursday, July 1.
- ³ Fishing reopened on July 5 and continued thereafter for regular weekly periods from 6 a.m. Monday until 9 p.m. Friday.
- ⁴ Fishing was extended until further notice after 9 p.m. Friday, July 30 and remained open for continuous fishing for the duration of the season.

Table 37. Unakwik district salmon catch by species and gear, 1973 - 1982.

Year	Peak Effort	Catch by Species					Total
		King	Sockeye	Coho	Pink	Chum	
<u>Drift Gill Net</u>							
1973	12	1	8,858	0	119	91	9,069
1974	16	5	10,449	3	10,911	500	21,868
1975	14	4	11,922	0	84	70	12,080
1976	15	4	8,421	0	2,744	331	11,500
1977	16	3	7,912	2	257	141	8,315
1978	22	24	9,116	0	2,082	597	11,819
1979	30	11	9,250	9	2,359	289	11,918
1980	3	0	1,547	6	4,815	727	7,095
1981 ¹	7	0	2,445	0	4,488	1,369	8,302
1982 ¹	19	1	48,644	0	334	597	49,576
10 Year Average		5	11,856	2	2,819	471	15,154
<u>Purse Seine</u>							
1973				no fishing			
1974				no fishing			
1975				no fishing			
1976	4	0	7	0	8,526	225	8,758
1977				no fishing			
1978	24	3	268	5	55,115	5,025	60,416
1979				no fishing			
1980	3	0	6	0	9,113	355	9,474
1981 ¹	5	0	120	0	77,096	18,534	95,750
1982 ¹	6	0	2	4	88,837	517	89,360
10 Year Average ²		0	81	2	47,737	4,931	52,751
<u>Combined Gear</u>							
1973	12	1	8,858	0	119	91	9,069
1974	16	5	10,449	3	10,911	500	21,868
1975	14	4	11,922	0	84	70	12,080
1976	19	4	8,428	0	11,270	556	20,258
1977	16	3	7,912	2	257	141	8,315
1978	46	27	9,384	5	57,197	5,622	72,235
1979	30	11	9,250	9	2,359	289	11,918
1980			1,553	6	13,928	1,082	16,569
1981 ¹	12		2,565		81,584	19,903	104,052
1982 ¹	25	1	48,646	4	89,171	1,114	138,936
10 Year Average		6	11,897	3	26,688	2,936	41,530

¹ Preliminary. ² Average of years fished.

Table 38. Eshamy district salmon catch by species and gear, 1973 - 1982.

Year	Peak Effort	Catch by Species					Total
		King	Sockeye	Coho	Pink	Chum	
<u>Drift Gill Net</u>							
1973	42	41	7,470	71	11,777	16,632	35,991
1974	146	18	12,640	114	217,141	23,488	253,401
1975			C L O S E D				
1976			C L O S E D				
1977	53	22	16,916	49	63,036	8,344	88,367
1978			C L O S E D				
1979			C L O S E D				
1980	16	0	684	25	3,235	130	4,074
1981			C L O S E D				
1982			C L O S E D				
10 Year Average ²		20	9,427	65	73,797	12,148	95,458
<u>Set Net</u>							
1973	15	28	8,969	78	9,724	10,914	29,713
1974	10	4	6,394	11	68,300	5,408	80,117
1975			C L O S E D				
1976			C L O S E D				
1977	12	9	9,889	2	24,743	4,218	38,861
1978			C L O S E D				
1979			C L O S E D				
1980	5	0	2,000	38	2,371	134	4,543
1981 ¹			C L O S E D				
1982			C L O S E D				
10 Year Average ²		10	6,813	32	26,285	5,168	38,308
<u>Combined Gear</u>							
1973	57	69	16,439	149	21,501	27,546	65,704
1974	156	22	19,034	125	285,441	28,896	333,518
1975			C L O S E D				
1976			C L O S E D				
1977	65	31	26,805	51	87,779	12,562	127,228
1978			C L O S E D				
1979			C L O S E D				
1980 ₁	19	0	2,661	63	5,331	264	8,319
1981			C L O S E D				
1982			C L O S E D				
10 Year Average ²		30	16,235	97	100,013	17,317	133,692

¹ Preliminary.

² Only the four years open to fishing during this period were used to calculate averages. The general purse seine season was also closed during 1974, and is reflected in the larger catches during that year.

Table 39. Salmon escapement from weir and stream foot survey counts, Eshamy district, 1973 - 1982.

Year	King ¹	Sockeye ¹	Coho ¹	Pink ²	Chum ¹
1973		10,202	205	5,390	170
1974		633		6,330	
1975		1,724	41	5,720	440
1976		19,367	125	5,500	
1977		11,746	230	32,080	
1978		12,580	20	5,690	
1979		12,169		12,860	
1980	5	44,263	128	13,813	2
1981		23,048 ³	249	21,490	13
1982	1	6,782	79	14,080	79
10 Year Average		14,251	135	12,295	70

¹ Weir count.

² Number of streams surveyed varies from three to five for pink salmon, (See Technical Data Report No. 35 and Data Report No. 9).

³ Assuming the run was 90% complete, an additional 2,600 sockeye are estimated to have escaped following the removal of the weir.

Table 40. Eshamy River weir salmon counts, 1982.

Date	Sockeye		Pink		Chum		Coho	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
6/27	0							
28	319	319						
29	297	616						
30	138	754						
7/ 1	36	790						
2	55	845						
3	35	880						
4	40	920						
5	33	953						
6	50	1,003	1					
7	116	1,119	1	2				
8	30	1,149						
9	0	1,149						
10	35	1,184						
11	27	1,211	1	3				
12	55	1,266						
13	16	1,282	1	4				
14	72	1,354						
15	94	1,448						
16	17	1,465						
17	0	1,465						
18	1	1,466						
19	4	1,470						
20	61	1,531						
21	61	1,592						
22	21	1,613						
23	87	1,700						
24	33	1,733						
25	5	1,738						
26	41	1,779						
27	39	1,818						
28	55	1,873	1	5				
29	29	1,902	5	10				
30	90	1,992	5	15				
31	97	2,089	6	21				
8/ 1	43	2,132	12	33				
2	138	2,270	11	44				
3	82	2,352	14	58				
4	52	2,404	15	73				
5	26	2,430	33	106				
6	16	2,446	40	146				
7	3	2,449	10	156				
8	217	2,666	145	301				
9	92	2,758	101	402			3	

(Continued)

Table 40. (Continued).

Date	Sockeye		Pink		Chum		Coho	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
8/10	137	2,895	24	426				
11	639	3,534	127	553			7	10
12	449	4,033	113	666			36	46
13	304	4,337	36	702			10	56
14	104	4,441	37	729			5	61
15	226	4,667	19	748			2	63
16	153	4,820	19	767			7	70
17	177	4,997	51	828			1	71
18	157	5,154	36	864			5	76
19	237	5,391	44	908				
20	205	5,596	50	958			2	78
21	50	5,646	11	969				
22	173	5,769	26	994			1	79
23	141	5,910	28	1,022				
24	184	6,094	6	1,028				
25	277	6,377	21	1,049				
26	115	6,486	7	1,056				
TOTAL ¹		6,782		1,056				79

¹ An estimated 270 sockeye below the weir when pulled is included in the total count. The total also includes 26 Jack sockeye that was not included in the daily count.

Table 41. Summary of season, location, effort and harvest by gear type in the Prince William Sound herring fishery, 1982.

Fishery	District	Effort	Harvest (MT)	Fishing Duration
Sac Roe Seine	Northern/ General	104	6485	4/23 (2 hours)
Sac Roe Gill Net	Northern	20	304.35	4/24 - 4/26 (54 hours)
Spawn on Kelp	Northern	305 ¹	140.42	5/ 7 - 5/ 8 (37 hours)
Herring Pounds	Northern	20 ²	23.2	4/29 - 5/10
Herring Bait/Food	General	5 ³	801.1	9/15 - 1/31 ⁴

¹ Permits issued. Only 192 actual deliveries of spawn on kelp made. There were 19 fishermen without harvest permits who made deliveries.

² 20 permits issued. Only 18 permittees actually harvested pound kelp.

³ Five seine boats participated.

⁴ Bait markets were limited due to forecasted poor crab seasons, and above average bait harvests in other areas. The fishery remained open for the full season permitted by regulation.

Table 42. Herring sac roe harvested in Prince William Sound, 1969 - 1982.¹

Year	Effort Seines	Harvest (MT)	Effort Gill Nets	Harvest (MT)	Total Harvest (MT)
1969	6	322.6			322.6
1970					
1971	12	833.8			833.8
1972	16	1,607.8			1,607.8
1973	28	6,335.1			6,335.1
1974	72	5,776.1	3	3.48	5,779.6
1975	76	5,516.1			5,516.1
1976 ²	66	2,344.2			2,344.2
1977 ³	60	2,070.7	1	1.42	2,072.1
1978	75	1,206	38	56	1,262
1979	89	3,753.8			3,753.8
1980	74	5,481.4 ⁴	16	239.87	5,721.3
1981	101	12,490.3	18	212.78	12,703
1982 ³	104	6,485	20	304.35	6,789.4

¹ 1981 - 1982 data preliminary.

² No sac roe fishery in the Northern district.

³ No sac roe fishery in the Montague district.

⁴ 350 - 500 tons dead loss.

Table 43. Herring eggs-on-kelp harvested from natural spawning, Prince William Sound, 1969 - 1982.

Year	Effort	Harvest		Herring ² Utilized (Metric Tons)
		Pounds ¹	Metric Tons	
1969	3	5,300	2.4	18.9
1970	29	190,300	86.3	681.7
1971	34	769,300	348.9	2,756.3
1972	397	599,300	271.8	2,147.2
1973	176	306,300	138.9	1,097.3
1974	166	552,100	250.4	1,978.2
1975	437	917,100	415.9	3,285.6
1976	357	484,900	219.9	1,737.2
1977	164	417,000	189.1	1,493.9
1978	66	140,900	63.9	504.8
1979	198	473,200	214.6	1,695.3
1980	469	612,300	277.7	2,193.8
1981	214	122,400	55.5	423.5
1982	151	309,600	140.4	1,223.0

¹ Rounded to nearest 100 pounds.

² Indicates the annual removal of reproductive capacity from the population based on the assumption that average fish roe recovery is 10% and 79% of spawn on kelp harvest weight consists of eggs.

Table 44. Herring eggs on kelp produced in pounds, Prince William Sound, 1979 - 1982.

Year	No. Permits Issued	No. Pounds Constructed	No. Producing Pounds	Herring ¹ Utilized (Tons)	PRODUCTION					
					Ribbon		Macrocyctis		Total	
					lbs.	Metric Tons	lbs.	Metric Tons	lbs.	Metric Tons
1979	2	0	-	-	-	+	+	+	+	+
1980	14	4	2	27 - 45	1,771	0.8	880	0.4	2,651	1.2
1981	18 ³	18	11 ⁴	110 - 157	17,217	7.8	2,100	1.0 ⁵	19,317	8.8
1982	25	20	18 ⁶	260 - 385	50,165	22.8	900	0.4	51,065	23.2

¹ Tonnage expressed as a range since herring are estimated visually and are not actually weighed.

² A small quantity of Macrocyctis sp. imported from Southeastern Alaska was suspended from lines in Tatitlek Narrows to test the feasibility of using this kelp, and an undetermined amount of eggs-on-kelp was produced.

³ Includes two permits issued after the March 1 application deadline.

⁴ Although 11 permittees reported production, all harvest came from only 7 of the 18 pounds actually constructed.

⁵ Four individuals imported an estimated 12,000 pounds of Macrocyctis sp. from Southeastern Alaska. However, only a small portion of this was actually used in two pounds with the remainder either lost due to deterioration or was suspended on lines in potential spawning areas away from the pounding site.

⁶ Although all pound operators reported production, harvest came from only 18 of the 20 pounds constructed.

Table 45. Herring for bait and food harvested in Prince William Sound, in metric tons, 1967 - 1982.¹

Year	Seine		Pair Trawl		Mid-Water Trawl		Otter Trawl		Total MT
	Effort	Harvest MT	Effort	Harvest MT	Effort	Harvest MT	Effort	Harvest MT	
1967 ²		27.2							27.2
1970	1	5.1							9.1
1971	2	18.1							18.1
1972	1	4.4							4.4
1973	1	7.7							7.7
<u>Season</u>									
1977-78	2	15.4	2	131.8	1	82			147.2
1978-79 ³	2	177.2	2	896.9	1	93.6	1	2.3	1156.1
1979-80 ⁴	1	463.4	2	131.6					691
1980-81 ⁵	3	934.7	3	350.1					1184.8
1981-82 ⁶	6	1,078.9	2	66.3					1145.2
1982-83 ⁷	5	801.1							801.1

¹ No harvest in years not listed.

² No effort data available.

³ Fishery opened by emergency order on 10/16/79 and extended on 1/7/80. Deliveries made through March 2.

⁴ Fishing season opened by emergency order 9/15, closed 12/31, and reopened by emergency order from 2/16-28.

⁵ Fishing season opened by regulation on September 15 and closed by emergency order on 11/7.

⁶ Fishing season opened by regulation on September 15 and closed by emergency order on 9/30.

⁷ Preliminary total - fishery still open.

Table 46. Daily aerial survey estimates of sac roe herring in Prince William Sound, 1982.¹

Date	Location	No. of Schools			Estimated Tonnage ²	Spawn	Remarks
		Sm.	Med.	Lge.			
<u>NORTHERN DISTRICT³</u>							
3-25	Glacier Is. - Port Fidalgo	0	0	0	0		Sea lions in Fidalgo.
3-31	Long Bay - Port Fidalgo	0	0	0	0		70 - 90 lions in Fidalgo.
4-1	Fidalgo - Valdez Arm	0	0	0	0		
4-4	Glacier Is. - Fidalgo	0	0	0	0		
4-5	Bligh Is. - Knowles Head	0	0	0	0		100 lions W. of Bligh Island.
4-6	Glacier Is. - Knowles Head	0	0	0	0		Lions W. of Bligh Island.
4-7	Goose Is! - Landlocked Bay	0	0	0	0		
4-9	Snug Corner - Bligh Is.	0	0	0	0		
4-11	Knowles Head - Glacier Is.	0	0	0	0		Lions scattered outer Fidalgo.
4-13	Knowles Head - Landlocked Bay	0	0	0	0		
4-16	Knowles Head - Rocky Point	0	0	0	0		Water clearing up.
4-18	Knowles Head - Naked Is.	2	12	2	1,200		Most fish at Naked Island.
4-21	Knowles Head - Naked Is.	13	22	0	1,050		Most fish Naked Is. - Eikelberg.
4-22	Naked Is. - Eaglek - Fidalgo	32	40	56	21,520		Fish spread Naked Is. to Long Bay.
4-23	Galena Bay - Fish Bay	0	0	0	0		Partial survey only.
4-26	Naked Is. - Wells' B. - Fidalgo	103	145	39	20,480	X	Fish spread Wells Bay to Galena Bay.
4-29	Naked Is. - Eikelberg - Fidalgo	15	115	61	26,100	X	First spawn Valdez Arm.
4-30	Rocky Pt. - Landlocked Bay	-	-	-	-	X	Spawn survey only.
5-1	Fish Bay - Fairmount Bay	3	40	9	4,780	X	Low fish count.
5-3	Fairmount - Whalen Bay	8	5	5	2,030	X	No spawn.
5-4	Whalen - Sawmill Bay	4	9	0	400	X	No spawn.
5-5	Rocky Pt. - Landlocked Bay	2	0	0	20		
5-7	Fish Bay - Eikelberg	0	2	0	80		
<u>MONTAGUE DISTRICT</u>							
3-25	Zaikof - Green Is.	0	0	0	0		60 sea lions in trench.
3-31	Zaikof - Green Is.	0	0	0	0		Sea lions Green Island.
4-4	Zaikof - Green Is.	0	0	0	0		No mammal activity.
4-5	Zaikof - Applegate Is.	0	0	0	0		50 lions far offshore.
4-6	Green Is. - Zaikof Bay	0	0	0	0		200 lions in trench.
4-9	Zaikof - Green Is.	0	0	0	0		

(Continued)

Table 46. (Continued.)

Date	Location	No. of Schools			Estimated Tonnage ²	Spawn	Remarks
		Sm.	Med.	Lge.			
4-11	Chalmers - Zaikof Bay	0	0	0	0		300 Lions in Rocky Bay.
4-13	Zaikof - Green Is.	0	0	0	0		200 Lions in Rocky Bay.
4-16	Stockdale - Green Is.	0	0	0	0		300 Lions Green Is. trench.
4-18	Zaikof - Green Is.	6	25	12	5,260		Lions still offshore.
4-21	Zaikof - Green Is.	0	0	0	0		Lions still offshore.
4-22	Zaikof - Gibbons Anchorage	0	1	0	40		Fewer sea lions.
4-28	Zaikof - Green Is.	3	5	1	580		Stockdale only. Few lions only.
4-30	Zaikof - Green Is.	0	0	0	0		Few lions only offshore.
5- 3	Zaikof - Green Is.	9	5	4	1,690	X	
5- 4	Zaikof - Stockdale	-	-	-	-	X	Spawn survey only.
5- 5	Zaikof - Stockdale	2	3	0	140	X	
5- 7	Green Is. - Zaikof	0	0	0	0		
<u>EASTERN DISTRICT</u>							
3-25	Gravina - Sheep Bay	0	0	0	0		No mammals.
3-30	Gravina - Simpson Bay	0	0	0	0		No activity.
3-31	Gravina - Olsen Bay	0	0	0	0		No activity.
4- 1	Sheep Bay - Knowles Head	0	0	0	0		No activity.
4- 4	Gravina - Sheep Bay	0	0	0	0		No activity.
4- 6	Hell's Hole - Gravina	0	0	0	0		No activity.
4- 7	Olsen Bay - Red Head	0	0	0	0		No activity.
4- 9	Port Gravina	0	0	0	0		No activity.
4-11	Sheep Bay - Red Head	0	0	0	0		No activity.
4-16	Red Head - Gravina	0	0	0	0		No activity.
4-21	Red Head - Hell's Hole	0	0	0	0		No activity.
5- 1	Hell's Hole - St. Mathews	2	6	0	260	X	No activity.
5- 4	Hell's Hole	2	0	0	20		St. Mathew's Bay.

¹ Includes observations from all assessment surveys flown during the season regardless of whether fish were sighted.

² Estimated tonnage based on school size: small - up to 50 feet in diameter equals 10 tons; medium - 50 to 100 feet in diameter equals 40 tons; large - 100 feet in diameter equals 350 tons.

³ Fish observed around Naked Island group and along northern mainland areas west of Granite Point included in Northern district summary.

Table 47. Prince William Sound herring sac roe aerial surveys, peak estimates and seasonal harvests in metric tons, 1974 - 1982.

Year	Fishing District	Harvest	Peak Estimate
1974	Northern	2,628	35,000
1975	"	990	1,200
1976	"	No Fishery	7,830
1977	"	2,071	16,790
1978	"	1,210	8,310
1979	"	1,032	9,830
1980	"	240	24,550
1981	"	214	16,430
1982	"	6,789	26,100
1974	Montague	3,135	9,110
1975	"	4,319	0 ¹
1976	"	1,966	70
1977	"	No Fishery	120
1978	"	" "	60
1979	"	" "	1,000
1980	"	4,441	20,400
1981	"	9,002	23,670
1982	"	No Fishery	5,260
1974	Eastern	No Fishery	0 ¹
1975	"	" "	0 ¹
1976	"	379	90
1977	"	No Fishery	0 ¹
1978	"	" "	0 ¹
1979	"	2,721	17,860
1980	"	509	260
1981	"	3,523	6,240
1982	"	No Fishery	260

¹ Surveys flown, no herring schools observed.

Table 48. Summary of aerial observations of sac roe herring, season high counts in Prince William Sound, 1974 - 1982.

Date	District	Number of Schools Observed			Estimated Tonnage ¹
		Sm.	Med.	Lg.	
<u>1974</u>					
4/19	Northern	100	45	92	35,000
4/18	Montague	1	4	10	3,670
4/24	Montague	3	4	15	5,440
<u>1975</u>					
4/23	Northern	24	24	0	1,200
<u>1976</u>					
4/14	Northern	5	7	20	7,830
<u>1977</u>					
4/18	Northern	18	22	35	13,290
		extra large schools			3,500
<u>1978</u>					
4/17	Northern	128	34	13	7,230
5/ 3	Northern	47	21	20	8,310
6/12	Northern	150	42	6	5,280
<u>1979</u>					
4/18	Eastern	40	34	46	17,860
4/20	Northern	21	13	26	9,830
4/28	Montague	10	5	2	1,000
4/28	Hinchinbrook Island	18	6	2	1,120
<u>1980</u>					
4/ 9	Montague	12	17	56	20,400
4/15	Northern	62	47	49	24,550
<u>1981</u>					
3/27	Eastern	5	6	17	6,240
4/12	Northern	19	21	41	16,790
4/23	Montague	25	27	62	23,030
<u>1982</u>					
4/18	Montague	6	25	12	5,260
4/29	Northern	15	115	61	26,100
5/ 1	Eastern	2	6	0	260

some juveniles

¹ Estimated tonnage based upon school size: Small - up to 50 feet in diameter = 10 tons; Medium - 50 feet to 100 feet in diameter = 40 tons; Large - 100 feet and over in diameter = 350 tons.

Table 49. Age, sex and size data for Pacific herrings captured by purse seine at Eikelberg & Kiniklik & Esiek Bay and Fairmont Is., Northern District, Prince Wm Sound, 1982.

Sample Period	Age (years)	Sex			Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
		Male	Female	Unknown						
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	2	1	-	3	1.2	83	3	183	3
	4	11	11	-	22	9.0	106	22	198	22
	5	26	26	-	52	21.2	121	52	205	52
4/23- 4/23	6	70	63	-	133	54.3	135	133	210	133
	7	13	19	-	32	13.1	140	32	215	32
	8	1	2	-	3	1.2	141	3	218	3
	9+	-	-	-	-	-	-	-	-	-
Period total		123	122	-	245	100.0	129	245	209	245

Table 50. Age, sex and size data for Pacific herrings captured by purse seine at Naked Island, Northern District, Prince William Sound, 1982.

Sample Period	Age (years)	Sex		Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
		Male	Female						
	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	5	6	11	4.8	89	11	188	11
	4	11	15	26	11.4	103	26	197	26
4/23- 4/23	5	24	32	56	24.5	125	56	208	56
	6	53	66	119	52.0	142	119	217	119
	7	5	11	16	7.0	145	16	216	16
	8	-	1	1	0.4	144	1	224	1
	9+	-	-	-	-	-	-	-	-
Period total		98	131	229	100.0	131	229	211	229

Table 51. Age, sex and size data for Pacific herrings captured by commercial sillnet at Long & Eikelberg Bays, Northern District, Prince William Sound, 1982.

Sample Period	Age (years)	Sex		Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
		Male	Female						
	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-
	4	1	1	2	1.0	92	2	190	2
4/23- 4/26	5	11	14	25	12.2	132	25	209	25
	6	62	77	139	67.8	144	139	217	139
	7	15	14	29	14.1	143	29	217	29
	8	9	1	10	4.9	139	10	218	10
	9+	-	-	-	-	-	-	-	-
Period total		98	107	205	100.0	141	205	216	205

Table 52. Age, sex and size data for Pacific herring captured by purse seine for herrings pounds at Landlocked and Boulder Bay, Northern District, Prince William Sound, 1982.

Sample Period	Age (years)	Sex			Total	Percent of Total	Mean		Mean Standard	
		Male	Female	Unknown			Weight (gm)	Number Weighed	Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	0.8	46	2	151	2
	3	24	11	-	35	14.3	81	35	183	35
	4	23	23	-	46	18.9	94	46	192	46
4/30-5/2	5	20	21	-	41	16.8	118	41	206	41
	6	42	57	-	99	40.6	131	99	211	99
	7	13	8	-	21	8.6	132	21	213	21
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		124	120	-	244	100.0	114	244	202	244

Table 53. Age, sex and size data for Pacific herrings captured by variable mesh samplings gillnet at Rocky Bay, Montserrat District, Prince William Sound, 1982.

Sample Period	Age (years)	Sex		Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
		Male	Female						
	1	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	12	2	14	5.0	65	14	169	14
	4	16	7	23	8.2	81	23	183	23
5/3-5/4	5	32	21	53	18.8	108	53	205	53
	6	107	63	170	60.3	124	170	212	170
	7	11	10	21	7.4	127	21	212	21
	8	1	-	1	0.4	124	1	216	1
	9+	-	-	-	-	-	-	-	-
Period total		179	103	282	100.0	115	282	206	282

Table 54. Age, length, weight composition of the herring bait/food fish fishery, Prince William Sound, 1982.

Age Group	Year Class	Males			Females			Combined Sexes					
		Frequency Number	Length mm	Mean Weight grams	Frequency Number	Length mm	Mean Weight grams	Frequency Number	Length mm	Mean Weight grams			
IV	1978	5	13.2	177.2	78.4	7	17.1	181.3	95.5	12	15.2	179.6	88.4
V	1977	9	23.7	185.8	95.1	6	14.6	173.5	79.1	15	19.0	180.9	88.7
VI	1976	16	42.1	186.8	89.6	16	39.0	185.8	97.6	32	40.1	186.3	93.6
VII	1975	5	13.2	197.0	111.4	11	26.8	193.3	108.8	16	20.3	194.4	109.6
VIII	1974	1	2.6	204.0	119.9	1	2.4	215.0	152.9	2	2.5	209.5	136.4
IX	1973	2	5.3	203.5	116.8	0	0	0	0	2	2.5	203.5	116.8
Total Number		38				41				79			
Average Length				187.9				185.9				186.9	
Average Weight				94.5				98.9				96.8	

Sex Ratio: Males - 48%
Females - 52%

Table 55. Calendar weeks used in reporting catch statistics in 1982.

Weeks	From	Through	Weeks	From	Through
1	Jan. 1	2	29	July 11	17
2	3	9	30	18	24
3	10	16	31	25	31
4	17	23	32	Aug. 1	7
5	24	30	33	8	14
6	31	Feb. 6	34	15	21
7	Feb. 7	13	35	22	28
8	14	20	36	29	Sept. 4
9	21	27	37	Sept. 5	11
10	28	Mar. 6	38	12	18
11	Mar. 7	13	39	19	25
12	14	20	40	26	Oct. 2
13	21	27	41	Oct. 3	9
14	28	Apr. 3	42	10	16
15	Apr. 4	10	43	17	23
16	11	17	44	24	30
17	18	24	45	31	Nov. 6
18	25	May 1	46	Nov. 7	13
19	May 2	8	47	14	20
20	9	15	48	21	27
21	16	22	49	28	Dec. 4
22	23	29	50	Dec. 5	11
23	30	June 5	51	12	18
24	June 6	12	52	19	25
			53	26	31
25	13	19			
26	20	26			
27	27	July 3			
28	July 4	10			

Table 56. Average price paid per pound for salmon, shellfish and miscellaneous fish in the Prince William Sound Area, 1982.

Salmon					
King	Sockeye	Coho	Pink	Chum	
\$1.40	\$.80 - \$1.01 ¹	\$.30 - \$.86 ²	\$.23	\$.38	

Shellfish					
King Crab	Dungeness Crab	Tanner Crab	Shrimp Trawl	Shrimp Pot	Razor Clams (Bait)
\$1.90 - \$2.20	\$.70	\$1.35 - \$1.75	\$.27	\$3.50 - \$6.00	\$.80

Miscellaneous Fish					
Herring Sac Roe	Herring Spawn on Kelp	Herring (Bait)	Halibut	Bottom Fish (Bait)	Octopus (Bait)
\$.184 ³	\$1.29 ⁴	\$.109	\$1.00	\$.40 - \$.45	\$.50

- 1 Contract price was \$1.01 for sockeye from the Copper River district and \$.80 for the Bering River, Coghill and Unakwik districts.
- 2 The settlement price reached for coho salmon caught in Prince William Sound was \$.30 and \$.90 for Copper River and Bering River before September 5 and \$.75 after that date.
- 3 Prices ranged from \$325 - \$425/ton for seine caught fish while gill net prices ranged from \$590 - \$705/ton.
- 4 Based on average price of \$.95 for sieve kelp (11% of production), \$1.42 for ribbon kelp (83% of production) and \$.74 for hair kelp (6% of production).

Table 57. Average price paid to fishermen for salmon and herring in Prince William Sound, 1977 - 1982¹.

Species	1977	1978	1979	1980	1981	1982 ⁷
King Salmon	\$1.40	\$1.39	\$1.62	\$1.40	\$1.65 ⁸	\$1.40
Sockeye Salmon						
Copper River	.97	1.23	1.40	.85	1.40 ⁸	1.01
Bering River						.80
Coghill District						.80
Unakwik District						.80
Coho Salmon						
Copper-Bering Rivers	.70	1.10	1.10	.95	.95	.86 ¹¹
Prince William Sound	.37	.39	.39	.39	.39	.40
Pink Salmon	.3575 ²	.3701 ³	.3777 ⁴	.4229 ⁵	.44	.23
Chum Salmon	.3992 ²	.4258	.53	.50	.50	.38
Herring						
Sac Roe	.14	.363	.625	.1625	.20 ⁹ _{±0}	.184 ¹²
Spawn on Kelp	.69	1.247	1.74	1.09	1.00 ¹⁰	1.29 ¹³

¹ Source: Processors Annual Reports. Prices are per pound unless indicated.

² The sliding scale percentage paid after sale of the pack was .0167 for pinks and .0281 for chums.

³ The egg recovery adjustment paid was .007 percent.

⁴ The egg recovery adjustment paid was \$.07275 per pound.

⁵ The egg recovery adjustment paid was \$.0642 per pound.

⁶ Based on average price of \$.85 for sieve kelp (40% of production) and \$1.25 for ribbon kelp (60% of production).

⁷ Preliminary.

⁸ Contract price was \$1.25 for sockeyes and \$1.40 for kings, but payments from cash-buyers raised the average price to approximately this level.

⁹ Based on estimated \$400/ton for 9% recovery seine caught fish while gill net recoveries were about 13% and prices averaged \$550-600/ton.

¹⁰ Based on average price of \$.85 for sieve kelp (60% of production), \$1.25 for ribbon kelp (38% of production) and \$.60 for hair kelp (2% of production).

¹¹ The settlement price reached for coho salmon caught in Prince William Sound was \$.30 and \$.90 for Copper River and Bering River before September 5 and \$.75 after that date.

¹² Prices ranged from \$325-425/ton for seine caught fish while gill net prices ranged from \$590-705/ton.

¹³ Based on average price of \$.95 for sieve kelp (11% of production), \$1.42 for ribbon kelp (83% of production) and \$.74 for hair kelp (6% of production).

Table 58. Average weight in pounds of salmon in commercial catches from the Prince William Sound Area, 1973 - 1982.¹

Year	King	Sockeye	Coho	Pink	Chum
COPPER RIVER - BERING RIVER					
1973	32.3	6.9	9.4	4.3	6.7
1974	33.4	6.8	9.1	4.7	7.9
1975	27.8	6.6	9.3	5.3	6.0
1976	28.4	6.8	10.2	4.3	7.4
1977	28.4	7.3	10.6	4.6	7.3
1978	27.3	6.2	9.3	4.2	7.0
1979	27.4	6.9	9.2	4.4	7.9
1980	29.1	6.7	9.8	4.8	7.1
1981 ³	25.9	6.4	10.3	4.6	7.5
1982 ³	26.8	6.5	9.9	4.2	8.8
10 Year Average	28.7	6.7	9.7	4.5	7.3
PRINCE WILLIAM SOUND					
1973	12.1	7.5	7.0	4.0	9.5
1974 ²	13.3	7.3	8.2	4.7	9.0
1975	11.2	7.6	7.9	3.6	7.2
1976	11.5	7.4	8.4	4.2	9.1
1977	15.1	7.9	8.1	4.4	9.0
1978	12.3	8.1	8.5	3.6	8.5
1979	11.0	7.1	7.9	3.7	9.1
1980	14.6	6.9	8.3	3.3	8.3
1981 ³	17.5	6.3	8.1	4.2	8.6
1982 ³	15.8	7.1	8.2	3.7	9.1
10 Year Average	13.4	7.3	8.1	3.9	8.7

¹ Data from Alaska Department of Fish and Game Commercial Fisheries Statistical Leaflets in 1974 and 1975 while all other years are from fish ticket data. Data from Prince William Sound includes all districts and gear types.

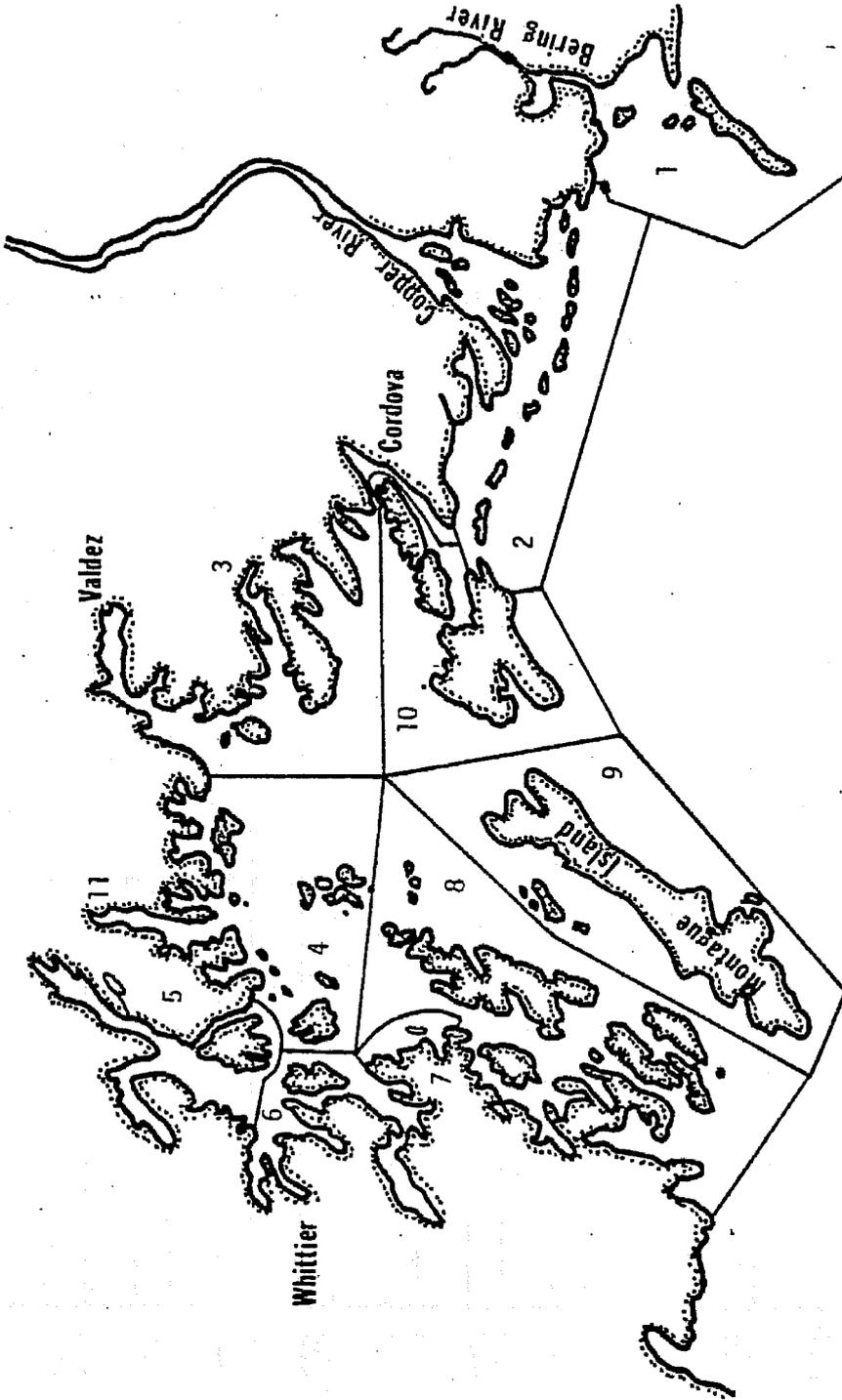
² General purse seine season closed.

³ Preliminary.

Table 59. Prince William Sound Area case pack and pounds of frozen, fresh, cured and exported salmon by species, 1973 - 1982. ¹

Cases						
Year	King	Sockeye	Coho	Pink	Chum	Total
1973	164	40,850	6,053	73,635	59,284	179,986
1974	1,507	68,576	14,127	30,335	10,925	125,470
1975	183	24,281	1,254	133,358	6,266	165,342
1976	151	99,436	5,564	121,762	2,302	229,215
1977	253	41,860	2,420	178,151	38,850	261,534
1978	139	15,664	4,482	117,863	39,376	177,524
1979	158	3,669	3,970	474,084	24,347	506,228
1980	215	46,716	3,059	384,353	42,813	477,156
1981	167	65,067	3,202	776,515	181,714	1,026,665
1982	128	7,919	2,669	512,046	15,847	538,609
Frozen						
1973	611,482	222,978	1,293,847	39,584	292,380	2,460,271
1974	408,662	62,725	2,620	0	1,187	475,194
1975	293,657	553,541	564,579	0	63,154	1,474,931
1976	758,172	1,294,110	918,509	351,944	514,854	3,837,589
1977	356,567	2,741,166	861,761	1,232,766	931,911	6,124,171
1978	581,353	2,518,147	1,690,871	229,744	705,796	5,725,911
1979	302,419	1,466,938	1,782,175	1,769,191	305,315	5,626,038
1980	176,124	347,049	865,893	76,891	433,536	1,899,493
1981	404,325	2,721,666	1,786,850	398,519	1,255,362	6,566,722
1982	794,168	8,617,152	3,505,937	14,362,966	5,117,228	32,397,451
Fresh						
1982	62,258	947,646	82,791	1,471,049	1,865,976	4,429,720
Cured						
1982		522		787,603	7,675	795,800
Exported						
1982	118,904	1,331,203	7,308	16,181,036	1,144,841	18,783,292

¹ Case pack on the basis of 48 one pound cans per case. Frozen, fresh and exported salmon in round weight 1973 - 1977. From 1978 frozen and fresh salmon reported in processed weight. Cured and salmon exported to other areas for processing reported in round weight.



Fishing Districts

- | | |
|-----------------|------------------|
| 1. Bering River | 6. Northwestern |
| 2. Copper River | 7. Eshamy |
| 3. Eastern | 8. Southern |
| 4. Northern | 9. Montague |
| 5. Coghill | 10. Southeastern |
| | 11. Unakwik |

Figure 1. Prince William Sound Area commercial fisheries salmon management areas.

ALL SPECIES SALMON CATCH, PRINCE WILLIAM SOUND

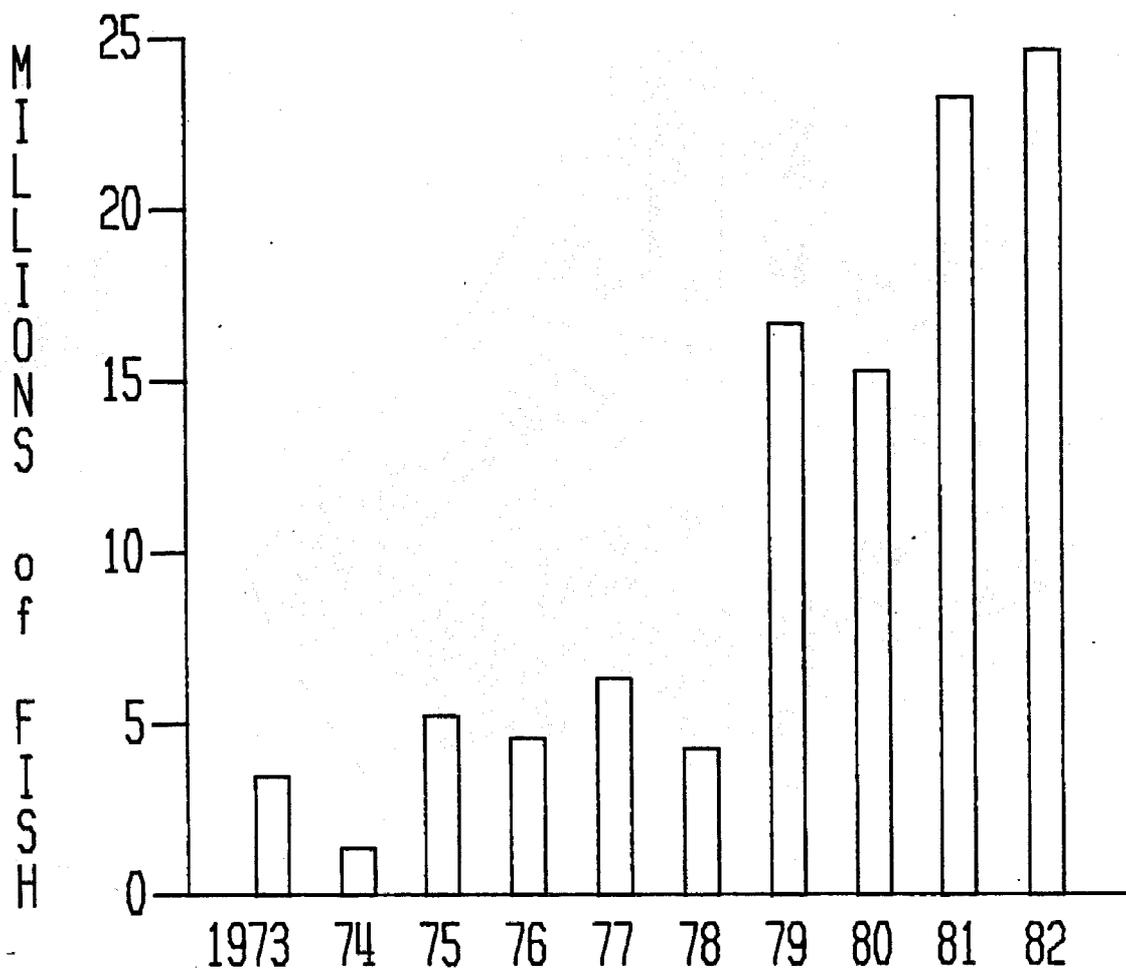


Figure 2. All species salmon catch, Prince William Sound, 1973 - 1982.

CHINOOK SALMON CATCH, COPPER RIVER DISTRICT

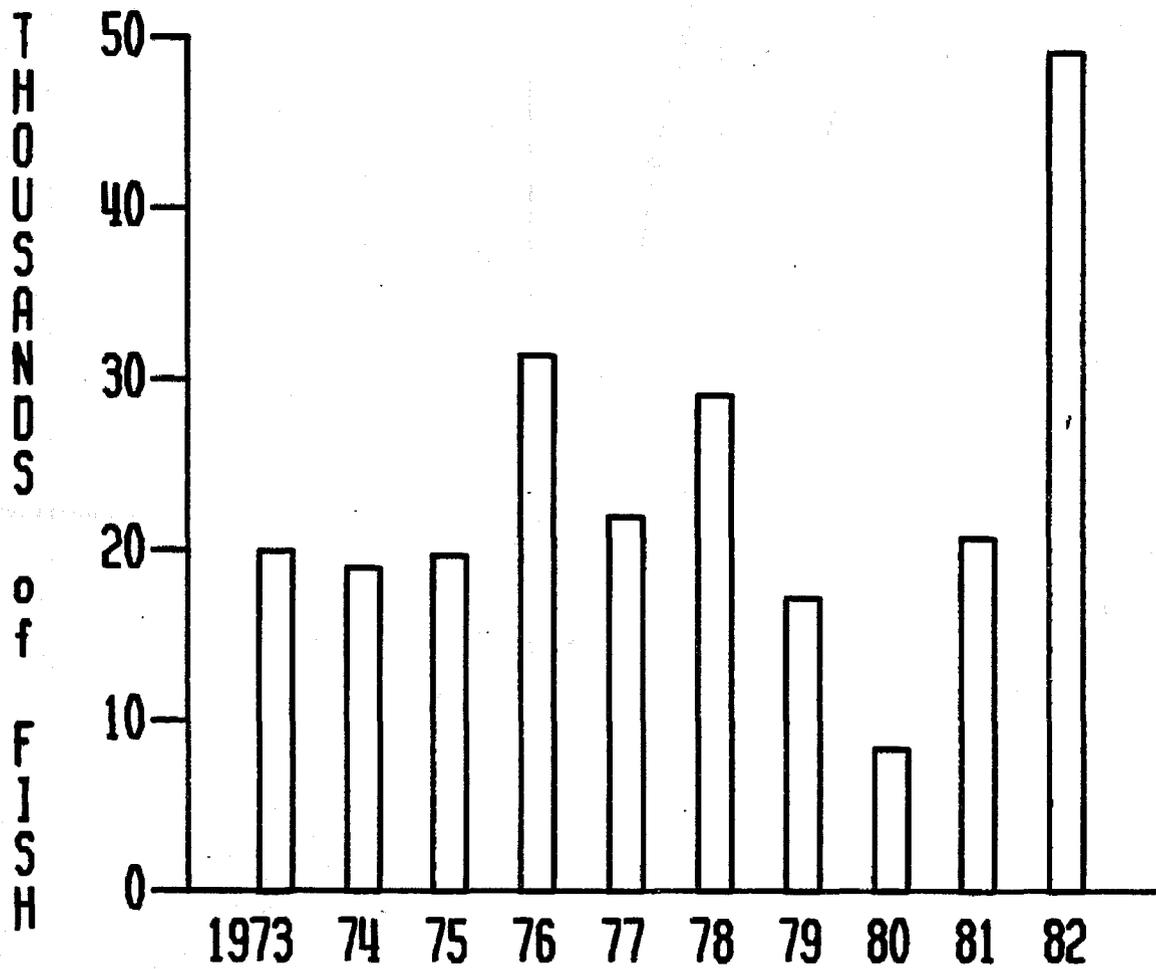


Figure 3. Chinook salmon catch, Copper River district, 1973 - 1982.

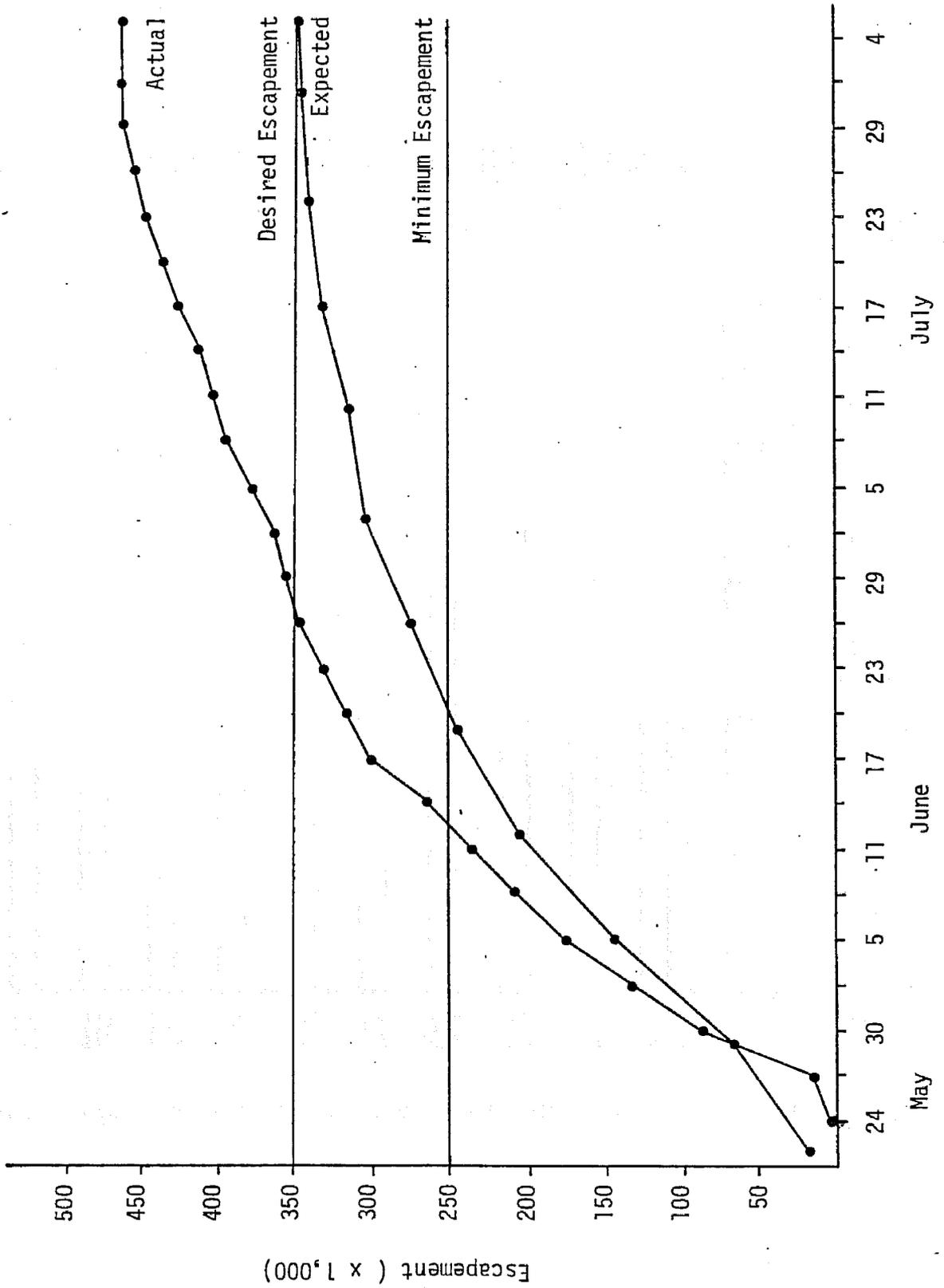
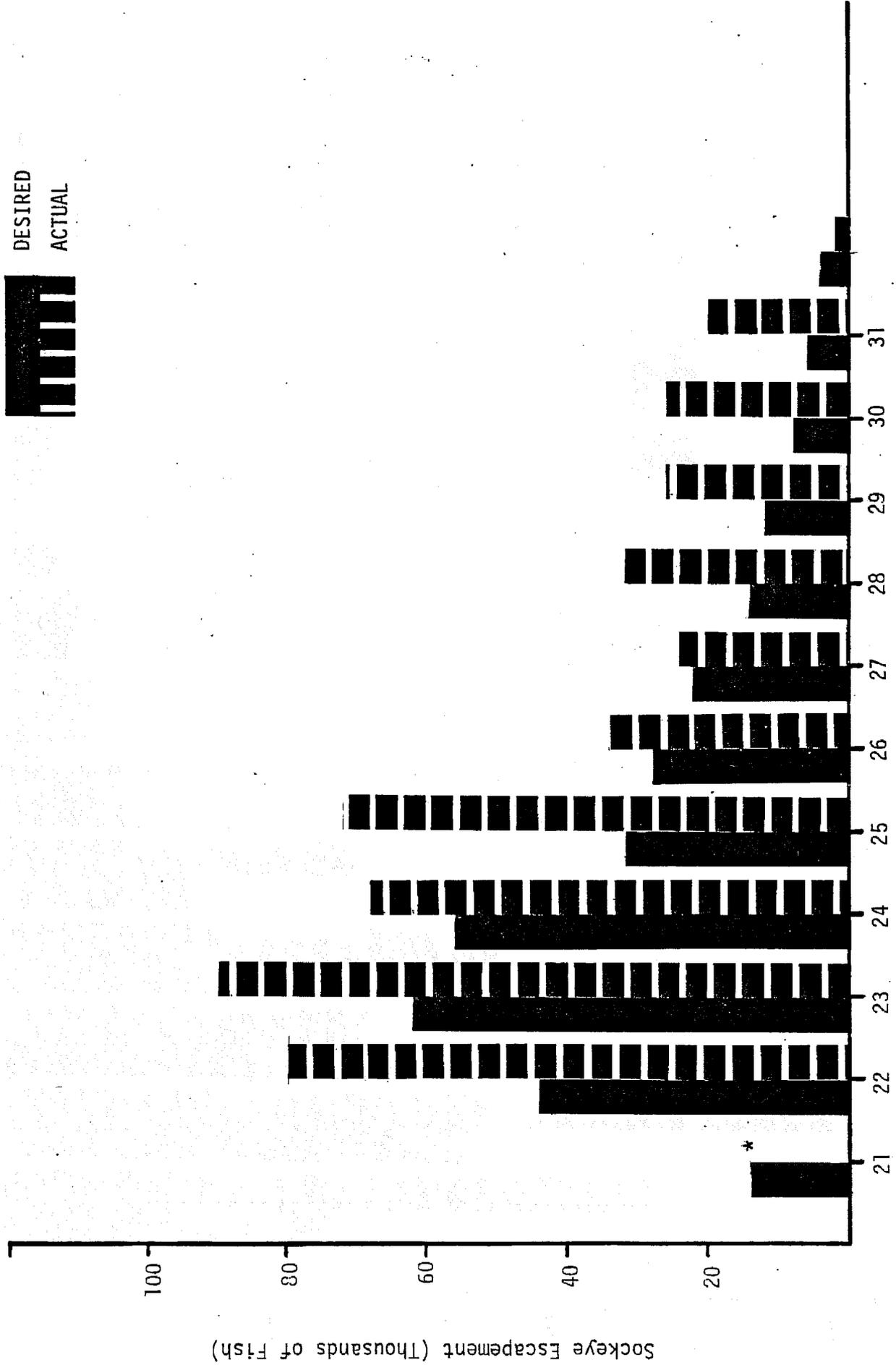


Figure 4. Expected and actual Copper River sonar counts of salmon at Miles Lake, 1982.



* Counter not operating.

Figure 5. Sockeye salmon escapement by week at the Miles Lake sonar counter, Copper River, 1982.

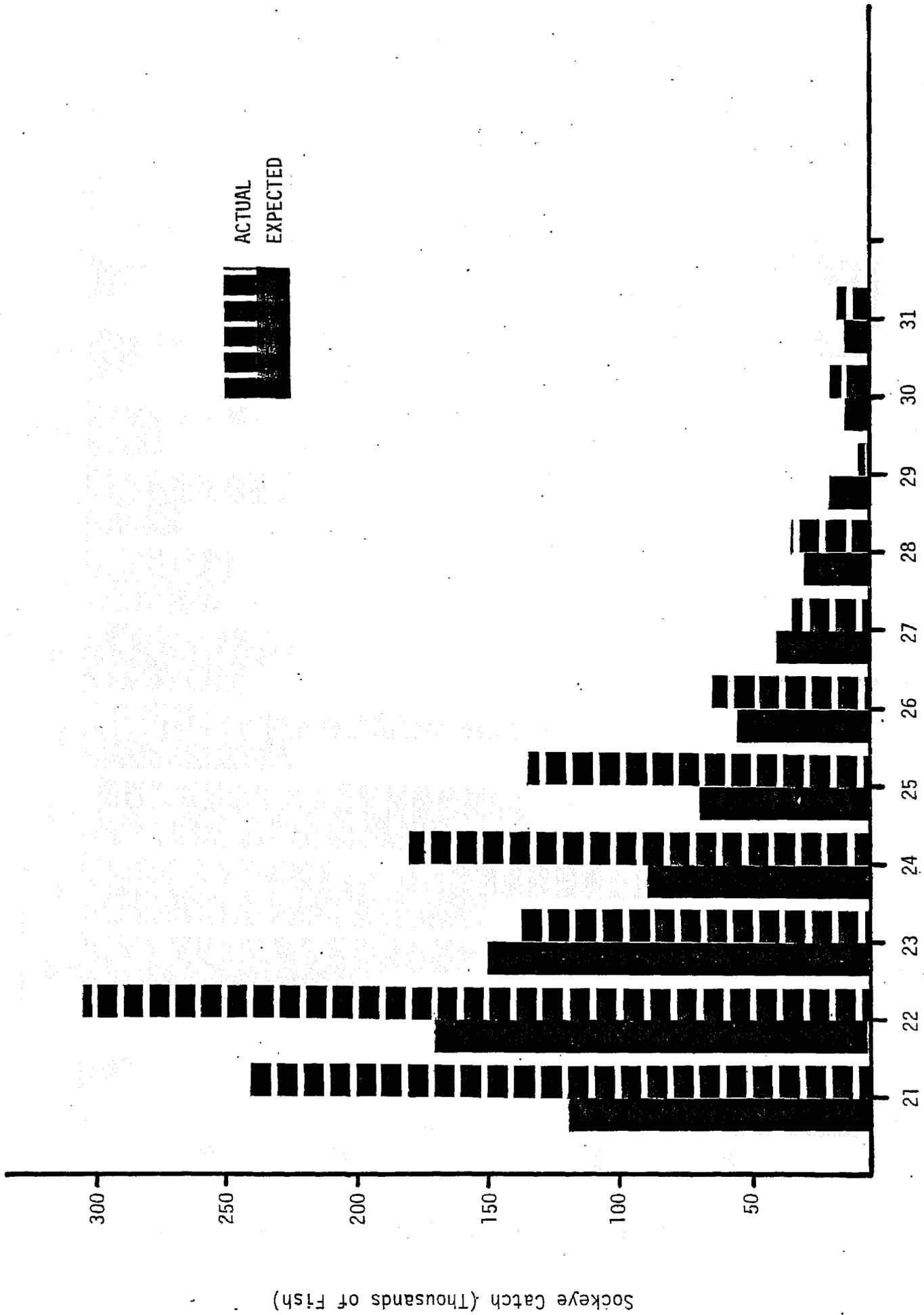
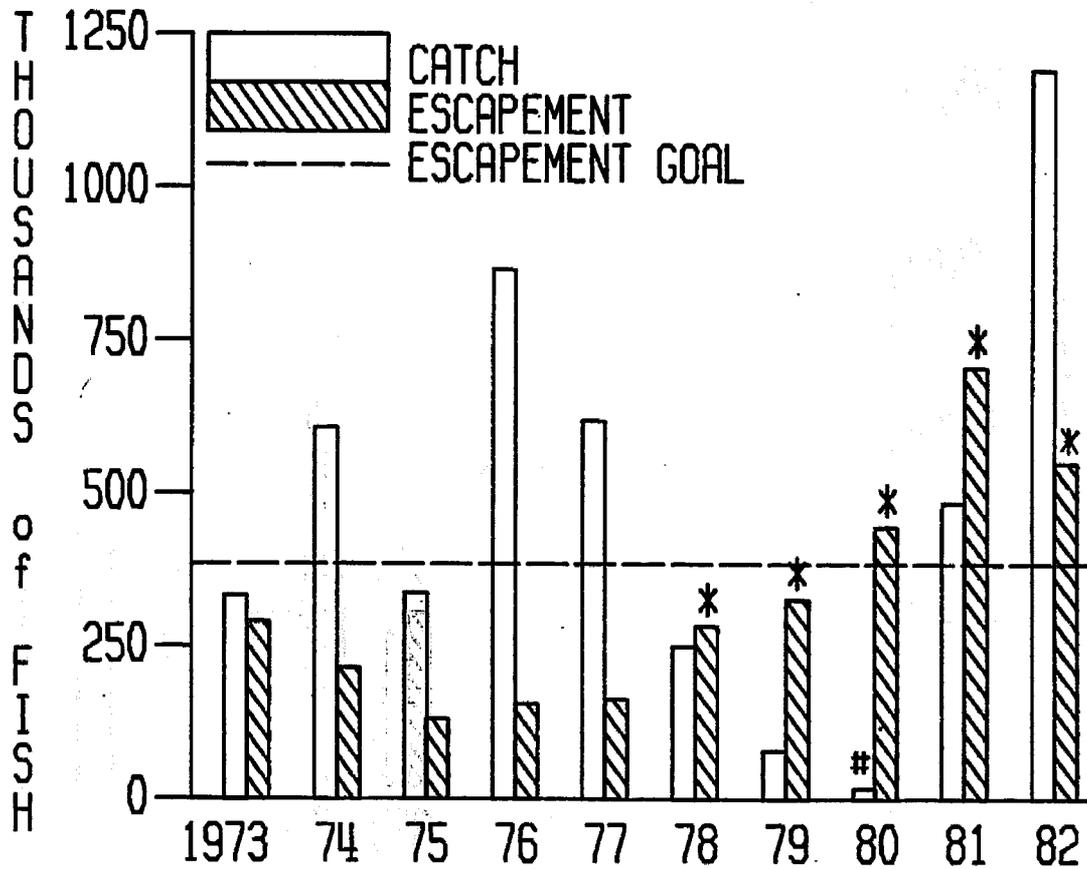


Figure 6. Sockeye salmon catch by week in the Copper River district, 1982.

SOCKEYE SALMON CATCH and ESCAPEMENT COPPER RIVER DISTRICT



* includes sonar counts
no sockeye fishery in 1980

Figure 7. Sockeye salmon catch and escapement, Copper River district, 1973 - 1982.

COHO SALMON CATCH, COPPER RIVER DISTRICT

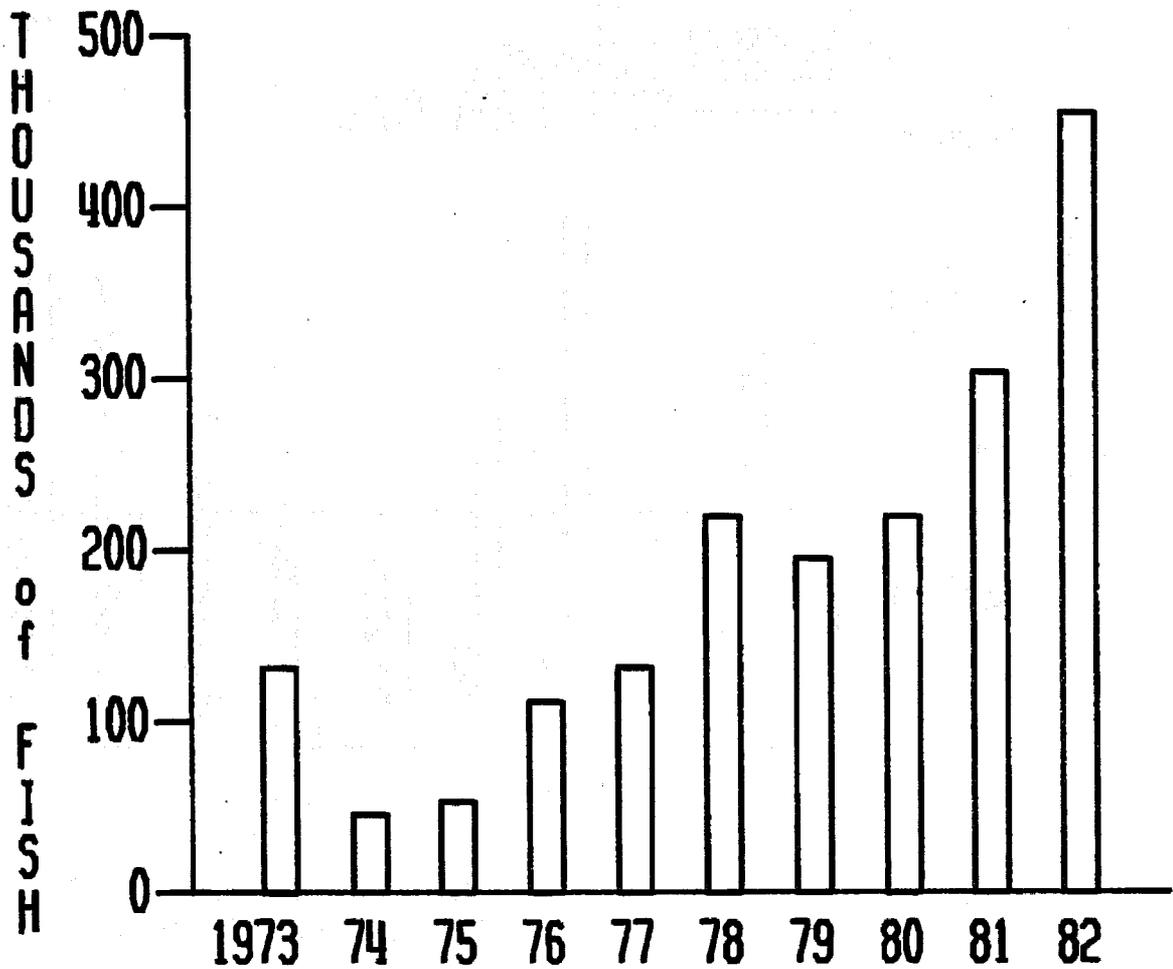


Figure 8. Coho salmon catch, Copper River district, 1973 - 1982.

SOCKEYE SALMON CATCH and ESCAPEMENT BERING RIVER DISTRICT

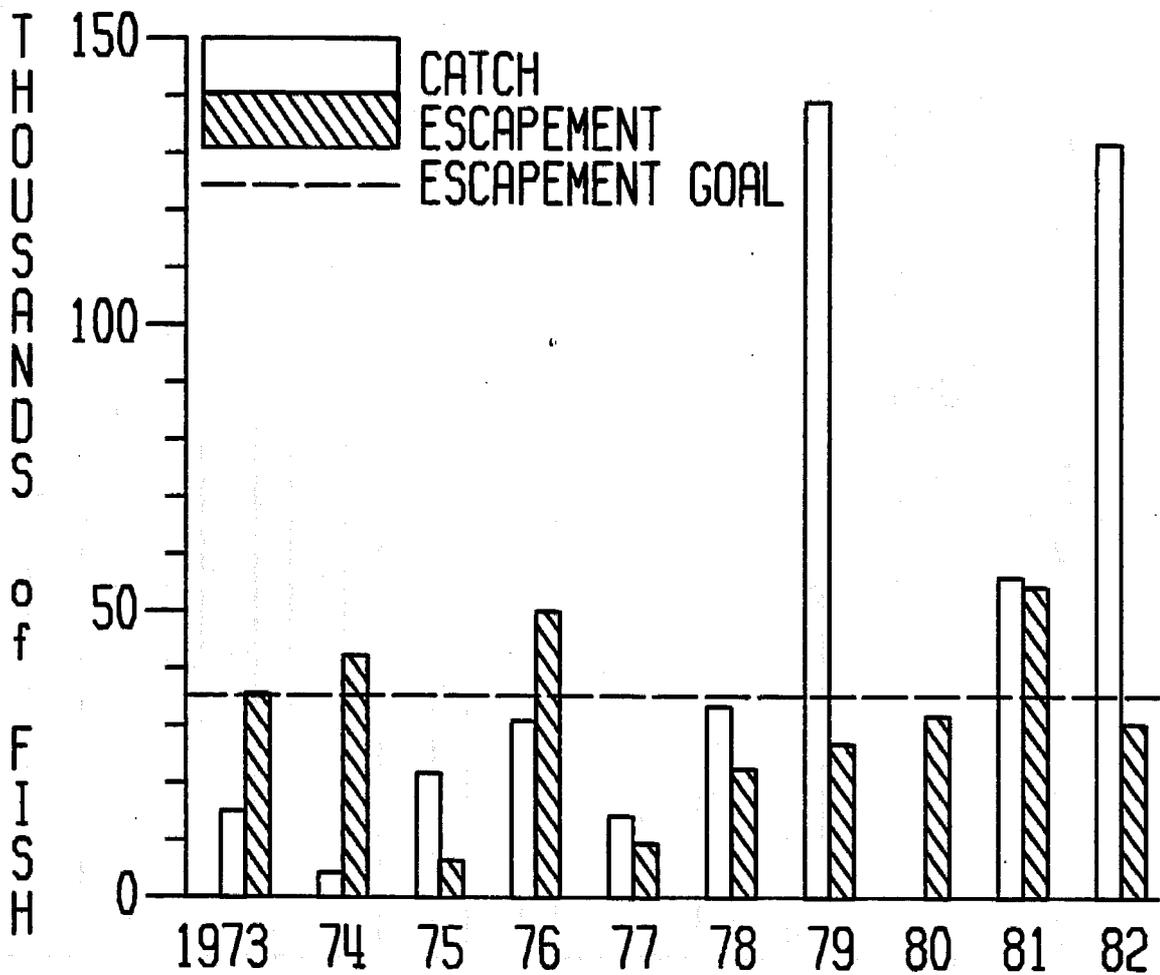


Figure 9. Sockeye salmon catch and escapement, Bering River district, 1973 - 1982.

COHO SALMON CATCH, BERING RIVER DISTRICT

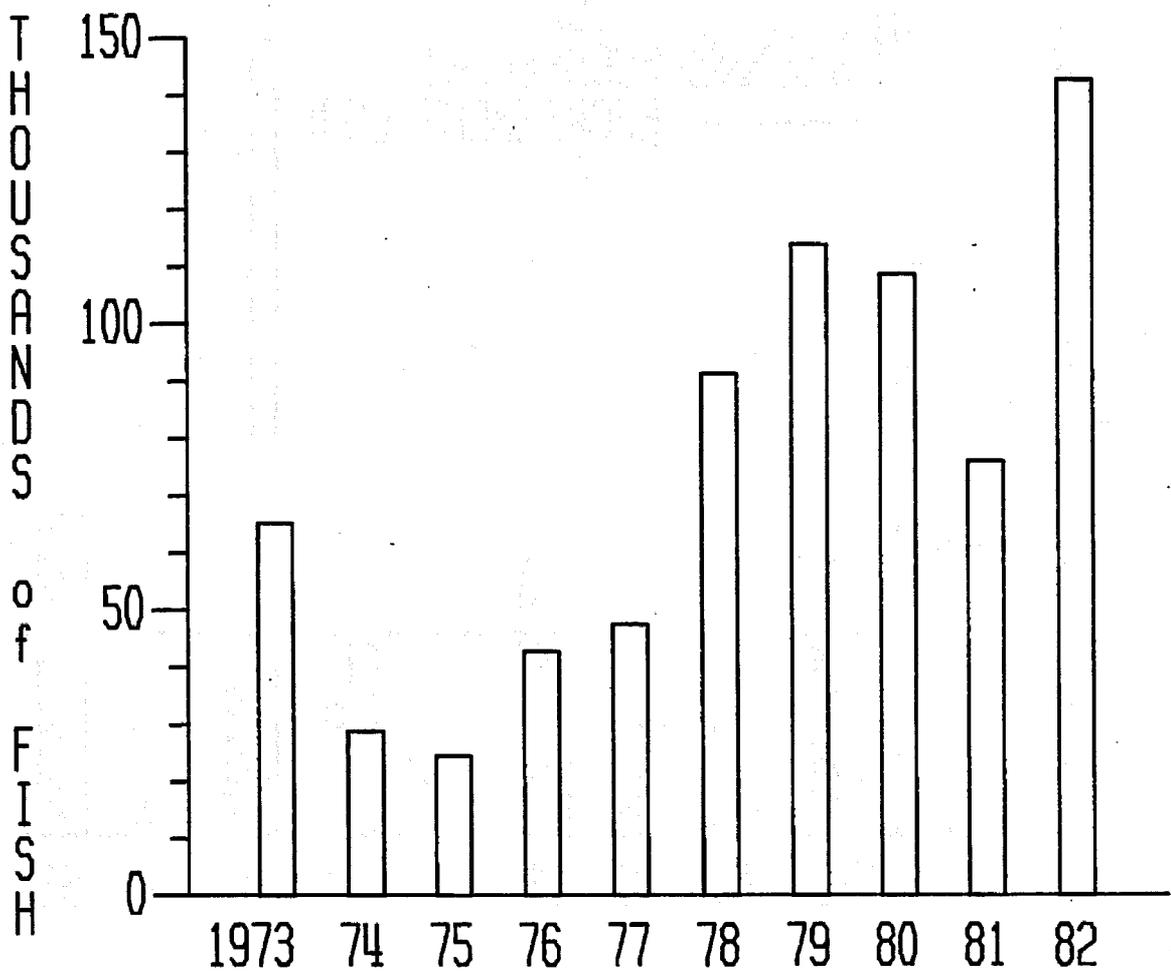


Figure 10. Coho salmon catch, Bering River district, 1973 - 1982.

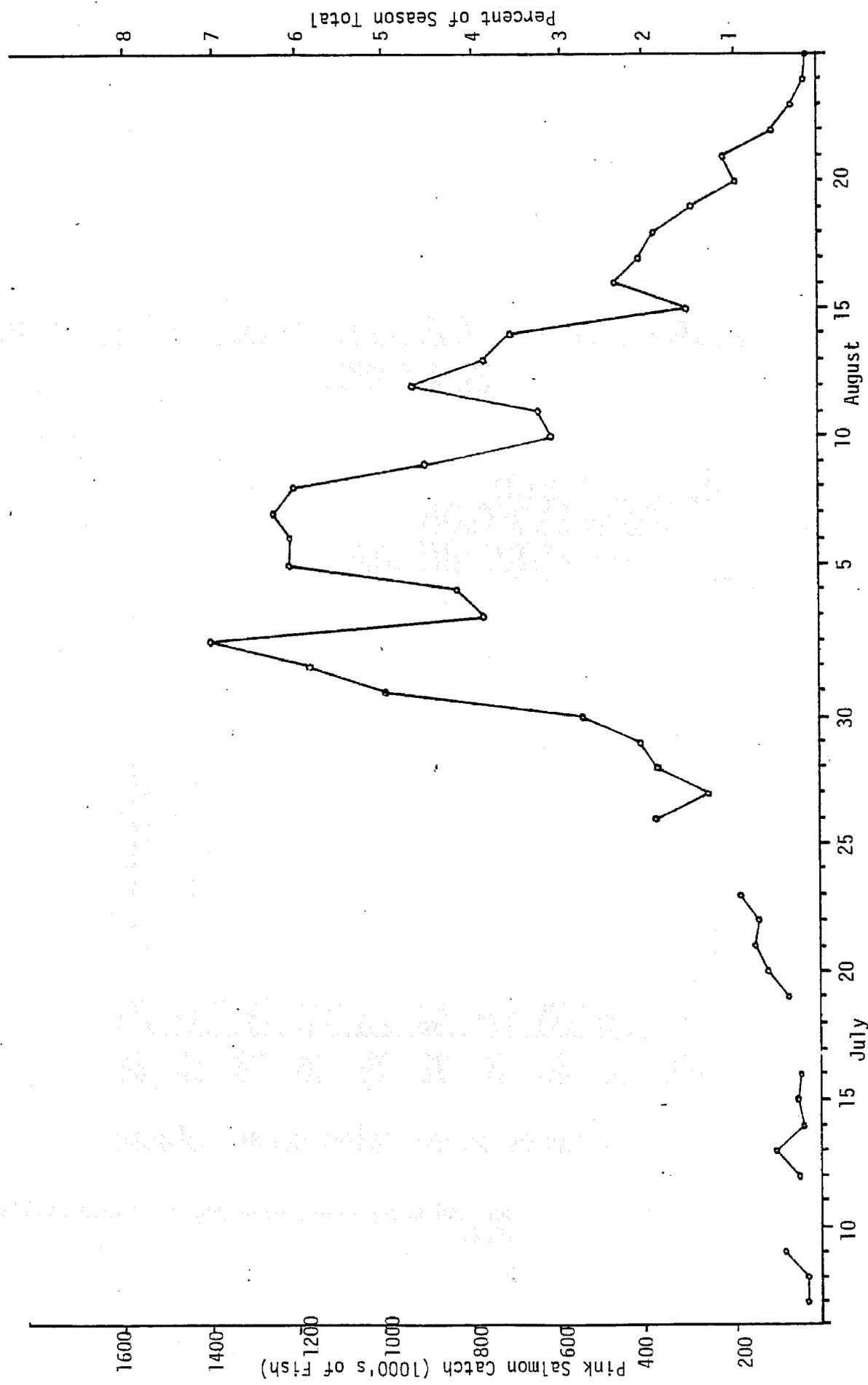
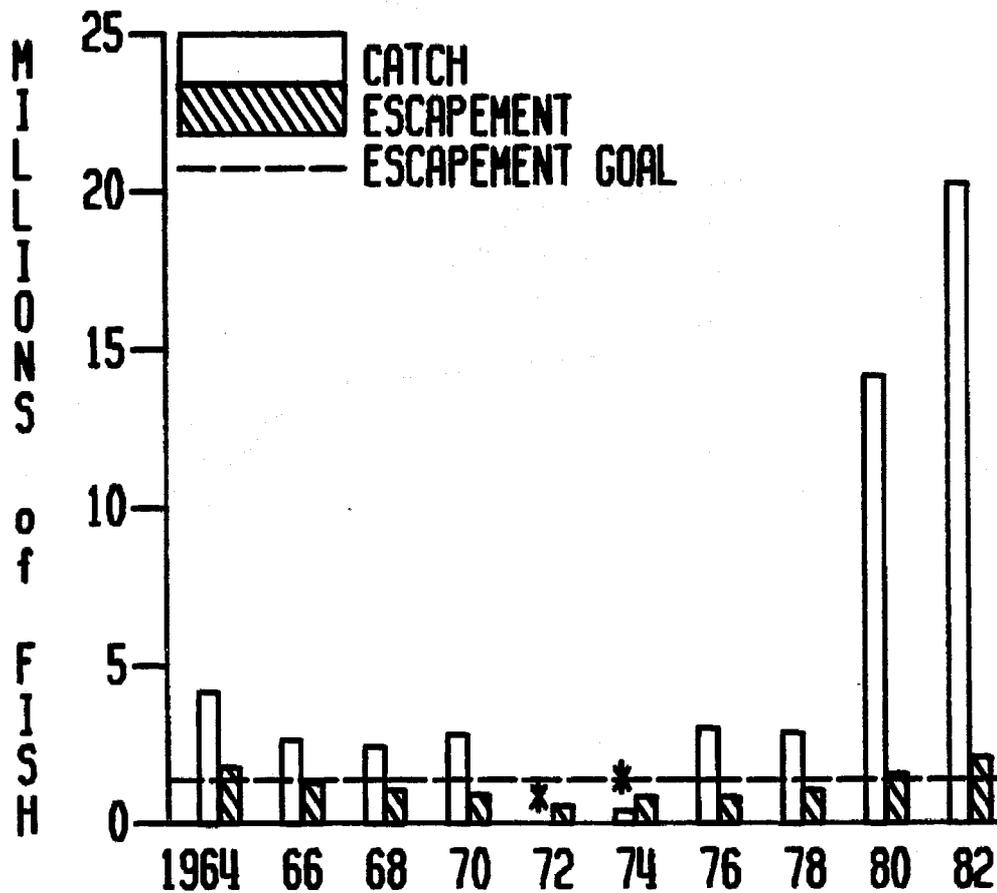


Figure 11. Daily pink salmon catch in the General Purse Seine and Coghill districts, Prince William Sound, 1982.¹

¹ Preliminary data based on verbal catch reports from processors.

PINK SALMON CATCH and ESCAPEMENT, PRINCE WILLIAM SOUND EVEN YEARS



* general purse seine season closed

Figure 12. Pink salmon catch and escapement, even years, Prince William Sound, 1964 - 1982.

PINK SALMON CATCH and ESCAPEMENT, PRINCE WILLIAM SOUND ODD YEARS

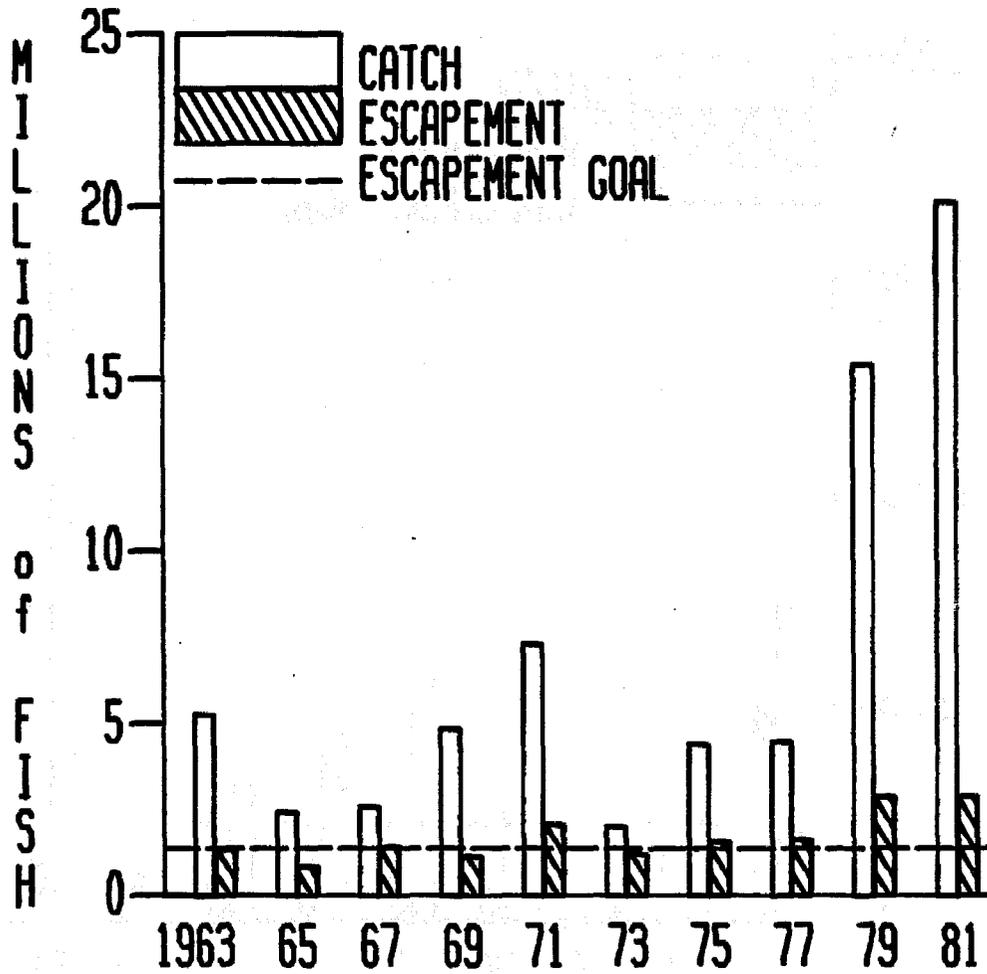


Figure 13. Pink salmon catch and escapement, odd years, Prince William Sound, 1963 - 1981.

CHUM SALMON CATCH and ESCAPEMENT PRINCE WILLIAM SOUND

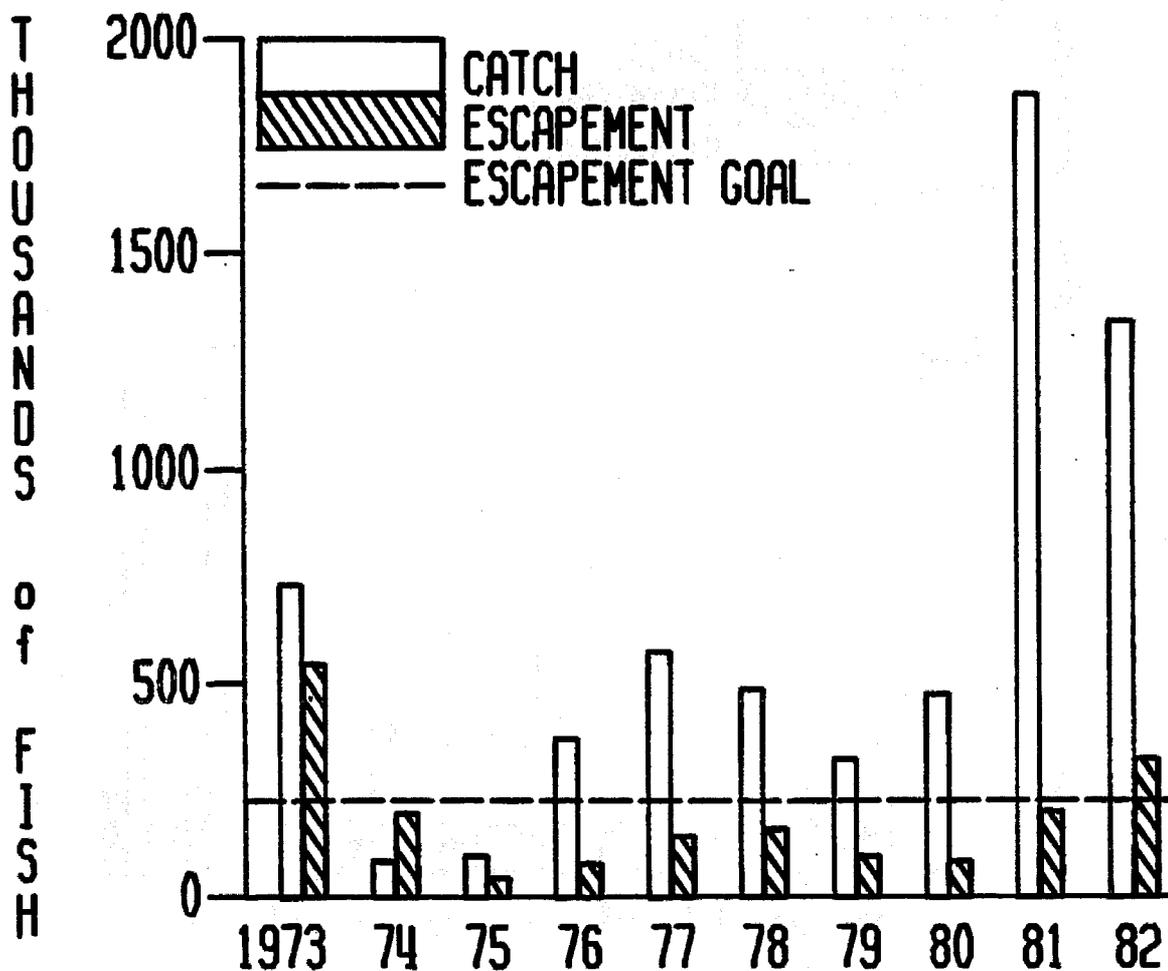


Figure 14. Chum salmon catch and escapement, Prince William Sound, 1973 - 1982.

SOCKEYE SALMON CATCH and ESCAPEMENT COGHILL DISTRICT

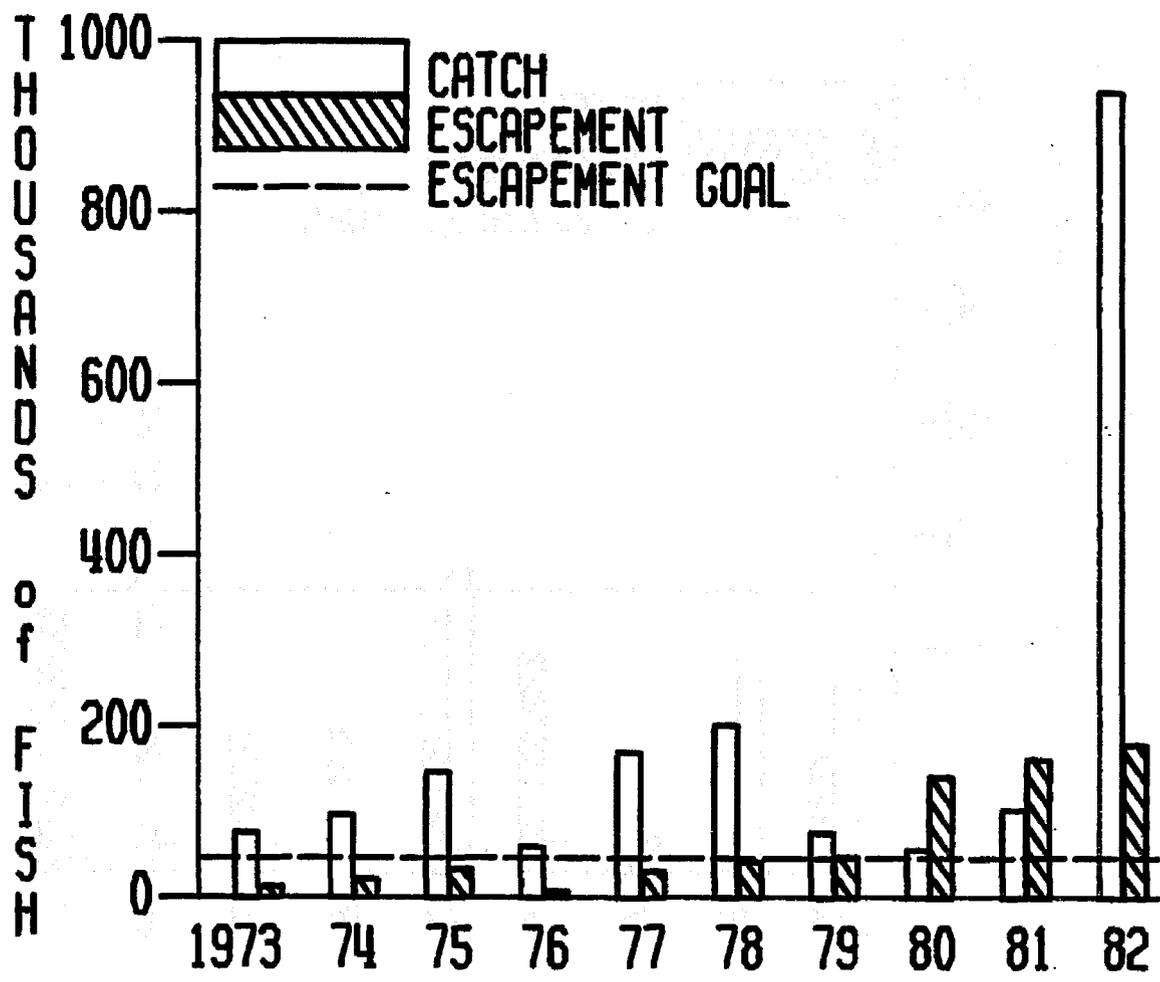


Figure 15. Sockeye salmon catch and escapement, Coghill district, 1973 - 1982.

SOCKEYE SALMON CATCH and ESCAPEMENT ESHAMY DISTRICT

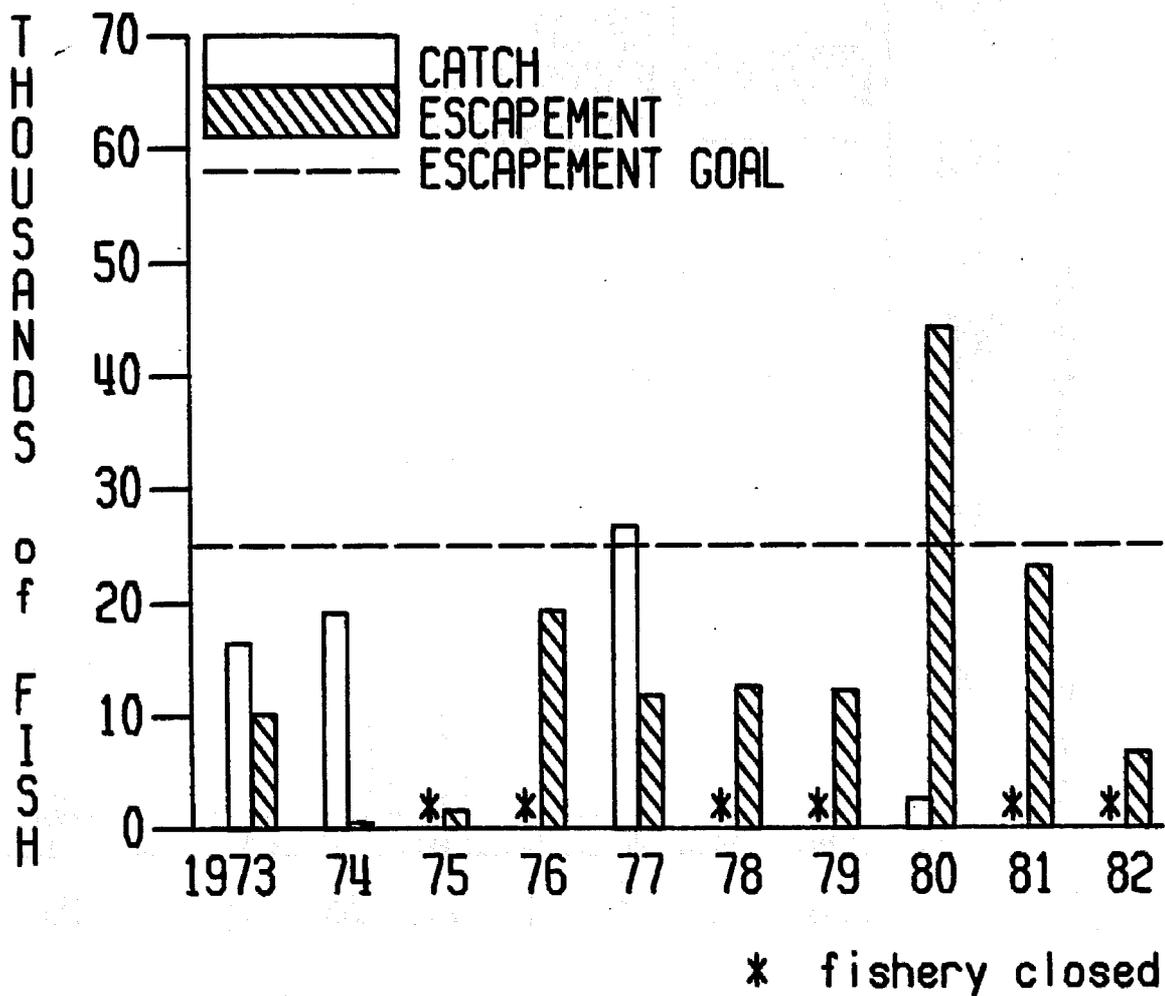
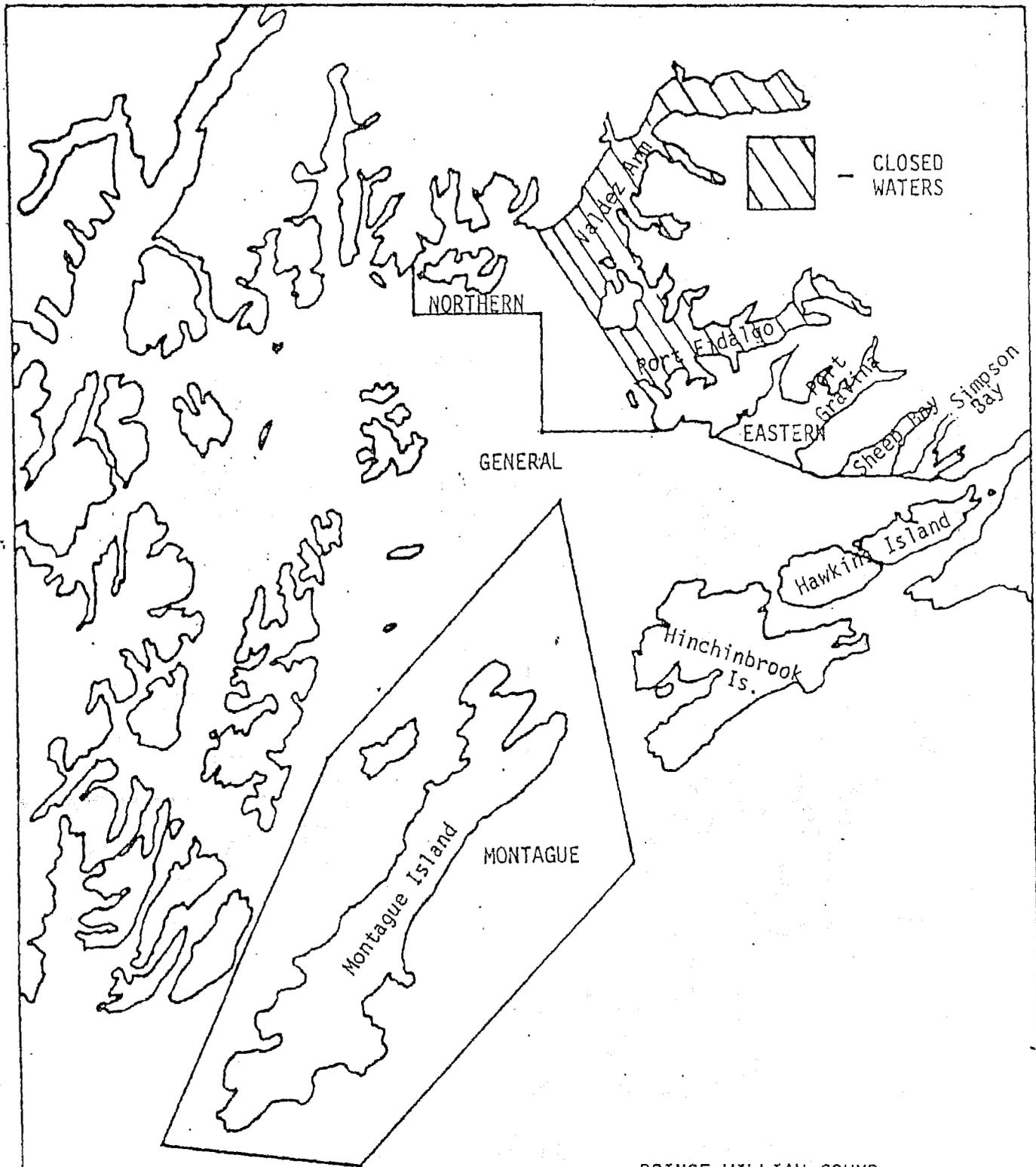
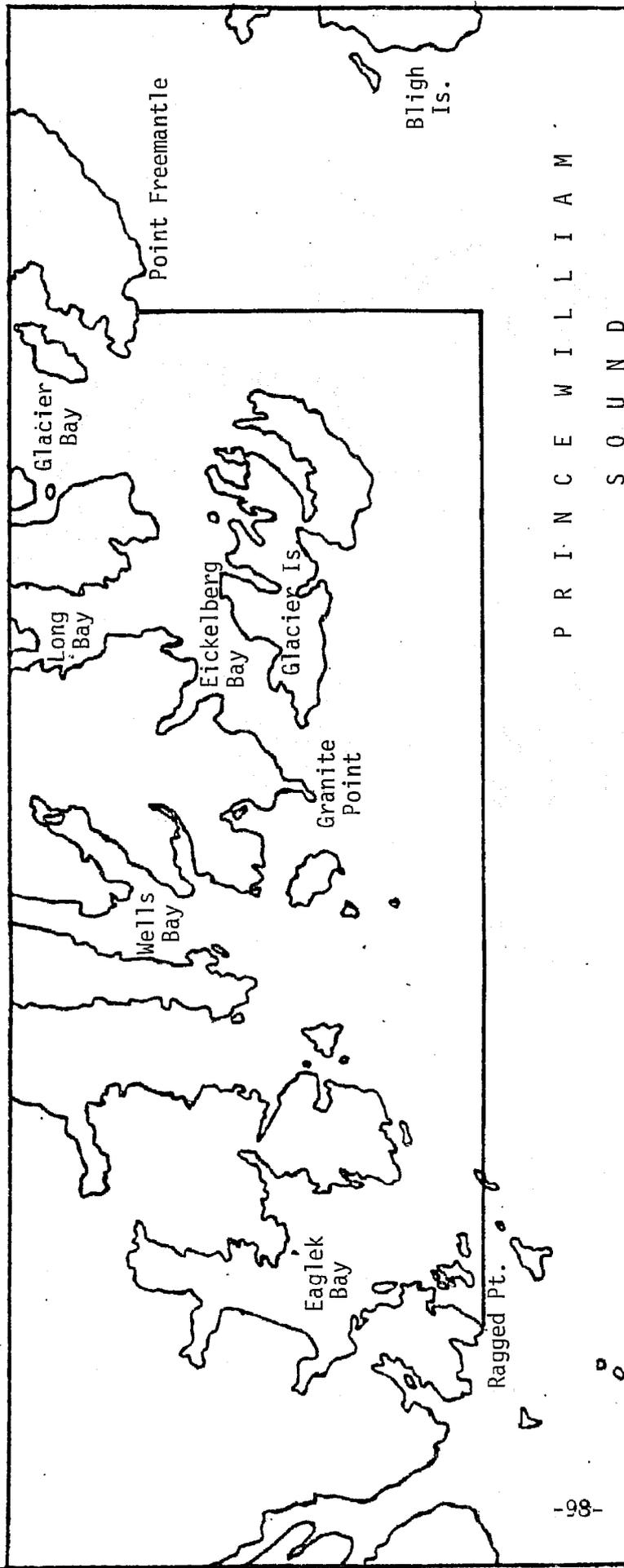


Figure 16. Sockeye salmon catch and escapement, Eshamy district, 1973 - 1982.



PRINCE WILLIAM SOUND
HERRING FISHING DISTRICTS

Figure 17. Prince William Sound herring fishing districts and general area open to production of herring spawn-on-kelp.



P R I N C E W I L L I A M
S O U N D

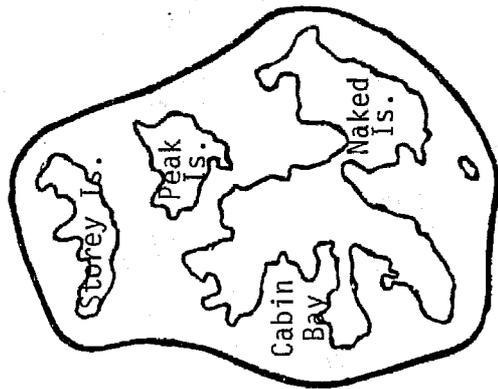


Figure 18. Special areas open to purse seining for sac roe herring during the two hour period, April 23, 1982, Prince William Sound.

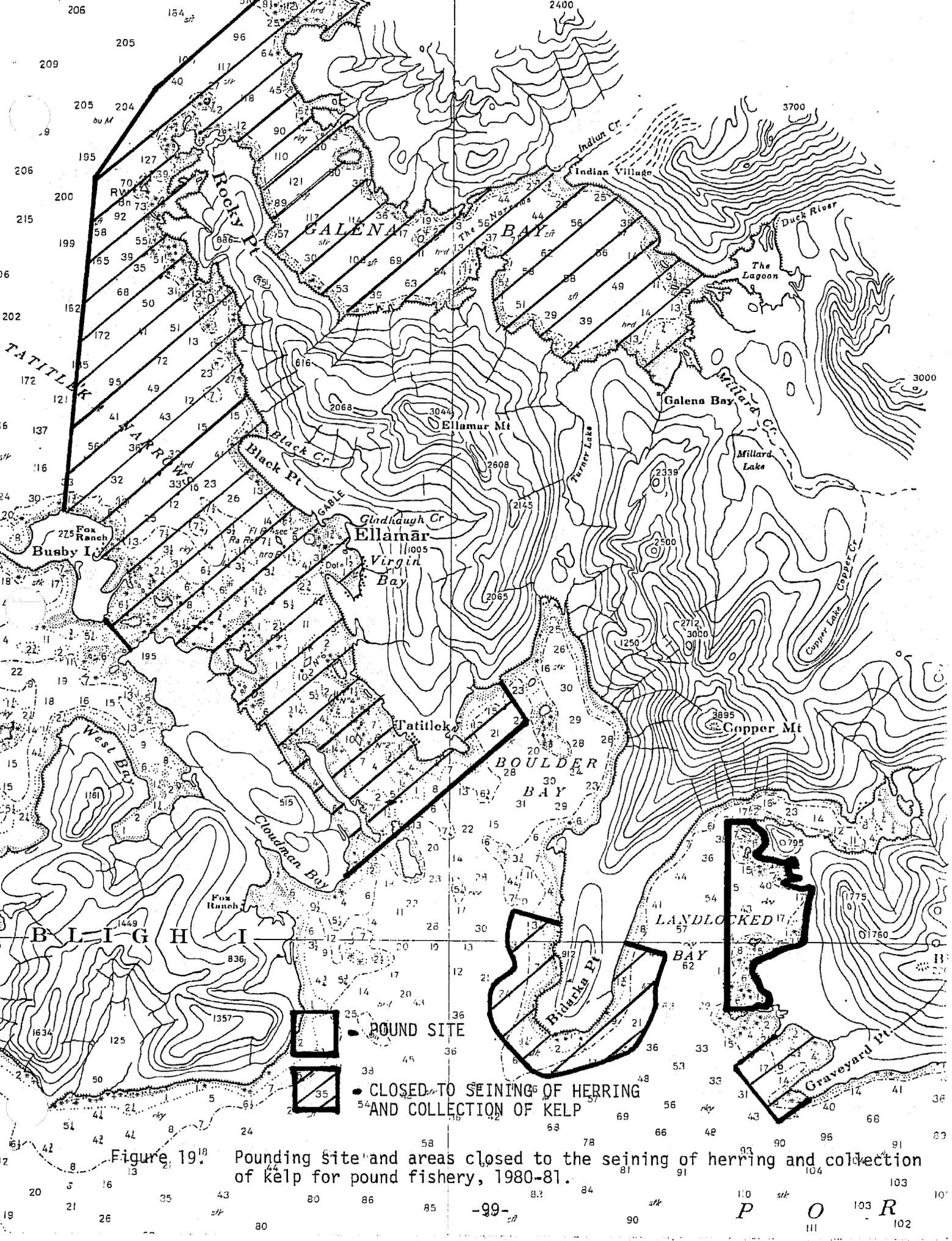


Figure 19. Pounding site and areas closed to the seining of herring and collection of kelp for pound fishery, 1980-81.

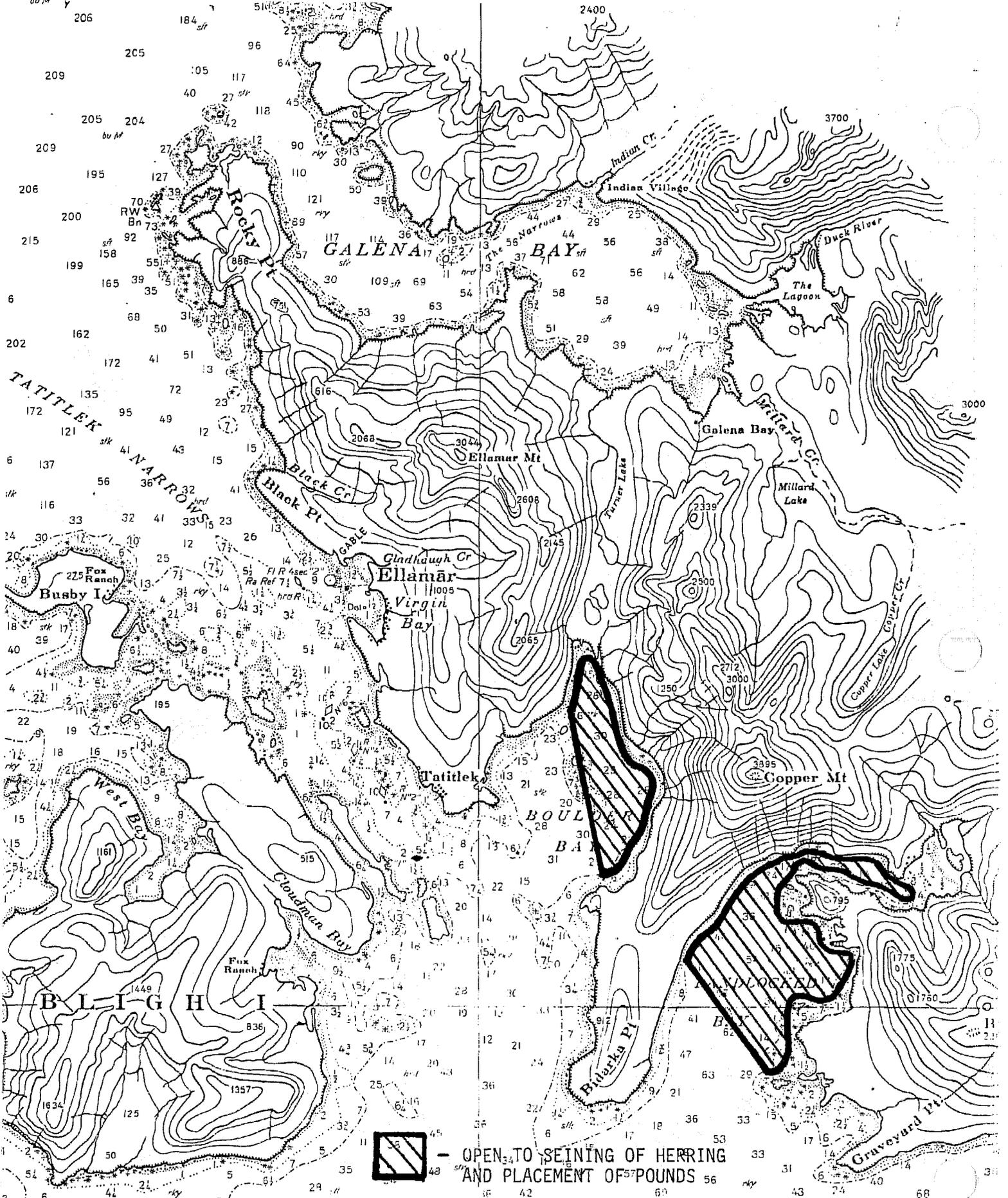


Figure 20. Pounding sites and waters open to the seining of herring during 1982

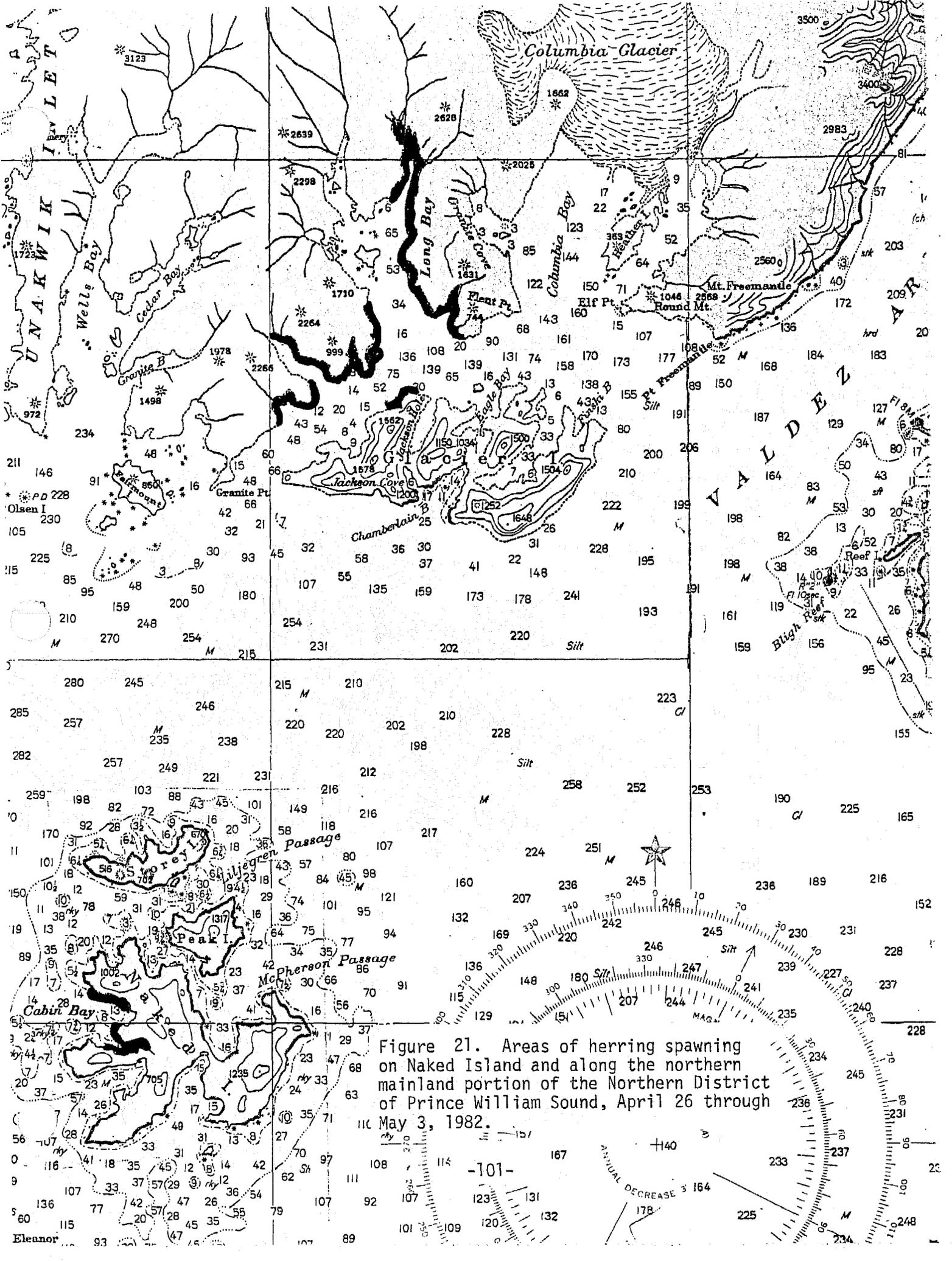


Figure 21. Areas of herring spawning on Naked Island and along the northern mainland portion of the Northern District of Prince William Sound, April 26 through May 3, 1982.

N LOWER LOW WATER

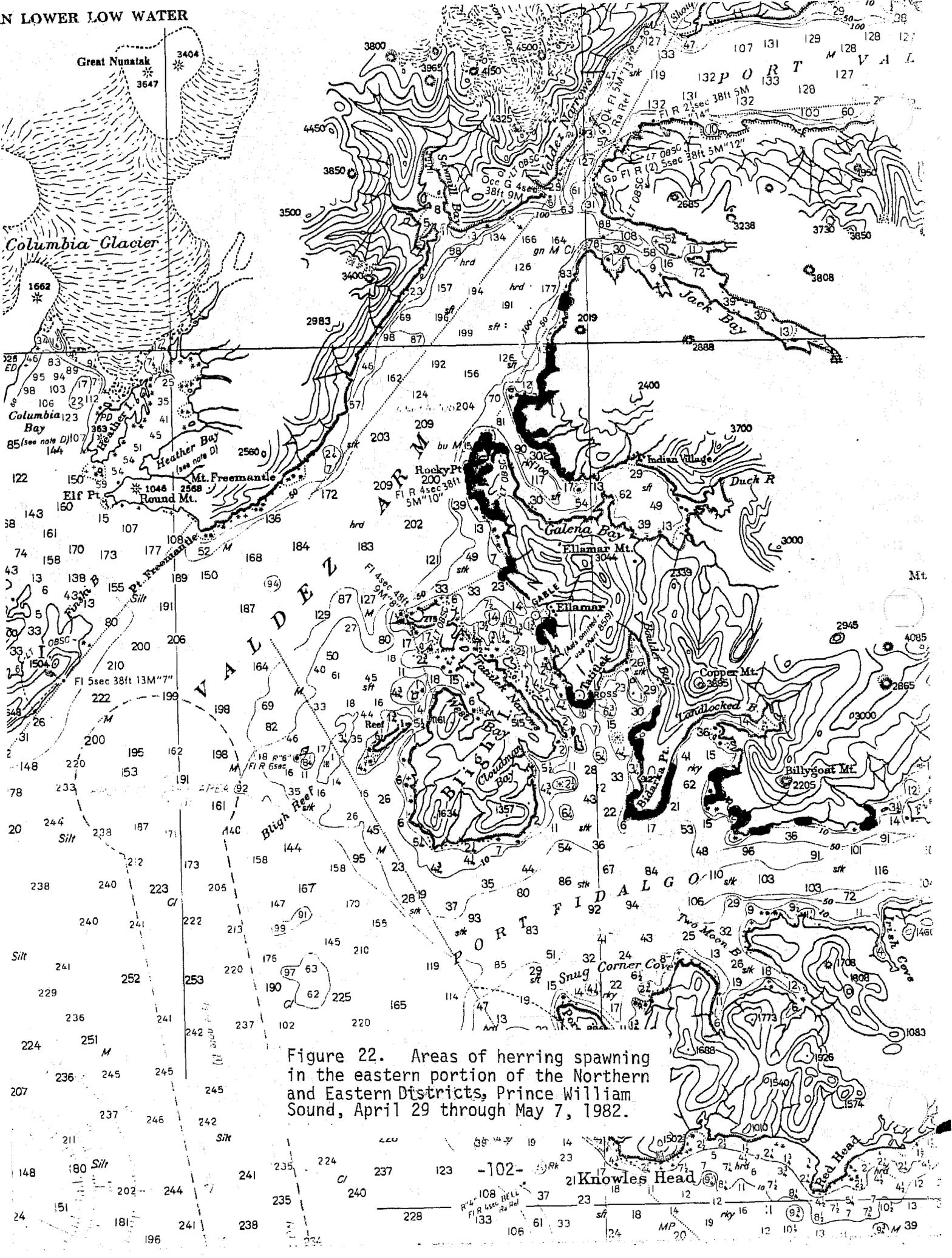


Figure 22. Areas of herring spawning in the eastern portion of the Northern and Eastern Districts, Prince William Sound, April 29 through May 7, 1982.

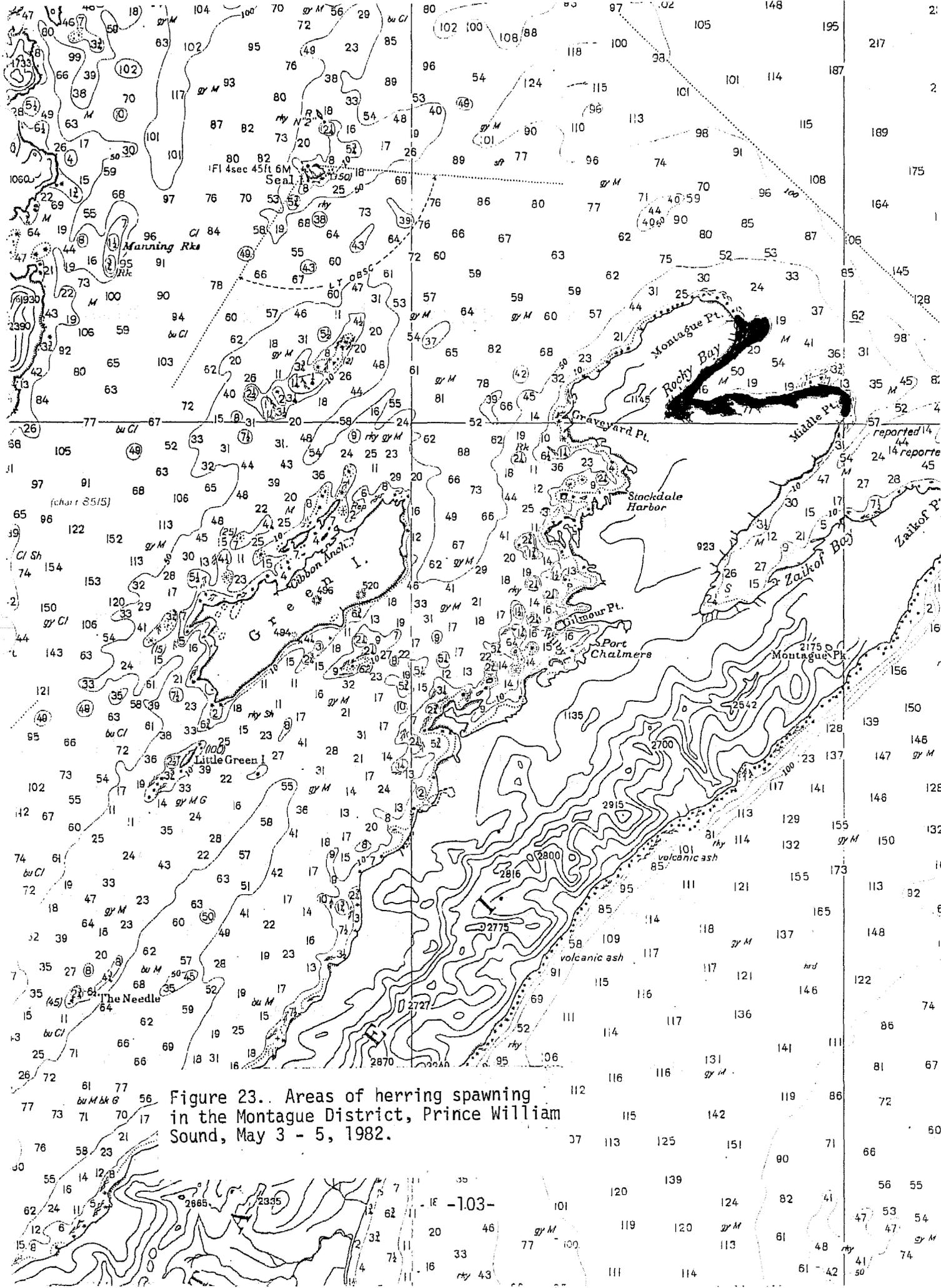
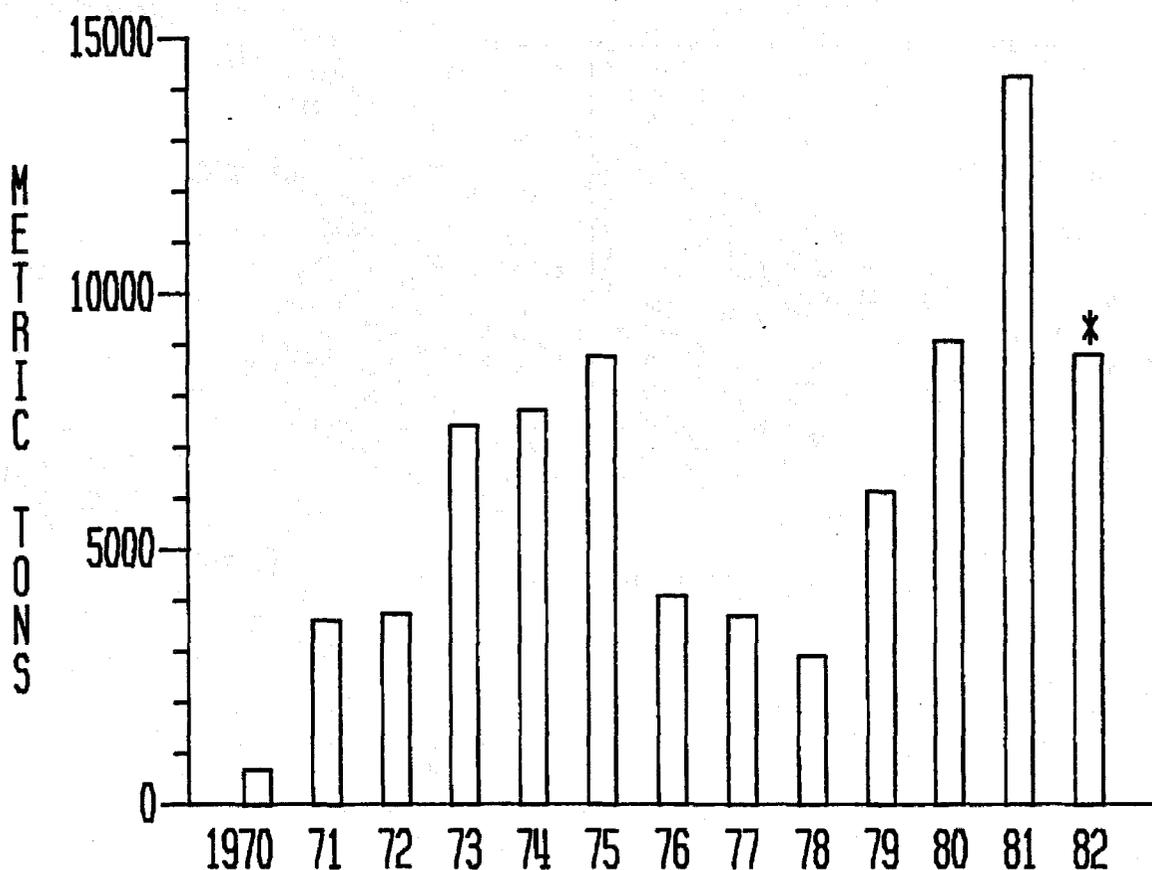


Figure 23. Areas of herring spawning in the Montague District, Prince William Sound, May 3 - 5, 1982.

ALL FISHERIES HERRING HARVEST, PRINCE WILLIAM SOUND



* does not include herring pounds

Figure 24. All fisheries herring harvest, Prince William Sound, 1970 - 1982.

HERRING SAC ROE HARVEST and PEAK ESTIMATE PRINCE WILLIAM SOUND

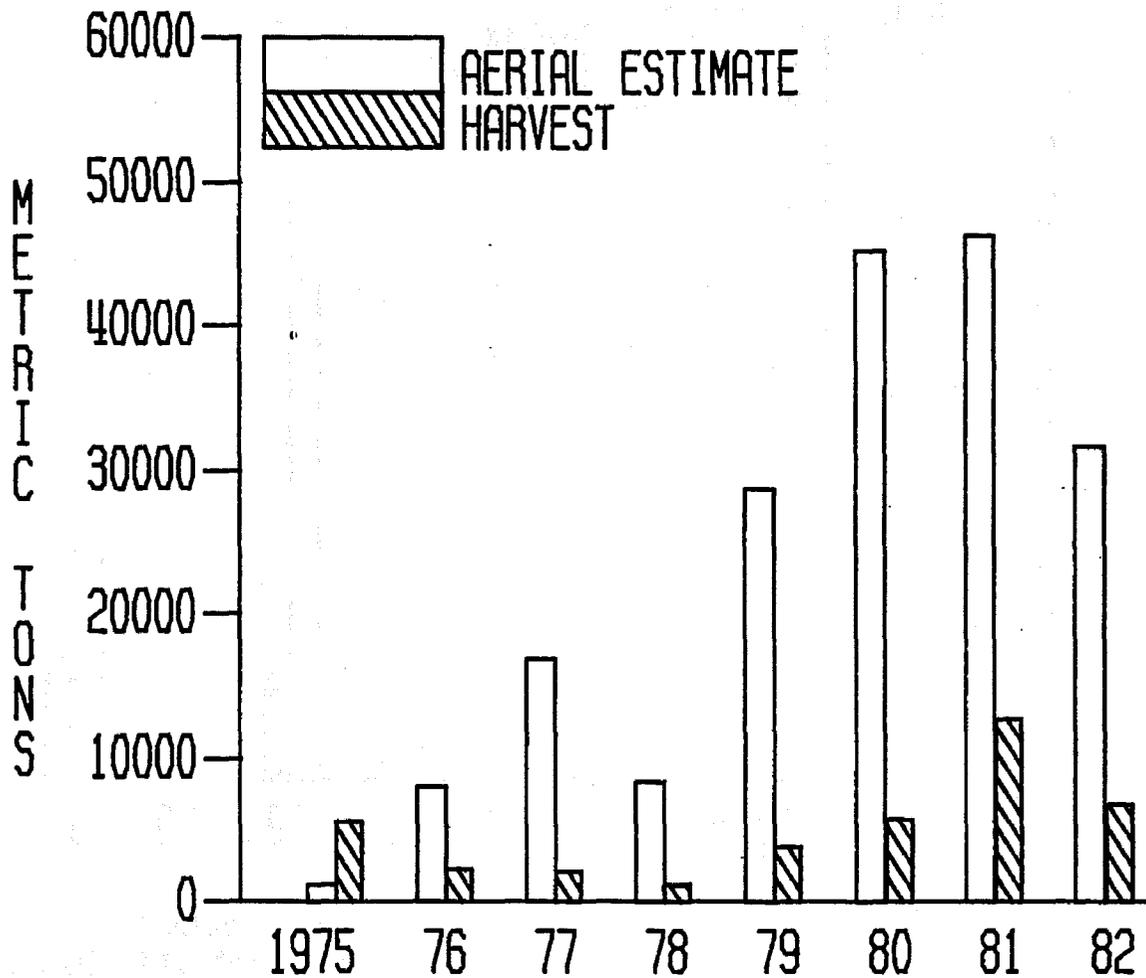


Figure 25. Herring sac roe harvest and peak estimate, Prince William Sound, 1975 - 1982.

HERRING SAC ROE HARVEST and PEAK ESTIMATE EASTERN DISTRICT

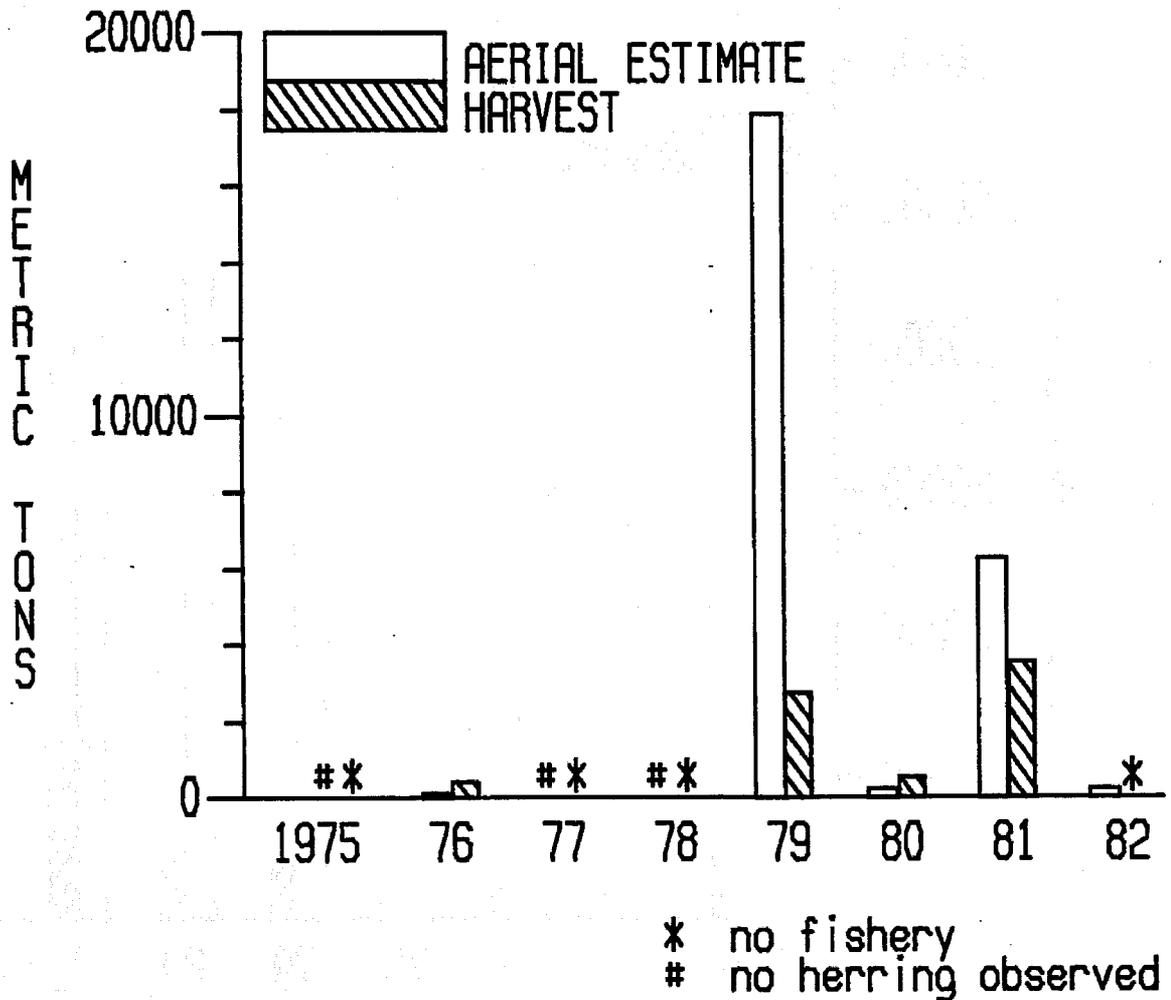


Figure 26. Herring sac roe harvest and peak estimate, Eastern District, Prince William Sound, 1975 - 1982.

HERRING SAC ROE HARVEST and PEAK ESTIMATE NORTHERN DISTRICT

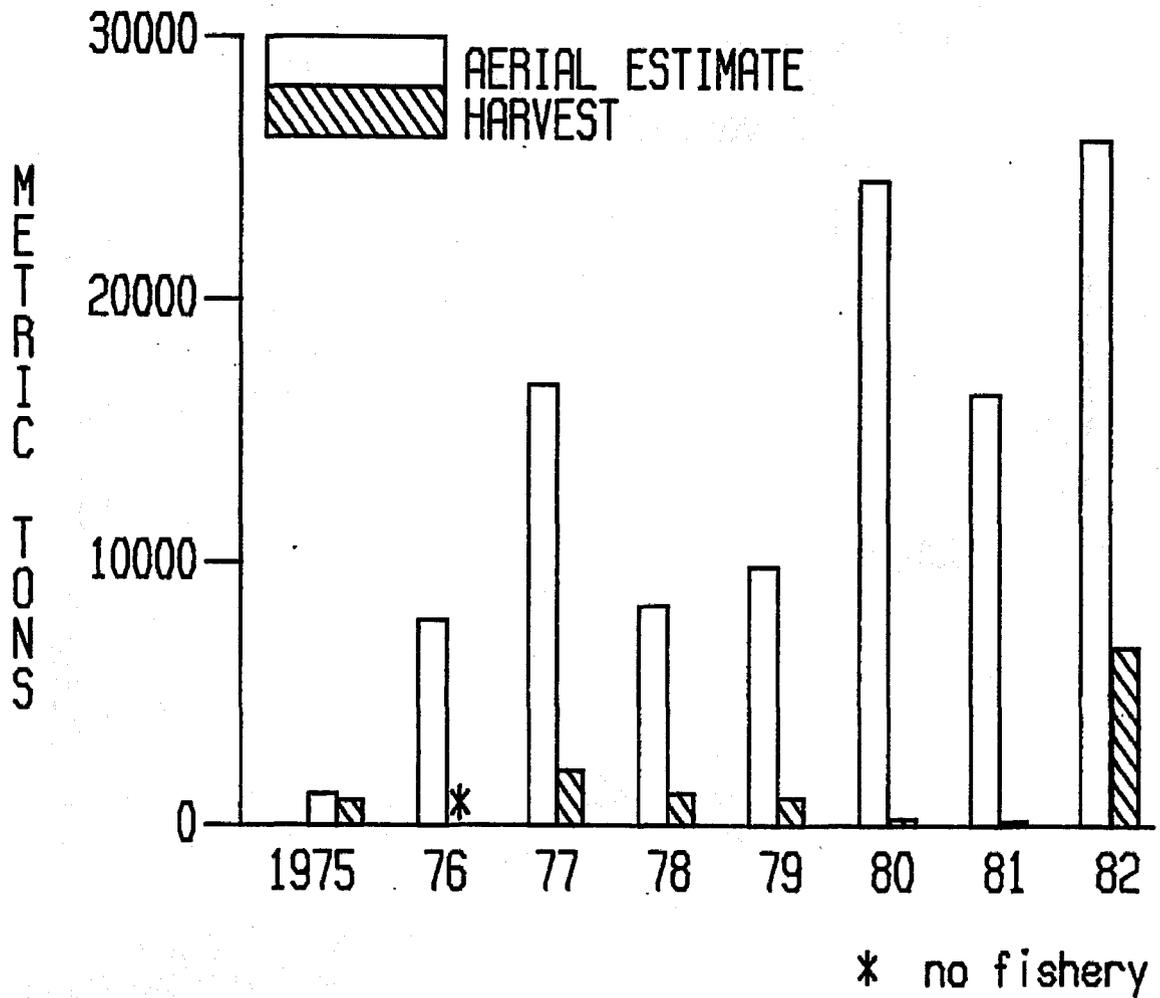


Figure 27. Herring sac roe harvest and peak estimate, Northern District, Prince William Sound, 1975 - 1982.

HERRING SAC ROE HARVEST and PEAK ESTIMATE MONTAGUE DISTRICT

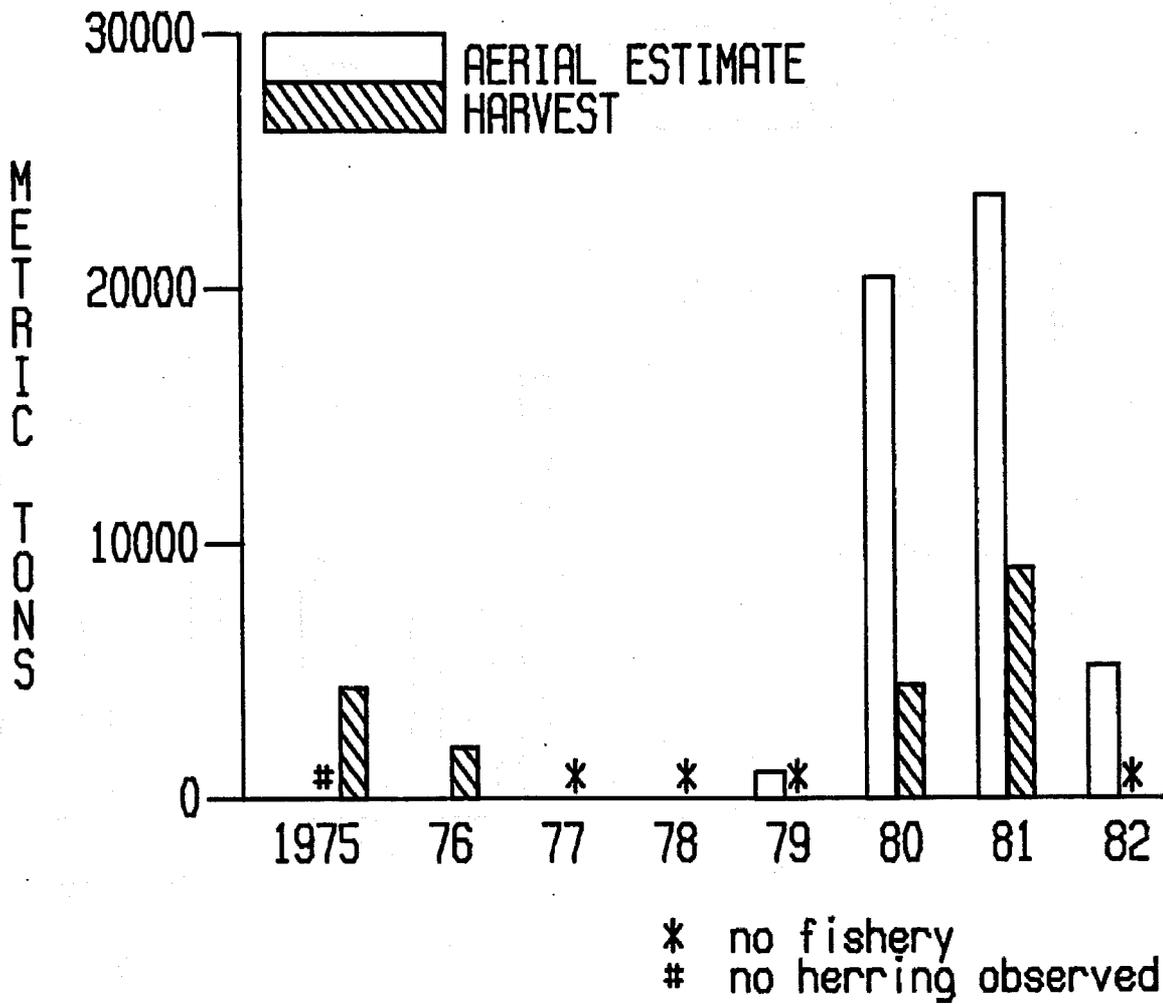


Figure 28. Herring sac roe harvest and peak estimate, Montague District, Prince William Sound, 1975 - 1982.

HERRING SPAWN on KELP HARVEST, PRINCE WILLIAM SOUND

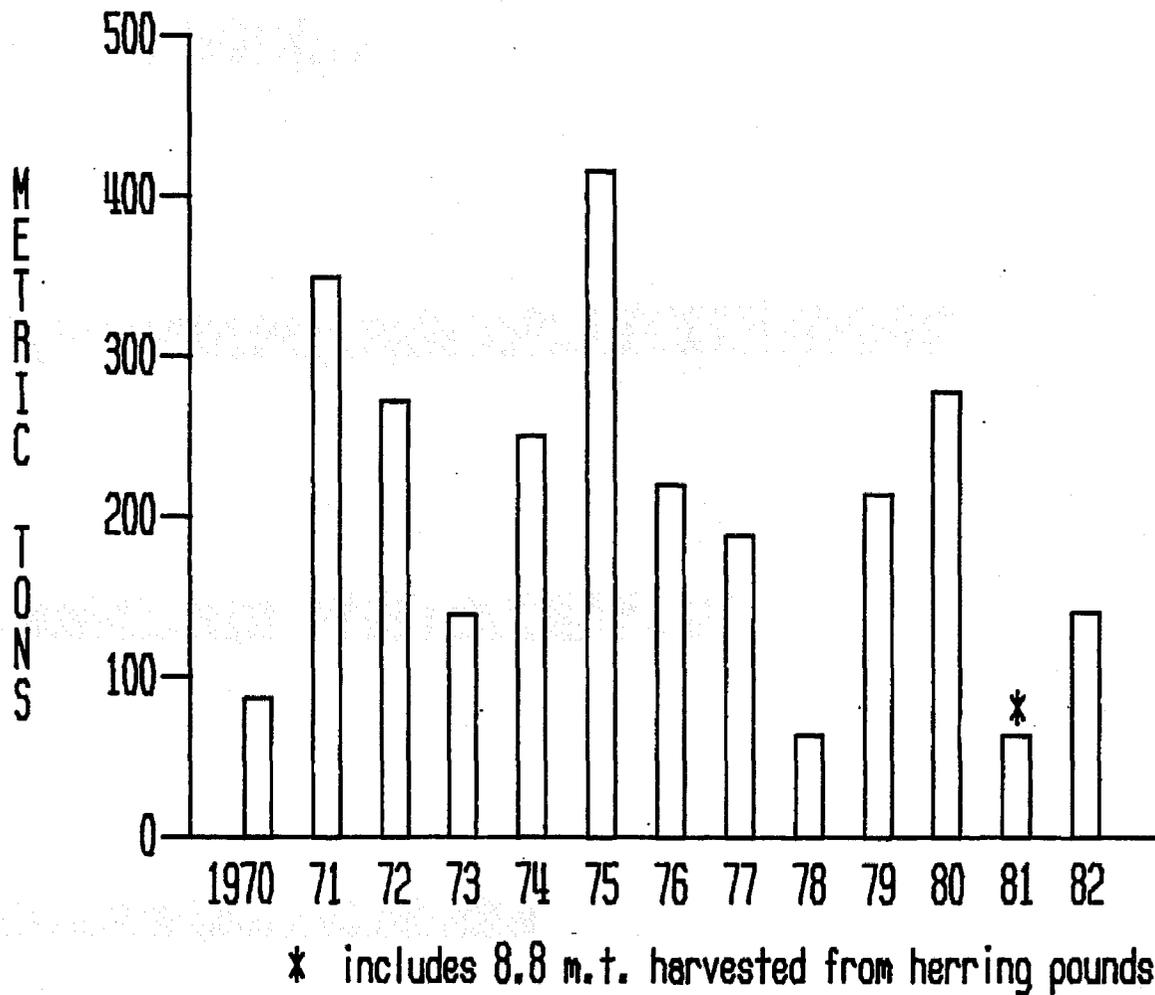


Figure 29. Herring spawn on kelp harvest, Prince William Sound, 1970 - 1982.

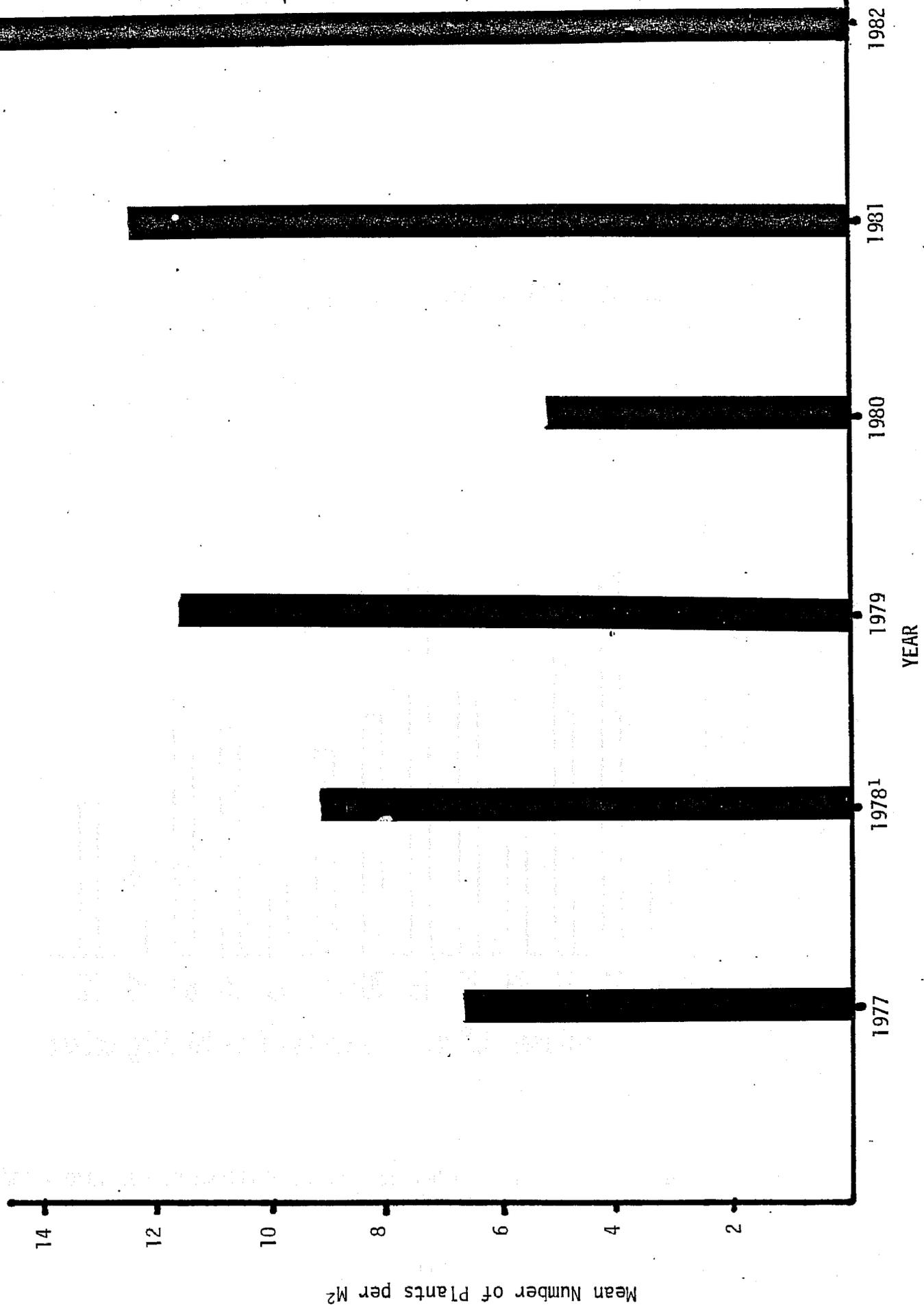


Figure 30. - Mean standing crop of kelp plants during April at five selected sites in Prince William Sound, 1977 - 1982.

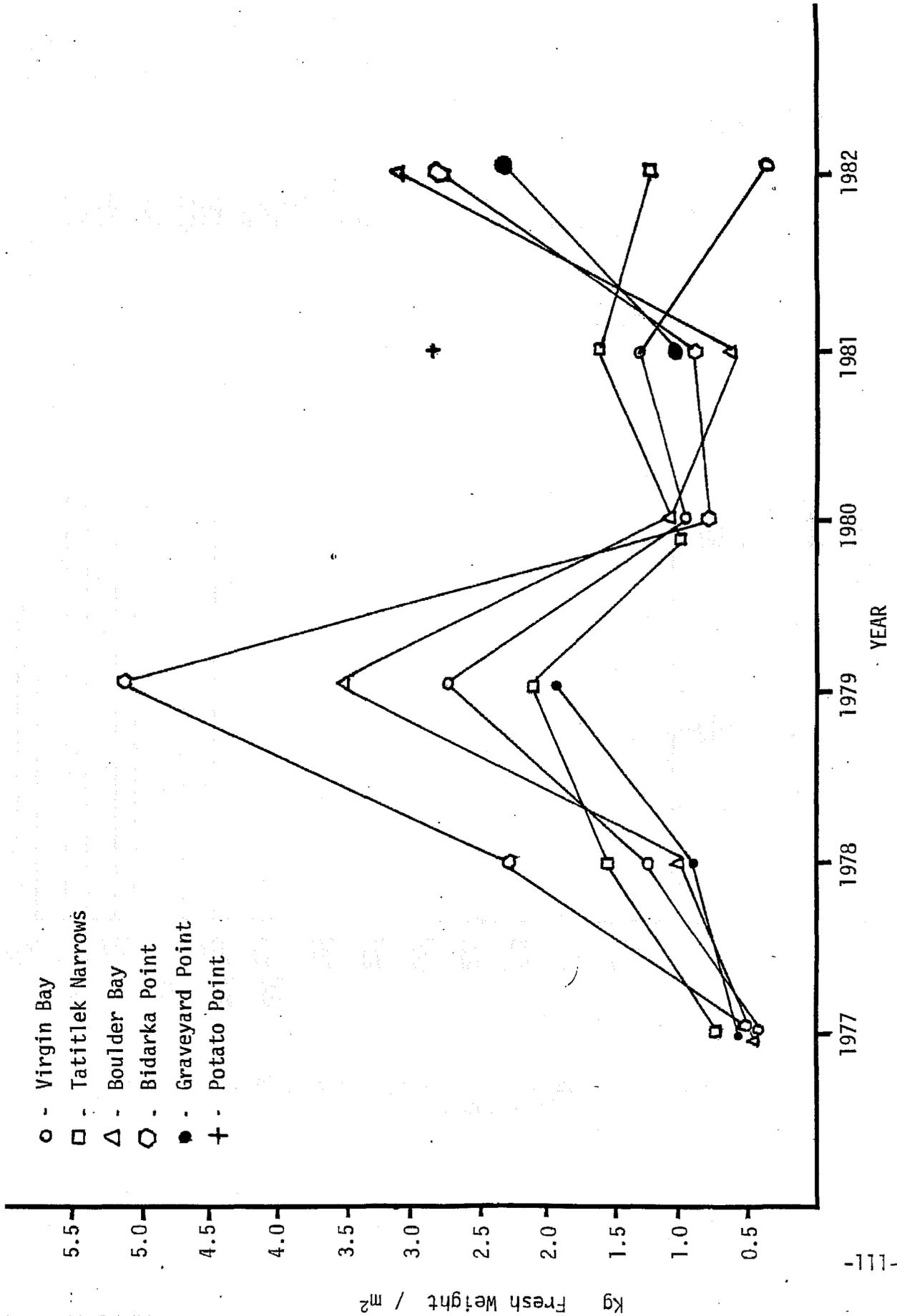


Figure 31. Mean standing crop of kelp during April at selected study sites, Prince William Sound, 1977 - 1982.

BAIT HERRING HARVEST, PRINCE WILLIAM SOUND

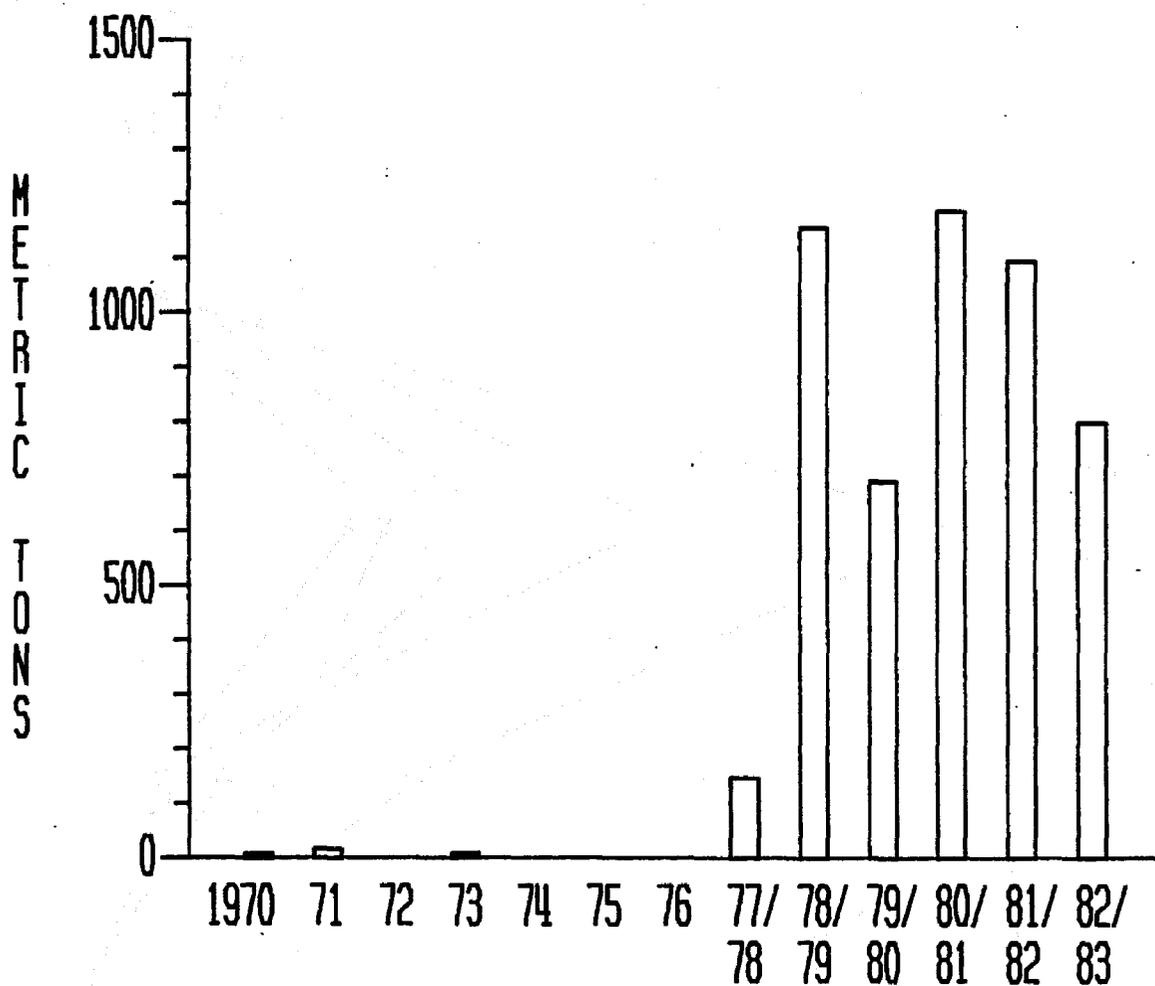


Figure 32. Bait/food herring harvest, Prince William Sound, 1970 - 1982.

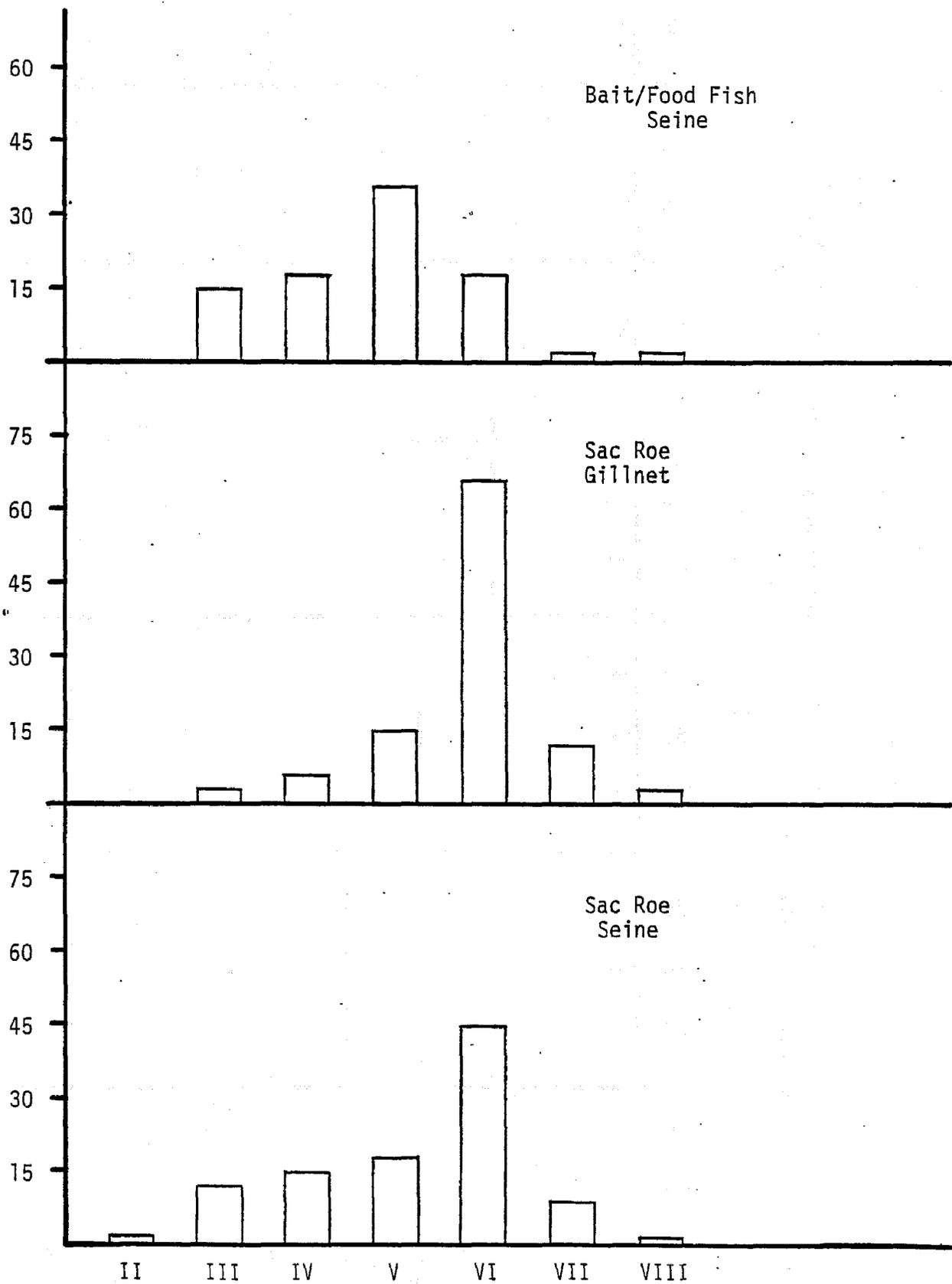
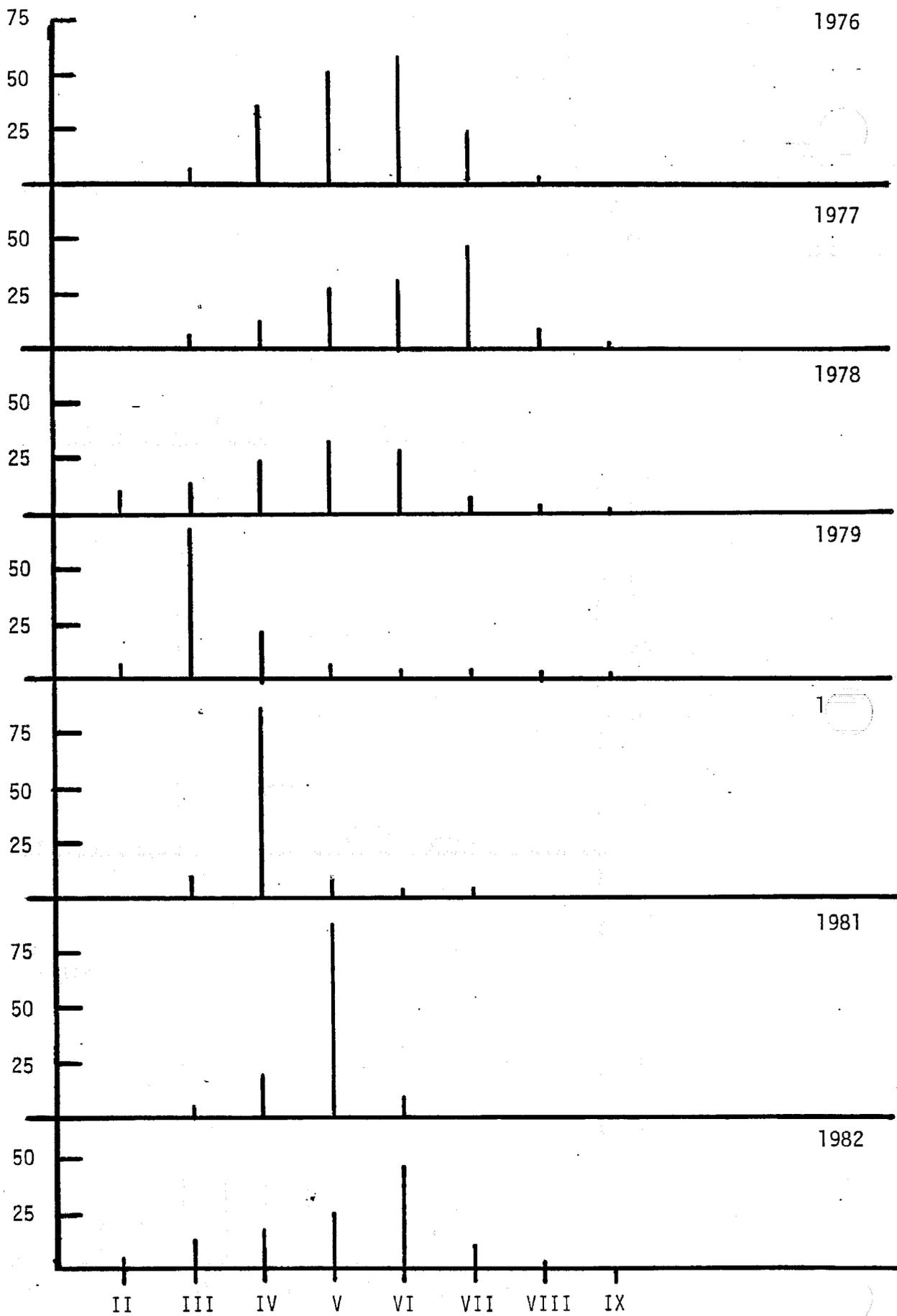


Figure 33. Prince William Sound sac roe, bait/food fish fisheries percent contribution by age class, 1982.

Figure 34. Prince William Sound herring seine sac roe fishery. Percent contribution by age class, 1976 - 1982.



ACKNOWLEDGEMENTS

The finfish operations for the Commercial Fisheries Division, Prince William Sound Area, employed 9 permanent and 22 permanent seasonal employees in 1982 who participated in various area management programs.

Thanks is extended to all personnel for a successful 1982 fisheries season. Special acknowledgement is given to Peter J. Fridgen and Michael McCurdy for their contribution in preparation of the contents of this report. Also, to Jeannette Bailey for editorial comments and the task of typing and collating this report.

Following is a list of personnel, general duty assignments and periods of employment.

Permanent Employees

Richard C. Randall	Area Management Biologist
Peter J. Fridgen	Assistant Area Management Biologist
Michael McCurdy	Research Biologist, Project Leader
Kenneth Roberson	Research Biologist, Project Leader
Peggy Merritt	Research Biologist, Project Biologist
John M. Jackson	Fisheries Technician V
Robert Gaylor	Fisheries Technician III
Jeannette Bailey	Clerk - Stenographer III
Audrey Denison	Clerk Typist III

Permanent Seasonal Employees

John Burns, Jr.	Eshamy Lake Weir	6/16 - 8/19
Nate Callis	* Miles Lake Sonar	5/17 - 8/ 6
Alfred Clayton	* Miles Lake Sonar	7/ 1 - 8/ 3
David Dickson	Tag Recovery Program	7/27 - 8/31
Bruce Gordon	* Subsistence Fishery	5/31 - 8/15
Randy Hughes	* Subsistence Fishery	5/31 - 8/15
Wayne Lonn	Tag Recovery Program	7/22 - 8/31
Carol Maxwell	Data Control	4/ 1 - 12/3
Rose McClory	Coghill & Eshamy Weirs	6/ 2 - 7/30
Ted Mickowski, Jr.	Herring Pound Operation	3/30 - 5/11
Dennis Moore	Eshamy & Coghill Weirs	6/16 - 8/27
Kristen Munk	Eshamy Lake Weir	8/19 - 8/27
Rebecca Odell	* Clerk Typist II	5/17 - 10/15
Charles Quintana	* Subsistence Fishery	7/ 1 - 8/15
Robert Ritchie	Alevin Index	3/22 - 4/11
	Tag Recovery Program	6/28 - 8/23
Dale Russell	* Miles Lake Sonar	5/ 5 - 8/ 6
Randall Rust	Alevin Index	3/22 - 4/11
	Spawn on Kelp Program	4/12 - 5/16
	Coghill Lake Weir	5/17 - 7/25
	Ground Surveys	7/26 - 9/13
Robert Sanderlin	* Miles Lake Sonar	5/11 - 8/ 6
Wayne Smith	Tag Recovery Program	7/26 - 8/23
Charles Trowbridge	* Miles Lake Sonar	4/13 - 6/30
Mary Whalen	Herring Pound Operation	3/25 - 5/ 7
Gary Yoder	* Subsistence Fishery	

* Projects under Kenneth Roberson's supervision

Appendix
Table A.

A sequential listing of finfish processors, location of operation, size of cans, lines of machinery and type of product processed in 1982.

Names, Executive, Address, Location of Operation	Size of Cans Lines of Machinery	Type of Product
Alaska Fresh Catch, Ltd. 1902 Sunrise Drive Anchorage, AK 99504		Salmon
Alaska Golden Nugget, Inc. P. O. Box 4-1088 Anchorage, AK 99509		Salmon
Alaska Packers Association ¹ Steve Meuter, Supt. P.O. Box 380 Cordova, AK 99574		Salmon Herring Sac Roe
Alaska Rim Seafoods 2200 Belmont Drive Anchorage, AK 99503		Salmon
Alaska Seafare, Inc. P. O. Box 10-614 Anchorage, AK 99511		Salmon
Alaska Sea King, Inc. SRA 111 Homer, AK 99603		Salmon
Aleut Western Seafoods P. O. Box 188 Hoodspoint, WA 98548		Salmon
All Alaskan Seafoods, Inc. 2009 Minor Avenue North Seattle, WA 98102		Salmon Herring Sac Roe
American Eagle Seafoods P. O. Box 1310 Cordova, AK 99574		Salmon
Aquabionics, Inc. P. O. Box 80165 Fairbanks, AK 99708		Salmon

(Continued)

Appendix Table A,(continued.)

Name, Executive, Address, Location of Operation	Size of Cans Lines of Machinery	Type of Product
Bayside Cold Storage Fred Pettingill, Supt. P.O. Box 636 Cordova, AK 99574		Salmon
Blake's Canning Company Margaret Blake, Supt. P.O. Box 94 Cordova, AK 99574		Salmon
Bonanza, Inc. 9730 Arlene Anchorage, AK 99502		Salmon
Can-Inter Foods, Ltd. Attn: Jim Trimble 1310 Morris Crescent Delta, Canada B. C. V4L2E2		Salmon Herring Sac Roe
Chugach Alaska Fisheries, Inc. Bob Andersen, Supt. P.O. Box 120 Cordova, AK 99574		Salmon
Cold Water Harvesters, Inc. 507 Third Ave. #908 Seattle, WA 98104		Herring Eggs on Kelp
Columbia Wards Fisheries 200 W. Mercer Suite 512 Seattle, WA 98119		Salmon
Comeau International Lady Pacific, Inc. Suite 209 180 Nickerson St. Seattle, WA 98109		Salmon
Copper River Fishermen's Co-op P. O. Box 90 Cordova, AK 99574		Salmon
Copper River Products P. O. Box 456 Cordova, AK 99574		Salmon

(Continued)

Appendix Table A,(continued.)

Name, Executive, Address, Location of Operation	Size of Cans Lines of Machinery	Type of Product
Daerim America, Inc. P. O. Box 769 Kodiak, AK 99615		Salmon Herring Bait Herring Sac Roe
Dragnet Fisheries P.O. Box 3992 Kenai, AK 99611		Herring Sac Roe
Fishermen's Packing Company Rt. 2 Box 752 Soldotna, AK 99669		Salmon
Glacier Packing Company Barbara Jensen, Supt P.O. Box 294 Cordova, AK 99574	6 1/2 oz. - hand pack 7 1/2 oz. - hand pack	Salmon
Highly Enterprise, Corp. c/o Advance Vessel Agency, Inc. Box 6044 Anchorage, AK 99503		Salmon
High Tide Seafoods P. O. Box 2141 Port Angeles, WA 98362		Salmon
Kanematsu Fisheries, Inc. Attn: J. Granberger c/o CMC 208 E. Fireweed Ln. Suite 102 Anchorage, AK 99503		Salmon
Kodiak King Crab, Inc. P. O. Box 1457 Kodiak, AK 99615		Salmon Herring Sac Roe
Lafayette, Inc. 1959 N.W. Dock Pl. Seattle, WA 98164		Herring Sac Roe
Larsen Bay Seafoods, Inc. P. O. Box 94 Redmond, WA 98052		Salmon

(Continued)

Appendix Table A,(Continued.)

Name, Executive, Address, Location of Operation	Size of Cans Lines of Machinery	Type of Product
Marine Specialties of Alaska Box 1900 Anchorage, AK 99510		Herring Eggs on Kelp
Morpac, Inc. P. O. Box 638 Cordova, AK 99574		Salmon Herring Sac Roe
M.S.P. Corporation P. O. Box 1249 Cordova, AK 99574		Herring Eggs on Kelp
Richard A. Newby 2510 Aspen Drive Anchorage, AK 99503		Salmon Herring Eggs on Kelp
North Coast Seafood Processors P. O. Box 17538 Seattle, WA 98107		Salmon Herring Sac Roe Herring Eggs on Kelp
North Pacific Processors, Inc. P.O. Box 1040 Cordova, AK 99574		Salmon Herring Bait Herring Sac Roe
Northwind Fisheries, Inc. 3005 First Ave. Suite 200 Seattle, WA 98121		Herring Sac Roe
Ocean Enterprises, Inc. P. O. Box 8192 Ketchikan, AK 99901		Herring Eggs of Kelp
Ocean Fisheries, Inc. 180 Nickerson #306 Seattle, WA 98109		Salmon
Northern Marine Industries P. O. Box 995 Cordova, AK 99574		Salmon Herring Sac Roe
Pelican Cold Storage P.O. Box 601 Pelican, AK 99832		Salmon Herring Sac Roe

(Continued)

Appendix Table A, (continued.)

Name, Executive, Address, Location of Operation	Size of Cans Lines of Machinery	Type of Product
Polar Ice Seafoods, Inc. 1301 N. Northlake Way Seattle, WA 98103		Salmon
Robert Redmayne SRA 189-A Anchorage, AK 99502		Herring Eggs on Kelp
Royal Pacific Fisheries Box 4100 Kenai, AK 99611		Herring Sac Roe
Seahawk Seafoods, Inc. P. O. Box 151 Valdez, Ak 99686		Salmon Herring Bait Herring Sac Roe
Seward Fisheries, Inc. P. O. Box 7 Seward, AK 99664		Salmon Herring Bait Herring Sac Roe
Seward Marine Services Margaret Anderson, Supt. P. O. Box 335 Seward, AK 99664		Salmon Herring Sac Roe
St. Elias Ocean Products P. O. Box 548 Cordova, AK 99574		Salmon Herring Bait Herring Sac Roe
Taylor Aquatic Enterprises P. O. Box 131 Cordova, AK 99574		Herring Eggs on Kelp
Trident Seafoods Corp. 5355 28th Ave. N.W. Seattle, WA 98107		Herring Sac Roe
Ursin Seafoods, Inc. P. O. Box 2873 511 Shelikof Kodiak, AK 99615		Herring Sac Roe
Waterkist Corporation P. O. Box 690 Valdez, AK 99686		Salmon

Appendix Table A,(continued.)

Name, Executive, Address, Location of Operation	Size of Cans Line of Machinery	Type of Product
Western Alaska Fisheries P.O. Box 667 Kodiak, AK 99615		Herring Sac Roe
Whitney-Fidalgo Seafoods Box C99308 2360 Commodore Way Seattle, WA 98199		Salmon Herring Sac Roe
Virgin Bay Kelp Company P.O. Box 277 Cordova, AK 99574		Herring Eggs on Kelp

¹ Morpac, Inc. customed canned salmon for Alaska Packers Association.

Appendix Table B. Copper River and Bering River sockeye, chinook and coho salmon escapement¹, 1982.

Locations	Survey Conditions ²	Date ³	Method ⁴	Sockeye	Chinook	Coho
<u>Eyak River</u>						
Eyak Lake		8/18	A	11,700		7,000
Hatchery Creek		7/19	A & G	1,800		125
Ppwer Creek		8/18	A	300		1,500
Ibek Creek		8/27	A	35		1,100
19 Mile Creek		9/12	A	0		250
<u>Alaganik Slough</u>						
McKinley Lake		8/18	A	9,500		500
Salmon Creek		8/18	A	13,500		4,650
<u>26 - 27 Mile Creek</u>						
		7/ 1	A	5,500		50
<u>39 Mile Creek</u>						
		8/18	A	13,000		2,000
<u>Goat Mountain</u>						
		8/18	A	3,000		50
<u>Pleasant Creek</u>						
		9/24	A	0		400
<u>Martin River</u>						
		8/27	A	1,000		7,500
Ragged Point Lake		8/27	A	7,000		2,500
Ragged Point Outlet		8/27	A	4,500		50
Martin Lake		8/ 2	A	5,300		9,000
Martin Feeders		7/19	A	9,500		0
Pothole Lake		8/27	A	1,200		0
Pothole Lake Outlet		7/19	A	300		50
Little Martin Lake		8/ 2	A	6,000		2,650
Tokun Lake		8/27	A	7,000		350
Tokun Lake Outlet		8/27	A	300		50
Tokun Springs		8/27	A	1,000		200
Ragged Point River		8/27	A	2,000		
<u>Martin River Slough</u>						
		7/ 7	A	9,500		13,500
<u>Bering River</u>						
Bering Lake		7/19	A	7,300		8,000
Dick Creek		8/ 2	A	9,500		5,500
Shepherd Creek		7/19	A	10,500		0
Carbon Creek		8/ 2	A	2,500		0
Kushtaka Lake		8/ 2	A	1,350		0
Shokum Creek		8/27	A	2,000		0
Trout Creek		8/ 2	A	1,000		0
Clear Creek		8/ 2	A	3,500		0
Gandil River	muddy	9/12	A	0		0
Nichawak River		9/24	A	0		5,000
<u>Katalla River</u>						
		9/12	A	0		11,500

(Continued)

Appendix Table B. Copper River and Bering River sockeye, chinook and coho salmon escapement^{1/}, 1982, cont.

Locations	Survey Conditions ^{2/}	Date ^{3/}	Method ^{4/}	Sockeye	Chinook	Coho
Bremner River						
Peninsula Lake		8/2	A	700		
Salmon Creek		9/3	A	850		
Steam Boat Lake		9/3	A	100		
Unnamed Creek		8/2	A	10		
Little Bremner		8/2	A	10		
Tasnuna River		9/3	A	45		
Tiekel River Lake		8/2	A	35		
Swan Lake						
Unnamed Lake		8/2	A	650		
		8/2	A	10		
Tonsina River						
Lower Tonsina Creek	*	9/3	A	2,000		
Little Tonsina River		8/2	A		440	
Tonsina Lake	*	10/27	A	1,700		
Bernard Creek		N.S.				
Grayling Creek		8/2	A		127	
Klutina River						
Manker Creek	*	8/2	A		49	
Mahlo Creek		8/2	A	3,300		
Unnamed Lake		9/1	A	1,800		
1884 Lake		9/1	A	15		
Hallet Slough	*	9/1	A	50		
Curtis Creek		8/2	A	0		
St. Anne Creek		8/2	A	8,800	35	
Tazlina River						
Mendeltna Creek	*	9/1-7/7	A	1,250	70	
Kiana Creek		8/2	A	99	200	
Tazlina Lake		8/2	A	0		
Gulkana River						
Mouth to West Fork		8/16	A		690	
West Fork		7/19	A	130	7	
Moose Creek		7/19	A		10	
Keg Creek		7/19	A	495		
Victor Creek		7/7	A	700		
West Fork to Middle Fork		7/19-8/16	A	300	873	
Middle Fork		8/6	A	250	49	
Dickey Lake		7/19	A	410		
Swede Lake		8/6	A	1,400		
Hungry Hollow Creek		9/28-7/19	A	440	21	

(Continued)

Appendix Table B. Copper River and Bering River sockeye, chinook and coho salmon escapement, 1982. (cont.).

Location	Survey Conditions ^{2/}	Date ^{3/}	Method ^{4/}	Sockeye	Chinook	Coho
East Fork						
East Fork to Paxson Lake		9/1	A	3,800		6
Paxson Lake		7/19-9/28	A	0		
Paxson Lake Inlet		8/6	A	16,500		
Inlet to Mud Creek		8/6	A	15,100		
Mud Creek and Lake		8/6	A	700		
Mud Creek to Summit Lake		8/6	A	4,100		
Fish Lake		9/1	A	22,560		
Summit Lake		8/6	A	0		
Gunn Creek		8/6	A	55		
Gakona River						
Spring Creek		N.S.				
Alder Lake Creek		7/19	A	60		
Chistochina River						
East Fork		7/19	A		1,260	
Eagle Creek		7/19	A	50		8
Mankomen Lake		7/19	A	0		
Slana River	*					
Mentasta Lake		7/19	A	3,250		
Fish Creek		7/19	A	1,700		
Bad Crossing #1		7/19	A	1,300		
Bad Crossing #2		7/19	A	3,250		
Bone Creek		7/19	A	450		100
Slana Sloughs		7/19	A	50		
Suslota Lake		9/28	A	1,800		
Indian River		7/19	A			179
Ahtell Creek		N.S.				
Tanada Creek						
Tanada Lake		9/28	A	3,880		
Tanada Lake Outlet		9/28	A	7,800		
Copper Creek						
Copper Lake		9/28	A	1,650		
Tebay River		9/3	A	80		
Chokosna River		8/24	A	0		
Lakina River	*					
Long Lake		9/3	A	1,700		

Appendix Table B. Copper River and Bering River sockeye, chinook and coho salmon escapement^{1/}, 1982. (cont?)

Location	Survey Conditions ^{2/}	Date ^{3/}	Method ^{4/}	Sockeye	Chinook	Coho
Clear Creek (Chitina R.)		8/2	A	15		
Tana River	*					
Tana River Clear Channels		9/3	A	915		
Tana Lake Inlet	*	8/2	A	15		
West Fork Clear Channels		8/2	A	170		

^{1/} Escapement refers to peak survey for area, or units, when areas overlap physically or in timing.

^{2/} * denotes glacial.

^{3/} Date refers to peak sockeye salmon escapement; it may or may not apply to peak chinook or coho salmon counts.

^{4/} A = air
 W = weir
 G = ground

Appendix Table C. Coghill River field camp climatological and stream observations, 1982.

Date	Air (F°)		Temperatures Water (C°)		Precip. 0900	Cloud ¹ Cover		Water Gauge (Ft.) 0900
	Min.	Max.	0900	2100		0900	2100	
6/ 4	31	64	4	4	0	2	4	12.0
6/ 5	41	51	3	3	.13	4	4	12.0
6/ 6	40	51	2	3	.35	4	4	12.25
6/ 7	39	50	3.5	3	1.24	4	4	14.0
6/ 8	42	57	3	3	.84	4	4	18.0
6/ 9	43	56	3	3	.52	4	4	18.5
6/10	40	51	3	3	.90	4	4	21.0
6/11	40	52	3	3	1.56	4	4	27.0
6/12	38	52	3	3	1.56	4	4	27.0
6/13	35	58	3	3	.33	3	3	26.0
6/14	40	55	3	3	.03	4	4	22.5
6/15	41	59	3	3	.11	3	4	19.5
6/16	41	56	3	3	0	4	4	17.5
6/17	40	65	3	3	0	3	1	14.5
6/18	37	58	3	3	.08	4	4	13.5
6/19	42	56	4	5	.49	3	4	14.0
6/20	37	58	4	4	.12	4	4	13.5
6/21	39	59	4	4	.04	3	4	12.5
6/22	41	60	4	4	.01	2	2	12.5
6/23	34	68	5	5	0	2	1	11.5
6/24	36	73	5	6	0	1	1	11.5
6/25	37	75	5	7.5	0	1	2	11.5
6/26	41	79	7	7	0	3	3	11.5
6/27	48	65	7.5	6	0	3	4	11.5
6/28	42	58	8	9	1.86	4	4	18.0
6/29	46	62	7.5	7	.22	4	4	21.5
6/30	44	56	7.5	8	.48	4	4	21.5
7/ 1	41	54	9	8.5	.70	4	4	22.5
7/ 2	35	58	9	8.5	.18	3	3	22.0
7/ 3	39	64	7.5	8.5	0	1	1	17.50
7/ 4	42	57	7.5	7	.05	4	4	15.5
7/ 5	44	58	7.5	8	.46	3	3	16.0
7/ 6	35	60	7.5	8	.03	4	3	13.5
7/ 7	50	74	7.5	8	0	1	2	12.0
7/ 8	42	62	7.5	7	0	4	3	12.0
7/ 9	44	69	7.5	7.5	.03	3	2	11.0
7/10	45	55	7.5	7	.03	4	4	11.0
7/11	46	60	7.5	7	.31	4	4	11.0
7/12	45	59	7	7	.04	4	4	10.0
7/13	42	73	7.5	8	.08	4	4	10.0
7/14	48	67	8	8.5	0	3	2	8.0
7/15	49	59	8	9	.04	4	4	9.0
7/16	43	56	9.5	9.5	.54	4	3	9.5
7/17	44	64	8	9.5	.42	3	3	9.5
7/18	40	70	8.5	9	.10	4	3	9.5
7/19	37	73	9	10	0	1	1	8.5
7/20	41	73	8	9.5	0	1	1	8.0
7/21	42	63	8	9.5	.16	3	4	8.0

¹ Cloud Cover: 1 = Clear, 2 = Less than ½ cloud cover, 3 = Greater than ½ cloud cover, 4 = Complete cloud cover.

Appendix Table D. Eshamy River field camp climatological and stream observations, 1982

Date	Temperatures				Precip. 0900	Cloud ¹ Cover		Water Gauge (Ft.) 0900
	Air (F°)		Water (C°)			0900	2100	
	Min.	Max.	0900	2100				
6/18	44	62	8				.62	
6/19	46	54	9				.56	
6/20	46	54	9					
6/21	44	54	9				.52	
6/22	48	56	10				.52	
6/23	46	62	10				.48	
6/24	46	70	10				.42	
6/25	48	68	11				.40	
6/26	50	66	12				.40	
6/27	50	60	13	1.1	4	2	.38	
6/28	46	54	11	.01	4	4	.36	
6/29	52	54	12	.7	4	4	.40	
6/30	48	52	12	.38	4	4	.42	
7/ 1	46	50	12	.05	4	4	.44	
7/ 2	48	50	12	0	4	4	.44	
7/ 3	50	54	12	.05	4	4	.42	
7/ 4	44	52	13	.38	4	4	.34	
7/ 5	50	56	12	.02	3	4	.34	
7/ 6	50	60	12	0	4	2	.32	
7/ 7	55	70	13	.20	1	2	.28	
7/ 8	53	62	13	.01	4	4	.26	
7/ 9	54	66	13	.12	1	2	.24	
7/10	53	56	14	.26	4	4	.22	
7/11	48	58	14	0	4	4	.20	
7/12	48	62	14	.15	2	4	.18	
7/13	50	71	14	0	1	1	.18	
7/14	53	71	15	0	2	4	.16	
7/15	52	56	15	.58	4	4	.12	
7/16	54	56	15	.38	4	2	.14	
7/17	48	56	15	.01	4	4	.17	
7/18	52	70	15		1	2	.16	
7/19	52	69	15		1	1	.14	
7/20	52	66	16		1	1	.12	
7/21	51	59	16	.01	4	4	.10	
7/22	52	58	15	.10	4	4	.08	
7/23	52	58	15	.04	4	4	.07	
7/24	54	57	15	.02	4	4	.06	
7/25	54	60	15	.008	4	4	.04	
7/26	52	62	16	0	4	1	.03	
7/27	52	76	16	0	1	1	.02	
7/28	53	62	16	.40	1	4	.0	
7/29	52	56	16	.41	4	4	.0	
7/30	52	64	16	0	4	2	.0	
7/31	52	76	16	0	1	1	.0	

(Continued)

Appendix Table D. (Continued)

Date	Temperatures				Precip. 0900	Cloud ¹ Cover		Water Gauge (Ft.) 0900
	Air (F°)		Water (C°)			0900	2100	
	Min.	Max	0900	2100				
8/ 1	50	77	16		0	1	1	.0
8/ 2	50	74	17		0	1	1	.0
8/ 3	54	64	17		0	1	4	.0
8/ 4	52	64	17		0	2	4	.0
8/ 5	48	64			0	3	4	.0
8/ 6	52	64			.3	4	4	.0
8/ 7	50	62			1.25	4	4	.0
8/ 8	50	64			.5	4	4	.0
8/ 9	52	60			0	4	3	.02
8/10	50	54			.94	4	4	.02
8/11	50	62			.44	4	1	.04
8/12	50	60			0	1	1	.10
8/13	50	70	16		0	1	1	.08
8/14	50	64	16		0	4	4	.08
8/15	48	60	16		0	4	1	.06
8/16	50	72	16		.20	1	1	.06
8/17	54	60	17		0	2	3	.05
8/18	50	60	17		0	3	1	.05
8/19	54	56	17	17	0	1	2	.0
8/20	52	56	17	17	0	1	1	.0
8/21	58	58	18	18	0	4	2	.0
8/22	56	60	18	18	.34	3	4	.0
8/23	56	56	18	18	.15	4	4	.0
8/24	56	56	17	17	.18	4	4	.0
8/25	54	54	17	17	.24	4	3	.0
8/26	56	68	17	17	0	1	1	.0

- ¹-Cloud Cover: 1 = Clear
 2 = Less than $\frac{1}{2}$ cloud cover
 3 = Greater than $\frac{1}{2}$ cloud cover
 4 = Complete cloud cover