FISHERY RESEARCH BULLETIN 89-04

A Summary of Historical Data for the Lower Cook Inlet, Alaska, Pacific Herring Sac Roe Fishery

by

Thomas R. Schroeder

Alaska Department of Fish and Game
Division of Commercial Fisheries
P.O. Box 3-2000
Juneau, Alaska 99802

December 1989

State of Alaska

Steve Cowper, Governor

The Fishery Research Bulletin Series was established in 1987, replacing the Informational Leaflet Series. This new series represents a change in name rather than substance. The series continues to be comprised of divisional publications in which completed studies or data sets have been compiled, analyzed, and interpreted consistent with current scientific standards and methodologies. While most reports in the series are highly technical and intended for use primarily by fishery professionals and technically oriented fishing industry representatives, some nontechnical or generalized reports of special importance and application may be included. Most data presented are final. Publications in this series have received several editorial reviews and usually two *blind* peer reviews refereed by the division's editor and have been determined to be consistent with the division's publication policies and standards.

A SUMMARY OF HISTORICAL DATA FOR THE LOWER COOK INLET, ALASKA, PACIFIC HERRING SAC ROE FISHERY

by

Thomas R. Schroeder

Fishery Research Bulletin No. 89-04

Alaska Department of Fish and Game
Division of Commercial Fisheries
Juneau, Alaska

December 1989

AUTHOR

Thomas R. Schroeder is the Region II Lower Cook Inlet Area finfish management biologist for the Alaska Department of Fish and Game, Division of Commercial Fisheries, 3298 Douglas Street, Homer, AK 99603.

ACKNOWLEDGMENTS

Many people contributed towards the collection and processing of the herring catch samples in Lower Cook Inlet over the past two decades. In particular, Rance Morrison and Scott Kyle supervised the sampling crews and participated in sampling herring along with Alan Quimby and Rich Gustafson. Norma Dudiak and Marnee Bowden provided considerable computer and typing assistance in processing the manuscript. Critical review of this manuscript was provided by John Hilsinger.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF TABLES (Continued)

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

Age, weight and length samples for Pacific herring (*Clupea harengus pallasi*) from the Lower Cook Inlet sac roe fisheries from 1971-87 were assembled and have been presented along with a history of the fishery and catch data for easier access by future managers. Sampling levels were statistically inadequate prior to 1985, but some conclusions have been made from the data. Catches peaked in both the Southern and Eastern Districts in 1970. Catches decreased quickly and the Outer and Eastern Districts were closed for 10 years from 1975-84 and the Southern District was closed for eight years from 1980-87. The Kamishak District harvest reached 4,842 tons in 1976 before going through a 5-year closure from 1980-84, but has been rebuilt to a record harvest of 6,132 tons in 1987. Herring harvested in the sac roe fisheries during all years from the Southern District contained a preponderance of age-4 and age-5 fish, while harvests from the Outer and Eastern Districts were comprised primarily of age-3 and age-5 herring. The Kamishak District fishery exhibited a wider range of age classes, commonly up to age 11+. A shift of 3-4 weeks earlier run timing occurred in the Kamishak District fishery between the 1970's and the 1985-87 fisheries. This shift was attributed to increased growth, as indicated by the average weight of fish in a particular year class of herring, and the resulting earlier maturity of these fish.

KEY WORDS: Herring, *Clupea harengus pallasi*, sac roe, age, weight, length, Lower Cook Inlet

HISTORY OF THE COMMERCIAL FISHERY

Introduction

Commercial herring fisheries began in Lower Cook Inlet in 1914 as a gillnet fishery in the Halibut Cove area of Kachemak Bay. A total of eight salteries were operating during the peak of the fishery, six near Halibut Cove. Purse seines were introduced in 1923, and between 1924 and 1926 there were three large harvests which averaged over 7,900 tons. It is believed that these fisheries destroyed the population and caused the collapse of the fishery.

The next herring fishery began in 1939 and was centered in the Resurrection Bay and Day Harbor area of the Eastern District. This was a purse seine fishery with herring being used exclusively for oil and meal reduction purposes. Again, peak years of harvest occurred from 1944 to 1946 where the average harvest was over 16,250 tons. The stock never did recover from these large harvests and the fishery faded out during the late 1950's.

Japanese markets for a salted herring roe product resulted in development of the present sac roe fishery. These fisheries began to develop around the state in the late 1960's. Market demand and the relatively high prices paid to fishermen resulted in rapid expansion of the fishing fleet and harvest. Department management and research efforts and the data base needed to properly manage these fisheries often lagged behind the rapid development of the fishery. Management activities eventually provided knowledge of the resource and facilitated developing management philosophies to effectively prosecute these fisheries.

Sac Roe Fishery

Management philosophies and policies affecting the Lower Cook Inlet sac roe herring fishery have changed considerably since the beginning of the statewide sac roe fisheries in the late 1960's. The early fishery in Lower Cook Inlet was open on an unlimited basis and the harvest was determined by fishing effort and product marketability and availability. The Lower Cook Inlet herring sac roe fishery began in 1969 and was concentrated in the Eastern and Southern Districts during the first 4 years (Table 1). Stocks in these two districts appeared to decline after 1973 following a suspected period of overexploitation, primarily in Resurrection Bay in the Eastern District and in Mallard Bay in the Southern District (Table 1).

In 1974 the Board of Fish and Game established a 4,000-ton quota to be divided among the various fishing districts as follows:

Eastern District	=	1,000 tons
Outer District	=	1,000 tons
Kamishak Bay District	=	1,000 tons
Southern District	=	500 tons
All other Districts	=	500 tons
		4,000 tons

These quotas were never followed. Very little fishing was allowed in the Southern District after 1974 because stock abundance was low. The Outer and Eastern Districts were closed to fishing from 1975 to 1984 because of reduced stock abundance and the extreme vulnerability of fish to harvest in those districts. Harvest quotas for these districts were added to the Kamishak Bay District quota, since that was the only area with any appreciable herring population left to harvest, and this district was managed on a 4,000 ton guideline harvest level from 1973 to 1977 (ADF&G 1973-85).

Spotter pilots and fishermen first located and fished the Kamishak Bay herring population in 1973 (Table 1). Kamishak Bay catches increased rapidly during the mid 1970's, exceeding the 4,000-ton guideline harvest level established by the Board of Fish and Game in 1975 and 1976. Department aerial surveys were begun in 1973, but concentrated more on fleet distribution than in estimating herring biomass or miles of spawn. Actual biomass estimates were not made until 1978 in the Kamishak District (Table 2). The Kamishak District sac roe harvest in the 1970's peaked at 4,842 tons in 1976 and was followed by a severe decline in harvest and abundance, prompting additional regulation changes in 1978. These changes closed the Lower Cook Inlet herring sac roe fisheries until opened by Emergency Order and established unofficial harvest guidelines that limited the harvest rate on herring stocks to 10-20% of the biomass estimate. This more conservative approach to fishing coupled with the severe reduction in herring biomass abundance resulted in harvests of just barely over 400 tons in both 1978 and 1979 (Table 1).

Concerns for the resource expressed by the department and Lower Cook Inlet fishermen resulted in a complete closure of the Kamishak District in 1980, which lasted for 5 years. The department decided that no fishery would be allowed until the population increased to a minimum biomass level of 8,000 to 8,500 tons. This was considered to be the population threshold at which a sac roe harvest of 1,000 tons, at a 10-20% harvest rate, would be allowed.

Aerial surveys of the Kamishak District indicated an increasing abundance from the late 1970's to the early 1980's (Table 2). Surveys in 1983 indicated the population was near the biomass threshold level of 8,000 tons and reopening the fishery was considered. Test fishing conducted from Oil Bay south to Rocky Cove yielded roe recoveries of 10-11% and an age composition of age-4 through age-7 herring. However, samples from Iniskin Bay, which contained over half of the observed biomass, indicated 50-60% of the fish were age 3 and age 4 and that a large portion of the fish were spawned out or sexually immature. Plans for a fishery were cancelled, but 1983 marked the first year of significant, observable spawning in the Kamishak District.

In the spring of 1984, fishermen requested the Board of Fisheries to re-open the Kamishak District to fishing on a limited basis. Their rationale was that the limited aerial surveys being conducted were not adequate to detect all the herring present in the district. The limited fishery was approved by the board, but was delayed beyond the 1984 season because of improper notice being given to the public.

A management plan was presented to the Board of Fisheries in the fall of 1984 for a very conservative resumption of fishing for herring in the Outer, Eastern and Kamishak Bay Districts (ADF&G 1973-85). At the time, the department believed that opening the Kamishak District in 1985 was about one year premature. However,

based on data gathered during the 1985 fishery, fishing was definitely warranted. The plan proposed that seven fishing areas be established, four in the Outer and Eastern Districts and three in the Kamishak Bay District (Figures 3, 4 and 5), with harvest level ranges of 150 to 200 tons for each area. Under this plan, the harvest would be kept at the lower end of the harvest range if significant percentages of young (age-3 to age-5) fish were observed in the catch and at the upper end if older-age fish comprised the majority of the harvest.

Harvest plans for the Kamishak District were slightly more restrictive than for the Outer and Eastern Districts. Harvest ranges for the three management areas, set prior to the fishing season, provided for a harvest of 450-600 tons or a 6.9-9.2% harvest of the estimated 1984 spawning biomass (Table 2). In-season aerial survey estimates of the available biomass coupled with quantitative observations of age composition, based on the size and average weights of fish harvested, would be used to adjust the actual harvest. The primary aim of this plan was to keep the harvest rate below 10% until it was determined that the Kamishak herring stocks were indeed healthy again.

The Lower Cook Inlet fishery was resumed again in the Outer, Eastern and Kamishak Districts in 1985 on a very conservative basis. Prior to the reopening in 1985, the Outer and Eastern Districts had been closed to fishing for 10 years with no noticeable changes in observed spawning biomass. Fishing effort was very minimal in these two districts and the majority of the 216-ton harvest occurred in Resurrection Bay (Table 1). The 1985 Kamishak District harvest was allowed to exceed the upper end of the pre-season harvest range by over 500 tons due to the unexpected arrival of an additional 6,500-ton biomass of herring in the Fortification Bluff area. A continually increasing biomass in the Iniskin Bay area resulted in a reopening of that area for an additional harvest of 300 tons in early May. Additional harvests from these two areas accounted for 768 tons of the total 1985 Kamishak harvest of 1,132 tons (Table 1) and an overall harvest rate of 8.5% (Table 2; ADF&G 1967-87).

The 1986 fishery also began on a very conservative strategy, even though data from the 1985 fishery continued to show an increasing spawning biomass trend and a uniform age composition. Based on the 1985 spawning biomass estimate and pre-season expectations of the 1986 biomass, the 1986 harvest was to be kept under 1,200 tons: i.e., below 10% of the biomass. Aerial survey estimates again indicated a very significant increase in the spawning biomass. Additional openings in Iniskin Bay and the southern portion of the district, near McNeil and Kamishak Rivers resulted in an additional harvest of 580 tons of sac roe herring. The overall harvest and harvest rate for the 1986 fishery were 1,959 tons and 7.5% (Table 2). Adverse weather prevented the planned harvest of approximately 300 tons of herring in Ursus Cove early in the season and an additional 300 tons from the Bruin Bay area north to Oil Bay late in the fishery. These unrealized harvests would have brought the harvest rate up to 9.6% (ADF&G 1967-87).

All biomass estimates, harvests and age-weight-length data indicated that the Kamishak herring stocks had rebounded and were in an extremely healthy condition. Three excellent spawnings had occurred from 1984 to 1986 and AWL sampling in 1986 indicated a strong recruitment of the 1983 year class. Although the 1982 year class appeared weak, the management strategy was adjusted for the 1987 fishery as it was felt that the strength of the other age classes of herring would be able to support an increased harvest and still provide adequate spawning.

Run timing in the Outer and Eastern Districts appeared to be similar throughout the 1970's and the fisheries in 1985 and 1986. However, a very definite shift in run and fishery timing has occurred in the Kamishak District (Figures 3 and 4). The earliest harvest in the Kamishak District during the 1970's was on 5 May with most significant harvests beginning around 10 May to 12 May. Harvests in 1985 and 1986 occurred primarily during the last 10 days of April with only small, limited harvests occurring in May, a shift of over three weeks from the fishery in the 1970's. Data indicated a differential run timing between older age and younger age fish. While some mixing did occur, in general, the majority of the herring age-5 and older arrived in late April and completed spawning by early May, whereas the majority of age-3 and age-4 herring arrived and spawned from mid-May to early June.

Initial goals for the 1987 Kamishak District fishery were to achieve a 20% harvest rate on age-6 and older herring, achieve a 10% harvest on age-3 to age-5 herring and achieve a sac roe harvest of 5,100-5,300 tons. Due to the differential run timing between younger and older aged herring, it appeared that a concentrated fishery in April could achieve a high harvest rate which would be lowered for age-3 and age-4 herring when the additional biomass of those age fish arrived in late May.

The strategy appeared to work very well in 1987 as a record harvest of 6,139 tons of sac roe herring were taken from the Kamishak District (Table 1). Harvest rates were 9.87% for age-3 to age-5 herring, 22.6% for age-6 and older fish and averaged 17.4% for all ages combined (Table 2). The spawning biomass of 29,200 tons represented a 21% increase from 1986 and the harvest was 27% above the previous record set in 1976 and over three times the 1986 harvest (Tables 1 and 2).

Bait and Roe on Kelp Fisheries

No concerted effort has ever been expended towards a herring bait fishery in Lower Cook Inlet. Various harvests have occurred over the years, but most have been relatively minor since the 1960's. Most of the herring delivered as bait have been incidentally caught in the Southern District trawl shrimp fishery.

Fishermen requested the Board of Fisheries for a specific bait harvest from the Seward Boat Harbor which resulted in emergency order openings of the boat harbor in 1974 and 1975. The harvest was directed at young herring for the recreational salmon troll fishery in the Resurrection Bay area. A special and unusual harvest quota allowed a harvest of 50,000 dozen herring, but no harvest was ever reported on fish tickets for this fishery.

Gill netting has been attempted in recent years, but has been unsuccessful. Considerable interest has been shown since 1983 in harvesting bait herring with seines in the Outer and Eastern Districts, but no effort has occurred to date. This is probably due to the regulation which prohibits a vessel used in the Prince William Sound bait fishery from being used in another fishery in the State during a registration year.

Roe-on-kelp harvest is not allowed in Lower Cook Inlet at the present time. Roe-on-kelp harvest only occurred once when approximately 19,800 pounds were harvested in 1967 from the Coleman Bay area of Aialik Bay in the Eastern District

(ADF&G 1967-87). Another kelp harvest using impounded herring and imported Japanese kelp hung on strings was planned for the Seward area in 1972, but was cancelled when no herring could be located and the supply of kelp fermented (ADF&G 1967-87).

AGE, WEIGHT AND LENGTH SAMPLING

Methods

Age, weight and length sampling of the Lower Cook Inlet herring fisheries was not begun until 1971, too late, unfortunately, for the large harvests from the Resurrection Bay and Kachemak Bay areas in 1969 and 1970. Sampling was first concentrated in the Outer and Eastern Districts and was expanded to include the Southern and Kamishak Districts in 1973.

Sampling standards established in 1982 indicated that proper sampling levels for Pacific herring should contain approximately 450 to 500 readable scales per fishing period for each fishing area (Bernard, D., Alaska Department of Fish and Game, Anchorage). This sampling scheme, was initiated in Lower Cook Inlet in 1986 and was based on the number of age classes potentially present in the harvest, length of fishing time, number of fishing periods or the number of different embayments where harvests occurred.

Basic in-season sampling procedures since 1985 have been to take a minimum of 200 pounds of herring from the Outer and Eastern Districts and 400 pounds from the Kamishak District throughout the season and from as many individual bays as physically possible. The difference in poundage taken in these districts relates to the average weight of fish in those districts and the poundage needed to obtain the desired sample sizes. Samples were taken from several commercial seine sets in each bay, depending on fishing effort, put in 30 pound boxes and transported to the Department laboratory for processing.

Individual weights in grams, lengths in millimeters and scales were taken for each fish. Scales were read for age determination after the fishing season. Data were processed by specialized computer program which summarized data for each class of herring by area, except that all fish 11 or older were combined into one age referred to as age 11+.

Results

Southern District

Sampling data for the Southern District sac roe herring fishery are not adequate to draw any firm conclusions. Samples from the 1973 harvests in Mallard Bay and Seldovia Bay on 5 June and 26 May, respectively, indicated that 85% of the harvest consisted of age-4 to age-6 herring (Tables 10-12). A similar age composition was observed in the 1974 samples during similar fishing days (Table 20). However, samples from the 1977 harvest, which occurred on 14 May in the Mallard Bay area, suggested the existence of older herring (age 8 to age 10) in

the district earlier in the year (Table 34). Age-4 and age-5 herring definitely dominated the samples during all 3 years that samples were taken. Due to the lack of specific sampling budgets and personnel until the mid 1970's, sampling was not carried out systematically. Remote fishing area logistics in handling samples, further complicated adequate sampling.

Outer and Eastern Districts

Age-3 and age-4 herring have always dominated the harvests in the Outer and Eastern Districts and have comprised 51-99% of the harvests (Tables 3, 4, 9, 19, 59, 68, 79 and 80). Age-5 fish comprised fairly significant portions (15.7-25%) of the harvest in 1971, 1972 and 1985, but most harvests contained only minor percentages of herring greater than 5 years old. Most of the early sampling in the Outer and Eastern Districts contained season totals of 33 to 543 samples with specific period and area samples ranging from 6 to 143 (Tables 3-47). Fishing during the early years (1969-74) occurred over a month or more and sampling was considered inadequate.

Age composition of samples from various areas within the Eastern District are generally quite similar within the same year (Tables 5, 6, 14, 15 and 65-67). However, samples taken from harvests in the Outer District generally contain more older fish than the Eastern District (Tables 7, 8, 16-28, 58 and 79).

Kamishak Bay District

Catches of sac roe herring from the Kamishak Bay District have always been comprised of more older age fish in comparison to other districts in Lower Cook Inlet. The first fishery in this district in 1973 on unharvested stocks resulted in a harvest comprised of high percentages of age-4 to age-6 herring with good quantities of age 7 to age 10 fish present (Table 13; Figure 9).

Closure of the Outer and Eastern Districts in 1975 allowed sampling efforts to be concentrated on the Kamishak Bay fishery. Sample numbers began at 283 in 1973 and increased up to 1,041 in 1977, but dropped off in 1978 and 1979 due to decreasing harvests (Tables 13, 23, 28, 33, 38, 42 and 47). However, even with larger sample numbers in the Kamishak Bay District from 1975-77, the fact that the fishery was spread over a 4-5 week period and 30 mi of coast suggests that the sample numbers were below optimum levels.

Sample numbers in the Kamishak Bay fishery increased from 1,089 in 1985 to 4,093 in 1987 (Tables 64, 73, 77 and 78). Sampling was still below desired levels in 1985, but with the funding of a sampling program in 1986, sample numbers escalated to slightly excessive levels in 1987.

Two weak age classes, age 3 and age 4, became evident in 1975 and were very pronounced during the peak harvest year of 1976 and in the 1977 fishery (Figure 9). The age-3 herring did not appear weak in 1974 (Table 23). However, the concentrated harvest in mid to late May in the Iniskin Bay, Oil Bay and Dry Bay areas could have resulted in a harvest that was not representative of the entire Kamishak Bay District herring population. A general decline of herring older than age 6 was evident during the 1977 fishery and persisted through the 1979 fishery (Figure 9). Even though the population biomass estimates were increasing, a

strong representation of the older age classes has been evident since the fishery resumed in 1985 (Table 2; Figure 10).

BIOMASS OBSERVATIONS IN THE OUTER AND EASTERN DISTRICTS

Very little monitoring or research has been conducted on the herring populations in the Outer and Eastern Districts. Even in years when aerial biomass surveys in these districts were conducted, they were limited in number and biomass estimates have been very minimal. Budgets, poor weather, large size of area and fish migration patterns over a 2-month period have all contributed to this lack of information.

Aerial surveys in early June 1981 indicated a large increase in herring abundance throughout the Outer and Eastern Districts, with the largest concentrations occurring from Day Harbor to Harris Bay. The few samples taken via snagging in Aialik Bay and Resurrection Bay indicated the herring were juvenile age-1 and age-2 fish. These large abundances were monitored in 1982 and a fishery was anticipated in 1983. However, no fish were observed in 1983 to warrant a fishery. Coincidentally, the Prince William Sound fishery received good age-3 and age-4 recruitment that year. It appears quite likely that the majority of the herring observed in the Outer and Eastern Districts were merely using the area for rearing prior to Prince William Sound as mature, spawning adult herring.

Unlike harvests from other districts in Lower Cook Inlet, samples from harvests in the Outer and Eastern Districts have contained up to 14% age-2 sexually immature herring. This may be due to an overlap in the rearing and spawning areas of one or more stocks of herring. Samples taken from fisheries throughout these districts from 1985 to 1987 have indicated the vast majority of the herring were age 3 and age 4. No discernable shift to older age herring has been observed during these years and suggests the possibility that these younger aged herring may be fish from Prince William Sound. Extremely large quantities of fish were observed in 1986 and 1987 in these two districts in June and July, similar to 1981 and 1982. However, no sampling has been conducted to determine species, but based on fishermen reports and behavior of the schools, the majority were believed to be herring. If these fish do not spawn in these districts in the future, it will be another indication that they may be from Prince William Sound. No observed spawning in these two districts during the past 10 years can account for the large quantities of juvenile herring observed in 1981, 1982, 1986 or 1987 nor the large spawning population of age-3 herring observed in Aialik Bay in 1987.

Analysis of scale patterns of herring sampled in the Prince William Sound and the Outer and Eastern Districts fisheries is planned to determine whether any relationship exists. Analysis may allow a determination of the proportion of local stocks versus those which may be utilizing the Outer and Eastern Districts as a rearing area. Such information could be used to adjust future sac roe harvest levels for these two districts.

DECLINE OF KAMISHAK BAY DISTRICT HERRING STOCKS

Overharvest

Overharvest of a resource is commonly one of the primary causes of a decline in a fishery. Weak year classes recruited into the Kamishak Bay District fishery in 1974 and 1975 and were very noticeable from 1975 on (Figure 9). No program was established to estimate the herring biomass in the Kamishak Bay District; therefore, the actual harvest rate imposed on the stock during the fishery in the 1970's was unknown. The harvest was allowed to increase with very little knowledge of the resource and the harvest peaked at 4,842 tons in 1976. At that time the 1974 and 1975 year classes should have become a major portion of the harvest, but did not. As a result, the harvest in 1975 and 1976 was concentrated on age-6 through age-9 herring, which resulted in a very high exploitation rate of the stock and a severe reduction of these age herring to support the 1977 fishery (Figure 9).

The two most abundant year classes remaining in the population in 1977 were the 1973 and 1974 year classes (age-3 and age-4 herring which comprised over 61% combined), while the two weak year classes (age-5 and age-6 herring) and reduced quantities of herring age-7 and older comprised about 39% of the harvest (Table 38). The 1977 harvest of 2,908-tons represented a 40% drop from the 1976 record harvest, while the 1978 and 1979 harvests were 8.6% and 8.8% of the 1976 record harvest (Table 1; Figure 2). Age class composition from sampling appeared to indicate strong younger age herring recruitment from 1977 to 1979, but when compared to the small biomass estimates and the reduced harvests, it was obvious that the population was on a severe decline (Tables 2, 38, 42 and 47 and Figure 9). By 1978 less than 18% of the herring harvest was older than age 5 and by 1979 only 5.5% were age-7 or older. At a time when a conservative harvest strategy was necessary to protect the reproductive potential of the stock, the harvest was instead allowed to continue, which severely reduced the abundance of the 1973 and 1974 year classes and resulted in the 1980 closure.

The entire Kamishak Bay District was closed to fishing for 5 years from 1980 through 1984. Test fishing conducted in 1983 indicated that the age composition of the population in the northern part of the district was healthy and had a good representation of fish from age 3 to age 9 (Table 56; Figure 9). The resumption of commercial fishing in 1985 generated age composition samples that were much more representative of the population (Tables 64, 73, 77 and 78). The increasing biomass estimates in the district, coupled with data showing 8 to 10 healthy age classes were present (Figure 10), indicated that the Kamishak Bay stock of herring had made a successful recovery.

Growth and Survival

While quantities of samples taken annually from the Kamishak Bay District catches in the 1970's were very low, an interesting pattern of the average weights of recruit age herring can be seen in Figure 10. Herring that were age 3, 4, and 5 in 1973 and 1974 and basically supported the fishery during the 1970's, averaged 88.5, 100 and 130.5 grams, respectively. When poor recruitment began

in 1975 and during the downward trend in catches and available biomass in the mid-late 1970's, the average weights for these three age classes dropped to 65.2, 88.8 and 118 grams, respectively (Table 81). Age-3 and age-4 herring in 1975 were the 1971 and 1972 year classes. The winters of 1971 and 1972 were the most severe winters on record. The cold weather also reduced salmon survival statewide resulting in the lowest salmon harvests on record. Average weights of all herring between age 3 and age 9 in 1975 were some of the lowest on record (Table 81).

Recruitment began to increase in the 1980's and fishing resumed in 1985; during the period from 1976-85 the average weights for these same three age classes for herring increased to 87.7, 122.7 and 158.7 g, respectively. A statistical analysis of this data was not conducted, but a relationship between growth and survival appears evident and is well documented in other finfish species. The severe winters of 1971 and 1972 undoubtedly contributed to the Kamishak Bay herring population decline.

Harvest Location

Concentration of the harvest on a portion of the stock is another possible contributing factor to the population decline. While this factor is much more difficult to demonstrate and quantify, it is possible that it could have resulted in an overharvest of fish intending to spawn in an area that produced a very high spawning success. Over 66% of the harvest in the 1970's came from the Iniskin Bay, Oil Bay and Dry Bay. As the population and harvests declined, the fishery shifted to bays further to the south. This pattern was very similar to the Norwegian herring fishery in the 1960's prior to a 10-year closure (Dragesund 1980) where a declining herring population, formerly spread along the entire coastline, was reduced to a small spawning population at the extreme southern part of Norway. Aerial surveys in the late 1970's and early 1980's accounted for very few herring in Iniskin, Oil and Dry Bays and by 1981, the remaining spawning biomass was concentrated in the southern portion of the Kamishak Bay District.

"El Nino"

One weak year class (1982) was first evident in 1985. The *"El Nino"* current that occurred in the north Pacific in 1982 is the suspected cause and is also suspected to have caused the poor pink salmon returns to the Kamishak Bay District in 1983. The relationship as to why a high seas ocean phenomenon would affect survival of an inshore stock of fish cannot be explained, but the *"El Nino"* current pattern was reported to have occurred again from 1985-86. The 1987 Lower Cook Inlet pink salmon returns were very poor, and if there is any correlation between *"El Nino"* and the herring population, reduced or poor recruitment should occur in 1989 or 1990.

KAMISHAK BAY DISTRICT RUN TIMING SHIFT

A very definite shift in run timing occurred from the fishery in the 1970's to the fishery in the 1980's (Figure 4). Harvests from 1985-87 occurred 3-4 weeks

earlier than harvests in the 1970's and may be due to the growth of fish within a particular year class. Furthermore, herring stocks over the past 3 years appear to have a bimodal return timing. Generally the early portion of the return is older age herring and the latter portion is younger age-3 and age-4 herring. Analysis of samples taken in 1987 indicate that the timing shift of the fishery from the 1970's to the 1980's, may have been due to the growth of individual fish, as indicated by average weight, rather than being due to either age class composition or climatic conditions.

Herring age 6 and older did not reflect the pattern described in the decline of the Kamishak Bay stocks between 1973 and 1975, while age-3 to age-5 herring did reflect the pattern (Table 81). However, all ages of herring age-3 to age-9 experienced a 19-28% increase in average weights from the periods 1973-83 and 1985-87 (Tables 81 and 82; Figures 10 and 11).

From 1985 through 1987 the late May fishery has contained a much higher percentage of age-3 and age-4 herring than the early fishery, but practically all age classes have been represented in both fisheries. Yet with only two exceptions in 1986, all average weights for specific age classes of fish from 1985 to 1987 were significantly lower in the fisheries in late May (Table 82). Sampling conducted in 1987 provided the longest period of time between the early commercial fishery from 21-23 April and test fishing samples on 27 May. Both age-3 and age-4 herring were 17 g smaller in average weights from the late May sampling. Even samples taken from a fishery using selective gillnet gear in Tuxedni Bay in 1987 showed a similar pattern. Fish from age 5 to age 11 were all smaller in average weight during the 20 May fishery, averaging 7% below fish of the same age class taken during the 28 April fishery (Table 82). Age-3 and age-4 herring did not show this pattern, but mesh sizes of gillnets used in this fishery do not catch many fish in these age classes because of gear selectivity for larger fish.

These data strongly suggest a relationship between growth and time of spawning with a given age class. Some timing shift has been observed in the Tuxedni Bay and Chinitna Bay gillnet fishery, but it has not been as great a change as in the Kamishak Bay District seine fishery. The extent of the timing change is most probably related to the percentage increase in average weights, but adequate samples are not available from these areas for comparison with the Kamishak Bay District. Lapin and Pokhilyuk (1987) found that the fecundity and weight of gonads and individual eggs were related to body weight of female White Sea herring, *Clupea pallasi*. They concluded that "...the growth rate of the females determines their spawning period and distribution over the spawning area..." and that "...with poor growth the gonads of 5-year-old females did not reach the maturation stage and did not spawn in the current season."

It is entirely possible that adverse environmental conditions may result in poor growth and a shift back to the run timing of the 1970's. Additional data over the next several years may allow the use of the relationships between growth and survival and maturity to refine forecasting techniques and allow appropriate adjustments in the sac roe harvest. Furthermore, run timing may become more predictable, when coupled with fall and winter sampling, allowing the fishing fleet and processors to schedule their effort more efficiently and target on the most valuable segment of the resource.

LITERATURE CITED

ADF&G (Alaska Department of Fish & Game). 1967-1987. Annual management reports. Division of Commercial Fisheries (unpublished reports), Anchorage.

ADF&G (Alaska Department of Fish & Game). 1973-1985. Cook Inlet herring reports to the Board of Fisheries. Division of Commercial Fisheries (unpublished reports), Anchorage.

Dragesund, O. 1980. A review of management and research activities on Norwegian spring spawning herring. Proceedings of the Alaska Herring Symposium, Alaska Sea Grant Report 80(4):207-238.

Hammarstrom, L.F. 1980. 1980 Cook Inlet herring report. Alaska Department of Fish and Game, Division of Commercial Fisheries (unpublished report), Anchorage.

Lapin, Y.E. and V.V. Pokhilyuk. 1987. Biological characteristics of the spawning groups of White Sea herring, *Clupea pallasii marisalbi*, related to fecundity. Journal of Ichthyology 27(3):135-140.

TABLES AND FIGURES

Table 1. Lower Cook Inlet Pacific herring catches in tons by district, 1961-87.

Year	District				Total
	Southern	Kamishak	Eastern	Outer	
1961	0	0	1	0	1
1962	0	0	0	0	0
1963	1	0	0	0	1
1964	0	0	0	0	0
1965	2	0	0	0	2
1966	0	0	7	0	7
1967	0	0	0	0	0
1968	20	0	0	0	20
1969	551	0	758	38	1,347
1970	2,709	0	2,100	0	4,809
1971	13	0	831	0	844
1972	1	0	30	0	31
1973	204	243	831	301	1,579
1974	110	2,114	47	384	2,655
1975	24	4,119	0	0	4,143
1976	0	4,842	0	0	4,842
1977	291	2,908	0	0	3,199
1978	17	402	0	0	419
1979	13	415	0	0	428
1980	0	0	0	0	0
1981	0	0	0	0	0
1982	0	0	0	0	0
1983	0	0	0	0	0
1984	0	0	0	0	0
1985	0	1,132	204	12	1,348
1986	0	1,959	167	28	2,154
1987	0	6,132	584	202	6,917
Total	3,956	24,266	5,560	965	34,747
Average	283	2,427	505	161	1,287

Data Source: Final IBM runs.

Table 2. Pacific herring biomass estimates and harvests in tons and harvest rates for the Kamishak Bay District of Lower Cook Inlet, 1978-87.

Year	Spawning Biomass [1]	Commercial Harvest	Total Biomass	Harvest Rate%
1978	800	402	1,202	33.4
1979	2,900	415	3,315	12.5
1980	-	0	-	-
1981	5,130	0	5,130	-
1982	4,835	0	4,835	-
1983	4,750	0	4,750	-
1984	2,885 [2]	0	6,500	-
1985	12,188	1,132	13,320	8.5
1986	24,042	1,959	26,001	7.5
1987	29,200	6,132	35,332	17.4

[1] Spawning biomass estimates are minimal estimates based on aerial surveys and an attempt not to duplicate tonnages.

[2] Spawning had already begun on first survey. Total spawning estimate was felt to be above 6,500 ton level. Peak survey estimate was only 2,885 tons.

Table 3. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Resurrection Bay, Lower Cook Inlet, 1971.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 3	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	1.4	87	10.6	2	195	7.8	2
	3	14	21	-	35	24.5	93	10.5	35	198	6.8	35
	4	31	32	-	63	44.1	101	15.6	63	203	13.9	63
	5	12	12	-	24	16.8	114	16.1	24	211	9.7	24
	6	7	6	-	13	9.1	103	17.7	13	203	10.6	13
	7	4	1	-	5	3.5	122	38.8	5	215	16.5	5
	8	1	-	-	1	.7	163	-	1	235	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		70	73	-	143	100.0	102	18.2	143	203	12.5	143
5/ 5	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	3.3	79	24.7	2	184	14.8	2
	3	9	15	-	24	40.0	95	15.4	24	199	10.2	24
	4	14	13	-	27	45.0	103	28.3	27	203	10.6	27
	5	4	2	-	6	10.0	98	14.3	6	202	9.3	6
	6	1	-	-	1	1.7	89	-	1	200	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		29	31	-	60	100.0	98	22.4	60	201	10.8	60
5/ 7	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	2.6	69	1.4	2	180	6.4	2
	3	10	15	-	25	32.1	89	13.8	25	197	10.1	25
	4	19	19	-	38	48.7	100	21.8	38	205	12.7	38
	5	8	3	-	11	14.1	104	20.8	11	206	12.5	11
	6	-	2	-	2	2.6	112	7.1	2	211	1.4	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		38	40	-	78	100.0	97	20.0	78	202	12.7	78
5/ 9	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	8	-	17	48.6	84	8.9	17	197	6.3	17
	4	8	4	-	12	34.3	101	14.5	12	206	8.0	12
	5	2	4	-	6	17.1	103	7.7	6	214	7.1	6
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	16	-	35	100.0	93	14.0	35	203	9.6	35

Table 3. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	6.9	63	7.8	2	181	9.2	2
	3	1	12	-	13	44.8	87	9.9	13	197	6.7	13
	4	3	5	-	8	27.6	91	11.3	8	202	10.3	8
	5	1	3	-	4	13.8	118	12.6	4	216	7.5	4
5/10	6	2	-	-	2	6.9	96	12.7	2	205	7.1	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		9	20	-	29	100.0	92	16.4	29	201	11.3	29
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	10	-	19	59.4	83	15.7	19	191	12.1	19
	4	4	6	-	10	31.3	100	11.6	10	206	6.7	10
	5	-	3	-	3	9.4	122	16.5	3	181	50.8	3
5/11	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		13	19	-	32	100.0	92	19.0	32	195	18.1	32
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	5	4	-	9	24.3	92	17.9	9	196	12.3	9
	4	7	10	-	17	45.9	98	12.3	17	204	8.4	17
	5	3	3	-	6	16.2	100	12.9	6	203	7.6	6
5/14	6	3	-	-	3	8.1	94	15.5	3	198	10.4	3
	7	1	1	-	2	5.4	72	6.4	2	177	4.9	2
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	18	-	37	100.0	95	14.7	37	200	11.0	37
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	6	-	8	26.7	95	8.7	8	202	6.4	8
	4	3	10	-	13	43.3	97	13.5	13	203	9.5	13
	5	4	2	-	6	20.0	101	14.2	6	206	8.9	6
5/17	6	-	2	-	2	6.7	120	23.3	2	214	9.2	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	1	-	-	1	3.3	97	-	1	206	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		10	20	-	30	100.0	99	13.6	30	204	8.5	30

Table 3. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	1.4	61	-	1	167	-	1
	3	11	10	-	21	30.4	90	19.0	21	201	13.0	21
	4	11	15	-	26	37.7	95	14.9	26	204	10.9	26
	5	7	8	-	15	21.7	100	11.1	15	208	7.8	15
5/18	6	1	3	-	4	5.8	99	6.6	4	201	7.8	4
	7	-	1	-	1	1.4	94	-	1	195	-	1
	8	1	-	-	1	1.4	88	-	1	200	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		31	38	-	69	100.0	94	15.7	69	203	11.6	69
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	3.3	97	-	1	202	-	1
	3	2	8	-	10	33.3	81	11.3	10	191	10.1	10
	4	7	5	-	12	40.0	98	12.8	12	204	8.4	12
	5	1	3	-	4	13.3	95	10.2	4	200	8.2	4
5/25	6	-	-	-	-	-	-	-	-	-	-	-
	7	2	1	-	3	10.0	109	20.8	3	217	5.7	3
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		13	17	-	30	100.0	93	15.3	30	201	11.4	30
	1	-	-	-	-	-	-	-	-	-	-	-
	2	6	4	-	10	1.8	75	15.4	10	185	12.0	10
	3	72	109	-	181	33.3	89	14.1	181	197	9.9	181
	4	107	119	-	226	41.6	99	17.8	226	204	11.3	226
	5	42	43	-	85	15.7	106	15.9	85	207	13.3	85
All periods	6	14	13	-	27	5.0	102	15.7	27	204	9.4	27
	7	7	4	-	11	2.0	107	32.8	11	206	19.4	11
	8	2	-	-	2	.4	126	53.0	2	218	24.7	2
	9	-	-	-	-	-	-	-	-	-	-	-
	10	1	-	-	1	.2	97	-	1	206	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		251	292	-	543	100.0	97	18.1	543	202	12.2	543

Table 4. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Resurrection Bay, Lower Cook Inlet, 1972.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/12	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	2.6	65	3.5	2	180	2.8	2
	3	7	13	-	20	26.0	93	16.6	20	198	9.9	20
	4	17	17	-	34	44.2	115	17.5	34	212	10.1	34
	5	4	11	-	15	19.5	134	15.9	15	221	7.8	15
	6	1	3	-	4	5.2	158	13.1	4	233	3.3	4
	7	-	2	-	2	2.6	198	14.1	2	254	7.1	2
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		31	46	-	77	100.0	116	28.4	77	211	15.7	77
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	3.7	53	-	1	168	-	1
	3	7	5	-	12	44.4	85	11.3	12	194	8.4	12
	4	8	3	-	11	40.7	98	13.6	11	202	8.3	11
	5	-	2	-	2	7.4	151	7.8	2	232	4.9	2
	6	1	-	-	1	3.7	120	-	1	220	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		17	10	-	27	100.0	95	22.6	27	200	14.4	27
5/16	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	1.6	44	-	1	154	-	1
	3	4	12	-	16	25.0	94	12.9	16	195	8.1	16
	4	7	12	-	19	29.7	111	15.2	19	208	7.5	19
	5	10	9	-	19	29.7	135	11.4	19	221	5.8	19
	6	3	2	-	5	7.8	143	14.3	5	225	4.4	5
	7	2	1	-	3	4.7	163	18.1	3	240	9.5	3
	8	-	1	-	1	1.6	241	-	1	258	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		27	37	-	64	100.0	120	29.8	64	211	16.8	64

Table 4. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	10.0	-	-	-	149	-	1
	3	5	-	-	5	50.0	-	-	-	183	9.9	5
	4	1	1	-	2	20.0	-	-	-	198	13.4	2
	5	-	2	-	2	20.0	-	-	-	221	12.0	2
5/18	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		7	3	-	10	100.0	-	-	-	190	22.6	10
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	-	-	3	50.0	81	6.1	3	191	1.7	3
	4	-	-	-	-	-	-	-	-	-	-	-
	5	2	-	-	2	33.3	103	3.5	2	212	2.8	2
5/23	6	1	-	-	1	16.7	138	-	1	228	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		6	-	-	6	100.0	98	22.9	6	204	15.7	6
	1	-	-	-	-	-	-	-	-	-	-	-
	2	5	-	-	5	2.7	57	10.1	4	166	14.5	5
	3	26	30	-	56	30.4	90	14.3	51	194	9.4	56
	4	33	33	-	66	35.9	111	17.2	64	208	9.8	66
	5	16	24	-	40	21.7	134	15.1	38	221	7.2	40
All periods	6	6	5	-	11	6.0	146	16.5	11	228	5.7	11
	7	2	3	-	5	2.7	177	24.1	5	245	10.9	5
	8	-	1	-	1	.5	241	-	1	258	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		88	96	-	184	100.0	114	29.1	174	208	17.2	184

Table 5. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Resurrection Bay, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	3.3	59	11.3	2	170	4.9	2
	3	26	29	-	55	91.7	70	10.2	55	178	8.5	55
	4	1	-	-	1	1.7	86	-	1	197	-	1
	5	-	2	-	2	3.3	84	75.0	2	218	9.2	2
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		29	31	-	60	100.0	70	14.4	60	179	11.3	60
5/15	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	6.3	50	3.5	2	154	4.2	2
	3	14	15	-	29	90.6	75	10.2	29	179	7.8	29
	4	-	-	-	-	-	-	-	-	-	-	-
	5	-	1	-	1	3.1	140	-	1	218	-	1
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		16	16	-	32	100.0	76	16.5	32	178	12.0	32
5/19	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	1.5	57	-	1	164	-	1
	3	34	25	-	59	90.8	68	14.7	59	176	7.3	59
	4	-	2	-	2	3.1	84	8.5	2	193	.7	2
	5	-	1	-	1	1.5	128	-	1	218	-	1
	6	1	1	-	2	3.1	153	11.3	2	253	29.7	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		35	30	-	65	100.0	72	21.8	65	179	16.6	65

Table 5. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	23	31	-	54	87.1	71	10.4	54	179	8.1	54
	4	4	2	-	6	9.7	99	14.1	6	199	7.5	6
	5	-	-	-	-	-	-	-	-	-	-	-
5/21	6	1	-	-	1	1.6	153	-	1	227	-	1
	7	1	-	-	1	1.6	161	-	1	235	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		29	33	-	62	100.0	76	20.0	62	182	13.3	62
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.8	55	-	1	163	-	1
	3	59	57	-	116	93.5	71	10.1	116	178	7.3	116
	4	-	7	-	7	5.6	94	6.5	7	197	5.7	7
	5	-	-	-	-	-	-	-	-	-	-	-
5/24	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		60	64	-	124	100.0	72	11.3	124	179	8.6	124
	1	-	-	-	-	-	-	-	-	-	-	-
	2	5	1	-	6	1.7	55	6.9	6	162	7.6	6
	3	156	157	-	313	91.3	71	11.2	313	178	7.7	313
	4	5	11	-	16	4.7	94	10.8	16	197	6.0	16
	5	-	4	-	4	1.2	109	52.2	4	218	5.3	4
All periods	6	2	1	-	3	.9	153	8.0	3	244	25.8	3
	7	1	-	-	1	.3	161	-	1	235	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		169	174	-	343	100.0	73	16.5	343	179	12.1	343

Table 6. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Day Harbor, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
6/11	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	2	-	3	3.0	73	21.2	3	163	5.3	3
	3	43	52	-	95	95.0	72	9.5	95	176	6.8	95
	4	-	2	-	2	2.0	119	15.6	2	201	4.2	2
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		44	56	-	100	100.0	73	11.9	100	176	7.9	100

Table 7. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Nuka Bay, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	8	3	-	11	8.3	-	-	-	153	4.7	11
	3	55	43	-	98	73.7	-	-	-	173	9.1	98
	4	7	6	-	13	9.8	-	-	-	195	6.0	13
	5	2	4	-	6	4.5	-	-	-	213	5.5	6
	6	-	1	-	1	.8	-	-	-	222	-	1
	7	-	2	-	2	1.5	-	-	-	223	4.2	2
	8	1	1	-	2	1.5	-	-	-	233	6.4	2
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		73	60	-	133	100.0	-	-	-	177	17.8	133
6/ 2	1	-	-	-	-	-	-	-	-	-	-	-
	2	8	2	-	10	10.6	-	-	-	155	10.6	10
	3	36	37	-	73	77.7	-	-	-	171	8.0	73
	4	3	4	-	7	7.4	-	-	-	199	11.7	7
	5	-	1	-	1	1.1	-	-	-	212	-	1
	6	-	-	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	2.1	-	-	-	232	.7	2
	8	-	1	-	1	1.1	-	-	-	233	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		48	46	-	94	100.0	-	-	-	174	16.9	94
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	16	5	-	21	9.3	-	-	-	154	7.9	21
	3	91	80	-	171	75.3	-	-	-	172	8.7	171
	4	10	10	-	20	8.8	-	-	-	197	8.3	20
	5	2	5	-	7	3.1	-	-	-	213	5.1	7
	6	-	1	-	1	.4	-	-	-	222	-	1
	7	1	3	-	4	1.8	-	-	-	227	5.5	4
	8	1	2	-	3	1.3	-	-	-	233	4.5	3
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		121	106	-	227	100.0	-	-	-	176	17.4	227

Table 8. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Tonsina Bay, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	4	1	-	5	7.5	-	-	-	151	3.1	5
	3	29	27	-	56	83.6	-	-	-	167	7.9	56
	4	2	3	-	5	7.5	-	-	-	203	3.3	5
	5	-	-	-	-	-	-	-	-	-	-	-
6/ 2	6	1	-	-	1	1.5	-	-	-	212	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		36	31	-	67	100.0	-	-	-	170	13.9	67

Table 9. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Outer and Eastern Districts of Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	3.3	59	11.3	2	170	4.9	2
	3	26	29	-	55	91.7	70	10.2	55	178	8.5	55
	4	1	-	-	1	1.7	86	-	1	197	-	1
	5	-	2	-	2	3.3	84	75.0	2	218	9.2	2
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		29	31	-	60	100.0	70	14.4	60	179	11.3	60
5/15	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	6.3	50	3.5	2	154	4.2	2
	3	14	15	-	29	90.6	75	10.2	29	179	7.8	29
	4	-	-	-	-	-	-	-	-	-	-	-
	5	-	1	-	1	3.1	140	-	1	218	-	1
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		16	16	-	32	100.0	76	16.5	32	178	12.0	32
5/19	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	1.5	57	-	1	164	-	1
	3	34	25	-	59	90.8	68	14.7	59	176	7.3	59
	4	-	2	-	2	3.1	84	8.5	2	193	.7	2
	5	-	1	-	1	1.5	128	-	1	218	-	1
	6	1	1	-	2	3.1	153	11.3	2	253	29.7	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		35	30	-	65	100.0	72	21.8	65	179	16.6	65
5/21	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	23	31	-	54	87.1	71	10.4	54	179	8.1	54
	4	4	2	-	6	9.7	99	14.1	6	199	7.5	6
	5	-	-	-	-	-	-	-	-	-	-	-
	6	1	-	-	1	1.6	153	-	1	227	-	1
	7	1	-	-	1	1.6	161	-	1	235	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		29	33	-	62	100.0	76	20.0	62	182	13.3	62

Table 9. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.8	55	-	1	163	-	1
	3	59	57	-	116	93.5	71	10.1	116	178	7.3	116
	4	-	7	-	7	5.6	94	6.5	7	197	5.7	7
	5	-	-	-	-	-	-	-	-	-	-	-
5/24	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		60	64	-	124	100.0	72	11.3	124	179	8.6	124
	1	-	-	-	-	-	-	-	-	-	-	-
	2	8	3	-	11	8.3	-	-	-	153	4.7	11
	3	55	43	-	98	73.7	-	-	-	173	9.1	98
	4	7	6	-	13	9.8	-	-	-	195	6.0	13
	5	2	4	-	6	4.5	-	-	-	213	5.5	6
5/30	6	-	1	-	1	.8	-	-	-	222	-	1
	7	-	2	-	2	1.5	-	-	-	223	4.2	2
	8	1	1	-	2	1.5	-	-	-	233	6.4	2
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		73	60	-	133	100.0	-	-	-	177	17.8	133
	1	-	-	-	-	-	-	-	-	-	-	-
	2	12	3	-	15	9.3	-	-	-	154	8.9	15
	3	65	64	-	129	80.1	-	-	-	170	8.1	129
	4	5	7	-	12	7.5	-	-	-	201	9.1	12
	5	-	1	-	1	.6	-	-	-	212	-	1
6/ 2	6	1	-	-	1	.6	-	-	-	212	-	1
	7	1	1	-	2	1.2	-	-	-	232	.7	2
	8	-	1	-	1	.6	-	-	-	233	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		84	77	-	161	100.0	-	-	-	172	15.8	161
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	2	-	3	3.0	73	21.2	3	163	5.3	3
	3	43	52	-	95	95.0	72	9.5	95	176	6.8	95
	4	-	2	-	2	2.0	119	15.6	2	201	4.2	2
	5	-	-	-	-	-	-	-	-	-	-	-
6/11	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		44	56	-	100	100.0	73	11.9	100	176	7.9	100

Table 9. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	26	9	-	35	4.7	61	14.9	9	156	8.1	35
	3	319	316	-	635	86.2	71	10.9	408	175	8.5	635
	4	17	26	-	43	5.8	97	13.5	18	198	7.1	43
	5	2	9	-	11	1.5	109	52.2	4	215	5.4	11
All periods	6	3	2	-	5	.7	153	8.0	3	233	23.9	5
	7	2	3	-	5	.7	161	-	1	229	5.9	5
	8	1	2	-	3	.4	-	-	-	233	4.5	3
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		370	367	-	737	100.0	73	15.5	443	177	14.0	737

Table 10. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Mallard Bay, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	10	8	-	18	9.9	68	29.7	18	168	12.6	18
	4	34	9	-	43	23.6	107	12.1	43	201	5.1	43
	5	48	37	-	85	46.7	127	12.7	85	213	4.9	85
6/ 5	6	12	14	-	26	14.3	146	19.8	26	222	4.9	26
	7	5	3	-	8	4.4	161	14.8	8	232	4.4	8
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	1	-	1	.5	197	-	1	240	-	1
	10	1	-	-	1	.5	186	-	1	248	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		110	72	-	182	100.0	121	28.6	182	208	16.8	182

Table 11. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Seldovia Bay, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	6	4	-	10	10.0	75	20.3	8	176	11.0	10
	4	19	12	-	31	31.0	104	15.2	16	200	5.3	31
	5	18	22	-	40	40.0	122	28.0	24	213	3.7	40
5/26	6	9	5	-	14	14.0	125	13.3	11	218	3.2	14
	7	3	2	-	5	5.0	150	4.9	2	230	2.1	5
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		55	45	-	100	100.0	113	27.3	61	207	13.9	100

Table 12. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Southern District of Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/26	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	6	4	-	10	10.0	75	20.3	8	176	11.0	10
	4	19	12	-	31	31.0	104	15.2	16	200	5.3	31
	5	18	22	-	40	40.0	122	28.0	24	213	3.7	40
	6	9	5	-	14	14.0	125	13.3	11	218	3.2	14
	7	3	2	-	5	5.0	150	4.9	2	230	2.1	5
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		55	45	-	100	100.0	113	27.3	61	207	13.9	100
6/ 5	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	10	8	-	18	9.9	68	29.7	18	168	12.6	18
	4	34	9	-	43	23.6	107	12.1	43	201	5.1	43
	5	48	37	-	85	46.7	127	12.7	85	213	4.9	85
	6	12	14	-	26	14.3	146	19.8	26	222	4.9	26
	7	5	3	-	8	4.4	161	14.8	8	232	4.4	8
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	1	-	1	.5	197	-	1	240	-	1
	10	1	-	-	1	.5	186	-	1	248	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		110	72	-	182	100.0	121	28.6	182	208	16.8	182
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	16	12	-	28	9.9	70	26.9	26	171	12.5	28
	4	53	21	-	74	26.2	106	12.9	59	201	5.2	74
	5	66	59	-	125	44.3	126	17.2	109	213	4.5	125
	6	21	19	-	40	14.2	140	20.4	37	221	4.7	40
	7	8	5	-	13	4.6	159	14.1	10	231	3.8	13
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	1	-	1	.4	197	-	1	240	-	1
	10	1	-	-	1	.4	186	-	1	248	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		165	117	-	282	100.0	119	28.5	243	208	15.8	282

Table 13. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Oil Bay, Lower Cook Inlet, 1973.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
6/ 8	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	2	-	4	2.1	91	35.4	4	186	16.7	4
	4	37	22	-	59	31.1	109	11.8	59	200	4.8	59
	5	24	8	-	32	16.8	126	11.4	32	210	3.3	32
	6	31	27	-	58	30.5	144	15.1	58	218	4.9	58
	7	6	10	-	16	8.4	178	15.9	16	233	5.3	16
	8	4	7	-	11	5.8	196	20.8	11	239	5.1	11
	9	1	3	-	4	2.1	194	13.3	4	241	3.5	4
	10	1	5	-	6	3.2	246	4.4	6	250	3.7	6
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		106	84	-	190	100.0	139	36.3	190	214	15.4	190
6/10	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	11	5	-	16	17.2	93	12.6	16	197	6.2	16
	5	8	10	-	18	19.4	116	17.4	18	208	4.6	18
	6	14	21	-	35	37.6	131	16.7	35	218	5.0	35
	7	4	10	-	14	15.1	160	16.6	14	232	4.0	14
	8	3	2	-	5	5.4	174	18.0	5	237	3.9	5
	9	2	1	-	3	3.2	179	11.3	3	243	7.2	3
	10	1	1	-	2	2.2	208	29.0	2	256	2.8	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		43	50	-	93	100.0	132	31.2	93	217	15.0	93
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	2	-	4	1.4	91	35.4	4	186	16.7	4
	4	48	27	-	75	26.5	105	13.6	75	199	5.2	75
	5	32	18	-	50	17.7	122	14.4	50	209	4.0	50
	6	45	48	-	93	32.9	139	16.8	93	218	4.9	93
	7	10	20	-	30	10.6	170	18.5	30	233	4.6	30
	8	7	9	-	16	5.7	190	22.1	16	238	4.8	16
	9	3	4	-	7	2.5	187	13.9	7	242	4.9	7
	10	2	6	-	8	2.8	236	21.2	8	252	4.2	8
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		149	134	-	283	100.0	137	34.8	283	215	15.3	283

Table 14. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Resurrection Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	4	-	-	4	13.8	63	13.7	4	168	8.4	4
	3	9	13	-	22	75.9	91	11.9	22	191	6.9	22
	4	2	1	-	3	10.3	103	10.5	3	200	5.9	3
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		15	14	-	29	100.0	88	16.1	29	189	11.3	29
5/ 3	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	7.1	70	.7	2	174	7.1	2
	3	12	7	-	19	67.9	90	7.9	19	190	5.9	19
	4	6	1	-	7	25.0	104	12.5	7	198	6.9	7
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	9	-	28	100.0	92	12.4	28	191	8.4	28
5/ 5	1	-	-	-	-	-	-	-	-	-	-	-
	2	3	-	-	3	9.4	59	12.6	3	167	8.6	3
	3	14	12	-	26	81.3	91	12.6	26	190	8.0	26
	4	2	1	-	3	9.4	118	7.6	3	206	3.8	3
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	13	-	32	100.0	90	17.6	32	190	11.5	32
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	8	1	-	9	10.1	63	11.2	9	169	7.7	9
	3	35	32	-	67	75.3	91	11.1	67	190	7.0	67
	4	10	3	-	13	14.6	107	12.2	13	200	6.7	13
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		53	36	-	89	100.0	90	15.5	89	190	10.5	89

Table 15. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Aialik Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	3.0	70	-	1	176	-	1
	3	13	12	-	25	75.8	92	10.7	25	188	6.7	25
	4	4	3	-	7	21.2	112	13.3	7	200	6.4	7
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		18	15	-	33	100.0	96	14.2	33	190	8.5	33

Table 16. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Two Arm Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	15	8	-	23	95.8	81	8.9	23	182	6.3	23
	4	-	1	-	1	4.2	112	-	1	206	-	1
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		15	9	-	24	100.0	83	10.7	24	183	7.9	24
5/ 2	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	5.9	62	3.5	2	171	2.1	2
	3	15	15	-	30	88.2	89	9.2	30	189	6.0	30
	4	2	-	-	2	5.9	113	1.4	2	207	2.8	2
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		18	16	-	34	100.0	88	12.5	34	189	8.5	34
5/ 6	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	1.7	54	1.4	2	163	4.2	2
	3	46	59	-	105	87.5	88	10.4	105	188	7.2	105
	4	8	4	-	12	10.0	109	10.5	12	202	5.2	12
	5	-	1	-	1	.8	136	-	1	222	-	1
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		56	64	-	120	100.0	90	13.5	120	189	9.2	120

Table 16. (Continued)

	1	1	-	-	1	1.5	36	-	1	148	-	1
	2	3	6	-	9	13.2	56	7.7	9	166	7.7	9
	3	25	27	-	52	76.5	81	11.0	52	185	7.6	52
	4	2	4	-	6	8.8	99	8.0	6	198	6.2	6
	5	-	-	-	-	-	-	-	-	-	-	-
5/ 9	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		31	37	-	68	100.0	79	15.6	68	183	11.6	68
	1	1	-	-	1	.4	36	-	1	148	-	1
	2	6	7	-	13	5.3	56	6.8	13	166	6.8	13
	3	101	109	-	210	85.4	86	10.8	210	187	7.3	210
	4	12	9	-	21	8.5	107	10.2	21	201	5.7	21
	5	-	1	-	1	.4	136	-	1	222	-	1
All periods	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		120	126	-	246	100.0	86	14.6	246	187	10.1	246

Table 17. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Surprise Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	5.7	56	2.1	2	162	5.7	2
	3	12	19	-	31	88.6	85	12.8	31	186	7.3	31
	4	1	1	-	2	5.7	134	9.9	2	216	4.2	2
	5	-	-	-	-	-	-	-	-	-	-	-
5/ 7	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		15	20	-	35	100.0	86	18.4	35	187	11.6	35

Table 18. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Tonsina Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	1	-	-	1	1.5	38	-	1	141	-	1
	2	3	1	-	4	6.1	48	2.6	4	154	2.2	4
	3	31	25	-	56	84.8	83	11.5	56	184	7.9	56
	4	3	-	-	3	4.5	117	23.1	3	208	14.2	3
	5	-	2	-	2	3.0	161	14.8	2	220	7.8	2
5/20	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		38	28	-	66	100.0	84	21.9	66	184	14.5	66

Table 19. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Outer and Eastern Districts of Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	5	-	-	5	5.8	64	12.3	5	169	8.2	5
	3	37	33	-	70	81.4	88	11.5	70	187	7.5	70
	4	6	5	-	11	12.8	109	12.1	11	201	5.9	11
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		48	38	-	86	100.0	90	14.9	86	188	9.7	86
5/ 2	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	5.9	62	3.5	2	171	2.1	2
	3	15	15	-	30	88.2	89	9.2	30	189	6.0	30
	4	2	-	-	2	5.9	113	1.4	2	207	2.8	2
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		18	16	-	34	100.0	88	12.5	34	189	8.5	34
5/ 3	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	7.1	70	.7	2	174	7.1	2
	3	12	7	-	19	67.9	90	7.9	19	190	5.9	19
	4	6	1	-	7	25.0	104	12.5	7	198	6.9	7
	5	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	9	-	28	100.0	92	12.4	28	191	8.4	28

Table 19. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	3	-	-	3	9.4	59	12.6	3	167	8.6	3
	3	14	12	-	26	81.3	91	12.6	26	190	8.0	26
	4	2	1	-	3	9.4	118	7.6	3	206	3.8	3
	5	-	-	-	-	-	-	-	-	-	-	-
5/ 5	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	13	-	32	100.0	90	17.6	32	190	11.5	32
	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	1.7	54	1.4	2	163	4.2	2
	3	46	59	-	105	87.5	88	10.4	105	188	7.2	105
	4	8	4	-	12	10.0	109	10.5	12	202	5.2	12
	5	-	1	-	1	.8	136	-	1	222	-	1
5/ 6	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		56	64	-	120	100.0	90	13.5	120	189	9.2	120
	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	-	-	2	5.7	56	2.1	2	162	5.7	2
	3	12	19	-	31	88.6	85	12.8	31	186	7.3	31
	4	1	1	-	2	5.7	134	9.9	2	216	4.2	2
	5	-	-	-	-	-	-	-	-	-	-	-
5/ 7	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		15	20	-	35	100.0	86	18.4	35	187	11.6	35

Table 19. (Continued)

	1	1	-	-	1	1.5	36	-	1	148	-	1
	2	3	6	-	9	13.2	56	7.7	9	166	7.7	9
	3	25	27	-	52	76.5	81	11.0	52	185	7.6	52
	4	2	4	-	6	8.8	99	8.0	6	198	6.2	6
	5	-	-	-	-	-	-	-	-	-	-	-
5/ 9	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		31	37	-	68	100.0	79	15.6	68	183	11.6	68
	1	1	-	-	1	1.5	38	-	1	141	-	1
	2	3	1	-	4	6.1	48	2.6	4	154	2.2	4
	3	31	25	-	56	84.8	83	11.5	56	184	7.9	56
	4	3	-	-	3	4.5	117	23.1	3	208	14.2	3
	5	-	2	-	2	3.0	161	14.8	2	220	7.8	2
5/20	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		38	28	-	66	100.0	84	21.9	66	184	14.5	66
	1	2	-	-	2	.4	37	1.4	2	145	4.9	2
	2	20	9	-	29	6.2	58	9.3	29	165	8.2	29
	3	192	197	-	389	82.9	87	11.4	389	187	7.5	389
	4	30	16	-	46	9.8	109	13.1	46	202	7.4	46
	5	-	3	-	3	.6	152	17.6	3	220	5.7	3
All periods	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		244	225	-	469	100.0	87	16.5	469	187	11.0	469

Table 20. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Southern District of Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/29	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	1	-	3	2.3	51	2.0	3	159	2.3	3
	3	8	3	-	11	8.3	95	37.6	11	186	9.7	11
	4	20	6	-	26	19.7	110	11.6	26	202	5.2	26
	5	39	36	-	75	56.8	126	12.2	75	212	4.4	75
	6	5	8	-	13	9.8	147	12.4	13	221	3.0	13
	7	-	3	-	3	2.3	163	16.6	3	231	2.5	3
	8	-	1	-	1	.8	211	-	1	243	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		74	58	-	132	100.0	122	24.7	132	208	13.2	132
6/ 3	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	5	2	-	7	6.3	90	27.3	7	189	18.1	7
	4	24	14	-	38	34.2	106	13.7	38	202	5.6	38
	5	24	30	-	54	48.6	122	13.4	54	212	4.6	54
	6	2	10	-	12	10.8	140	17.5	12	220	4.3	12
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		55	56	-	111	100.0	117	19.5	111	208	10.0	111
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	1	-	3	1.2	51	2.0	3	159	2.3	3
	3	13	5	-	18	7.4	93	33.2	18	187	13.1	18
	4	44	20	-	64	26.3	108	12.9	64	202	5.4	64
	5	63	66	-	129	53.1	124	12.8	129	212	4.5	129
	6	7	18	-	25	10.3	144	15.2	25	220	3.7	25
	7	-	3	-	3	1.2	163	16.6	3	231	2.5	3
	8	-	1	-	1	.4	211	-	1	243	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		129	114	-	243	100.0	120	22.6	243	208	11.8	243

Table 21. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	5	-	14	10.8	81	10.6	14	185	7.9	14
	4	7	3	-	10	7.7	113	11.4	10	204	4.5	10
	5	30	26	-	56	43.1	140	14.1	56	215	4.9	56
5/14	6	15	17	-	32	24.6	162	17.1	32	224	4.6	32
	7	6	4	-	10	7.7	177	16.5	10	232	4.5	10
	8	4	2	-	6	4.6	202	21.1	6	242	4.8	6
	9	-	1	-	1	.8	206	-	1	244	-	1
	10	-	1	-	1	.8	275	-	1	259	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		71	59	-	130	100.0	144	34.8	130	216	15.3	130

Table 22. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Oil Bay, Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	26	23	-	49	20.5	87	15.6	49	188	10.0	49
	4	24	13	-	37	15.5	116	18.0	37	204	6.7	37
	5	53	36	-	89	37.2	138	13.8	89	215	5.8	89
5/18	6	16	21	-	37	15.5	162	14.8	37	229	12.2	37
	7	8	12	-	20	8.4	179	31.8	20	234	11.7	20
	8	2	3	-	5	2.1	187	8.6	5	238	4.6	5
	9	1	-	-	1	.4	218	-	1	244	-	1
	10	-	1	-	1	.4	266	-	1	262	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		130	109	-	239	100.0	133	35.3	239	212	17.8	239

Table 23. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1974.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	5	-	14	10.8	81	10.6	14	185	7.9	14
	4	7	3	-	10	7.7	113	11.4	10	204	4.5	10
	5	30	26	-	56	43.1	140	14.1	56	215	4.9	56
	6	15	17	-	32	24.6	162	17.1	32	224	4.6	32
	7	6	4	-	10	7.7	177	16.5	10	232	4.5	10
	8	4	2	-	6	4.6	202	21.1	6	242	4.8	6
	9	-	1	-	1	.8	206	-	1	244	-	1
	10	-	1	-	1	.8	275	-	1	259	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		71	59	-	130	100.0	144	34.8	130	216	15.3	130
5/18	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	26	23	-	49	20.5	87	15.6	49	188	10.0	49
	4	24	13	-	37	15.5	116	18.0	37	204	6.7	37
	5	53	36	-	89	37.2	138	13.8	89	215	5.8	89
	6	16	21	-	37	15.5	162	14.8	37	229	12.2	37
	7	8	12	-	20	8.4	179	31.8	20	234	11.7	20
	8	2	3	-	5	2.1	187	8.6	5	238	4.6	5
	9	1	-	-	1	.4	218	-	1	244	-	1
	10	-	1	-	1	.4	266	-	1	262	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		130	109	-	239	100.0	133	35.3	239	212	17.8	239
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	35	28	-	63	17.1	86	14.8	63	188	9.6	63
	4	31	16	-	47	12.7	115	16.8	47	204	6.3	47
	5	83	62	-	145	39.3	139	13.9	145	215	5.5	145
	6	31	38	-	69	18.7	162	15.8	69	227	9.7	69
	7	14	16	-	30	8.1	178	27.4	30	233	9.8	30
	8	6	5	-	11	3.0	195	17.6	11	241	4.9	11
	9	1	1	-	2	.5	212	8.5	2	244	.0	2
	10	-	2	-	2	.5	271	6.4	2	261	2.1	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		201	168	-	369	100.0	137	35.5	369	214	17.0	369

Table 24. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Bruin Bay, Lower Cook Inlet, 1975.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	2	-	3	3.4	60	3.5	3	171	4.0	3
	4	-	-	-	-	-	-	-	-	-	-	-
	5	12	15	-	27	30.3	103	17.5	27	202	10.5	27
6/ 2	6	6	5	-	11	12.4	159	25.1	11	228	11.3	11
	7	12	9	-	21	23.6	163	25.3	21	231	8.9	21
	8	11	11	-	22	24.7	182	21.8	22	238	8.6	22
	9	-	3	-	3	3.4	224	24.3	3	245	11.0	3
	10	-	1	-	1	1.1	227	-	1	257	-	1
	11+	-	1	-	1	1.1	260	-	1	258	-	1
Period total		42	47	-	89	100.0	149	45.7	89	223	20.6	89

Table 25. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Rocky Cove, Lower Cook Inlet, 1975.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	1	-	2	3.0	69	7.1	2	176	4.2	2
	4	1	-	-	1	1.5	85	-	1	190	-	1
	5	1	3	-	4	6.0	99	11.2	4	194	7.5	4
5/31	6	6	2	-	8	11.9	149	23.3	8	220	5.7	8
	7	11	14	-	25	37.3	181	20.7	25	233	6.9	25
	8	9	12	-	21	31.3	180	31.3	21	235	9.2	21
	9	-	2	-	2	3.0	199	11.3	2	235	2.8	2
	10	1	2	-	3	4.5	235	25.7	3	251	7.9	3
	11+	1	-	-	1	1.5	236	-	1	249	-	1
Period total		31	36	-	67	100.0	171	41.0	67	228	17.0	67

Table 26. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1975.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	-	-	1	.4	50	-	1	193	-	1
	5	23	33	-	56	24.9	101	20.0	56	201	11.4	56
5/18	6	16	19	-	35	15.6	131	22.2	35	215	11.0	35
	7	45	38	-	83	36.9	154	21.7	83	226	10.1	83
	8	23	21	-	44	19.6	167	19.3	44	230	8.8	44
	9	1	4	-	5	2.2	189	23.0	5	239	10.5	5
	10	1	-	-	1	.4	209	-	1	252	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		110	115	-	225	100.0	140	34.0	225	219	15.7	225

Table 27. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Oil Bay, Lower Cook Inlet, 1975.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
6/ 5	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	-	-	1	1.1	43	-	1	157	-	1
	5	10	8	-	18	20.2	106	15.8	18	208	16.8	18
	6	8	3	-	11	12.4	128	16.6	11	217	5.8	11
	7	23	18	-	41	46.1	159	19.3	41	229	7.9	41
	8	6	8	-	14	15.7	169	18.3	14	231	8.9	14
	9	2	1	-	3	3.4	195	8.7	3	243	2.6	3
	10	-	1	-	1	1.1	214	-	1	249	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		50	39	-	89	100.0	147	32.9	89	224	15.7	89
6/ 6	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-
	5	-	2	-	2	10.0	114	10.6	2	210	7.8	2
	6	1	2	-	3	15.0	129	16.7	3	214	9.6	3
	7	-	11	-	11	55.0	159	21.3	11	229	8.5	11
	8	-	4	-	4	20.0	165	39.0	4	231	10.5	4
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		1	19	-	20	100.0	151	28.6	20	225	11.3	20
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	-	-	1	.9	43	-	1	157	-	1
	5	10	10	-	20	18.3	107	15.3	20	208	16.0	20
	6	9	5	-	14	12.8	128	16.0	14	216	6.5	14
	7	23	29	-	52	47.7	159	19.5	52	229	8.0	52
	8	6	12	-	18	16.5	168	23.0	18	231	8.9	18
	9	2	1	-	3	2.8	195	8.7	3	243	2.6	3
	10	-	1	-	1	.9	214	-	1	249	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		51	58	-	109	100.0	147	32.1	109	224	15.0	109

Table 28. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1975.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/18	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	-	-	1	.4	50	-	1	193	-	1
	5	23	33	-	56	24.9	101	20.0	56	201	11.4	56
	6	16	19	-	35	15.6	131	22.2	35	215	11.0	35
	7	45	38	-	83	36.9	154	21.7	83	226	10.1	83
	8	23	21	-	44	19.6	167	19.3	44	230	8.8	44
	9	1	4	-	5	2.2	189	23.0	5	239	10.5	5
	10	1	-	-	1	.4	209	-	1	252	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		110	115	-	225	100.0	140	34.0	225	219	15.7	225
5/31	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	1	-	2	3.0	69	7.1	2	176	4.2	2
	4	1	-	-	1	1.5	85	-	1	190	-	1
	5	1	3	-	4	6.0	99	11.2	4	194	7.5	4
	6	6	2	-	8	11.9	149	23.3	8	220	5.7	8
	7	11	14	-	25	37.3	181	20.7	25	233	6.9	25
	8	9	12	-	21	31.3	180	31.3	21	235	9.2	21
	9	-	2	-	2	3.0	199	11.3	2	235	2.8	2
	10	1	2	-	3	4.5	235	25.7	3	251	7.9	3
	11+	1	-	-	1	1.5	236	-	1	249	-	1
Period total		31	36	-	67	100.0	171	41.0	67	228	17.0	67
6/ 2	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	2	-	3	3.4	60	3.5	3	171	4.0	3
	4	-	-	-	-	-	-	-	-	-	-	-
	5	12	15	-	27	30.3	103	17.5	27	202	10.5	27
	6	6	5	-	11	12.4	159	25.1	11	228	11.3	11
	7	12	9	-	21	23.6	163	25.3	21	231	8.9	21
	8	11	11	-	22	24.7	182	21.8	22	238	8.6	22
	9	-	3	-	3	3.4	224	24.3	3	245	11.0	3
	10	-	1	-	1	1.1	227	-	1	257	-	1
	11+	-	1	-	1	1.1	260	-	1	258	-	1
Period total		42	47	-	89	100.0	149	45.7	89	223	20.6	89

Table 28. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	-	-	1	1.1	43	-	1	157	-	1
	5	10	8	-	18	20.2	106	15.8	18	208	16.8	18
6/ 5	6	8	3	-	11	12.4	128	16.6	11	217	5.8	11
	7	23	18	-	41	46.1	159	19.3	41	229	7.9	41
	8	6	8	-	14	15.7	169	18.3	14	231	8.9	14
	9	2	1	-	3	3.4	195	8.7	3	243	2.6	3
	10	-	1	-	1	1.1	214	-	1	249	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		50	39	-	89	100.0	147	32.9	89	224	15.7	89
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-
	5	-	2	-	2	10.0	114	10.6	2	210	7.8	2
6/ 6	6	1	2	-	3	15.0	129	16.7	3	214	9.6	3
	7	-	11	-	11	55.0	159	21.3	11	229	8.5	11
	8	-	4	-	4	20.0	165	39.0	4	231	10.5	4
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		1	19	-	20	100.0	151	28.6	20	225	11.3	20
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	3	-	5	1.0	63	6.7	5	173	4.5	5
	4	3	-	-	3	.6	59	22.5	3	180	20.0	3
	5	46	61	-	107	21.8	102	18.3	107	202	12.3	107
All periods	6	37	31	-	68	13.9	137	24.1	68	218	10.7	68
	7	91	90	-	181	36.9	160	23.1	181	228	9.3	181
	8	49	56	-	105	21.4	173	23.9	105	233	9.2	105
	9	3	10	-	13	2.7	200	22.3	13	241	8.5	13
	10	2	4	-	6	1.2	226	20.1	6	252	5.7	6
	11+	1	1	-	2	.4	248	17.0	2	254	6.4	2
Total		234	256	-	490	100.0	148	38.2	490	222	17.0	490

Table 29. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Bruin Bay, Lower Cook Inlet, 1976.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/20	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	8	6	-	14	15.9	66	9.1	14	171	8.5	14
	4	1	1	-	2	2.3	88	26.2	2	235	50.9	2
	5	-	-	-	-	-	-	-	-	-	-	-
	6	10	5	-	15	17.0	145	27.4	15	216	8.8	15
	7	7	3	-	10	11.4	188	21.6	10	233	5.0	10
	8	17	13	-	30	34.1	195	17.6	30	236	5.5	30
	9+	3	14	-	17	19.3	218	16.6	17	240	7.0	17
Period total		46	42	-	88	100.0	167	55.1	88	223	25.6	88

Table 30. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Ursus Cove and Iniskin Bay, Lower Cook Inlet, 1976.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/17	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	11	4	-	15	4.7	67	27.9	15	168	9.1	15
	4	2	-	-	2	.6	86	2.8	2	191	.0	2
	5	3	1	-	4	1.3	106	12.7	4	207	7.2	4
	6	40	40	-	80	25.2	146	26.4	80	219	10.8	80
	7	15	19	-	34	10.7	176	14.9	34	231	5.9	34
	8	56	66	-	122	38.4	192	25.8	122	237	9.6	122
	9	22	34	-	56	17.6	205	23.3	56	240	7.2	56
	10	4	-	-	4	1.3	204	15.8	4	248	7.7	4
	11+	1	-	-	1	.3	261	-	1	258	-	1
Period total		154	164	-	318	100.0	174	41.9	318	228	18.6	318

Table 31. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1976.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-	-	-
5/17	6	3	3	-	6	20.7	-	-	-	216	6.8	6
	7	2	5	-	7	24.1	-	-	-	226	3.4	7
	8	8	6	-	14	48.3	-	-	-	229	8.9	14
	9	1	-	-	1	3.4	-	-	-	240	-	1
	10	-	1	-	1	3.4	-	-	-	260	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		14	15	-	29	100.0	-	-	-	227	11.1	29
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	10	-	19	9.8	68	7.6	19	178	22.9	19
	4	-	2	-	2	1.0	111	6.4	2	198	9.9	2
	5	1	1	-	2	1.0	152	16.3	2	220	2.8	2
5/21	6	15	27	-	42	21.8	149	21.2	42	218	9.0	42
	7	13	16	-	29	15.0	175	21.6	29	230	6.9	29
	8	22	28	-	50	25.9	203	22.0	50	238	6.0	50
	9	22	21	-	43	22.3	208	23.1	43	240	6.2	43
	10	1	3	-	4	2.1	221	27.6	4	247	4.5	4
	11+	-	2	-	2	1.0	232	33.2	2	246	2.8	2
Period total		83	110	-	193	100.0	174	47.9	193	227	20.8	193
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	10	-	19	8.6	68	7.6	19	178	22.9	19
	4	-	2	-	2	.9	111	6.4	2	198	9.9	2
	5	1	1	-	2	.9	152	16.3	2	220	2.8	2
All periods	6	18	30	-	48	21.6	149	21.2	42	218	8.7	48
	7	15	21	-	36	16.2	175	21.6	29	229	6.5	36
	8	30	34	-	64	28.8	203	22.0	50	236	7.8	64
	9	23	21	-	44	19.8	208	23.1	43	240	6.1	44
	10	1	4	-	5	2.3	221	27.6	4	249	7.1	5
	11+	-	2	-	2	.9	232	33.2	2	246	2.8	2
Total		97	125	-	222	100.0	174	47.9	193	227	19.8	222

Table 32. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Oil Bay, Lower Cook Inlet, 1976.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	19	21	-	40	25.5	65	10.1	40	171	7.9	40
	4	1	1	-	2	1.3	96	31.1	2	194	15.6	2
	5	1	1	-	2	1.3	143	31.8	2	215	15.6	2
6/ 2	6	10	10	-	20	12.7	146	27.1	20	219	11.2	20
	7	6	9	-	15	9.6	173	17.7	15	228	5.1	15
	8	18	25	-	43	27.4	194	27.6	43	235	9.5	43
	9	12	16	-	28	17.8	213	21.2	28	241	7.5	28
	10	3	2	-	5	3.2	223	19.8	5	246	9.9	5
	11+	1	1	-	2	1.3	238	26.9	2	261	2.1	2
Period total		71	86	-	157	100.0	156	62.3	157	217	29.7	157

Table 33. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1976.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/17	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	11	4	-	15	4.3	67	27.9	15	168	9.1	15
	4	2	-	-	2	.6	86	2.8	2	191	.0	2
	5	3	1	-	4	1.2	106	12.7	4	207	7.2	4
	6	43	43	-	86	24.8	146	26.4	80	219	10.6	86
	7	17	24	-	41	11.8	176	14.9	34	230	5.8	41
	8	64	72	-	136	39.2	192	25.8	122	236	9.8	136
	9	23	34	-	57	16.4	205	23.3	56	240	7.1	57
	10	4	1	-	5	1.4	204	15.8	4	250	8.7	5
	11+	1	-	-	1	.3	261	-	1	258	-	1
Period total		168	179	-	347	100.0	174	41.9	318	228	18.1	347
5/20	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	8	6	-	14	15.9	66	9.1	14	171	8.5	14
	4	1	1	-	2	2.3	88	26.2	2	235	50.9	2
	5	-	-	-	-	-	-	-	-	-	-	-
	6	10	5	-	15	17.0	145	27.4	15	216	8.8	15
	7	7	3	-	10	11.4	188	21.6	10	233	5.0	10
	8	17	13	-	30	34.1	195	17.6	30	236	5.5	30
	9	2	11	-	13	14.8	215	17.3	13	239	6.9	13
	10	1	2	-	3	3.4	230	8.6	3	248	3.1	3
	11+	-	1	-	1	1.1	228	-	1	241	-	1
Period total		46	42	-	88	100.0	167	55.1	88	223	25.6	88
5/21	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	10	-	19	9.8	68	7.6	19	178	22.9	19
	4	-	2	-	2	1.0	111	6.4	2	198	9.9	2
	5	1	1	-	2	1.0	152	16.3	2	220	2.8	2
	6	15	27	-	42	21.8	149	21.2	42	218	9.0	42
	7	13	16	-	29	15.0	175	21.6	29	230	6.9	29
	8	22	28	-	50	25.9	203	22.0	50	238	6.0	50
	9	22	21	-	43	22.3	208	23.1	43	240	6.2	43
	10	1	3	-	4	2.1	221	27.6	4	247	4.5	4
	11+	-	2	-	2	1.0	232	33.2	2	246	2.8	2
Period total		83	110	-	193	100.0	174	47.9	193	227	20.8	193

Table 33. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	19	21	-	40	25.5	65	10.1	40	171	7.9	40
	4	1	1	-	2	1.3	96	31.1	2	194	15.6	2
	5	1	1	-	2	1.3	143	31.8	2	215	15.6	2
6/ 2	6	10	10	-	20	12.7	146	27.1	20	219	11.2	20
	7	6	9	-	15	9.6	173	17.7	15	228	5.1	15
	8	18	25	-	43	27.4	194	27.6	43	235	9.5	43
	9	12	16	-	28	17.8	213	21.2	28	241	7.5	28
	10	3	2	-	5	3.2	223	19.8	5	246	9.9	5
	11+	1	1	-	2	1.3	238	26.9	2	261	2.1	2
Period total		71	86	-	157	100.0	156	62.3	157	217	29.7	157
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	47	41	-	88	11.2	66	14.0	88	172	13.1	88
	4	4	4	-	8	1.0	95	18.7	8	205	27.9	8
	5	5	3	-	8	1.0	127	27.3	8	212	9.7	8
All periods	6	78	85	-	163	20.8	147	25.1	157	219	10.1	163
	7	43	52	-	95	12.1	176	18.7	88	230	6.0	95
	8	121	138	-	259	33.0	195	24.7	245	236	8.7	259
	9	59	82	-	141	18.0	209	22.4	140	240	6.9	141
	10	9	8	-	17	2.2	219	20.2	16	248	7.1	17
	11+	2	4	-	6	.8	238	22.5	6	252	8.8	6
Total		368	417	-	785	100.0	169	50.2	756	225	22.8	785

Table 34. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Southern District of Lower Cook Inlet, 1977.

Sample Period	Age (years)	Sex				Percent of Total	Weight			Std. Length		
		Male	Female	Unknown	Total		Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	24	14	-	38	27.0	68	11.8	38	174	9.0	38
	4	47	33	-	80	56.7	99	13.5	80	194	8.1	80
	5	7	8	-	15	10.6	123	25.3	15	206	12.4	15
	6	-	1	-	1	.7	166	-	1	223	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	4	-	4	2.8	232	12.3	4	244	8.0	4
	9	-	2	-	2	1.4	179	42.4	2	227	7.8	2
	10	-	1	-	1	.7	169	-	1	232	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		78	63	-	141	100.0	99	34.8	141	193	17.3	141

Table 35. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Bruin Bay, Lower Cook Inlet, 1977.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/12	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	3	-	6	3.9	75	14.0	6	187	8.0	6
	4	36	21	-	57	37.3	100	15.7	57	209	8.8	57
	5	1	2	-	3	2.0	135	31.7	3	226	18.3	3
	6	3	-	-	3	2.0	145	34.6	3	234	14.2	3
	7	21	13	-	34	22.2	182	22.8	34	247	7.9	34
	8	10	8	-	18	11.8	225	25.7	18	258	8.0	18
	9	5	20	-	25	16.3	220	25.2	25	261	7.7	25
	10	2	5	-	7	4.6	230	16.8	7	265	7.6	7
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		81	72	-	153	100.0	159	59.0	153	234	25.8	153
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	18	12	-	30	24.2	63	11.8	30	177	10.6	30
	4	44	30	-	74	59.7	94	13.5	74	197	10.4	74
	5	1	3	-	4	3.2	129	18.9	4	210	13.1	4
	6	-	-	-	-	-	-	-	-	-	-	-
	7	5	4	-	9	7.3	168	19.4	9	241	10.6	9
	8	-	1	-	1	.8	222	-	1	263	-	1
	9	4	1	-	5	4.0	207	26.5	5	257	11.0	5
	10	-	1	-	1	.8	181	-	1	254	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		72	52	-	124	100.0	99	39.4	124	199	23.4	124
5/15	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	19	25	-	44	13.3	66	10.2	44	179	11.9	44
	4	69	69	-	138	41.7	101	19.1	138	198	11.7	138
	5	6	4	-	10	3.0	110	23.7	10	206	15.0	10
	6	2	6	-	8	2.4	158	29.0	8	235	10.9	8
	7	24	18	-	42	12.7	170	23.8	42	235	14.9	42
	8	18	9	-	27	8.2	186	31.6	27	245	14.2	27
	9	21	16	-	37	11.2	208	25.5	37	248	14.3	37
	10	14	11	-	25	7.6	223	26.8	25	251	12.7	25
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		173	158	-	331	100.0	135	56.2	331	215	28.4	331
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	40	40	-	80	13.2	66	11.4	80	179	11.3	80
	4	149	120	-	269	44.2	99	17.2	269	200	11.6	269
	5	8	9	-	17	2.8	119	25.0	17	211	16.0	17
	6	5	6	-	11	1.8	154	29.3	11	235	11.1	11
	7	50	35	-	85	14.0	175	23.5	85	240	13.2	85
	8	28	18	-	46	7.6	202	34.7	46	251	13.6	46
	9	30	37	-	67	11.0	212	25.7	67	254	13.3	67
	10	16	17	-	33	5.4	223	25.6	33	254	12.8	33
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		326	282	-	608	100.0	134	57.5	608	217	29.3	608

Table 36. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1977.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/10	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	.9	45	-	1	159	-	1
	3	22	19	-	41	38.0	67	11.6	41	179	8.0	41
	4	26	19	-	45	41.7	89	12.2	45	196	7.4	45
	5	2	6	-	8	7.4	95	9.1	8	201	7.1	8
	6	2	1	-	3	2.8	139	9.8	3	224	2.5	3
	7	2	3	-	5	4.6	160	63.6	5	242	4.9	5
	8	-	3	-	3	2.8	213	17.7	3	247	3.1	3
	9	1	1	-	2	1.9	227	10.6	2	258	4.2	2
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		55	53	-	108	100.0	91	39.6	108	195	21.0	108
5/12	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	5	5	-	10	37.0	62	8.8	10	169	6.7	10
	4	7	6	-	13	48.1	83	14.0	13	185	6.2	13
	5	1	1	-	2	7.4	141	23.3	2	210	8.5	2
	6	-	1	-	1	3.7	162	-	1	227	-	1
	7	-	1	-	1	3.7	191	-	1	236	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		13	14	-	27	100.0	86	35.3	27	184	18.9	27
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	.7	45	-	1	159	-	1
	3	27	24	-	51	37.8	66	11.3	51	177	8.8	51
	4	33	25	-	58	43.0	88	12.7	58	193	8.5	58
	5	3	7	-	10	7.4	104	22.4	10	203	7.8	10
	6	2	2	-	4	3.0	145	13.9	4	225	2.6	4
	7	2	4	-	6	4.4	165	58.3	6	241	5.1	6
	8	-	3	-	3	2.2	213	17.7	3	247	3.1	3
	9	1	1	-	2	1.5	227	10.6	2	258	4.2	2
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		68	67	-	135	100.0	90	38.7	135	193	21.0	135

Table 37. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Oil Bay, Lower Cook Inlet, 1977.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/30	1	1	-	-	1	.5	189	-	1	235	-	1
	2	-	-	-	-	-	-	-	-	-	-	-
	3	55	25	-	80	37.4	57	11.6	80	164	8.7	80
	4	24	34	-	58	27.1	94	15.8	58	192	11.7	58
	5	5	4	-	9	4.2	115	21.7	9	202	9.9	9
	6	1	2	-	3	1.4	165	8.1	3	226	1.5	3
	7	9	12	-	21	9.8	173	22.4	21	233	9.8	21
	8	6	8	-	14	6.5	199	22.2	14	240	8.1	14
	9	7	17	-	24	11.2	210	25.2	24	241	9.2	24
	10	2	2	-	4	1.9	207	21.9	4	242	3.8	4
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		110	104	-	214	100.0	112	60.8	214	196	32.2	214
5/31	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	17	7	-	24	28.6	61	13.3	24	167	12.2	24
	4	14	9	-	23	27.4	99	16.0	23	196	7.4	23
	5	2	2	-	4	4.8	107	14.2	4	200	9.5	4
	6	-	-	-	-	-	-	-	-	-	-	-
	7	3	9	-	12	14.3	168	29.8	12	230	12.4	12
	8	5	6	-	11	13.1	187	15.9	11	241	15.8	11
	9	3	5	-	8	9.5	205	33.3	8	249	5.2	8
	10	-	2	-	2	2.4	246	25.5	2	260	7.8	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		44	40	-	84	100.0	124	58.9	84	205	32.6	84
All periods	1	1	-	-	1	.3	189	-	1	235	-	1
	2	-	-	-	-	-	-	-	-	-	-	-
	3	72	32	-	104	34.9	58	12.0	104	165	9.7	104
	4	38	43	-	81	27.2	96	15.9	81	193	10.7	81
	5	7	6	-	13	4.4	113	19.6	13	201	9.4	13
	6	1	2	-	3	1.0	165	8.1	3	226	1.5	3
	7	12	21	-	33	11.1	171	25.0	33	232	10.7	33
	8	11	14	-	25	8.4	194	20.3	25	240	11.9	25
	9	10	22	-	32	10.7	209	27.0	32	243	9.0	32
	10	2	4	-	6	2.0	220	28.9	6	248	10.2	6
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		154	144	-	298	100.0	116	60.4	298	199	32.5	298

Table 38. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1977.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/10	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	.9	45	-	1	159	-	1
	3	22	19	-	41	38.0	67	11.6	41	179	8.0	41
	4	26	19	-	45	41.7	89	12.2	45	196	7.4	45
	5	2	6	-	8	7.4	95	9.1	8	201	7.1	8
	6	2	1	-	3	2.8	139	9.8	3	224	2.5	3
	7	2	3	-	5	4.6	160	63.6	5	242	4.9	5
	8	-	3	-	3	2.8	213	17.7	3	247	3.1	3
	9	1	1	-	2	1.9	227	10.6	2	258	4.2	2
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		55	53	-	108	100.0	91	39.6	108	195	21.0	108
5/12	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	8	8	-	16	8.9	67	12.4	16	176	11.6	16
	4	43	27	-	70	38.9	97	16.6	70	204	12.5	70
	5	2	3	-	5	2.8	137	25.4	5	219	16.1	5
	6	3	1	-	4	2.2	150	29.4	4	232	12.1	4
	7	21	14	-	35	19.4	182	22.5	35	246	8.0	35
	8	10	8	-	18	10.0	225	25.7	18	258	8.0	18
	9	5	20	-	25	13.9	220	25.2	25	261	7.7	25
	10	2	5	-	7	3.9	230	16.8	7	265	7.6	7
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		94	86	-	180	100.0	148	61.8	180	227	30.6	180
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	18	12	-	30	24.2	63	11.8	30	177	10.6	30
	4	44	30	-	74	59.7	94	13.5	74	197	10.4	74
	5	1	3	-	4	3.2	129	18.9	4	210	13.1	4
	6	-	-	-	-	-	-	-	-	-	-	-
	7	5	4	-	9	7.3	168	19.4	9	241	10.6	9
	8	-	1	-	1	.8	222	-	1	263	-	1
	9	4	1	-	5	4.0	207	26.5	5	257	11.0	5
	10	-	1	-	1	.8	181	-	1	254	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		72	52	-	124	100.0	99	39.4	124	199	23.4	124
5/15	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	19	25	-	44	13.3	66	10.2	44	179	11.9	44
	4	69	69	-	138	41.7	101	19.1	138	198	11.7	138
	5	6	4	-	10	3.0	110	23.7	10	206	15.0	10
	6	2	6	-	8	2.4	158	29.0	8	235	10.9	8
	7	24	18	-	42	12.7	170	23.8	42	235	14.9	42
	8	18	9	-	27	8.2	186	31.6	27	245	14.2	27
	9	21	16	-	37	11.2	208	25.5	37	248	14.3	37
	10	14	11	-	25	7.6	223	26.8	25	251	12.7	25
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		173	158	-	331	100.0	135	56.2	331	215	28.4	331

Table 38. (Continued)

	1	1	-	-	1	.5	189	-	1	235	-	1
	2	-	-	-	-	-	-	-	-	-	-	-
	3	55	25	-	80	37.4	57	11.6	80	164	8.7	80
	4	24	34	-	58	27.1	94	15.8	58	192	11.7	58
	5	5	4	-	9	4.2	115	21.7	9	202	9.9	9
5/30	6	1	2	-	3	1.4	165	8.1	3	226	1.5	3
	7	9	12	-	21	9.8	173	22.4	21	233	9.8	21
	8	6	8	-	14	6.5	199	22.2	14	240	8.1	14
	9	7	17	-	24	11.2	210	25.2	24	241	9.2	24
	10	2	2	-	4	1.9	207	21.9	4	242	3.8	4
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		110	104	-	214	100.0	112	60.8	214	196	32.2	214
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	17	7	-	24	28.6	61	13.3	24	167	12.2	24
	4	14	9	-	23	27.4	99	16.0	23	196	7.4	23
	5	2	2	-	4	4.8	107	14.2	4	200	9.5	4
5/31	6	-	-	-	-	-	-	-	-	-	-	-
	7	3	9	-	12	14.3	168	29.8	12	230	12.4	12
	8	5	6	-	11	13.1	187	15.9	11	241	15.8	11
	9	3	5	-	8	9.5	205	33.3	8	249	5.2	8
	10	-	2	-	2	2.4	246	25.5	2	260	7.8	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		44	40	-	84	100.0	124	58.9	84	205	32.6	84
	1	1	-	-	1	.1	189	-	1	235	-	1
	2	-	1	-	1	.1	45	-	1	159	-	1
	3	139	96	-	235	22.6	62	12.2	235	172	12.1	235
	4	220	188	-	408	39.2	97	16.8	408	198	11.5	408
	5	18	22	-	40	3.8	113	23.0	40	206	12.8	40
All periods	6	8	10	-	18	1.7	154	24.2	18	231	9.9	18
	7	64	60	-	124	11.9	173	26.1	124	238	12.8	124
	8	39	35	-	74	7.1	200	30.2	74	247	13.6	74
	9	41	60	-	101	9.7	212	25.9	101	250	12.9	101
	10	18	21	-	39	3.7	222	25.7	39	253	12.6	39
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		548	493	-	1041	100.0	123	58.2	1041	208	30.9	1041

Table 39. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Bruin Bay, Lower Cook Inlet, 1978.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	1.6	85	-	1	202	-	1
	4	21	8	-	29	46.0	103	24.8	29	215	10.9	29
	5	8	10	-	18	28.6	130	23.3	18	228	10.7	18
5/ 4	6	1	4	-	5	7.9	203	33.4	5	256	10.6	5
	7	4	-	-	4	6.3	173	46.7	4	243	14.1	4
	8	2	3	-	5	7.9	192	13.6	5	255	8.4	5
	9	1	-	-	1	1.6	203	-	1	261	-	1
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		37	26	-	63	100.0	131	43.9	63	227	18.6	63

Table 40. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Rocky Cove, Lower Cook Inlet, 1978.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/21	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	12	7	-	19	10.8	61	9.6	19	173	8.6	19
	4	32	32	-	64	36.4	87	17.9	63	191	10.5	64
	5	27	34	-	61	34.7	123	20.0	61	210	10.9	61
	6	-	1	-	1	.6	136	-	1	222	-	1
	7	1	-	-	1	.6	182	-	1	245	-	1
	8	4	3	-	7	4.0	173	28.9	7	238	15.1	7
	9	5	3	-	8	4.5	208	25.3	8	247	10.7	8
	10	3	8	-	11	6.3	220	21.2	11	251	8.2	11
	11+	-	4	-	4	2.3	232	28.3	4	250	7.2	4
Period total		84	92	-	176	100.0	118	50.4	175	206	24.7	176
5/22	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	5	-	14	11.3	65	11.7	14	176	10.3	14
	4	24	15	-	39	31.5	82	21.5	39	192	13.4	39
	5	16	16	-	32	25.8	110	34.4	32	209	10.8	32
	6	3	-	-	3	2.4	111	9.7	3	207	5.0	3
	7	4	7	-	11	8.9	138	36.9	11	227	12.8	11
	8	4	2	-	6	4.8	195	38.6	6	239	14.8	6
	9	5	3	-	8	6.5	210	20.6	8	248	9.1	8
	10	2	3	-	5	4.0	213	42.3	5	253	8.8	5
	11+	2	4	-	6	4.8	185	51.2	6	249	7.0	6
Period total		69	55	-	124	100.0	117	55.1	124	209	25.8	124
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	21	12	-	33	11.0	63	10.5	33	174	9.4	33
	4	56	47	-	103	34.3	85	19.4	102	192	11.6	103
	5	43	50	-	93	31.0	118	26.4	93	210	10.9	93
	6	3	1	-	4	1.3	118	14.7	4	211	8.4	4
	7	5	7	-	12	4.0	142	37.3	12	228	13.3	12
	8	8	5	-	13	4.3	183	34.3	13	238	14.4	13
	9	10	6	-	16	5.3	209	22.3	16	247	9.6	16
	10	5	11	-	16	5.3	218	28.1	16	251	8.1	16
	11+	2	8	-	10	3.3	204	48.0	10	249	6.7	10
Total		153	147	-	300	100.0	118	52.3	299	207	25.2	300

Table 41. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1978.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/10	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	10	-	11	33.3	18	6.1	11	122	9.1	11
	3	2	1	-	3	9.1	51	6.5	3	162	8.5	3
	4	6	9	-	15	45.5	90	26.6	15	195	14.5	15
	5	1	1	-	2	6.1	107	20.5	2	204	8.5	2
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	1	-	1	3.0	150	-	1	228	-	1
	10	-	1	-	1	3.0	157	-	1	258	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		10	23	-	33	100.0	67	44.8	33	171	40.4	33
5/19	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	5	3	-	8	7.8	65	13.2	8	174	9.7	8
	4	28	18	-	46	45.1	91	18.3	46	193	11.0	46
	5	16	18	-	34	33.3	113	18.7	34	206	10.1	34
	6	4	3	-	7	6.9	168	25.0	7	232	10.7	7
	7	-	1	-	1	1.0	196	-	1	226	-	1
	8	-	2	-	2	2.0	219	79.9	2	239	12.7	2
	9	-	1	-	1	1.0	197	-	1	242	-	1
	10	-	3	-	3	2.9	227	15.0	3	251	12.1	3
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		53	49	-	102	100.0	110	41.6	102	202	19.9	102
5/20	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	19	7	-	26	23.0	61	12.4	26	171	9.8	26
	4	29	38	-	67	59.3	83	15.4	67	184	9.7	67
	5	4	10	-	14	12.4	115	33.7	14	198	11.0	14
	6	-	-	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	1.8	165	39.6	2	234	14.8	2
	8	2	1	-	3	2.7	189	20.8	3	249	8.3	3
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	1	-	1	.9	260	-	1	251	-	1
Period total		55	58	-	113	100.0	88	35.3	113	186	18.7	113
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	10	-	11	4.4	18	6.1	11	122	9.1	11
	3	26	11	-	37	14.9	61	12.4	37	171	9.8	37
	4	63	65	-	128	51.6	87	18.4	128	188	11.6	128
	5	21	29	-	50	20.2	113	23.4	50	204	10.8	50
	6	4	3	-	7	2.8	168	25.0	7	232	10.7	7
	7	1	2	-	3	1.2	175	33.2	3	231	11.4	3
	8	2	3	-	5	2.0	201	45.5	5	245	10.2	5
	9	-	2	-	2	.8	174	33.2	2	235	9.9	2
	10	-	4	-	4	1.6	210	37.3	4	253	10.5	4
	11+	-	1	-	1	.4	260	-	1	251	-	1
Total		118	130	-	248	100.0	94	41.9	248	191	25.4	248

Table 42. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1978.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 4	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	1.6	85	-	1	202	-	1
	4	21	8	-	29	46.0	103	24.8	29	215	10.9	29
	5	8	10	-	18	28.6	130	23.3	18	228	10.7	18
	6	1	4	-	5	7.9	203	33.4	5	256	10.6	5
	7	4	-	-	4	6.3	173	46.7	4	243	14.1	4
	8	2	3	-	5	7.9	192	13.6	5	255	8.4	5
	9	1	-	-	1	1.6	203	-	1	261	-	1
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		37	26	-	63	100.0	131	43.9	63	227	18.6	63
5/10	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	10	-	11	33.3	18	6.1	11	122	9.1	11
	3	2	1	-	3	9.1	51	6.5	3	162	8.5	3
	4	6	9	-	15	45.5	90	26.6	15	195	14.5	15
	5	1	1	-	2	6.1	107	20.5	2	204	8.5	2
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	1	-	1	3.0	150	-	1	228	-	1
	10	-	1	-	1	3.0	157	-	1	258	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		10	23	-	33	100.0	67	44.8	33	171	40.4	33
5/19	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	5	3	-	8	7.8	65	13.2	8	174	9.7	8
	4	28	18	-	46	45.1	91	18.3	46	193	11.0	46
	5	16	18	-	34	33.3	113	18.7	34	206	10.1	34
	6	4	3	-	7	6.9	168	25.0	7	232	10.7	7
	7	-	1	-	1	1.0	196	-	1	226	-	1
	8	-	2	-	2	2.0	219	79.9	2	239	12.7	2
	9	-	1	-	1	1.0	197	-	1	242	-	1
	10	-	3	-	3	2.9	227	15.0	3	251	12.1	3
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		53	49	-	102	100.0	110	41.6	102	202	19.9	102
5/20	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	19	7	-	26	23.0	61	12.4	26	171	9.8	26
	4	29	38	-	67	59.3	83	15.4	67	184	9.7	67
	5	4	10	-	14	12.4	115	33.7	14	198	11.0	14
	6	-	-	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	1.8	165	39.6	2	234	14.8	2
	8	2	1	-	3	2.7	189	20.8	3	249	8.3	3
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	1	-	1	.9	260	-	1	251	-	1
Period total		55	58	-	113	100.0	88	35.3	113	186	18.7	113

Table 42. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	12	7	-	19	10.8	61	9.6	19	173	8.6	19
	4	32	32	-	64	36.4	87	17.9	63	191	10.5	64
	5	27	34	-	61	34.7	123	20.0	61	210	10.9	61
5/21	6	-	1	-	1	.6	136	-	1	222	-	1
	7	1	-	-	1	.6	182	-	1	245	-	1
	8	4	3	-	7	4.0	173	28.9	7	238	15.1	7
	9	5	3	-	8	4.5	208	25.3	8	247	10.7	8
	10	3	8	-	11	6.3	220	21.2	11	251	8.2	11
	11+	-	4	-	4	2.3	232	28.3	4	250	7.2	4
Period total		84	92	-	176	100.0	118	50.4	175	206	24.7	176
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	5	-	14	11.3	65	11.7	14	176	10.3	14
	4	24	15	-	39	31.5	82	21.5	39	192	13.4	39
	5	16	16	-	32	25.8	110	34.4	32	209	10.8	32
5/22	6	3	-	-	3	2.4	111	9.7	3	207	5.0	3
	7	4	7	-	11	8.9	138	36.9	11	227	12.8	11
	8	4	2	-	6	4.8	195	38.6	6	239	14.8	6
	9	5	3	-	8	6.5	210	20.6	8	248	9.1	8
	10	2	3	-	5	4.0	213	42.3	5	253	8.8	5
	11+	2	4	-	6	4.8	185	51.2	6	249	7.0	6
Period total		69	55	-	124	100.0	117	55.1	124	209	25.8	124
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	10	-	11	1.8	18	6.1	11	122	9.1	11
	3	47	24	-	71	11.6	62	11.7	71	173	10.3	71
	4	140	120	-	260	42.6	88	20.2	259	193	14.1	260
	5	72	89	-	161	26.4	118	25.5	161	210	12.8	161
All periods	6	8	8	-	16	2.6	166	40.8	16	234	19.7	16
	7	10	9	-	19	3.1	154	39.8	19	232	13.9	19
	8	12	11	-	23	3.8	189	33.3	23	243	13.7	23
	9	11	8	-	19	3.1	205	24.6	19	247	10.5	19
	10	5	15	-	20	3.3	216	29.2	20	252	8.4	20
	11+	2	9	-	11	1.8	209	48.6	11	249	6.4	11
Total		308	303	-	611	100.0	110	49.2	610	202	27.2	611

Table 43. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Bruin Bay, Lower Cook Inlet, 1979.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	2.9	85	-	1	198	-	1
	3	8	6	-	14	40.0	86	18.6	14	200	10.6	14
	4	-	2	-	2	5.7	118	41.0	2	218	11.3	2
	5	5	5	-	10	28.6	130	24.2	10	228	14.3	10
	6	2	5	-	7	20.0	156	17.8	7	237	7.2	7
	7	-	-	-	-	-	-	-	-	-	-	-
	8	1	-	-	1	2.9	221	-	1	273	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		16	19	-	35	100.0	118	38.6	35	218	21.0	35
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	-	-	3	12.0	64	4.7	3	198	3.1	3
	4	4	2	-	6	24.0	91	11.7	6	212	10.7	6
	5	-	8	-	8	32.0	139	16.7	8	231	9.7	8
	6	4	2	-	6	24.0	154	16.7	6	245	8.8	6
	7	1	1	-	2	8.0	187	65.1	2	259	28.3	2
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		12	13	-	25	100.0	126	41.2	25	228	20.8	25
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	1.7	85	-	1	198	-	1
	3	11	6	-	17	28.3	82	19.0	17	200	9.7	17
	4	4	4	-	8	13.3	98	22.2	8	214	10.4	8
	5	5	13	-	18	30.0	134	21.1	18	229	12.3	18
	6	6	7	-	13	21.7	155	16.6	13	240	8.7	13
	7	1	1	-	2	3.3	187	65.1	2	259	28.3	2
	8	1	-	-	1	1.7	221	-	1	273	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		28	32	-	60	100.0	122	39.6	60	222	21.3	60

Table 44. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Fortification Bluff, Lower Cook Inlet, 1979.

Sample Period	Age (years)	Sex				Percent of Total	Weight			Std. Length		
		Male	Female	Unknown	Total		Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/25	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	9	5	-	14	37.8	65	13.1	14	182	11.0	14
	4	6	3	-	9	24.3	98	11.2	9	205	10.4	9
	5	2	7	-	9	24.3	121	14.9	9	217	7.1	9
	6	1	4	-	5	13.5	162	17.2	5	240	6.3	5
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		18	19	-	37	100.0	100	36.1	37	204	22.0	37

Table 45. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Rocky Cove, Lower Cook Inlet, 1979.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	2	-	2	3.3	65	24.0	2	191	12.0	2
	4	6	7	-	13	21.7	112	25.2	13	216	9.8	13
	5	13	18	-	31	51.7	130	20.0	31	226	8.4	31
	6	6	1	-	7	11.7	151	32.1	7	237	10.9	7
	7	1	-	-	1	1.7	188	-	1	251	-	1
	8	2	1	-	3	5.0	223	11.8	3	260	4.6	3
	9	-	1	-	1	1.7	238	-	1	263	-	1
	10	-	2	-	2	3.3	266	37.5	2	272	.0	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		28	32	-	60	100.0	138	44.6	60	228	17.5	60
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	-	-	3	9.1	71	12.2	3	198	1.0	3
	4	3	4	-	7	21.2	109	22.7	7	220	6.4	7
	5	5	7	-	12	36.4	131	17.8	12	230	7.0	12
	6	6	4	-	10	30.3	159	12.9	10	238	6.5	10
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	1	-	1	3.0	304	-	1	276	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		17	16	-	33	100.0	135	43.3	33	229	15.5	33
5/25	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	8	12	-	20	50.0	67	14.2	20	182	9.0	20
	4	1	1	-	2	5.0	87	27.6	2	193	19.1	2
	5	5	5	-	10	25.0	119	18.6	10	214	11.5	10
	6	5	2	-	7	17.5	150	33.9	7	232	10.2	7
	7	-	-	-	-	-	-	-	-	-	-	-
	8	1	-	-	1	2.5	186	-	1	236	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		20	20	-	40	100.0	98	40.7	40	200	23.2	40
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	11	14	-	25	18.8	67	14.1	25	184	10.1	25
	4	10	12	-	22	16.5	109	24.5	22	215	11.9	22
	5	23	30	-	53	39.8	128	19.5	53	225	10.3	53
	6	17	7	-	24	18.0	154	25.6	24	236	9.0	24
	7	1	-	-	1	.8	188	-	1	251	-	1
	8	3	2	-	5	3.8	232	44.2	5	258	14.7	5
	9	-	1	-	1	.8	238	-	1	263	-	1
	10	-	2	-	2	1.5	266	37.5	2	272	.0	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		65	68	-	133	100.0	125	46.4	133	220	22.9	133

Table 46. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1979.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	3.0	98	-	1	213	-	1
	3	2	-	-	2	6.1	50	.0	2	177	3.5	2
	4	2	4	-	6	18.2	93	11.8	6	208	9.4	6
	5	8	6	-	14	42.4	121	22.4	14	222	12.1	14
	6	1	7	-	8	24.2	170	25.6	8	242	6.2	8
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	1	-	-	1	3.0	162	-	1	232	-	1
	10	1	-	-	1	3.0	205	-	1	249	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		16	17	-	33	100.0	127	41.1	33	222	19.4	33
5/15	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	1	-	4	10.3	85	18.6	4	191	9.4	4
	4	4	8	-	12	30.8	109	16.6	12	207	11.0	12
	5	7	5	-	12	30.8	140	20.4	12	226	8.4	12
	6	5	5	-	10	25.6	168	33.1	10	234	12.8	10
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	1	-	1	2.6	171	-	1	236	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	20	-	39	100.0	133	35.9	39	219	17.6	39
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	1.4	98	-	1	213	-	1
	3	5	1	-	6	8.3	73	22.9	6	186	10.7	6
	4	6	12	-	18	25.0	103	16.6	18	207	10.2	18
	5	15	11	-	26	36.1	130	23.2	26	224	10.5	26
	6	6	12	-	18	25.0	169	29.2	18	237	11.0	18
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	1	-	1	1.4	171	-	1	236	-	1
	9	1	-	-	1	1.4	162	-	1	232	-	1
	10	1	-	-	1	1.4	205	-	1	249	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		35	37	-	72	100.0	130	38.2	72	220	18.4	72

Table 47. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1979.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/13	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	1.6	92	9.2	2	206	10.6	2
	3	10	8	-	18	14.1	80	21.5	18	196	12.5	18
	4	8	13	-	21	16.4	107	24.2	21	214	10.1	21
	5	26	29	-	55	43.0	128	21.3	55	225	10.7	55
	6	9	13	-	22	17.2	160	26.0	22	239	8.3	22
	7	1	-	-	1	.8	188	-	1	251	-	1
	8	3	1	-	4	3.1	223	9.7	4	263	7.5	4
	9	1	1	-	2	1.6	200	53.7	2	248	21.9	2
	10	1	2	-	3	2.3	245	43.8	3	264	13.3	3
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		60	68	-	128	100.0	130	42.7	128	224	19.3	128
5/14	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	6	-	-	6	10.3	67	9.2	6	198	2.0	6
	4	7	6	-	13	22.4	101	20.0	13	217	9.3	13
	5	5	15	-	20	34.5	134	17.4	20	231	8.0	20
	6	10	6	-	16	27.6	157	14.1	16	241	7.8	16
	7	1	1	-	2	3.4	187	65.1	2	259	28.3	2
	8	-	1	-	1	1.7	304	-	1	276	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		29	29	-	58	100.0	131	42.2	58	229	17.8	58
5/15	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	1	-	4	10.3	85	18.6	4	191	9.4	4
	4	4	8	-	12	30.8	109	16.6	12	207	11.0	12
	5	7	5	-	12	30.8	140	20.4	12	226	8.4	12
	6	5	5	-	10	25.6	168	33.1	10	234	12.8	10
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	1	-	1	2.6	171	-	1	236	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		19	20	-	39	100.0	133	35.9	39	219	17.6	39

Table 47. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	8	12	-	20	50.0	67	14.2	20	182	9.0	20
	4	1	1	-	2	5.0	87	27.6	2	193	19.1	2
	5	5	5	-	10	25.0	119	18.6	10	214	11.5	10
5/25	6	5	2	-	7	17.5	150	33.9	7	232	10.2	7
	7	-	-	-	-	-	-	-	-	-	-	-
	8	1	-	-	1	2.5	186	-	1	236	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		20	20	-	40	100.0	98	40.7	40	200	23.2	40
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	.8	92	9.2	2	206	10.6	2
	3	27	21	-	48	18.1	73	18.1	48	190	12.2	48
	4	20	28	-	48	18.1	105	21.3	48	212	11.5	48
	5	43	54	-	97	36.6	130	20.7	97	225	10.8	97
All periods	6	29	26	-	55	20.8	159	25.6	55	237	9.6	55
	7	2	1	-	3	1.1	187	46.0	3	256	20.5	3
	8	4	3	-	7	2.6	222	42.6	7	257	16.2	7
	9	1	1	-	2	.8	200	53.7	2	248	21.9	2
	10	1	2	-	3	1.1	245	43.8	3	264	13.3	3
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		128	137	-	265	100.0	126	42.8	265	221	21.3	265

Table 48. Age, sex and size of Pacific herring from test gillnets fished near Douglas Reef, Lower Cook Inlet, 1981.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 5	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	8.3	75	-	1	180	-	1
	4	5	3	-	8	66.7	89	10.1	8	194	7.4	8
	5	2	-	-	2	16.7	120	13.4	2	215	7.1	2
	6	1	-	-	1	8.3	121	-	1	210	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		9	3	-	12	100.0	96	17.6	12	198	12.2	12

Table 49. Age, sex and size of Pacific herring from test gillnets fished at Rocky Cove, Lower Cook Inlet, 1981.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 7	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	5.3	65	-	1	180	-	1
	4	13	2	-	15	78.9	87	19.7	15	189	11.9	15
	5	2	1	-	3	15.8	127	20.3	3	213	11.5	3
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		15	4	-	19	100.0	92	24.6	19	192	14.7	19

Table 50. Age, sex and size of Pacific herring from test gillnets fished in the Kamishak Bay District of Lower Cook Inlet, 1981.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 5	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	8.3	75	-	1	180	-	1
	4	5	3	-	8	66.7	89	10.1	8	194	7.4	8
	5	2	-	-	2	16.7	120	13.4	2	215	7.1	2
	6	1	-	-	1	8.3	121	-	1	210	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		9	3	-	12	100.0	96	17.6	12	198	12.2	12
5/ 7	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	5.3	65	-	1	180	-	1
	4	13	2	-	15	78.9	87	19.7	15	189	11.9	15
	5	2	1	-	3	15.8	127	20.3	3	213	11.5	3
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		15	4	-	19	100.0	92	24.6	19	192	14.7	19
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	1	-	2	6.5	70	7.1	2	180	.0	2
	4	18	5	-	23	74.2	88	16.8	23	190	10.7	23
	5	4	1	-	5	16.1	124	16.3	5	214	8.9	5
	6	1	-	-	1	3.2	121	-	1	210	-	1
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		24	7	-	31	100.0	94	21.9	31	194	13.9	31

Table 51. Age, sex and size of Pacific herring from test seine sets made in Ursus Cove, Lower Cook Inlet, 1983.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	.7	94	-	1	197	-	1
	4	24	24	-	48	34.8	127	15.5	48	217	8.3	48
	5	12	11	-	23	16.7	143	20.1	23	224	7.3	23
5/ 7	6	13	16	-	29	21.0	172	28.8	29	236	10.0	29
	7	9	8	-	17	12.3	179	21.8	17	239	8.6	17
	8	5	3	-	8	5.8	212	29.0	8	251	6.5	8
	9	7	2	-	9	6.5	209	23.0	9	255	7.6	9
	10	1	-	-	1	.7	210	-	1	256	-	1
	11+	1	1	-	2	1.4	253	41.7	2	241	19.8	2
Period total		72	66	-	138	100.0	158	38.0	138	230	15.4	138

Table 52. Age, sex and size of Pacific herring from test seine sets made in outer Iniskin Bay, Lower Cook Inlet, 1983.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	2	-	5	3.4	90	55.4	5	195	28.6	5
	4	30	35	-	65	43.6	121	17.2	65	213	8.4	65
	5	13	15	-	28	18.8	143	21.1	28	224	7.4	28
5/ 7	6	15	13	-	28	18.8	162	23.6	28	231	8.5	28
	7	8	6	-	14	9.4	184	27.3	14	242	11.0	14
	8	1	2	-	3	2.0	192	38.1	3	242	18.5	3
	9	3	3	-	6	4.0	217	34.3	6	254	6.7	6
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		73	76	-	149	100.0	143	36.5	149	223	15.9	149

Table 53. Age, sex and size of Pacific herring from test seine sets made in upper Iniskin Bay, Lower Cook Inlet, 1983.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	10	16	-	26	19.3	76	23.1	26	192	11.4	26
	4	31	24	-	55	40.7	103	16.9	55	211	7.6	55
	5	14	9	-	23	17.0	117	11.7	23	222	8.1	23
5/ 7	6	8	16	-	24	17.8	136	19.7	24	231	9.2	24
	7	1	2	-	3	2.2	148	26.5	3	236	19.4	3
	8	2	-	-	2	1.5	153	10.6	2	240	4.9	2
	9	1	-	-	1	.7	175	-	1	252	-	1
	10	-	1	-	1	.7	193	-	1	254	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		67	68	-	135	100.0	109	28.6	135	214	16.8	135

Table 54. Age, sex and size of Pacific herring from test seine sets made in Iniskin Bay, Lower Cook Inlet, 1983.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	13	18	-	31	10.9	79	29.7	31	193	14.8	31
	4	61	59	-	120	42.3	113	19.1	120	212	8.1	120
	5	27	24	-	51	18.0	131	21.8	51	223	7.8	51
5/ 7	6	23	29	-	52	18.3	150	25.5	52	231	8.7	52
	7	9	8	-	17	6.0	178	29.9	17	241	12.2	17
	8	3	2	-	5	1.8	176	35.1	5	241	13.4	5
	9	4	3	-	7	2.5	211	35.1	7	254	6.2	7
	10	-	1	-	1	.4	193	-	1	254	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		140	144	-	284	100.0	127	37.0	284	219	16.9	284

Table 55. Age, sex and size of Pacific herring from test seine sets made in Oil Bay, Lower Cook Inlet, 1983.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	1	-	3	2.1	86	14.1	3	193	10.1	3
	4	20	19	-	39	26.9	124	17.1	39	215	8.9	39
	5	9	15	-	24	16.6	142	18.7	24	223	6.2	24
5/ 7	6	25	23	-	48	33.1	163	23.4	48	232	7.9	48
	7	7	2	-	9	6.2	188	33.1	9	241	8.7	9
	8	5	5	-	10	6.9	199	25.8	10	242	7.6	10
	9	3	7	-	10	6.9	209	29.4	10	246	5.6	10
	10	1	1	-	2	1.4	235	.7	2	256	2.1	2
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		72	73	-	145	100.0	156	37.0	145	228	14.1	145

Table 56. Age, sex and size of Pacific herring from test seine sets made in the Kamishak Bay District of Lower Cook Inlet,1983.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	15	20	-	35	6.2	80	28.3	35	193	14.1	35
	4	105	102	-	207	36.5	118	19.0	207	214	8.5	207
	5	48	50	-	98	17.3	137	21.3	98	223	7.2	98
5/ 7	6	61	68	-	129	22.8	160	26.8	129	233	8.9	129
	7	25	18	-	43	7.6	180	27.3	43	240	10.0	43
	8	13	10	-	23	4.1	198	30.7	23	245	9.4	23
	9	14	12	-	26	4.6	210	27.9	26	251	7.6	26
	10	2	2	-	4	.7	218	20.3	4	255	1.5	4
	11+	1	1	-	2	.4	253	41.7	2	241	19.8	2
Period total		284	283	-	567	100.0	142	40.1	567	224	16.6	567

Table 57. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Resurrection Bay, Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	24	3	-	27	13.0	55	6.6	27	164	6.4	27
	3	36	23	1	60	28.8	79	13.7	60	185	9.1	60
	4	18	25	-	43	20.7	103	21.1	43	197	8.0	43
	5	33	21	1	55	26.4	116	15.9	55	207	15.0	55
5/ 1	6	9	5	1	15	7.2	140	21.9	15	221	9.4	15
	7	2	2	-	4	1.9	154	58.3	4	227	16.2	4
	8	2	1	-	3	1.4	175	32.5	3	234	15.5	3
	9	1	-	-	1	.5	173	-	1	231	-	1
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		125	80	3	208	100.0	98	32.3	208	195	20.1	208

Table 58. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Two Arm Bay, Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	6	1	-	7	13.5	62	9.2	7	166	7.7	7
	3	5	5	-	10	19.2	94	5.3	10	187	4.3	10
	4	8	13	-	21	40.4	121	19.6	21	202	10.0	21
	5	4	6	-	10	19.2	145	27.1	10	214	9.9	10
5/ 3	6	2	1	-	3	5.8	160	50.1	3	218	19.9	3
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	1	-	1	1.9	271	-	1	255	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		25	27	-	52	100.0	118	40.6	52	198	19.7	52

Table 59. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Outer and Eastern Districts of Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 1	1	-	-	-	-	-	-	-	-	-	-	-
	2	24	3	-	27	13.0	55	6.6	27	164	6.4	27
	3	36	23	1	60	28.8	79	13.7	60	185	9.1	60
	4	18	25	-	43	20.7	103	21.1	43	197	8.0	43
	5	33	21	1	55	26.4	116	15.9	55	207	15.0	55
	6	9	5	1	15	7.2	140	21.9	15	221	9.4	15
	7	2	2	-	4	1.9	154	58.3	4	227	16.2	4
	8	2	1	-	3	1.4	175	32.5	3	234	15.5	3
	9	1	-	-	1	.5	173	-	1	231	-	1
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		125	80	3	208	100.0	98	32.3	208	195	20.1	208
5/ 3	1	-	-	-	-	-	-	-	-	-	-	-
	2	6	1	-	7	13.5	62	9.2	7	166	7.7	7
	3	5	5	-	10	19.2	94	5.3	10	187	4.3	10
	4	8	13	-	21	40.4	121	19.6	21	202	10.0	21
	5	4	6	-	10	19.2	145	27.1	10	214	9.9	10
	6	2	1	-	3	5.8	160	50.1	3	218	19.9	3
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	1	-	1	1.9	271	-	1	255	-	1
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		25	27	-	52	100.0	118	40.6	52	198	19.7	52
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	30	4	-	34	13.1	56	7.6	34	165	6.6	34
	3	41	28	1	70	26.9	81	13.8	70	185	8.6	70
	4	26	38	-	64	24.6	109	22.3	64	199	8.9	64
	5	37	27	1	65	25.0	121	20.6	65	208	14.5	65
	6	11	6	1	18	6.9	143	27.4	18	221	11.0	18
	7	2	2	-	4	1.5	154	58.3	4	227	16.2	4
	8	2	2	-	4	1.5	199	55.0	4	239	16.5	4
	9	1	-	-	1	.4	173	-	1	231	-	1
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		150	107	3	260	100.0	102	34.9	260	196	20.0	260

Table 60. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at McNeil River, Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	1.1	48	.0	2	156	7.8	2
	3	-	1	-	1	.5	80	-	1	184	-	1
	4	24	28	-	52	28.0	117	21.5	52	207	7.1	52
	5	21	13	-	34	18.3	143	21.9	34	219	9.2	34
5/12	6	25	21	-	46	24.7	165	30.5	46	231	9.0	46
	7	11	6	-	17	9.1	180	31.0	17	238	8.5	17
	8	12	10	-	22	11.8	193	27.8	22	240	11.3	22
	9	3	2	-	5	2.7	203	17.8	5	239	4.0	5
	10	3	1	-	4	2.2	198	52.0	4	251	2.9	4
	11+	2	1	-	3	1.6	214	29.6	3	251	10.4	3
Period total		102	84	-	186	100.0	153	40.7	186	224	17.6	186

Table 61. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Kerschner Lake, Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	4	6	2	12	5.3	133	11.7	12	211	5.7	12
	5	11	14	2	27	12.0	159	19.7	27	221	8.3	27
5/ 1	6	16	26	4	46	20.4	196	21.6	46	233	8.6	46
	7	16	18	6	40	17.8	210	23.7	40	237	7.4	40
	8	21	25	9	55	24.4	231	29.9	55	245	9.2	55
	9	9	6	2	17	7.6	240	23.6	17	250	4.9	17
	10	6	8	1	15	6.7	254	27.2	15	250	7.4	15
	11+	6	5	2	13	5.8	262	25.9	13	255	7.1	13
Period total		89	108	28	225	100.0	210	41.4	225	238	13.7	225

Table 62. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Rocky Cove, Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex			Total	Percent of Total	Weight			Std. Length		
		Male	Female	Unknown			Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/27	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	2	-	3	4.2	142	22.3	3	222	14.2	3
	5	4	2	-	6	8.5	165	10.6	6	228	8.3	6
	6	10	4	-	14	19.7	192	21.7	14	236	9.3	14
	7	8	5	-	13	18.3	205	36.2	13	245	9.5	13
	8	7	11	-	18	25.4	241	32.5	18	248	7.5	18
	9	2	4	-	6	8.5	254	30.4	6	254	5.9	6
	10	2	4	-	6	8.5	264	30.5	6	262	8.3	6
	11+	1	4	-	5	7.0	269	34.9	5	258	9.1	5
Period total		35	36	-	71	100.0	219	45.4	71	245	13.3	71
4/28	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	2	8	-	10	4.5	130	12.0	10	208	5.4	10
	5	9	7	-	16	7.1	156	16.8	16	218	8.2	16
	6	15	16	-	31	13.8	183	28.2	31	229	13.4	31
	7	13	15	-	28	12.5	220	25.3	28	242	7.2	28
	8	30	38	1	69	30.8	222	31.4	69	244	8.7	69
	9	19	21	1	41	18.3	243	31.5	41	249	8.6	41
	10	5	8	-	13	5.8	244	22.6	13	252	7.7	13
	11+	9	7	-	16	7.1	258	24.0	16	253	5.5	16
Period total		102	120	2	224	100.0	215	42.6	224	240	14.6	224
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	3	10	-	13	4.4	132	14.8	13	212	9.5	13
	5	13	9	-	22	7.5	158	15.6	22	221	9.2	22
	6	25	20	-	45	15.3	186	26.4	45	232	12.6	45
	7	21	20	-	41	13.9	215	29.6	41	243	8.0	41
	8	37	49	1	87	29.5	226	32.4	87	245	8.6	87
	9	21	25	1	47	15.9	244	31.2	47	250	8.4	47
	10	7	12	-	19	6.4	250	26.1	19	255	9.0	19
	11+	10	11	-	21	7.1	260	26.4	21	254	6.7	21
Total		137	156	2	295	100.0	216	43.2	295	241	14.4	295

Table 63. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/29	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	6	-	-	6	8.1	127	17.9	6	210	9.5	6
	5	3	4	-	7	9.5	174	23.1	7	224	10.4	7
	6	8	8	-	16	21.6	177	17.2	16	226	5.4	16
	7	6	5	-	11	14.9	202	27.5	11	236	5.8	11
	8	12	4	-	16	21.6	192	29.4	16	233	7.1	16
	9	2	5	-	7	9.5	248	30.3	7	250	6.7	7
	10	3	4	-	7	9.5	267	34.5	7	254	9.5	7
	11+	3	1	-	4	5.4	264	32.8	4	253	8.4	4
Period total		43	31	-	74	100.0	199	46.1	74	234	14.3	74
4/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	3	5	-	8	5.0	129	22.7	8	206	11.7	8
	5	12	10	-	22	13.8	153	23.1	22	219	8.4	22
	6	15	16	-	31	19.5	177	20.0	31	227	6.1	31
	7	19	10	-	29	18.2	200	33.5	29	234	8.6	29
	8	22	23	-	45	28.3	214	27.7	45	239	8.1	45
	9	7	3	-	10	6.3	221	41.2	10	244	10.3	10
	10	4	1	-	5	3.1	232	21.2	5	248	6.1	5
	11+	3	6	-	9	5.7	268	28.8	9	259	6.4	9
Period total		85	74	-	159	100.0	196	41.9	159	233	14.0	159
5/ 7	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	11	15	-	26	17.3	131	17.8	26	208	6.3	26
	5	13	19	-	32	21.3	160	21.5	32	220	8.8	32
	6	17	31	-	48	32.0	186	22.3	48	228	7.7	48
	7	8	8	-	16	10.7	201	23.9	16	234	8.6	16
	8	14	7	-	21	14.0	218	30.0	21	240	9.8	21
	9	1	2	-	3	2.0	227	12.1	3	240	3.5	3
	10	-	2	-	2	1.3	216	.7	2	249	2.1	2
	11+	1	1	-	2	1.3	248	23.3	2	255	2.1	2
Period total		65	85	-	150	100.0	179	37.3	150	226	13.6	150
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	20	20	-	40	10.4	130	18.4	40	208	7.9	40
	5	28	33	-	61	15.9	159	22.7	61	220	8.9	61
	6	40	55	-	95	24.8	181	21.1	95	227	6.8	95
	7	33	23	-	56	14.6	201	29.4	56	234	8.0	56
	8	48	34	-	82	21.4	211	29.8	82	238	8.7	82
	9	10	10	-	20	5.2	231	35.7	20	245	8.9	20
	10	7	7	-	14	3.7	247	33.7	14	251	7.9	14
	11+	7	8	-	15	3.9	264	28.1	15	257	6.8	15
Total		193	190	-	383	100.0	190	41.9	383	230	14.3	383

Table 64. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1985.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/27	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	1	2	-	3	4.2	142	22.3	3	222	14.2	3
	5	4	2	-	6	8.5	165	10.6	6	228	8.3	6
	6	10	4	-	14	19.7	192	21.7	14	236	9.3	14
	7	8	5	-	13	18.3	205	36.2	13	245	9.5	13
	8	7	11	-	18	25.4	241	32.5	18	248	7.5	18
	9	2	4	-	6	8.5	254	30.4	6	254	5.9	6
	10	2	4	-	6	8.5	264	30.5	6	262	8.3	6
	11+	1	4	-	5	7.0	269	34.9	5	258	9.1	5
Period total		35	36	-	71	100.0	219	45.4	71	245	13.3	71
4/28	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	2	8	-	10	4.5	130	12.0	10	208	5.4	10
	5	9	7	-	16	7.1	156	16.8	16	218	8.2	16
	6	15	16	-	31	13.8	183	28.2	31	229	13.4	31
	7	13	15	-	28	12.5	220	25.3	28	242	7.2	28
	8	30	38	1	69	30.8	222	31.4	69	244	8.7	69
	9	19	21	1	41	18.3	243	31.5	41	249	8.6	41
	10	5	8	-	13	5.8	244	22.6	13	252	7.7	13
	11+	9	7	-	16	7.1	258	24.0	16	253	5.5	16
Period total		102	120	2	224	100.0	215	42.6	224	240	14.6	224
4/29	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	6	-	-	6	8.1	127	17.9	6	210	9.5	6
	5	3	4	-	7	9.5	174	23.1	7	224	10.4	7
	6	8	8	-	16	21.6	177	17.2	16	226	5.4	16
	7	6	5	-	11	14.9	202	27.5	11	236	5.8	11
	8	12	4	-	16	21.6	192	29.4	16	233	7.1	16
	9	2	5	-	7	9.5	248	30.3	7	250	6.7	7
	10	3	4	-	7	9.5	267	34.5	7	254	9.5	7
	11+	3	1	-	4	5.4	264	32.8	4	253	8.4	4
Period total		43	31	-	74	100.0	199	46.1	74	234	14.3	74
4/30	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	3	5	-	8	5.0	129	22.7	8	206	11.7	8
	5	12	10	-	22	13.8	153	23.1	22	219	8.4	22
	6	15	16	-	31	19.5	177	20.0	31	227	6.1	31
	7	19	10	-	29	18.2	200	33.5	29	234	8.6	29
	8	22	23	-	45	28.3	214	27.7	45	239	8.1	45
	9	7	3	-	10	6.3	221	41.2	10	244	10.3	10
	10	4	1	-	5	3.1	232	21.2	5	248	6.1	5
	11+	3	6	-	9	5.7	268	28.8	9	259	6.4	9
Period total		85	74	-	159	100.0	196	41.9	159	233	14.0	159

Table 64. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	4	6	2	12	5.3	133	11.7	12	211	5.7	12
	5	11	14	2	27	12.0	159	19.7	27	221	8.3	27
5/ 1	6	16	26	4	46	20.4	196	21.6	46	233	8.6	46
	7	16	18	6	40	17.8	210	23.7	40	237	7.4	40
	8	21	25	9	55	24.4	231	29.9	55	245	9.2	55
	9	9	6	2	17	7.6	240	23.6	17	250	4.9	17
	10	6	8	1	15	6.7	254	27.2	15	250	7.4	15
	11+	6	5	2	13	5.8	262	25.9	13	255	7.1	13
Period total		89	108	28	225	100.0	210	41.4	225	238	13.7	225
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-
	4	11	15	-	26	17.3	131	17.8	26	208	6.3	26
	5	13	19	-	32	21.3	160	21.5	32	220	8.8	32
5/ 7	6	17	31	-	48	32.0	186	22.3	48	228	7.7	48
	7	8	8	-	16	10.7	201	23.9	16	234	8.6	16
	8	14	7	-	21	14.0	218	30.0	21	240	9.8	21
	9	1	2	-	3	2.0	227	12.1	3	240	3.5	3
	10	-	2	-	2	1.3	216	.7	2	249	2.1	2
	11+	1	1	-	2	1.3	248	23.3	2	255	2.1	2
Period total		65	85	-	150	100.0	179	37.3	150	226	13.6	150
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	1.1	48	.0	2	156	7.8	2
	3	-	1	-	1	.5	80	-	1	184	-	1
	4	24	28	-	52	28.0	117	21.5	52	207	7.1	52
	5	21	13	-	34	18.3	143	21.9	34	219	9.2	34
5/12	6	25	21	-	46	24.7	165	30.5	46	231	9.0	46
	7	11	6	-	17	9.1	180	31.0	17	238	8.5	17
	8	12	10	-	22	11.8	193	27.8	22	240	11.3	22
	9	3	2	-	5	2.7	203	17.8	5	239	4.0	5
	10	3	1	-	4	2.2	198	52.0	4	251	2.9	4
	11+	2	1	-	3	1.6	214	29.6	3	251	10.4	3
Period total		102	84	-	186	100.0	153	40.7	186	224	17.6	186
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	.2	48	.0	2	156	7.8	2
	3	-	1	-	1	.1	80	-	1	184	-	1
	4	51	64	2	117	10.7	125	20.0	117	208	7.7	117
	5	73	69	2	144	13.2	155	21.9	144	220	8.9	144
All periods	6	106	122	4	232	21.3	182	26.2	232	230	9.2	232
	7	81	67	6	154	14.1	205	29.9	154	238	8.5	154
	8	118	118	10	246	22.6	219	32.6	246	242	9.5	246
	9	43	43	3	89	8.2	238	31.7	89	248	8.2	89
	10	23	28	1	52	4.8	246	33.1	52	252	8.0	52
	11+	25	25	2	52	4.8	259	28.5	52	255	7.0	52
Total		521	538	30	1089	100.0	195	47.3	1089	234	16.1	1089

Table 65. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Day Harbor, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 6	1	-	-	-	-	-	-	-	-	-	-	-
	2	3	1	-	4	6.9	46	8.2	4	150	6.9	4
	3	22	13	-	35	60.3	87	9.1	34	181	6.6	35
	4	5	6	-	11	19.0	88	11.1	11	182	7.8	11
	5	-	1	-	1	1.7	126	-	1	201	-	1
	6	5	2	-	7	12.1	140	23.8	7	211	9.3	7
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		35	23	-	58	100.0	92	24.6	57	183	15.1	58
5/ 7	1	-	-	-	-	-	-	-	-	-	-	-
	2	14	4	-	18	11.5	50	4.7	18	156	5.4	18
	3	57	46	-	103	66.0	81	14.2	103	179	8.0	103
	4	8	8	-	16	10.3	96	15.1	16	188	8.0	16
	5	7	5	-	12	7.7	128	19.7	12	204	9.2	12
	6	2	4	-	6	3.8	147	35.9	6	208	16.2	6
	7	1	-	-	1	.6	197	-	1	230	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		89	67	-	156	100.0	86	27.6	156	180	15.2	156
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	17	5	-	22	10.3	49	5.5	22	155	6.0	22
	3	79	59	-	138	64.5	83	13.4	137	179	7.7	138
	4	13	14	-	27	12.6	93	14.0	27	186	8.3	27
	5	7	6	-	13	6.1	127	18.9	13	203	8.8	13
	6	7	6	-	13	6.1	143	28.9	13	210	12.4	13
	7	1	-	-	1	.5	197	-	1	230	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		124	90	-	214	100.0	87	26.9	213	181	15.2	214

Table 66. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Resurrection Bay, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.6	48	-	1	154	-	1
	3	63	53	-	116	67.4	81	13.7	116	181	11.4	116
	4	19	12	-	31	18.0	94	17.9	31	193	11.4	31
	5	3	5	-	8	4.7	112	19.1	8	202	8.7	8
5/ 6	6	7	8	-	15	8.7	136	24.3	15	211	11.1	15
	7	1	-	-	1	.6	134	-	1	210	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		94	78	-	172	100.0	90	23.0	172	187	15.0	172

Table 67. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Aialik Bay, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	7	2	-	9	6.5	49	4.5	9	156	4.6	9
	3	41	42	-	83	60.1	78	11.7	83	180	8.5	83
	4	9	9	-	18	13.0	101	21.4	18	190	20.4	18
	5	10	3	-	13	9.4	120	15.9	13	207	9.7	13
5/ 7	6	4	9	-	13	9.4	162	26.9	13	220	12.0	13
	7	-	2	-	2	1.4	210	31.1	2	244	7.8	2
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		71	67	-	138	100.0	93	35.0	138	187	20.0	138

Table 68. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Outer and Eastern Districts of Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 6	1	-	-	-	-	-	-	-	-	-	-	-
	2	4	1	-	5	2.2	47	7.2	5	151	6.3	5
	3	85	66	-	151	65.7	83	13.0	150	181	10.5	151
	4	24	18	-	42	18.3	93	16.5	42	190	11.5	42
	5	3	6	-	9	3.9	113	18.5	9	202	8.1	9
	6	12	10	-	22	9.6	137	23.7	22	211	10.3	22
	7	1	-	-	1	.4	134	-	1	210	-	1
	8	-	-	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-	-	-
Period total		129	101	-	230	100.0	90	23.4	229	186	15.1	230
5/ 7	1	-	-	-	-	-	-	-	-	-	-	-
	2	21	6	-	27	9.2	50	4.6	27	156	5.1	27
	3	98	88	-	186	63.3	80	13.2	186	179	8.2	186
	4	17	17	-	34	11.6	99	18.6	34	189	15.6	34
	5	17	8	-	25	8.5	123	17.9	25	205	9.4	25
	6	6	13	-	19	6.5	157	29.8	19	216	14.2	19
	7	1	2	-	3	1.0	206	23.2	3	239	9.5	3
	8	-	-	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-	-	-
Period total		160	134	-	294	100.0	89	31.4	294	183	17.9	294
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	25	7	-	32	6.1	49	5.1	32	155	5.5	32
	3	183	154	-	337	64.3	81	13.2	336	180	9.3	337
	4	41	35	-	76	14.5	95	17.6	76	190	13.4	76
	5	20	14	-	34	6.5	121	18.4	34	204	9.1	34
	6	18	23	-	41	7.8	146	28.3	41	214	12.4	41
	7	2	2	-	4	.8	188	40.5	4	232	16.5	4
	8	-	-	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-	-	-
Total		289	235	-	524	100.0	90	28.2	523	184	16.7	524

Table 69. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at McNeil River, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/19	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.4	84	-	1	186	-	1
	3	85	86	-	171	61.5	88	12.1	171	184	11.2	171
	4	7	8	-	15	5.4	130	23.9	15	209	11.0	15
	5	32	27	-	59	21.2	155	22.4	59	219	9.6	59
	6	12	5	-	17	6.1	177	26.2	17	231	10.9	17
	7	2	5	-	7	2.5	190	33.9	7	233	10.6	7
	8	1	2	-	3	1.1	210	22.0	3	233	8.1	3
	9	1	3	-	4	1.4	224	23.0	4	240	9.1	4
	10	-	1	-	1	.4	321	-	1	268	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		141	137	-	278	100.0	117	43.7	278	198	22.1	278
5/21	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	52	43	-	95	88.0	88	12.4	95	184	7.6	95
	4	3	2	-	5	4.6	115	17.9	5	202	9.2	5
	5	3	1	-	4	3.7	141	19.0	4	212	8.1	4
	6	-	2	-	2	1.9	185	27.6	2	232	4.9	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	1	1	-	2	1.9	230	17.7	2	249	9.2	2
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		59	49	-	108	100.0	95	28.3	108	188	14.2	108
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.3	84	-	1	186	-	1
	3	137	129	-	266	68.9	88	12.2	266	184	10.1	266
	4	10	10	-	20	5.2	126	23.1	20	207	10.8	20
	5	35	28	-	63	16.3	154	22.4	63	218	9.6	63
	6	12	7	-	19	4.9	178	25.7	19	231	10.4	19
	7	2	5	-	7	1.8	190	33.9	7	233	10.6	7
	8	1	2	-	3	.8	210	22.0	3	233	8.1	3
	9	2	4	-	6	1.6	226	19.7	6	243	9.4	6
	10	-	1	-	1	.3	321	-	1	268	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		200	186	-	386	100.0	111	41.1	386	195	20.7	386

Table 70. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Ursus Cove, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/26	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	2	-	5	.6	91	10.1	5	180	37.1	5
	4	10	23	1	34	4.1	89	19.8	34	189	10.7	34
	5	49	42	-	91	11.1	143	37.1	91	215	21.1	91
	6	43	38	-	81	9.8	186	31.9	81	231	15.8	81
	7	83	63	-	146	17.7	214	31.9	144	240	10.4	146
	8	82	71	1	154	18.7	232	36.8	152	245	11.4	154
	9	88	94	-	182	22.1	248	27.3	182	249	8.1	182
	10	39	39	-	78	9.5	255	29.2	78	252	8.6	78
	11+	22	30	-	52	6.3	274	31.7	52	257	7.6	52
Period total		419	402	2	823	100.0	216	55.5	819	239	20.4	823

Table 71. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Cottonwood Bay, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/22	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	1.8	92	-	1	190	-	1
	4	-	1	-	1	1.8	132	-	1	219	-	1
	5	-	4	-	4	7.3	162	3.8	3	222	4.5	4
	6	3	3	-	6	10.9	183	17.2	6	231	7.5	6
	7	4	5	-	9	16.4	221	16.6	9	242	5.4	9
	8	4	5	-	9	16.4	230	28.0	9	243	11.1	9
	9	7	8	-	15	27.3	251	26.1	15	251	8.2	15
	10	3	3	-	6	10.9	261	27.0	6	249	10.5	6
	11+	2	2	-	4	7.3	300	31.6	4	256	7.9	4
Period total		24	31	-	55	100.0	230	46.5	54	242	14.4	55
4/23	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	4	1	-	5	2.1	91	10.9	5	192	8.6	5
	4	-	-	-	-	-	-	-	-	-	-	-
	5	11	12	-	23	9.6	158	22.6	23	221	8.9	23
	6	13	11	-	24	10.0	199	27.0	23	235	8.2	24
	7	25	36	-	61	25.5	217	26.2	60	242	9.0	61
	8	17	25	-	42	17.6	238	27.3	41	248	8.2	42
	9	22	29	-	51	21.3	254	30.7	51	250	8.9	51
	10	5	9	-	14	5.9	256	33.9	14	252	8.5	14
	11+	10	9	-	19	7.9	276	42.6	19	259	11.1	19
Period total		107	132	-	239	100.0	225	46.9	236	243	15.0	239
4/28	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	4	-	6	1.2	98	21.7	6	172	48.0	6
	4	1	-	-	1	.2	144	-	1	218	-	1
	5	30	12	-	42	8.3	175	23.6	42	228	10.4	42
	6	28	33	-	61	12.0	199	25.9	58	236	9.5	61
	7	56	63	-	119	23.5	219	25.3	118	242	7.8	119
	8	38	44	-	82	16.2	235	28.2	82	246	9.0	82
	9	59	51	-	110	21.7	253	26.4	105	252	8.2	110
	10	29	21	-	50	9.9	270	27.0	49	256	7.2	50
	11+	14	22	-	36	7.1	282	38.1	36	258	11.9	36
Period total		257	250	-	507	100.0	231	42.7	497	245	15.3	507
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	7	5	-	12	1.5	94	16.4	12	182	34.3	12
	4	1	1	-	2	.2	138	8.5	2	219	.7	2
	5	41	28	-	69	8.6	169	24.0	68	225	10.2	69
	6	44	47	-	91	11.4	198	25.8	87	235	9.0	91
	7	85	104	-	189	23.6	219	25.2	187	242	8.1	189
	8	59	74	-	133	16.6	236	27.8	132	247	8.9	133
	9	88	88	-	176	22.0	253	27.6	171	251	8.4	176
	10	37	33	-	70	8.7	266	28.7	69	255	7.9	70
	11+	26	33	-	59	7.4	281	39.1	59	258	11.3	59
Total		388	413	-	801	100.0	229	44.3	787	244	15.1	801

Table 72. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	4	1	-	5	1.5	126	70.4	5	229	41.9	5
	4	2	2	-	4	1.2	150	80.2	4	219	19.6	4
	5	29	19	-	48	14.8	161	21.5	48	226	8.4	48
5/ 2	6	20	24	-	44	13.6	178	20.6	44	231	8.1	44
	7	39	42	1	82	25.3	211	34.3	82	241	8.7	82
	8	28	6	-	34	10.5	215	33.5	34	247	7.7	34
	9	34	28	-	62	19.1	239	35.2	62	250	8.5	62
	10	8	10	-	18	5.6	263	34.5	18	255	6.6	18
	11+	14	13	-	27	8.3	265	42.9	27	255	9.2	27
Period total		178	145	1	324	100.0	210	48.2	324	241	13.9	324

Table 73. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District, Lower Cook Inlet, 1986.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/22	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	3.7	92	-	1	190	-	1
	4	-	1	-	1	3.7	132	-	1	219	-	1
	5	-	3	-	3	11.1	163	4.9	2	220	2.1	3
	6	1	2	-	3	11.1	174	8.5	3	229	4.2	3
	7	3	-	-	3	11.1	224	12.1	3	244	4.4	3
	8	-	4	-	4	14.8	230	24.6	4	244	11.0	4
	9	3	4	-	7	25.9	242	21.2	7	247	9.1	7
	10	1	2	-	3	11.1	274	18.5	3	254	7.2	3
	11+	1	1	-	2	7.4	309	13.4	2	256	4.9	2
Period total		10	17	-	27	100.0	223	53.4	26	239	16.6	27
4/23	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	4	1	-	5	2.1	91	10.9	5	192	8.6	5
	4	-	-	-	-	-	-	-	-	-	-	-
	5	11	12	-	23	9.6	158	22.6	23	221	8.9	23
	6	13	11	-	24	10.0	199	27.0	23	235	8.2	24
	7	25	36	-	61	25.5	217	26.2	60	242	9.0	61
	8	17	25	-	42	17.6	238	27.3	41	248	8.2	42
	9	22	29	-	51	21.3	254	30.7	51	250	8.9	51
	10	5	9	-	14	5.9	256	33.9	14	252	8.5	14
	11+	10	9	-	19	7.9	276	42.6	19	259	11.1	19
Period total		107	132	-	239	100.0	225	46.9	236	243	15.0	239
4/26	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	3	2	-	5	.6	91	10.1	5	180	37.1	5
	4	10	23	1	34	4.1	89	19.8	34	189	10.7	34
	5	49	42	-	91	11.1	143	37.1	91	215	21.1	91
	6	43	38	-	81	9.8	186	31.9	81	231	15.8	81
	7	83	63	-	146	17.7	214	31.9	144	240	10.4	146
	8	82	71	1	154	18.7	232	36.8	152	245	11.4	154
	9	88	94	-	182	22.1	248	27.3	182	249	8.1	182
	10	39	39	-	78	9.5	255	29.2	78	252	8.6	78
	11+	22	30	-	52	6.3	274	31.7	52	257	7.6	52
Period total		419	402	2	823	100.0	216	55.5	819	239	20.4	823
4/28	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	2	4	-	6	1.1	98	21.7	6	172	48.0	6
	4	1	-	-	1	.2	144	-	1	218	-	1
	5	30	13	-	43	8.0	175	23.5	43	228	10.3	43
	6	30	34	-	64	12.0	198	25.5	61	236	9.5	64
	7	57	68	-	125	23.4	219	25.0	124	242	7.7	125
	8	42	45	-	87	16.3	235	28.3	87	246	9.2	87
	9	63	55	-	118	22.1	254	26.4	113	252	8.0	118
	10	31	22	-	53	9.9	269	27.5	52	255	7.9	53
	11+	15	23	-	38	7.1	283	38.0	38	258	11.7	38
Period total		271	264	-	535	100.0	231	42.5	525	245	15.1	535

Table 73. (Continued)

	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	4	1	-	5	1.5	126	70.4	5	229	41.9	5
	4	2	2	-	4	1.2	150	80.2	4	219	19.6	4
	5	29	19	-	48	14.8	161	21.5	48	226	8.4	48
5/ 2	6	20	24	-	44	13.6	178	20.6	44	231	8.1	44
	7	39	42	1	82	25.3	211	34.3	82	241	8.7	82
	8	28	6	-	34	10.5	215	33.5	34	247	7.7	34
	9	34	28	-	62	19.1	239	35.2	62	250	8.5	62
	10	8	10	-	18	5.6	263	34.5	18	255	6.6	18
	11+	14	13	-	27	8.3	265	42.9	27	255	9.2	27
Period total		178	145	1	324	100.0	210	48.2	324	241	13.9	324
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.4	84	-	1	186	-	1
	3	85	86	-	171	61.5	88	12.1	171	184	11.2	171
	4	7	8	-	15	5.4	130	23.9	15	209	11.0	15
	5	32	27	-	59	21.2	155	22.4	59	219	9.6	59
5/19	6	12	5	-	17	6.1	177	26.2	17	231	10.9	17
	7	2	5	-	7	2.5	190	33.9	7	233	10.6	7
	8	1	2	-	3	1.1	210	22.0	3	233	8.1	3
	9	1	3	-	4	1.4	224	23.0	4	240	9.1	4
	10	-	1	-	1	.4	321	-	1	268	-	1
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		141	137	-	278	100.0	117	43.7	278	198	22.1	278
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	52	43	-	95	88.0	88	12.4	95	184	7.6	95
	4	3	2	-	5	4.6	115	17.9	5	202	9.2	5
	5	3	1	-	4	3.7	141	19.0	4	212	8.1	4
5/21	6	-	2	-	2	1.9	185	27.6	2	232	4.9	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	1	1	-	2	1.9	230	17.7	2	249	9.2	2
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		59	49	-	108	100.0	95	28.3	108	188	14.2	108
	1	-	-	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	.0	84	-	1	186	-	1
	3	151	137	-	288	12.3	89	15.6	288	185	14.7	288
	4	23	36	1	60	2.6	107	34.3	60	198	15.4	60
	5	154	117	-	271	11.6	155	30.1	270	220	15.2	271
All periods	6	119	116	-	235	10.1	188	28.2	231	233	11.9	235
	7	209	214	1	424	18.2	215	29.9	420	241	9.2	424
	8	170	153	1	324	13.9	232	33.4	321	246	10.1	324
	9	212	214	-	426	18.3	248	29.0	421	250	8.4	426
	10	84	83	-	167	7.2	261	30.2	166	253	8.2	167
	11+	62	76	-	138	5.9	275	37.5	138	257	9.6	138
Total		1185	1146	3	2334	100.0	202	63.9	2316	234	24.8	2334

Table 74. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Iniskin Bay, Lower Cook Inlet, 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	27	22	-	49	4.8	89	11.4	49	184	7.9	49
	4	49	51	-	100	9.8	138	18.4	100	210	8.7	100
	5	9	13	-	22	2.2	159	22.9	22	222	9.0	22
4/21	6	116	128	-	244	23.9	197	24.1	244	233	9.7	244
	7	81	73	-	154	15.1	216	26.1	154	238	9.1	154
	8	81	83	-	164	16.1	238	25.4	164	245	8.4	164
	9	57	44	-	101	9.9	246	26.5	101	247	8.9	101
	10	58	55	-	113	11.1	265	28.1	113	251	9.7	113
	11+	41	33	-	74	7.2	275	25.1	74	254	8.5	74
Period total		519	502	-	1021	100.0	213	52.8	1021	236	18.9	1021

Table 75. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Fortification Bluff, Lower Cook Inlet, 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	43	38	-	81	8.7	100	36.7	81	191	17.8	81
	4	58	68	-	126	13.5	139	29.7	126	213	17.9	126
	5	4	6	-	10	1.1	177	30.8	10	227	10.9	10
4/21	6	94	93	-	187	20.1	198	28.2	187	233	14.5	187
	7	60	70	-	130	14.0	219	28.5	130	241	9.3	130
	8	51	69	-	120	12.9	242	31.9	120	247	9.7	120
	9	33	43	-	76	8.2	250	32.7	76	249	10.4	76
	10	45	53	-	98	10.5	267	32.2	98	254	9.5	98
	11+	51	51	-	102	11.0	277	36.3	102	257	11.6	102
Period total		439	491	-	930	100.0	210	62.3	930	236	23.1	930

Table 76. Age, sex and size of Pacific herring from the commercial sac roe seine fishery at Bruin Bay, Lower Cook Inlet, 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	67	56	-	123	13.4	91	12.5	123	183	7.1	123
	4	54	52	-	106	11.5	131	16.2	106	205	13.4	106
	5	10	10	-	20	2.2	170	42.2	20	222	16.7	20
4/23	6	43	81	-	124	13.5	199	19.1	124	231	11.5	124
	7	49	61	-	110	12.0	217	32.5	110	235	9.9	110
	8	55	68	-	123	13.4	242	27.1	123	242	9.9	123
	9	52	34	-	86	9.3	253	26.8	86	245	8.5	86
	10	62	69	-	131	14.2	267	30.7	131	248	8.3	131
	11+	48	49	-	97	10.5	276	32.9	97	252	10.3	97
Period total		440	480	-	920	100.0	207	67.6	920	229	24.7	920

Table 77. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in the Kamishak Bay District of Lower Cook Inlet, 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/21	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	70	60	-	130	6.7	96	30.2	130	188	15.2	130
	4	107	119	-	226	11.6	139	25.3	226	212	14.6	226
	5	13	19	-	32	1.6	165	26.5	32	223	9.7	32
	6	210	221	-	431	22.1	197	25.9	431	233	12.0	431
	7	141	143	-	284	14.6	217	27.2	284	239	9.3	284
	8	132	152	-	284	14.6	240	28.3	284	246	8.9	284
	9	90	87	-	177	9.1	248	29.3	177	248	9.6	177
	10	103	108	-	211	10.8	266	30.0	211	252	9.7	211
	11+	92	84	-	176	9.0	276	32.0	176	256	10.5	176
Period total		958	993	-	1951	100.0	211	57.5	1951	236	21.0	1951
4/23	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	67	56	-	123	13.4	91	12.5	123	183	7.1	123
	4	54	52	-	106	11.5	131	16.2	106	205	13.4	106
	5	10	10	-	20	2.2	170	42.2	20	222	16.7	20
	6	43	81	-	124	13.5	199	19.1	124	231	11.5	124
	7	49	61	-	110	12.0	217	32.5	110	235	9.9	110
	8	55	68	-	123	13.4	242	27.1	123	242	9.9	123
	9	52	34	-	86	9.3	253	26.8	86	245	8.5	86
	10	62	69	-	131	14.2	267	30.7	131	248	8.3	131
	11+	48	49	-	97	10.5	276	32.9	97	252	10.3	97
Period total		440	480	-	920	100.0	207	67.6	920	229	24.7	920
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	137	116	-	253	8.8	94	23.4	253	186	12.2	253
	4	161	171	-	332	11.6	136	23.0	332	210	14.6	332
	5	23	29	-	52	1.8	166	33.1	52	223	12.7	52
	6	253	302	-	555	19.3	198	24.6	555	232	11.9	555
	7	190	204	-	394	13.7	217	28.7	394	238	9.7	394
	8	187	220	-	407	14.2	241	27.9	407	245	9.4	407
	9	142	121	-	263	9.2	250	28.6	263	247	9.4	263
	10	165	177	-	342	11.9	266	30.2	342	251	9.4	342
	11+	140	133	-	273	9.5	276	32.3	273	255	10.5	273
Total		1398	1473	-	2871	100.0	210	61.0	2871	234	22.5	2871

Table 78. Age, sex and size of Pacific herring from test seine sets made near Iniskin Bay, Lower Cook Inlet, 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/27	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	244	207	-	451	36.9	77	17.4	451	175	10.7	451
	4	268	254	-	522	42.7	119	20.5	522	200	11.7	522
	5	15	10	-	25	2.0	148	19.2	25	215	11.2	25
	6	39	35	-	74	6.1	175	30.4	74	225	11.1	74
	7	38	31	-	69	5.6	189	31.7	69	230	13.3	69
	8	22	25	-	47	3.8	205	45.3	47	233	18.3	47
	9	6	6	-	12	1.0	225	32.7	12	241	8.9	12
	10	9	8	-	17	1.4	242	26.6	17	245	5.9	17
	11+	2	3	-	5	.4	269	39.2	5	255	5.7	5
Period total		643	579	-	1222	100.0	118	48.5	1222	197	23.4	1222

Table 79. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Nuka Bay, Lower Cook Inlet, 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
4/27	1	-	-	-	-	-	-	-	-	-	-	-
	2	2	3	-	5	1.3	57	29.2	5	158	31.9	5
	3	113	155	-	268	67.7	76	16.1	268	177	13.4	268
	4	13	19	-	32	8.1	106	29.6	32	193	16.2	32
	5	6	7	-	13	3.3	144	37.0	13	213	18.5	13
	6	7	16	-	23	5.8	185	24.1	23	230	9.5	23
	7	4	13	-	17	4.3	219	15.5	17	239	7.2	17
	8	6	9	-	15	3.8	218	27.1	15	244	8.0	15
	9	3	10	-	13	3.3	237	21.5	13	246	7.5	13
	10	2	2	-	4	1.0	247	28.8	4	254	9.0	4
	11+	4	2	-	6	1.5	170	105.8	6	197	41.9	6
Period total		160	236	-	396	100.0	107	58.6	396	191	28.3	396

Table 80. Age, sex and size of Pacific herring from the commercial sac roe seine fishery in Aialik Bay, Lower Cook Inlet 1987.

Sample Period	Age (years)	Sex				Percent of	Weight			Std. Length		
		Male	Female	Unknown	Total	Total	Mean (gm)	Std. Dev.	Number Weighed	Mean (mm)	Std. Dev.	Number Measured
5/ 6	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	239	177	-	416	91.4	69	10.3	416	171	7.4	416
	4	23	14	-	37	8.1	76	13.0	37	176	7.9	37
	5	2	-	-	2	.4	77	1.4	2	175	2.8	2
	6	-	-	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		264	191	-	455	100.0	69	10.7	455	172	7.5	455
5/ 8	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	402	251	-	653	94.1	71	9.3	653	173	6.7	653
	4	24	11	-	35	5.0	75	14.1	35	176	8.9	35
	5	3	1	-	4	.6	100	9.6	4	196	7.1	4
	6	-	2	-	2	.3	130	19.1	2	206	17.0	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Period total		429	265	-	694	100.0	72	10.4	694	173	7.3	694
All periods	1	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-
	3	641	428	-	1069	93.0	70	9.8	1069	172	7.0	1069
	4	47	25	-	72	6.3	76	13.5	72	176	8.3	72
	5	5	1	-	6	.5	92	13.9	6	189	12.2	6
	6	-	2	-	2	.2	130	19.1	2	206	17.0	2
	7	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-
	9	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-
	11+	-	-	-	-	-	-	-	-	-	-	-
Total		693	456	-	1149	100.0	71	10.6	1149	173	7.4	1149

Table 81. Pacific herring average weights in grams by age class and year from the Kamishak Bay District.

Year Class	1973	1974	1975	1976	1977	1978	1979
Age 3	91	86	63	66	62	62	73
4	105	115	59	95	97	88	105
5	122	139	102	127	113	118	130
6	139	162	137	147	154	166	159
7	170	178	160	176	173	154	187
8	190	195	173	195	200	189	222
9	187	212	200	209	212	205	200
10	236	271	226	219	222	216	245
11	-	-	248	238	-	209	-

Year Class	1983	1985	1986	1987	1987(Test)
Age 3	80	80	89	94	77
4	118	125	107	136	119
5	137	155	155	166	148
6	160	182	188	198	175
7	180	205	215	217	189
8	198	219	232	241	205
9	210	238	248	250	225
10	218	246	261	266	242
11	253	259	275	276	269

Year Class	1973-74	1975-79	1973-83	1985-87	1987(Test)
Age 3	88.5	65.2	72.9	87.7	77
4	110.0	88.8	97.8	122.7	119
5	130.5	118.0	123.5	158.7	148
6			153.0	189.3	175
7			172.3	212.3	189
8			195.3	230.7	205
9			204.4	245.3	225
10			231.6	257.7	242
11			237.0	269.7	269

Table 82. Comparison of average weights of herring by age class in early and late fisheries in the Kamishak Bay District and Tuxedni Bay.

Kamishak Bay District

Year Class	1985 Early	1985 Late	1986 Early	1986 Late	1987 Early	1987 Late
Age 3	-	80	101	88	94	77
4	131	117	98	126	136	119
5	159	143	159	154	166	148
6	186	165	189	178	198	175
7	208	180	216	190	217	189
8	222	193	232	210	241	205
9	240	203	249	226	250	225
10	251	198	261	321	266	242
11	262	214	275	-	276	269

Tuxedni Bay

Year Class	4/28	5/20
Age 3	87	-
4	128	130
5	150	143
6	167	158
7	184	171
8	200	190
9	209	185
10	233	215
11	249	239

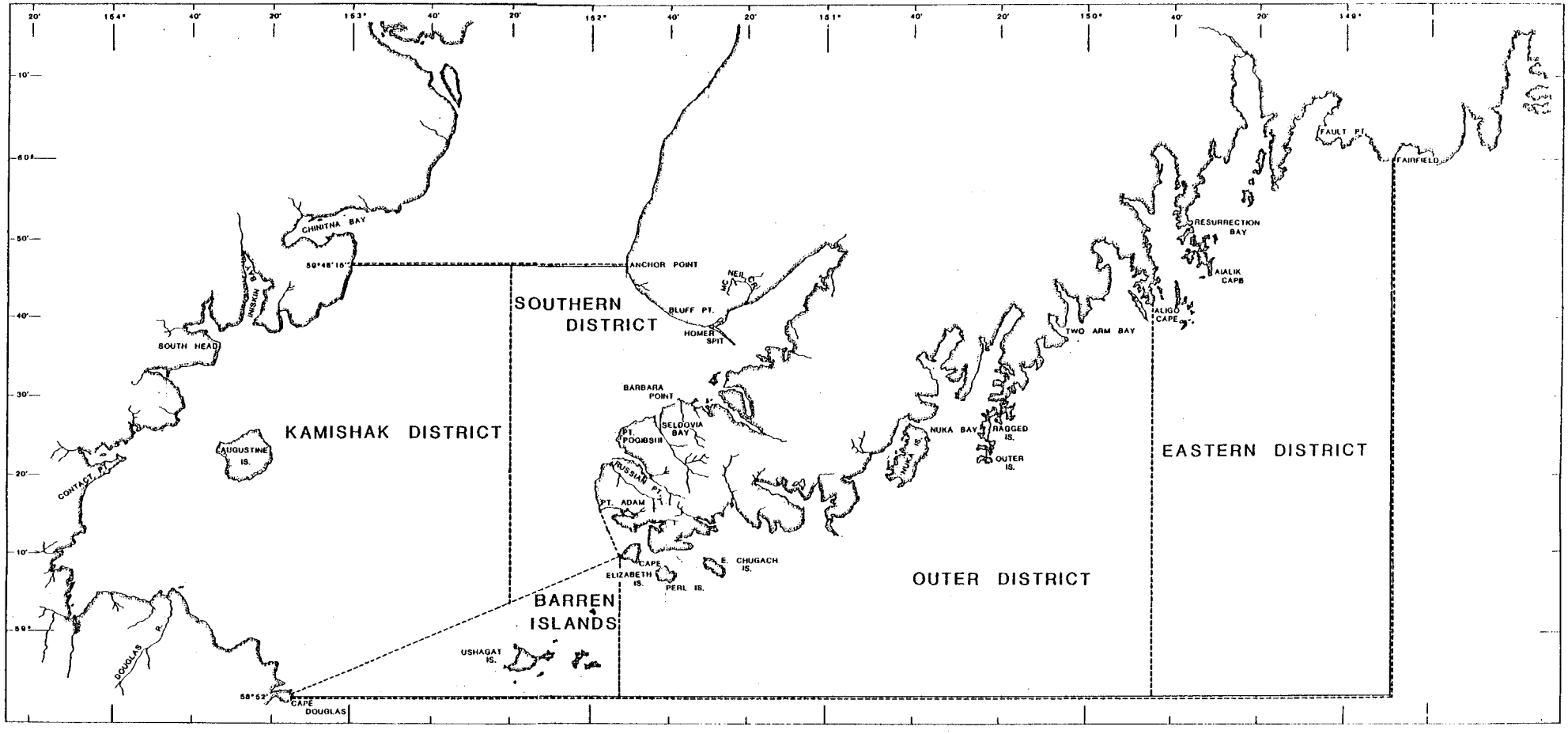


Figure 1. Districts of the Lower Cook Inlet management area.

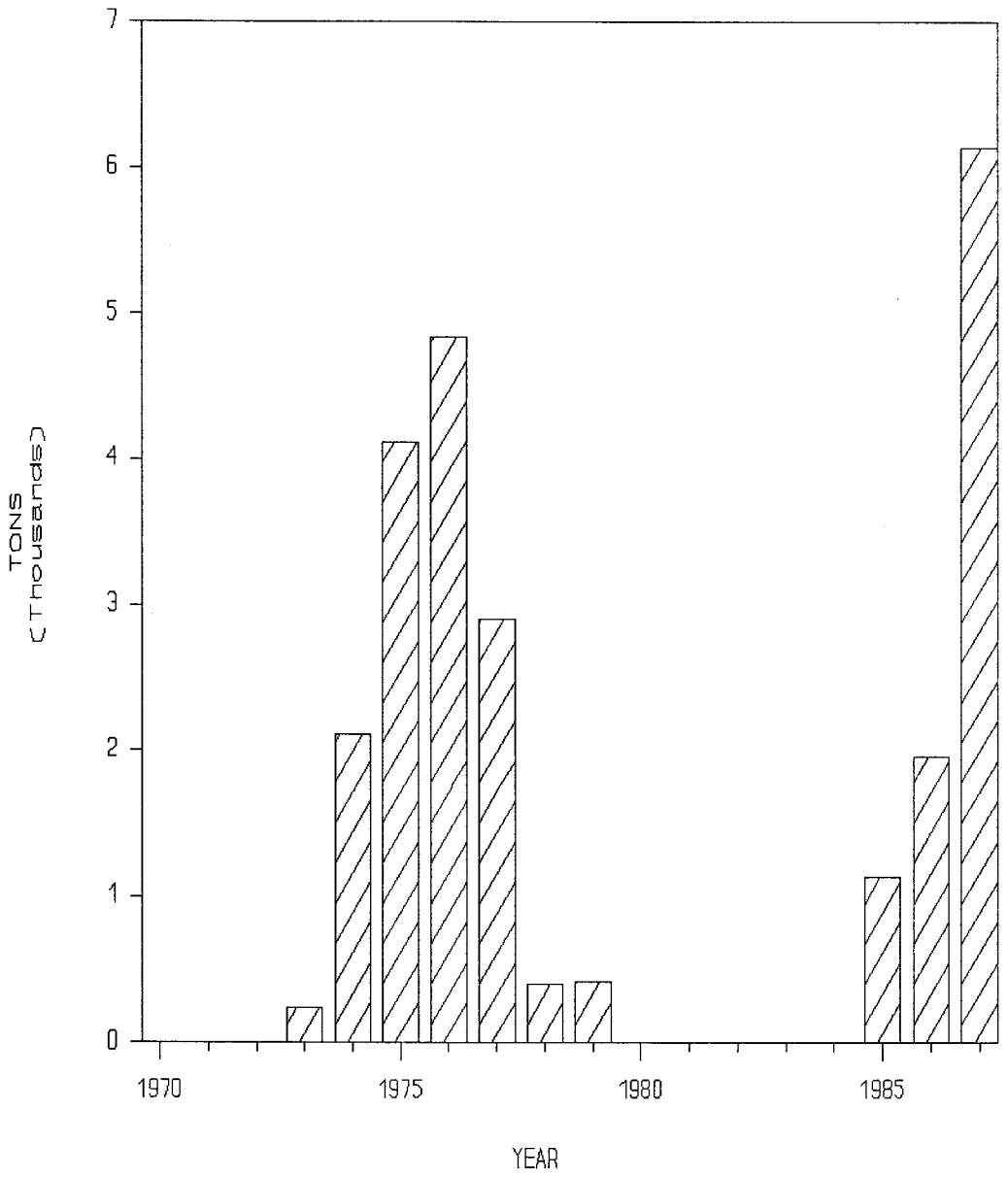


Figure 2. Pacific herring sac roe harvests from the Kamishak Bay District of Lower Cook Inlet by year.

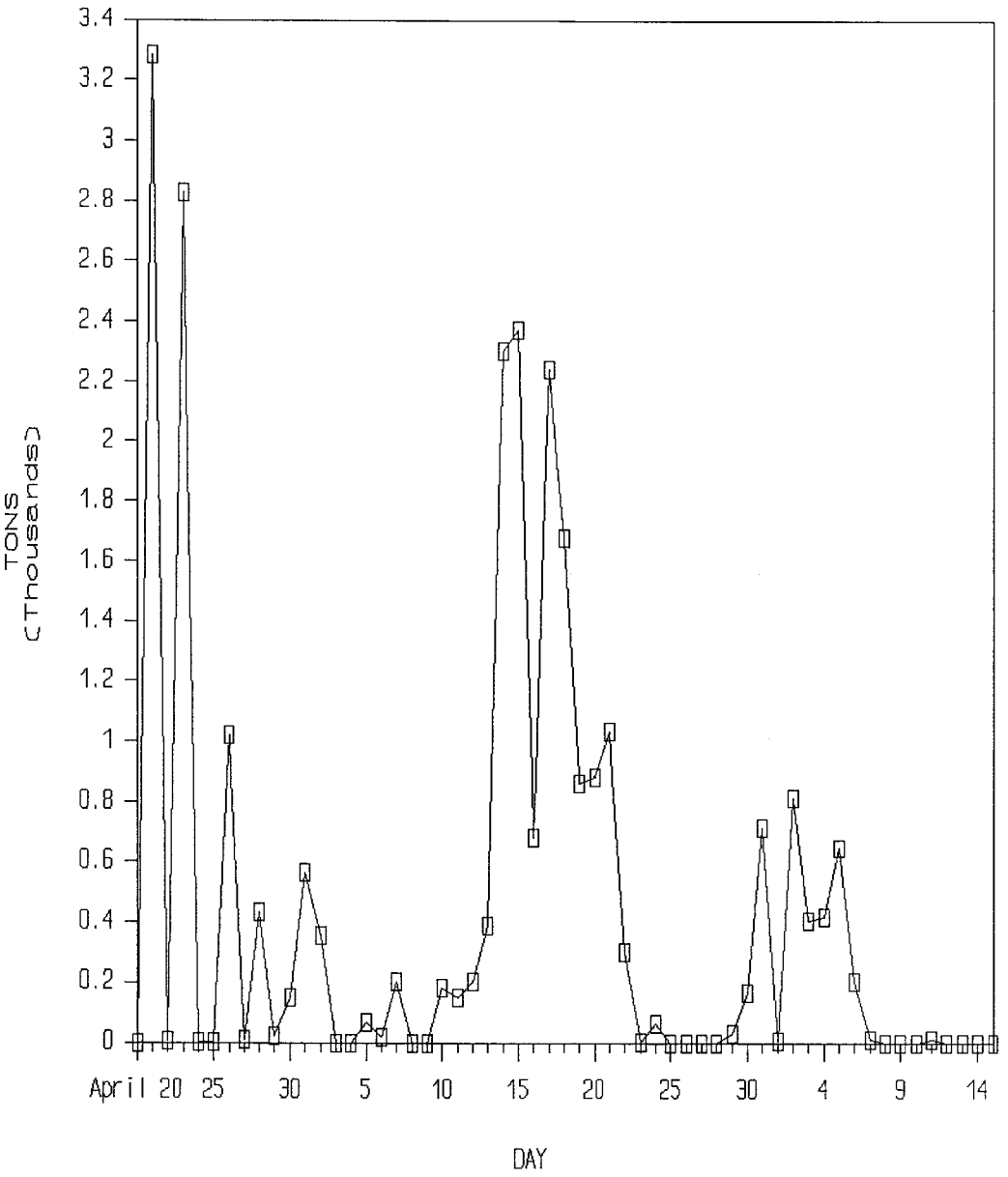
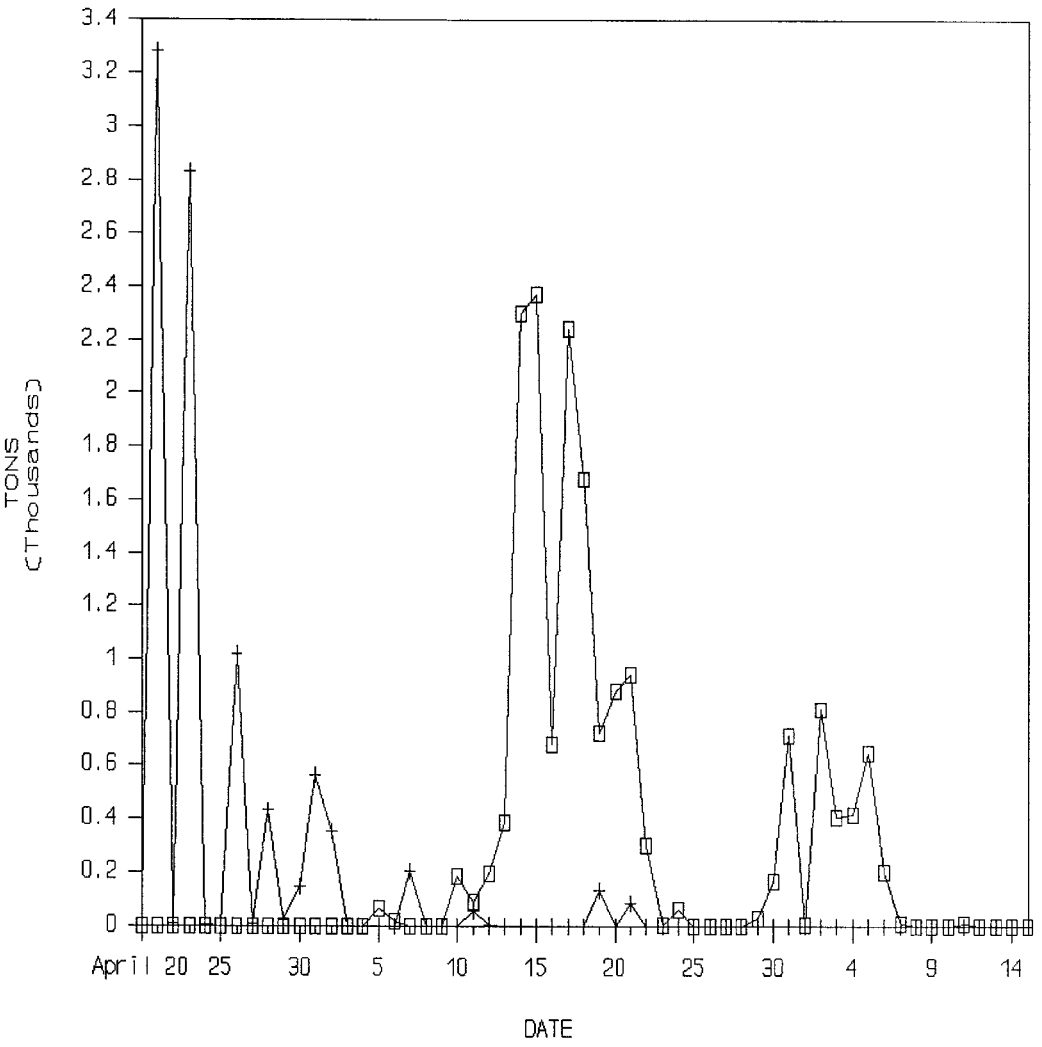
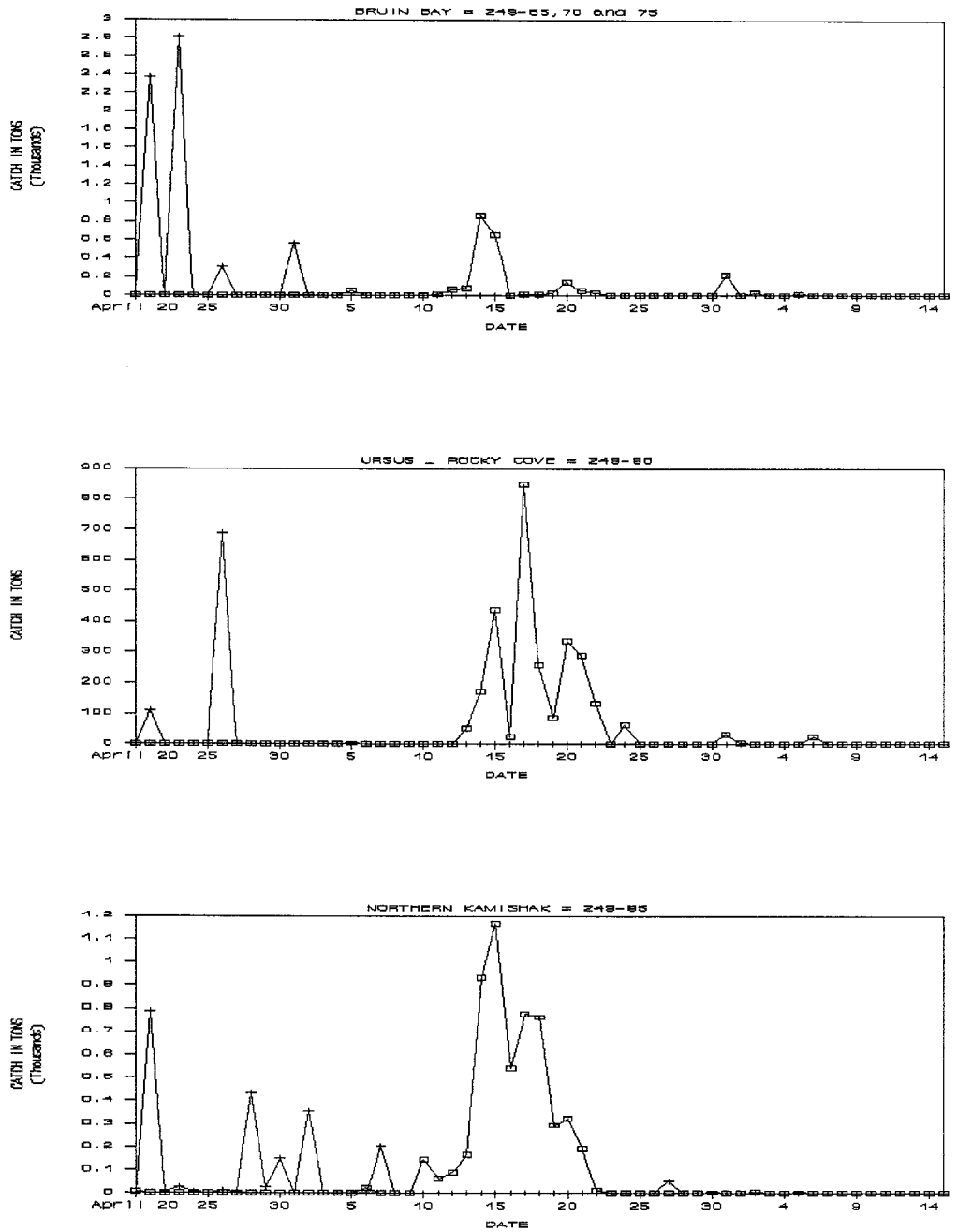


Figure 3. Pacific herring sac roe harvests from the Kamishak Bay District of Lower Cook Inlet by date.



[] = 1970's + = 1980's

Figure 4. Comparison of Pacific herring sac roe harvests of the 1970's versus the 1980's from the Kamishak Bay District of Lower Cook Inlet.



[] = 1970's + = 1980's

Figure 5. Comparison of Pacific herring sac roe harvests of the 1970's versus the 1980's from three statistical areas of the Kamishak Bay District of Lower Cook Inlet.

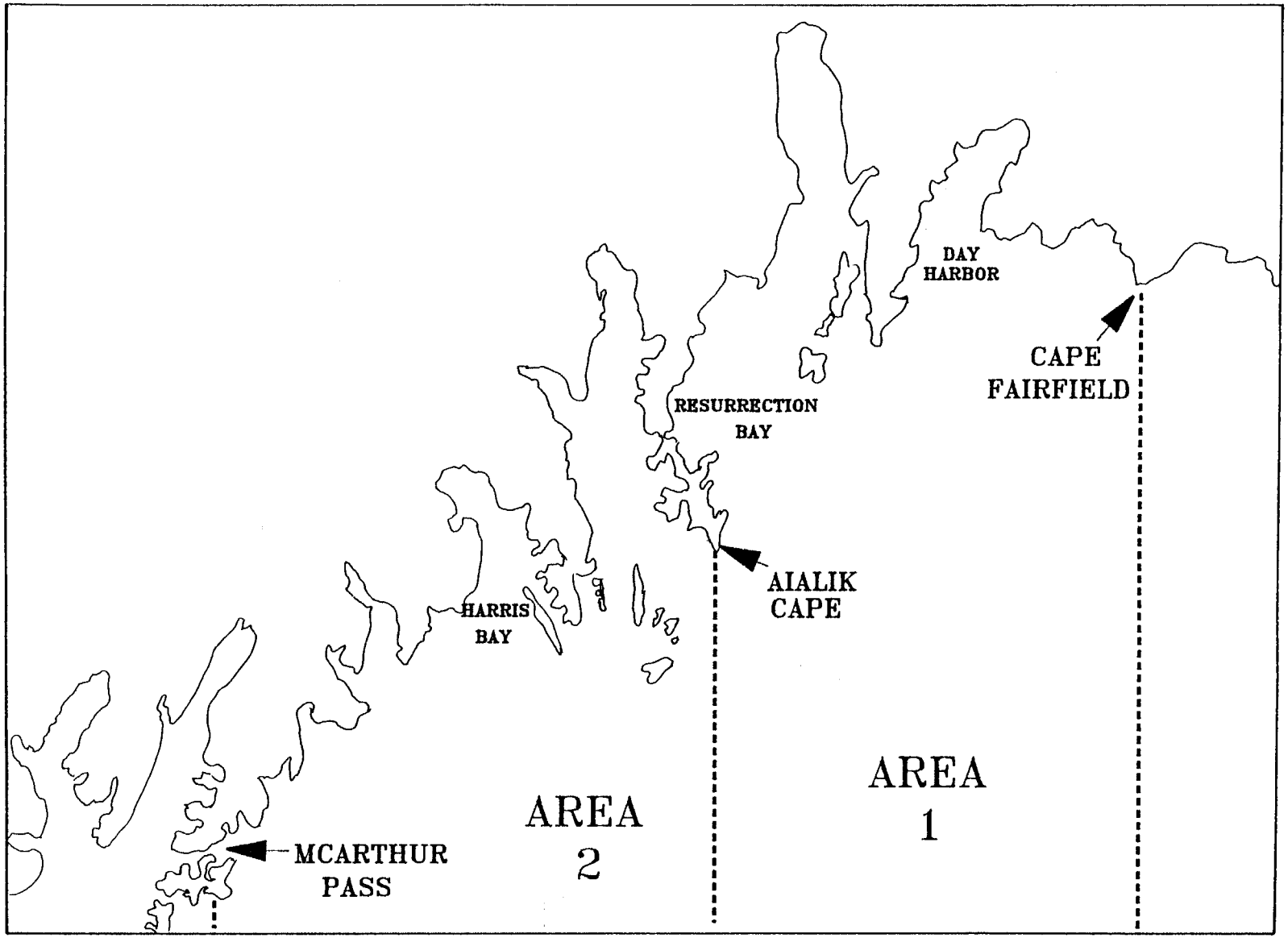


Figure 6. Herring management areas 1 and 2.

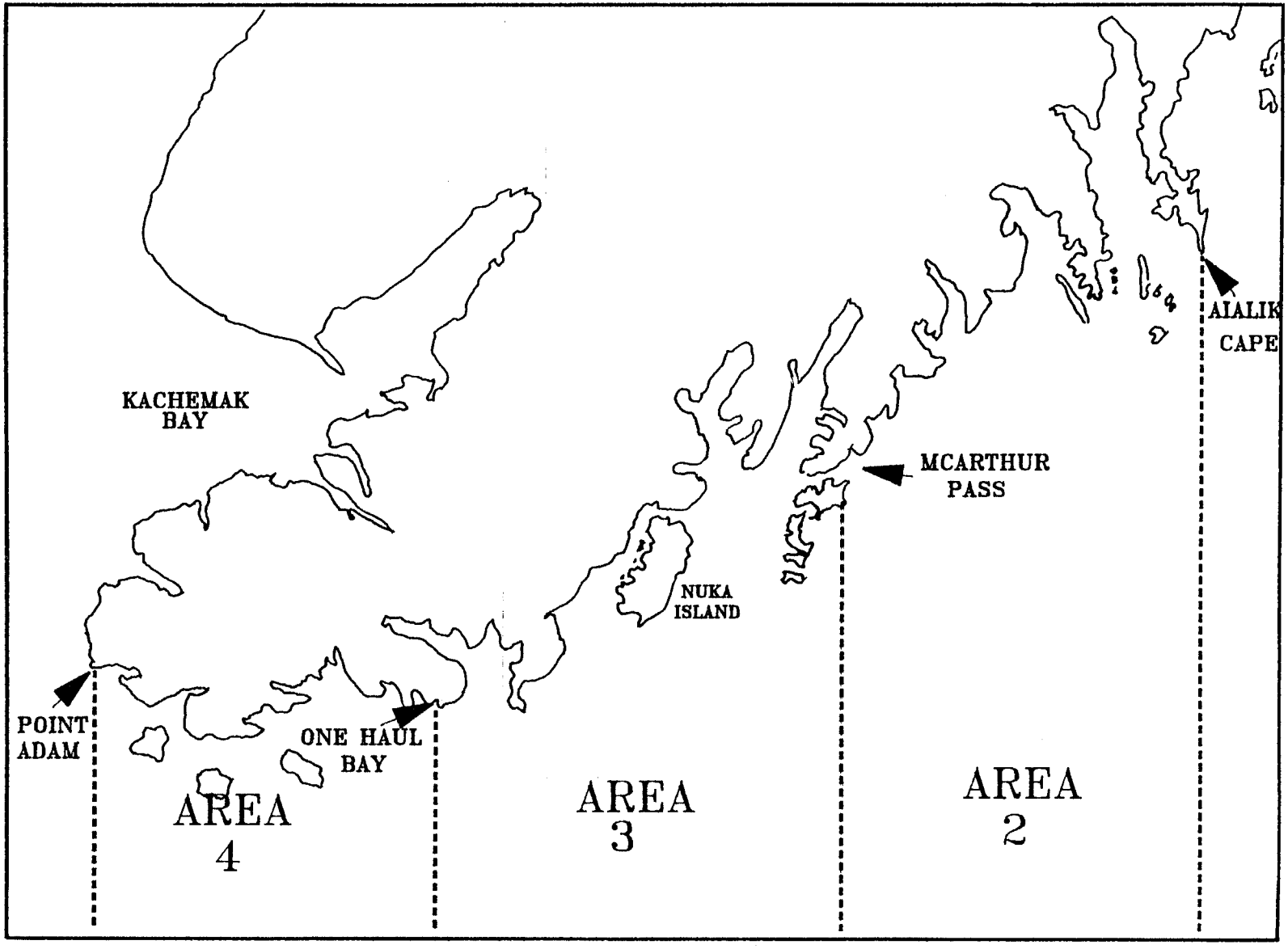


Figure 7. Herring management areas 2, 3, and 4.

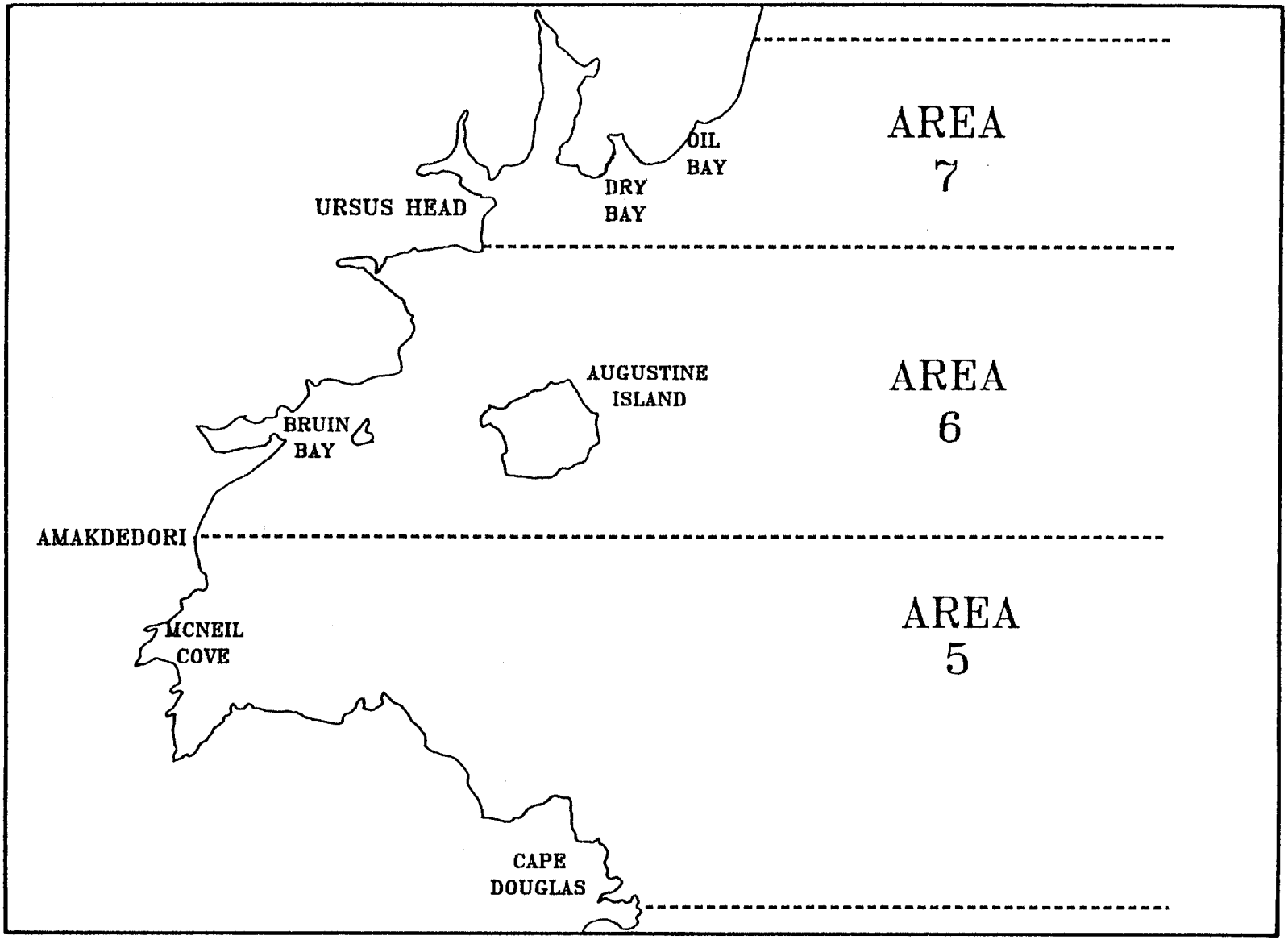


Figure 8. Herring management areas 5, 6, and 7.

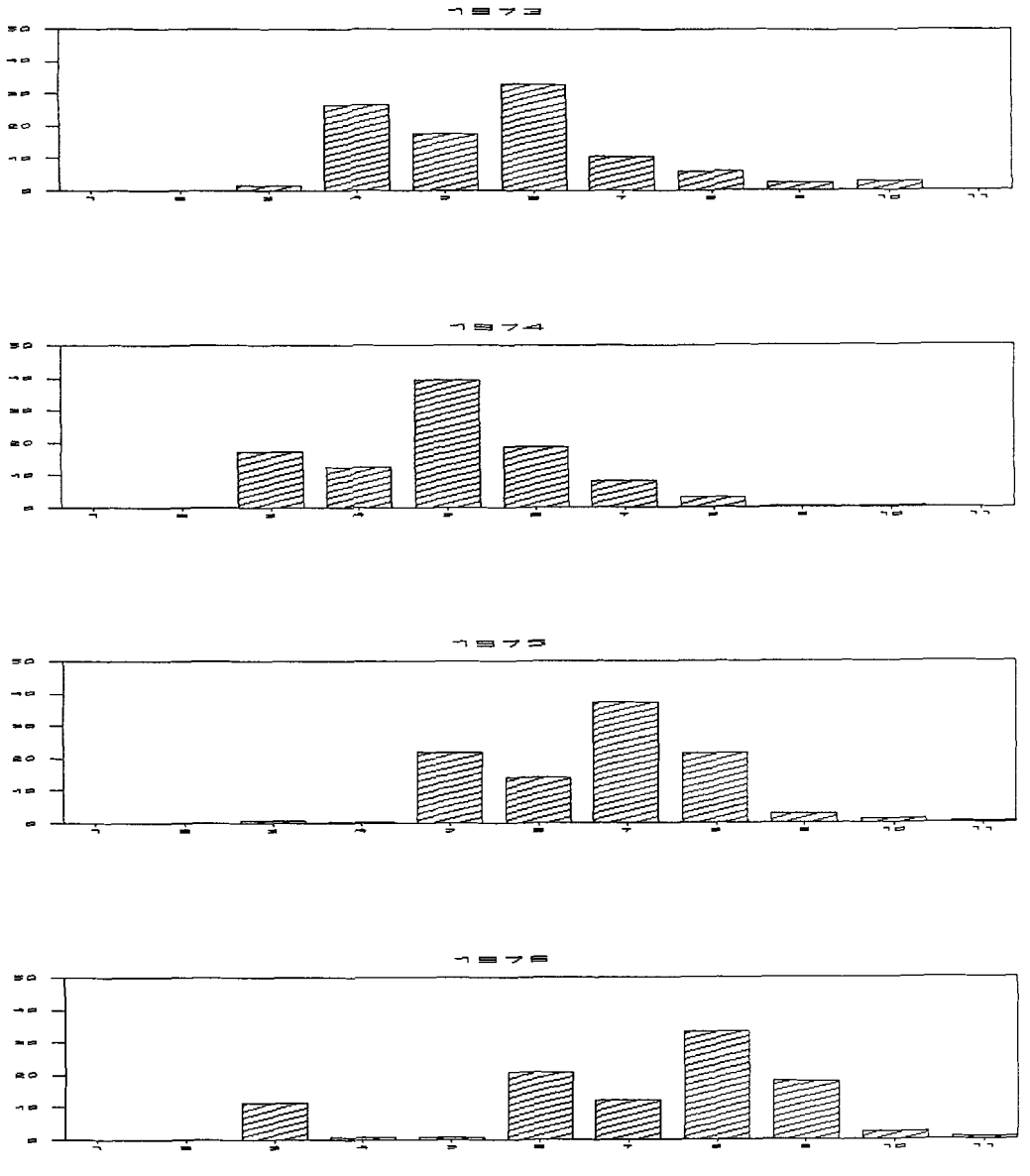


Figure 9. Comparison of the age class composition of the Pacific herring sac roe seine harvest from the Kamishak Bay District of Lower Cook Inlet, 1973-79.

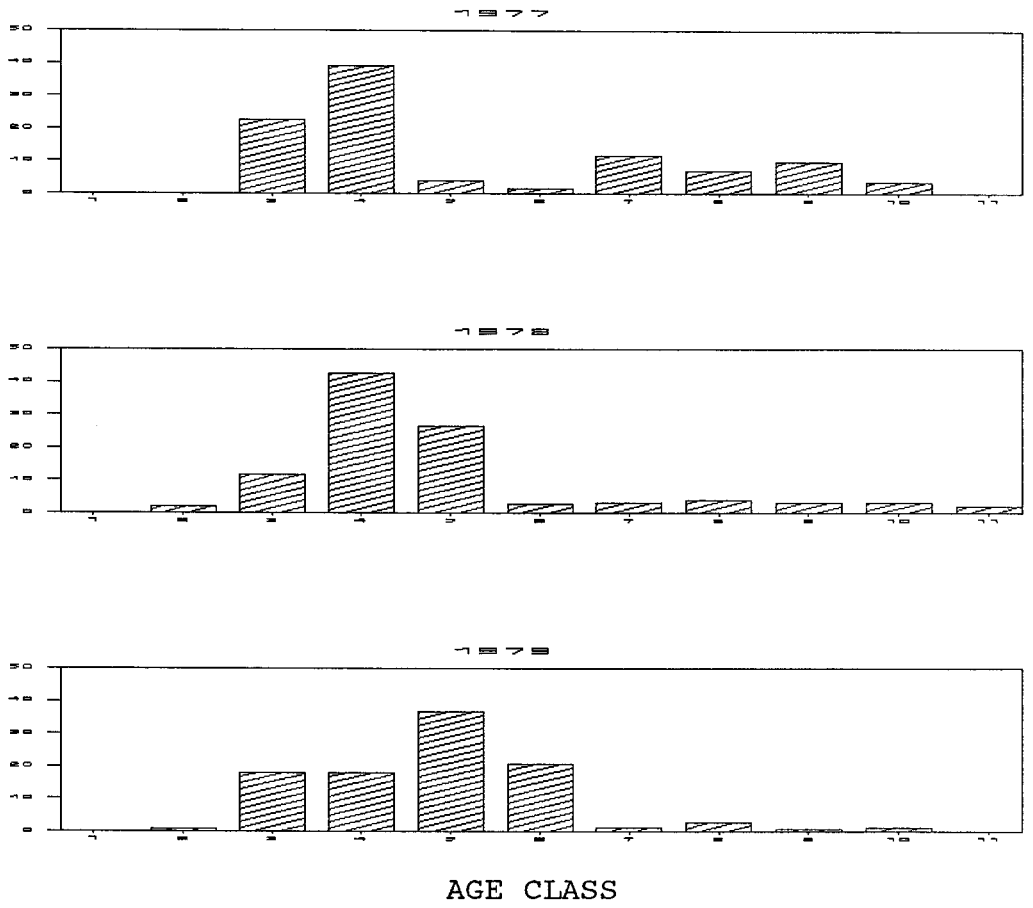


Figure 9. Comparison of the age class composition of the Pacific herring sac roe seine harvest from the Kamishak Bay District of Lower Cook Inlet, 1973-79.
(Cont.)

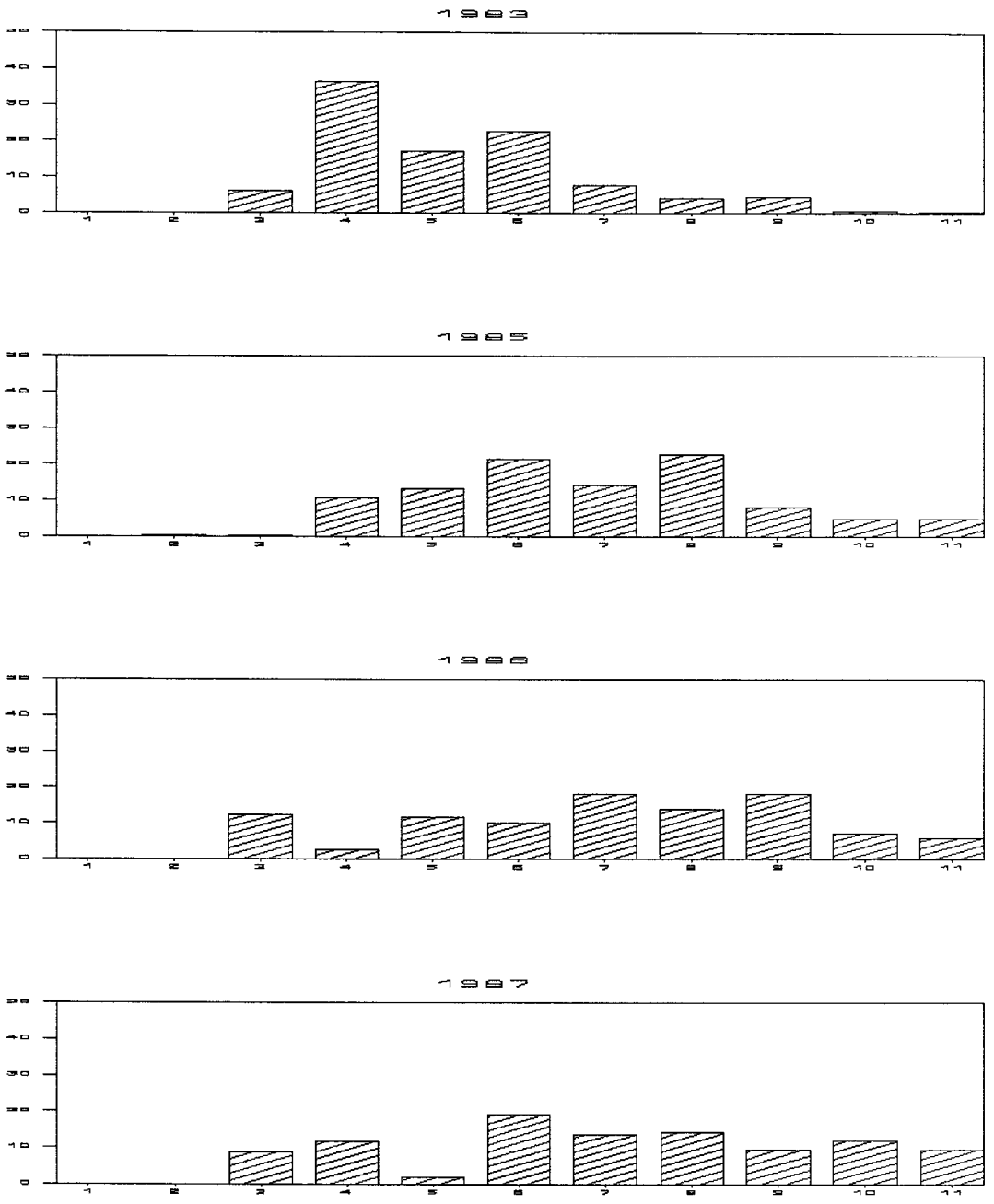


Figure 10. Comparison of the age class composition of the Pacific herring sac roe seine harvest from the Kamishak Bay District of Lower Cook Inlet, 1983-87.

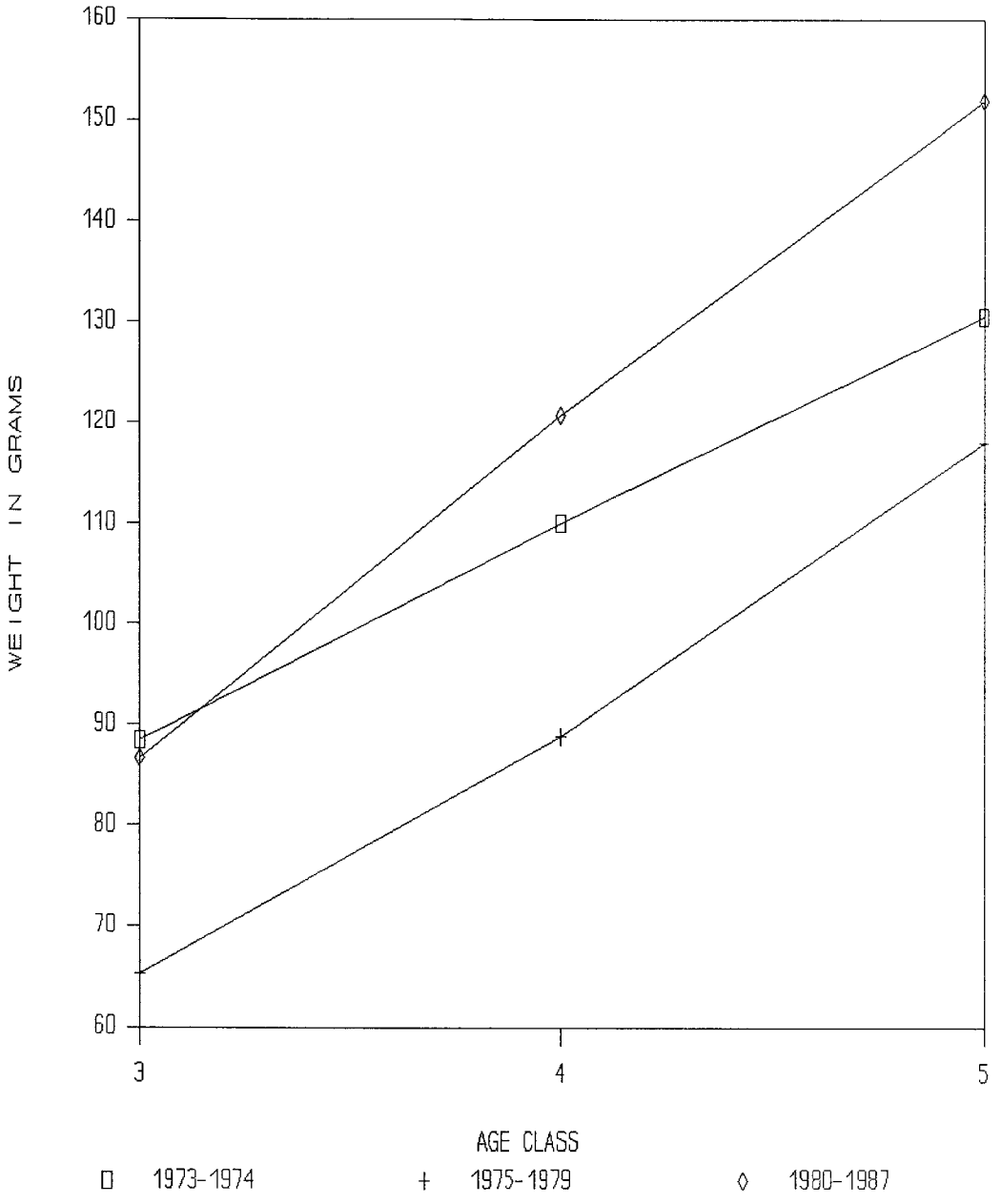


Figure 11. Comparison of average weights in grams of recruit age Pacific herring from the Kamishak Bay District.

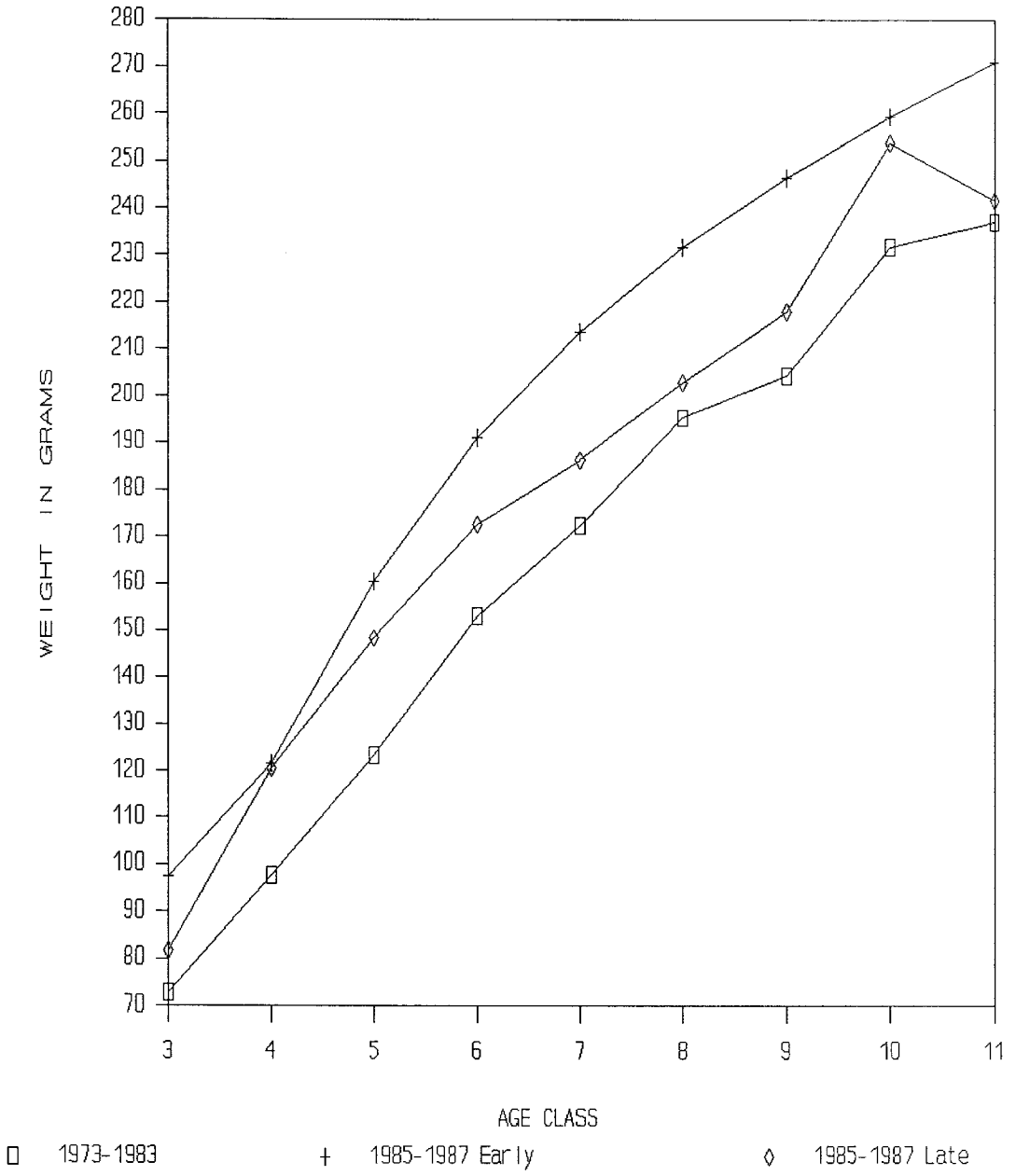


Figure 12. Pacific herring average weights in grams by age class and year from the Kamishak Bay District of Lower Cook Inlet.

APPENDICES

Appendix A.1 Historical summary of emergency orders issued concerning the Lower Cook Inlet Pacific herring sac roe fishery, 1969-87.

Year	E.O. Number	Date	Description
1969		None issued	
1970		None issued	
1971	1.	May 15	Closed Resurrection Bay north of the line from the freightline dock to the railroad dock.
	2.	June 7	Reopened the above waters to fishing.
1972		None issued.	
1973	1.	June 5	Closed the Southern district.
	2.	June 15	Closed the Eastern district.
1974	1.	May 7	Closed Resurrection Bay at 6:00 a.m. May 7.
	2.	May 20	Closed the Kamishak Bay district at 11:59 p.m. May 20.
	3.	May 31	Closed the Outer district from Aialik Cape to Outer Island at 11:59 p.m. May 31.
	4.	June 7	Reopened Resurrection Bay north of Caines Head at 6:00 a.m. June 7.
1975	1.	May 4	Closed Outer district west of Aialik Cape at 6:00 a.m. May 4.
	2.	May 7	Closed Eastern district except Resurrection Bay north of Caines Head at 11:59 p.m. May 7.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
	3.	May 17	Closed Iniskin Bay at 11:59 p.m. May 17.
	4.	June 6	Closed entire Cook Inlet to herring fishing at 11:59 p.m. June 6.
1976	1.	May 4	Eastern, Outer and Southern districts closed and openings will be announceed by E.O. from May 4 to June 30.
	2.	May 17	Closed Iniskin Bay at 6:00 p.m. May 17.
	3.	May 21	Closed entire Cook Inlet at 9:00 p.m. May 21.
	4.	June 2	Reopens Kamishak district east of Iniskin Island from 9:00 a.m. until 1:00 p.m. June 2.
	5.	June 2	Extended opening above until 10:00 p.m. June 2.
1977	1.	April 15	Closed Eastern, Outer and Southern districts to herring fishing April 15.
	2.	May 12	Closed Kamishak district at 11:59 p.m. May 12.
	3.	May 14	Reopens Kamishak district south of Ursus Head at 12:00 noon May 14 and opens the Humpy Creek sub-district of the Southern district by flare for two hours from 12:00 noon until 2:00 p.m. May 14.
	4.	May 17	Closes the Kamishak district at 11:59 p.m. May 17.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
	5.	May 29	Reopens the Kamishak district east of Scott Island at 6:00 a.m. May 29
	6.	May 31	Closes Kamishak district at 11:59 p.m. May 31.
1978	1.	May 5	Opens the Kamishak district south of Ursus Head from 1:00 until 7:00 p.m. May 5.
	2.	May 19	Opens Kamishak district for 12 hours from 6:00 a.m. until 6:00 p.m. May 19.
	3.	May 19	Extended fishing in the Kamishak district from 6:00 p.m. May 19 until 12:00 noon May 20.
	4.	May 20	Extended Kamishak district fishing 24 hours from 12:00 noon May 20 until 12:00 noon May 21.
	5.	May 21	Extended Kamishak district opening 24 hours from 12:00 noon May 21 until 12:00 noon May 22.
	6.	May 22	Extended fishing in the Kamishak district 12 hours from 12:00 noon May 22 until midnight.
1979	1.	May 12	Opened Kamishak district from 8:00 a.m. until 2:00 p.m. May 12 or until 400 ton of herring are harvested.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
	2.	May 12	Extended fishing in the Kamishak district for 24 hours from 2:00 p.m. May 12 until 2:00 p.m. May 13.
	3.	May 13	Extended fishing in the Kamishak district for 24 hours from 2:00 p.m. May 13 until 2:00 p.m. May 14.
	4.	May 14	Extended fishing in the Kamishak district for 24 hours from 2:00 p.m. May 14 until 2:00 p.m. May 15.
	5.	May 31	Opened Southern district by flare for one hour from 12:00 noon until 1:00 p.m. May 31.
1985			
	2-F-H-001-85	April 18	Opens the Outer, Eastern and Kamishak Bay districts to herring sac roe fishing on April 20.
	2-F-H-002-85	May 1	Closes the area between the longitude of Cape Fairfield and the longitude of Aialik Cape to herring seining effective at 8:00 a.m. Thursday May 2.
	2-F-H-004-85	April 28	Closes waters of Kamishak Bay between the latitudes of Ursus Head and Contact Point including Bruin Bay to herring sac roe seining at 7:30 p.m. Sunday April 28.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
	2-F-H-005-85	April 30	Closes waters of Kamishak Bay north of Ursus Head to herring sac roe seining at 11:30 p.m. Tuesday April 30.
	2-F-H-006-85	May 1	Reopens waters of Kamishak Bay to herring sac roe seining from Bruin Bay to Fortification Bluff for 30 minutes from 10:00 until 10:30 a.m. Wednesday May 1.
	2-F-H-007-85	May 1	Extends fishing time for herring sac roe seining in waters of Kamishak Bay between Bruin Bay and Fortification Bluff from 10:30 a.m. until 3:10 p.m. Wednesday May 1.
	2-F-H-008-85	May 1	Closes all waters of Kamishak Bay north of the latitude of Amakdedori Creek to herring sac roe seining effective at 3:10 p.m. Wednesday May 1.
	2-F-H-009-85	May 7	Reopens waters of Kamishak Bay north of Ursus Head to herring sac roe seining for 30 minutes from 2:15 until 2:45 p.m. Tuesday May 7. The opening will be by flare.
	2-F-H-013-85	June 12	Closes LCI to herring sac roe fishing at 6:00 a.m. Saturday June 15.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
1986			
	2-F-H-001-86	April 16	Opens the Outer, Eastern and Kamishak Bay districts to herring sac roe fishing on April 20.
	2-F-H-002-86	April 26	Closes waters of Kamishak Bay to herring seining between the latitudes of South Head and Kirschner Lake waterfalls at 10:00 a.m. Saturday, April 26.
	2-F-H-003-86	April 26	Closes waters of Kamishak Bay to herring seining between the latitudes of Amakdedori creek and the Kirschner Lake waterfalls at 6:00 p.m. Saturday April 26.
	2-F-H-004-86	April 28	Clarifies the closure line at south Head to be latitude 56 36' N. lat.
	2-F-H-005-86	April 28	Closes waters of Kamishak Bay to herring seining north of the latitude of South Head located at 59 36 N. lat. at 12:00 noon Monday April 28.
	2-F-H-006-86	April 28	Closes the entire Kamishak Bay district to herring sac roe fishing at 9:00 p.m. Monday April 28 and puts fishermen on a 24-hour notice for future openings in the Kamishak area.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
	2-F-H-007-86	May 2	Reopens waters of Iniskin Bay north of latitude 59 39.10' N. to herring seining for 2 hours from 5:00 until 7:00 p.m. Friday May 2. The opening will be by flare with a 10 second countdown on channel 10 on the marine VHF.
	2-F-H-008-86	May 19	Reopens waters of Kamishak Bay south of Amakdedori Creek to herring seining for two hours from 7:30 until 9:30 a.m. Monday May 19.
	2-F-H-009-86	May 19	Reopens waters of Kamishak Bay south of Amakdedori Creek to herring seining for three hours from 7:00 until 10:00 p.m. Monday May 19.
	2-F-H-010-86	May 21	Reopens waters of Kamishak Bay south of Amakdedori Creek to herring seining for three hours from 11:30 a.m. until 2:30 p.m. Wednesday May 21.
	2-F-H-011-86	May 21	Reopens waters of Kamishak Bay south of Amakdedori Creek to herring seining for 2 1/2 hours from 8:00 until 10:30 p.m. Wednesday May 21.
	2-F-H-013-86	June 11	Closes the entire LCI area to herring sac roe fishing at 9:00 p.m. Friday June 13.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
1987			
	2-F-H-001-87	April 16	Opens the Outer, Eastern and Kamishak districts to herring sac roe fishing at 6:00 a.m. Tuesday April 21.
	2-F-H-002-87	April 21	Closes the following waters of the Kamishak district at 9:00 p.m. Tuesday April 21: 1) waters west of the easternmost tip of Pomeroy Is. located at 153 22'03" W. long. and north of the latitude of South Head located at 59 36'21" N. latitude which essentially closes Cottonwood, Iliamna and Iniskin Bay to fishing; and 2) waters south of the latitude of Sunday Creek in Rocky Cove located at 59 26'48" N. latitude, west of 153 40' W. longitude and north of the latitude of the northern entrance to Bruin Bay located at 59 23'06" N. latitude which essentially closes waters between Bruin Bay and Sunday Creek.
	2-F-H-003-87	April 23	Closes the entire Kamishak district to herring sac roe fishing at 11:00 p.m. Thursday April 23 and puts fishermen on 24 hour notice for any reopening of the district.

Appendix A.1 Continued.

Year	E.O. Number	Date	Description
	2-F-H-004-87	April 27	Closed all waters of the Outer and Eastern districts east of the longitude of Gore Point, except for Aialik Bay and Resurrection Bay, at 12:00 noon Tuesday april 28.
	2-F-H-005-87	May 6	Closes the entire Outer and Eastern districts to herring sac roe fishing at 12:00 noon Friday May 8.
	2-F-H-006-87	May 8	Closes Aialik Bay and Resurrection Bay to herring sac roe fishing at 9:15 a.m. Friday May 8.
	2-F-H-007-87	May 27	Closes the Lower Cook Inlet area, except for the Southern district, to herring fishing from July 1, 1987 until February 28, 1988.