ABUNDANCE, AGE, SEX AND SIZE STATISTICS FOR PACIFIC HERRING (*CLUPEA PALLASI*) IN THE TOGIAK DISTRICT OF BRISTOL BAY, 1990-1992

By

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ABSTRACT

The total run of Pacific herring *Clupea pallasi* in the Togiak District of Bristol Bay was monitored for abundance and sampled for age, size, and sex for years 1990-1992. Department staff estimated abundance flying aerial surveys with chartered aircraft. Commercial catch samples came from purse seine and gillnet landings. During closed fishing periods, herring samples were obtained from test-fish catches made by volunteers from the commercial fleet and by department staff using variable-mesh gillnets. From 1990 through 1992, the total run biomass ranged between 79,928 and 142,389 tonnes. The 1992 biomass of 142,389 tonnes was the greatest abundance documented since 1981. Herring age varied from 3 to18 in the biomass. The 1992 season was the first time that age-18 herring were documented in Togiak District. The 1977 and 1978 year classes continued to decline in abundance during the three years represented in this report. These year classes have supported the exploitable biomass since 1983, appearing as age-13 and -14 herring in 1992.

KEY WORDS: Pacific herring, *Clupea pallasi*, sac roe, spawning biomass, commercial herring fishery, Bristol Bay, Togiak District, age, length, weight, sex.

INTRODUCTION

Pacific herring *Clupea pallasi* are harvested in several spawning locations along the eastern Bering Sea coast from Norton Sound south to Port Moller. The Togiak District of Bristol Bay supports the largest discrete spawning biomass of Pacific herring in the eastern Bering Sea and in Alaskan waters. Biomass estimates from aerial surveys have been made since 1978, ranging from 69,818 tonnes (76,960 tons) in 1980 to 219,810 tonnes (242,298 tons) in 1979 (Table 1). From 1984 through 1989, the Togiak herring run biomass accounted for approximately 70% of the total documented run biomass of herring assessed for the entire eastern Bering Sea coast (Lebida 1987).

Herring spawn within the Togiak District from late April to the end of May. Post spawning, herring leave the fishing district and migrate south in a clockwise direction along the Alaska Peninsula to feeding areas near Unalaska Island. In August and September, these fish then move from feeding areas to overwintering grounds near the Pribilof Islands (Rumyantsev and Darda 1970; Wespestad and Barton 1981; Funk 1990; Figure 1).

The largest fishery for Togiak herring occurs during their inshore spawning period. The most valuable product from this harvest is the ripened ovaries or egg skeins, referred to as *sac roe*. This product is primarily marketed in Japan. Commercial harvest of herring for sac roe was first documented in the Togiak District in 1968. Passage of the Fisheries Conservation and Management Act in 1976 and the resulting inability of Japanese fishermen to harvest sac roe from U.S. waters prompted increased interest in the Togiak fishery by U.S. fishermen. The harvest has been divided between purse seine and gillnets. Average annual harvest through 1989 was 14,534 tonnes (16,021tons). The greatest harvest of 24,352 tonnes (26,843 tons) occurred during the 1983 season (Table 1).

Brown algae *Fucus sp.* commonly known as rockweed, on which herring have spawned is also harvested within the Togiak District. This wild spawn-on-kelp product is harvested either by hand or rake, primarily by local residents. The harvest, documented since 1967 has increased in recent years (Table 1). Average annual harvest since 1978 is 150 tonnes (146 tons).

During their post spawning migration, Togiak herring are susceptible to other fisheries. A directed food/bait fishery occurs during mid- to late summer months in the Unalaska Island area. Catches were first documented on these feeding herring in 1929. Harvests reached a maximum of 2,727 tonnes (3,006 tons) in 1932. The fishery declined and ended by 1938 due to poor market demand but was renewed in 1981. The annual harvest since 1981 has averaged 2,507 tonnes (2,763 tons; Table 1).

Incidental harvest of Togiak herring occurs as bycatch in fisheries targeting groundfish in the southeastern Bering Sea. Foreign vessels first exploited these groundfish fisheries but domestic fishers recently have dominated. These fisheries often occur along the migratory route of feeding herring (Funk 1990; Rowell et al. 1991). The additional harvest upon a fully exploited herring population has been a concern brought before the North Pacific Management Council and the Alaska Board of Fisheries by western Alaskan fishermen.

Togiak herring have been managed as a single spawning population distinct from others in the Bering Sea. A maximum regulatory exploitation rate of 20% of the spawning biomass was established in the

Bristol Bay Herring Management Plan, 5AAC 27.865 (ADF&G 1990). This plan provides an allocation of 1,361 tonnes (1,500 tons) to the wild spawn-on-kelp fishery and 7% of the remaining harvest (after subtraction of the spawn-on-kelp harvest) for the Dutch Harbor food/bait fishery. The rest of the harvestable surplus is reserved for the sac roe fishery: 25% for gillnet and 75% for purse seine fleet.

Stock assessment studies of the Togiak herring population began in 1976 and have been documented annually since 1978 (McBride et al. 1981; McBride and Whitmore 1981; Fried et al. 1982, 1983, and 1984; Lebida et al. 1985a, 1985b; Lebida 1987; Lebida and Sandone 1990; Rowell 1995, 2002). An annual objective is to document the age, size and sex composition, as well as maturity of the commercial harvest and to estimate run biomass and the spawning escapement of herring in the Togiak District. These data provide the basis for development of population and forecasting models used to determine harvest strategies.

METHODS

Study Area

The Togiak District is one of five fishing districts within Bristol Bay Management Area 'T'.
The district consists of all State waters between the longitude of the tip of Cape Constantine and the longitude of the tip of Cape Newenham, a linear distance of approximately 193.2 km (120 miles; Figure 2). Because of its large size, the Togiak Fishing District is divided into six management sections (Kulukak, Nunavachak, Togiak, Hagemeister, Pyrite Point, and Cape Newenham).

A wide intertidal zone and several shallow bays characterize the shoreline. Diurnal tidal range may reach 4.6 m (Selkregg 1976). Ribbon kelp *Laminaria*, rockweed *Fucus* and eelgrass *Zostera* are the primary marine vegetation observed in the Togiak District. The spawn-on-wild kelp fishery has focused on the harvest of rockweed primarily in the Togiak, Nunavachak, and Kulukak Sections. Herring have spawned throughout the fishing district particularly in areas where eelgrass and rockweed have been present. Rockweed is the most visible species of aquatic vegetation because it grows on cobble substrate located within the intertidal area and upon rocky outcroppings.

Herring are harvested for sac roe by gillnet and purse seine gear. The 1990 season marked the end of the gear restrictions by fishing section. Beginning in 1990, both purse seine and gillnet gear could be fished, in any of the five fishing sections within the Togiak District as designated by emergency order, (5 AAC 27.830; ADF&G 1990).

Age, Size, and Sex Data

Data Collection

Pacific herring were collected from management sections within the fishing district during fishery openings and closures. During closed fishing periods, volunteer commercial fishers made test purse seine or gillnet sets to capture herring in each fishing section throughout the spawning migration.

ADF&G crews fished variable-mesh gillnets if commercial purse seine vessels were not available to capture herring during closed periods in a given section. These gillnets were assumed to be non-selective such that catches would represent the entire size and age spectrum of the biomass. Variable-mesh gillnets were 30.4 m (100 ft) in length, consisting of four 7.6 m panels with different mesh sizes. Panels were arranged by increasing order of stretch mesh size of 38 mm (1.5 in), 51 mm (2.0 in), 64 mm (2.5 in) and 76 mm (3.0 in). During the 1990 and 1991 seasons, test fishing with variable mesh gillnets continued into the month of June to verify anecdotal reports of mature herring present in the fishing district at this time.

Herring were also sampled at the close of each commercial fishing period from tenders or individual fishing vessels for each gear type and fishing section at the close of each commercial fishing period. Crews collected samples from a minimum of five vessels for each gear type within each management section to ensure samples came from more than one school.

Sex was determined and gonad maturity was observed for each herring by examination of the gonads or sex products. Maturity of both male and female herring was rated by the eight-scale guideline outlined in Barton and Steinhoff (1980). These categories were combined and reported as green, ripe, or spent.

Standard length from the snout to the hypural plate at the base of the tail was measured to the nearest millimeter with an accuracy of 1.0 mm. Each herring was weighed to the nearest gram. A scale for age determination was removed from the left side of each fish approximately 2.5 cm behind the operculum and 2.5 cm below the lateral line. If scales were absent from this preferred area, a scale was removed from the right side of the fish in the same location, or anywhere a readable scale was present. Removed scales were dipped in 10% mucilage solution, mounted sculptured side up on glass slides, and read by annuli interpretation using a microfiche reader (magnification 60x). Scales are aged by counting the annuli formed at the end of winter after spawning (Shaboneev 1965). This timing was coincidental to the collection of samples in the spawning migration; thus, the outer edge of the scale was counted as an annulus.

Sample Sizes

The desired sample size of a multinomial population would result in an estimate that would simultaneously fall within 5% (α =0.05) of the true population age proportions 95% of the time (Thompson 1987). The sample size of 405 herring would guarantee this level of precision for the number of age classes represented with 10 age classes (ages 3-12). Samples from non-selective gear representing the biomass were 405 per 3 day strata or 135 fish per day based on the time required to collect and process the herring. Time strata for the commercial harvest were 405 herring per day by area and gear type.

Age, Weight and Length Data

Age composition of the commercial harvest and total run biomass were estimated from herring collected in the commercial and test fisheries throughout the Togiak District. Samples captured by non-selective gear (variable-mesh gillnet, purse seine or dipnet) were used to determine age structure of the population and run biomass. The percent age composition by number for each age class P_a was

estimated for samples from each gear-time-area stratum for samples from both fishery and non-fishery samples:

$$P_a = \frac{n_a}{n}, \tag{1}$$

where n_a equals the number of herring in the sample that were age a and n equals the total number of herring in the sample.

The mean weight-at-age, W_a, for herring was estimated for each gear-time-fishery stratum by

$$\overline{W}_a = \frac{\sum_{i=1}^{n_a} W_{ai}}{n_a}, \tag{2}$$

where W_{ai} equals the individual weight of herring in the sample n that were age a

The mean length-at-age was calculated by substituting the individual length L_{ai} of herring for the individual weight W_{ai}. Length- and weight-by-age data from nonselective gear types (purse seine, variable-mesh gillnet) were pooled to represent the mean length and weight of the entire population.

Commercial Harvest

Fish tickets (sales receipts) were completed by processing companies and buyers for each commercial delivery of herring and spawn on kelp. Copies of all tickets were returned to ADF&G where staff edited and entered the information into a database. The database was reverified against each fish ticket. Harvest data by product, gear type, harvest date, and fishing section were summarized for each of the 1990, 1991, and 1992 seasons. Estimates of waste or discarded herring were obtained from aerial estimates of discarded herring or processor reports. Estimated waste was included in the fish ticket database and used in the calculation of exploitation rates. The fish ticket database was revised in 1994 to reflect data revisions. Hence the data presented in this report may differ from that in the respective area management reports (ADF&G 1991, 1992, 1993).

The weight of the wild spawn on kelp harvest was converted to the equivalent number of adult herring required to deposit the quantity of eggs harvested. This information is documented in the annual management reports (ADF&G 1991, 1992, 1993).

Biomass Estimation

The run biomass for Togiak District was estimated using aerial survey assessment procedures outlined by Lebida and Whitmore (1985). Aerial surveys were flown daily, weather permitting, at low tide, to estimate herring abundance. Each management section was divided into index areas to facilitate survey documentation. Aerial survey estimates for each index area were summed to provide biomass estimates for each management section by day. Biomass estimates of these management sections were summed to provide the observed district-wide biomass for each day.

The migration of herring between management sections within the Togiak District is not well understood. Residence time of herring within the district and rate of turnover for the biomass on the grounds are unknown. Age and maturity data from herring samples collected by nonselective gear were pooled across management sections to determine any temporal trends in age composition or maturity for the entire fishing district that would indicate immigration of new herring into or emigration of spent herring out of the fishing district.

Age composition by weight of both the commercial harvest and of the appropriate daily biomass data for each age class was estimated by

$$B_a = \left[\frac{n_a \overline{W}_a}{\sum_{a=1}^{\max_a} (n_a \overline{W}_a)} \right] B, \qquad \textbf{(3)}$$

Where B_a equals the biomass for age a, n_a equals the number of herring in the sample that were age a, $\overline{W}_a$, a=1 equals the mean weight for herring of age a, and B is the total estimated harvest expressed as biomass.

Age composition of the waste or deadloss (i.e. herring that were caught but not sold) was represented by the age composition for the same gear type in the commercial fishery.

The composition by age and in numbers of fish, N_a, for each component was then calculated by

$$N_a = \frac{B_a}{\overline{W}_a}, \qquad \textbf{(4)}$$

Where N_a equals the total number of herring in age class a, B_a is the biomass for herring age a and $\overline{W}_a$ is the mean weight of the fish at age a.

The run biomass, B_{tot}, was calculated from the daily biomass estimates by summing the biomass by each age class and management section from the selected daily aerial surveys that corresponded with changes in the age composition and gonad maturity data. To prevent double counting of herring, the biomass by age of herring age-6 and older observed during the first peak survey biomass estimate B_{a1} was added to the age-5 and younger component of the second peak estimate B_{a2},

$$B_{tot} = B_a 1 + B_a 2. \qquad \textbf{(5)}$$

The inshore escapement biomass, E_{tot}, is the summation of the difference between the run biomass C_a for each age and the combined purse seine and gillnet harvest for each age C_a:

$$E_{tot} = \Sigma(B_a - C_a). \qquad \textbf{(6)}$$

RESULTS

1990 Season

Age, Size, and Sex Data

Biological data from 7,196 herring were collected in the Togiak Fishing District (Table 2) by purse seine, commercial gillnet, and variable mesh gillnet from 3 May through 25 May 1990. Regenerated or unreadable scales composed 14% of all scale samples. The percentage of unreadable scales from commercial purse seine samples was higest at 16%. Unreadable scales comprised 16% of the commercial gillnet samples and 13% of the test purse seine samples. Variable-mesh gillnet samples had the smallest percentage of unreadable scales at less than 13%. Readability of herring scales is dependent on the location of the body from which the scales have been removed as well as regeneration caused by scale loss. Because the opportunity for injury or scale loss increases as herring age, the proportion of unreadable scales is expected to increase over time. However, mean lengths for unaged samples were similar to those for the aged samples (NSC), indicating that readable scales were representative of the entire sample (Appendix A).

Herring aged 3-17 were collected from both the total run biomass and commercial harvest (Table 3). The temporal change in age class structure of the population was evident in the age composition of collected samples (Table 4; Figure 3). The proportion of herring age-9 and older composed 76% of the samples collected from nonselective gear during the early sampling period 3-11 May decreasing to 31% during the period of 20-23 May. Conversely, the proportion of age-3 through -6 herring present in the samples increased from about 1% during 3-11 May to 41% by 20-23 May. The temporal change for age-7 and age-8 herring was less dramatic for the same time period. The proportion of age-7 and age-8 herring samples changed from 16% during the 3-11 May sampling period to 28% for the 20-23 May period. Late season samples (24 May-5 June) exhibited a higher proportion of age-3 to age-6 herring (46%) than any of the earlier sampling strata.

Length at age of all samples collected ranged from 178 mm (age-3) to 394 mm (age-13) and weight at age ranged from 61 g (age-3) to 681 g (age-13). The mean length and weight of herring from the total run biomass were 283 mm and 351 g, respectively (Table 5).

The ratio of males to females fluctuated considerably in the daily samples for each gear type without any noticeable trend. Sex ratios were 1:0.8 for commercial purse seine and 1:0.7 for variable mesh gillnet samples. Commercial gillnet and test commercial purse seine samples exhibited respective sex ratios of 1:1 and 1:0.9 for commercial gillnet (Appendix A).

Commercial Harvest

A total harvest of 11,095 tonnes (12,230 tons) was landed within the Togiak District for a sac roe product (Table 6). The purse seine fleet caught 8,308 tonnes (9,158 tons), which was 75% of the inshore harvest. The gillnet fleet caught 2,787 tonnes (3,072 tons), which was 26% of the catch. These figures include deadloss of 82 tonnes (90 tons) recorded for the gillnet fishery.

The Hagemeister fishing section accounted for the greatest portion of purse seine harvest (55%) with lesser catches in the Nunavachak, Kulukak, and Togiak fishing sections. The gillnet fishery operated primarily in the Kulukak and Nunavachak fishing sections with respective catches contributing 57% and 40% of the gillnet harvest. A small harvest by the gillnet fleet comprising less than 3% of the total gillnet harvest was permitted in the Hagemeister Section (Table 6; Figure 4). The combined roe percent of herring caught by both gear types was 10% indicating a harvest primarily on mature herring.

Sample sizes of herring collected for age composition analysis of the purse seine and gillnet catches were consistently below the desired goals (Table 3). Herring age-9 and older composed 76% of the commercial purse seine harvest by number and 81% by weight (Table 7). Age groups 7-8 contributed 17% by number and 14% by weight. Herring age-6 and younger represented 8% by number and 5% by weight of the commercial harvest (Table 7; Figure 5).

Age composition of the commercial gillnet harvest was similar to that of the commercial purse seine fishery. Herring age-9 and older represented 77% of the gillnet harvest by number and 83% by weight. Ages 7 and 8 composed 18% of the harvest by number and 14% by weight (Table 7; Figure 6). Herring in the age-5 and younger category were minimally present in the gillnet catch samples. Mean weight was similar (NSC) for the purse seine herring (405 g) than for gillnet caught fish (390 g, Table 5).

Biomass Estimation

Herring were observed in the Togiak Fishing District from 7 May through 5 June. Significant biomass first appeared in the Hagemeister fishing section (Mtg, Osk, Hag, Tng survey index areas; Table 8, Figure 7). The peak biomass of 65,208 tonnes (71,879 tons) was observed on 8 May, one day after fish were first oberved in the district. The second peak in abundance was observed 12 May, at 47,091 tonnes (51,908 tons). Of this biomass, an estimated 16,244 tonnes (17,906 tons) left the fishing district via the Nushagak Peninsula, presumably after spawning. Poor weather hampered survey conditions the remainder of the season. Presence of ripe herring in samples indicated a continual influx of herring moving into the District during the 15 May assessment of 13,315 tonnes (14,677 tons). Late season monitoring of herring documented a range of 318 tonnes (350 tons) between 16 May and 5 June.

Kilometers of spawn for 1990 totaled 41 km (66 mi) for all fishing sections. Peak spawning was documented 9 May with an observation of 37 km (23 mi) of spawn or milt.

Changes in gonad maturity and age composition (Appendix A, B) indicated shifts in population status between surveys conducted 9, 12, 15, and 19 May. Partial surveys due to inclement weather required a creative approach to reconstruct a seasonal depiction of the abundance and age composition of the run. The revised estimate of total run biomass was the sum of five components. The peak aerial survey and age composition data for 8 May (65,208 tonnes, 71,879 tons) was combined with the 12 May data for Kulukak (Kul), Metervik (Met), and Nunavachak (Nun) index areas (9,173 tonnes or 10,713 tons). The 12 May data series excluded the herring observed exiting the fishing district in the Nushagak index (Nus) area. These fish were already represented in the peak biomass estimate 8 May. Herring observed in Togiak Bay were spawnouts and assessed as mature herring during the peak aerial survey, thus they were excluded. Herring in other areas were not considered because there was no guarantee that these were herring that had entered the fishing district since the peak biomass estimate 8

May (Tables 8-13, Figures 7-12).

The third stratum included in the revised biomass estimate was the biomass for Togiak Bay, observed 15 May. Herring samples from this biomass transitioned from spent fish on 12 May to mature fish by 15 May. This change in maturity was representative of new biomass entering the fishing district. Surveys and commercial gillnet harvests around 19 May targeted incoming mature herring. Data from the commercial gillnet fishery were included per the request of the Area Management Biologist despite the selective nature of the data (Tables 8-13, Figures 7-10). The total run biomass estimate totaled 79,814 tonnes (87,979 tons), equivalent to 218 million herring. After removal of the commercial sac roe harvest, the spawning escapement totaled 68,810 tonnes (189,000 tons) representing 190 million herring (Table7).

Herring age-9 and older represented 79% of the biomass and 73% of the population (Table 13, Figure 11). The strong 1977 and 1978 year classes appearing as age-12 and age-13 herring in 1990, comprised 39% of the total run biomass and 33% of the total population (Figure 11). The incidence of the 1981 year class, as age-9, and the 1983 age class, as age-7 herring was significant in the biomass. Age-9 herring contributed 18% by number and 17% by weight to the total run biomass. Age-7 herring represented 13% by number and 11% by weight to the biomass. Herring age-6 and younger were of minimal presence in the biomass, comprising 10% of the population and 7% of the biomass (Table 7). During the 1990 season, the Togiak herring biomass represented 60% of the assessed spawning biomass in the eastern Bering Sea (Figure 12).

1991 Season

Age, Size, and Sex Data

Biological data were collected from 6,913 herring collected in the Togiak Fishing District (Table 2) by purse seine, commercial gillnet, and variable mesh gillnet 6 May through 9 June. Regenerated or unreadable scales composed 13% of all scale samples. The percentage of unreadable scales was similar for commercial gillnet and variable mesh gillnet (12%). Test commercial purse seine exhibited the largest number of unreadable scales (15%), followed by commercial purse seine (14%) samples. Mean lengths for unaged samples were similar to those for the aged samples (NSC), indicating that readable scales were representative of the entire sample.

Herring ages 3-18 were present in the total run biomass and the commercial harvest. The temporal change in age class structure of the population was evident in the age composition of collected samples (Table 15, Figure 13). Herring age-9 and older comprised 57% of the samples collected from nonselective gear during the early sampling period 3-14 May, decreased to 14% by 22 May-9 June. The proportion of age-3, and age-4 herring increased from 5% during 3-14 May to 65% by 22 May-9 June. The proportion of age 7-8 herring collected in the samples gradually decreased from 27% 3-4 May to 7% from 22 May-9 June (Table 3).

Length at age ranged from 192 mm (age-3) to 364 mm (age13) and weight at age ranged from 61 g (age-3) to 681 g (age-13). The mean length and weight of herring from the total run biomass were 270 mm and 292 g, respectively.

The ratio of males to females fluctuated considerably in the daily samples for each gear type without any noticeable trend. Sex ratios for each gear type were 1:1 for commercial purse seine, 1:0.8 for commercial gillnet, 1:0.9 for variable-mesh gillnet samples and 1:1 for test commercial purse seine samples (Appendix C).

Commercial Harvest

A total sac roe harvest of 13,581 tonnes (14,970 tons) was landed within the Togiak District (Table 17). The purse seine fleet caught 10,694 tonnes (11,788 tons), comprising 79% of the total harvest. The gillnet fleet caught 2,887 tonnes (3,182 tons), representing 21% of the total catch. Deadloss for both gear types totaled 91 tonnes (100 tons) and when included in the harvest figures, the total harvest is 13,672 tonnes (15,878 tons).

Catches from the Hagemeister section accounted for 69% of the purse seine harvest. The gillnet harvest was taken primarily in the Kulukak and Nunavachak sections with respective contributions to the total gillnet harvest of 58% and 42%, respectively. The combined roe percent of herring caught by both gear types was 10% (Table 17, Figure 14).

Sample sizes of herring collected for age composition analysis for both the purse seine and gillnet catch were consistently below the desired goals (Table 14). Herring age-9 and older comprised 79% of the purse seine harvest by weight and 72% by number (Table 18). Age groups 7-8 contributed 20% by weight and 25% by number. Contribution of age-6 and younger herring was minimal, representing 1% by weight and 3% by number (Table18, Figure 15).

Herring age-9 and older represented 67% of the gillnet harvest by weight and 61% by number. The age 7-8 component was 31% of the harvest by weight and 38% by number (Figure 16). Herring in the age-5 and younger category were minimal in the gillnet catch samples. Samples were collected from fishermen using gillnets with mesh sizes of 66 mm (2.6 in) and 78 mm (3.1 in). The average weight of gillnet-caught herring was 415 g, which is identical to the 415 g average weight purse seine caught herring (Table 16).

Biomass Estimation

Herring were first observed in the Hagemeister section of the fishing district 7 May (Table 19). The first substantial biomass of 8,358 tonnes (9,213 tons) was documented in the Hagemeister, Togiak and Nunavachak sections 9 May (Table19, Figure 17). Herring continued to move into the district resulting in a peak biomass on 16 May with 46,719 tonnes (51,498 tons). Corresponding age composition of samples aged 3-6 changed from 16% to 41%. The abundance of these young herring continued to increase throughout the season to 48% for the 18-21 May sampling period, increasing to 79% from 22 May to 9 June (Table 15, Figure 13). Conversely, the age-9 and older component dropped from 57% to 35% for the first two sampling strata. Age-9 and older herring continued to decline to 24% by the 18-21 May sampling period and 13 % by the 22 May-9 June period. The consistent increase of young herring and decrease of older herring indicates a constant movement of fish into and out of the fishing district.

The total run biomass estimate consisted of 1) 7,147 tonnes (7,878 tons) of spent herring representing

the first sampling strata; 2) the 16 May survey of 46,719 tonnes (51,498 tons); 3) the aerial survey for 24 May; and 4) the commercial harvest of 13,375 tonnes (14,744 tons; less the harvest for the calibration estimate) for a total of 75,504 tonnes (83,229 tons) equivalent to 228 million herring (Tables 20-23, Figures 18,19). After removal of the commercial sac roe harvest, the spawning escapement totaled 61,924 tonnes (189,000 tons) representing 197 million herring (Table 7).

Kilometers of spawn for 1991 totaled 69 km (43 mi) for all fishing sections. Peak spawning activity was documented 11 May with observation of 15 km (25 mi) of spawn or milt (Table 19, Figure 17).

Herring age-9 and older represented 57% of the total run biomass and 44% of the population in the final weighted age composition (Table 24, Figure 19). The 1977 and 1978 year classes appearing as age-13 and -14 herring in 1991, composed 20% of the total run biomass and 15% of the total population (Figure 19). The year classes of 1983 and 1984 with current ages of 7 and 8, continued to dominate the biomass in abundance with respective contributions by weight of 16% and 18%, and 18% by number. The 1989 age-class as age-4 herring were apparent in the biomass in significant abundance. These pre-recruit fish represented 15% of the biomass and 18% of the abundance. The Togiak herring biomass comprised 56% of the total Bering Sea herring biomass.

1992 Season

Age, Size, and Sex Data

Biological data were collected from 5,952 herring collected in the Togiak Fishing District (Table 25) by purse seine, commercial gillnet, and variable mesh gillnet from 20 May through 27 May 1992. Regenerated or unreadable scales composed 12% of all scale samples. The percentage of unreadable scales was similar for commercial gillnet (14%) and commercial purse seine (15%) samples. Variable-mesh gillnet and test commercial purse seine samples exhibited the lowest percentage of unreadable scales with respective regeneration rates of approximately 10%. Mean lengths for unaged samples were similar to those for the aged samples (NSC), indicating that readable scales were representative of the entire sample (Appendix E).

Herring ages 3-18 were present in both the total run biomass and commercial harvest. The temporal change in age class structure of the population was evident in the age composition of collected samples (Table 26, Figure 21). The late timing of the run reduced the period in which the Department performed stock assessment activities. Samples for age-sex and size analysis were collected during only two periods, 16-18 May and 22-26 May. The proportion of herring age-9 and older represented 44% of the samples collected from nonselective gear during the first sampling period. Presence of this age group decreased to 31% during the second sampling period. Conversely, the proportion of herring age-3 to -6 in the samples increased from 44% to 55%. Ages 7-8 herring exhibited minimal temporal change (Table 26, Figure 21).

Length at age ranged from 128 mm (unaged) to 391 mm (age-12) and weight at age ranged from 101 g (age-3) to 754 g (age-15). The mean length and weight of herring from the total run biomass were 270 mm and 292 g, respectively.

The ratio of males to females fluctuated in the daily samples for each gear type. Sex ratios for each

gear type were 1:1 for commercial purse seine, 1:0.8 for commercial gillnet, 1:0.9 for variable-mesh gillnet samples and 1:1 for test commercial purse seine samples (Appendix C).

Commercial Harvest

A total harvest of 23,412 tonnes (25,807 tons) occurred within the Togiak District for a sac roe product (Table 28). The purse seine fleet caught 18,849 tonnes (20,778 tons), accounting for 81% of the inshore harvest (Table 28). The gillnet fleet caught 19% of the harvest, corresponding to 4,563 tonnes (5,030tons). Combined deadloss for both gear types totaled 1,244 tonnes (1,371tons).

Forty percent of the purse seine harvest was taken in the Togiak Section, followed in magnitude by the harvest in the Pyrite Point Section (23%). Purse seine catches were also documented in the Hagemeister, Kulukak and Nunavachak fishing sections. Sixty six percent of the gillnet harvest was caught in the Kulukak Section, with lesser harvests occurring in both the Nunavachak and Togiak sections. The combined roe percent of herring caught by both gear types was 9% (Table 28, Figure 22).

Sample sizes of herring collected for age composition analysis of the purse seine catch were below the desired goals (Table 6). Herring age-9 and older represented 58% of the seine harvest by weight and 38% by number (Table 29, Figure 23). Age groups 7-8 contributed 11% by weight and 10% by number, respectively. Contribution of herring age-6 and younger to the purse seine fishery was notable. This age group represented 31% of the harvest by weight and 52% by number (Table 29; Figure23).

Age composition of the gillnet fishery was skewed toward older herring. Herring aged 9 and older represented 67% of the harvest by weight and 62% by number. The age 7-8 component was 30% of the catch by weight and 33% by number. The age-6 and younger herring in the purse seine fishery made up less than 5% by weight and number of the gillnet harvest (Table 29, Figure 24). This difference was reflected in the mean size of the herring caught. The average weight and length of gillnet-caught herring (391 g and 297 mm) were slightly larger than average weight (377 g) and length (288 g) of purse seine caught herring (Table 27).

Biomass Estimation

A significant biomass of herring was not observed in the Togiak District until 16 May during the 1992 season (Table 30, Figure 25). The run peaked 19 May with an observed biomass of 117,280 tonnes (129,256 tons). A second peak biomass of 111,482 tonnes (122,887 tons) occurred 23 May. Gonad indices showed an increase in ripe herring during the later survey, indicating an influx of pre-spawning herring into the fishing district. The transition in age composition of collected samples also indicated emigration of spawned herring from the fishing district and emigration of new fish (Table 26).

The total run biomass estimate consisted of the sum of 1) the 23 May aerial survey biomass; 2) the 26 May aerial survey biomass; 3) the harvested biomass from the commercial purse seine fishery; and 4) the harvested biomass of the commercial gillnet fishery occurring prior to 23 May (Tables 31-35). The total run biomass totaled 142,389 tonnes (156,955 tons), equivalent to 483 million herring. After removal of the commercial sac roe harvest, the spawning escapement totaled 118,975 tonnes (142,000

tons) representing 412 million herring (Table 29, Figure 25)

Kilometers of spawn for 1992 totaled 65 km (104 mi) for all fishing sections. Peak spawning activity occurred 21 May with an observation of 34 km of spawn or milt (Table 30, Figure 25).

Herring age-9 and older represented 53% of the biomass and 35% of the population in the final weighted age composition (Table 35, Figure 26). The 1977 and 1978 year classes appeared as age-14 and -15 herring during the 1992 season. These two-year classes composed 13% of the total run biomass and 7% of the total population (Figure 26). Recruitment of the 1987 year class as age-5 herring appears to be significant. Five-year-old herring comprised 21% of the biomass and 31% of the population. The 1988 year class as age-4 herring represented 11% of the biomass and 20% of the population. The strength of this year class is uncertain.

DISCUSSION

The Togiak herring biomass averaged 62% of the total assessed Bering Sea biomass. The 1992 Togiak District run biomass estimate of 142,144 tonnes (156,935 tons) was the greatest abundance of herring documented since 1983. The ability to document this large abundance of Togiak herring during the 1992 season was attributed to good visibility and water clarity due to excellent weather conditions and recruitment of the 1989 year class. The size of the 1992 biomass estimate seems disproprotionate to the biomass estimated for the 1990 and 1991 seasons. Aerial survey estimates are an index of herring abundance based on visual assessment of herring schools. Inclement weather during the 1990 and 1991 seasons resulted in poor visibility and survey conditions. It is likely that the total run biomass estimates for the 1990 and 1992 runs were underestimated.

The process of adding components of the aerial survey data to develop the total run biomass estimate was an attempt to provide a better indication of run strength and age composition for each spawning season. This process has resulted in total run biomass estimates that are 29% (over the three year period) larger than the peak aerial survey biomass estimates.

Temporal changes in age composition were distinct for samples collected from 1990 to 1992. Samples collected were adequate to assess the transition in age from herring age-9 years and older to herring age-6 and younger. The post season stock assessment program implemented in 1990 and 1991 verifies anecdotal reports from fisherman and residents of the area that herring continue to enter the fishing district and spawn into the month of June. Biomass estimates during this time were small and samples were dominated by ages 5-6 herring.

Despite the predominance of young herring near the end of the run, older, larger fish were consistently present. The gillnet fisheries occurred later than past years (20 and 27 May for respective years 1990 and 1992). The harvest for these later catches targeted herring age-7 and older. The gillnet harvest for all periods in both years was dominated by older age classes and confirms the presence of older mature herring available to the fishery late in the season.

The 1977 and 1978 year classes have been supporting the fishery since recruitment into the fishery in

1983. These year classes are finally diminishing in abundance after 10 years. Contribution of these age-classes to the biomass decreased from 39% in 1990 as age-12 and -13 herring to 13% in 1992 as age-14 and -15 herring. The recruitment of the 1987 year class in 1992 as age-5 herring is the first since the advent of the 1977 and 1978 year classes into the fishery. Eighteen-year-old herring from the 1974 year class occurred in Togiak herring biomass in 1991. This is the first time herring of this age have been documented in the eastern Bering Sea.

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Table 1. Historical total run biomass and commercial harvests (tonnes) of Pacific herring returning to the Togiak District, Bristol Bay, 1968-1992.

Year	Total Run Biomass (tonnes)[a,b]	Togiak Sac Roe Harvest (tonnes)[c]	Spawn-on-Kelp Harvest (tonnes)[c]	Dutch Harbor Food/Bait Harvest (tonnes)[d]
1968		80		
1969		47	5	
1970		28	18	
1971		[f]	23	
1972		80	29	
1973		51	5	
1974		123	57	
1975		56	50	
1976		[a]	134	
1977		2,795	125	
1978	173,761	7,734	150	
1979	219,810	11,558	188	
1980	69,818	22,288	86	
1981	144,117	11,353	172	639
1982	88,925	19,837	107	3,234
1983	127,962	24,352	125	3,236
1984	102,940	17,654	184	3,246
1985	120,131	23,466	[e]	3,157
1986	85,630	14,796	170	2,172
1987	80,818	14,117	139	2,271
1988	122,214	12,854	222	1,818
1989	89,780	12,258	254	2,795
1990	79,928	12,230	188	744
1991	75,504	14,970	158	1,202
1992	142,389	25,807	165	1,768
Mean	118,826	16,022	150	2,507

[a] Data not available prior to 1978.
[b] Source: Brannian and Rowell 1989.
[c] Source: Sandone and Brannian 1988, 1980-1987; ADF&G 1988, 1968-79; fish ticket receipts, 1988-1992.
[d] Source: ADF&G 1996; catches documented since 1929. Fishery did not occurr between 1946 and 1980.
[e] No fishery conducted.
[f] Mean calculated for total run biomass; sac roe and spawn -on-kelp harvests are years 1978-1992. Dutch Harbor food/bait harvests for years 1983-1992.

Table 2. Number of samples collected and aged by gear type during the 1990, 1991, and 1992 Togiak herring seasons.

Year	Geartype	No. Readable Samples	No. Unreadable Samples	Total	Percent Unreadable
1990	Commercial Purse Seine	1,147	220	1,367	16.1
	Commercial Gillnet	1,256	233	1,489	15.6
	Test Commercial Purse Seine	1,459	224	1,683	13.3
	Test Variable-Mesh Gillnet	2,326	331	2,657	12.5
	Total	6,188	1,008	7,196	14.0
1991	Commercial Purse Seine	2,349	374	2,723	13.7
	Commercial Gillnet	397	52	449	11.6
	Test Commercial Purse Seine	1,024	174	1,198	14.5
	Test Variable-Mesh Gillnet	3,143	410	3,553	11.5
	Total	6,913	1,010	7,923	12.7
1992	Commercial Purse Seine	1,649	281	1,930	14.6
	Commercial Gillnet	1,140	191	1,331	14.4
	Test Commercial Purse Seine	1,741	191	1,932	9.9
	Test Variable-Mesh Gillnet	1,422	155	1,577	9.8
	Total	5,952	818	6,770	12.1

Table 3. Sample sizes and sampling goals for data applied to the final age composition analysis of the 1990 total run biomass and commercial harvest.

Date	Fishing Section	Sample Size	Percent Goal (Thompson 1987, 405/strata)[a]	Age Range
Aerial Survey Estimates				
8-May	Kulukak	468	115.6	4-16
	Nunavachak	403	99.5	4-13
	Togiak	431	106.4	5-15
	Hagemeister	524	129.4	5-15
12-May	Kulukak/Nunavachak	348	85.9	4-16
15-May	Togiak	272	67.2	5-13
18-May	Hagemeister	281	69.4	5-14
	Kulukak Gillnet Harvest	129	31.9	5-14
20-May	Kulukak Gillnet Harvest	116	28.6	5-17
Commercial Fishery				
09 May Purse Seine				
	Kulukak	320	79.0	5-17
	Nunavachak	207	51.1	4-16
	Togiak	350	86.4	5-16
	Hagemeister	270	66.7	6-17
08 May Gillnet				
	Kulukak	259	64.0	6-16
	Nunavachak	131	32.3	6-16
11 May Gillnet				
	Kulukak	368	90.9	6-15
	Nunavachak	127	31.4	7-15
	Hagemeister	123	30.4	6-14
13 May Gillnet				
	Kulukak	122	30.1	6-15
14 May Gillnet				
	Kulukak	262	64.7	6-13
	Nunavachak	131	32.3	6-13
18 May Gillnet				
	Kulukak	129	31.9	5-14
20 May Gillnet				
	Kulukak	116	28.6	5-17

[a] The time strata was three days for age data weighted by aerial survey information in the estimation of total run biomass by fishing period.

[b] Sample sizes may differ slightly for the preliminary data used in biomass estimates.

Table 4. Temporal change in age composition (by number) of samples collected from non-selective gear in the Togiak District, 1990.

			Age Group				
	Sample Size	Date	3-5	5-6	7-8	9 +[a]	9 +[a]
	1,950	5/3-11	0.3%	7.8%	15.7%	76.1%	100.0%
	902	5/12-15	0.3%	12.1%	22.9%	64.6%	100.0%
	690	5/16-19	6.1%	31.7%	27.5%	34.6%	100.0%
	640	5/20-23	9.5%	31.7%	28.0%	30.8%	100.0%
	442	5/24-6/05	10.6%	35.3%	21.3%	32.7%	100.0%
Total	4,624						

[a] Includes age 9 through 16.

Table 5. Mean length (mm), weight (g), and standard deviation by age for herring representing the biomass and commercial harvest by gear type, Togiak District, 1990.

Run Biomass [a]						Commercial Purse Seine						Commercial Gillnet					
Age	No. of Samples	Length (mm)	SD	Weight (g)	SD	Age	No. of Samples	Length (mm)	SD	Weight (g)	SD	Age	No. of Samples	Length (mm)	SD	Weight (g)	SD
3	111	205	14.7	111	29.9	3						3					
4	84	216	15.2	133	38.6	4	1	238		156		4					
5	90	240	12.7	184	37.3	5	6	241	9.8	215	24.2	5	2	255	20.5	243	38.2
6	862	255	11.5	227	39.1	6	79	256	10.9	241	35.9	6	66	264	10.8	258	29.2
7	856	269	11.0	282	46.8	7	152	274	11.3	310	48.8	7	164	273	10.7	298	37.8
8	186	280	12.5	322	54.0	8	39	287	11.3	363	51.3	8	57	282	9.5	328	43.8
9	739	290	10.8	364	57.5	9	206	292	10.1	388	51.2	9	255	292	10.0	377	44.4
10	246	296	10.6	384	62.6	10	69	299	10.8	417	63.0	10	73	299	10.7	396	51.6
11	549	302	10.0	414	65.3	11	156	302	10.2	445	56.6	11	221	304	9.1	422	47.4
12	794	307	10.5	440	64.8	12	271	308	10.0	462	57.4	12	273	308	10.2	439	53.2
13	362	312	11.6	460	73.5	13	132	313	11.0	485	66.4	13	120	313	10.1	454	59.6
14	33	316	11.0	463	73.4	14	8	323	4.6	475	46.6	14	12	314	6.8	468	34.8
15	12	321	11.1	489	72.2	15	3	321	17.1	419	45.2	15	10	315	12.7	497	66.7
16	6	326	4.6	546	59.7	16	3	310	1.7	599	2.9	16	2	318	4.2	479	61.5
17	2	296	36.1	374	67.9	17	1	270		326		17	1	292		370	
Total	4,932	282	27.7	338	109.4		1,125	291	19.7	405	91.4		1,256	296	17.8	390	75.9

[a] Nonselective gear includes commercial purse seine, test purse seine, and variable mesh gillnets.

Table 6 . Commercial purse seine and gillnet herring harvest (tons) by fishing section and date, Togiak District, 1990. Roe percentages are displayed in parenthesis. Total daily harvest is depicted in both tons and tonnes.

		Fishing Section												Daily Harvest		
Period	Time (hours)	Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenham		Total (tons)	Total (tonnes)	Roe Percent
								Gillnet (tons)								
5/08	4.0	74	(8.9)	1,109	(8.5)									1,184	1,074	(8.5)
5/11	4.0	273	(7.6)	1	(7.8)			102	(6.8)					376	341	(7.4)
5/13	3.0	92	(8.1)											92	83	(8.1)
5/14	14.0	567	(9.2)	108	(9.4)									675	612	(9.2)
5/18	14.0	451	(10.5)											451	409	(10.5)
5/20	27.0	294	(10.1)											294	267	(10.1)
Total	66.0	1,752	(9.4)	1,218	(8.6)			102	(6.8)					3,072	2,787	(9.0)
								Purse Seine (tons)								
5/09	3.0	1,221	(9.1)	1,709	(8.6)	939	(8.6)	5,069	(10.5)	192	(7.7)			9,130	8,283	(9.7)
5/12 [b]								5	(10.4)					5	4	(10.4)
5/14 [b]				13	(8.1)									13	12	(8.1)
5/18 [b]				10	(7.7)									10	9	(7.7)
Total	3.0	1,221	(9.1)	1,732	(8.6)	939	(8.6)	5,074	(10.5)	192	(7.7)			9,158	8,308	(9.7)
								Combined Gear (tons)								
5/08	4.0	74	(8.9)	1,109	(8.5)									1,184	1,074	(8.5)
5/09	3.0	1,221	(9.1)	1,709	(8.6)	939	(8.6)	5,069	(10.5)	192	(7.7)			9,130	8,283	(9.7)
5/11	4.0	273	(7.6)	1	(7.8)			102	(6.8)					376	341	(7.4)
5/13	3.0	92	(8.1)											92	83	(8.1)
5/12								5	(10.4)					5	4	(10.4)
5/14	14.0	567	(9.2)	121	(9.3)									688	624	(9.2)
5/18	14.0	451	(10.5)	10	(7.7)									461	418	(10.4)
5/20	27.0	294	(10.1)											294	267	(10.1)
Total	69.0	2,972	(9.3)	2,950	(8.6)	939	(8.6)	5,176	(10.4)	192	(7.7)	0	0.0	12,230	11,095	(9.5)

[a] Estimated deadloss from 18 gill nets at 5 tons per net.
[b] Harvest from calibration (point) estimate.

Table 7. Age composition estimates by number and weight of the harvest, escapement biomass, and total run biomass (tonnes) observed in the Togiak District, 1990.

Run Biomass					Commercial Purse Seine Harvest					Commercial Gillnet Harvest				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	42	0.1%	335	0.2%	3	0	0.0%	0	0.0%	3	0	0.0%	0	0.0%
4	62	0.1%	410	0.2%	4	3	0.0%	19	0.1%	4	0	0.0%	0	0.0%
5	231	0.3%	1,155	0.5%	5	24	0.3%	110	0.5%	5	4	0.1%	16	0.2%
6	4,843	6.1%	19,414	8.9%	6	360	4.3%	1,476	7.0%	6	119	3.3%	466	5.0%
7	8,644	10.8%	28,651	13.2%	7	888	10.7%	2,817	13.4%	7	319	9.6%	1,070	12.6%
8	2,741	3.4%	7,988	3.7%	8	273	3.3%	736	3.5%	8	123	4.3%	381	5.2%
9	13,175	16.5%	38,292	17.6%	9	1,523	18.3%	3,862	18.3%	9	496	18.5%	1,307	19.1%
10	5,354	6.7%	14,132	6.5%	10	549	6.6%	1,285	6.1%	10	172	6.4%	441	6.4%
11	12,362	15.5%	32,156	14.8%	11	1,306	15.7%	2,927	13.9%	11	474	17.5%	1,114	16.2%
12	21,554	27.0%	50,684	23.3%	12	2,409	29.0%	5,125	24.3%	12	660	23.9%	1,486	21.3%
13	9,623	12.1%	21,593	9.9%	13	851	10.2%	2,441	11.6%	13	323	11.8%	692	10.2%
14	656	0.8%	1,767	0.8%	14	70	0.8%	165	0.8%	14	50	2.9%	111	2.5%
15	368	0.5%	751	0.3%	15	23	0.3%	55	0.3%	15	36	1.4%	70	1.1%
16	158	0.2%	436	0.2%	16	22	0.3%	55	0.3%	16	8	0.2%	16	0.2%
17	2	0.0%	7	0.0%	17	6	0.1%	18	0.1%	17	2	0.1%	7	0.1%
Total	79,814	100.0%	217,769	100.0%		8,308	100.0%	21,090	100.0%		2,787	100.0%	7,178	100.0%

(Continued)

Table 7. (Continued)

Total Commercial Harvest					Escapement Biomass				
Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	0	0.0%	0	0.0%	3	42	0.1%	334	0.2%
4	3	0.0%	19	0.1%	4	59	0.1%	392	0.2%
5	28	0.2%	126	0.4%	5	204	0.3%	1,029	0.5%
6	479	4.3%	1,942	6.9%	6	4,377	6.4%	17,472	9.2%
7	1,207	10.9%	3,887	13.8%	7	7,459	10.8%	24,764	13.1%
8	396	3.6%	1,116	3.9%	8	2,351	3.4%	6,871	3.6%
9	2,020	18.2%	5,170	18.3%	9	11,171	16.2%	33,123	17.5%
10	721	6.5%	1,725	6.1%	10	4,640	6.7%	12,407	6.5%
11	1,780	16.0%	4,041	14.3%	11	10,591	15.4%	28,115	14.8%
12	3,069	27.7%	6,611	23.4%	12	18,495	26.9%	44,073	23.3%
13	1,175	10.6%	3,133	11.1%	13	8,453	12.3%	18,459	9.7%
14	120	1.1%	276	1.0%	14	537	0.8%	1,491	0.8%
15	59	0.5%	125	0.4%	15	309	0.4%	626	0.3%
16	30	0.3%	71	0.3%	16	128	0.2%	364	0.2%
17	8	0.1%	25	0.1%	17	-5	0.0%	-18	0.0%
Total	11,095	100.0%	28,268	100.0%		68,810	100.0%	189,500	100.0%

Table 8. Observed aerial biomass estimates of herring by index area (tons), and totals by day (tons, tonnes) during the 1990 season Togiak District, Bristol Bay.

Date	Survey Conditions	Time Surveyed	Milt Observations			Estimated Biomass by Index Area (short tons) [a]												Daily Total	
			No.	Length		NUS	KUK	MET	NUK	UGL	TOG	TNG	MTG	HAG	OSK	PYR	CN	(tons)	(tonnes)
				Miles	Km														
4/22	Poor	am	0	0.0	0.0		0	0	0	0	0	0	0	0	0	0	0	0	0
4/25	Good	am	0	0.0	0.0	0	0	0	0	0	0							0	0
4/28	Good-Fair	pm	0	0.0	0.0		0	0	0	0	0	0	0	-				0	0 [c]
4/29	Good-Fair	pm	0	0.0	0.0	0	0	0	0	0	0	0	0	-		0		0	0 [c]
4/30	Good	pm	0	0.0	0.0	0	0	0	0	0	0	0	0	-				0	0 [a]
5/01	Good	pm	0	0.0	0.0	12	0	0	0	0	0	0	0	-				12	11 [e]
5/02	Fair-Poor	pm	0	0.0	0.0	0	0	0	0	0	0	0	0	-				0	0 [f]
5/03	Fair-Poor	pm	0	0.0	0.0		0	0	0	0	0	0	0	-				0	0 [g]
5/04	Good	pm	0	0.0	0.0		8	0	0	0	0	0	0	-				8	7 [h]
5/05	Fair	am	0	0.0	0.0		0	0	0	0	0	0	0	-				0	0 [i]
5/07	Good-Poor	pm	1	0.8	0.5		0	15	15	844	49	586	22,349	12,501	5382	0		41,741	37,867
5/08	Fair	am-pm	11	8.3	5.2		2	12	296	16,694	8,800	12,674	11,395	21,921	85			71,879	65,208 [j]
5/09	Poor-Fair	am-pm	63	37.1	23.1												1,610 [k]	1,610	1,461
5/10	Good-Poor	am-pm	6	3.3	2.1	720	6,127	0	144									6,991	6,342 [l]
5/11	-	pm	5	1.7	1.1														
5/12	Fair	pm	2	1.8	1.1	17,906	6,058	1,508	264	2,883	19,109	720	778	187	2,452	43		51,908	47,091
5/13	Poor	pm	0	0.0	0.0				74	651	13,888	0	351	93	409		105 [n]	15,571	14,126
5/14	Fair	am-pm	2	2.0	1.2		1,137	1,892	314	1,088	4,797	0	870	14	15			10,127	9,187
5/14	Good	pm	1	2.0	1.2			2,360	285	0								2,645	2,400
5/15	Fair	am	1	1.0	0.6				66	85	14,526							14,677	13,315
5/16	Poor	am	0	0.0	0.0		0 [m]	2	225	15	0 [m]	2		0 [m]				244	221
5/18	Poor-Unsatis	pm	0	0.0	0.0			0 [m]	1,897 [m]	92 [m]								1,989	1,804
5/19	Unsatisfactory	am	0	0.0	0.0		0	0	0	1,345	0							1,345	1,220
5/19	Poor	pm	0	0.0	0.0			0 [m]	2,423	0 [m]								2,423	2,198
5/20	Poor-Unsatis.	am-pm	0	0.0	0.0				110	240 [m]								350	318
5/21	Poor	am	0	0.0	0.0				498									498	452
5/25	Poor-Unsat.	pm	0	0.0	0.0		0		0	622	0 [m]							622	564
5/28 [n]		pm	1	7.0	4.3														
5/31	Excellent	pm	1	0.7	0.4	2,586	866	4,231	2,049	458		26	71	67	207	0	0	10,561	9,581
6/05	Fair	pm	0	0.0	0.0	0	679	160	937	250		2	18	48	15	0	0	2,109	1,913
		Total	94	65.7	40.8														

(Continued)

Table 8. (Continued).

[a] Togiak District Pacific herring biomass was estimated at 88,105 short tons (79,928 tonnes) for the 1990 season. The estimate is derived from summing proportions of peak aerial surveys as depicted by changes in age composition.

[b] Index areas: NUN - Nushagak Peninsuala; KUK- Kulukak; MET- Metervik; NUK - Nunavachak; UGL - Ungathluk/Togiak; TOG - Togiak; TNG-Tongue Point; MTG-Matogak; HAG-Hagemeister; OSK - Osviak; PYT- Pyrite Point; CN- Cape Newenham.

[c] Schools of smelt observed in fishing district.

[d] Six tons of smelt observed behind Tongue Point (TNG index area).

[e] 950 ton biomass of smelt observed in combined TOG, TNG, and MTG index areas.

[f] 1,151 ton biomass of smelt observed in the combined UGL, TNG, MTG, and PYR index areas.

[g] 565 ton biomass of smelt observed in MTG index area.

[h] 626 tons of biomass in the combined UGL, TNG, MTG and PYR index areas.

[i] 1590 tons of smelt observed in the NUK, UGL, TOG and MTG areas.

[j] Peak Survey.

[k] Biomass observed along shoreline of Crooked and High Islands.

[l] Survey of the NUS to NUK index areas indicated eastward movement of additional biomass.

[m] Partial Survey.

[n] Area surveyed 28 May. Bioamss estimate not quantified. Significant numbers of schools present in the Nunavachak, Kulukak Bay, and Togiak Bay sections. Significant biomass (narrow band , 15 miles in length) of herring was observed exiting the fishing district along the Nushagak Peninsula.

Table 9. Age composition estimates of the commercial purse seine harvest and the harvest represented by the point estimate, weighted by the harvested biomass (tonnes) for combined fishing sections, Togiak District, 1990.

Sampling Dates: 9 May Section: All Commercial P.Seine Biomass: 8,283 tonnes				Sampling Dates: 14 May Section: Nunavachak -Point Estimate Biomass: 25 tonnes				Total Purse Seine Harvest All Sections			
Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No.of Samples	Percent by No.	No.of Fish (X1000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	1	0.5%	0	3	1	0.1%	0
4	1	0.1%	18	4	1	0.5%	0	4	2	0.1%	19
5	6	0.5%	110	5	0	0.0%	0	5	6	0.4%	110
6	80	7.0%	1,466	6	26	13.8%	10	6	106	7.9%	1,476
7	153	13.3%	2,804	7	34	18.0%	13	7	187	14.0%	2,817
8	40	3.5%	733	8	7	3.7%	3	8	47	3.5%	736
9	210	18.3%	3,848	9	37	19.6%	14	9	247	18.5%	3,862
10	70	6.1%	1,283	10	5	2.6%	2	10	75	5.6%	1,285
11	159	13.9%	2,914	11	34	18.0%	13	11	193	14.4%	2,927
12	279	24.3%	5,113	12	32	16.9%	12	12	311	23.3%	5,125
13	133	11.6%	2,437	13	10	5.3%	4	13	143	10.7%	2,441
14	9	0.8%	165	14	1	0.5%	0	14	10	0.7%	165
15	3	0.3%	55	15	1	0.5%	0	15	4	0.3%	55
16	3	0.3%	55	16	0	0.0%	0	16	3	0.2%	55
17	1	0.1%	18	17	0	0.0%	0	17	1	0.1%	18
Total	1,147	100.0%	21,019		189	100.0%	71		1,336	100.0%	21,090

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	116	0.2%	0	3	116	0.0%	0
4	142	0.0%	3	4	146	0.2%	0	4	288	0.1%	3
5	1,172	0.3%	24	5	0	0.0%	0	5	1,172	0.2%	24
6	17,721	4.3%	358	6	5,755	9.4%	2	6	23,476	5.0%	360
7	43,779	10.7%	884	7	8,822	14.5%	4	7	52,601	11.2%	888
8	13,466	3.3%	272	8	2,051	3.4%	1	8	15,518	3.3%	273
9	75,161	18.3%	1,518	9	12,117	19.9%	5	9	87,278	18.5%	1,523
10	27,141	6.6%	548	10	1,669	2.7%	1	10	28,811	6.1%	549
11	64,397	15.7%	1,301	11	12,955	21.3%	5	11	77,352	16.4%	1,306
12	119,010	29.0%	2,404	12	12,483	20.5%	5	12	131,493	27.9%	2,409
13	42,069	10.3%	850	13	3,955	6.5%	2	13	46,025	9.8%	851
14	3,453	0.8%	70	14	411	0.7%	0	14	3,864	0.8%	70
15	1,139	0.3%	23	15	438	0.7%	0	15	1,578	0.3%	23
16	1,090	0.3%	22	16	0	0.0%	0	16	1,090	0.2%	22
17	296	0.1%	6	17	0	0.0%	0	17	296	0.1%	6
Total	410,038	100.0%	8,283		60,919	100.0%	25		470,957	100.0%	8,308

Table 10. Age composition estimates weighted by the harvested biomass (tonnes) by fishing section from the commercial gillnet fishery, Togiak District, 1990.

Sampling Dates: 8 May Section: Kulukak Biomass: 1,074 tonnes				Sampling Dates:11 May Section: Kul, Nun, and Hag Biomass: 341 tonnes				Sampling Dates:13 May Section: Kulukak Biomass: 83 tonnes				Sampling Dates:14 May Section: Kulukak Biomass: 612 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No.of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	0	0.0%	0	4	0	0.0%	0	4	0	0.0%	0	4	0	0.0%	0
5	0	0.0%	0	5	0	0.0%	0	5	0	0.0%	0	5	0	0.0%	0
6	11	4.2%	109	6	3	0.8%	7	6	8	6.6%	15	6	9	3.4%	53
7	29	11.2%	288	7	18	4.9%	41	7	17	13.9%	32	7	23	8.8%	135
8	10	3.9%	99	8	17	4.6%	39	8	6	4.9%	11	8	13	5.0%	76
9	43	16.6%	427	9	66	17.9%	151	9	32	26.2%	60	9	59	22.5%	346
10	14	5.4%	139	10	29	7.9%	66	10	6	4.9%	11	10	19	7.3%	111
11	47	18.1%	467	11	63	17.1%	144	11	23	18.9%	43	11	47	17.9%	276
12	63	24.3%	626	12	87	23.6%	199	12	20	16.4%	38	12	71	27.1%	417
13	32	12.4%	318	13	50	13.6%	114	13	9	7.4%	17	13	21	8.0%	123
14	4	1.5%	40	14	27	7.3%	62	14	0	0.0%	0	14	0	0.0%	0
15	5	1.9%	50	15	8	2.2%	18	15	1	0.8%	2	15	0	0.0%	0
16	1	0.4%	10	16	0	0.0%	0	16	0	0.0%	0	16	0	0.0%	0
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	259	100.0%	2,575	Total	368	100.0%	841	Total	122	100.0%	230		262	100.0%	1,537

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	0	0.0%	0	4	0	0.0%	0	4	0	0.0%	0	4	0	0.0%	0
5	0	0.0%	0	5	0	0.0%	0	5	0	0.0%	0	5	0	0.0%	0
6	2,518	2.6%	28	6	689	0.5%	2	6	1,843	4.6%	4	6	2,165	2.3%	14
7	8,021	8.2%	88	7	4,966	3.7%	13	7	4,488	11.2%	9	7	6,543	6.9%	42
8	2,948	3.0%	32	8	4,824	3.6%	12	8	1,595	4.0%	3	8	4,046	4.3%	26
9	15,233	15.5%	167	9	23,223	17.2%	59	9	10,219	25.4%	21	9	20,129	21.3%	130
10	5,112	5.2%	56	10	10,034	7.4%	25	10	2,188	5.4%	5	10	6,859	7.2%	44
11	18,709	19.1%	205	11	24,057	17.8%	61	11	8,492	21.1%	18	11	17,973	19.0%	116
12	26,550	27.1%	291	12	34,167	25.2%	86	12	7,602	18.9%	16	12	28,457	30.1%	184
13	14,310	14.6%	157	13	19,470	14.4%	49	13	3,388	8.4%	7	13	8,494	9.0%	55
14	1,713	1.7%	19	14	10,650	7.9%	27	14	0	0.0%	0	14	0	0.0%	0
15	2,442	2.5%	27	15	3,293	2.4%	8	15	421	1.0%	1	15	0	0.0%	0
16	469	0.5%	5	16	0	0.0%	0	16	0	0.0%	0	16	0	0.0%	0
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	98,025	100.0%	1,074		135,372	100.0%	341		40,237	100.0%	83		94,667	100.0%	612

(Continued)

Table 10. (Continued).

Sampling Dates: 18 May Section: Kulukak Biomass: 409 tonnes				Sampling Dates: 20 May Section: Kulukak Biomass: 267 tonnes				Total Gillnet Harvest All Sections Biomass: 2,779 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No.of Samples	Percent by No.	No.of Fish (X1000)	Age	No.of Samples	Percent by No.	No.of Fish (X1000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	0	0.0%	0	4	0	0.0%	0	4	0	0.0%	0
5	1	0.8%	10	5	1	0.9%	7	5	2	0.2%	16
6	24	18.6%	230	6	8	6.9%	52	6	63	5.0%	465
7	36	27.9%	345	7	35	30.2%	229	7	158	12.6%	1,067
8	10	7.8%	96	8	9	7.8%	59	8	65	5.2%	380
9	20	15.5%	192	9	20	17.2%	131	9	240	19.1%	1,303
10	9	7.0%	86	10	4	3.4%	26	10	81	6.4%	440
11	11	8.5%	105	11	12	10.3%	79	11	203	16.2%	1,110
12	12	9.3%	115	12	14	12.1%	92	12	267	21.3%	1,482
13	5	3.9%	48	13	11	9.5%	72	13	128	10.2%	690
14	1	0.8%	10	14	0	0.0%	0	14	32	2.5%	112
15	0	0.0%	0	15	0	0.0%	0	15	14	1.1%	70
16	0	0.0%	0	16	1	0.9%	7	16	2	0.2%	16
17	0	0.0%		17	1	0.9%	7	17	1	0.1%	7
Total	129	100.0%	1,236	Total	116	100.0%	759		1,256	100.0%	7,158

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	0	0.0%	0	4	0	0.0%	0	4	0	0.0%	0
5	245	0.6%	3	5	196	0.5%	1	5	441	0.1%	4
6	5,421	14.0%	57	6	2,032	5.5%	15	6	14,669	3.3%	119
7	9,536	24.6%	101	7	9,240	25.0%	67	7	42,793	9.6%	318
8	2,876	7.4%	30	8	2,645	7.2%	19	8	18,934	4.3%	123
9	6,695	17.3%	71	9	6,750	18.3%	49	9	82,248	18.5%	495
10	3,119	8.0%	33	10	1,277	3.5%	9	10	28,589	6.4%	172
11	3,902	10.1%	41	11	4,572	12.4%	33	11	77,706	17.5%	472
12	4,344	11.2%	46	12	5,182	14.0%	37	12	106,301	23.9%	658
13	2,204	5.7%	23	13	4,441	12.0%	32	13	52,308	11.8%	322
14	406	1.0%	4	14	0	0.0%	0	14	12,770	2.9%	50
15	0	0.0%	0	15	0	0.0%	0	15	6,156	1.4%	36
16	0	0.0%	0	16	390	1.1%	3	16	859	0.2%	8
17	0	0.0%	0	17	245	0.7%	2	17	245	0.1%	2
Total	38,749	100.0%	409		36,970	100.0%	267		444,020	100.0%	2,779

Table 11. Age composition estimates of sampling stratum 5-11 May, weighted by 8 May aerial survey biomass for each fishing section, Togiak District , 1990.

Sampling Dates: 5-11 May Section: Kulukak Biomass: 13 tonnes				Sampling Dates: 5-11 May Section: Nunavachak Biomass: 15, 413 tonnes				Sampling Dates: 5-11 May Section: Togiak Biomass: 7,983 tonnes				Sampling Dates: 5-11 May Section: Hagemeister Biomass: 41,799 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	2	0.4%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	0	0.0%	0	4	1	0.2%	90	4	0	0.0%	0	4	1	0.2%	188
5	1	0.2%	0	5	2	0.5%	180	5	3	0.7%	139	5	1	0.2%	188
6	44	9.4%	3	6	25	6.2%	2,247	6	37	8.6%	1,713	6	31	5.9%	5,834
7	67	14.3%	5	7	52	12.9%	4,674	7	59	13.7%	2,732	7	49	9.4%	9,222
8	17	3.6%	1	8	16	4.0%	1,438	8	11	2.6%	509	8	19	3.6%	3,576
9	99	21.2%	7	9	63	15.6%	5,663	9	77	17.9%	3,565	9	102	19.5%	19,196
10	26	5.6%	2	10	24	6.0%	2,157	10	25	5.8%	1,158	10	40	7.6%	7,528
11	55	11.8%	4	11	54	13.4%	4,854	11	56	13.0%	2,593	11	81	15.5%	15,244
12	91	19.4%	6	12	122	30.3%	10,966	12	112	26.0%	5,186	12	129	24.6%	24,277
13	59	12.6%	4	13	35	8.7%	3,146	13	44	10.2%	2,037	13	66	12.6%	12,421
14	5	1.1%	0	14	4	1.0%	360	14	3	0.7%	139	14	4	0.8%	753
15	1	0.2%	0	15	3	0.7%	270	15	2	0.5%	93	15	1	0.2%	188
16	0	0.0%	0	16	2	0.5%	180	16	2	0.5%	93	16	0	0.0%	0
17	1	0.2%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	468	100.0%	33		403	100.0%	36,225		431	100.0%	19,956	Total	524	100.0%	98,615

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	310	0.2%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	0	0.0%	0	4	142	0.1%	14	4	0	0.0%	0	4	132	0.1%	27
5	220	0.1%	0	5	386	0.2%	38	5	566	0.4%	29	5	207	0.1%	43
6	9,393	5.8%	1	6	5,603	3.6%	555	6	8,137	5.2%	415	6	7,655	3.8%	1,588
7	18,177	11.2%	1	7	14,997	9.6%	1,486	7	16,610	10.6%	848	7	14,059	7.0%	2,916
8	5,609	3.5%	0	8	5,472	3.5%	542	8	3,423	2.2%	175	8	6,065	3.0%	1,258
9	33,913	20.9%	3	9	23,073	14.8%	2,286	9	26,844	17.2%	1,370	9	37,483	18.6%	7,776
10	9,653	6.0%	1	10	9,460	6.1%	937	10	8,913	5.7%	455	10	15,566	7.7%	3,229
11	21,070	13.0%	2	11	22,643	14.6%	2,244	11	22,160	14.2%	1,131	11	33,573	16.7%	6,965
12	36,209	22.3%	3	12	53,230	34.2%	5,274	12	47,118	30.1%	2,405	12	55,326	27.5%	11,477
13	24,887	15.3%	2	13	16,231	10.4%	1,608	13	19,460	12.4%	993	13	29,303	14.5%	6,079
14	2,133	1.3%	0	14	1,862	1.2%	184	14	1,290	0.8%	66	14	1,535	0.8%	318
15	334	0.2%	0	15	1,459	0.9%	145	15	806	0.5%	41	15	587	0.3%	122
16	0	0.0%	0	16	1,001	0.6%	99	16	1,090	0.7%	56	16	0	0.0%	0
17	296	0.2%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	162,204	100.0%	13		155,557	100.0%	15,413		156,417	100.0%	7,983		201,491	100.0%	41,799

Table 12. Age composition estimates for sampling strata a) 12-15 May, weighted by 12 May aerial survey biomass for the Kulukak Section; b) 12-15 May weighted by 15 May aerial survey biomass for the Togiak Section; and c) 18-19 May weighted by 19 May aerial survey biomass for the Nunavachak Section, Togiak District, 1990.

Sampling Dates: 12-15 May Section: Kulukak Biomass: 9,719 tonnes				Sampling Dates: 12-15 May Section:Togiak Biomass: 8,826 tonnes				Sampling Dates: 18-19 May Section:Nunavachak Biomass: 2,198 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)	Age	No. of Samples	Percent by No.	No.of Fish (X1000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	1	0.3%	78	3	1	0.4%	95	3	6	2.1%	161
4	1	0.3%	78	4	0	0.0%	0	4	2	0.7%	54
5	2	0.6%	157	5	3	1.1%	285	5	7	2.5%	188
6	40	11.5%	3,139	6	37	13.6%	3,512	6	98	34.9%	2,632
7	75	21.6%	5,885	7	34	12.5%	3,227	7	84	29.9%	2,256
8	15	4.3%	1,177	8	10	3.7%	949	8	6	2.1%	161
9	61	17.5%	4,786	9	40	14.7%	3,797	9	34	12.1%	913
10	15	4.3%	1,177	10	20	7.4%	1,898	10	3	1.1%	81
11	53	15.2%	4,159	11	50	18.4%	4,746	11	13	4.6%	349
12	56	16.1%	4,394	12	53	19.5%	5,031	12	22	7.8%	591
13	22	6.3%	1,726	13	21	7.7%	1,993	13	5	1.8%	134
14	4	1.1%	314	14	2	0.7%	190	14	0	0.0%	0
15	1	0.3%	78	15	1	0.4%	95	15	1	0.4%	27
16	2	0.6%	157	16	0	0.0%	0	16	0	0.0%	0
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	348	100.0%	27,306		272	100.0%	25,819		281	100.0%	7,548

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	116	0.1%	10	3	115	0.1%	12	3	662	0.9%	20
4	146	0.1%	13	4	0	0.0%	0	4	267	0.4%	8
5	385	0.3%	33	5	472	0.6%	49	5	1,155	1.6%	34
6	9,037	8.0%	782	6	7,698	9.1%	806	6	21,114	28.4%	625
7	19,402	17.3%	1,678	7	8,698	10.3%	910	7	21,511	29.0%	637
8	4,512	4.0%	390	8	2,591	3.1%	271	8	1,841	2.5%	54
9	20,341	18.1%	1,759	9	12,410	14.7%	1,298	9	10,892	14.7%	322
10	5,098	4.5%	441	10	6,320	7.5%	661	10	971	1.3%	29
11	20,082	17.9%	1,737	11	17,251	20.5%	1,805	11	4,800	6.5%	142
12	21,307	19.0%	1,843	12	19,741	23.4%	2,066	12	8,314	11.2%	246
13	8,887	7.9%	769	13	7,811	9.3%	817	13	2,297	3.1%	68
14	1,734	1.5%	150	14	787	0.9%	82	14	0	0.0%	0
15	438	0.4%	38	15	458	0.5%	48	15	417	0.6%	12
16	880	0.8%	76	16	0	0.0%	0	16	0	0.0%	0
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	112,366	100.0%	9,719		84,353	100.0%	8,826		74,241	100.0%	2,198

Table 13. Total weighted age composition in numbers of fish and by weight (tonnes) of aerial survey biomass resulting in the total run biomass estimate, Togiak District, 1990.

Togiak District Total Aerial Estimate for the 8 May survey					Togiak District Total Aerial Estimate for the 12 May survey					Togiak District Total Aerial Estimate for the 15 May survey					Togiak District Total Aerial Estimate for the 19 May survey				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	0	0.0%	0	0.0%	3	10	0.1%	78	0.3%	3	12	0.1%	95	0.4%	3	20	0.9%	161	2.1%
4	41	0.1%	278	0.2%	4	13	0.1%	78	0.3%	4	0	0.0%	0	0.0%	4	8	0.4%	54	0.7%
5	110	0.2%	507	0.3%	5	33	0.3%	157	0.6%	5	49	0.6%	285	1.1%	5	34	1.6%	188	2.5%
6	2,559	3.9%	9,798	6.3%	6	782	8.0%	3,139	11.5%	6	806	9.1%	3,512	13.6%	6	625	28.4%	2,632	34.9%
7	5,252	8.1%	16,632	10.7%	7	1,678	17.3%	5,885	21.6%	7	910	10.3%	3,227	12.5%	7	637	29.0%	2,256	29.9%
8	1,976	3.0%	5,524	3.6%	8	390	4.0%	1,177	4.3%	8	271	3.1%	949	3.7%	8	54	2.5%	161	2.1%
9	11,435	17.5%	28,431	18.4%	9	1,759	18.1%	4,786	17.5%	9	1,298	14.7%	3,797	14.7%	9	322	14.7%	913	12.1%
10	4,622	7.1%	10,845	7.0%	10	441	4.5%	1,177	4.3%	10	661	7.5%	1,898	7.4%	10	29	1.3%	81	1.1%
11	10,341	15.9%	22,695	14.7%	11	1,737	17.9%	4,159	15.2%	11	1,805	20.5%	4,746	18.4%	11	142	6.5%	349	4.6%
12	19,159	29.4%	40,436	26.1%	12	1,843	19.0%	4,394	16.1%	12	2,066	23.4%	5,031	19.5%	12	246	11.2%	591	7.8%
13	8,682	13.3%	17,608	11.4%	13	769	7.9%	1,726	6.3%	13	817	9.3%	1,993	7.7%	13	68	3.1%	134	1.8%
14	569	0.9%	1,252	0.8%	14	150	1.5%	314	1.1%	14	82	0.9%	190	0.7%	14	0	0.0%	0	0.0%
15	307	0.5%	551	0.4%	15	38	0.4%	78	0.3%	15	48	0.5%	95	0.4%	15	12	0.6%	27	0.4%
16	155	0.2%	272	0.2%	16	76	0.8%	157	0.6%	16	0	0.0%	0	0.0%	16	0	0.0%	0	0.0%
17	0	0.0%	0	0.0%	17	0	0.0%	0	0.0%	17	0	0.0%	0	0.0%	17	0	0.0%	0	0.0%
Total	65,208	100.0%	154,829	100.0%		9,719	100.0%	27,306	100.0%		8,826	100.0%	25,819	100.0%		2,198	100.0%	7,548	100.0%

(Continued)

Table 13. (Continued).

Togiak District Gillnet Catch 18 May					Togiak District Gillnet Catch 20 May					Total Run Biomass Estimate				
Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	0	0.0%	0	0.0%	3	0	0.0%	0	0.0%	3	42	0.1%	335	0.2%
4	0	0.0%	0	0.0%	4	0	0.0%	0	0.0%	4	62	0.1%	410	0.2%
5	3	0.6%	10	0.8%	5	1	0.5%	7	0.9%	5	231	0.3%	1,153	0.5%
6	57	14.0%	230	18.6%	6	15	5.5%	52	6.9%	6	4,843	6.1%	19,363	8.9%
7	101	24.6%	345	27.9%	7	66	24.9%	229	30.2%	7	8,644	10.8%	28,574	13.1%
8	30	7.4%	96	7.8%	8	19	7.1%	59	7.8%	8	2,741	3.4%	7,966	3.7%
9	71	17.3%	192	15.5%	9	49	18.2%	131	17.2%	9	13,175	16.5%	38,250	17.6%
10	33	8.0%	86	7.0%	10	9	3.4%	26	3.4%	10	5,354	6.7%	14,113	6.5%
11	41	10.1%	105	8.5%	11	33	12.3%	78	10.3%	11	12,362	15.5%	32,132	14.8%
12	46	11.2%	115	9.3%	12	37	14.0%	91	12.1%	12	21,554	27.0%	50,658	23.3%
13	23	5.7%	48	3.9%	13	32	12.0%	72	9.5%	13	9,623	12.1%	21,582	9.9%
14	4	1.0%	10	0.8%	14	0	0.0%	0	0.0%	14	656	0.8%	1,765	0.8%
15	0	0.0%	0	0.0%	15	0	0.0%	0	0.0%	15	368	0.5%	751	0.3%
16	0	0.0%	0	0.0%	16	3	1.1%	7	0.9%	16	158	0.2%	436	0.2%
17	0	0.0%	0	0.0%	17	2	0.9%	7	0.9%	17	2	0.0%	7	0.0%
Total	409	100.0%	1,236	100.0%		267	100.0%	757	100.0%		79,814	100.0%	217,495	100.0%

Table 14. Sample sizes and sampling goals for data applied to the final age composition analysis of the 1991 total run biomass and commercial harvest.

Date	Fishing Section	Sample Size	Percent Goal (Thompson 1987, 405/strata)[a]	Age Range
Aerial Survey Estimates				
12-14 May	Kulukak	386	95.3	4-16
	Nunavachak	549	135.6	4-13
15-17 May	Kulukak	198	48.9	4-16
	Nunavachak	195	48.1	4-16
	Togiak	303	74.8	4-14
	Hagemeister	455	112.3	4-17
20-21 May	Kulukak	239	59.0	5-14
	Togiak	194	47.9	5-14
	Hagemeister	199	49.1	4-14
Commercial Fishery				
10 May Purse Seine				
	Kulukak	155	38.3	5-18
	Nunavachak	277	68.4	4-16
	Togiak	330	81.5	4-15
	Hagemeister	357	88.1	5-15
12 May Purse Seine				
	Kulukak	341	84.2	4-15
	Nunavachak	135	33.3	4-15
	Togiak	344	84.9	3-18
	Hagemeister	367	90.6	4-16
	Pyrite Point	52	12.8	4-18
10 May Gillnet				
	Kulukak	132	32.6	7-16
	Nunavachak	138	34.1	4-14
11 May Gillnet				
	Kulukak	127	31.4	7-14

[a] The time strata was three days for age data weighted by aerial survey information in the estimation of total run biomass by fishing period.
[b] Sample sizes may differ slightly from the preliminary data used in biomass estimates.

Table 15. Temporal change in age composition (by number) of samples collected from non-selective gear in the Togiak District, 1991.

	Sample Size	Date	Age Group[a] 3-4	5-6	7-8	9 +
	3,496	5/03-14	4.6%	11.5%	26.8%	57.0%
	1,040	5/15-17	18.3%	22.7%	24.4%	34.5%
	1,164	5/18-21	36.1%	21.6%	18.6%	23.6%
	553	5/22-6/09	65.3%	13.9%	7.4%	13.4%
Total	6,253					

[a] Category 9+ includes age 9 through 16.

Table 16. Mean length (mm), weight (g), and standard deviation by age for herring representing the biomass and commercial harvest by gear type, Togiak District, 1991.

	Run Biomass [a]						Commercial Purse Seine						Commercial Gillnet					
Age	No. of Samples	Length (mm)	Length SD	Weight (g)	Weight SD	Age	No. of Samples	Length (mm)	Length SD	Weight (g)	Weight SD	Age	No. of Samples	Length (mm)	Length SD	Weight (g)	Weight SD
3	16	211	10.4	121	23.8	3	1	192		97		3					
4	1,000	226	9.4	145	26.6	4	86	227	8.9	157	22.3	4	2	227	10	161	14.1
5	122	238	13.5	173	39.8	5	20	239	13.7	190	40.1	5					
6	97	261	12.2	245	48.1	6	25	262	8.7	262	49.5	6	3	259	8	249	32.0
7	1,052	273	10.3	293	49.7	7	310	273	10.5	307	43.4	7	57	277	10	326	42.0
8	1,078	285	9.6	341	53.6	8	405	286	9.0	361	42.6	8	98	286	9	367	38.9
9	237	294	10.6	382	56.8	9	89	294	11.3	394	56.5	9	25	299	12	417	64.8
10	773	301	1.8	420	60.6	10	391	301	10.4	437	54.2	10	58	300	10	430	50.4
11	334	307	10.5	446	61.1	11	156	307	10.4	458	55.7	11	32	304	10	448	48.0
12	618	312	12.2	471	65.3	12	304	312	12.2	487	58.8	12	52	309	10	475	58.0
13	717	315	10.5	490	77.8	13	386	315	10.0	509	61.7	13	55	310	20	492	62.3
14	284	318	10.3	491	71.2	14	142	317	10.3	502	68.9	14	14	319	10	533	48.9
15	39	321	9.8	490	71.2	15	20	322	8.9	500	70.4	15					
16	12	326	9.3	552	63.5	16	8	327	9.0	568	56.7	16	1	318		514	
17	6	331	14.9	548	59.7	17	1	308		554		17					
18	4	301	18.2	399	72.5	18	4	301	18.2	399	72.5						
Total	6,389	283	13.5	351	77.8		2,348	296		415			397	296		416	

[a] Collected from nonselective gear includes commercial purse seine, test purse seine and variable mesh gillnets.

Table 17 . Commercial purse seine and gillnet herring harvest (tons) by fishing section and date, Togiak District, 1991
Roe percentages are displayed in parenthesis. Total daily harvest is depicted in both tons and tonnes.

		Fishing Section												Daily Harvest		
Date	Time (hours)	Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenl		Total (tons)	Total (tonnes)	Roe Percent
								Gillnet								
5/10	10.0	464	(9.1)	1,307	(8.3)									1,771	1,607	(8.5)
5/11	4.0	1,369	(9.1)	31	(7.9)									1,399	1,270	(9.1)
5/12								12	(9.7) [c]					12	11	(9.7)
	14.0	1,833	(9.1)	1,338	(7.3)			12	(9.7)					3,182	2,887	(8.8)
								Purse Seine								
5/10	1.0	782	(9.8)	306	(7.0)	741	(9.3)	1,712	(11.8)					3,542	3,213	(10.5)
5/12	2.0	1,261	(10.4)	65	(8.4)	327	(8.5)	6,212	(10.0)	156	(11.6)			8,021	7,276	(10.0)
5/15[b]								69	(9.1)					69	62	(9.1)
5/17								157	(7.5)					157	142	(7.5)
	3.0	2,043	(10.2)	372	(8.4)	1,068	(9.1)	8,150	(10.3)	156	(11.6)			11,788	10,694	(10.1)
								Combined Gear								
5/10	11.0	1,246	(9.5)	1,613	(8.3)	741	(9.3)	1,712	(11.8)					5,313	4,820	(10.4)
5/11	4.0	1,369	(9.1)	31	(7.9)									1,399	1,270	(9.1)
5/12	2.0	1,261	(10.4)	65	(8.4)	327	(8.5)	6,224		156	(11.6)			8,033	7,287	(10.0)
5/15								69	(9.1)					69	62	(9.1)
5/17								157	(7.5)					157	142	(7.5)
Total	17.0	3,875	(9.6)	1,709	(8.3)	1,068	(9.0)	8,162	(10.2)	156	(11.6)	0	0.0	14,970	13,581	(9.9)

[a] Harvest data does not include 100 tons of deadloss.
[b] Harvest from calibration estimation (point estimate).
[c] Catches are illegal or were miscoded by date, gear or section. Commericial fishing periods were not open at this date and time.

Table18. Age composition estimates by number and weight of the harvest, escapement biomass, and total run biomass (tonnes) observed in the Togiak District, 1991.

	Total Run Biomass					Purse Seine Harvest					Gillnet Harvest			
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent By No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent By No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent By No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	10	0.0%	75	0.0%	3	0	0.0%	0	0.0%	3	0	0.0%	0	0.0%
4	5,469	7.2%	36,875	16.2%	4	85	0.8%	448	1.8%	4	5	0.2%	29	0.4%
5	601	0.8%	3,408	1.5%	5	11	0.1%	49	0.2%	5	0	0.0%	0	0.0%
6	905	1.2%	3,665	1.6%	6	57	0.5%	221	0.9%	6	11	0.4%	43	0.6%
7	12,040	15.9%	42,043	18.4%	7	820	7.7%	2,605	10.6%	7	295	10.2%	906	13.4%
8	13,535	17.9%	41,472	18.2%	8	1,320	12.3%	3,638	14.8%	8	612	21.2%	1,635	24.3%
9	4,176	5.5%	11,335	5.0%	9	453	4.2%	1,102	4.5%	9	173	6.0%	406	6.0%
10	9,164	12.1%	23,165	10.2%	10	2,021	18.9%	4,605	18.7%	10	411	14.3%	936	13.9%
11	4,595	6.1%	10,811	4.7%	11	782	7.3%	1,685	6.9%	11	261	9.1%	578	8.6%
12	9,088	12.0%	20,631	9.0%	12	1,838	17.2%	3,734	15.2%	12	463	16.0%	944	14.0%
13	10,271	13.6%	22,297	9.8%	13	2,312	21.6%	4,561	18.6%	13	514	17.8%	1,003	14.9%
14	4,975	6.6%	10,910	4.8%	14	755	7.1%	1,507	6.1%	14	122	4.2%	225	3.3%
15	475	0.6%	1,059	0.5%	15	131	1.2%	248	1.0%	15	0	0.0%	0	0.0%
16	174	0.2%	322	0.1%	16	106	1.0%	176	0.7%	16	19	0.7%	37	0.5%
17	25	0.0%	55	0.0%	17	3	0.0%	5	0.0%	17	0	0.0%	0	0.0%
											0			
Total	75,505	100.0%	228,123	100.0%		10,694	100.0%	24,585	100.0%		2,887	100.0%	6,742	100.0%

(Continued)

Table 18. (Continued)

Total Commercial Harvest					Escapement Biomass				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent By No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent By No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	0	0.0%	0	0.0%	3	10	0.0%	75	0.0%
4	90	0.7%	477	1.5%	4	5,379	8.7%	36,398	18.5%
5	11	0.1%	49	0.2%	5	590	1.0%	3,358	1.7%
6	68	0.5%	264	0.8%	6	837	1.4%	3,401	1.7%
7	1,116	8.2%	3,511	11.2%	7	10,925	17.6%	38,532	19.6%
8	1,932	14.2%	5,273	16.8%	8	11,603	18.7%	36,199	18.4%
9	626	4.6%	1,508	4.8%	9	3,550	5.7%	9,827	5.0%
10	2,432	17.9%	5,541	17.7%	10	6,732	10.9%	17,624	9.0%
11	1,043	7.7%	2,263	7.2%	11	3,552	5.7%	8,547	4.3%
12	2,300	16.9%	4,679	14.9%	12	6,788	11.0%	15,953	8.1%
13	2,827	20.8%	5,564	17.8%	13	7,444	12.0%	16,733	8.5%
14	877	6.5%	1,732	5.5%	14	4,098	6.6%	9,178	4.7%
15	131	1.0%	248	0.8%	15	345	0.6%	811	0.4%
16	125	0.9%	213	0.7%	16	50	0.1%	109	0.1%
17	3	0.0%	5	0.0%	17	22	0.0%	50	0.0%
Total	13,581	100.0%	31,327	100.0%		61,924	100.0%	196,795	100.0%

Table 19. Observed aerial biomass estimates of herring by index area (tons), and totals by day (tons, tonnes) during the 1991 Togiak District season, Bristol Bay.

			Milt Observations			Estimated Biomass by Index Area (tons)													Daily Total	
	Survey	Time		Length																
Date	Conditio	Surveyed	No.	Miles	Km	NUS	KUK	MET	NUK	UGL	TOG	TNG	MTG	HAG	OSK	PYR	CN	WAL	(tons)	(tonnes)
4/19	Good	pm	0.0	0.0	0.0			0	0	0	0	0	0	0	0		0		0	0
4/24	Fair	pm	0.0	0.0	0.0		0	0	0	0	0								0	0
4/28	Good	am	0.0	0.0	0.0		0	0	0	0	0	0	0	0					0	0
5/01	Fair-Poor	pm	0.0	0.0	0.0			0	0	0			0	0					0	0
5/03	Fair	pm	0.0	0.0	0.0		0	0	0	0	0	0	0	0	0				0	0
5/06	Poor	am	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0					0	0
5/06	Fair	pm	0.0	0.0	0.0					0	0	0	0	65					65	59
5/07	Poor	am	0.0	0.0	0.0			0	0	8	0	0	0	0					8	7
5/07	Fair	pm	0.0	0.0	0.0		0	0	0	0	0	0	0	38					38	34
5/08	Fair-Poor	am	0.0	0.0	0.0				0	0	0	0	0	0					0	0
5/09	Fair	pm	3.0	1.0	0.6			0	0	3,920	68	1,440	3,785	0	0			1,607	9,213	8,358
5/10	Fair-Poor	am	24.0	17.8	11.0		0	0	1,968	3,963	3,599	0	2,909	3,073					15,512	14,072
5/11	Fair	am	21.0	24.5	15.2		0	1,711	396	17	2,729	637	1,210	2,150	924				9,774	8,867
5/12	Fair-Poor	am-pm	24.0	20.8	12.9					395	2,276	571	1,246	99	427	0			5,014	
5/13	Good	am	5.0	2.1	1.3	7,878	916	3,092	3,368	2,829	11,027	794	1,863	305	1,913	115		85	34,185	31,012
5/14	Good	am	1.0	0.5	0.3					1,871	7,313	594	779	3,269	1,832				15,658	14,205
5/15	Good-Fai	am	1.0	0.1	0.1	806	6,163	450	1,667	2,015	27,396	969	1,868	5,144	2,817	382			49,677	45,067
5/16	Fair	am	1.0	0.5	0.3	0	11,195	146	1,883	683	28,931	23	1,327	4,867	220	1,637	586		51,498	46,719
5/18	Fair	pm	0.0	0.0	0.0	8	3,212	2,103	3,736	389	1,658	1,258	469	0	3,136				15,969	14,487
5/20	Good-Fai	pm	2.0	0.0	0.0	226	3,673	4,166	8,469	2,641	9,223	769	578	648	3,963	0	0		34,356	31,168
5/24	Good	pm	5.0	0.2	0.1	0	1,436	2,797	2,235	193	0	1,040	274	0	328				8,303	7,532
5/28	Good	am-pm	0.0	1.0	0.6	0	368	213	1,390	7,163	0	360	1,260	224	599				11,577	10,503
5/31	Fair-Poor	pm	2.0	0.0	0.0	348	267	5,394	1,458	122	0	0	0	0					7,589	6,885
6/05	Fair	pm	1.0	0.5	0.3	0	216	633	1,162	261	1,353	4,388	0	1,299	0			551	9,863	8,948
608	Fair	pm	0.0	0.5	0.3	13	0	1,340	1,092	2,468	3,303	5,302	5	812	0				14,335	13,005
		Total	90.0	69.4	43.1															

[a] Togiak District Pacific herring biomass was estimated to be 83,229 tons (75,505 tonnes) for the 1991 season. The estimate is derived from summing proportions of peak aerial surveys as depicted by changes in age composition for 16 and 24 May.

[b] Index areas: NUN - Nushagak Peninsuala; KUK- Kulukak; MET- Metervik; NUK - Nunavachak; UGL - Ungalithluk/Togiak; TOG - Togiak; TNG- Tongue Point; MTG- Matogak; HAG-Hagemeister; OSK - Osviak; PYT- Pyrite Point; CN- Cape Newenham.

[c] Partial Survey

[d] Smelt Schools observed

Table 20. Age composition estimates weighted by harvested biomass (tonnes), fishing section, and date for the commercial purse seine fishery, Togiak District, 1991.

Sampling Dates: 10 May Section: Kulukak C.Purse Seine Biomass Estimate: 987 tonnes				Sampling Dates: 10 May Section: Togiak C. Purse Seine Biomass Estimate: 672 tonnes				Sampling Dates: 10 May Section: Hagemeister C. Purse Seine Biomass Estimate: 1553 tonnes			
Age	No. of Samples	Percent by No.	Numbers (X 1,000)	Age	No. of Samples	Percent by No.	Numbers (X 1,000)	Age	No. of Samples	Percent by No.	Numbers (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	2	0.5%	11	4	2	0.6%	9	4	2	0.6%	19
5	3	0.7%	16	5	0	0.0%	0	5	0	0.0%	0
6	3	0.7%	16	6	3	0.9%	14	6	3	0.8%	29
7	53	12.3%	281	7	41	12.4%	193	7	28	7.8%	269
8	79	18.4%	419	8	59	17.9%	278	8	46	12.9%	443
9	18	4.2%	95	9	10	3.0%	47	9	17	4.8%	164
10	75	17.4%	397	10	62	18.8%	292	10	75	21.0%	722
11	23	5.3%	122	11	26	7.9%	122	11	27	7.6%	260
12	49	11.4%	260	12	46	13.9%	216	12	58	16.2%	558
13	94	21.9%	498	13	64	19.4%	301	13	70	19.6%	674
14	26	6.0%	138	14	14	4.2%	66	14	24	6.7%	231
15	2	0.5%	11	15	3	0.9%	14	15	3	0.8%	29
16	2	0.5%	11	16	0	0.0%	0	16	4	1.1%	38
17	1	0.2%	5	17	0	0.0%	0	17	0	0.0%	0
Total	430	100.0%	2,279		330	100.0%	1,553		357	100.0%	3,436

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	316	0.2%	2	4	662	0.5%	3	4	290.3	0.2%	3
5	537	0.3%	3	5	0	0.0%	0	5	0	0.0%	0
6	727	0.4%	4	6	778	0.6%	4	6	655.9	0.4%	7
7	15,313	9.1%	89	7	11,456	8.8%	59	7	8103.1	5.5%	86
8	26,294	15.6%	154	8	19,643	15.2%	102	8	15357	10.5%	163
9	6,327	3.7%	37	9	3,320	2.6%	17	9	6600.7	4.5%	70
10	29,859	17.7%	174	10	24,973	19.3%	130	10	30210	20.6%	320
11	9,362	5.5%	55	11	10,685	8.2%	55	11	11586	7.9%	123
12	21,616	12.8%	126	12	19,947	15.4%	103	12	26203	17.9%	278
13	44,079	26.1%	257	13	29,901	23.1%	155	13	32641	22.3%	346
14	12,029	7.1%	70	14	6,871	5.3%	36	14	11082	7.6%	118
15	924	0.5%	5	15	1,361	1.1%	7	15	1480.5	1.0%	16
16	1,030	0.6%	6	16	0	0.0%	0	16	2199	1.5%	23
17	503	0.3%	3	17	0	0.0%	0	17	0	0.0%	0
Total	168,915	100.0%	987		129,599	100.0%	672		146,408	100.0%	1,553

Table 20. (Continued).

Sampling Dates: 12 May Section: Kulukak C. Purse Seine Biomass Estimate: 1,144 tonnes				Sampling Dates: 12 May Section: Nunavachak C. Purse Seine Biomass Estimate: 59 tonnes				Sampling Dates: 12 May Section: Togiak C.Purse Seine Biomass Estimate: 297 tonnes				Sampling Dates: 12 May Section: Hagemeister C. Purse Seine Biomass Estimate: 5,777 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	24	6.9%	205	4	29	4.6%	7	4	24	6.9%	55	4	3	0.7%	94
5	2	0.6%	17	5	5	0.8%	1	5	2	0.6%	5	5	0	0.0%	0
6	5	1.4%	43	6	6	0.9%	1	6	5	1.4%	11	6	3	0.7%	94
7	71	20.3%	608	7	93	14.6%	22	7	71	20.3%	162	7	30	7.3%	942
8	61	17.5%	522	8	118	18.5%	28	8	61	17.5%	139	8	54	13.2%	1,696
9	10	2.9%	86	9	23	3.6%	5	9	10	2.9%	23	9	21	5.1%	660
10	52	14.9%	445	10	103	16.2%	24	10	52	14.9%	119	10	81	19.8%	2,544
11	16	4.6%	137	11	34	5.3%	8	11	16	4.6%	36	11	31	7.6%	974
12	32	9.2%	274	12	63	9.9%	15	12	32	9.2%	73	12	73	17.8%	2,293
13	55	15.8%	471	13	109	17.1%	26	13	55	15.8%	125	13	77	18.8%	2,419
14	18	5.2%	154	14	45	7.1%	11	14	18	5.2%	41	14	27	6.6%	848
15	3	0.9%	26	15	7	1.1%	2	15	3	0.9%	7	15	5	1.2%	157
16	0	0.0%	0	16	1	0.2%	0	16	0	0.0%	0	16	4	1.0%	126
17	0	0.0%	0	17	1	0.2%	0	17	0	0.0%	0	17	0	0.0%	0
Total	349	100.0%	2,988		637	100.0%	149	Total	349	100.0%	796		409	100.0%	12,848

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	4,550	3.8%	43	4	5,208	2.3%	1	4	3,397	2.9%	9	4	451	0.3%	16
5	457	0.4%	4	5	1,040	0.5%	0	5	341	0.3%	1	5	0	0.0%	0
6	1,329	1.1%	13	6	1,631	0.7%	0	6	1,098	0.9%	3	6	656	0.4%	23
7	20,096	16.6%	190	7	26,178	11.5%	7	7	19,001	16.1%	48	7	8,635	5.2%	299
8	19,590	16.2%	185	8	37,841	16.6%	10	8	19,147	16.2%	48	8	17,752	10.6%	615
9	3,257	2.7%	31	9	7,643	3.4%	2	9	3,674	3.1%	9	9	8,009	4.8%	277
10	19,483	16.1%	184	10	38,867	17.1%	10	10	19,436	16.5%	49	10	32,528	19.5%	1,126
11	6,633	5.5%	63	11	14,055	6.2%	4	11	6,198	5.3%	16	11	13,146	7.9%	455
12	13,412	11.1%	127	12	26,284	11.5%	7	12	12,977	11.0%	33	12	33,007	19.8%	1,143
13	23,850	19.7%	225	13	47,630	20.9%	12	13	23,501	19.9%	59	13	35,645	21.4%	1,234
14	7,479	6.2%	71	14	18,850	8.3%	5	14	7,805	6.6%	20	14	12,329	7.4%	427
15	1,083	0.9%	10	15	2,723	1.2%	1	15	1,404	1.2%	4	15	2,484	1.5%	86
16	0	0.0%	0	16	0	0.0%	0	16	0	0.0%	0	16	2199.04	1.3%	76
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	121,220	100.0%	1,144		227,950	100.0%	59	Total	117,979	100.0%	297		166,840	100.0%	5,777

Table 20. (Continued).

Sampling Dates: 15&17 May Section: Kulukak C. Purse Seine Biomass Estimate: 205 tonnes				Combined Purse Seine Harvest Sections: Combined Biomass Estimate: 10,694 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0
4	40	250.0%	47	4	126	67.0%	448
5	9	56.3%	11	5	21	11.2%	49
6	10	62.5%	12	6	38	20.2%	221
7	108	675.0%	128	7	495	263.3%	2605
8	96	600.0%	113	8	574	305.3%	3638
9	19	118.8%	22	9	128	68.1%	1102
10	52	325.0%	61	10	552	293.6%	4605
11	22	137.5%	26	11	195	103.7%	1685
12	38	237.5%	45	12	391	208.0%	3734
13	40	250.0%	47	13	564	300.0%	4561
14	16	100.0%	19	14	188	100.0%	1507
15	3	18.8%	4	15	29	15.4%	248
16	1	6.3%	1	16	12	6.4%	176
17	1	6.3%	0	17	3	1.6%	5
	455	2843.8%	536		3,316	1763.8%	24,585

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0
4	6,467	89.3%	8	4	21,342	25.5%	85
5	1,942	26.8%	3	5	4,317	5.2%	11
6	2,601	35.9%	3	6	9,476	11.3%	57
7	32,523	449.0%	42	7	141,306	168.8%	820
8	34,062	470.3%	44	8	189,686	226.7%	1,320
9	7,022	96.9%	9	9	45,852	54.8%	453
10	20,941	289.1%	27	10	216,297	258.5%	2,021
11	9,003	124.3%	12	11	80,668	96.4%	782
12	16,195	223.6%	21	12	169,641	202.7%	1,838
13	17,348	239.5%	23	13	254,594	304.2%	2,312
14	7,243	100.0%	9	14	83,689	100.0%	755
15	1,671	23.1%	2	15	13,131	15.7%	131
16	406	5.6%	1	16	5834.1649	7.0%	106
17	0	0.0%	0	17	502.5855	0.6%	3
	157,424	2173.4%	205		1,236,335	1477.3%	10,694

Table 21. Age composition estimates weighted by harvested biomass (tonnes) and fishing section from the commercial gillnet fishery, Togiak District, 1991.

Sampling Dates: 10 May Section: Kulukakand Nunavachak C.Gi Biomass Estimate: 1,607 tonnes				Sampling Dates: 11 May Section: Kulukak C. Gillnet Biomass Estimate: 1,280 tonnes				Combined Commercial Gillnet Harvest Sections: Combined Biomass Estimate: 2,887 tonnes			
Age	No.of Samples	Percent by No.	No. of Fish (X 1,000)	Age	No.of Samples	Percent by No.	No. of Fish (X 1,000)	Age	No.of Samples	Percent by No.	No. of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	2	0.7%	29	4	0	0.0%	0	4	2	0.5%	29
5	0	0.0%	0	5	0	0.0%	0	5	0	0.0%	0
6	3	1.1%	43	6	0	0.0%	0	6	3	0.8%	43
7	46	17.0%	661	7	11	8.6%	245	7	57	14.3%	906
8	72	26.6%	1034	8	27	21.1%	601	8	99	24.8%	1,635
9	19	7.0%	273	9	6	4.7%	134	9	25	6.3%	406
10	45	16.6%	646	10	13	10.2%	289	10	58	14.5%	936
11	17	6.3%	244	11	15	11.7%	334	11	32	8.0%	578
12	27	10.0%	388	12	25	19.5%	557	12	52	13.0%	944
13	28	10.3%	402	13	27	21.1%	601	13	55	13.8%	1,003
14	11	4.1%	158	14	3	2.3%	67	14	14	3.5%	225
15	0	0.0%	0	15	0	0.0%	0	15	0	0.0%	0
16	1	0.4%	14	16	1	0.8%	22	16	2	0.5%	37
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	271	100.0%	3893		128	100.0%	2,850		399	100.0%	6,742

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	292	0.3%	5	4	0	0.0%	0	4	292	0.2%	5
5	0	0.0%	0	5	0	0.0%	0	5	0	0.0%	0
6	678	0.7%	11	6	0	0.0%	0	6	678	0.4%	11
7	13,432	13.2%	213	7	3,363	6.4%	83	7	16,795	10.9%	295
8	24,197	23.8%	383	8	9,332	17.9%	229	8	33,529	21.8%	612
9	7,265	7.2%	115	9	2,362	4.5%	58	9	9,627	6.3%	173
10	17,849	17.6%	283	10	5,248	10.1%	129	10	23,097	15.0%	411
11	6,992	6.9%	111	11	6,137	11.8%	151	11	13,129	8.5%	261
12	11,956	11.8%	189	12	11,136	21.3%	273	12	23,092	15.0%	463
13	12,904	12.7%	204	13	12,639	24.2%	310	13	25,543	16.6%	514
14	5,445	5.4%	86	14	1,475	2.8%	36	14	6,920	4.5%	122
15	0	0.0%	0	15	0	0.0%	0	15	0	0.0%	0
16	466	0.5%	7	16	466	0.9%	11	16	933	0.6%	19
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
Total	101,475	100.0%	1,607		52,159	100.0%	1,280		153,634	100.0%	2,887

Table 22. Age composition estimates of sampling stratum 15-18 May weighted by 16 May aerial survey biomass for each fishing section; spent herring observed 13 May weighted by the aerial biomass for the Kulukak and Nunavachak Sections, Togiak District, 1991.

Sampling Dates: 12-14 May Section: Kulukak and Nunavachak Biomass Estimate: 7,147 tonnes				Sampling Dates: 15-17 May Section: Kulukak and Nunavachak Biomass Estimate: 13,348 tonnes				Sampling Dates: 15-18 May Section: Togiak Biomass Estimate: 26,246 tonnes				Sampling Dates: 15-17 May Section: Hagemeister Biomass (harvest) Estimate: 7,856 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	1	0.1%	20	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	27	2.9%	544	4	63	16.0%	6,817	4	58	19.1%	16,171	4	40	8.8%	1,994
5	5	0.5%	101	5	7	1.8%	757	5	4	1.3%	1,115	5	9	2.0%	449
6	47	5.0%	947	6	10	2.5%	1,082	6	2	0.7%	558	6	10	2.2%	498
7	174	18.6%	3,505	7	113	28.8%	12,227	7	43	14.2%	11,989	7	108	23.7%	5,383
8	125	13.4%	2,518	8	82	20.9%	8,873	8	57	18.8%	15,892	8	96	21.1%	4,785
9	86	9.2%	1,732	9	20	5.1%	2,164	9	15	5.0%	4,182	9	19	4.2%	947
10	104	11.1%	2,095	10	35	8.9%	3,787	10	27	8.9%	7,528	10	52	11.4%	2,592
11	81	8.7%	1,631	11	10	2.5%	1,082	11	16	5.3%	4,461	11	22	4.8%	1,096
12	118	12.6%	2,377	12	22	5.6%	2,381	12	29	9.6%	8,086	12	38	8.4%	1,894
13	123	13.2%	2,477	13	21	5.3%	2,272	13	30	9.9%	8,364	13	40	8.8%	1,994
14	34	3.6%	685	14	9	2.3%	974	14	20	6.6%	5,576	14	16	3.5%	797
15	7	0.7%	141	15	1	0.3%	108	15	1	0.3%	279	15	3	0.7%	150
16	3	0.3%	60	16	0	0.0%	0	16	1	0.3%	0	16	1	0.2%	50
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	1	0.2%	50
Tota	935	100.0%	18,832		393	100.0%	42,525		303	100.0%	84,201		455	100.0%	22,677

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percentby Weight	tons Biomass	Age	Weight	Percentby Weight	Biomass	Age	Weight	Percentby Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	116	0.0%	3	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	4,960	1.5%	110	4	8,524	7.6%	1,017	4	7,778	9.1%	2,391	4	5,706	4.0%	313
5	1,019	0.3%	23	5	1,207	1.1%	144	5	673	0.8%	207	5	1,455	1.0%	80
6	10,971	3.4%	244	6	2,208	2.0%	263	6	468	0.5%	144	6	2,157	1.5%	119
7	46,916	14.6%	1,042	7	30,035	26.8%	3,582	7	10,501	12.3%	3,227	7	28,096	19.6%	1,544
8	39,750	12.3%	883	8	24,775	22.1%	2,955	8	15,767	18.5%	4,846	8	28,910	20.2%	1,588
9	28,769	8.9%	639	9	6,693	6.0%	798	9	4,744	5.6%	1,458	9	6,741	4.7%	370
10	38,981	12.1%	865	10	12,804	11.4%	1,527	10	8,759	10.3%	2,692	10	19,217	13.4%	1,056
11	31,636	9.8%	702	11	3,716	3.3%	443	11	5,884	6.9%	1,808	11	8,860	6.2%	487
12	47,102	14.6%	1,046	12	8,876	7.9%	1,059	12	10,810	12.7%	3,322	12	15,550	10.9%	854
13	53,728	16.7%	1,193	13	9,215	8.2%	1,099	13	11,498	13.5%	3,534	13	17,047	11.9%	937
14	14,329	4.5%	318	14	3,556	3.2%	424	14	8,156	9.6%	2,507	14	6,939	4.9%	381
15	2,752	0.9%	61	15	296	0.3%	35	15	361	0.4%	111	15	1,358	0.9%	75
16	880	0.3%	20	16	0	0.0%	0	16	0	0.0%	0	16	557	0.4%	31
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	406	0.3%	22
Tota	321,907	100.0%	7,147		111,906	100.0%	13,348		85,399	100.0%	26,246		143,000	100.0%	7,856

[a] Does not include test fish harvest from calibration estimate.
[b] Includes index areas KUL, NUS.
[c] Includes index areas NUN, UGL.
[d] Includes index areas TOG.
[e] Includes index areas OSV, MTG, TNG.

Table 23. Age composition estimates for sampling stratum 20-24 May weighted by 24 May aerial survey biomass for each fishing section, Togiak District, 1991.

Sampling Dates: 20-21 May Section: Kulukak and Togiak Biomass Estimate: 6,043 tonnes				Sampling Dates:20-21 May Section: Hagemeister Biomass Estimate: 1,489 tonnes			
Age	No.of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No.of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0
3	1	0.2%	54	3	0	0.0%	0
4	166	38.3%	9,032	4	134	34.1%	1,888
5	13	3.0%	707	5	17	4.3%	239
6	5	1.2%	272	6	4	1.0%	56
7	84	19.4%	4,571	7	70	17.8%	986
8	63	14.5%	3,428	8	58	14.8%	817
9	11	2.5%	599	9	16	4.1%	225
10	25	5.8%	1,360	10	23	5.9%	324
11	4	0.9%	218	11	6	1.5%	85
12	18	4.2%	979	12	20	5.1%	282
13	24	5.5%	1,306	13	26	6.6%	366
14	17	3.9%	925	14	17	4.3%	239
15	2	0.5%	109	15	2	0.5%	28
16	0	0.0%	0	16	0	0.0%	0
17	0	0.0%	0	17	0	0.0%	0
Total	433	100%	23,560		393	100%	5,536

Age	Weight	Percentby Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0
3	118	0.1%	7	3	0	0.0%	0
4	21,393	21.2%	1,283	4	17,601	18.3%	273
5	1,686	1.7%	101	5	2,457	2.6%	38
6	1,002	1.0%	60	6	700	0.7%	11
7	21,573	21.4%	1,294	7	17,914	18.7%	278
8	18,581	18.4%	1,114	8	16,823	17.5%	261
9	3,537	3.5%	212	9	5,271	5.5%	82
10	8,396	8.3%	504	10	7,434	7.7%	115
11	1,443	1.4%	87	11	2,341	2.4%	36
12	6,768	6.7%	406	12	7,873	8.2%	122
13	9,057	9.0%	543	13	10,410	10.9%	162
14	6,339	6.3%	380	14	6,249	6.5%	97
15	858	0.9%	51	15	858	0.9%	13
16	0	0.0%	0	16	0	0.0%	0
17	0	0.0%	0	17	0	0.0%	0
Total	100,752	100.0%	6,043		95,931	100.0%	1,490

[a] Includes index areas NUS, KUL, MET.
[b] Includes index areas OSV, MTG, TNG.

Table 24. Total weighted age composition in numbers of fish and by weight (tonnes) of aerial survey biomass resulting in the total run biomass estimate, Togiak District, 1991.

Aerial Estimate of Spawned out Herring Observed 13 May					Aerial Estimate 16 May Includes 806 tons of spawned out herring					Aerial Estimate 24 May				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	3	0.0%	20	0.1%	3	0	0.0%	0	0.0%	3	7	0.1%	54	0.2%
4	110	1.5%	544	2.9%	4	3,721	7.8%	24,982	16.7%	4	1,556	20.7%	10,920	37.5%
5	23	0.3%	101	0.5%	5	431	0.9%	2,321	1.6%	5	139	1.8%	947	3.3%
6	244	3.4%	947	5.0%	6	526	1.1%	2,138	1.4%	6	71	0.9%	328	1.1%
7	1,042	14.6%	3,505	18.6%	7	8,353	17.6%	29,599	19.8%	7	1,572	20.9%	5,557	19.1%
8	883	12.3%	2,518	13.4%	8	9,389	19.8%	29,550	19.8%	8	1,376	18.3%	4,245	14.6%
9	639	8.9%	1,732	9.2%	9	2,627	5.5%	7,293	4.9%	9	294	3.9%	824	2.8%
10	865	12.1%	2,095	11.1%	10	5,275	11.1%	13,907	9.3%	10	619	8.2%	1,684	5.8%
11	702	9.8%	1,631	8.7%	11	2,738	5.8%	6,640	4.4%	11	123	1.6%	302	1.0%
12	1,046	14.6%	2,377	12.6%	12	5,235	11.0%	12,360	8.3%	12	528	7.0%	1,261	4.3%
13	1,193	16.7%	2,477	13.2%	13	5,569	11.7%	12,630	8.5%	13	705	9.4%	1,672	5.7%
14	318	4.5%	685	3.6%	14	3,312	7.0%	7,348	4.9%	14	477	6.3%	1,164	4.0%
15	61	0.9%	141	0.7%	15	221	0.5%	537	0.4%	15	65	0.9%	137	0.5%
16	20	0.3%	60	0.3%	16	31	0.1%	50	0.0%	16	0	0.0%	0	0.0%
17	0	0.0%	0	0.0%	17	22	0.0%	50	0.0%	17	0	0.0%	0	0.0%
Total	7,147	100.0%	18,832	100.0%		47,450	100.0%	149,403	100.0%		7,532	100.0%	29,096	100.0%

Table 24 (Continued).

Commercial Sac Roe Harvest (less point estimate)					Total Run Biomass Estimate				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	0	0.0%	0	0.0%	3	10	0.0%	75	0.0%
4	81	0.6%	429	1.4%	4	5,469	7.2%	36,875	16.2%
5	9	0.1%	39	0.1%	5	601	0.8%	3,408	1.5%
6	64	0.5%	252	0.8%	6	905	1.2%	3,665	1.6%
7	1,073	8.0%	3,383	11.0%	7	12,040	15.9%	42,043	18.4%
8	1,888	14.1%	5,160	16.8%	8	13,535	17.9%	41,472	18.2%
9	616	4.6%	1,486	4.8%	9	4,176	5.5%	11,335	5.0%
10	2,405	18.0%	5,479	17.8%	10	9,164	12.1%	23,165	10.2%
11	1,031	7.7%	2,237	7.3%	11	4,595	6.1%	10,811	4.7%
12	2,279	17.0%	4,634	15.0%	12	9,088	12.0%	20,631	9.0%
13	2,804	21.0%	5,517	17.9%	13	10,271	13.6%	22,297	9.8%
14	868	6.5%	1,713	5.6%	14	4,975	6.6%	10,910	4.8%
15	129	1.0%	245	0.8%	15	475	0.6%	1,059	0.5%
16	124	0.9%	211	0.7%	16	174	0.2%	322	0.1%
17	3	0.0%	5	0.0%	17	25	0.0%	55	0.0%
Total	13,376	100.0%	30,791	100.0%		75,505	100.0%	228,123	100.0%

Table 25. Sample sizes and sampling goals for data applied to the final age composition analysis of the 1992 total run biomass and commercial harvest.

Date	Fishing Section	Sample Size	Percent Goal (Thompson 1987, 405/strata)[a]	Age Range
Aerial Survey Estimates				
22-24 May	Kulukak	292	0.72	4-14
	Togiak	362	0.89	3-17
	Hagemeister	301	0.74	4-18
25-26 May	Kulukak	237	0.59	3-15
	Nunavachak	131	0.32	4-15
	Hagemeister	89	0.22	4-14
20-22 May	Kulukak Gillnet Harvest	345	0.85	5-16
	Nunavachak Gillnet Harvest	136	0.34	7-15
	Togiak Gillnet Harvest	135	0.33	7-18
Commercial Fishery				
20-May	**Purse Seine**			
	Kulukak	292	0.72	4-14
	Nunavachak	279	0.69	3-18
	Togiak	370	0.91	3-18
	Hageme ister	341	0.84	4-18
	Pyrite Point	298	0.74	4-18
	Cape Newenham	69	0.17	4-15
20-May	**Gillnet**			
	Kulukak	111	0.27	5-16
	Nunavachak	136	0.34	7-16
	Togiak	135	0.33	7-18
22-May	Kulukak	234	0.58	7-18
25-May	Kulukak	267	0.66	4-18
26-May	Kulukak	95	0.23	5-18
27-May	Nunavachak	162	0.40	5-16

[a] Two to three day time strata for age data weighted by aerial survey information in the estimation of total run biomass.

[b] Sample sizes may differ slightly for the preliminary data used in biomass estimates.

Table 26. Temporal change in age composition (by number) of samples collected from non-selective gear in the Togiak District, 1992.

	Sample Size	Date	Age Group[a] 3-5	5-6	7-8	9 +
	1,618	5/16-18	14.2%	30.0%	11.7%	44.0%
	1,607	5/22-26	19.4%	35.8%	13.4%	31.4%
Total	3,225					

[a] Age group 9+ includes ages 9 through 16.

Table 27. Mean length (mm), weight (g), and standard deviation by age for herring representing the total biomass and commercial harvest by gear type, Togiak District, 1992.

	Run Biomass [a]						Commercial Purse Seine						Commercial Gillnet					
Age	No. of Samples	Length (mm)	SD	Weight (g)	SD	Age	No. of Samples	Length (mm)	SD	Weight (g)	SD	Age	No. of Samples	Length (mm)	SD	Weight (g)	SD
3	11	219	10.7	131	23.4	3						3					
4	706	230	9.6	152	27.7	4	86	229	9.4	157	20.9	4	1	261		246	
5	1,154	248	11.4	197	38.4	5	161	248	9.7	209	36.8	5	60	256	11.8	235	32.1
6	48	255	13.1	221	54.1	6	9	256	16.4	237	58.4	6	12	263	8.7	276	32.2
7	62	279	15.5	316	59.7	7	10	278	15.5	316	53.8	7	38	283	8.6	337	38.6
8	62	289	10.6	345	10.9	8	90	290	11.9	366	66.8	8	304	288	11.1	355	44.4
9	375	298	10.7	392	51.2	9	107	298	9.6	407	65.0	9	298	295	12.2	382	48.6
10	110	302	13.6	419	65.1	10	27	305	18.2	423	117.4	10	36	297	10.8	385	43.8
11	231	312	11.3	458	74.0	11	67	311	11.5	460	103.4	11	110	309	11.7	437	54.1
12	104	316	14.9	465	74.5	12	48	318	10.1	517	58.5	12	57	310	11.7	445	60.1
13	160	317	12.6	487	72.8	13	59	321	11.4	529	53.7	13	51	318	12.7	467	62.7
14	221	322	11.2	513	74.4	14	94	322	9.6	534	77.4	14	102	319	12.4	482	67.4
15	80	326	11	508	74.1	15	38	329	8.4	574	63.3	15	45	322	10.1	501	68.8
16	14	327	8.8	511	61.1	16	5	330	11.8	456	250.0	16	4	287	57.3	509	90.2
17	10	326	7.4	486	75.2	17	1	325		561		17	3	301	83.0	390	83.0
18	4	335	0.5	547	18.5	18				0							
Total	3,352	270	13.5	292	77.8		802	288		377			1,121	297		391	

[a] Nonselective gear includes commercial purse seine, test purse seine and variable mesh gillnets.

Table 28 . Commercial purse seine and gillnet herring harvest (tons) by fishing section and date, Togiak District, 1992. Roe percentages are displayed in parenthesis. Total daily harvest is depicted in both tons and tonnes.

		Fishing Section												Daily Harvest		
Date	Time (hours)	Kulukak		Nunavachak		Togiak		Hagemeister		Pyrite Point		Cape Newenham		Total (tons)	Total (tonnes)	Roe Percent
								Gillnet								
5/20	3.0	285	(8.2)	85	(7.7)	959	(7.7)							1,329	1,206	(7.8)
5/22	4.0	2,220	(9.3)											2,220	2,014	(9.3)
5/25[a]	6.0	597	(8.8)											597	541	(8.8)
5/26	5.0	239	(9.3)											239	217	(9.3)
5/27	7.5			645	(9.0)									645	585	(9.0)
	25.5	3,341	(9.1)	730	(8.8)	959	(7.7)							5,030	4,563	(8.8)
								Purse Seine								
5/20	0.3	562	(9.0)	2,750	(8.4)	6,905	(9.1)	4,374	(9.4)	4,792	(9.6)	25	(11.5)	19,407	17,606	(9.2)
5/20[b]				61		1,310								1,371	1,244	
	0.3	562	(9.0)	2,811	(8.4)	8,215	(9.1)	4,374	(9.4)	4,792	(9.6)	25	(11.5)	20,778	18,849	(9.2)
								Combined Gear								
5/20	3.3	847	(8.6)	2,896	(8.4)	9,174	(9.1)	4,374	(9.4)	4792	(9.6)	25	(11.5)	22,107	20,056	(9.2)
5/22	4.0	2,220	(9.3)											2,220	2,014	(9.3)
5/25	5.0	597	(8.8)											597	541	(8.8)
5/26	5.0	239	(9.3)											239	217	(9.3)
5/27	7.5			645	(9.0)									645	585	(9.0)
	24.8	3,902	(9.1)	3,541	(8.5)	9,174	(9.1)	4,374	(9.4)	4792	(9.6)	25	(11.5)	25,807	23,412	(9.2)

[a] Combined harvest from two fishing sections.
[b] Estimated deadloss.

Table 29. Age composition estimates by number and weight of the harvest, escapement biomass, and total run biomass (tonnes) observed in the Togiak District, 1992.

Total Run Biomass					Commercial Purse Seine Harvest					Commercial Gill Net Harvest				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	216	0.2%	1,463	0.3%	3	15	0.1%	135	0.2%	3	0	0.0%	0	0.0%
4	14,897	10.5%	95,635	19.8%	4	1,822	9.7%	11,663	19.7%	4	1	0.0%	5	0.0%
5	29,342	20.6%	149,902	31.0%	5	3,772	20.0%	18,455	31.1%	5	112	2.5%	477	4.1%
6	824	0.6%	3,790	0.8%	6	201	1.1%	734	1.2%	6	26	0.6%	96	0.8%
7	1,449	1.0%	4,558	0.9%	7	187	1.0%	612	1.0%	7	162	3.5%	475	4.1%
8	20,652	14.5%	59,693	12.4%	8	1,947	10.3%	5,417	9.1%	8	1,186	26.0%	3,314	28.6%
9	19,214	13.5%	49,134	10.2%	9	2,220	11.8%	5,407	9.1%	9	1,226	26.9%	3,187	27.5%
10	5,225	3.7%	12,732	2.6%	10	564	3.0%	1,298	2.2%	10	150	3.3%	385	3.3%
11	11,689	8.2%	25,909	5.4%	11	1,737	9.2%	3,589	6.1%	11	497	10.9%	1,127	9.7%
12	6,650	4.7%	14,657	3.0%	12	1,298	6.9%	2,529	4.3%	12	269	5.9%	603	5.2%
13	12,110	8.5%	25,410	5.3%	13	1,449	7.7%	2,739	4.6%	13	302	6.6%	636	5.5%
14	12,873	9.0%	25,462	5.3%	14	2,447	13.0%	4,513	7.6%	14	426	9.3%	868	7.5%
15	5,146	3.6%	10,328	2.1%	15	952	5.0%	1,688	2.8%	15	178	3.9%	347	3.0%
16	1,081	0.8%	2,283	0.5%	16	104	0.5%	185	0.3%	16	18	0.4%	36	0.3%
17	687	0.5%	1,456	0.3%	17	27	0.1%	45	0.1%	17	0	0.0%	0	0.0%
18	333	0.2%	672	0.1%	18	109	0.6%	258	0.4%	18	10	0.2%	27	0.2%
Total	142,389	100.0%	483,084	100.0%		18,850	100.0%	59,267	100.0%		4,563	100.0%	11,585	100.0%

(Continued)

Table 29 (Continued).

Total Harvest					Escapement Biomass				
Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	15	0.1%	135	0.2%	3	201	0.2%	1,328	0.3%
4	1,823	7.8%	11,669	16.5%	4	13,074	11.0%	83,967	20.4%
5	3,884	16.6%	18,933	26.7%	5	25,459	21.4%	130,969	31.8%
6	227	1.0%	831	1.2%	6	597	0.5%	2,960	0.7%
7	348	1.5%	1,087	1.5%	7	1,100	0.9%	3,471	0.8%
8	3,133	13.4%	8,731	12.3%	8	17,519	14.7%	50,962	12.4%
9	3,446	14.7%	8,593	12.1%	9	15,768	13.3%	40,541	9.8%
10	714	3.0%	1,682	2.4%	10	4,511	3.8%	11,049	2.7%
11	2,234	9.5%	4,716	6.7%	11	9,455	7.9%	21,192	5.1%
12	1,567	6.7%	3,132	4.4%	12	5,083	4.3%	11,525	2.8%
13	1,751	7.5%	3,375	4.8%	13	10,359	8.7%	22,034	5.3%
14	2,873	12.3%	5,381	7.6%	14	10,001	8.4%	20,081	4.9%
15	1,130	4.8%	2,035	2.9%	15	4,017	3.4%	8,293	2.0%
16	122	0.5%	221	0.3%	16	959	0.8%	2,062	0.5%
17	27	0.1%	45	0.1%	17	660	0.6%	1,411	0.3%
18	119	0.5%	285	0.4%	18	213	0.2%	387	0.1%
Total	23,414	100.0%	70,852	100.0%		118,975	100.0%	412,233	100.0%

Table 30. Observed aerial biomass estimates of herring by index area (tons), and totals by day (tons, tonnes) during the 1992 season, Togiak District, Bristol Bay.

Date	Survey Conditions	Time Surveyed	Milt Observations No.	Length Miles	Length Km	Estimated Biomass by Index Area (tons)[a] NUS	KUK	MET	NUK	UGL	TOG	TNG	MTG	HAG	OSK	PYR	CN	WAL	Daily Total (tons)	Daily Total (tonnes)
4/20	Fair	pm	0.0	0.0	0.0		0	0	0	0	0								0	0
4/29	Exc	pm	0.0	0.0	0.0		0	0	0	0	0	0 [c]	0 [c]						0	0
5/01	Good	pm	0.0	0.0	0.0		0	0	0	0	0	0 [c]	0 [c]	0					0	0
5/02	Exc	am	0.0	0.0	0.0		0	0	0	0	0	0	0 [c]	0					0	0
5/05	Good	pm	0.0	0.0	0.0		0	0	0	0	0	0	0 [c]	12					12	11
5/06	Fair-Poor	pm	0.0	0.0	0.0							0 [c]	0	0					0	0
5/07	Fair	pm	0.0	0.0	0.0			0	0	0	0	0 [c]	0	0					0	0
5/09	Fair	pm	0.0	0.0	0.0					0	0	0 [c]	0	0					0	0
5/10	Good	pm	0.0	0.0	0.0					0	0	0		0					0	0
5/13	Fair-Poor	am	0.0	0.0	0.0			0	0	0	0	0		0					0	0
5/15	Fair-Unsatis	am	0.0	0.0	0.0					0	0	0		0					0	0
5/16	Good-Poor	am	0.0	0.0	0.0		0	0	0	0	0	0	0	62	0				62	56
5/17	Good-Fair	am	0.0	0.0	0.0		0	0	136	0	0 [c]	0	0						136	123
5/17	Good	pm	0.0	0.0	0.0			72	323	826								109	1,330	1,207
5/18	Good	pm	0.0	0.0	0.0		114	0	81	632	0 [e]	0	0	13,379	0	1,882		86,281	102,369	92,869
5/19	Exc	am	2.0	1.5	0.9	29,701	7,336	62	2,553	1,187	46,810	13,713	10,932	15,006	52			1,904	129,256	117,260
5/19	Good	pm	5.0	7.0	4.3					13,137	47,270	21,209	20,408	7,950					109,974	99,768
5/20	Good	am	5.0	4.8	3.0		8,923	4,104	0	5,157	17,246	967	15,980		0	9,347			61,724	55,996
5/20 [d]	Good	pm	29.0	19.4	12.1															
5/21 [d]	Good	pm	55.0	34.3	21.3					[e]										
5/22		am	24.0	8.5	5.3		4,082	537	4,960	1,611									11,190	10,152
5/23	Good	pm	28.0	14.9	9.3	9,440	38,260	9,085	9,104 [e]	13,204	21,102 [e]	5,569 [e]	3,676	452	2,022	10,633	0	340	122,887	111,482
5/24	Fair	pm	9.0	8.8	5.4		283	1,296	522										2,101	1,906
5/25	Good	pm	6.0	2.5	1.6		2,186	3,937	3,767 [e]										9,890	8,972
526	Good	am	3.0	1.3	0.8		2,016	3,668	1,556	1,961	539								9,740	8,836
5/26	Good	am	2.0	1.2	0.7			2,811											2,811	2,550
5/27	Fair	am	1.0	0.3	0.2		57	223	1,322	169									1,771	1,607
		Total	168.0	104.1	64.7															

[a] Togiak District Pacific herring biomass was estimated at 142,389 tons (129,174 tonnes) for the 1992season.
[b] Index areas: NUN - Nushagak Peninsuala; KUK- Kulukak; MET- Metervik; NUK - Nunavachak; UGL - Ungathluk/Togiak; TOG - Togiak; TNG- Tongue Point; MTG- Matogak; HAG-Hagemeister; OSK - Osviak; PYT- Pyrite Point; CN- Cape Newenham.
[c] Smelt Schools observed
[d] Spawn and fishing effort survey
[e] Includes estimates of observed deadloss.

Table 31. Age composition estimates of the commercial purse seine harvest weighted by the harvested biomass (tonnes) by fishing section, Togiak District, 1992.

Sampling Dates: 20 May Section: Kulukak C. Purse Seine Biomass Estimate: 510 tonnes				Sampling Dates: 20 May Section: Nunavachak C.Purse Seine Biomass Estimate: 2,550 tonnes				Sampling Dates: 20 May Section: Togiak C.Purse Seine Biomass Estimate:7,543 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	1	0.4%	21	3	1	0.3%	91
4	37	12.7%	269	4	10	3.6%	208	4	122	32.9%	11,066
5	143	49.0%	1,040	5	18	6.5%	374	5	184	49.6%	16,690
6	4	1.4%	29	6	1	0.4%	21	6	5	1.3%	454
7	3	1.0%	22	7	3	1.1%	62	7	3	0.8%	272
8	54	18.5%	393	8	42	15.1%	873	8	18	4.9%	1,633
9	28	9.6%	204	9	57	20.4%	1,185	9	14	3.8%	1,270
10	7	2.4%	51	10	18	6.5%	374	10	3	0.8%	272
11	8	2.7%	58	11	30	10.8%	624	11	6	1.6%	544
12	4	1.4%	29	12	16	5.7%	333	12	4	1.1%	363
13	2	0.7%	15	13	9	3.2%	187	13	6	1.6%	544
14	2	0.7%	15	14	45	16.1%	935	14	3	0.8%	272
15	0	0.0%	0	15	25	9.0%	520	15	0	0.0%	0
16	0	0.0%	0	16	2	0.7%	42	16	0	0.0%	0
17	0	0.0%	0	17	1	0.4%	21	17	0	0.0%	0
18	0	0.0%	0	18	1	0.4%	21	18	2	0.5%	181
	292	100.0%	2,124		279	100.0%	5,800		371	100.0%	33,652

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	92	0.1%	2	3	95	0.1%	10
4	5,673	8.9%	45	4	1,415	1.3%	32	4	17,266	23.2%	1,726
5	27,502	43.3%	221	5	3,707	3.3%	85	5	33,886	45.5%	3,388
6	940	1.5%	8	6	230	0.2%	5	6	1,284	1.7%	128
7	836	1.3%	7	7	942	0.8%	22	7	792	1.1%	79
8	8,941	14.1%	72	8	14,365	12.9%	329	8	6,058	8.1%	606
9	9,957	15.7%	80	9	22,080	19.8%	506	9	4,864	6.5%	486
10	2,731	4.3%	22	10	7,169	6.4%	164	10	947	1.3%	95
11	3,251	5.1%	26	11	12,873	11.6%	295	11	2,607	3.5%	261
12	1,905	3.0%	15	12	7,243	6.5%	166	12	1,767	2.4%	177
13	846	1.3%	7	13	4,376	3.9%	100	13	2,934	3.9%	293
14	992	1.6%	8	14	21,759	19.6%	499	14	1,364	1.8%	136
15	0	0.0%	0	15	12,950	11.6%	297	15	0	0.0%	0
16	0	0.0%	0	16	1,031	0.9%	24	16	0	0.0%	0
17	0	0.0%	0	17	509	0.5%	12	17	0	0.0%	0
18	0	0.0%	0	18	547	0.5%	13	18	673	0.9%	67
Total	63,574	100.0%	510		111,286	100.0%	2,550		74,537	100.0%	7,453

Table 31. (Continued).

Sampling Dates: 20 May Section: Hagemeister C. Purse Seine Biomass Estimate: 3,968 tonnes				Sampling Dates: 20 May Section:Pyrite Point C. Purse Seine Biomass Estimate: 4,347 tonnes				Sampling Dates: 20 May Section:C.Newenham C. Purse Seine Biomass Estimate: 23 tonnes				Total Commercial Purse Seine			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	1	0.3%	24	3	0	0.0%	0	3	0	0.0%	0	3	3	0.2%	135
4	1	0.3%	24	4	3	1.0%	95	4	1	1.4%	1	4	174	10.6%	11,663
5	4	1.2%	96	5	8	2.7%	254	5	1	1.4%	1	5	358	21.8%	18,455
6	3	0.9%	72	6	5	1.7%	159	6	0	0.0%	0	6	18	1.1%	734
7	4	1.2%	96	7	5	1.7%	159	7	1	1.4%	1	7	19	1.2%	612
8	40	11.7%	959	8	49	16.4%	1,558	8	3	4.3%	2	8	206	12.5%	5,417
9	52	15.2%	1,246	9	47	15.8%	1,494	9	12	17.4%	8	9	210	12.8%	5,407
10	13	3.8%	312	10	9	3.0%	286	10	4	5.8%	3	10	54	3.3%	1,298
11	48	14.1%	1,150	11	38	12.8%	1,208	11	7	10.1%	5	11	137	8.3%	3,589
12	38	11.1%	911	12	28	9.4%	890	12	6	8.7%	4	12	96	5.8%	2,529
13	43	12.6%	1,030	13	30	10.1%	954	13	14	20.3%	9	13	104	6.3%	2,739
14	64	18.8%	1,534	14	55	18.5%	1,748	14	13	18.8%	9	14	182	11.1%	4,513
15	26	7.6%	623	15	17	5.7%	540	15	7	10.1%	5	15	75	4.6%	1,688
16	2	0.6%	48	16	3	1.0%	95	16	0	0.0%	0	16	7	0.4%	185
17	1	0.3%	24	17	0	0.0%	0	17	0	0.0%	0	17	2	0.1%	45
18	1	0.3%	24	18	1	0.3%	32	18	0	0.0%	0	18	0	0.0%	0
	341	100.0%	8,172		298	100.0%	9,472		69	100.0%	46		1,645	100.0%	59,009

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	143	0.1%	4	3	0	0.0%	0	3	0	0.0%	0	3	330	0.1%	15
4	107	0.1%	3	4	427	0.3%	15	4	124	0.4%	0	4	25,012	4.5%	1,822
5	867	0.6%	23	5	1,568	1.3%	55	5	221	0.7%	0	5	67,751	12.2%	3,772
6	721	0.5%	19	6	1,166	0.9%	41	6	0	0.0%	0	6	4,340	0.8%	201
7	1,208	0.8%	32	7	1,343	1.1%	47	7	280	0.9%	0	7	5,401	1.0%	187
8	13,826	9.2%	365	8	16,403	13.2%	575	8	996	3.2%	1	8	60,589	10.9%	1,947
9	20,238	13.5%	535	9	17,396	14.0%	610	9	4,975	16.1%	4	9	79,511	14.3%	2,220
10	5,826	3.9%	154	10	3,658	2.9%	128	10	1,611	5.2%	1	10	21,941	4.0%	564
11	21,468	14.3%	567	11	16,720	13.5%	586	11	3,315	10.7%	2	11	60,234	10.9%	1,737
12	18,271	12.2%	483	12	13,006	10.5%	456	12	2,678	8.7%	2	12	44,870	8.1%	1,298
13	20,129	13.4%	532	13	14,615	11.8%	512	13	6,795	22.0%	5	13	49,694	9.0%	1,449
14	32,165	21.4%	850	14	27,093	21.8%	949	14	6,534	21.1%	5	14	89,907	16.2%	2,447
15	13,114	8.7%	346	15	8,729	7.0%	306	15	3,372	10.9%	2	15	38,166	6.9%	952
16	1,063	0.7%	28	16	1,483	1.2%	52	16	0	0.0%	0	16	3,577	0.6%	104
17	572	0.4%	15	17	0	0.0%	0	17	0	0.0%	0	17	1,081	0.2%	27
18	494	0.3%	13	18	466	0.4%	16	18	0	0.0%	0	18	2,180	0.4%	109
	150,213	100.0%	3,968		124,072	100.0%	4,347		30,902	100.0%	23		554,585	100.0%	18,851

Table 32. Age composition estimates weighted by the harvested biomass (tonnes) by fishing section from the commercial gillnet fishery, Togiak District, 1992.

Sampling Dates: 20 May
Section: Kulukak Gillnet Harvest
Biomass Estimate: 259 tonnes

Age	No.of Samples	Percent by Number	No.of Fish (X 1,000)
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	16	16.2%	106
6	3	2.7%	18
7	2	1.8%	12
8	24	24.3%	159
9	22	21.6%	141
10	2	1.8%	12
11	9	9.0%	59
12	4	3.6%	23
13	3	2.7%	18
14	8	8.1%	53
15	7	7.2%	47
16	1	0.9%	6
17	0	0.0%	0
18	0	0.0%	0
Total	101	100.0%	652

Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	4,213	10.5%	27
6	781	2.0%	5
7	573	1.4%	4
8	8,965	22.4%	58
9	8,622	21.6%	56
10	758	1.9%	5
11	4,382	11.0%	28
12	1,724	4.3%	11
13	1,285	3.2%	8
14	4,278	10.7%	28
15	3,810	9.5%	25
16	543	1.4%	4
17	0	0.0%	0
18	0	0.0%	0
Total	39,935	100.0%	259

Sampling Dates: 20 May
Section: Nunavachak Gillnet Harvest
Biomass Estimate: 77 tonnes

Age	No.of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	0	0.0%	0
6	0	0.0%	0
7	1	0.7%	1
8	19	14.0%	26
9	38	27.9%	52
10	1	0.7%	1
11	25	18.4%	34
12	8	5.9%	11
13	9	6.6%	12
14	24	17.6%	33
15	11	8.1%	15
16	0	0.0%	0
17	0	0.0%	0
18	0	0.0%	0
Total	136	100.0%	187

Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	0	0.0%	0
6	0	0.0%	0
7	289	0.6%	0
8	5,929	11.6%	9
9	13,169	25.8%	20
10	283	0.6%	0
11	9,480	18.6%	14
12	3,193	6.3%	5
13	3,723	7.3%	6
14	9,994	19.6%	15
15	4,890	9.6%	7
16	0	0.0%	0
17	0	0.0%	0
18	0	0.0%	0
Total	50,951	100.0%	77

Sampling Dates: 20 May
Section: Togiak Gillnet Harvest
Biomass Estimate: 870 tonnes

Age	No.of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	0	0.0%	0
6	0	0.0%	0
7	5	3.7%	77
8	31	25.2%	525
9	34	27.4%	571
10	3	2.2%	46
11	17	14.1%	293
12	5	3.7%	77
13	7	5.9%	124
14	16	13.3%	278
15	5	3.7%	77
16	0	0.0%	0
17	0	0.0%	0
18	1	0.7%	15
Total	122	100.0%	2,085

Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	0	0.0%	0
6	0	0.0%	0
7	1,588	3.1%	27
8	11,567	22.6%	197
9	13,091	25.6%	223
10	1,018	2.0%	17
11	7,619	14.9%	130
12	2,073	4.1%	35
13	3,433	6.7%	58
14	7,985	15.6%	136
15	2,409	4.7%	41
16	0	0.0%	0
17	0	0.0%	0
18	328	0.6%	6
Total	51,109	100.0%	870

Sampling Dates: 22 May
Section: Kulukak Gillnet Harvest
Biomass Estimate: 2,014 tonnes

Age	No.of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	6	2.6%	117
6	1	0.4%	20
7	12	5.1%	235
8	70	29.9%	1,368
9	67	28.6%	1,309
10	8	3.4%	156
11	22	9.4%	430
12	14	6.0%	274
13	18	7.7%	352
14	12	5.1%	235
15	4	1.7%	78
16	0	0.0%	0
17	0	0.0%	0
18	0	0.0%	0
Total	234	100.0%	4,573

Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0
2	0	0.0%	0
3	0	0.0%	0
4	0	0.0%	0
5	1,355	1.6%	32
6	219	0.3%	5
7	3,669	4.3%	87
8	22,861	27.0%	543
9	23,766	28.0%	564
10	2,976	3.5%	71
11	8,881	10.5%	211
12	5,665	6.7%	135
13	7,903	9.3%	188
14	5,541	6.5%	132
15	1,981	2.3%	47
16	0	0.0%	0
17	0	0.0%	0
18	0	0.0%	0
Total	84,817	100.0%	2,014

Table 32. (Continued).

Sampling Dates: 25 May Section: Kulukak Gillnet Harvest Biomass Estimate: 542 tonnes				Sampling Dates: 26 May Section: Kulukak Gillnet Harvest Biomass Estimate: 217 tonnes				Sampling Dates: 27 May Section: Nunavachak Gillnet Harvest Biomass Estimate: 585 tonnes				Total Commercial Gillnet Harvest			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	1	0.4%	5	4	0	0.0%	0	4	0	0.0%	0	4	1	0.1%	5
5	24	9.0%	119	5	2	2.1%	10	5	10	6.2%	100	5	60	5.3%	477
6	5	1.9%	25	6	0	0.0%	0	6	3	1.9%	30	6	12	1.1%	96
7	8	3.0%	40	7	4	4.2%	21	7	6	3.7%	60	7	38	3.3%	475
8	91	34.1%	451	8	21	22.1%	109	8	48	29.6%	479	8	310	27.2%	3,314
9	66	24.7%	327	9	26	27.4%	136	9	47	29.0%	469	9	305	26.8%	3,187
10	11	4.1%	54	10	4	4.2%	21	10	7	4.3%	70	10	36	3.2%	385
11	17	6.4%	84	11	6	6.3%	31	11	14	8.6%	140	11	113	9.9%	1,127
12	12	4.5%	59	12	6	6.3%	31	12	9	5.6%	90	12	58	5.1%	603
13	9	3.4%	45	13	1	1.1%	5	13	4	2.5%	40	13	52	4.6%	636
14	17	6.4%	84	14	18	18.9%	94	14	5	3.1%	50	14	103	9.0%	868
15	5	1.9%	25	15	6	6.3%	31	15	6	3.7%	60	15	45	3.9%	347
16	0	0.0%	0	16	0	0.0%	0	16	3	1.9%	30	16	4	0.4%	36
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
18	1	0.4%	5	18	1	1.1%	5	18	0	0.0%	0	18	3	0.3%	27
											0				0
	267	100.0%	1,323		95	100.0%	495		162	100.0%	1,617		1,140	100.0%	11,585

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0	3	0	0.0%	0
4	223	0.2%	1	4	0	0.0%	0	4	0	0.0%	0	4	223	0.1%	1
5	5,073	5.6%	31	5	405	1.2%	3	5	1,778	3.3%	20	5	12,824	3.2%	112
6	1,225	1.4%	7	6	0	0.0%	0	6	778	1.5%	9	6	3,003	0.7%	26
7	2,308	2.6%	14	7	1,194	3.5%	8	7	2,009	3.8%	22	7	11,629	2.9%	162
8	28,894	32.1%	174	8	6,535	19.1%	41	8	14,892	28.0%	164	8	99,643	24.7%	1,186
9	22,573	25.1%	136	9	8,987	26.3%	57	9	15,520	29.2%	171	9	105,727	26.2%	1,226
10	3,832	4.3%	23	10	1,426	4.2%	9	10	2,216	4.2%	24	10	12,509	3.1%	150
11	6,817	7.6%	41	11	2,194	6.4%	14	11	5,372	10.1%	59	11	44,745	11.1%	497
12	5,029	5.6%	30	12	2,232	6.5%	14	12	3,511	6.6%	39	12	23,426	5.8%	269
13	3,911	4.3%	24	13	455	1.3%	3	13	1,368	2.6%	15	13	22,078	5.5%	302
14	7,603	8.5%	46	14	7,789	22.8%	49	14	1,855	3.5%	20	14	45,046	11.1%	426
15	2,050	2.3%	12	15	2,716	7.9%	17	15	2,575	4.8%	28	15	20,431	5.1%	178
16	0	0.0%	0	16	0	0.0%	0	16	1,304	2.5%	14	16	1,847	0.5%	18
17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0	17	0	0.0%	0
18	438	0.5%	3	18	294	0.9%	2	18	0	0.0%	0	18	1,061	0.3%	10
	89,976	100.0%	542		34,226	100.0%	217		53,179	100.0%	585		404,193	100.0%	4,563

Table 33. Age composition data for sampling strata 22-24 May weighted by 23 May aerial survey biomass; 25-26 May weighted by 26 May aerial survey, Togiak District, 1992.

Sampling Dates: 22-24 May Section: Kulukak and Nunvachak Biomass Estimate: 71,753 tonnes					Sampling Dates: 22-24 May Section: Togiak Biomass Estimate: 19,144 tonnes				Sampling Dates: 22-24 May Section: Hagemeister Biomass Estimate: 20,586 tonnes				Sampling Dates: 25-26 May Section: Kulukak and Nunavachak Biomass Estimate: 8,836 tonnes			
Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Numbers (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No.of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No. of Samples
1	0	0.0%	0	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	1	0.3%	863	863	3	1	0.3%	183	3	1	0.3%	199	3	1	0.2%	82
4	64	21.9%	55,259	55,259	4	66	18.2%	12,047	4	29	9.6%	5,777	4	132	28.9%	10,889
5	98	33.6%	84,616	84,616	5	94	26.0%	17,158	5	72	23.9%	14,342	5	183	40.0%	15,096
6	1	0.3%	863	863	6	6	1.7%	1,095	6	2	0.7%	398	6	8	1.8%	660
7	1	0.3%	863	863	7	7	1.9%	1,278	7	4	1.3%	797	7	8	1.8%	660
8	34	11.6%	29,357	29,357	8	57	15.7%	10,404	8	46	15.3%	9,163	8	38	8.3%	3,135
9	27	9.2%	23,313	23,313	9	39	10.8%	7,119	9	42	14.0%	8,366	9	33	7.2%	2,722
10	6	2.1%	5,181	5,181	10	15	4.1%	2,738	10	14	4.7%	2,789	10	6	1.3%	495
11	12	4.1%	10,361	10,361	11	22	6.1%	4,016	11	31	10.3%	6,175	11	11	2.4%	907
12	9	3.1%	7,771	7,771	12	7	1.9%	1,278	12	8	2.7%	1,594	12	13	2.8%	1,072
13	19	6.5%	16,405	16,405	13	11	3.0%	2,008	13	17	5.6%	3,386	13	4	0.9%	330
14	11	3.8%	9,498	9,498	14	27	7.5%	4,928	14	23	7.6%	4,581	14	16	3.5%	1,320
15	6	2.1%	5,181	5,181	15	5	1.4%	913	15	10	3.3%	1,992	15	4	0.9%	330
16	2	0.7%	1,727	1,727	16	2	0.6%	365	16	0	0.0%	0	16	0	0.0%	0
17	1	0.3%	863	863	17	3	0.8%	548	17	0	0.0%	0	17	0	0.0%	0
18	0	0.0%	0	0	18	0	0.0%	0	18	2	0.7%	398	18	0	0.0%	0
Total	292	100.0%	252,121	252,121		362	100.0%	66,077		301	100.0%	59,957		457	100.0%	37,698

Age	Weight	Percent by Weight	Biomass	Tons Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	0	1	0	0.0%	0	1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	0	2	0	0.0%	0	2	0	0.0%	0	2	0	0.0%	0
3	156	0.2%	149	164	3	100	0.1%	20	3	97	0.1%	21	3	117	0.1%	11
4	9,270	12.3%	8,823	9,725	4	8,479	8.9%	1,706	4	4,159	4.4%	913	4	17,966	18.5%	1,634
5	17,198	22.8%	16,368	18,042	5	16,961	17.8%	3,413	5	12,994	13.9%	2,853	5	31,647	32.6%	2,878
6	187	0.2%	178	196	6	1,023	1.1%	206	6	401	0.4%	88	6	1,551	1.6%	141
7	269	0.4%	256	282	7	2,026	2.1%	408	7	1,277	1.4%	280	7	2,204	2.3%	200
8	10,770	14.3%	10,251	11,299	8	17,002	17.9%	3,421	8	14,696	15.7%	3,227	8	10,994	11.3%	1,000
9	9,680	12.8%	9,213	10,155	9	13,123	13.8%	2,641	9	14,950	15.9%	3,283	9	10,949	11.3%	996
10	2,240	3.0%	2,132	2,350	10	5,054	5.3%	1,017	10	5,557	5.9%	1,220	10	2,181	2.2%	198
11	4,951	6.6%	4,713	5,195	11	8,089	8.5%	1,627	11	12,998	13.9%	2,854	11	4,119	4.2%	375
12	3,596	4.8%	3,423	3,773	12	2,793	2.9%	562	12	3,317	3.5%	728	12	4,981	5.1%	453
13	8,155	10.8%	7,761	8,555	13	4,289	4.5%	863	13	7,371	7.9%	1,618	13	1,738	1.8%	158
14	5,001	6.6%	4,760	5,247	14	11,723	12.3%	2,359	14	10,787	11.5%	2,368	14	6,920	7.1%	629
15	2,651	3.5%	2,523	2,781	15	2,355	2.5%	474	15	4,160	4.4%	914	15	1,809	1.9%	164
16	838	1.1%	798	879	16	874	0.9%	176	16	0	0.0%	0	16	0	0.0%	0
17	428	0.6%	408	449	17	1,254	1.3%	252	17	0	0.0%	0	17	0	0.0%	0
18	0	0.0%	0		18	0	0.0%	0	18	992	1.1%	218	18	0	0.0%	0
Total	83,102	100.0%	71,753	79,093		95,144	100.0%	19,144		93,756	100.0%	20,586		97,176	100.0%	8,836

Table 34. Age composition data of the 20 May commercial purse seine harvest and the 20-22 May commercial gill net harvest weighted by the harvest biomass for respective fishing periods, Togiak District, 1992.

Sampling Dates: 20 May Section: Purse Seine Harvest Biomass Estimate: 18,851 tonnes				Sampling Dates: 20-22 May Section: Gillnet Harvest Biomass Estimate: 3,220 tonnes			
Age	No. of Samples	Percent by No.	No. of Fish (X 1,000)	Age	No. of Samples	Percent by No.	No. of Fish (X 1,000)
1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0
3	3	0.2%	135	3	0	0.0%	0
4	174	10.6%	11,663	4	0	0.0%	0
5	358	21.8%	18,455	5	24	3.9%	235
6	18	1.1%	734	6	4	0.6%	39
7	19	1.2%	612	7	20	3.2%	349
8	206	12.5%	5,417	8	150	24.4%	2,218
9	210	12.8%	5,407	9	166	26.9%	2,208
10	54	3.3%	1,298	10	14	2.3%	232
11	137	8.3%	3,589	11	76	12.3%	860
12	96	5.8%	2,529	12	31	5.0%	413
13	104	6.3%	2,739	13	38	6.2%	541
14	182	11.1%	4,513	14	63	10.2%	622
15	75	4.6%	1,688	15	28	4.5%	225
16	7	0.4%	185	16	1	0.2%	6
17	2	0.1%	45	17	0	0.0%	0
18	0	0.0%	0	18	1	0.2%	15
Total	1,645	100.0%	59,009		616	100.0%	7,964

Age	Weight	Percent by Weight	Biomass	Age	Weight	Percent by Weight	Biomass
1	0	0.0%	0	1	0	0.0%	0
2	0	0.0%	0	2	0	0.0%	0
3	330	0.1%	15	3	0	0.0%	0
4	25,012	4.5%	1,822	4	0	0.0%	0
5	67,751	12.2%	3,772	5	5,568	2.5%	59
6	4,340	0.8%	201	6	1,000	0.4%	10
7	5,401	1.0%	187	7	6,119	2.7%	118
8	60,589	10.9%	1,947	8	49,322	21.7%	807
9	79,511	14.3%	2,220	9	58,647	25.9%	863
10	21,941	4.0%	564	10	5,035	2.2%	93
11	60,234	10.9%	1,737	11	30,362	13.4%	383
12	44,870	8.1%	1,298	12	12,654	5.6%	186
13	49,694	9.0%	1,449	13	16,344	7.2%	260
14	89,907	16.2%	2,447	14	27,798	12.3%	310
15	38,166	6.9%	952	15	13,090	5.8%	120
16	3,577	0.6%	104	16	543	0.2%	4
17	1,081	0.2%	27	17	0	0.0%	0
18	2,180	0.4%	109	18	328	0.1%	6
Total	554,585	100.0%	18,851		226,812	100.0%	3,220

Table 35. Total weighted age composition in numbers of fish and by biomass of aerial survey data used to determine the total run biomass estimate, Togiak District, 1992.

District Aerial Estimate 23 May					District Aerial Estimate 26 May					Commercial Purse Seine Harvest				
Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	190	0.2%	1,245	0.3%	3	11	0.1%	82	0.2%	3	15	0.1%	135	0.2%
4	11,442	10.3%	73,083	19.3%	4	1,634	18.5%	10,889	28.9%	4	1,822	9.7%	11,663	19.7%
5	22,634	20.3%	116,116	30.7%	5	2,878	32.6%	15,096	40.0%	5	3,772	20.0%	18,455	31.1%
6	472	0.4%	2,357	0.6%	6	141	1.6%	660	1.8%	6	201	1.1%	734	1.2%
7	944	0.8%	2,938	0.8%	7	200	2.3%	660	1.8%	7	187	1.0%	612	1.0%
8	16,898	15.2%	48,924	12.9%	8	1,000	11.3%	3,135	8.3%	8	1,947	10.3%	5,417	9.1%
9	15,136	13.6%	38,798	10.3%	9	996	11.3%	2,722	7.2%	9	2,220	11.8%	5,407	9.1%
10	4,369	3.9%	10,707	2.8%	10	198	2.2%	495	1.3%	10	564	3.0%	1,298	2.2%
11	9,194	8.2%	20,552	5.4%	11	375	4.2%	907	2.4%	11	1,737	9.2%	3,589	6.1%
12	4,713	4.2%	10,642	2.8%	12	453	5.1%	1,072	2.8%	12	1,298	6.9%	2,529	4.3%
13	10,243	9.2%	21,799	5.8%	13	158	1.8%	330	0.9%	13	1,449	7.7%	2,739	4.6%
14	9,487	8.5%	19,008	5.0%	14	629	7.1%	1,320	3.5%	14	2,447	13.0%	4,513	7.6%
15	3,910	3.5%	8,085	2.1%	15	164	1.9%	330	0.9%	15	952	5.0%	1,688	2.8%
16	974	0.9%	2,092	0.6%	16	0	0.0%	0	0.0%	16	104	0.5%	185	0.3%
17	660	0.6%	1,411	0.4%	17	0	0.0%	0	0.0%	17	27	0.1%	45	0.1%
18	218	0.2%	398	0.1%	18	0	0.0%	0	0.0%	18	109	0.6%	258	0.4%
Total	111,482	100.0%	378,156	100.0%		8,836	100.0%	37,698	100.0%		18,851	100.0%	59,267	100.0%

(Continued)

Table 35. (Continued).

Commercial Gill Net Harvest pre-23 May					Total Run Biomass				
Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.	Age	Biomass (Tonnes)	Percent by Weight	No.of Fish (x1,000)	Percent by No.
1	0	0.0%	0	0.0%	1	0	0.0%	0	0.0%
2	0	0.0%	0	0.0%	2	0	0.0%	0	0.0%
3	0	0.0%	0	0.0%	3	216	0.2%	1,463	0.3%
4	0	0.0%	0	0.0%	4	14,897	10.5%	95,635	19.8%
5	59	1.8%	235	3.0%	5	29,342	20.6%	149,902	31.0%
6	10	0.3%	39	0.5%	6	824	0.6%	3,790	0.8%
7	118	3.7%	349	4.4%	7	1,449	1.0%	4,558	0.9%
8	807	25.1%	2,218	27.8%	8	20,652	14.5%	59,693	12.4%
9	863	26.8%	2,208	27.7%	9	19,214	13.5%	49,134	10.2%
10	93	2.9%	232	2.9%	10	5,225	3.7%	12,732	2.6%
11	383	11.9%	860	10.8%	11	11,689	8.2%	25,909	5.4%
12	186	5.8%	413	5.2%	12	6,650	4.7%	14,657	3.0%
13	260	8.1%	541	6.8%	13	12,110	8.5%	25,410	5.3%
14	310	9.6%	622	7.8%	14	12,873	9.0%	25,462	5.3%
15	120	3.7%	225	2.8%	15	5,146	3.6%	10,328	2.1%
16	4	0.1%	6	0.1%	16	1,081	0.8%	2,283	0.5%
17	0	0.0%	0	0.0%	17	687	0.5%	1,456	0.3%
18	6	0.2%	15	0.2%	18	333	0.2%	672	0.1%
Total	3,220	100.0%	7,964	100.0%		142,389	100.0%	483,084	100.0%

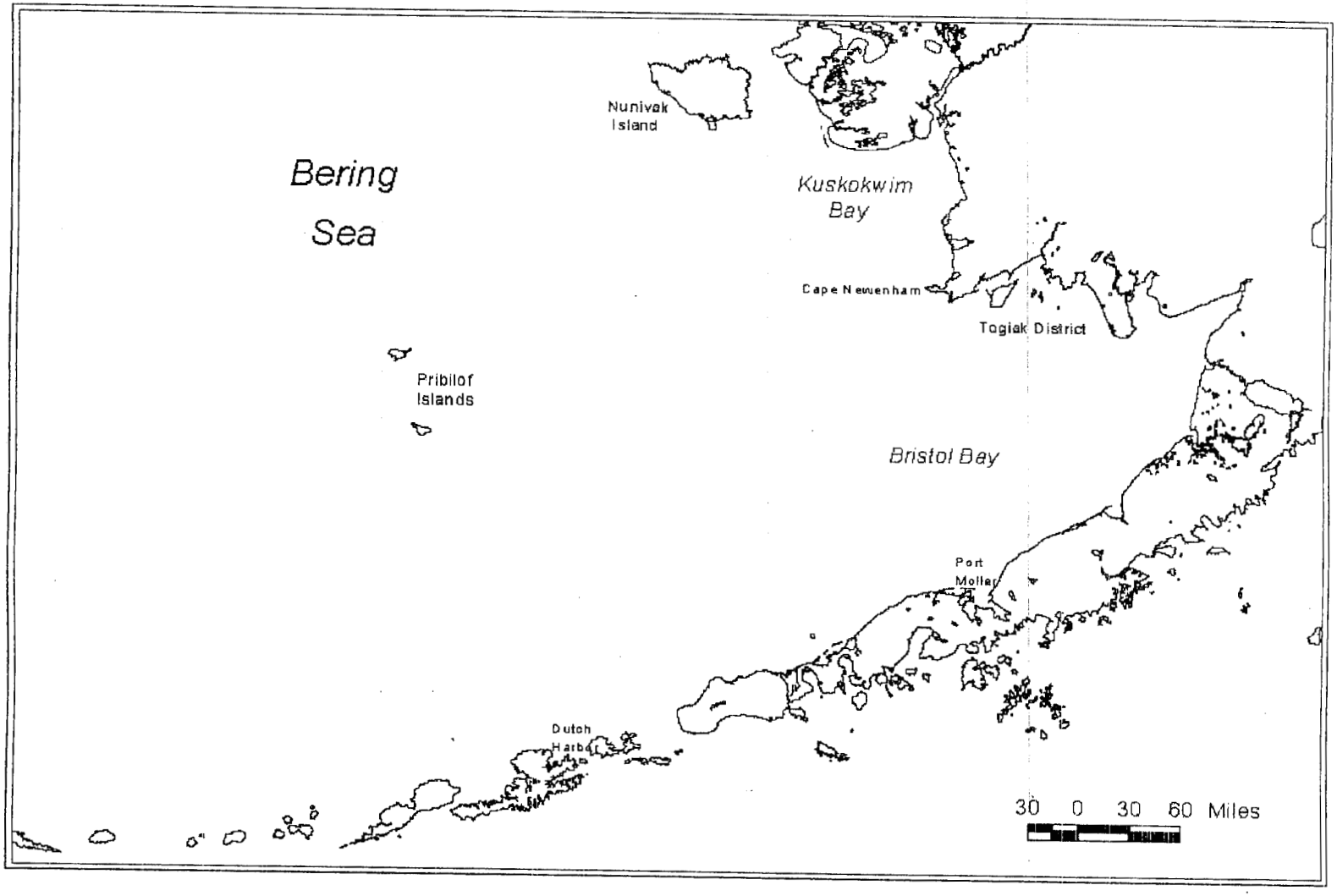

Figure 1. Southeastern Bering Sea.

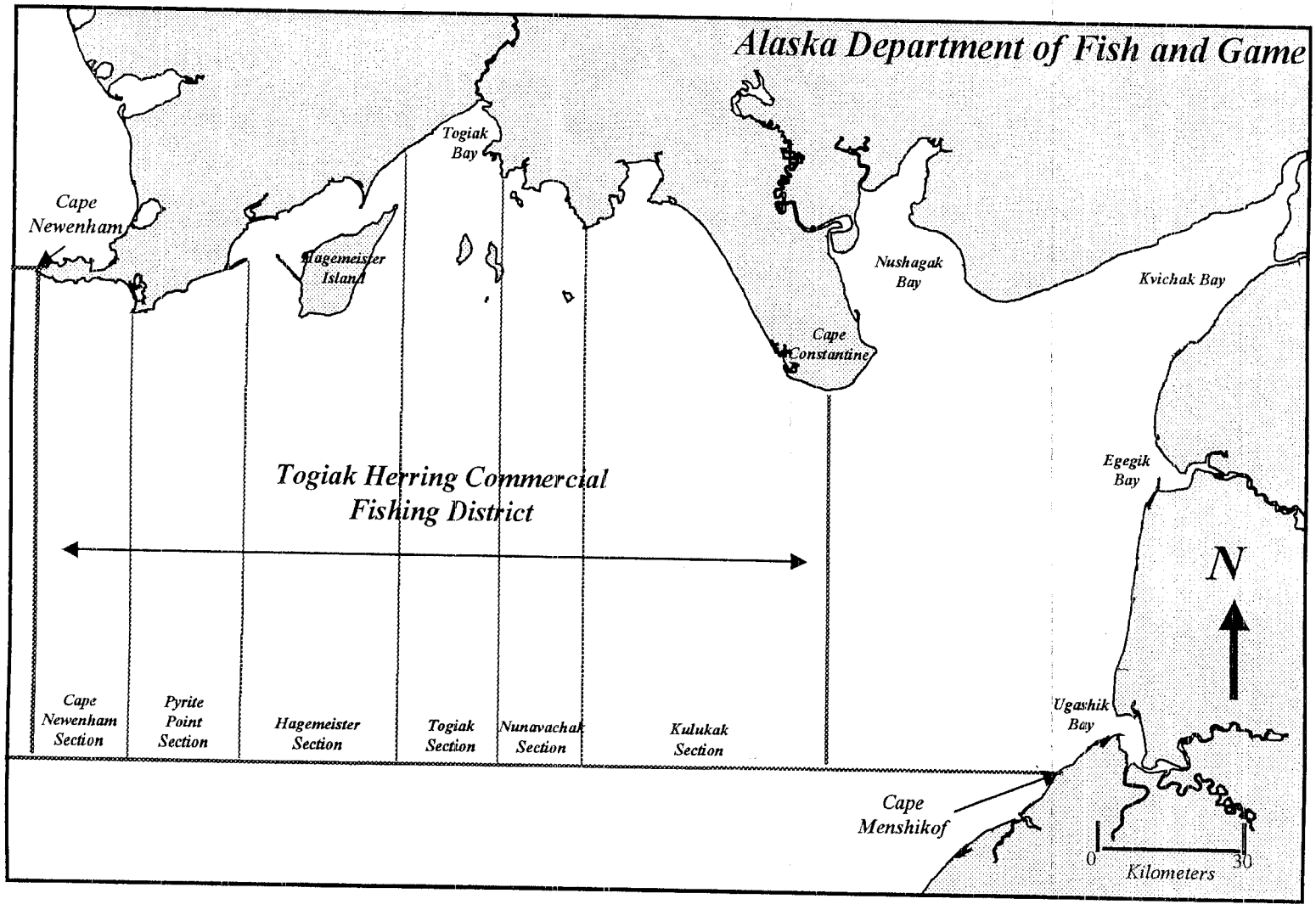

Figure 2. Togiak Fishing District and fishing sections for management of the commercial herring fishery.

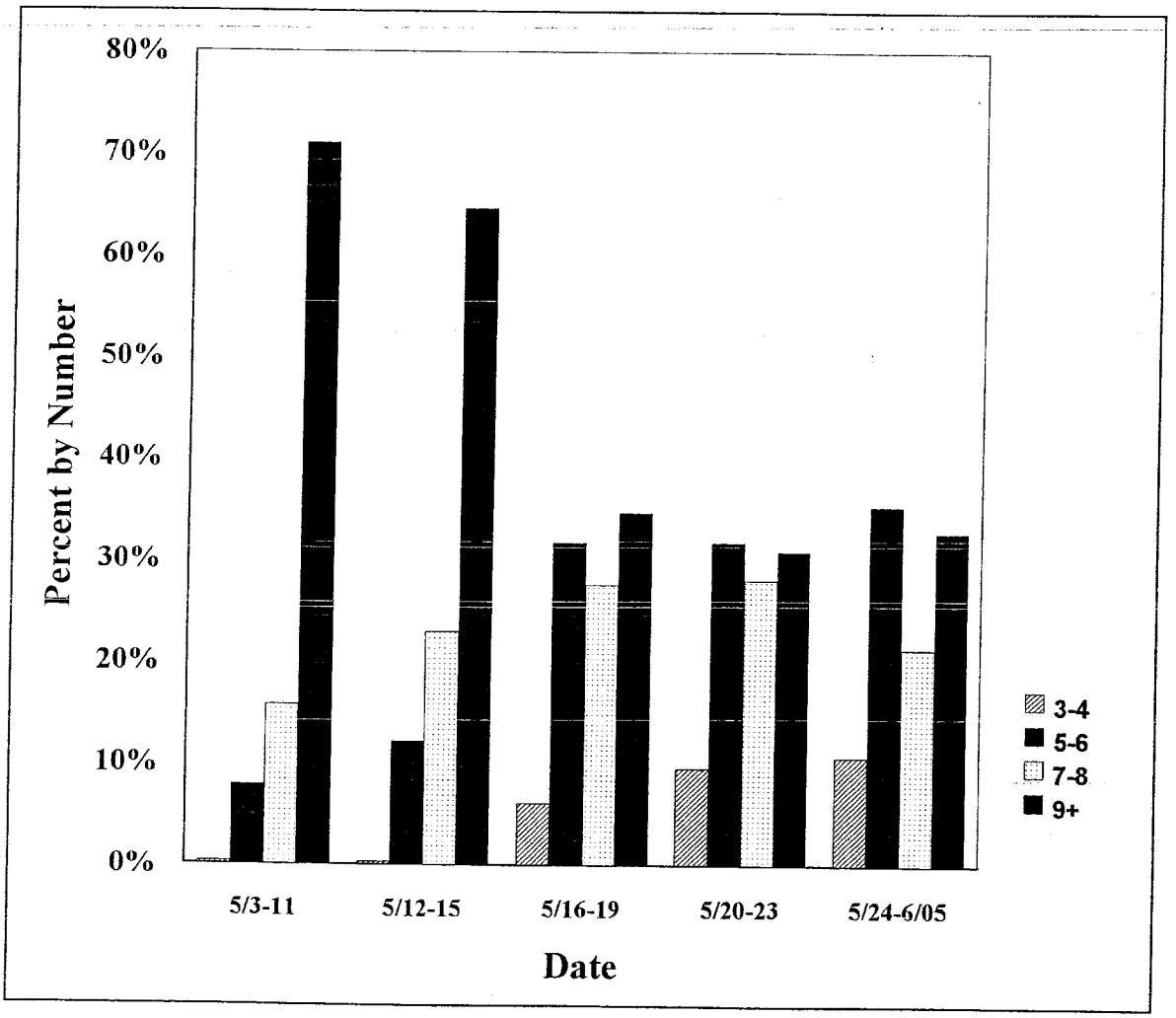

Figure 3. Age composition of herring samples collected with nonselective gear by sampling period, Togiak District, 1990.

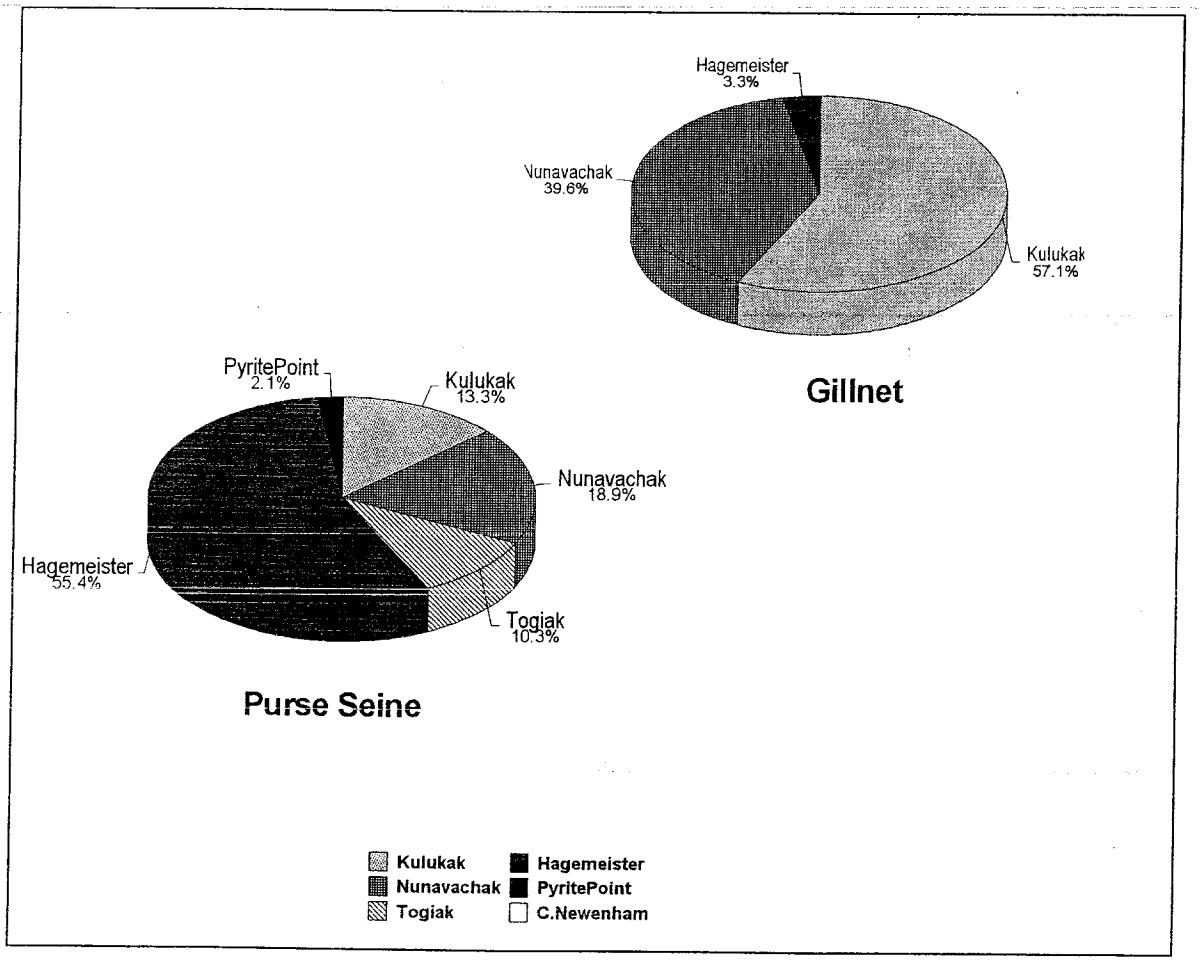

Figure 4. Proportion of the commercial harvest caught in each fishing section by gear type, Togiak District, 1990.

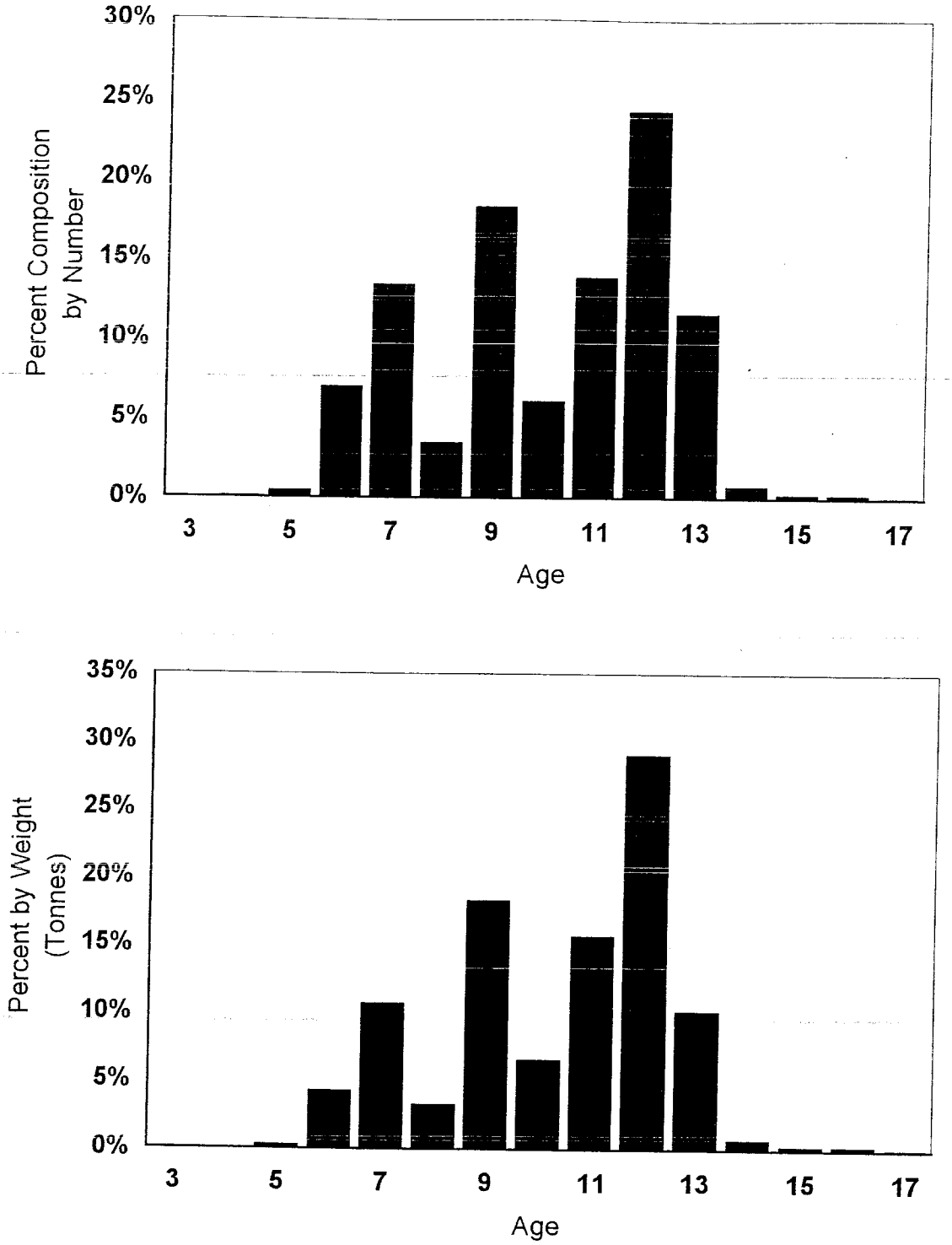

Figure 5. Age composition of the commercial purse seine fishery by number (top) and weight (bottom), Togiak District, 1990.

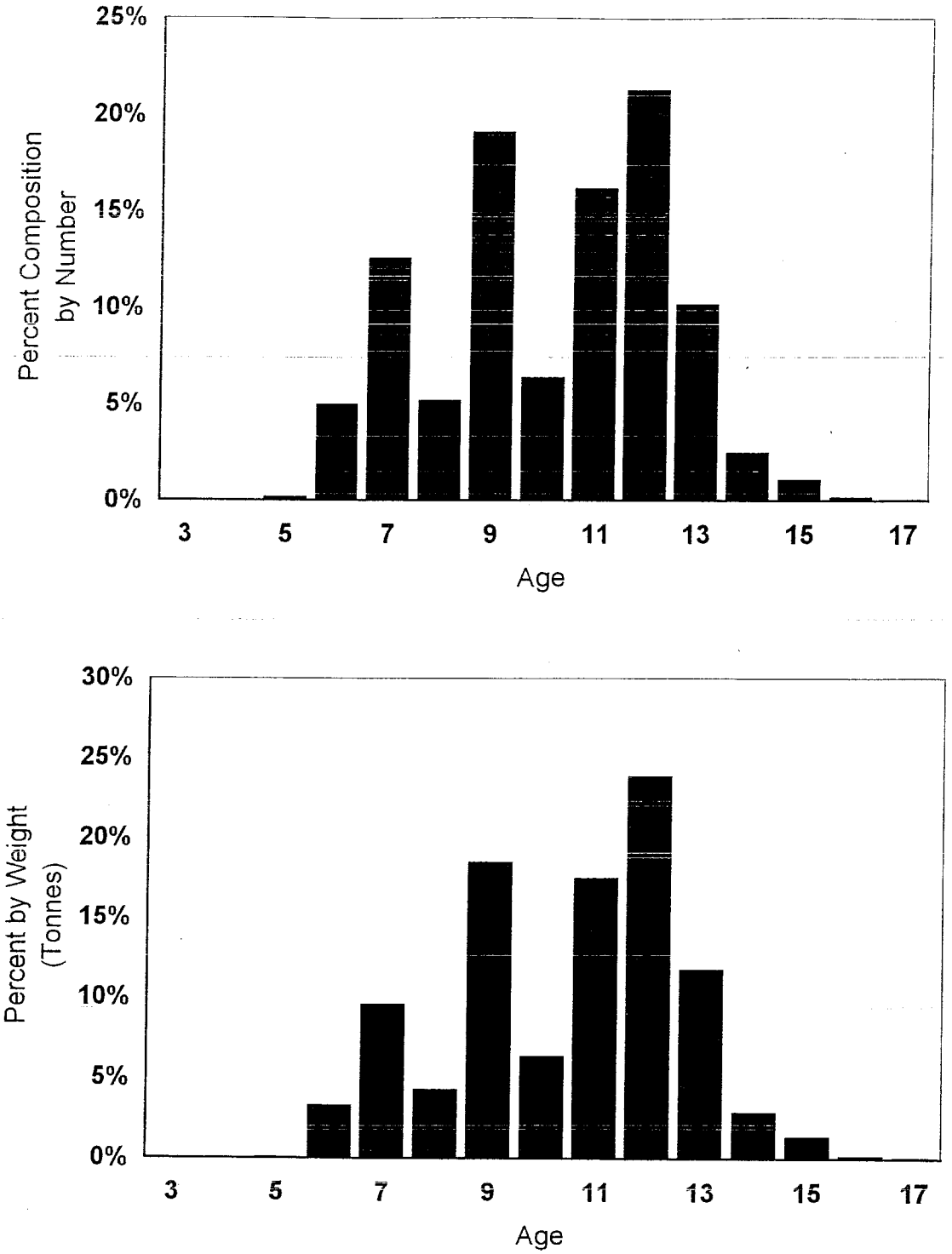

Figure 6. Age composition of the commercial gillnet fishery by number (top) and weight (bottom), Togiak District, 1990.

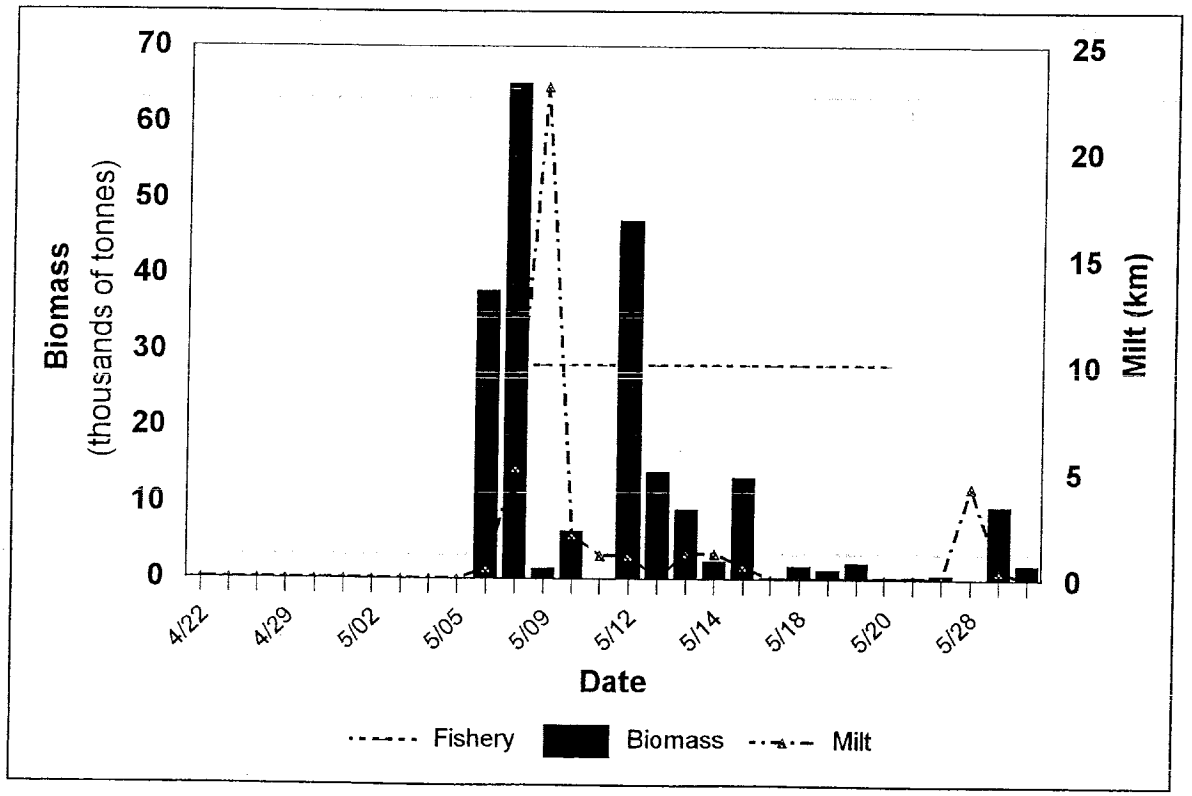

Figure 7. Biomass (tonnes), timing of the fishery and kilometers of milt observed during aerial assessment, Togiak District, 1990.

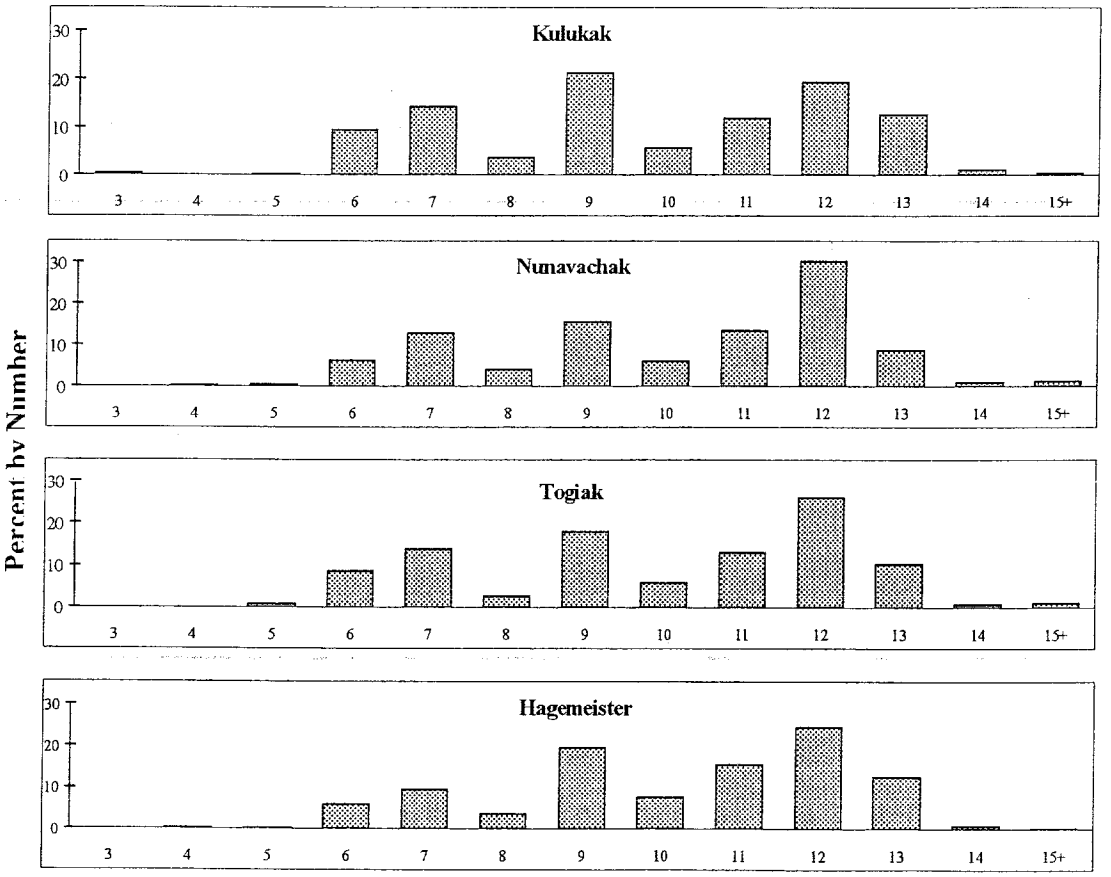

Figure 8. Age composition (number) by sampling period and fishing section corresponding to aerial surveys conducted 8 May, Togiak District, 1990.

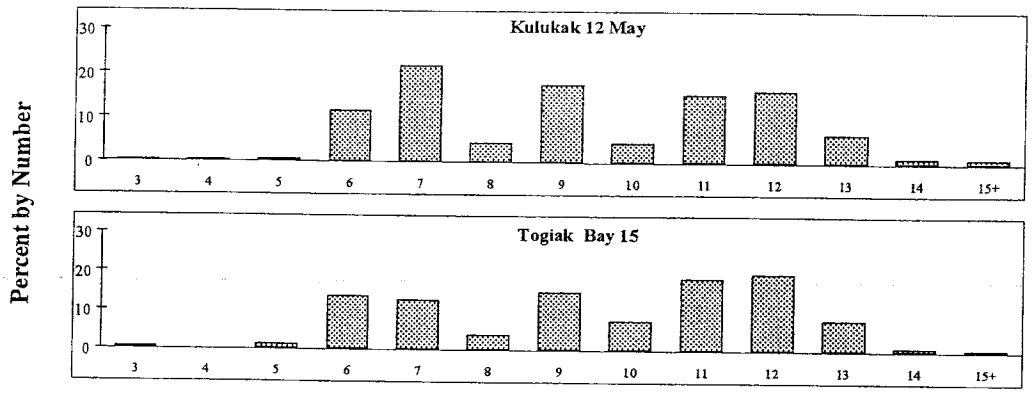

Figure 9. Age composition (number) by sampling period and fishing section corresponding to aerial surveys conducted 12 and 15 May, Togiak District, 1990.

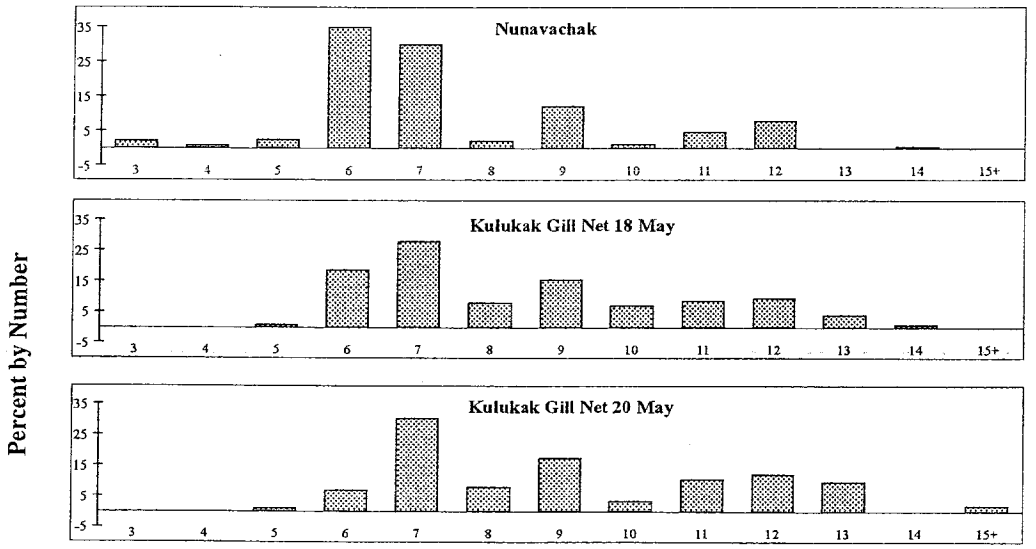

Figure 10. Age composition (number) by sampling period and fishing section corresponding to aerial surveys and gill net fisheries conducted 18, 19 and 20 May, Togiak District, 1990.

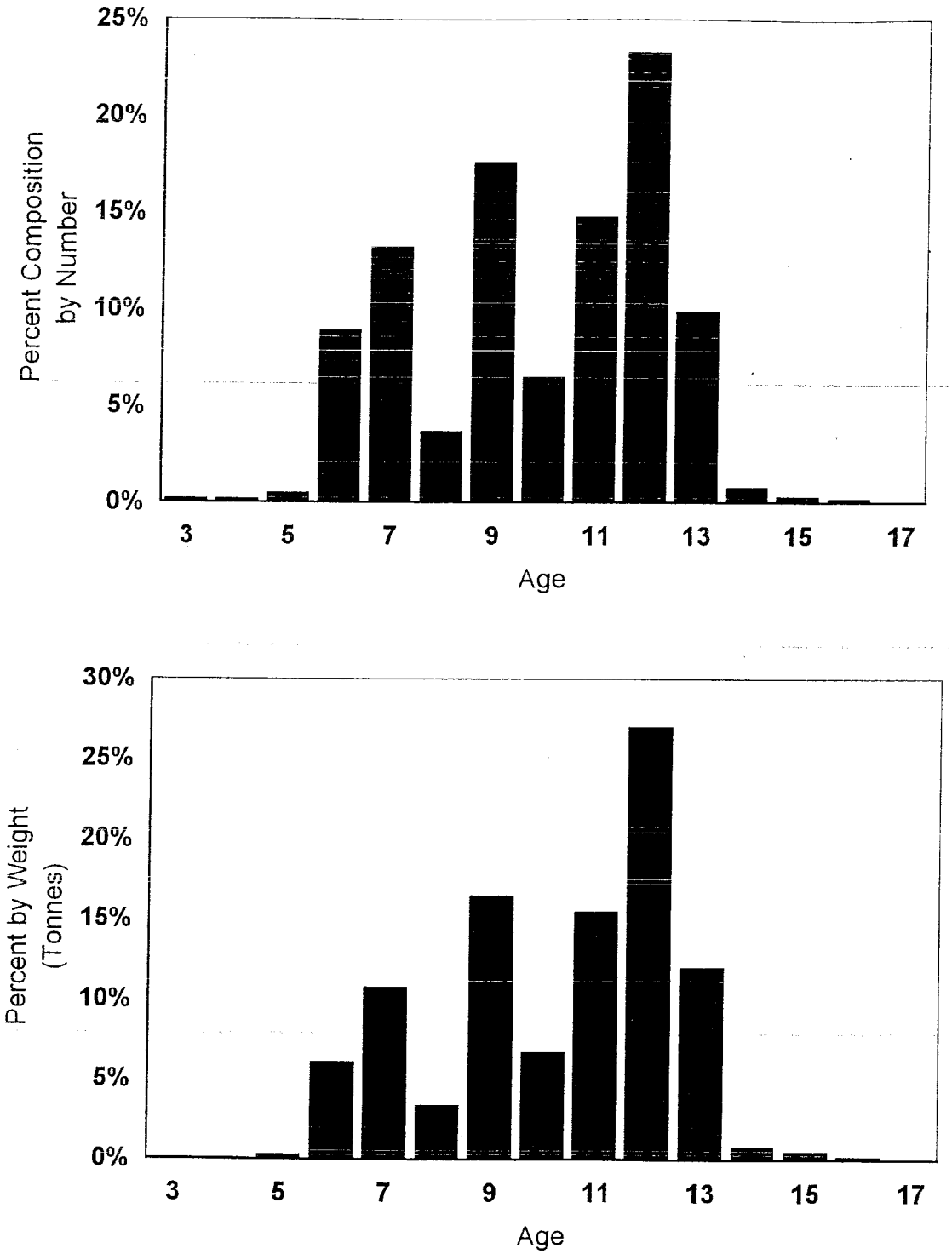

Figure 11. Age composition by number (top) and weight (bottom) of the Togiak District total run biomass, 1990.

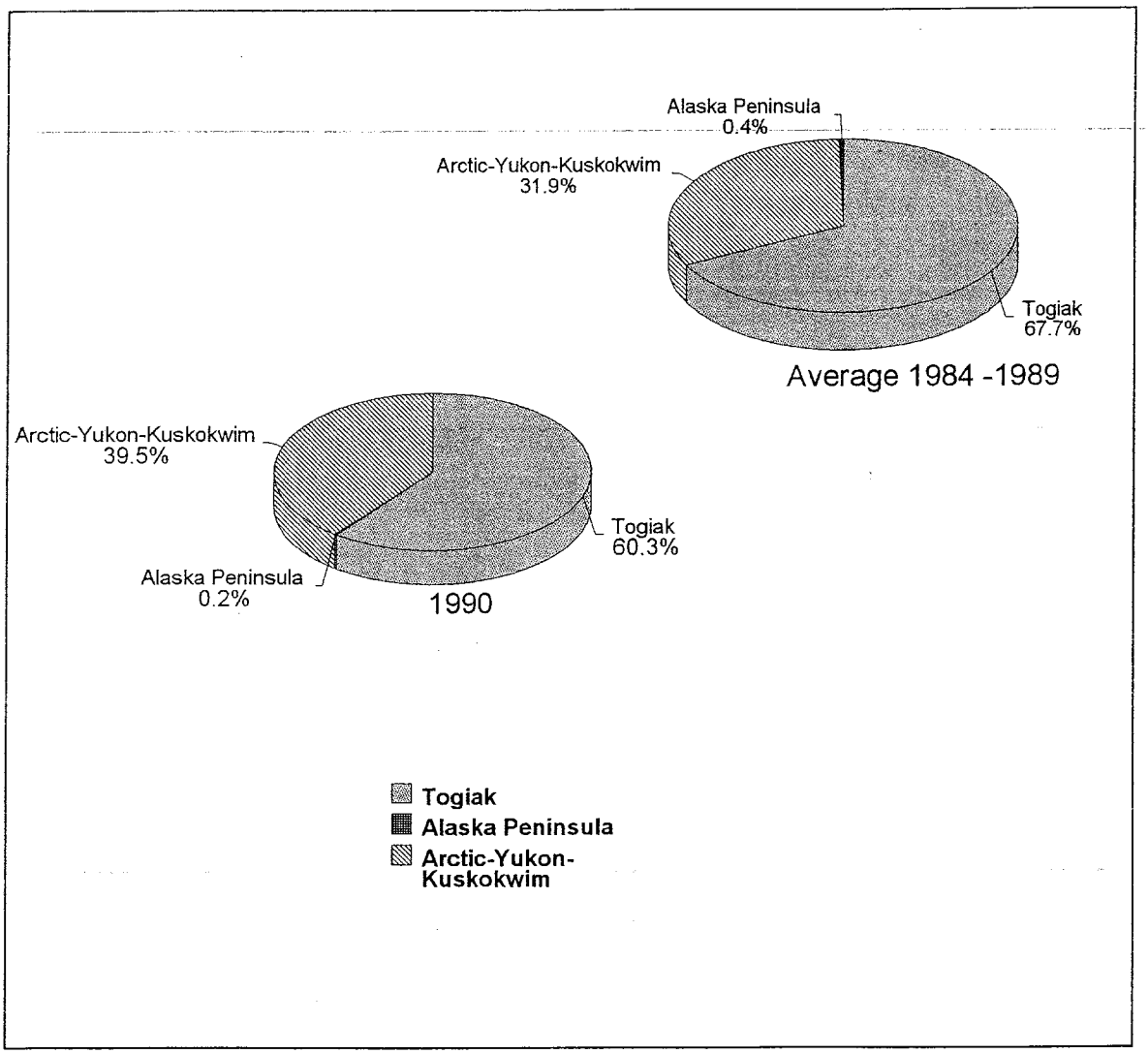

Figure 12. Contribution of the 1990 Togiak herring total run biomass to the assessed total run biomass in the eastern Bering Sea.

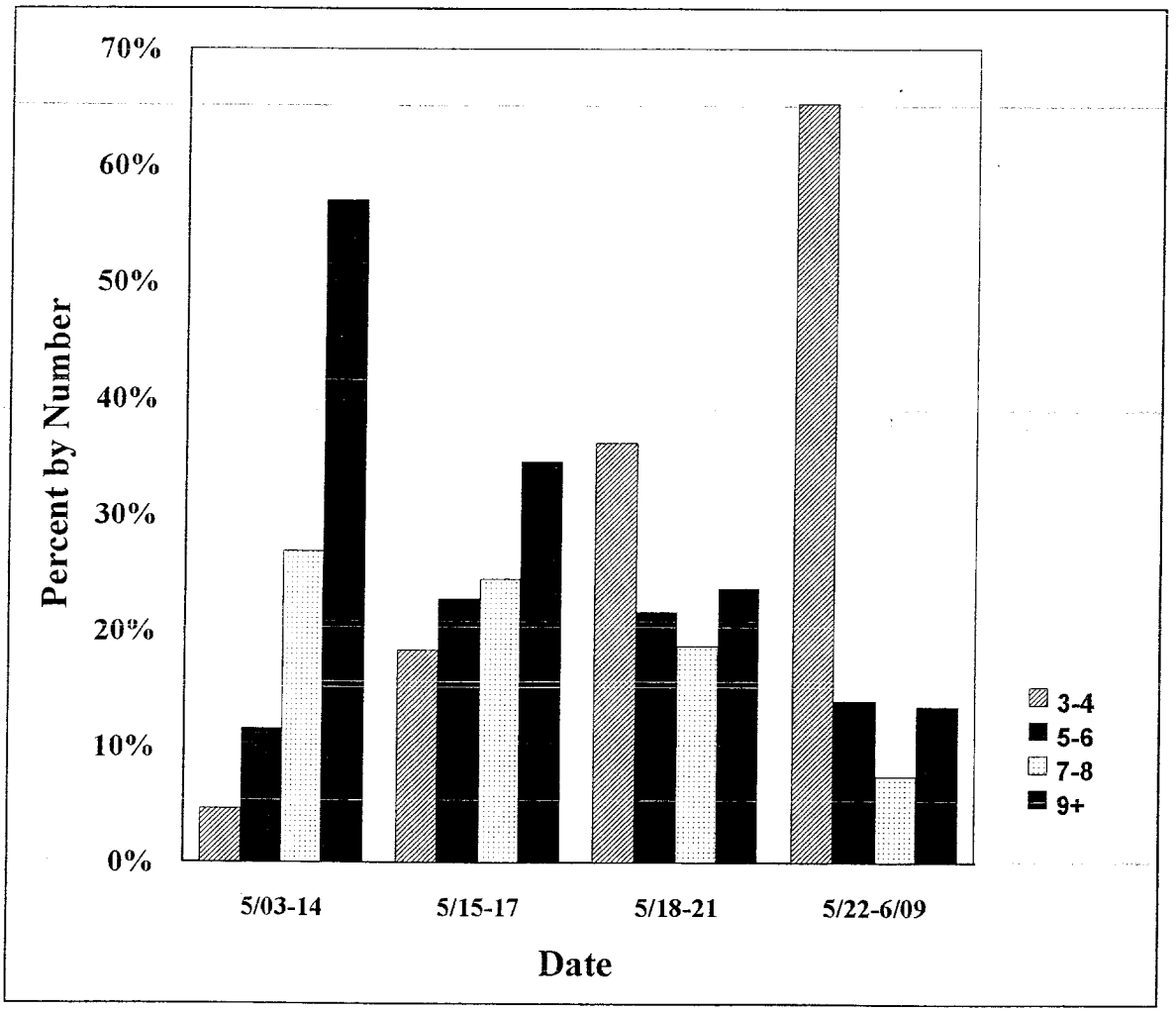

Figure 13. Age composition of herring samples collected with nonselective gear by sampling period, Togiak District, 1991.

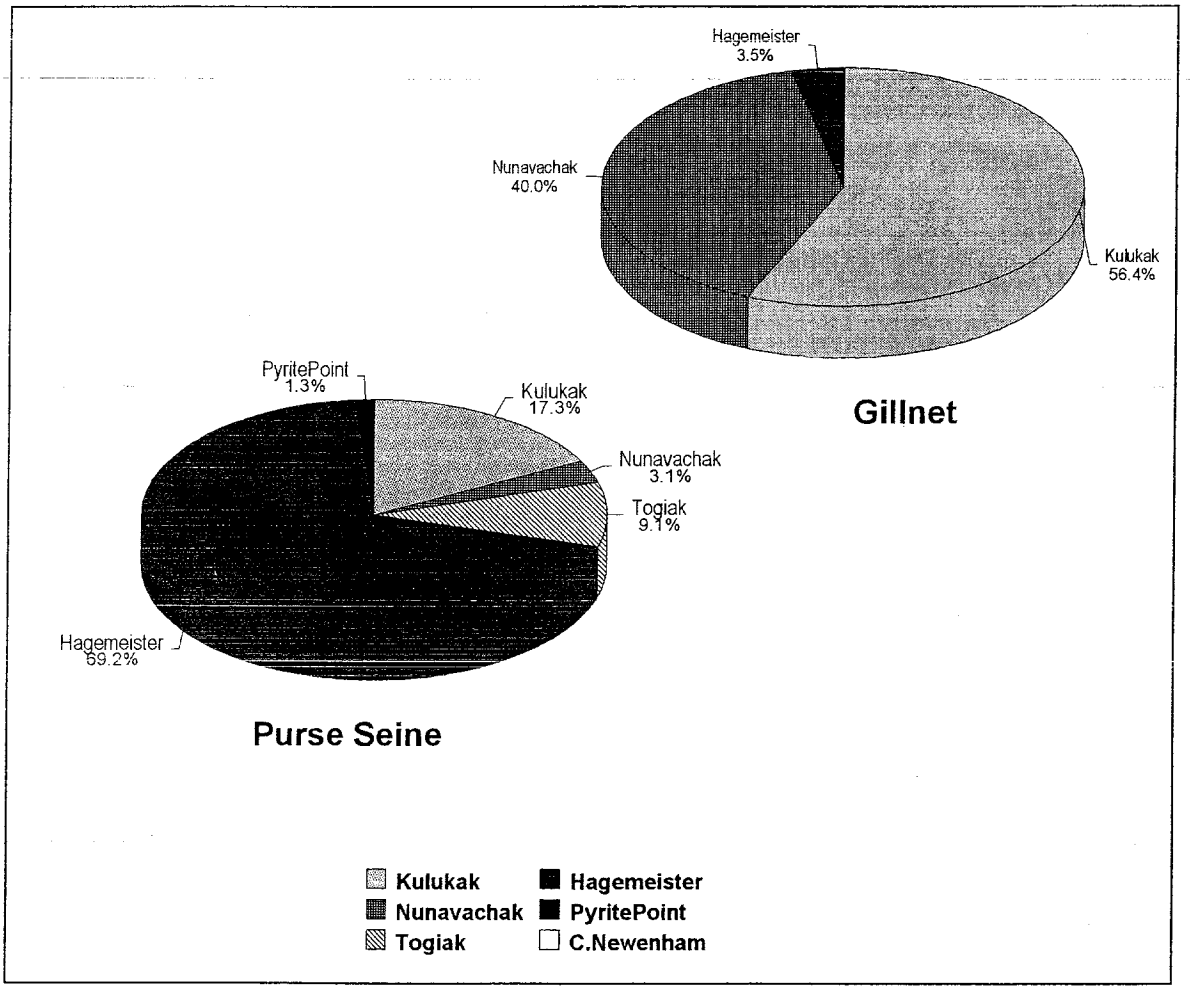

Figure 14. Proportion of the commercial harvest caught in each fishing section by gear type, Togiak District, 1991.

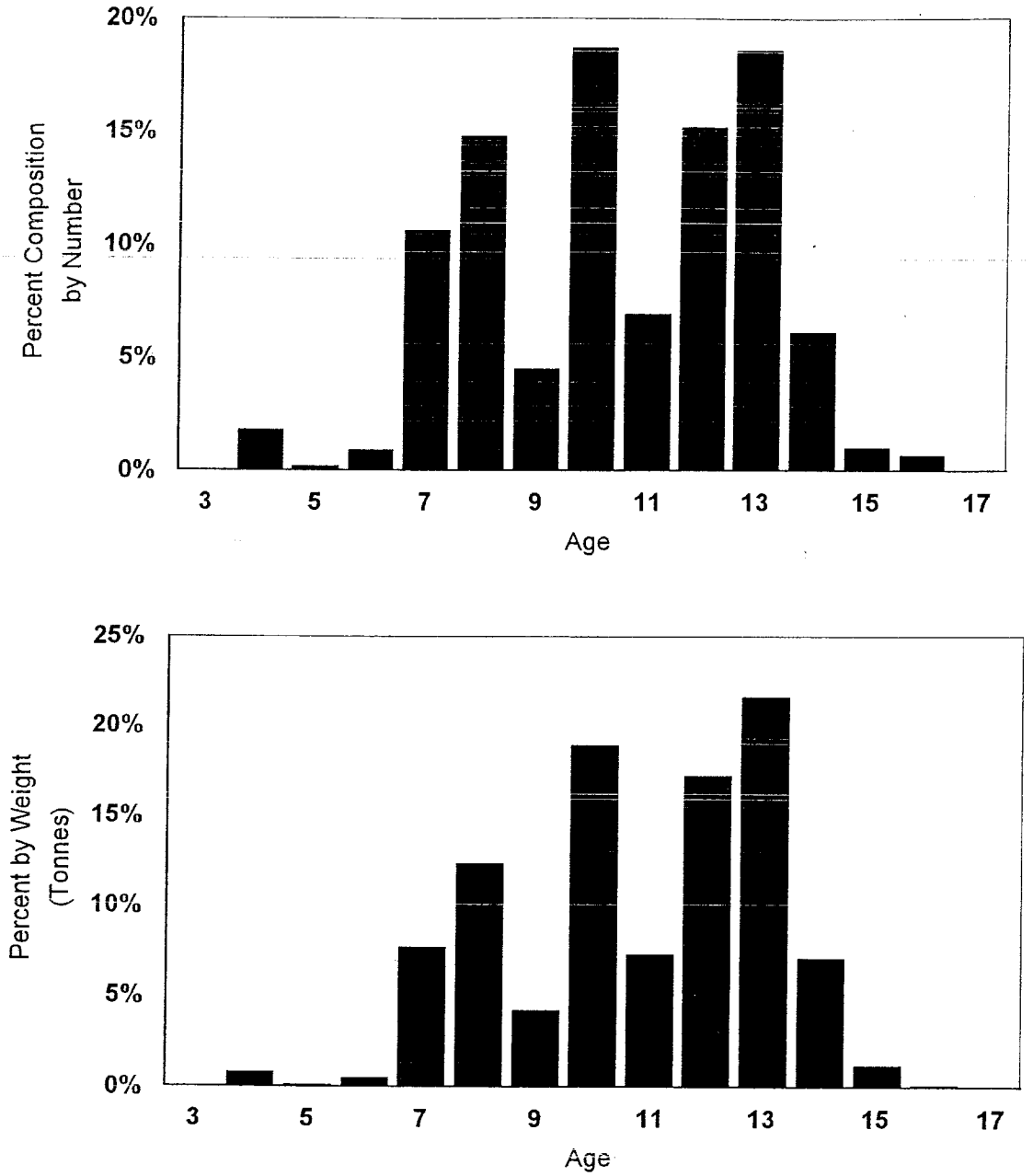

Figure 15. Age composition of the commercial purse seine fishery by number (top) and weight (bottom), Togiak District, 1991.

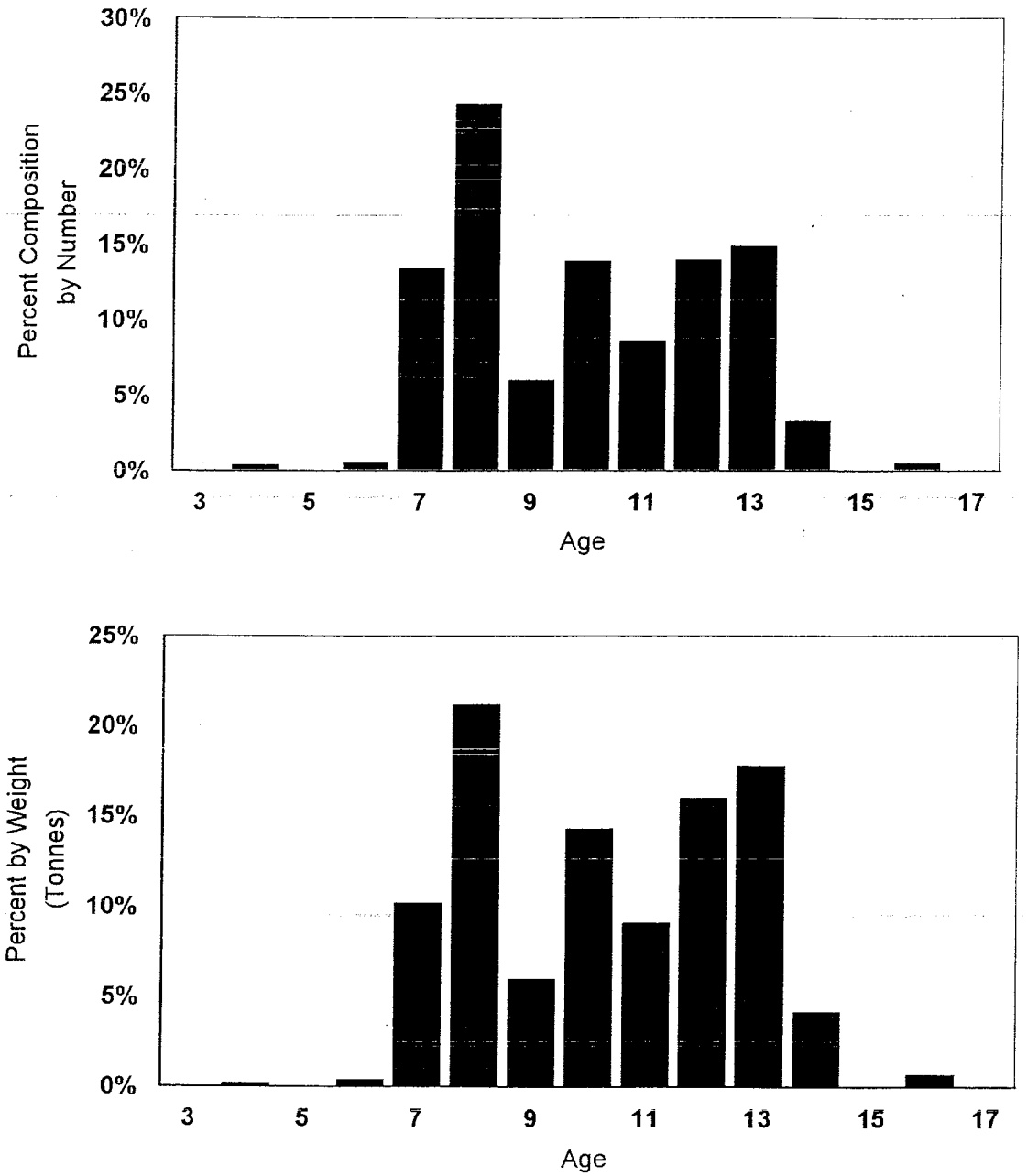

Figure 16. Age composition of the commercial gillnet fishery by number (top) and weight (bottom), Togiak District, 1991.

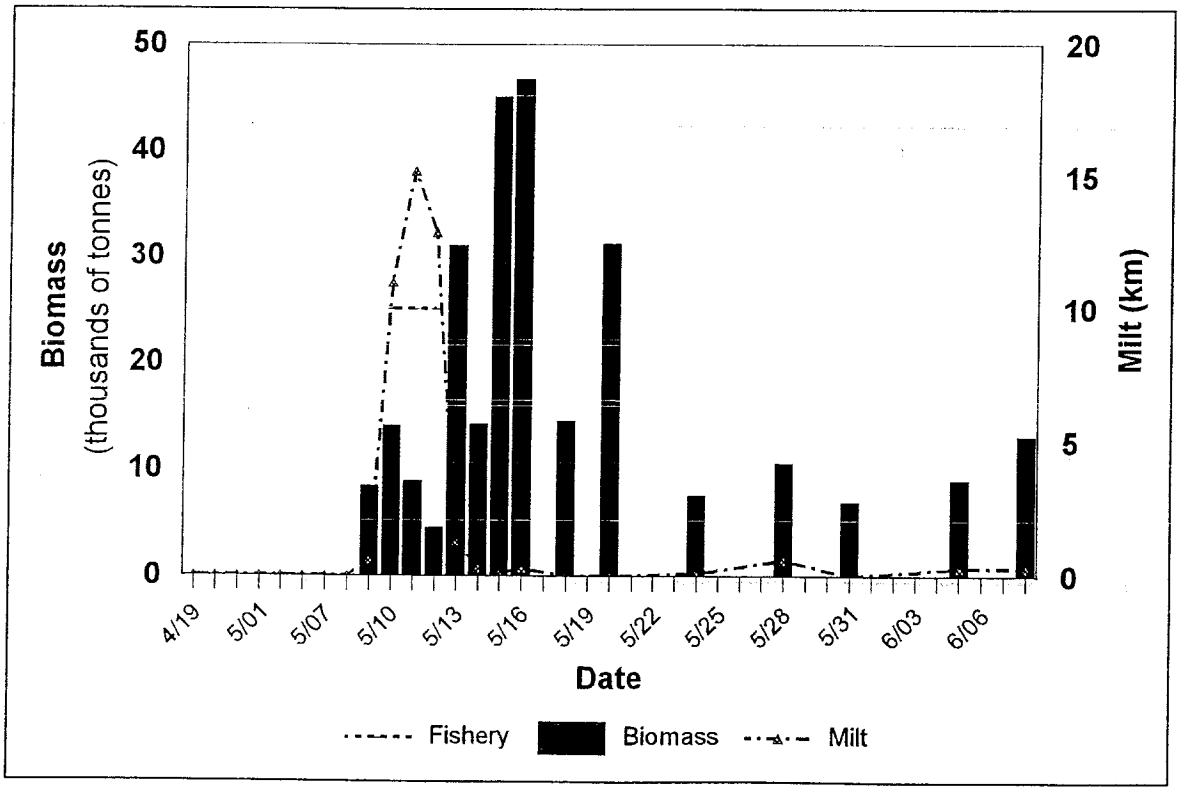

Figure 17. Biomass (tonnes), timing of the fishery, and kilometers of milt observed during daily aerial assessment, Togiak District, 1991.

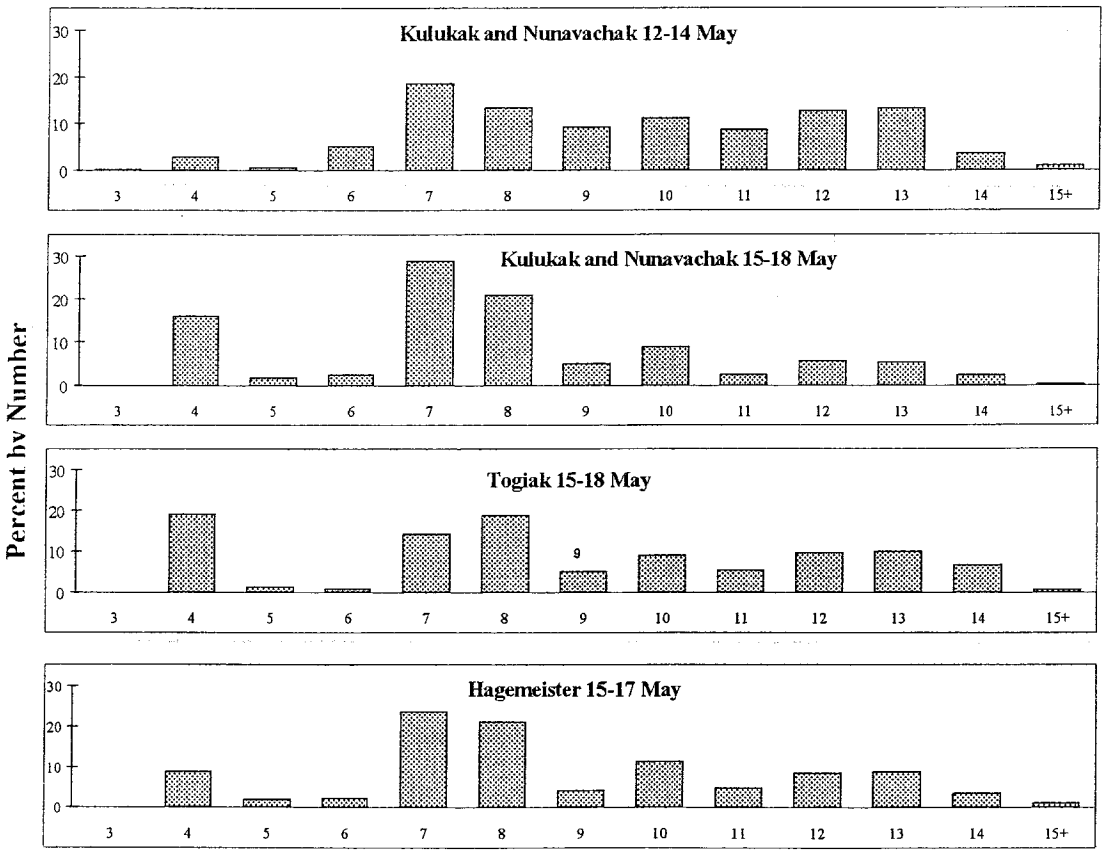

Figure 18. Age composition by number, sampling period and fishing section corresponding to aerial surveys conducted 13 and 16 May, Togiak District, 1991.

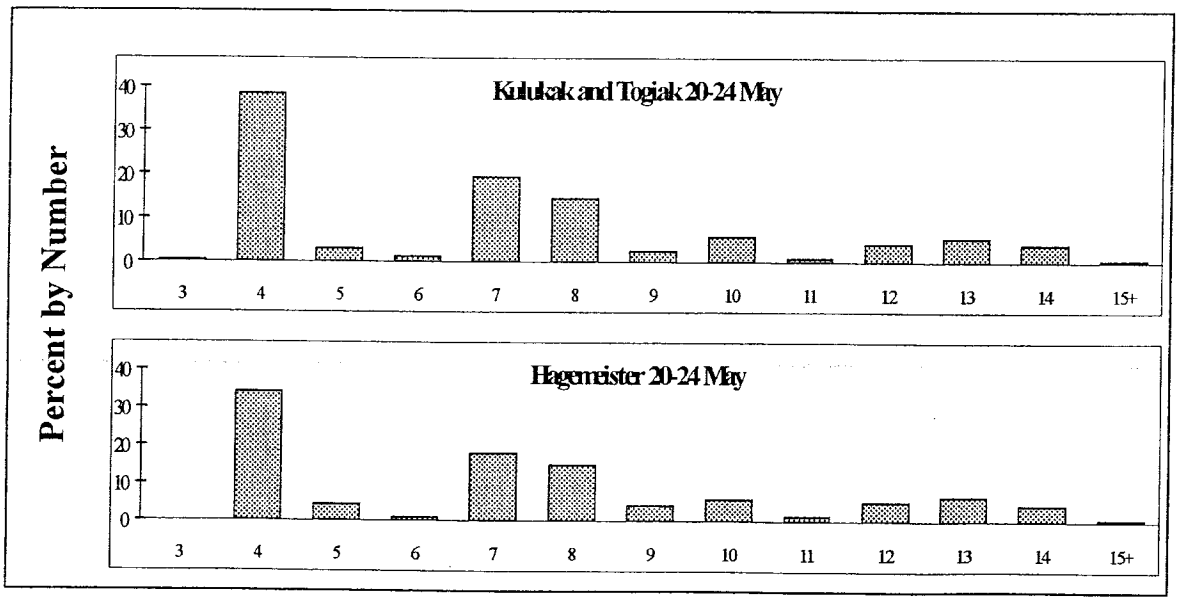

Figure 19. Age composition by number, sampling period and fishing section corresponding to aerial surveys conducted 24 May, Togiak District, 1991.

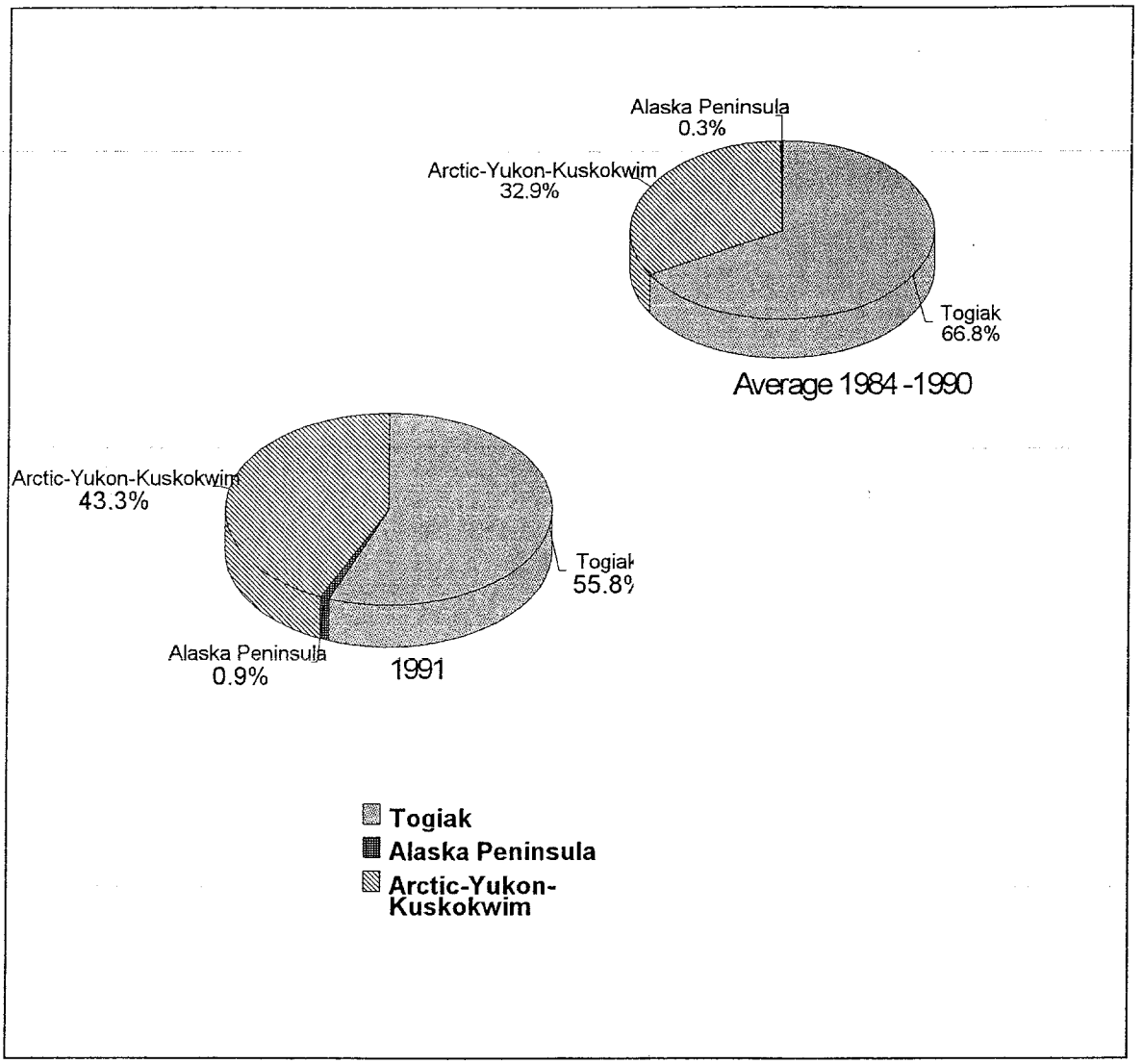

Figure 20. Contribution of the 1991 Togiak herring total run biomass to the assessed total run biomass in the eastern Bering Sea.

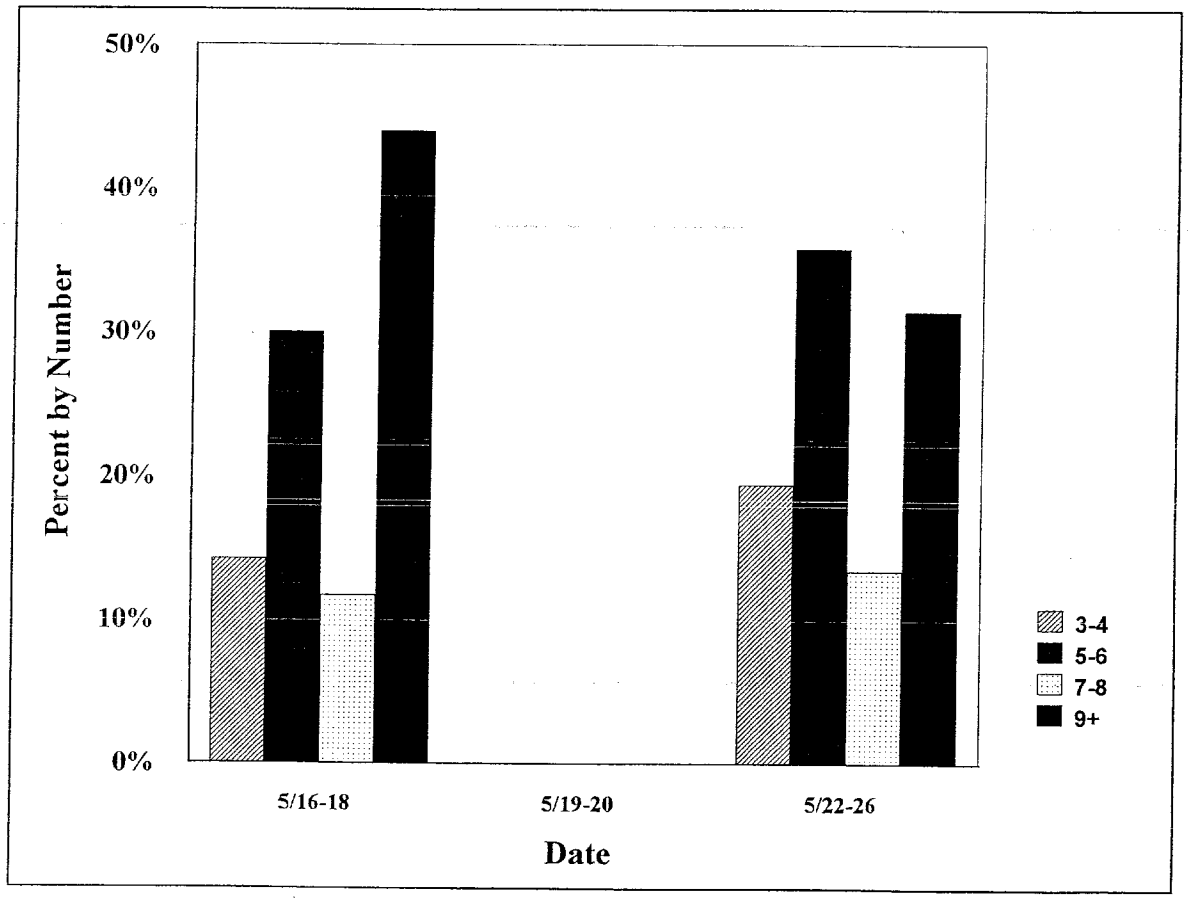

Figure 21. Age composition of herring samples collected with nonselective gear by sampling period, Togiak District, 1992.

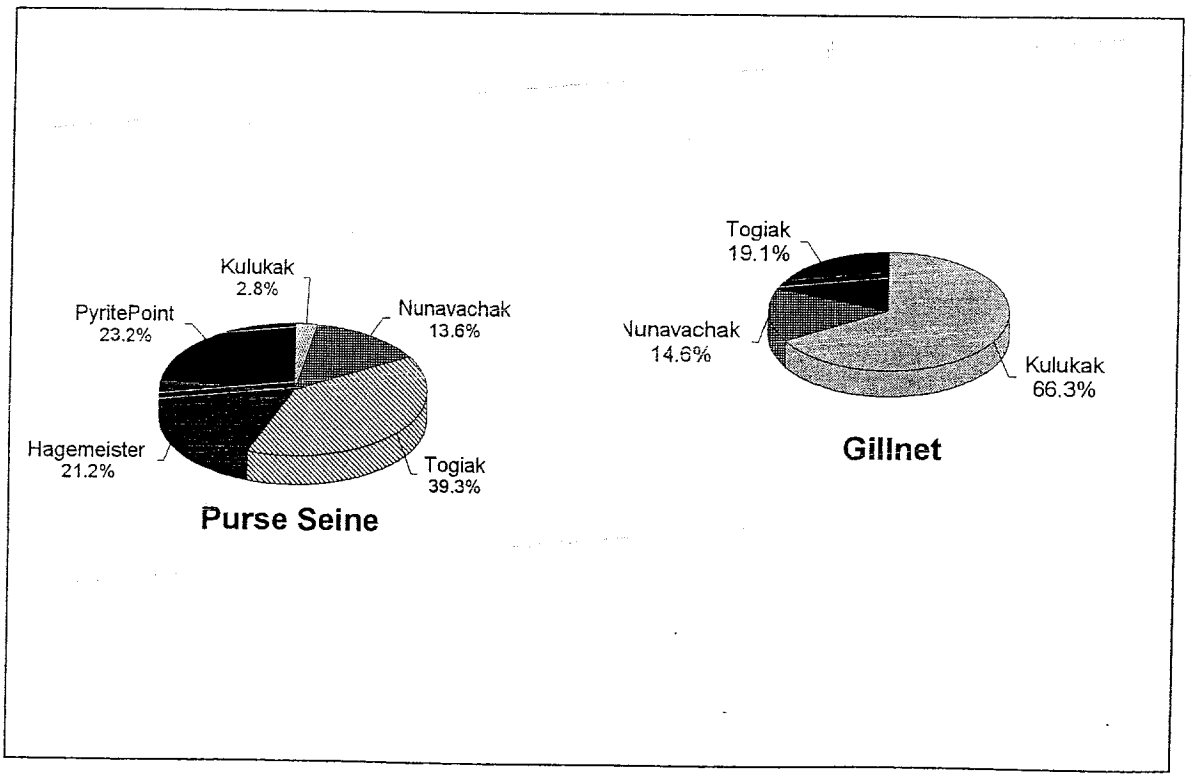

Figure 22. Proportion of the commercial harvest caught in each fishing section by gear type, Togiak District, 1992.

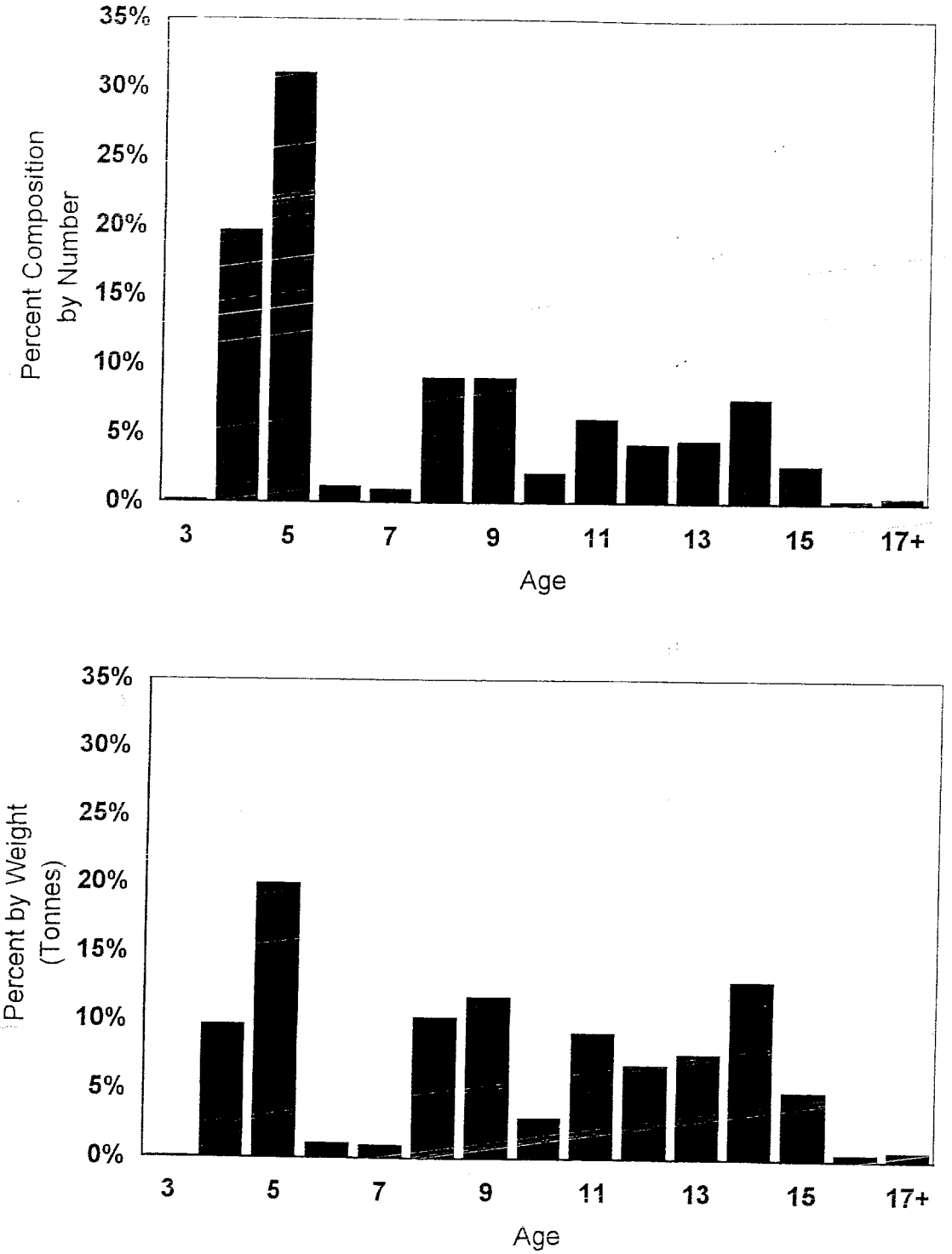

Figure 23. Age composition of the commercial purse seine fishery by number (top) and weight (bottom), Togiak District, 1992.

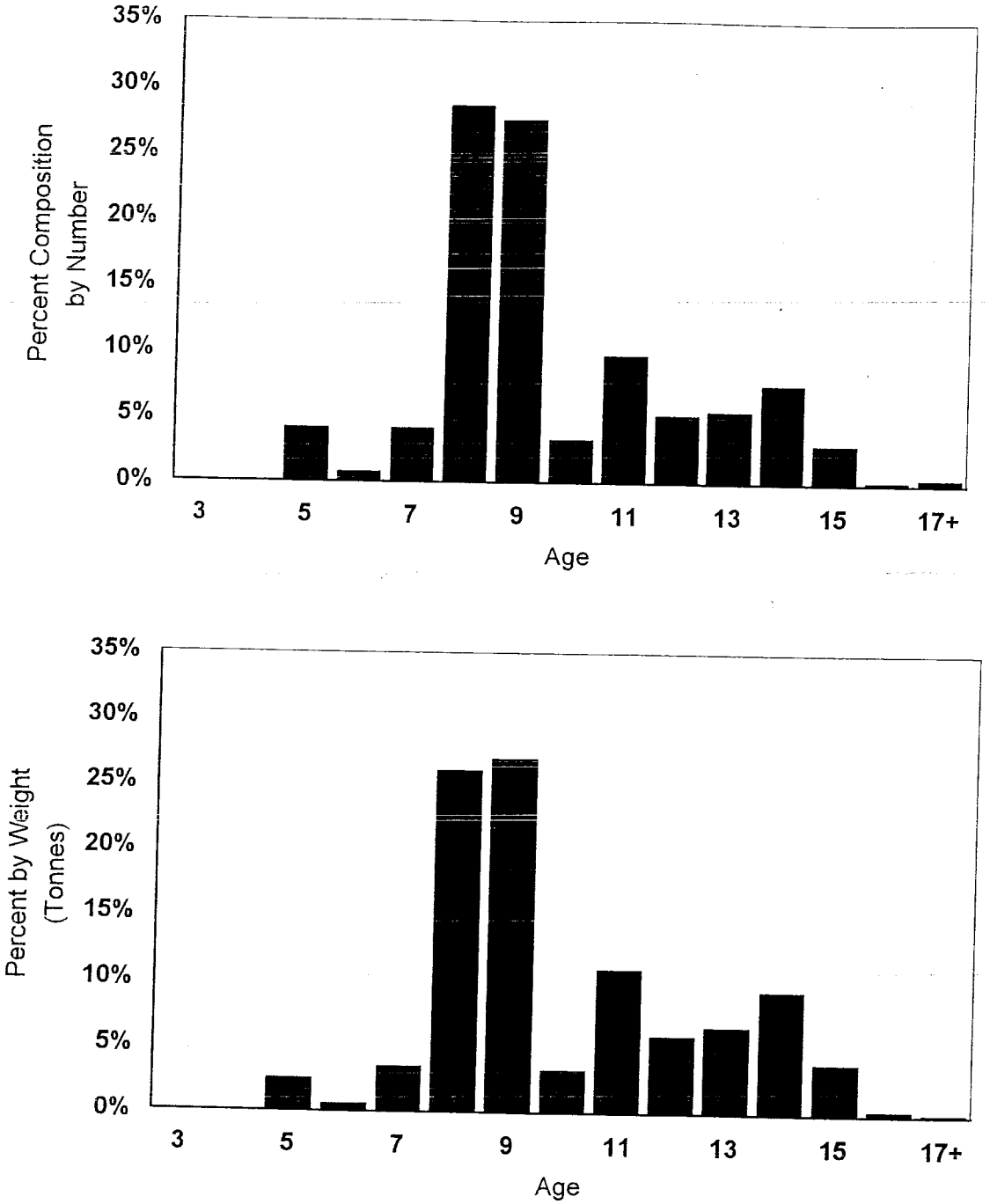

Figure 24. Age composition of the commercial gillnet fishery by number (top) and weight (bottom), Togiak District, 1992.

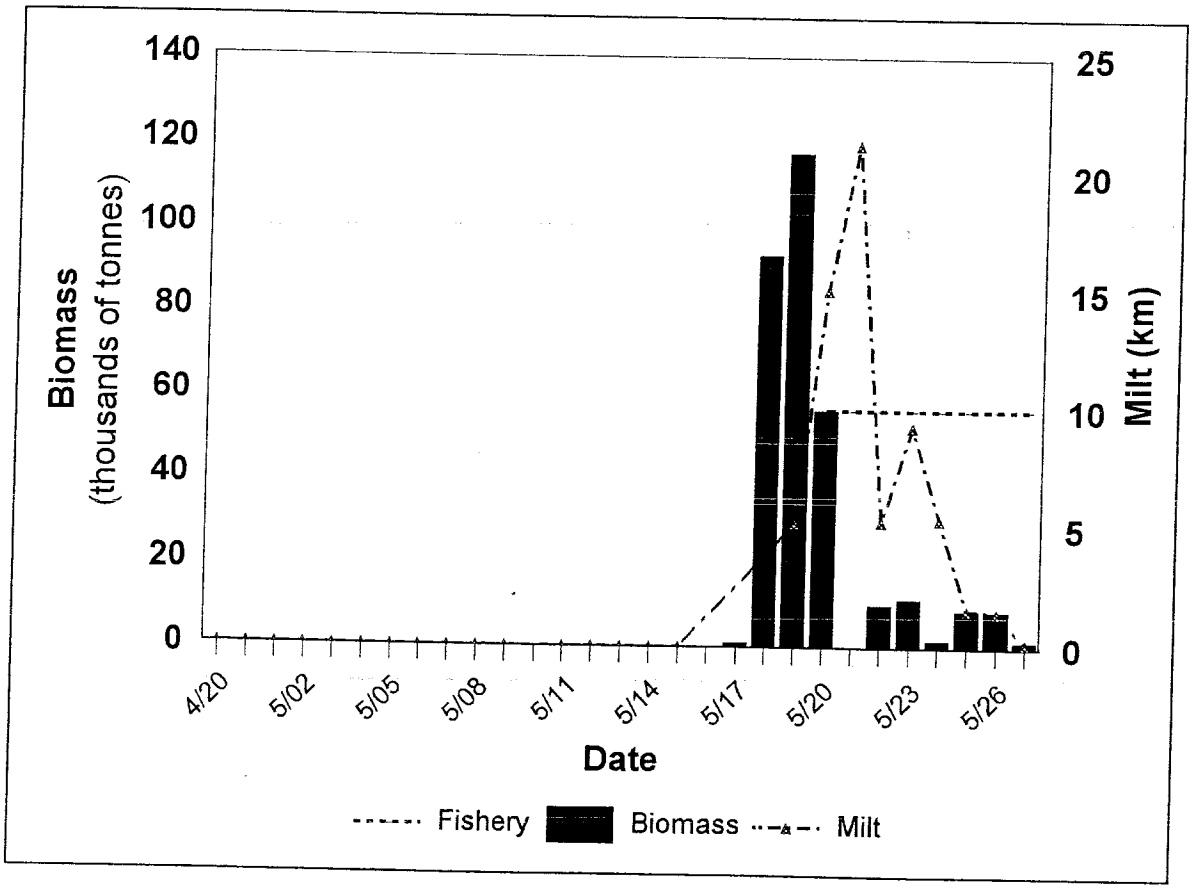

Figure 25. Biomass (tonnes) and kilometers of milt observed during daily aerial assessment, Togiak District, 1992.

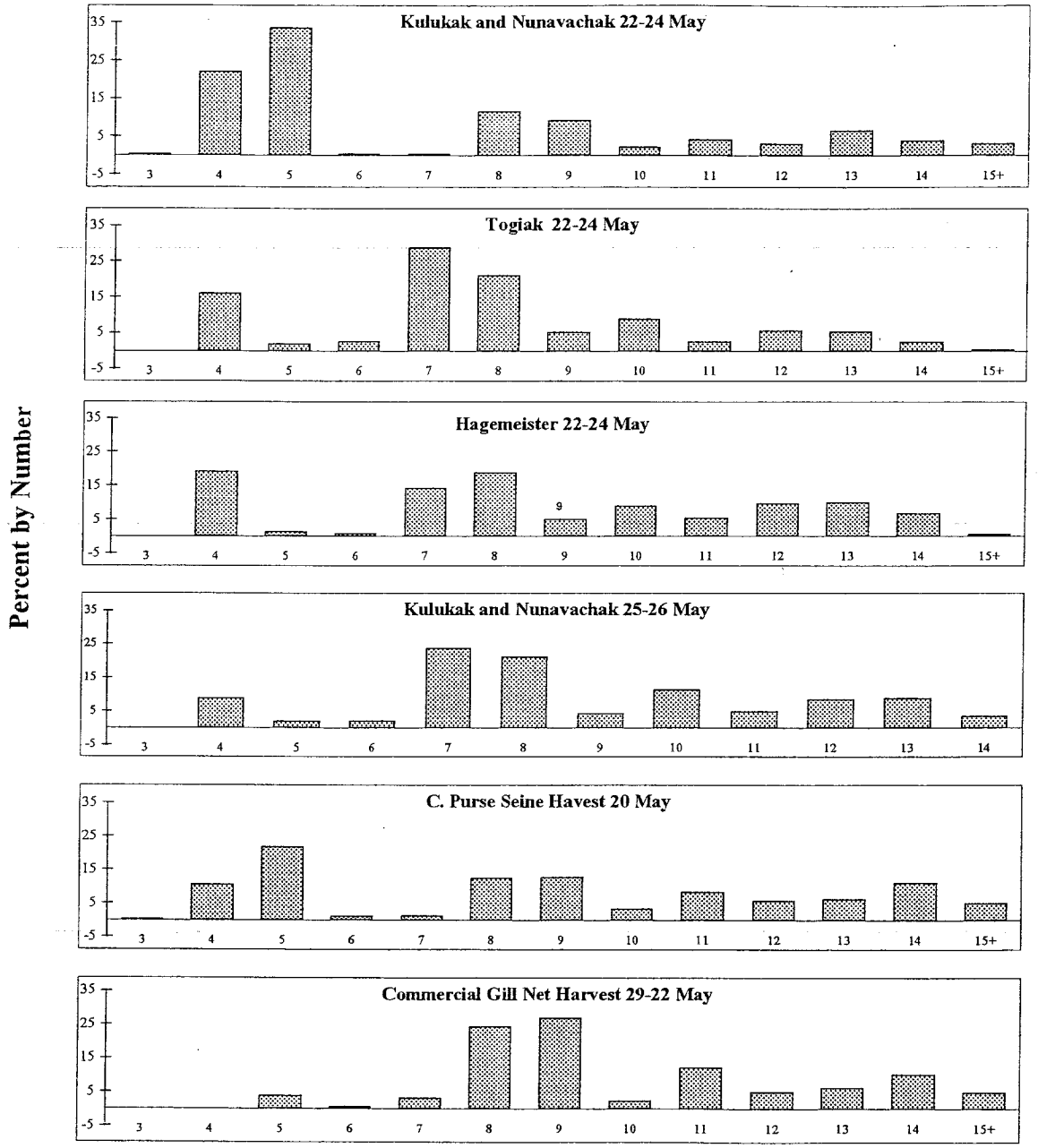

Figure 26. Age composition (number) by sampling period and fishing section corresponding to aerial surveys conducted 23 and 26 May 1992.

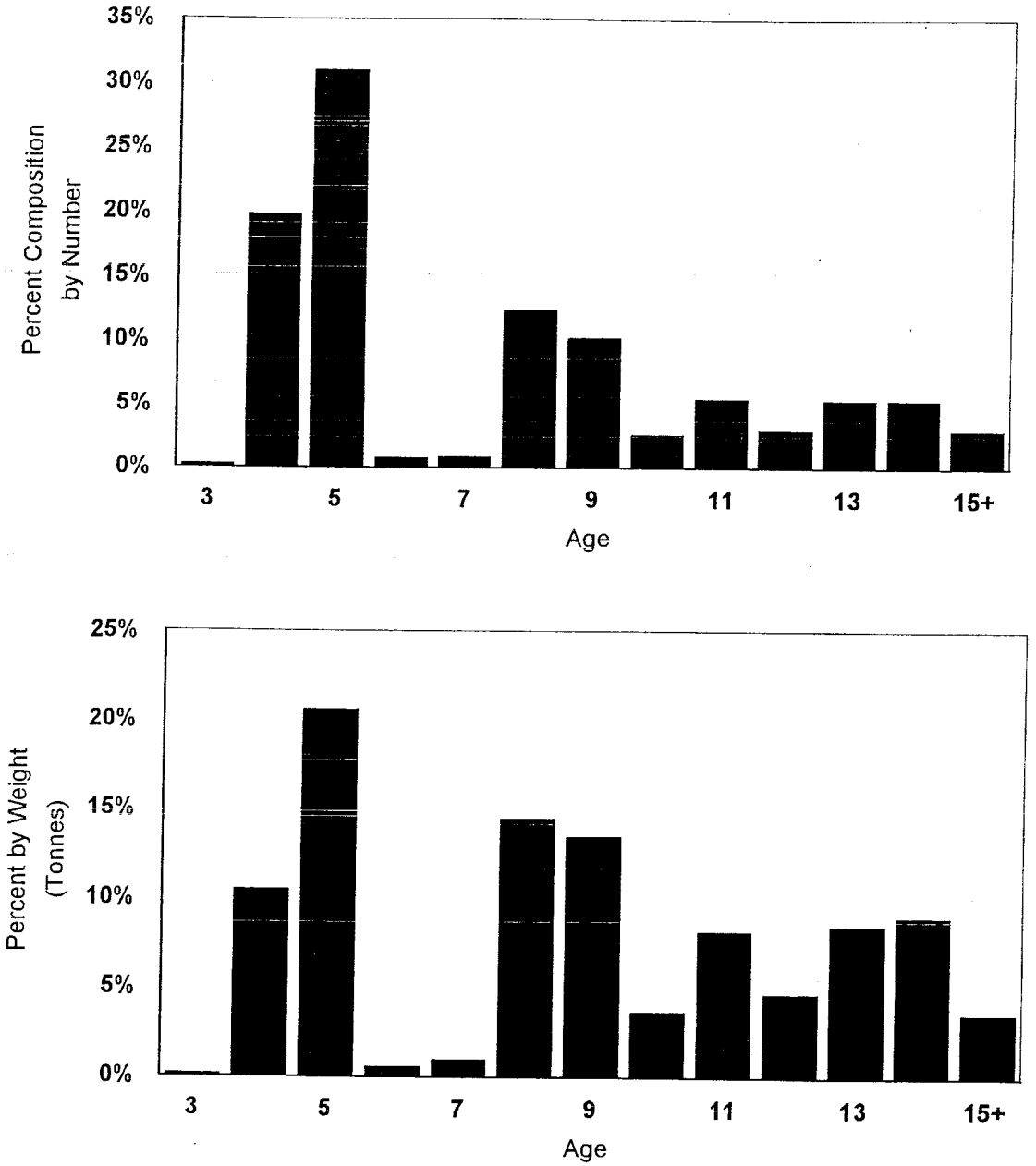

Figure 27. Age composition by number (top) and weight (bottom) of the Togiak District total run herring biomass, 1992.

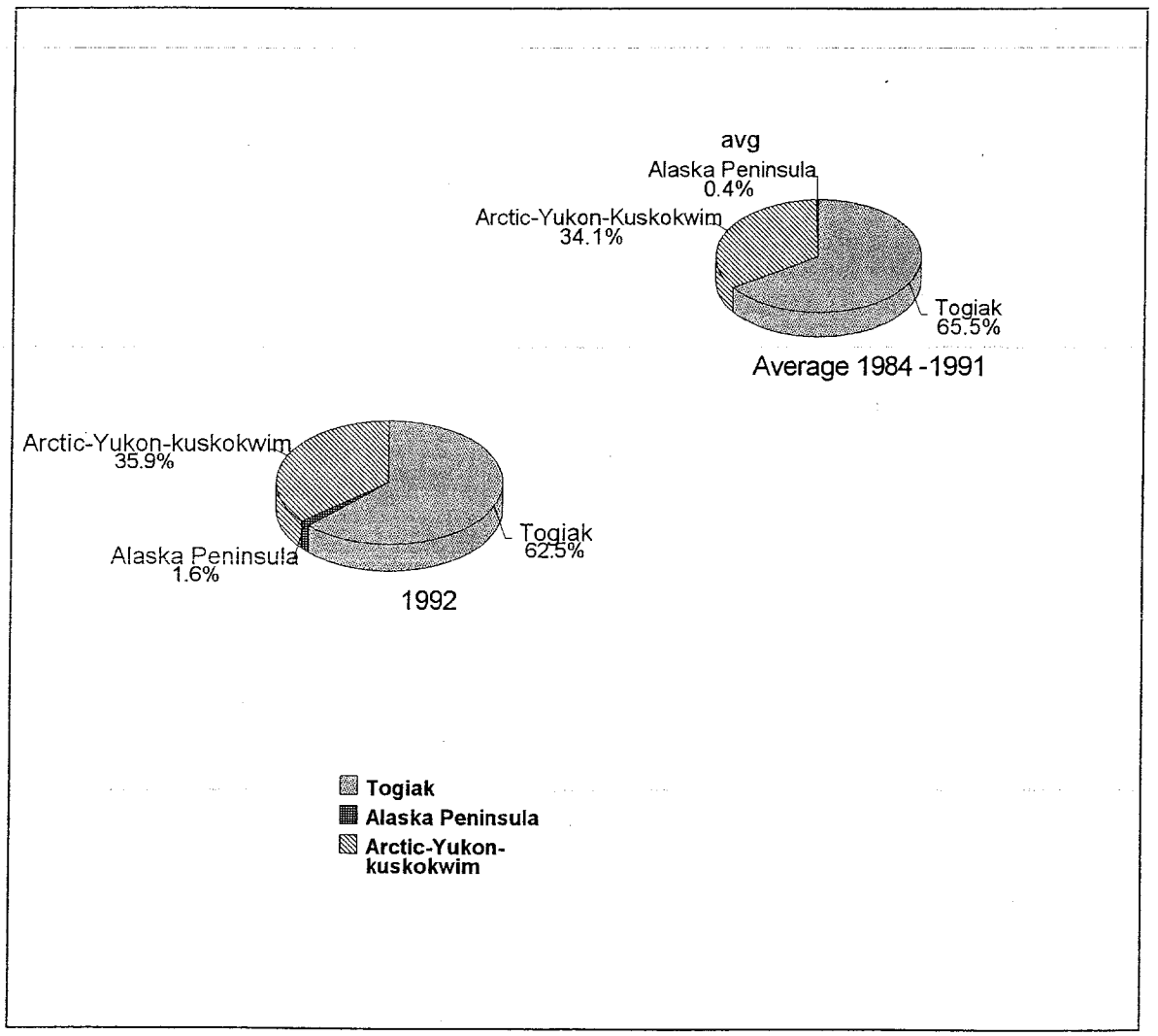

Figure 28. Contribution of the 1992 Togiak herring total run biomass to the assessed total run biomass of the Bering Sea.

Appendix A

Appendix A.1. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Kulukak Section, 9 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
9 May	5	1	0	0	1	0.3	242		1	256		1
	6	12	19	0	31	9.7	233	34.5	31	257	9.1	31
	7	20	35	0	55	17.2	303	64.1	55	274	14.6	55
	8	4	9	0	13	4.1	363	43.5	13	289	13.3	13
	9	19	46	0	65	20.3	382	44.9	65	292	9.4	65
	10	4	11	0	15	4.7	411	63.7	15	300	9.2	15
	11	20	15	0	35	10.9	423	69.2	35	299	13.1	35
	12	23	34	0	57	17.8	445	49.7	57	306	9.6	57
	13	13	29	0	42	13.1	474	68.2	42	311	13.4	42
	14	2	2	0	4	1.3	459	26.7	4	318	3.4	4
	15	0	1	0	1	0.3	368		1	290		1
	16											
	17	0	1	0	1	0.3	326		1	270		1
Sample Total		118	202	0	320	100.0	383	92.0	320	292	20.4	320
Sex Composition		36.9	63.1									
Unaged		30	53	0	83	25.9	369	95.6	82	291	21.3	83
Sex Composition		36.1	63.9									

Appendix A.2. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Nunavachak Section, 9 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
9 May	4	1	0	0	1	0.5	156		1	238		1
	5	1	1	0	2	1.0	213	40.3	2	237	9.9	2
	6	6	3	0	9	4.3	243	32.0	9	258	7.5	9
	7	13	12	0	25	12.1	317	42.8	25	274	9.1	25
	8	4	5	0	9	4.3	381	66.6	9	287	12.0	9
	9	12	18	0	30	14.5	396	51.9	30	294	8.6	30
	10	4	8	0	12	5.8	454	72.6	12	306	10.7	12
	11	12	20	0	32	15.5	476	34.3	32	306	7.3	32
	12	17	51	0	68	32.9	482	64.1	68	311	8.9	68
	13	8	9	0	17	8.2	499	80.5	17	315	10.7	17
	14	0	1	0	1	0.5	548		1	318		1
	15											
	16	0	1	0	1	0.5	596		1	331		1
Sample Total		78	129	0	207	100.0	430	95.5	207	299	19.7	207
Sex Composition		37.7	62.3									
Unaged		12	27	0	39	18.8	437	75.2	39	302	16.2	39
Sex Composition		30.8	69.2									

Appendix A.3. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Togiak Section, 9 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
9 May	5	0	3	0	3	0.9	208	14.2	3	239	7.5	3
	6	14	20	0	34	9.7	242	38.3	34	254	13.5	34
	7	20	32	0	52	14.9	313	35.6	52	276	8.9	52
	8	2	7	0	9	2.6	353	59.7	9	283	11.4	9
	9	20	45	0	65	18.6	386	53.1	65	293	9.9	65
	10	11	10	0	21	6.0	395	63.5	21	297	10.0	21
	11	17	27	0	44	12.6	431	49.8	44	304	8.3	44
	12	33	45	0	78	22.3	460	53.2	78	309	8.3	78
	13	14	23	0	37	10.6	486	57.2	37	316	7.5	37
	14	0	3	0	3	0.9	474	42.3	3	324	4.0	3
	15	1	1	0	2	0.6	444	15.6	2	320	2.1	2
	16	0	2	0	2	0.6	601	0.0	2	330	2.1	2
Sample Total		132	218	0	350	100.0	394	91.5	350	294	21.4	350
Sex Composition		37.7	62.3									
Unaged		20	28	0	48	13.7	379	102.0	48	290	22.8	48
Sex Composition		41.7	58.3									

Appendix A4. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Hagemeister Section, 9 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
9 May	6	1	5	0	6	2.2	273	18.4	5	258	7.5	6
	7	5	16	0	21	7.8	316	35.6	20	271	8.5	21
	8	5	4	0	9	3.3	352	35.2	8	288	7.7	9
	9	20	30	0	50	18.5	391	56.6	46	289	11.6	50
	10	11	11	0	22	8.1	421	48.5	21	295	11.0	22
	11	19	29	0	48	17.8	455	54.3	45	300	9.8	48
	12	29	47	0	76	28.1	458	56.5	68	304	11.2	76
	13	14	23	0	37	13.7	489	67.0	36	309	10.0	37
	14	1	0	0	1	0.4	0		0	325		1
Sample Total		105	165	0	270	100.0	428	76.1	249	296	15.7	270
Sex Composition		38.9	61.1									
Unaged		26	24	0	50	18.5	416	73.5	45	296	17.5	50
Sex Composition		52.0	48.0									

Appendix A.5. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Kulukak, Nunavachak, Togiak and Hagemesiter Sections, 9 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	1	0	0	1	0.1	156		1	238		1
	5	2	4	0	6	0.5	215	24.2	6	241	9.8	6
	6	33	47	0	80	7.0	241	35.9	79	256	10.9	80
	7	58	95	0	153	13.3	310	48.8	152	274	11.3	153
	8	15	25	0	40	3.5	363	51.3	39	287	11.3	40
	9	71	139	0	210	18.3	388	51.2	206	292	10.1	210
9 May	10	30	40	0	70	6.1	417	63.0	69	299	10.8	70
	11	68	91	0	159	13.9	445	56.6	156	302	10.2	159
	12	102	177	0	279	24.3	462	57.4	271	308	10.0	279
	13	49	84	0	133	11.6	485	66.4	132	313	11.0	133
	14	3	6	0	9	0.8	475	41.6	8	321	4.6	9
	15	1	2	0	3	0.3	419	45.2	3	310	17.1	3
	16	0	3	0	3	0.3	599	2.9	3	330	1.7	3
	17	0	1	0	1	0.1	326		1	270		1
Sample Total		433	714	0	1147	100.0	405	91.4	1126	295	19.7	1147
Sex Composition		37.8	62.2									
Unaged		88	132	0	220	19.2	394	92.8	214	294	20.4	220
Sex Composition		40.0	60.0									

Appendix A.6. Age, sex, and size composition of Pacific herring caught by commercial gill net, Kulukak Section, 8-20 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	5											
	6	7	4	0	11	4.2	253	29.9	11	265	7.6	11
	7	13	16	0	29	11.2	305	38.4	29	277	10.6	29
	8	5	5	0	10	3.9	325	40.0	10	283	5.9	10
	9	25	18	0	43	16.6	391	36.8	43	296	8.4	43
	10	7	7	0	14	5.4	403	64.6	14	300	7.1	14
8 May	11	28	19	0	47	18.1	439	47.9	47	307	8.7	47
	12	34	29	0	63	24.3	465	53.7	63	310	9.2	63
	13	18	14	0	32	12.4	493	44.5	32	317	8.7	32
	14	2	2	0	4	1.5	472	38.9	4	311	3.8	4
	15	3	2	0	5	1.9	538	72.3	5	320	15.5	5
	16	1	0	0	1	0.4	517		1	321		1
	17											
Sample Total		143	116	0	259	100.0	417	83.0	259	301	16.8	259
	5											
	6	3	3	0	6	1.6	266	25.5	6	269	7.5	6
	7	10	14	0	24	6.5	303	38.1	24	274	9.0	24
	8	4	5	0	9	2.4	351	47.3	9	288	10.3	9
	9	41	40	0	81	22.0	383	50.5	81	293	10.6	81
	10	10	11	0	21	5.7	404	56.7	21	301	10.4	21
11 May	11	43	38	0	81	22.0	421	42.2	81	303	9.6	81
	12	55	38	0	93	25.3	432	51.1	93	308	10.2	93
	13	21	21	0	42	11.4	435	55.6	42	309	10.5	42
	14	4	3	0	7	1.9	469	37.1	7	316	8.2	7
	15	3	1	0	4	1.1	454	25.7	4	307	4.9	4
	16											
	17											
Sample Total		194	174	0	368	100.0	405	62.7	368	300	14.4	368
	5											
	6	5	3	0	8	6.6	254	20.7	8	266	6.4	8
	7	5	12	0	17	13.9	291	34.0	17	274	7.0	17
	8	2	4	0	6	4.9	293	48.0	6	275	12.5	6
	9	19	13	0	32	26.2	352	45.5	32	292	10.6	32
	10	1	5	0	6	4.9	402	40.2	6	306	12.1	6
13 May	11	13	10	0	23	18.9	407	52.4	23	305	8.9	23
	12	11	9	0	20	16.4	419	59.9	20	305	12.8	20
	13	7	2	0	9	7.4	415	57.9	9	314	7.6	9
	14											
	15	0	1	0	1	0.8	464		1	320		1
	16											
	17											
Sample Total		63	59	0	122	100.0	364	72.2	122	294	17.6	122

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Appendix A.6. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	5											
	6	1	8	0	9	3.4	265	32.8	9	263	7.8	9
	7	11	12	0	23	8.8	313	36.7	23	274	11.3	23
	8	3	10	0	13	5.0	343	49.1	13	282	7.4	13
	9	31	28	0	59	22.5	376	34.8	59	290	8.2	59
	10	12	7	0	19	7.3	398	38.4	19	297	12.5	19
14 May	11	25	22	0	47	17.9	421	46.3	47	304	8.2	47
	12	34	37	0	71	27.1	442	47.1	71	308	9.9	71
	13	14	7	0	21	8.0	446	51.5	21	314	7.1	21
	14											
	15											
	16											
	17											
Sample Total		131	131	0	262	100.0	398	64.1	262	297	15.9	262
	5	1	0	0	1	0.8	270		1	269		1
	6	12	12	0	24	18.6	249	28.5	24	261	14.5	24
	7	20	16	0	36	27.9	292	37.9	36	270	11.0	36
	8	4	6	0	10	7.8	317	37.4	10	279	12.5	10
	9	10	10	0	20	15.5	369	47.6	20	286	9.5	20
	10	5	4	0	9	7.0	382	50.9	9	294	8.7	9
18 May	11	9	2	0	11	8.5	391	53.5	11	300	10.8	11
	12	6	6	0	12	9.3	399	33.3	12	303	10.2	12
	13	0	5	0	5	3.9	486	68.9	5	313	11.6	5
	14	0	1	0	1	0.8	448		1	317		1
	15											
	16											
	17											
Sample Total		67	62	0	129	100.0	331	74.4	129	281	19.4	129
	5	1	0	0	1	0.9	216		1	240		1
	6	4	4	0	8	6.9	280	29.4	8	266	9.2	8
	7	12	23	0	35	30.2	291	37.9	35	269	11.4	35
	8	6	3	0	9	7.8	324	26.0	9	282	5.6	9
	9	10	10	0	20	17.2	372	39.8	20	289	11.6	20
	10	0	4	0	4	3.4	352	44.2	4	294	13.8	4
20 May	11	6	6	0	12	10.3	420	52.2	12	305	7.1	12
	12	7	7	0	14	12.1	408	45.3	14	303	9.3	14
	13	6	5	0	11	9.5	445	70.9	11	313	15.1	11
	14											
	15											
	16	1	0	0	1	0.9	430		1	315		1
	17	1	0	0	1	0.9	370		1	292		1
Sample Total		54	62	0	116	100.0	352	72.7	116	286	20.0	116

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Appendix A.6. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	5	2	0	0	2	0.2	243	38.2	2	255	20.5	2
	6	32	34	0	66	5.3	258	29.2	66	264	10.8	66
	7	71	93	0	164	13.1	298	37.8	164	273	10.7	164
	8	24	33	0	57	4.5	328	43.8	57	282	9.5	57
	9	136	119	0	255	20.3	377	44.4	255	292	10.0	255
	10	35	38	0	73	5.8	396	51.6	73	299	10.7	73
8-20 May	11	124	97	0	221	17.6	422	47.4	221	304	9.1	221
	12	147	126	0	273	21.7	439	53.2	273	308	10.2	273
	13	66	54	0	120	9.6	454	59.6	120	313	10.1	120
	14	6	6	0	12	1.0	468	34.8	12	314	6.8	12
	15	6	4	0	10	0.8	497	66.7	10	315	12.7	10
	16	2	0	0	2	0.2	474	61.5	2	318	4.2	2
	17	1	0	0	1	0.1	370		1	292		1
All Samples Combined		652	604	0	1256	100.0	390	75.9	1256	296	17.8	1256
Sex Composition		51.9	48.1									
Unaged		115	118	0	233	18.6	385	75.0	233	295	17.9	233
Sex Composition		49.4	50.6									

Appendix A.7. Age, sex, and size composition of Pacific herring caught by commercial gill net, Nunavachak Section, 8-14 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
8 May	6	1	0	0	1	0.8	276		1	267		1
	7	4	6	0	10	7.6	335	32.8	10	281	8.9	10
	8	1	2	0	3	2.3	332	30.2	3	285	7.6	3
	9	18	6	0	24	18.3	398	40.7	24	293	8.5	24
	10	3	6	0	9	6.9	430	50.8	9	301	8.0	9
	11	17	11	0	28	21.4	459	44.8	28	308	8.3	28
	12	22	12	0	34	26.0	465	45.8	34	309	7.4	34
	13	11	6	0	17	13.0	507	45.5	17	318	8.1	17
	14	1	0	0	1	0.8	475		1	307		1
	15	3	0	0	3	2.3	506	68.1	3	314	15.6	3
	16	1	0	0	1	0.8	517		1	321		1
Sample Total		82	49	0	131	100.0	442	66.8	131	304	13.5	131
11 May	6											
	7	4	1	0	5	3.9	304	30.0	5	272	7.2	5
	8	4	2	0	6	4.7	334	17.3	6	286	6.2	6
	9	18	16	0	34	26.8	392	33.9	34	294	7.9	34
	10	4	2	0	6	4.7	391	86.0	6	300	7.3	6
	11	16	13	0	29	22.8	420	33.2	29	303	7.5	29
	12	23	15	0	38	29.9	449	45.3	38	310	8.4	38
	13	3	3	0	6	4.7	447	74.9	6	315	10.4	6
	14	0	1	0	1	0.8	506		1	317		1
	15	2	0	0	2	1.6	445	18.4	2	304	0.0	2
	16											
Sample Total		74	53	0	127	100.0	413	56.3	127	301	12.3	127
14 May	6	0	1	0	1	0.8	299		1	267		1
	7	2	4	0	6	4.6	318	16.4	6	275	6.9	6
	8	1	3	0	4	3.1	395	35.5	4	290	3.5	4
	9	21	12	0	33	25.2	384	35.1	33	292	8.1	33
	10	9	2	0	11	8.4	403	36.9	11	299	13.1	11
	11	13	10	0	23	17.6	420	45.1	23	305	8.0	23
	12	23	18	0	41	31.3	438	40.7	41	309	7.7	41
	13	9	3	0	12	9.2	442	45.6	12	316	6.5	12
	14											
	15											
	16											
Sample Total		78	53	0	131	100.0	411	50.0	131	301	13.0	131

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Appendix A.7. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
8-14 May	6	1	1	0	2	0.5	288	16.3	2	267	0.0	2
	7	10	11	0	21	5.4	323	29.9	21	277	8.6	21
	8	6	7	0	13	3.3	352	38.4	13	287	5.7	13
	9	57	34	0	91	23.4	391	36.3	91	293	8.1	91
	10	16	10	0	26	6.7	410	55.7	26	300	10.0	26
	11	46	34	0	80	20.6	434	44.8	80	305	8.1	80
	12	68	45	0	113	29.0	450	44.9	113	309	7.8	113
	13	23	12	0	35	9.0	475	59.3	35	317	7.9	35
	14	1	1	0	2	0.5	491	21.9	2	312	7.1	2
	15	5	0	0	5	1.3	481	59.2	5	310	12.3	5
	16	1	0	0	1	0.3	517		1	321		1
All Samples Combined		234	155	0	389	100.0	422	59.7	389	302	13.0	389
Sex Composition		60.2	39.8									
Unaged		27	27	0	54	13.9	430	62.0	54	305	12.2	54
Sex Composition		50.0	50.0									

Appendix A.8. Age, sex, and size composition of Pacific herring caught by commercial gill net, Hagemeister Section, 11 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	6	2	1	0	3	2.4	278	30.2	3	269	11.7	3
	7	5	4	0	9	7.3	291	36.5	9	273	8.7	9
	8	0	1	0	1	0.8	460		1	299		1
	9	13	3	0	16	13.0	367	64.9	16	292	13.7	16
11 May	10	4	4	0	8	6.5	411	48.6	8	307	11.2	8
	11	13	13	0	26	21.1	419	49.4	26	304	7.9	26
	12	17	15	0	32	26.0	420	54.4	32	308	11.3	32
	13	13	11	0	24	19.5	428	58.6	24	310	11.2	24
	14	2	2	0	4	3.3	454	41.4	4	320	5.0	4
Sample Total		69	54	0	123	100.0	402	67.4	123	302	15.6	123
Sex Composition		56.1	43.9									
Unaged		10	14	0	24	19.5	434	50.9	24	309	11.3	24
Sex Composition		41.7	58.3									

Appendix A.9. Age, sex, and size composition of Pacific herring caught by commercial gill net, Kulukak, Togiak and Hagemeister Sections, 8-20 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
8 May	5											
	6	7	4	0	11	4.2	253	29.9	11	265	7.6	11
	7	13	16	0	29	11.2	305	38.4	29	277	10.6	29
	8	5	5	0	10	3.9	325	40.0	10	283	5.9	10
	9	25	18	0	43	16.6	391	36.8	43	296	8.4	43
	10	7	7	0	14	5.4	403	64.6	14	300	7.1	14
	11	28	19	0	47	18.1	439	47.9	47	307	8.7	47
	12	34	29	0	63	24.3	465	53.7	63	310	9.2	63
	13	18	14	0	32	12.4	493	44.5	32	317	8.7	32
	14	2	2	0	4	1.5	472	38.9	4	311	3.8	4
	15	3	2	0	5	1.9	538	72.3	5	320	15.5	5
	16	1	0	0	1	0.4	517		1	321		1
	17											
Sample Total		143	116	0	259	100.0	417	83.0	259	301	16.8	259
11 May	5											
	6	3	3	0	6	1.6	266	25.5	6	269	7.5	6
	7	10	14	0	24	6.5	303	38.1	24	274	9.0	24
	8	4	5	0	9	2.4	351	47.3	9	288	10.3	9
	9	41	40	0	81	22.0	383	50.5	81	293	10.6	81
	10	10	11	0	21	5.7	404	56.7	21	301	10.4	21
	11	43	38	0	81	22.0	421	42.2	81	303	9.6	81
	12	55	38	0	93	25.3	432	51.1	93	308	10.2	93
	13	21	21	0	42	11.4	435	55.6	42	309	10.5	42
	14	4	3	0	7	1.9	469	37.1	7	316	8.2	7
	15	3	1	0	4	1.1	454	25.7	4	307	4.9	4
	16											
	17											
Sample Total		194	174	0	368	100.0	405	62.7	368	300	14.4	368
13 May	5											
	6	5	3	0	8	6.6	254	20.7	8	266	6.4	8
	7	5	12	0	17	13.9	291	34.0	17	274	7.0	17
	8	2	4	0	6	4.9	293	48.0	6	275	12.5	6
	9	19	13	0	32	26.2	352	45.5	32	292	10.6	32
	10	1	5	0	6	4.9	402	40.2	6	306	12.1	6
	11	13	10	0	23	18.9	407	52.4	23	305	8.9	23
	12	11	9	0	20	16.4	419	59.9	20	305	12.8	20
	13	7	2	0	9	7.4	415	57.9	9	314	7.6	9
	14											
	15	0	1	0	1	0.8	464		1	320		1
	16											
	17											
Sample Total		63	59	0	122	100.0	364	72.2	122	294	17.6	122

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Appendix A.9. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	5											
	6	1	8	0	9	3.4	265	32.8	9	263	7.8	9
	7	11	12	0	23	8.8	313	36.7	23	274	11.3	23
	8	3	10	0	13	5.0	343	49.1	13	282	7.4	13
	9	31	28	0	59	22.5	376	34.8	59	290	8.2	59
	10	12	7	0	19	7.3	398	38.4	19	297	12.5	19
14 May	11	25	22	0	47	17.9	421	46.3	47	304	8.2	47
	12	34	37	0	71	27.1	442	47.1	71	308	9.9	71
	13	14	7	0	21	8.0	446	51.5	21	314	7.1	21
	14											
	15											
	16											
	17											
Sample Total		131	131	0	262	100.0	398	64.1	262	297	15.9	262
	5	1	0	0	1	0.8	270		1	269		1
	6	12	12	0	24	18.6	249	28.5	24	261	14.5	24
	7	20	16	0	36	27.9	292	37.9	36	270	11.0	36
	8	4	6	0	10	7.8	317	37.4	10	279	12.5	10
	9	10	10	0	20	15.5	369	47.6	20	286	9.5	20
	10	5	4	0	9	7.0	382	50.9	9	294	8.7	9
18 May	11	9	2	0	11	8.5	391	53.5	11	300	10.8	11
	12	6	6	0	12	9.3	399	33.3	12	303	10.2	12
	13	0	5	0	5	3.9	486	68.9	5	313	11.6	5
	14	0	1	0	1	0.8	448		1	317		1
	15											
	16											
	17											
Sample Total		67	62	0	129	100.0	331	74.4	129	281	19.4	129
	5	1	0	0	1	0.9	216		1	240		1
	6	4	4	0	8	6.9	280	29.4	8	266	9.2	8
	7	12	23	0	35	30.2	291	37.9	35	269	11.4	35
	8	6	3	0	9	7.8	324	26.0	9	282	5.6	9
	9	10	10	0	20	17.2	372	39.8	20	289	11.6	20
	10	0	4	0	4	3.4	352	44.2	4	294	13.8	4
20 May	11	6	6	0	12	10.3	420	52.2	12	305	7.1	12
	12	7	7	0	14	12.1	408	45.3	14	303	9.3	14
	13	6	5	0	11	9.5	445	70.9	11	313	15.1	11
	14											
	15											
	16	1	0	0	1	0.9	430		1	315		1
	17	1	0	0	1	0.9	370		1	292		1
Sample Total		54	62	0	116	100.0	352	72.7	116	286	20.0	116

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Appendix A.9. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
8-20 May	5	2	0	0	2	0.2	243	38.2	2	255	20.5	2
	6	32	34	0	66	5.3	258	29.2	66	264	10.8	66
	7	71	93	0	164	13.1	298	37.8	164	273	10.7	164
	8	24	33	0	57	4.5	328	43.8	57	282	9.5	57
	9	136	119	0	255	20.3	377	44.4	255	292	10.0	255
	10	35	38	0	73	5.8	396	51.6	73	299	10.7	73
	11	124	97	0	221	17.6	422	47.4	221	304	9.1	221
	12	147	126	0	273	21.7	439	53.2	273	308	10.2	273
	13	66	54	0	120	9.6	454	59.6	120	313	10.1	120
	14	6	6	0	12	1.0	468	34.8	12	314	6.8	12
	15	6	4	0	10	0.8	497	66.7	10	315	12.7	10
	16	2	0	0	2	0.2	474	61.5	2	318	4.2	2
	17	1	0	0	1	0.1	370		1	292		1
All Samples Combined		652	604	0	1256	100.0	390	75.9	1256	296	17.8	1256
Sex Composition		51.9	48.1									
Unaged		115	118	0	233	18.6	385	75.0	233	295	17.9	233
Sex Composition		49.4	50.6									

Appendix A.10. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Nunavachak Section, 8-19 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
8 May	3											
	4											
	5											
	6	4	3	0	7	5.6	269	42.2	7	264	12.3	7
	7	8	14	0	22	17.7	323	46.4	22	273	11.1	22
	8	2	2	0	4	3.2	380	65.3	4	287	12.0	4
	9	12	6	0	18	14.5	416	52.2	18	295	11.2	18
	10	8	2	0	10	8.1	419	58.0	10	298	9.6	10
	11	9	5	0	14	11.3	462	57.8	14	307	9.5	14
	12	17	16	0	33	26.6	495	44.8	33	309	10.7	33
	13	3	9	0	12	9.7	547	67.9	12	319	9.7	12
	14	0	1	0	1	0.8	530		1	319		1
	15	2	0	0	2	1.6	530	5.7	2	317	1.4	2
	16	1	0	0	1	0.8	507		1	320		1
Sample Total		66	58	0	124	100.0	433	94.8	124	297	19.6	124
10 May	3											
	4											
	5											
	6	2	7	0	9	16.4	234	26.9	9	252	9.7	9
	7	2	2	0	4	7.3	285	39.5	4	266	7.0	4
	8	1	2	0	3	5.5	361	36.4	3	283	18.2	3
	9	7	3	0	10	18.2	384	56.0	10	293	10.0	10
	10	0	2	0	2	3.6	395	21.2	2	286	7.8	2
	11	4	3	0	7	12.7	402	56.5	7	305	7.1	7
	12	7	8	0	15	27.3	446	53.6	15	305	10.5	15
	13	1	3	0	4	7.3	454	47.2	4	307	7.4	4
	14											
	15	1	0	0	1	1.8	548		1	322		1
	16											
Sample Total		25	30	0	55	100.0	379	91.8	55	290	22.5	55
14 May	3	1	0	0	1	0.5	128		1	211		1
	4	1	0	0	1	0.5	161		1	221		1
	5											
	6	15	11	0	26	13.8	244	25.5	26	258	8.6	26
	7	21	13	0	34	18.0	286	33.2	34	268	8.8	34
	8	5	2	0	7	3.7	323	31.1	7	276	4.7	7
	9	18	19	0	37	19.6	361	34.4	37	286	7.0	37
	10	4	1	0	5	2.6	368	76.7	5	293	14.1	5
	11	16	18	0	34	18.0	420	47.7	34	302	7.6	34
	12	23	9	0	32	16.9	430	64.3	32	303	10.9	32
	13	8	2	0	10	5.3	436	35.1	10	309	8.7	10
	14	1	0	0	1	0.5	453		1	302		1
	15	1	0	0	1	0.5	483		1	328		1
	16											
Sample Total		114	75	0	189	100.0	355	84.2	189	285	20.7	189

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Appendix A.10. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
18 May	3	1	0	0	1	0.7	190		1	204		1
	4											
	5	2	0	0	2	1.5	179	16.3	2	234	4.2	2
	6	30	25	0	55	40.1	241	27.4	55	258	12.7	55
	7	29	19	0	48	35.0	284	40.8	48	269	10.3	48
	8	1	0	0	1	0.7	314		1	283		1
	9	10	6	0	16	11.7	351	50.4	16	290	8.7	16
	10	1	0	0	1	0.7	328		1	294		1
	11	3	3	0	6	4.4	428	52.9	6	306	6.3	6
	12	3	2	0	5	3.6	405	80.6	5	306	10.8	5
	13	0	2	0	2	1.5	510	63.6	2	324	5.7	2
	14											
	15											
	16											
Sample Total		80	57	0	137	100.0	287	72.0	137	270	20.5	137
19 May	3	3	2	0	5	3.5	108	1.7	5	208	9.8	5
	4	2	0	0	2	1.4	147	13.4	2	224	1.4	2
	5	3	2	0	5	3.5	183	16.4	5	237	5.4	5
	6	18	25	0	43	29.9	233	34.4	43	255	11.6	43
	7	18	18	0	36	25.0	280	38.2	36	268	8.7	36
	8	2	3	0	5	3.5	343	44.0	5	283	14.1	5
	9	11	7	0	18	12.5	355	37.4	18	289	6.9	18
	10	0	2	0	2	1.4	371	18.4	2	282	0.7	2
	11	6	1	0	7	4.9	389	30.4	7	302	12.5	7
	12	9	8	0	17	11.8	420	74.4	17	304	17.5	17
	13	0	3	0	3	2.1	504	25.5	3	319	6.1	3
	14											
	15	1	0	0	1	0.7	460		1	329		1
	16											
Sample Total		73	71	0	144	100.0	296	93.8	144	271	26.4	144
8-19 May	3	5	2	0	7	1.1	123	30.5	7	208	8.3	7
	4	3	0	0	3	0.5	151	12.7	3	223	2.0	3
	5	5	2	0	7	1.1	182	15.1	7	236	4.9	7
	6	69	71	0	140	21.6	240	30.8	140	257	11.6	140
	7	78	66	0	144	22.2	289	41.4	144	269	9.7	144
	8	11	9	0	20	3.1	345	45.3	20	281	11.2	20
	9	58	41	0	99	15.3	370	48.6	99	290	8.9	99
	10	13	7	0	20	3.1	395	60.5	20	293	10.9	20
	11	38	30	0	68	10.5	424	53.2	68	303	8.5	68
	12	59	43	0	102	15.7	451	67.0	102	306	12.2	102
	13	12	19	0	31	4.8	492	70.5	31	314	9.9	31
	14	1	1	0	2	0.3	492	54.4	2	311	12.0	2
	15	5	0	0	5	0.8	510	37.1	5	323	5.8	5
	16	1	0	0	1	0.2	507		1	320		1
All Samples Combined		358	291	0	649	100.0	344	101.7	649	282	24.3	649
Sex Composition		55.2	44.8									
Unaged		43	42	0	85	13.1	354	106.3	85	284	24.1	85
Sex Composition		50.6	49.4									

Appendix A.11. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Togiak Section, 8-15 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
8 May	5											
	6	0	1	0	1	2.0	285		1	257		1
	7	1	1	0	2	4.0	309	31.1	2	264	2.1	2
	8											
	9	3	3	0	6	12.0	400	17.2	6	288	5.6	6
	10	2	0	0	2	4.0	393	65.8	2	293	3.5	2
	11	0	9	0	9	18.0	483	32.0	9	305	7.2	9
	12	9	15	0	24	48.0	492	64.2	24	307	10.7	24
	13	2	4	0	6	12.0	526	67.4	6	309	9.1	6
	14											
	15											
Sample Total		17	33	0	50	100.0	468	77.2	50	301	14.9	50
10 May	5											
	6	2	0	0	2	6.1	228	14.1	2	256	0.7	2
	7	3	2	0	5	15.2	283	30.3	5	271	13.0	5
	8	2	0	0	2	6.1	298	27.6	2	285	14.1	2
	9	3	3	0	6	18.2	350	55.3	6	291	5.7	6
	10	1	1	0	2	6.1	372	38.9	2	298	8.5	2
	11	0	3	0	3	9.1	372	65.3	3	301	17.2	3
	12	4	6	0	10	30.3	425	37.7	10	311	7.4	10
	13	1	2	0	3	9.1	455	21.6	3	319	13.4	3
	14											
	15											
Sample Total		16	17	0	33	100.0	365	76.2	33	295	20.4	33
12 May	5	0	1	0	1	0.8	351		1	255		1
	6	5	3	0	8	6.5	224	34.5	8	256	9.2	8
	7	6	4	0	10	8.1	283	58.8	10	272	12.9	10
	8	2	5	0	7	5.7	328	37.6	7	286	9.2	7
	9	7	16	0	23	18.7	341	37.8	23	292	7.5	23
	10	2	4	0	6	4.9	372	42.7	6	302	5.7	6
	11	4	15	0	19	15.4	395	40.8	19	306	9.3	19
	12	5	32	0	37	30.1	414	37.3	37	311	11.4	37
	13	4	6	0	10	8.1	420	41.1	10	314	6.8	10
	14											
	15	0	2	0	2	1.6	454	55.2	2	324	0.0	2
Sample Total		35	88	0	123	100.0	368	69.3	123	298	19.5	123

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Appendix A.11. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
14 May	5											
	6	4	12	0	16	12.0	259	51.4	16	261	9.5	16
	7	10	10	0	20	15.0	292	21.7	20	274	5.7	20
	8	1	2	0	3	2.3	300	19.2	3	279	0.6	3
	9	13	12	0	25	18.8	350	47.1	25	294	10.4	25
	10	5	2	0	7	5.3	371	35.1	7	304	13.6	7
	11	11	11	0	22	16.5	391	54.1	22	305	7.8	22
	12	7	21	0	28	21.1	432	43.8	28	313	7.8	28
	13	7	4	0	11	8.3	400	43.7	11	310	14.2	11
	14											
	15	0	1	0	1	0.8	505		1	335		1
Sample Total		58	75	0	133	100.0	360	73.8	133	295	20.4	133
15 May	5	1	0	0	1	0.9	164		1	240		1
	6	7	6	0	13	11.6	206	18.8	13	256	8.4	13
	7	6	5	0	11	9.8	278	55.8	11	270	9.6	11
	8	0	3	0	3	2.7	296	33.9	3	282	3.5	3
	9	8	4	0	12	10.7	326	30.3	12	295	8.2	12
	10	8	4	0	12	10.7	332	30.8	12	295	6.6	12
	11	9	16	0	25	22.3	367	34.6	25	304	10.4	25
	12	11	13	0	24	21.4	389	41.4	24	309	8.5	24
	13	0	9	0	9	8.0	424	37.7	9	314	7.7	9
	14	1	1	0	2	1.8	434	54.4	2	324	0.7	2
	15											
Sample Total		51	61	0	112	100.0	338	74.2	112	294	21.2	112
8-15 May	5	1	1	0	2	0.4	258	132.2	2	248	10.6	2
	6	18	22	0	40	8.9	234	44.0	40	258	8.9	40
	7	26	22	0	48	10.6	287	40.9	48	272	9.2	48
	8	5	10	0	15	3.3	312	33.5	15	284	7.7	15
	9	34	38	0	72	16.0	347	43.6	72	293	8.5	72
	10	18	11	0	29	6.4	357	40.4	29	299	9.0	29
	11	24	54	0	78	17.3	394	54.4	78	305	9.2	78
	12	36	87	0	123	27.3	429	56.7	123	310	9.7	123
	13	14	25	0	39	8.6	434	60.0	39	313	10.3	39
	14	1	1	0	2	0.4	434	54.4	2	324	0.7	2
	15	0	3	0	3	0.7	471	48.9	3	328	6.4	3
All Samples Combined		177	274	0	451	100.0	369	81.7	451	296	19.9	451
Sex Composition		39.2	60.8									
Unaged		32	42	0	74	16.4	379	75.5	74	301	16.4	74
Sex Composition		43.2	56.8									

Appendix A.12. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Hagemeister Section, 7-12 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
7 May	4											
	5											
	6											
	7	0	1	0	1	2.9	248		1	274		1
	8	1	1	0	2	5.9	379	46.7	2	295	9.9	2
	9	4	4	0	8	23.5	402	37.9	8	302	11.1	8
	10	1	1	0	2	5.9	420	87.7	2	305	19.8	2
	11	1	3	0	4	11.8	495	41.5	4	313	7.3	4
	12	3	7	0	10	29.4	498	54.2	10	316	8.0	10
	13	1	6	0	7	20.6	530	23.3	7	322	4.4	7
	14											
	15											
Sample Total		11	23	0	34	100.0	463	77.0	34	310	13.3	34
8 May	4	1	0	0	1	0.5	146		1	225		1
	5	0	1	0	1	0.5	228		1	244		1
	6	11	14	0	25	11.7	272	53.2	25	259	9.1	25
	7	13	14	0	27	12.7	319	42.9	27	272	7.6	27
	8	2	5	0	7	3.3	344	52.5	7	281	14.4	7
	9	14	29	0	43	20.2	422	54.6	43	291	11.2	43
	10	5	11	0	16	7.5	441	63.1	16	297	13.2	16
	11	12	15	0	27	12.7	465	53.1	27	309	7.0	27
	12	14	27	1	42	19.7	491	48.6	42	309	10.6	42
	13	8	12	0	20	9.4	509	41.7	20	314	7.5	20
	14	1	2	0	3	1.4	564	37.6	3	325	12.7	3
	15	0	1	0	1	0.5	647		1	326		1
Sample Total		81	131	1	213	100.0	418	98.2	213	293	21.6	213
12 May	4											
	5	1	0	0	1	0.9	218		1	264		1
	6	3	3	0	6	5.4	245	48.4	6	256	10.7	6
	7	15	8	0	23	20.5	289	54.8	23	275	11.3	23
	8	3	2	0	5	4.5	304	25.4	5	286	7.8	5
	9	12	10	0	22	19.6	342	47.1	22	290	9.4	22
	10	6	1	0	7	6.3	342	36.2	7	297	11.1	7
	11	8	6	0	14	12.5	400	44.8	14	304	7.9	14
	12	7	11	0	18	16.1	415	73.2	18	308	11.3	18
	13	10	5	0	15	13.4	423	46.9	15	313	8.0	15
	14	0	1	0	1	0.9	326		1	288		1
	15											
Sample Total		65	47	0	112	100.0	353	76.8	112	293	18.7	112

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Appendix A.12. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
7-12 May	4	1	0	0	1	0.3	146		1	225		1
	5	1	1	0	2	0.6	223	7.1	2	254	14.1	2
	6	14	17	0	31	8.6	267	52.7	31	258	9.4	31
	7	28	23	0	51	14.2	304	50.5	51	273	9.4	51
	8	6	8	0	14	3.9	335	48.5	14	285	12.0	14
	9	30	43	0	73	20.3	396	61.9	73	292	11.1	73
	10	12	13	0	25	7.0	412	71.9	25	298	12.7	25
	11	21	24	0	45	12.5	448	59.2	45	308	7.6	45
	12	24	45	1	70	19.5	472	65.3	70	309	10.6	70
	13	19	23	0	42	11.7	482	60.5	42	315	7.8	42
	14	1	3	0	4	1.1	504	122.7	4	316	21.1	4
	15	0	1	0	1	0.3	647		1	326		1
All Samples Combined		157	201	1	359	100.0	402	96.7	359	295	20.7	359
Sex Composition		43.9	56.1									
Unaged		28	37	0	65	18.1	410	95.8	65	296	18.8	65
Sex Composition		43.1	56.9									

Appendix A.13. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Nunavachak, Togiak, and Hagemeister Sections, 7-12 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7	0	1	0	1	2.9	248		1	274		1
	8	1	1	0	2	5.9	379	46.7	2	295	9.9	2
7 May	9	4	4	0	8	23.5	402	37.9	8	302	11.1	8
	10	1	1	0	2	5.9	420	87.7	2	305	19.8	2
	11	1	3	0	4	11.8	495	41.5	4	313	7.3	4
	12	3	7	0	10	29.4	498	54.2	10	316	8.0	10
	13	1	6	0	7	20.6	530	23.3	7	322	4.4	7
	14											
	15											
	16											
Sample Total		11	23	0	34	100.0	463	77.0	34	310	13.3	34
	3											
	4	1	0	0	1	0.3	146		1	225		1
	5	0	1	0	1	0.3	228		1	244		1
	6	15	18	0	33	8.5	272	49.7	33	260	9.8	33
	7	22	29	0	51	13.2	320	43.5	51	272	9.3	51
	8	4	7	0	11	2.8	357	57.1	11	283	13.2	11
8 May	9	29	38	0	67	17.3	418	51.6	67	292	10.9	67
	10	15	13	0	28	7.2	430	61.0	28	297	11.4	28
	11	21	29	0	50	12.9	468	51.0	50	308	7.8	50
	12	40	58	1	99	25.6	493	51.1	99	309	10.6	99
	13	13	25	0	38	9.8	523	56.4	38	315	8.9	38
	14	1	3	0	4	1.0	555	35.0	4	323	10.8	4
	15	2	1	0	3	0.8	569	67.7	3	320	5.3	3
	16	1	0	0	1	0.3	507		1	320		1
Sample Total		164	222	1	387	100.0	429	95.8	387	296	20.4	387
	3											
	4											
	5											
	6	4	7	0	11	12.5	233	24.6	11	252	8.8	11
	7	5	4	0	9	10.2	284	32.3	9	269	10.4	9
	8	3	2	0	5	5.7	336	45.4	5	284	14.8	5
10 May	9	10	6	0	16	18.2	371	56.4	16	292	8.5	16
	10	1	3	0	4	4.5	383	29.0	4	292	9.8	4
	11	4	6	0	10	11.4	393	57.3	10	304	10.2	10
	12	11	14	0	25	28.4	437	48.2	25	307	9.7	25
	13	2	5	0	7	8.0	454	35.6	7	312	11.4	7
	14											
	15	1	0	0	1	1.1	548		1	322		1
	16											
Sample Total		41	47	0	88	100.0	373	86.1	88	292	21.8	88

-Continued-

Appendix A.13. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
12 May	3											
	4											
	5	1	1	0	2	0.9	285	94.0	2	260	6.4	2
	6	8	6	0	14	6.0	233	40.7	14	256	9.5	14
	7	21	12	0	33	14.0	287	55.2	33	274	11.7	33
	8	5	7	0	12	5.1	318	34.0	12	286	8.3	12
	9	19	26	0	45	19.1	341	42.1	45	291	8.4	45
	10	8	5	0	13	5.5	356	40.8	13	299	9.1	13
	11	12	21	0	33	14.0	397	42.0	33	305	8.6	33
	12	12	43	0	55	23.4	414	51.1	55	310	11.3	55
	13	14	11	0	25	10.6	422	43.8	25	313	7.4	25
	14	0	1	0	1	0.4	326		1	288		1
	15	0	2	0	2	0.9	454	55.2	2	324	0.0	2
	16											
Sample Total		100	135	0	235	100.0	361	73.2	235	296	19.3	235
14 May	3	1	0	0	1	0.3	128		1	211		1
	4	1	0	0	1	0.3	161		1	221		1
	5											
	6	19	23	0	42	13.0	250	37.5	42	259	9.0	42
	7	31	23	0	54	16.8	288	29.4	54	270	8.3	54
	8	6	4	0	10	3.1	316	29.1	10	277	4.2	10
	9	31	31	0	62	19.3	356	40.0	62	289	9.3	62
	10	9	3	0	12	3.7	370	53.0	12	299	14.3	12
	11	27	29	0	56	17.4	408	51.9	56	303	7.8	56
	12	30	30	0	60	18.6	431	55.2	60	308	10.8	60
	13	15	6	0	21	6.5	417	42.9	21	310	11.6	21
	14	1	0	0	1	0.3	453		1	302		1
	15	1	1	0	2	0.6	494	15.6	2	332	4.9	2
	16											
Sample Total		172	150	0	322	100.0	357	80.0	322	289	21.1	322
15 May	3											
	4											
	5	1	0	0	1	0.9	164		1	240		1
	6	7	6	0	13	11.6	206	18.8	13	256	8.4	13
	7	6	5	0	11	9.8	278	55.8	11	270	9.6	11
	8	0	3	0	3	2.7	296	33.9	3	282	3.5	3
	9	8	4	0	12	10.7	326	30.3	12	295	8.2	12
	10	8	4	0	12	10.7	332	30.8	12	295	6.6	12
	11	9	16	0	25	22.3	367	34.6	25	304	10.4	25
	12	11	13	0	24	21.4	389	41.4	24	309	8.5	24
	13	0	9	0	9	8.0	424	37.7	9	314	7.7	9
	14	1	1	0	2	1.8	434	54.4	2	324	0.7	2
	15											
	16											
Sample Total		51	61	0	112	100.0	338	74.2	112	294	21.2	112

-Continued-

Appendix A.13. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	0	0	1	0.7	190		1	204		1
	4											
	5	2	0	0	2	1.5	179	16.3	2	234	4.2	2
	6	30	25	0	55	40.1	241	27.4	55	258	12.7	55
	7	29	19	0	48	35.0	284	40.8	48	269	10.3	48
	8	1	0	0	1	0.7	314		1	283		1
18 May	9	10	6	0	16	11.7	351	50.4	16	290	8.7	16
	10	1	0	0	1	0.7	328		1	294		1
	11	3	3	0	6	4.4	428	52.9	6	306	6.3	6
	12	3	2	0	5	3.6	405	80.6	5	306	10.8	5
	13	0	2	0	2	1.5	510	63.6	2	324	5.7	2
	14											
	15											
	16											
Sample Total		80	57	0	137	100.0	287	72.0	137	270	20.5	137
	3	3	2	0	5	3.5	108	1.7	5	208	9.8	5
	4	2	0	0	2	1.4	147	13.4	2	224	1.4	2
	5	3	2	0	5	3.5	183	16.4	5	237	5.4	5
	6	18	25	0	43	29.9	233	34.4	43	255	11.6	43
	7	18	18	0	36	25.0	280	38.2	36	268	8.7	36
	8	2	3	0	5	3.5	343	44.0	5	283	14.1	5
19 May	9	11	7	0	18	12.5	355	37.4	18	289	6.9	18
	10	0	2	0	2	1.4	371	18.4	2	282	0.7	2
	11	6	1	0	7	4.9	389	30.4	7	302	12.5	7
	12	9	8	0	17	11.8	420	74.4	17	304	17.5	17
	13	0	3	0	3	2.1	504	25.5	3	319	6.1	3
	14											
	15	1	0	0	1	0.7	460		1	329		1
	16											
Sample Total		73	71	0	144	100.0	296	93.8	144	271	26.4	144
	3	5	2	0	7	0.5	123	30.5	7	208	8.3	7
	4	4	0	0	4	0.3	150	10.7	4	224	1.9	4
	5	7	4	0	11	0.8	203	53.7	11	241	10.3	11
	6	101	110	0	211	14.5	243	38.5	211	258	10.8	211
	7	132	111	0	243	16.7	292	43.7	243	271	9.7	243
	8	22	27	0	49	3.4	332	44.4	49	283	10.4	49
7-19 May	9	122	122	0	244	16.7	371	54.7	244	291	9.6	244
	10	43	31	0	74	5.1	386	62.2	74	297	11.0	74
	11	83	108	0	191	13.1	417	58.9	191	305	8.7	191
	12	119	175	1	295	20.2	447	64.5	295	308	11.0	295
	13	45	67	0	112	7.7	468	67.6	112	314	9.3	112
	14	3	5	0	8	0.5	483	91.0	8	316	15.4	8
	15	5	4	0	9	0.6	512	64.8	9	325	5.8	9
	16	1	0	0	1	0.1	507		1	320		1
All Samples Combined		692	766	1	1459	100.0	366	97.4	1459	289	23.2	1459
Sex Composition		47.5	52.5									
Unaged		103	121	0	224	15.4	379	96.2	224	293	21.6	224
Sex Composition		46.0	54.0									

Appendix A.14. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Kulukak Section, 6-23 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6 May	3	1	1	0	2	4.3	171	4.2	2	232	4.2	2
	4											
	5											
	6	4	2	0	6	13.0	236	32.2	6	260	8.5	6
	7	1	3	0	4	8.7	275	20.2	4	271	12.8	4
	8	0	2	0	2	4.3	392	28.3	2	297	1.4	2
	9	2	6	0	8	17.4	399	41.3	8	298	10.9	8
	10	3	1	0	4	8.7	412	42.4	4	307	8.1	4
	11	3	2	0	5	10.9	391	80.8	5	295	12.9	5
	12	4	2	0	6	13.0	460	56.6	6	305	6.7	6
	13	3	6	0	9	19.6	461	45.4	9	312	7.2	9
	14											
Sample Total		21	25	0	46	100.0	377	99.2	46	292	23.3	46
11 May	3											
	4											
	5											
	6	5	2	0	7	6.9	245	25.5	7	255	8.3	7
	7	4	4	0	8	7.8	284	55.9	8	265	14.3	8
	8	1	1	0	2	2.0	340	42.4	2	288	14.8	2
	9	18	8	0	26	25.5	360	41.7	26	288	8.8	26
	10	4	3	0	7	6.9	404	47.8	7	299	8.1	7
	11	10	5	0	15	14.7	431	57.0	15	303	8.9	15
	12	20	8	0	28	27.5	421	44.4	28	303	7.5	28
	13	6	2	0	8	7.8	422	54.9	8	306	10.6	8
	14	0	1	0	1	1.0	515		1	331		1
Sample Total		68	34	0	102	100.0	382	73.3	102	293	17.9	102
12 May	3											
	4											
	5	0	1	0	1	0.9	178		1	239		1
	6	10	5	0	15	14.0	222	26.1	15	257	7.8	15
	7	13	10	0	23	21.5	277	58.9	23	271	11.4	23
	8	1	3	0	4	3.7	316	27.2	4	282	6.0	4
	9	11	8	0	19	17.8	344	49.6	19	295	10.1	19
	10	5	1	0	6	5.6	361	32.5	6	296	5.8	6
	11	13	4	0	17	15.9	388	49.7	17	305	7.5	17
	12	9	4	0	13	12.1	409	51.1	13	304	11.4	13
	13	2	6	0	8	7.5	463	104.3	8	311	10.7	8
	14	1	0	0	1	0.9	440		1	310		1
Sample Total		65	42	0	107	100.0	335	89.4	107	288	21.0	107

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Appendix A.14. (p. 2 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5	1	1	0	2	5.4	212	33.2	2	258	15.6	2
	6	3	2	0	5	13.5	216	25.5	5	252	8.8	5
	7	12	5	0	17	45.9	271	25.2	17	266	9.7	17
14 May	8	2	3	0	5	13.5	326	19.8	5	280	6.5	5
	9	1	0	0	1	2.7	302		1	307		1
	10											
	11	0	1	0	1	2.7	470		1	302		1
	12	1	2	0	3	8.1	410	113.9	3	308	10.1	3
	13	1	2	0	3	8.1	468	17.1	3	310	12.6	3
	14											
Sample Total		21	16	0	37	100.0	302	84.9	37	275	21.2	37
	3	1	1	0	2	2.0	109	18.4	2	201	12.0	2
	4	3	1	0	4	4.0	125	37.8	4	218	15.4	4
	5	2	2	0	4	4.0	183	27.7	4	243	11.6	4
	6	12	17	0	29	28.7	214	24.3	29	254	7.6	29
	7	12	14	0	26	25.7	271	39.7	26	267	8.3	26
18 May	8	3	1	0	4	4.0	292	57.0	4	273	14.7	4
	9	9	6	0	15	14.9	305	60.2	15	283	16.6	15
	10	4	1	0	5	5.0	328	38.7	5	288	9.0	5
	11	3	0	0	3	3.0	375	17.0	3	301	5.7	3
	12	2	4	0	6	5.9	421	46.5	6	309	8.1	6
	13	2	1	0	3	3.0	344	38.2	3	307	10.4	3
	14											
Sample Total		53	48	0	101	100.0	265	78.9	101	267	24.6	101
	3											
	4											
	5											
	6	2	0	0	2	22.2	201	13.4	2	252	12.7	2
	7	1	1	0	2	22.2	303	7.1	2	277	3.5	2
19 May	8											
	9	0	2	0	2	22.2	378	3.5	2	287	7.1	2
	10											
	11	1	0	0	1	11.1	330		1	300		1
	12	0	1	0	1	11.1	444		1	309		1
	13	0	1	0	1	11.1	517		1	289		1
	14											
Sample Total		4	5	0	9	100.0	339	104.3	9	281	20.1	9

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Appendix A.14. (p. 3 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
20 May	3	5	1	0	6	5.6	106	20.9	6	204	11.8	6
	4	6	0	0	6	5.6	117	21.8	6	211	13.1	6
	5	0	2	0	2	1.9	163	12.7	2	228	3.5	2
	6	22	23	0	45	41.7	226	28.7	45	255	8.4	45
	7	12	8	0	20	18.5	263	36.2	20	266	11.4	20
	8	1	2	0	3	2.8	287	22.7	3	272	6.8	3
	9	7	3	0	10	9.3	338	28.1	10	288	7.5	10
	10	2	1	0	3	2.8	339	62.4	3	292	9.3	3
	11	2	0	0	2	1.9	356	29.7	2	288	0.7	2
	12	3	5	0	8	7.4	419	50.1	8	305	6.3	8
	13	0	2	0	2	1.9	505	18.4	2	317	4.2	2
	14	0	1	0	1	0.9	544		1	312		1
Sample Total		60	48	0	108	100.0	259	93.7	108	262	27.9	108
21 May	3	1	0	0	1	1.3	90		1	180		1
	4	0	2	0	2	2.6	163	46.0	2	229	21.2	2
	5	2	0	0	2	2.6	184	17.0	2	237	4.2	2
	6	17	16	0	33	42.3	222	31.1	33	251	10.6	33
	7	17	8	0	25	32.1	270	38.9	25	267	10.2	25
	8	1	1	0	2	2.6	373	48.8	2	292	6.4	2
	9	2	3	0	5	6.4	339	61.3	5	285	12.0	5
	10	0	2	0	2	2.6	403	32.5	2	292	7.1	2
	11	2	0	0	2	2.6	334	4.9	2	294	2.8	2
	12	3	0	0	3	3.8	314	35.7	3	298	5.2	3
	13	1	0	0	1	1.3	374		1	292		1
	14											
Sample Total		46	32	0	78	100.0	258	65.4	78	262	21.3	78
22 May	3											
	4											
	5											
	6	0	1	0	1	33.3	294		1	274		1
	7	0	1	0	1	33.3	296		1	269		1
	8											
	9	0	1	0	1	33.3	336		1	295		1
	10											
	11											
	12											
	13											
	14											
Sample Total		0	3	0	3	100.0	309	23.7	3	279	13.8	3

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Appendix A.14. (p. 4 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5	1	1	0	2	1.7	212	6.4	2	260	7.1	2
	6	22	24	0	46	38.3	239	31.2	46	256	9.3	46
	7	18	20	0	38	31.7	276	32.0	38	269	8.1	38
23 May	8	6	1	0	7	5.8	286	28.3	7	272	6.9	7
	9	6	5	0	11	9.2	351	32.4	11	282	5.3	11
	10	2	1	0	3	2.5	391	63.9	3	298	14.2	3
	11	1	2	0	3	2.5	392	59.2	3	303	16.8	3
	12	6	1	0	7	5.8	379	41.1	7	305	8.0	7
	13	1	1	0	2	1.7	497	75.0	2	314	5.7	2
	14	1	0	0	1	0.8	466		1	322		1
Sample Total		64	56	0	120	100.0	285	67.4	120	270	18.1	120
	3	8	3	0	11	1.5	117	31.6	11	206	17.2	11
	4	9	3	0	12	1.7	127	32.9	12	216	15.2	12
	5	6	7	0	13	1.8	188	25.1	13	244	13.8	13
	6	97	92	0	189	26.6	227	30.1	189	255	9.1	189
	7	90	74	0	164	23.1	273	39.5	164	268	9.9	164
6-23 May	8	15	14	0	29	4.1	315	44.3	29	279	11.0	29
	9	56	42	0	98	13.8	347	49.8	98	289	11.6	98
	10	20	10	0	30	4.2	376	51.4	30	296	9.7	30
	11	35	14	0	49	6.9	398	58.0	49	302	9.5	49
	12	48	27	0	75	10.5	414	54.7	75	304	8.1	75
	13	16	21	0	37	5.2	448	72.1	37	309	10.1	37
	14	2	2	0	4	0.6	491	46.9	4	319	9.7	4
All Samples Combined		402	309	0	711	100.0	304	93.3	711	275	25.0	711
Sex Composition		56.5	43.5									
Unaged		102	62	0	164	23.1	297	91.1	164	274	25.7	164
Sex Composition		62.2	37.8									

Appendix A.15. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Nunavachak Section, 7 May-5 June 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7	0	1	0	1	5.9	360		1	285		1
	8											
7 May	9	1	4	0	5	29.4	445	25.6	5	299	8.5	5
	10											
	11	0	1	0	1	5.9	445		1	297		1
	12	2	4	0	6	35.3	479	56.0	6	309	8.7	6
	13	1	1	0	2	11.8	514	20.5	2	309	7.8	2
	14	0	2	0	2	11.8	487	78.5	2	312	2.8	2
	15											
	16											
Sample Total		4	13	0	17	100.0	465	53.1	17	304	9.8	17
	3											
	4											
	5											
	6	2	7	0	9	7.6	282	28.3	9	268	7.3	9
	7	14	10	0	24	20.2	294	39.9	24	274	9.1	24
	8	1	2	0	3	2.5	361	39.9	3	286	10.4	3
12 May	9	13	10	0	23	19.3	381	46.3	23	296	8.0	23
	10	6	4	0	10	8.4	378	41.7	10	298	6.5	10
	11	12	5	0	17	14.3	416	34.1	17	305	6.8	17
	12	16	3	0	19	16.0	415	50.4	19	310	8.0	19
	13	5	4	0	9	7.6	448	70.4	9	312	10.2	9
	14	1	2	0	3	2.5	486	59.2	3	324	1.2	3
	15											
	16	1	1	0	2	1.7	485	13.4	2	324	2.8	2
Sample Total		71	48	0	119	100.0	375	72.8	119	295	17.9	119
	3											
	4											
	5											
	6											
	7											
	8											
14 May	9											
	10											
	11	1	0	0	1	33.3	421		1	314		1
	12	1	1	0	2	66.7	413	106.1	2	306	12.0	2
	13											
	14											
	15											
	16											
Sample Total		2	1	0	3	100.0	416	75.1	3	308	9.8	3

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Appendix A.15. (p. 2 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
30 May	3	0	2	0	2	50.0	174	102.5	2	234	44.5	2
	4											
	5											
	6	2	0	0	2	50.0	197	67.2	2	226	16.3	2
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
Sample Total		2	2	0	4	100.0	185	72.0	4	230	27.8	4
31 May	3	12	5	0	17	12.4	97	9.8	17	199	6.1	17
	4	5	1	0	6	4.4	124	12.4	6	215	11.8	6
	5	6	6	0	12	8.8	180	49.8	12	242	17.9	12
	6	26	27	0	53	38.7	194	27.4	53	253	15.5	53
	7	11	11	0	22	16.1	228	33.3	22	265	22.4	22
	8	0	4	0	4	2.9	298	19.7	4	279	2.2	4
	9	5	4	0	9	6.6	263	53.5	9	273	15.3	9
	10	1	2	0	3	2.2	308	28.7	3	285	8.5	3
	11	2	2	0	4	2.9	314	41.8	4	289	11.0	4
	12	0	3	0	3	2.2	359	51.3	3	300	1.0	3
	13	3	1	0	4	2.9	363	24.4	4	309	3.7	4
	14											
	15											
	16											
Sample Total		71	66	0	137	100.0	205	72.1	137	252	30.6	137
1 June	3	6	6	0	12	20.7	112	13.9	12	208	7.5	12
	4	2	3	0	5	8.6	109	5.5	5	206	2.1	5
	5	3	1	0	4	6.9	192	52.8	4	243	13.7	4
	6	13	9	0	22	37.9	207	35.0	22	249	13.9	22
	7	1	3	0	4	6.9	243	32.0	4	262	12.1	4
	8	0	2	0	2	3.4	297	87.7	2	275	22.6	2
	9	4	1	0	5	8.6	298	41.2	5	282	11.3	5
	10	1	1	0	2	3.4	345	20.5	2	297	9.2	2
	11	0	1	0	1	1.7	288		1	281		1
	12											
	13	1	0	0	1	1.7	318		1	304		1
	14											
	15											
	16											
Sample Total		31	27	0	58	100.0	199	75.9	58	244	29.8	58

-Continued-

Appendix A.15. (p. 3 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
2 June	3	3	4	0	7	8.0	101	13.9	7	202	10.6	7
	4	3	2	0	5	5.7	134	14.7	5	220	6.7	5
	5	3	6	0	9	10.2	161	24.4	9	237	16.5	9
	6	32	14	0	46	52.3	185	28.6	46	247	10.2	46
	7	6	5	0	11	12.5	211	24.2	11	259	7.8	11
	8	2	2	0	4	4.5	253	45.6	4	267	9.8	4
	9	1	2	0	3	3.4	296	57.6	3	273	15.0	3
	10	2	1	0	3	3.4	332	8.6	3	297	2.3	3
	11											
	12											
	13											
	14											
	15											
	16											
Sample Total		52	36	0	88	100.0	188	54.3	88	246	21.6	88
3 June	3	0	2	0	2	11.1	106	21.9	2	203	14.1	2
	4	0	2	0	2	11.1	129	20.5	2	218	10.6	2
	5	0	1	0	1	5.6	169		1	241		1
	6	2	1	0	3	16.7	189	35.1	3	251	10.0	3
	7	3	1	0	4	22.2	259	17.7	4	268	8.8	4
	8	1	3	0	4	22.2	294	46.1	4	285	14.0	4
	9	0	2	0	2	11.1	299	10.6	2	278	6.4	2
	10											
	11											
	12											
	13											
	14											
	15											
	16											
Sample Total		6	12	0	18	100.0	223	76.5	18	256	29.8	18
5 June	3	2	0	0	2	14.3	98	11.3	2	203	8.5	2
	4	1	0	0	1	7.1	95		1	200		1
	5											
	6	2	0	0	2	14.3	186	35.4	2	236	12.7	2
	7	0	4	0	4	28.6	266	38.0	4	265	7.5	4
	8											
	9	2	0	0	2	14.3	282	19.8	2	273	12.0	2
	10	1	0	0	1	7.1	262		1	275		1
	11											
	12	0	1	0	1	7.1	401		1	309		1
	13											
	14	1	0	0	1	7.1	294		1	295		1
	15											
	16											
Sample Total		9	5	0	14	100.0	232	91.1	14	255	34.7	14

-Continued-

Appendix A.15. (p. 4 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	23	19	0	42	9.2	106	25.7	42	204	12.7	42
	4	11	8	0	19	4.1	122	16.0	19	213	9.8	19
	5	12	14	0	26	5.7	175	41.7	26	241	16.0	26
	6	79	58	0	137	29.9	198	37.4	137	251	14.3	137
	7	35	35	0	70	15.3	255	48.2	70	267	15.3	70
	8	4	13	0	17	3.7	298	52.9	17	278	12.5	17
7 May- 5 June	9	26	23	0	49	10.7	345	73.1	49	287	14.7	49
	10	11	8	0	19	4.1	350	47.1	19	294	9.0	19
	11	15	9	0	24	5.2	395	56.2	24	302	10.6	24
	12	19	12	0	31	6.8	421	60.8	31	309	8.1	31
	13	10	6	0	16	3.5	427	77.2	16	310	8.3	16
	14	2	4	0	6	1.3	454	93.8	6	315	11.7	6
	15											
	16	1	1	0	2	0.4	485	13.4	2	324	2.8	2
All Samples Combined		248	210	0	458	100.0	258	111.7	458	263	33.7	458
Sex Composition		54.1	45.9									
Unaged		25	19	0	44	9.6	295	107.7	44	274	29.9	44
Sex Composition		56.8	43.2									

Appendix A.16. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Togiak Section, 14 May-4 June 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
14 May	3	1	0	0	1	3.7	127		1	211		1
	4											
	5	0	0	0	2	7.4	178	10.6	2	228	4.2	2
	6	2	5	0	8	29.6	208	19.4	8	243	7.3	8
	7	2	0	0	3	11.1	230	7.0	3	248	3.8	3
	8	1	2	0	4	14.8	267	52.4	4	255	8.4	4
	9	0	1	0	3	11.1	339	67.7	3	278	16.1	3
	10	0	0	0	1	3.7	386		1	278		1
	11	1	2	0	3	11.1	413	21.5	3	289	4.2	3
	12	1	0	0	1	3.7	228		1	283		1
	13	0	1	0	1	3.7	394		1	319		1
	14											
Sample Total		8	11	0	27	100.0	265	87.7	27	258	24.9	27
18 May	3											
	4											
	5											
	6	2	1	0	3	14.3	276	52.6	3	262	10.8	3
	7	1	1	0	2	9.5	306	42.4	2	273	17.0	2
	8	0	1	0	1	4.8	396		1	288		1
	9	0	4	0	4	19.0	382	41.0	4	291	13.0	4
	10	1	4	0	5	23.8	386	17.0	5	295	6.7	5
	11	1	2	0	3	14.3	427	59.8	3	306	4.7	3
	12	1	2	0	3	14.3	433	45.8	3	305	5.0	3
	13											
	14											
Sample Total		6	15	0	21	100.0	375	64.6	21	290	17.0	21
19 May	3	3	1	0	4	3.6	115	11.1	4	206	9.0	4
	4	1	4	0	5	4.5	154	59.6	5	220	24.7	5
	5	4	1	0	5	4.5	188	12.4	5	239	5.3	5
	6	18	17	0	35	31.8	228	31.5	35	253	10.6	35
	7	13	13	0	26	23.6	285	33.7	26	271	8.6	26
	8	2	1	0	3	2.7	286	66.3	3	271	15.0	3
	9	7	4	0	11	10.0	330	38.3	11	280	7.4	11
	10											
	11	5	0	0	5	4.5	408	30.2	5	306	10.1	5
	12	5	5	0	10	9.1	426	62.0	10	307	13.1	10
	13	3	3	0	6	5.5	406	34.6	6	303	19.2	6
	14											
Sample Total		61	49	0	110	100.0	280	90.3	110	267	27.7	110

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Appendix A.16. (p. 2 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
23 May	3	14	4	0	18	15.1	107	20.2	18	201	11.2	18
	4	15	4	0	19	16.0	115	14.8	19	207	9.0	19
	5	5	2	0	7	5.9	170	35.4	7	234	11.5	7
	6	11	8	0	19	16.0	217	31.3	19	250	9.9	19
	7	12	3	0	15	12.6	246	35.6	15	260	12.0	15
	8	6	0	0	6	5.0	285	44.0	6	273	11.9	6
	9	6	7	0	13	10.9	331	50.1	13	279	12.4	13
	10	3	1	0	4	3.4	373	49.6	4	291	7.7	4
	11	4	2	0	6	5.0	431	123.7	6	309	14.2	6
	12	11	0	0	11	9.2	391	53.4	11	299	13.3	11
	13	1	0	0	1	0.8	417		1	307		1
	14											
Sample Total		88	31	0	119	100.0	235	114.7	119	250	37.5	119
30 May	3											
	4	0	1	0	1	0.9	111		1	207		1
	5	2	1	0	3	2.6	147	41.0	3	232	17.3	3
	6	15	22	0	37	32.2	217	49.3	30	258	11.6	37
	7	10	9	0	19	16.5	253	35.4	14	270	8.5	19
	8	4	7	0	11	9.6	273	60.2	7	274	14.7	11
	9	6	2	0	8	7.0	292	17.8	7	286	10.3	8
	10	4	2	0	6	5.2	292	37.2	6	288	13.7	6
	11	5	0	0	5	4.3	270	32.5	3	289	9.7	5
	12	6	9	0	15	13.0	328	35.4	13	297	10.0	15
	13	5	5	0	10	8.7	330	45.3	5	301	14.8	10
	14											
Sample Total		57	58	0	115	100.0	259	64.0	89	274	21.4	115
31 May	3											
	4											
	5											
	6	1	0	0	1	50.0	233		1	254		1
	7											
	8											
	9	0	1	0	1	50.0	355		1	291		1
	10											
	11											
	12											
	13											
	14											
Sample Total		1	1	0	2	100.0	294	86.3	2	273	26.2	2

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Appendix A.16. (p. 3 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
1 June	3	1	0	0	1	7.1	127		1	220		1
	4	0	1	0	1	7.1	116		1	208		1
	5											
	6	4	2	0	6	42.9	213	38.6	6	253	11.3	6
	7	1	4	0	5	35.7	276	33.1	5	268	9.1	5
	8	1	0	0	1	7.1	285		1	266		1
	9											
	10											
	11											
	12											
	13											
	14											
Sample Total		7	7	0	14	100.0	228	62.4	14	254	20.3	14
2 June	3	3	2	0	5	15.2	121	20.0	5	210	8.8	5
	4	0	2	0	2	6.1	138	13.4	2	219	7.8	2
	5	1	0	0	1	3.0	226		1	255		1
	6	9	6	0	15	45.5	227	39.9	15	256	11.8	15
	7	1	2	0	3	9.1	247	41.2	3	261	8.6	3
	8											
	9	2	0	0	2	6.1	398	20.5	2	294	4.9	2
	10											
	11	1	0	0	1	3.0	370		1	300		1
	12	0	2	0	2	6.1	385	11.3	2	314	0.7	2
	13	1	1	0	2	6.1	418	113.8	2	307	1.4	2
	14											
Sample Total		18	15	0	33	100.0	243	97.9	33	257	31.9	33
3 June	3	1	2	0	3	2.4	97	27.3	3	198	18.0	3
	4	1	2	0	3	2.4	140	29.5	3	228	13.4	3
	5											
	6	12	10	0	22	17.7	203	35.6	22	251	11.6	22
	7	13	6	0	19	15.3	244	31.6	19	265	11.3	19
	8	1	6	0	7	5.6	297	36.5	7	286	9.1	7
	9	9	6	0	15	12.1	292	17.5	15	283	4.3	15
	10	3	1	0	4	3.2	317	30.9	4	288	6.0	4
	11	20	7	0	27	21.8	325	25.5	27	293	7.4	27
	12	6	6	0	12	9.7	357	24.6	12	300	8.5	12
	13	7	2	0	9	7.3	360	29.4	9	300	9.8	9
	14	1	2	0	3	2.4	360	15.6	3	302	4.4	3
Sample Total		74	50	0	124	100.0	282	71.0	124	277	24.7	124

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Appendix A.16. (p. 4 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	2	0	3	2.2	113	8.5	3	212	4.0	3
	4	1	0	0	1	0.7	121		1	223		1
	5	1	0	0	1	0.7	183		1	238		1
	6	12	12	0	24	17.3	199	23.6	24	253	9.2	24
	7	18	11	0	29	20.9	234	29.3	29	264	10.6	29
4 June	8	3	2	0	5	3.6	274	30.5	5	273	8.6	5
	9	9	5	0	14	10.1	281	21.9	14	281	8.2	14
	10	3	5	0	8	5.8	330	47.7	8	289	11.7	8
	11	13	12	0	25	18.0	349	48.3	25	297	8.6	25
	12	8	7	0	15	10.8	357	38.7	15	299	10.4	15
	13	6	8	0	14	10.1	378	46.4	14	313	25.0	14
	14											
Sample Total		75	64	0	139	100.0	284	79.2	139	278	25.8	139
	3	24	11	0	35	5.0	111	19.2	35	205	11.2	35
	4	18	14	0	32	4.5	125	29.6	32	212	14.1	32
	5	13	4	0	19	2.7	175	31.3	19	236	10.9	19
	6	86	83	0	170	24.1	216	37.6	163	253	11.1	170
	7	71	49	0	121	17.2	254	37.7	116	266	10.9	121
14 May- 4 June	8	18	19	0	38	5.4	285	48.1	34	274	13.8	38
	9	39	30	0	71	10.1	314	45.2	70	283	9.5	71
	10	14	13	0	28	4.0	338	50.3	28	290	10.0	28
	11	50	25	0	75	10.7	354	63.0	73	297	10.1	75
	12	38	31	0	69	9.8	369	55.8	67	300	11.1	69
	13	23	20	0	43	6.1	375	48.1	38	306	18.5	43
	14	1	2	0	3	0.4	360	15.6	3	302	4.4	3
All Samples Combined		395	301	0	704	100.0	270	89.6	678	269	29.6	704
Sex Composition		56.8	43.2									
Unaged		39	31	0	72	10.2	268	91.1	68	268	28.4	72
Sex Composition		55.7	44.3									

Appendix A.17. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Hagemeister Section, 3-23 May 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
3 May	3											
	4											
	5											
	6											
	7											
	8	0	1	0	1	100.0	376		1	280		1
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		0	1	0	1	100.0	376		1	280		1
4 May	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13	0	1	0	1	100.0	530		1	318		1
	14											
	15											
	16											
	17											
Sample Total		0	1	0	1	100.0	530		1	318		1
7 May	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11	0	2	0	2	100.0	551	12.7	2	316	7.1	2
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		0	2	0	2	100.0	551	12.7	2	316	7.1	2

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Appendix A.17. (p. 2 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7											
	8											
	9	0	1	0	1	33.3	406		1	294		1
13 May	10											
	11											
	12	1	0	0	1	33.3	512		1	317		1
	13	1	0	0	1	33.3	576		1	321		1
	14											
	15											
	16											
	17											
Sample Total		2	1	0	3	100.0	498	85.9	3	311	14.6	3
	3											
	4											
	5	1	0	0	1	3.2	200		1	249		1
	6	2	1	0	3	9.7	240	22.3	3	254	7.8	3
	7	4	0	0	4	12.9	278	29.8	4	264	15.2	4
	8	1	1	0	2	6.5	282	31.8	2	271	12.7	2
	9	1	1	0	2	6.5	419	8.5	2	296	2.1	2
14 May	10	2	1	0	3	9.7	429	14.2	3	293	1.2	3
	11	4	2	0	6	19.4	427	33.0	6	304	4.0	6
	12	6	2	0	8	25.8	426	47.0	8	307	11.0	8
	13	2	0	0	2	6.5	414	18.4	2	310	0.7	2
	14											
	15											
	16											
	17											
Sample Total		23	8	0	31	100.0	371	85.4	31	290	22.6	31
	3	1	0	0	1	5.0	86		1	188		1
	4	0	1	0	1	5.0	144		1	218		1
	5											
	6	5	2	0	7	35.0	235	37.8	7	255	11.9	7
	7	1	1	0	2	10.0	334	2.8	2	279	4.9	2
	8	0	1	0	1	5.0	410		1	298		1
	9	0	2	0	2	10.0	397	80.6	2	296	15.6	2
16 May	10	2	0	0	2	10.0	379	35.4	2	296	4.9	2
	11	1	0	0	1	5.0	390		1	309		1
	12	2	1	0	3	15.0	386	26.2	3	291	6.7	3
	13											
	14											
	15											
	16											
	17											
Sample Total		12	8	0	20	100.0	303	101.0	20	271	31.4	20

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Appendix A.17. (p. 3 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	4	1	0	5	4.0	91	20.9	5	193	10.4	5
	4	4	5	0	9	7.3	144	31.1	9	220	10.3	9
	5	2	2	0	4	3.2	179	17.3	4	238	1.4	4
	6	12	7	0	19	15.3	231	36.9	19	255	12.3	19
	7	14	8	0	22	17.7	281	47.2	22	270	10.9	22
	8	3	1	0	4	3.2	315	29.5	4	283	2.1	4
	9	14	4	0	18	14.5	354	46.5	18	289	9.0	18
18 May	10	6	1	0	7	5.6	373	53.7	7	296	9.7	7
	11	9	3	0	12	9.7	412	63.8	12	303	9.7	12
	12	11	6	0	17	13.7	420	38.7	17	305	8.9	17
	13	3	1	0	4	3.2	445	75.0	4	304	12.6	4
	14	2	1	0	3	2.4	457	54.9	3	316	11.2	3
	15											
	16											
	17											
Sample Total		84	40	0	124	100.0	311	108.8	124	275	31.8	124
	3	4	1	0	5	9.1	88	17.0	5	194	9.9	5
	4											
	5	0	1	0	1	1.8	152		1	219		1
	6	6	1	0	7	12.7	239	42.5	7	256	11.7	7
	7	7	13	0	20	36.4	295	39.5	20	267	7.5	20
	8											
	9	3	4	0	7	12.7	347	37.7	7	285	8.5	7
19 May	10	2	0	0	2	3.6	355	52.3	2	302	4.9	2
	11	6	1	0	7	12.7	388	39.2	7	300	8.4	7
	12	2	1	0	3	5.5	446	83.2	3	303	12.5	3
	13	2	1	0	3	5.5	409	20.4	3	307	3.5	3
	14											
	15											
	16											
	17											
Sample Total		32	23	0	55	100.0	302	98.6	55	270	31.6	55
	3											
	4	2	1	0	3	5.4	137	34.2	3	214	14.6	3
	5	0	1	0	1	1.8	188		1	235		1
	6	12	6	0	18	32.1	237	36.7	18	253	11.9	18
	7	5	6	0	11	19.6	290	40.7	11	266	8.3	11
	8	1	0	0	1	1.8	276		1	269		1
	9	5	3	0	8	14.3	348	56.4	8	279	9.7	8
20 May	10	1	0	0	1	1.8	398		1	310		1
	11	6	4	0	10	17.9	407	74.6	10	293	8.7	10
	12	1	2	0	3	5.4	450	10.0	3	306	7.6	3
	13											
	14											
	15											
	16											
	17											
Sample Total		33	23	0	56	100.0	302	94.2	56	268	24.4	56

-Continued-

Appendix A.17. (p. 4 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
21 May	3											
	4											
	5											
	6											
	7	1	0	0	1	20.0	310		1	261		1
	8											
	9	2	0	0	2	40.0	368	8.5	2	286	2.1	2
	10											
	11	2	0	0	2	40.0	468	59.4	2	305	5.7	2
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		5	0	0	5	100.0	396	75.7	5	288	18.4	5
22 May	3	0	3	0	3	2.4	170	45.2	3	233	21.2	3
	4	1	2	0	3	2.4	250	102.4	3	256	25.4	3
	5	6	2	0	8	6.5	179	31.6	8	239	9.8	8
	6	8	6	0	14	11.3	243	34.8	14	258	8.8	14
	7	25	10	0	35	28.2	276	36.9	35	266	8.4	35
	8	2	1	0	3	2.4	284	17.4	3	264	5.0	3
	9	15	4	0	19	15.3	349	58.2	19	287	10.3	19
	10	9	0	0	9	7.3	373	62.6	9	297	11.2	9
	11	7	2	0	9	7.3	392	58.9	9	299	16.3	9
	12	8	2	0	10	8.1	418	31.6	10	302	7.6	10
	13	6	4	0	10	8.1	460	63.9	10	311	8.3	10
	14											
	15											
	16											
	17	1	0	0	1	0.8	422		1	321		1
Sample Total		88	36	0	124	100.0	317	92.1	124	277	24.0	124
23 May	3											
	4											
	5											
	6	3	2	0	5	18.5	264	19.4	5	265	7.4	5
	7	8	2	0	10	37.0	281	29.5	10	267	6.6	10
	8	0	1	0	1	3.7	354		1	280		1
	9	6	2	0	8	29.6	355	43.6	8	286	9.7	8
	10	1	0	0	1	3.7	370		1	294		1
	11	1	1	0	2	7.4	458	8.5	2	312	4.2	2
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		19	8	0	27	100.0	319	63.7	27	277	15.8	27

-Continued-

Appendix A.17. (p. 5 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	9	5	0	14	3.1	106	41.6	14	202	20.7	14
	4	7	9	0	16	3.6	162	63.0	16	226	19.9	16
	5	9	6	0	15	3.3	179	25.5	15	238	9.2	15
	6	48	25	0	73	16.3	239	35.3	73	256	11.1	73
	7	65	40	0	105	23.4	284	39.3	105	267	9.0	105
	8	7	6	0	13	2.9	315	45.8	13	276	10.9	13
	9	46	21	0	67	14.9	356	50.0	67	287	9.8	67
3-23 May	10	23	2	0	25	5.6	380	51.1	25	297	8.9	25
	11	36	15	0	51	11.4	415	63.1	51	301	10.9	51
	12	31	14	0	45	10.0	424	42.7	45	304	9.5	45
	13	14	7	0	21	4.7	454	65.3	21	310	8.7	21
	14	2	1	0	3	0.7	457	54.9	3	316	11.2	3
	15											
	16											
	17	1	0	0	1	0.2	422		1	321		1
All Samples Combined		298	151	0	449	100.0	319	100.0	449	276	27.8	449
Sex Composition		66.4	33.6									
Unaged		30	21	0	51	11.4	308	97.1	51	273	28.2	51
Sex Composition		58.8	41.2									

Appendix A.18. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Kulukak, Nunavachak, Togiak, and Hagemeister Sections, 3 May-5 June 1990.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7											
	8	0	1	0	1	100.0	376		1	280		1
	9											
3 May	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		0	1	0	1	100.0	376		1	280		1
	3											
	4											
	5											
	6											
	7											
	8											
	9											
4 May	10											
	11											
	12											
	13	0	1	0	1	100.0	530		1	318		1
	14											
	15											
	16											
	17											
Sample Total		0	1	0	1	100.0	530		1	318		1
	3	1	1	0	2	4.3	171	4.2	2	232	4.2	2
	4											
	5											
	6	4	2	0	6	13.0	236	32.2	6	260	8.5	6
	7	1	3	0	4	8.7	275	20.2	4	271	12.8	4
	8	0	2	0	2	4.3	392	28.3	2	297	1.4	2
	9	2	6	0	8	17.4	399	41.3	8	298	10.9	8
6 May	10	3	1	0	4	8.7	412	42.4	4	307	8.1	4
	11	3	2	0	5	10.9	391	80.8	5	295	12.9	5
	12	4	2	0	6	13.0	460	56.6	6	305	6.7	6
	13	3	6	0	9	19.6	461	45.4	9	312	7.2	9
	14											
	15											
	16											
	17											
Sample Total		21	25	0	46	100.0	377	99.2	46	292	23.3	46

-Continued-

Appendix A.18. (p. 2 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7	0	1	0	1	5.3	360		1	285		1
	8											
	9	1	4	0	5	26.3	445	25.6	5	299	8.5	5
7 May	10											
	11	0	3	0	3	15.8	516	61.9	3	310	12.1	3
	12	2	4	0	6	31.6	479	56.0	6	309	8.7	6
	13	1	1	0	2	10.5	514	20.5	2	309	7.8	2
	14	0	2	0	2	10.5	487	78.5	2	312	2.8	2
	15											
	16											
	17											
Sample Total		4	15	0	19	100.0	474	57.0	19	305	10.1	19
	3											
	4											
	5											
	6	5	2	0	7	6.9	245	25.5	7	255	8.3	7
	7	4	4	0	8	7.8	284	55.9	8	265	14.3	8
	8	1	1	0	2	2.0	340	42.4	2	288	14.8	2
	9	18	8	0	26	25.5	360	41.7	26	288	8.8	26
11 May	10	4	3	0	7	6.9	404	47.8	7	299	8.1	7
	11	10	5	0	15	14.7	431	57.0	15	303	8.9	15
	12	20	8	0	28	27.5	421	44.4	28	303	7.5	28
	13	6	2	0	8	7.8	422	54.9	8	306	10.6	8
	14	0	1	0	1	1.0	515		1	331		1
	15											
	16											
	17											
Sample Total		68	34	0	102	100.0	382	73.3	102	293	17.9	102
	3											
	4											
	5	0	1	0	1	0.4	178		1	239		1
	6	12	12	0	24	10.6	244	39.7	24	262	9.2	24
	7	27	20	0	47	20.8	286	50.3	47	272	10.2	47
	8	2	5	0	7	3.1	335	38.6	7	283	7.7	7
	9	24	18	0	42	18.6	364	50.8	42	296	8.9	42
12 May	10	11	5	0	16	7.1	372	38.3	16	298	6.1	16
	11	25	9	0	34	15.0	402	44.4	34	305	7.0	34
	12	25	7	0	32	14.2	412	49.9	32	308	9.9	32
	13	7	10	0	17	7.5	455	85.4	17	312	10.1	17
	14	2	2	0	4	1.8	475	53.6	4	321	7.2	4
	15											
	16	1	1	0	2	0.9	485	13.4	2	324	2.8	2
	17											
Sample Total		136	90	0	226	100.0	356	83.3	226	292	19.7	226

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Appendix A.18. (p. 3 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7											
	8											
	9	0	1	0	1	33.3	406		1	294		1
13 May	10											
	11											
	12	1	0	0	1	33.3	512		1	317		1
	13	1	0	0	1	33.3	576		1	321		1
	14											
	15											
	16											
	17											
Sample Total		2	1	0	3	100.0	498	85.9	3	311	14.6	3
	3	1	0	0	1	1.0	127		1	211		1
	4											
	5	2	1	0	5	5.1	196	24.5	5	244	17.2	5
	6	7	8	0	16	16.3	216	23.9	16	248	8.7	16
	7	18	5	0	24	24.5	267	27.8	24	264	11.6	24
	8	4	6	0	11	11.2	297	43.8	11	269	14.0	11
	9	2	2	0	6	6.1	359	64.7	6	289	16.2	6
14 May	10	2	1	0	4	4.1	418	24.3	4	289	7.4	4
	11	6	5	0	11	11.2	426	29.8	11	301	8.7	11
	12	9	5	0	14	14.3	407	82.1	14	306	11.6	14
	13	3	3	0	6	6.1	438	36.6	6	312	8.8	6
	14											
	15											
	16											
	17											
Sample Total		54	36	0	98	100.0	317	95.9	98	276	26.1	98
	3	1	0	0	1	5.0	86		1	188		1
	4	0	1	0	1	5.0	144		1	218		1
	5											
	6	5	2	0	7	35.0	235	37.8	7	255	11.9	7
	7	1	1	0	2	10.0	334	2.8	2	279	4.9	2
	8	0	1	0	1	5.0	410		1	298		1
	9	0	2	0	2	10.0	397	80.6	2	296	15.6	2
16 May	10	2	0	0	2	10.0	379	35.4	2	296	4.9	2
	11	1	0	0	1	5.0	390		1	309		1
	12	2	1	0	3	15.0	386	26.2	3	291	6.7	3
	13											
	14											
	15											
	16											
	17											
Sample Total		12	8	0	20	100.0	303	101.0	20	271	31.4	20

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Appendix A.18. (p. 4 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
18 May	3	5	2	0	7	2.8	96	20.7	7	195	10.4	7
	4	7	6	0	13	5.3	138	32.9	13	219	11.5	13
	5	4	4	0	8	3.3	181	21.5	8	241	8.1	8
	6	26	25	0	51	20.7	224	34.2	51	255	9.8	51
	7	27	23	0	50	20.3	277	43.1	50	269	9.8	50
	8	6	3	0	9	3.7	313	51.3	9	279	10.9	9
	9	23	14	0	37	15.0	337	58.1	37	286	13.1	37
	10	11	6	0	17	6.9	364	45.9	17	293	9.0	17
	11	13	5	0	18	7.3	408	57.9	18	303	8.3	18
	12	14	12	0	26	10.6	422	39.7	26	306	8.3	26
	13	5	2	0	7	2.8	401	78.6	7	305	10.9	7
	14	2	1	0	3	1.2	457	54.9	3	316	11.2	3
	15											
	16											
	17											
Sample Total		143	103	0	246	100.0	297	99.3	246	273	28.7	246
19 May	3	7	2	0	9	5.2	100	19.7	9	199	10.8	9
	4	1	4	0	5	2.9	154	59.6	5	220	24.7	5
	5	4	2	0	6	3.4	182	18.3	6	235	9.3	6
	6	26	18	0	44	25.3	228	33.1	44	253	10.6	44
	7	21	27	0	48	27.6	290	35.6	48	270	8.3	48
	8	2	1	0	3	1.7	286	66.3	3	271	15.0	3
	9	10	10	0	20	11.5	341	38.0	20	283	7.8	20
	10	2	0	0	2	1.1	355	52.3	2	302	4.9	2
	11	12	1	0	13	7.5	391	38.8	13	302	8.8	13
	12	7	7	0	14	8.0	431	61.7	14	306	12.1	14
	13	5	5	0	10	5.7	418	44.4	10	303	15.4	10
	14											
	15											
	16											
	17											
Sample Total		97	77	0	174	100.0	290	94.4	174	268	28.8	174
20 May	3	5	1	0	6	3.7	106	20.9	6	204	11.8	6
	4	8	1	0	9	5.5	124	26.1	9	212	12.8	9
	5	0	3	0	3	1.8	171	17.0	3	230	5.0	3
	6	34	29	0	63	38.4	229	31.3	63	255	9.5	63
	7	17	14	0	31	18.9	273	39.5	31	266	10.3	31
	8	2	2	0	4	2.4	285	19.4	4	272	5.8	4
	9	12	6	0	18	11.0	342	41.9	18	284	9.6	18
	10	3	1	0	4	2.4	354	58.8	4	296	11.9	4
	11	8	4	0	12	7.3	398	70.9	12	292	8.2	12
	12	4	7	0	11	6.7	428	44.5	11	305	6.3	11
	13	0	2	0	2	1.2	505	18.4	2	317	4.2	2
	14	0	1	0	1	0.6	544		1	312		1
	15											
	16											
	17											
Sample Total		93	71	0	164	100.0	274	95.8	164	264	26.8	164

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Appendix A.18. (p. 5 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	0	0	1	1.2	90		1	180		1
	4	0	2	0	2	2.4	163	46.0	2	229	21.2	2
	5	2	0	0	2	2.4	184	17.0	2	237	4.2	2
	6	17	16	0	33	39.8	222	31.1	33	251	10.6	33
	7	18	8	0	26	31.3	272	38.9	26	266	10.0	26
	8	1	1	0	2	2.4	373	48.8	2	292	6.4	2
	9	4	3	0	7	8.4	348	52.1	7	285	9.8	7
21 May	10	0	2	0	2	2.4	403	32.5	2	292	7.1	2
	11	4	0	0	4	4.8	401	84.9	4	300	7.3	4
	12	3	0	0	3	3.6	314	35.7	3	298	5.2	3
	13	1	0	0	1	1.2	374		1	292		1
	14											
	15											
	16											
	17											
Sample Total		51	32	0	83	100.0	266	73.5	83	263	21.9	83
	3	0	3	0	3	2.4	170	45.2	3	233	21.2	3
	4	1	2	0	3	2.4	250	102.4	3	256	25.4	3
	5	6	2	0	8	6.3	179	31.6	8	239	9.8	8
	6	8	7	0	15	11.8	247	36.0	15	259	9.5	15
	7	25	11	0	36	28.3	277	36.5	36	266	8.3	36
	8	2	1	0	3	2.4	284	17.4	3	264	5.0	3
	9	15	5	0	20	15.7	349	56.8	20	287	10.2	20
22 May	10	9	0	0	9	7.1	373	62.6	9	297	11.2	9
	11	7	2	0	9	7.1	392	58.9	9	299	16.3	9
	12	8	2	0	10	7.9	418	31.6	10	302	7.6	10
	13	6	4	0	10	7.9	460	63.9	10	311	8.3	10
	14											
	15											
	16											
	17	1	0	0	1	0.8	422		1	321		1
Sample Total		88	39	0	127	100.0	317	91.1	127	277	23.8	127
	3	14	4	0	18	6.8	107	20.2	18	201	11.2	18
	4	15	4	0	19	7.1	115	14.8	19	207	9.0	19
	5	6	3	0	9	3.4	179	35.8	9	240	15.4	9
	6	36	34	0	70	26.3	235	32.7	70	255	10.0	70
	7	38	25	0	63	23.7	270	34.8	63	266	9.6	63
	8	12	2	0	14	5.3	291	38.0	14	273	9.0	14
	9	18	14	0	32	12.0	344	43.1	32	282	9.8	32
23 May	10	6	2	0	8	3.0	379	48.2	8	294	9.6	8
	11	6	5	0	11	4.1	425	94.5	11	308	13.1	11
	12	17	1	0	18	6.8	386	48.0	18	301	11.6	18
	13	2	1	0	3	1.1	470	70.3	3	312	5.7	3
	14	1	0	0	1	0.4	466		1	322		1
	15											
	16											
	17											
Sample Total		171	95	0	266	100.0	266	95.9	266	262	30.3	266

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Appendix A.18. (p. 6 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	0	4	0	4	3.3	174	83.7	4	234	36.4	4
	4	0	1	0	1	0.8	111		1	207		1
	5	2	1	0	3	2.4	147	41.0	3	232	17.3	3
	6	19	22	0	41	33.3	215	49.6	34	255	15.1	41
	7	10	9	0	19	15.4	253	35.4	14	270	8.5	19
	8	4	7	0	11	8.9	273	60.2	7	274	14.7	11
	9	6	2	0	8	6.5	292	17.8	7	286	10.3	8
30 May	10	4	2	0	6	4.9	292	37.2	6	288	13.7	6
	11	5	0	0	5	4.1	270	32.5	3	289	9.7	5
	12	6	9	0	15	12.2	328	35.4	13	297	10.0	15
	13	5	5	0	10	8.1	330	45.3	5	301	14.8	10
	14											
	15											
	16											
	17											
Sample Total		61	62	0	123	100.0	253	67.1	97	271	24.3	123
	3	12	5	0	17	12.2	97	9.8	17	199	6.1	17
	4	5	1	0	6	4.3	124	12.4	6	215	11.8	6
	5	6	6	0	12	8.6	180	49.8	12	242	17.9	12
	6	27	27	0	54	38.8	194	27.6	54	253	15.4	54
	7	11	11	0	22	15.8	228	33.3	22	265	22.4	22
	8	0	4	0	4	2.9	298	19.7	4	279	2.2	4
	9	5	5	0	10	7.2	272	58.3	10	275	15.5	10
31 May	10	1	2	0	3	2.2	308	28.7	3	285	8.5	3
	11	2	2	0	4	2.9	314	41.8	4	289	11.0	4
	12	0	3	0	3	2.2	359	51.3	3	300	1.0	3
	13	3	1	0	4	2.9	363	24.4	4	309	3.7	4
	14											
	15											
	16											
	17											
Sample Total		72	67	0	139	100.0	206	72.8	139	252	30.5	139
	3	7	6	0	13	18.1	113	14.0	13	209	7.9	13
	4	2	4	0	6	8.3	110	5.8	6	206	2.1	6
	5	3	1	0	4	5.6	192	52.8	4	243	13.7	4
	6	17	11	0	28	38.9	208	35.1	28	249	13.3	28
	7	2	7	0	9	12.5	261	35.3	9	265	10.3	9
	8	1	2	0	3	4.2	293	62.4	3	272	16.8	3
	9	4	1	0	5	6.9	298	41.2	5	282	11.3	5
1 June	10	1	1	0	2	2.8	345	20.5	2	297	9.2	2
	11	0	1	0	1	1.4	288		1	281		1
	12											
	13	1	0	0	1	1.4	318		1	304		1
	14											
	15											
	16											
	17											
Sample Total		38	34	0	72	100.0	205	74.0	72	246	28.4	72

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Appendix A.18. (p. 7 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	6	6	0	12	9.9	110	18.8	12	205	10.4	12
	4	3	4	0	7	5.8	135	13.3	7	219	6.3	7
	5	4	6	0	10	8.3	168	30.8	10	239	16.5	10
	6	41	20	0	61	50.4	195	36.3	61	249	11.2	61
	7	7	7	0	14	11.6	219	30.6	14	260	7.7	14
	8	2	2	0	4	3.3	253	45.6	4	267	9.8	4
	9	3	2	0	5	4.1	337	69.7	5	281	15.8	5
2 June	10	2	1	0	3	2.5	332	8.6	3	297	2.3	3
	11	1	0	0	1	0.8	370		1	300		1
	12	0	2	0	2	1.7	385	11.3	2	314	0.7	2
	13	1	1	0	2	1.7	418	113.8	2	307	1.4	2
	14											
	15											
	16											
	17											
Sample Total		70	51	0	121	100.0	203	72.8	121	249	25.2	121
	3	1	4	0	5	3.5	101	22.6	5	200	14.8	5
	4	1	4	0	5	3.5	135	24.1	5	224	12.2	5
	5	0	1	0	1	0.7	169		1	241		1
	6	14	11	0	25	17.6	201	35.1	25	251	11.2	25
	7	16	7	0	23	16.2	247	29.8	23	266	10.8	23
	8	2	9	0	11	7.7	296	37.9	11	285	10.4	11
	9	9	8	0	17	12.0	292	16.7	17	282	4.7	17
3 June	10	3	1	0	4	2.8	317	30.9	4	288	6.0	4
	11	20	7	0	27	19.0	325	25.5	27	293	7.4	27
	12	6	6	0	12	8.5	357	24.6	12	300	8.5	12
	13	7	2	0	9	6.3	360	29.4	9	300	9.8	9
	14	1	2	0	3	2.1	360	15.6	3	302	4.4	3
	15											
	16											
	17											
Sample Total		80	62	0	142	100.0	274	74.0	142	274	26.3	142
	3	1	2	0	3	2.2	113	8.5	3	212	4.0	3
	4	1	0	0	1	0.7	121		1	223		1
	5	1	0	0	1	0.7	183		1	238		1
	6	12	12	0	24	17.3	199	23.6	24	253	9.2	24
	7	18	11	0	29	20.9	234	29.3	29	264	10.6	29
	8	3	2	0	5	3.6	274	30.5	5	273	8.6	5
	9	9	5	0	14	10.1	281	21.9	14	281	8.2	14
4 June	10	3	5	0	8	5.8	330	47.7	8	289	11.7	8
	11	13	12	0	25	18.0	349	48.3	25	297	8.6	25
	12	8	7	0	15	10.8	357	38.7	15	299	10.4	15
	13	6	8	0	14	10.1	378	46.4	14	313	25.0	14
	14											
	15											
	16											
	17											
Sample Total		75	64	0	139	100.0	284	79.2	139	278	25.8	139

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Appendix A.18. (p. 8 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	2	0	0	2	14.3	98	11.3	2	203	8.5	2
	4	1	0	0	1	7.1	95		1	200		1
	5											
	6	2	0	0	2	14.3	186	35.4	2	236	12.7	2
	7	0	4	0	4	28.6	266	38.0	4	265	7.5	4
	8											
	9	2	0	0	2	14.3	282	19.8	2	273	12.0	2
5 June	10	1	0	0	1	7.1	262		1	275		1
	11											
	12	0	1	0	1	7.1	401		1	309		1
	13											
	14	1	0	0	1	7.1	294		1	295		1
	15											
	16											
	17											
Sample Total		9	5	0	14	100.0	232	91.1	14	255	34.7	14
	3	64	40	0	104	4.5	110	29.9	104	205	15.0	104
	4	45	34	0	79	3.4	132	39.5	79	216	15.4	79
	5	40	31	0	73	3.1	178	33.3	73	239	13.3	73
	6	312	258	0	571	24.5	218	37.3	564	253	11.6	571
	7	261	198	0	460	19.8	268	42.1	455	267	11.0	460
	8	44	52	0	97	4.2	301	48.8	93	276	12.4	97
	9	167	116	0	285	12.3	340	55.5	284	287	11.5	285
3 May- 5 June	10	68	33	0	102	4.4	362	52.7	102	294	9.8	102
	11	136	63	0	199	8.6	386	65.7	197	300	10.4	199
	12	136	84	0	220	9.5	403	58.1	218	304	9.7	220
	13	63	54	0	117	5.0	421	72.1	112	308	13.4	117
	14	7	9	0	16	0.7	446	76.6	16	314	11.0	16
	15											
	16	1	1	0	2	0.1	485	13.4	2	324	2.8	2
	17	1	0	0	1	0.0	422		1	321		1
All Samples Combined		1345	973	0	2326	100.0	287	100.3	2300	271	29.3	2326
Sex Composition		58.0	42.0									
Unaged		196	133	0	331	14.2	292	94.9	327	273	27.3	331
Sex Composition		59.6	40.4									

Appendix B

Appendix B.1. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Kulukak Section, 9 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5	1	0	0	1	0.0	100.0	0.0	0.0				
	6	12	19	0	31	0.0	75.0	8.3	16.7	0.0	36.8	63.2	0.0
	7	20	35	0	55	0.0	75.0	20.0	5.0	0.0	38.2	58.8	2.9
	8	4	9	0	13	0.0	100.0	0.0	0.0	0.0	22.2	77.8	0.0
	9	19	46	0	65	0.0	78.9	21.1	0.0	0.0	10.9	87.0	2.2
	10	4	11	0	15	0.0	75.0	0.0	25.0	0.0	27.3	72.7	0.0
9 May	11	20	15	0	35	0.0	70.0	25.0	5.0	0.0	26.7	73.3	0.0
	12	23	34	0	57	0.0	78.3	13.0	8.7	0.0	11.8	76.5	11.8
	13	13	29	0	42	0.0	84.6	7.7	7.7	0.0	10.3	82.8	6.9
	14	2	2	0	4	0.0	50.0	50.0	0.0	0.0	0.0	50.0	50.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		118	202	0	320	0.0	77.1	16.1	6.8	0.0	20.9	74.6	4.5

Appendix B.2. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Nunavachak Section, May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	6	3	0	9	0.0	16.7	50.0	33.3	0.0	33.3	66.7	0.0
	7	13	12	0	25	0.0	15.4	69.2	15.4	0.0	25.0	75.0	0.0
	8	4	5	0	9	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	9	12	18	0	30	0.0	8.3	83.3	8.3	0.0	11.1	77.8	11.1
9 May	10	4	8	0	12	0.0	0.0	50.0	50.0	0.0	12.5	75.0	12.5
	11	12	20	0	32	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	17	51	0	68	0.0	5.9	58.8	35.3	0.0	0.0	74.5	25.5
	13	8	9	0	17	0.0	0.0	75.0	25.0	0.0	0.0	88.9	11.1
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15												
	16	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		78	129	0	207	0.0	6.4	74.4	19.2	0.0	6.2	80.6	13.2

Appendix B.3. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Togiak Section, 9 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5	0	3	0	3					0.0	66.7	33.3	0.0
	6	14	20	0	34	0.0	35.7	64.3	0.0	0.0	60.0	40.0	0.0
	7	20	32	0	52	0.0	30.0	65.0	5.0	0.0	25.0	71.9	3.1
	8	2	7	0	9	0.0	50.0	50.0	0.0	0.0	28.6	71.4	0.0
	9	20	45	0	65	0.0	40.0	45.0	15.0	0.0	8.9	62.2	28.9
9 May	10	11	10	0	21	0.0	27.3	45.5	27.3	0.0	10.0	80.0	10.0
	11	17	27	0	44	0.0	17.6	70.6	11.8	0.0	3.7	74.1	22.2
	12	33	45	0	78	0.0	24.2	54.5	21.2	0.0	6.7	66.7	26.7
	13	14	23	0	37	0.0	28.6	57.1	14.3	0.0	13.0	69.6	17.4
	14	0	3	0	3					0.0	0.0	66.7	33.3
	15	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	16	0	2	0	2					0.0	0.0	100.0	0.0
Sample Total		132	218	0	350	0.0	29.5	56.8	13.6	0.0	16.5	65.6	17.9

Appendix B.4. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex Hagemeister Section, 9 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	6	1	5	0	6	0.0	0.0	100.0	0.0	0.0	40.0	60.0	0.0
	7	5	16	0	21	0.0	60.0	20.0	20.0	0.0	25.0	75.0	0.0
	8	5	4	0	9	0.0	60.0	20.0	20.0	0.0	0.0	75.0	25.0
	9	20	30	0	50	0.0	60.0	30.0	10.0	0.0	0.0	96.7	3.3
9 May	10	11	11	0	22	0.0	45.5	36.4	18.2	0.0	9.1	72.7	18.2
	11	19	29	0	48	0.0	68.4	21.1	10.5	0.0	6.9	86.2	6.9
	12	29	47	0	76	0.0	41.4	48.3	10.3	0.0	4.3	93.6	2.1
	13	14	23	0	37	0.0	42.9	42.9	14.3	0.0	8.7	87.0	4.3
	14	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		105	165	0	270	0.0	52.4	35.2	12.4	0.0	7.9	87.3	4.8

Appendix B.5. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Kulukak, Nunavachak, Togiak and Hagemeister Sections, 9 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	2	4	0	6	0.0	50.0	50.0	0.0	0.0	50.0	50.0	0.0
	6	33	47	0	80	0.0	45.5	42.4	12.1	0.0	46.8	53.2	0.0
	7	58	95	0	153	0.0	44.8	46.6	8.6	0.0	29.8	68.1	2.1
	8	15	25	0	40	0.0	53.3	40.0	6.7	0.0	20.0	76.0	4.0
	9	71	139	0	210	0.0	50.7	40.8	8.5	0.0	7.9	79.9	12.2
9 May	10	30	40	0	70	0.0	36.7	36.7	26.7	0.0	15.0	75.0	10.0
	11	68	91	0	159	0.0	44.1	48.5	7.4	0.0	7.7	83.5	8.8
	12	102	177	0	279	0.0	38.2	44.1	17.6	0.0	5.1	78.0	16.9
	13	49	84	0	133	0.0	42.9	42.9	14.3	0.0	9.5	81.0	9.5
	14	3	6	0	9	0.0	66.7	33.3	0.0	0.0	0.0	66.7	33.3
	15	1	2	0	3	0.0	100.0	0.0	0.0	0.0	50.0	0.0	50.0
	16	0	3	0	3					0.0	0.0	100.0	0.0
	17	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		433	714	0	1147	0.0	43.9	43.6	12.5	0.0	13.9	75.9	10.2

Appendix B.6. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Kulukak Section, 8-20 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6	6	4	0	10	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	7	9	10	0	19	0.0	88.9	11.1	0.0	0.0	30.0	70.0	0.0
	8	4	3	0	7	0.0	75.0	25.0	0.0	0.0	0.0	100.0	0.0
	9	7	12	0	19	0.0	100.0	0.0	0.0	0.0	25.0	75.0	0.0
	10	4	1	0	5	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
8 May	11	11	8	0	19	0.0	90.9	9.1	0.0	0.0	12.5	87.5	0.0
	12	12	17	0	29	0.0	100.0	0.0	0.0	0.0	11.8	82.4	5.9
	13	7	8	0	15	0.0	100.0	0.0	0.0	0.0	37.5	62.5	0.0
	14	1	2	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	15	0	2	0	2					0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		61	67	0	128	0.0	95.1	4.9	0.0	0.0	17.9	80.6	1.5
	5												
	6	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	7	1	9	0	10	0.0	100.0	0.0	0.0	0.0	11.1	77.8	11.1
	8	0	2	0	2					0.0	0.0	100.0	0.0
	9	10	21	0	31	0.0	50.0	50.0	0.0	0.0	0.0	95.2	4.8
	10	2	5	0	7	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
11 May	11	14	12	0	26	0.0	21.4	71.4	7.1	0.0	0.0	100.0	0.0
	12	15	8	0	23	0.0	33.3	66.7	0.0	0.0	12.5	87.5	0.0
	13	5	7	0	12	0.0	60.0	40.0	0.0	0.0	0.0	100.0	0.0
	14	2	0	0	2	0.0	100.0	0.0	0.0				
	15	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		51	67	0	118	0.0	41.2	54.9	3.9	0.0	3.0	94.0	3.0
	5												
	6	5	3	0	8	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	7	5	12	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	2	4	0	6	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	9	19	13	0	32	0.0	26.3	57.9	15.8	0.0	7.7	92.3	0.0
	10	1	5	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
13 May	11	13	10	0	23	0.0	30.8	69.2	0.0	0.0	10.0	90.0	0.0
	12	11	9	0	20	0.0	0.0	81.8	18.2	0.0	0.0	100.0	0.0
	13	7	2	0	9	0.0	14.3	28.6	57.1	0.0	0.0	50.0	50.0
	14												
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		63	59	0	122	0.0	17.7	67.7	14.5	0.0	5.1	93.2	1.7

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Appendix B.6. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6	1	7	0	8	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	7	9	8	0	17	0.0	22.2	77.8	0.0	0.0	0.0	100.0	0.0
	8	2	7	0	9	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	9	10	16	0	26	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	10	3	5	0	8	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
14 May	11	12	12	0	24	0.0	8.3	91.7	0.0	0.0	8.3	83.3	8.3
	12	11	19	0	30	0.0	0.0	100.0	0.0	0.0	0.0	84.2	15.8
	13	5	4	0	9	0.0	0.0	100.0	0.0	0.0	0.0	75.0	25.0
	14												
	15												
	16												
	17												
Sample Total		53	78	0	131	0.0	13.2	86.8	0.0	0.0	2.6	91.0	6.4
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	12	12	0	24	0.0	16.7	83.3	0.0	0.0	0.0	100.0	0.0
	7	20	16	0	36	0.0	25.0	70.0	5.0	0.0	0.0	93.8	6.3
	8	4	6	0	10	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	9	10	10	0	20	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	5	4	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
18 May	11	9	2	0	11	0.0	11.1	66.7	22.2	0.0	0.0	100.0	0.0
	12	6	6	0	12	0.0	16.7	50.0	33.3	0.0	0.0	50.0	50.0
	13	0	5	0	5					0.0	0.0	80.0	20.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		67	62	0	129	0.0	13.4	76.1	10.4	0.0	0.0	91.9	8.1
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6	4	4	0	8	0.0	75.0	25.0	0.0	0.0	0.0	100.0	0.0
	7	12	23	0	35	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	8	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	10	10	0	20	0.0	30.0	70.0	0.0	0.0	0.0	100.0	0.0
	10	0	4	0	4					0.0	0.0	75.0	25.0
20 May	11	6	6	0	12	0.0	16.7	50.0	33.3	0.0	16.7	66.7	16.7
	12	7	7	0	14	0.0	42.9	57.1	0.0	0.0	0.0	100.0	0.0
	13	6	5	0	11	0.0	0.0	33.3	66.7	0.0	0.0	80.0	20.0
	14												
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		54	62	0	116	0.0	25.9	63.0	11.1	0.0	1.6	93.5	4.8

-Continued-

Appendix B.6. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5	2	0	0	2	0.0	0.0	50.0	50.0				
	6	29	32	0	61	0.0	44.8	51.7	3.4	0.0	0.0	100.0	0.0
	7	56	78	0	134	0.0	34.5	63.6	1.8	0.0	5.1	92.3	2.6
	8	18	25	0	43	0.0	22.2	72.2	5.6	0.0	4.0	96.0	0.0
	9	66	82	0	148	0.0	33.3	62.1	4.5	0.0	4.9	93.9	1.2
	10	15	24	0	39	0.0	33.3	66.7	0.0	0.0	4.2	91.7	4.2
8-20 May	11	65	50	0	115	0.0	30.8	61.5	7.7	0.0	8.0	88.0	4.0
	12	62	66	0	128	0.0	33.9	59.7	6.5	0.0	4.5	84.8	10.6
	13	30	31	0	61	0.0	36.7	36.7	26.7	0.0	9.7	77.4	12.9
	14	3	3	0	6	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	15	1	4	0	5	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17	1	0	0	1	0.0	100.0	0.0	0.0				
All Samples		349	395	0	744	0.0	34.5	58.6	6.9	0.0	5.1	90.6	4.3

Appendix B.7. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Nunavachak Section, 8-14 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	4	6	0	10	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
	8	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	9	18	6	0	24	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	10	3	6	0	9	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
8 May	11	17	11	0	28	0.0	11.8	88.2	0.0	0.0	18.2	81.8	0.0
	12	22	12	0	34	0.0	4.5	95.5	0.0	0.0	8.3	91.7	0.0
	13	11	6	0	17	0.0	9.1	81.8	9.1	0.0	33.3	66.7	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
	15	3	0	0	3	0.0	0.0	100.0	0.0				
	16	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		82	49	0	131	0.0	4.9	93.9	1.2	0.0	20.4	75.5	4.1
	6												
	7	4	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	18	16	0	34	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	10	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
11 May	11	16	13	0	29	0.0	6.3	93.8	0.0	0.0	0.0	84.6	15.4
	12	23	15	0	38	0.0	0.0	95.7	4.3	0.0	0.0	86.7	13.3
	13	3	3	0	6	0.0	0.0	66.7	33.3	0.0	0.0	66.7	33.3
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15	2	0	0	2	0.0	0.0	100.0	0.0				
	16												
Sample Total		74	53	0	127	0.0	4.1	93.2	2.7	0.0	0.0	90.6	9.4
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	21	12	0	33	0.0	4.8	90.5	4.8	0.0	0.0	100.0	0.0
	10	9	2	0	11	0.0	22.2	77.8	0.0	0.0	0.0	50.0	50.0
14 May	11	13	10	0	23	0.0	7.7	76.9	15.4	0.0	0.0	40.0	60.0
	12	23	18	0	41	0.0	4.3	82.6	13.0	0.0	0.0	77.8	22.2
	13	9	3	0	12	0.0	11.1	55.6	33.3	0.0	0.0	100.0	0.0
	14												
	15												
	16												
Sample Total		78	53	0	131	0.0	7.7	80.8	11.5	0.0	0.0	79.2	20.8

-Continued-

Appendix B.7. (p. 2 of 2)

						Gonad Maturity (%)							
		Sex (number)				Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	10	11	0	21	0.0	0.0	100.0	0.0	0.0	0.0	90.9	9.1
	8	6	7	0	13	0.0	0.0	100.0	0.0	0.0	0.0	85.7	14.3
	9	57	34	0	91	0.0	5.3	93.0	1.8	0.0	5.9	94.1	0.0
	10	16	10	0	26	0.0	12.5	87.5	0.0	0.0	30.0	60.0	10.0
8-14 May	11	46	34	0	80	0.0	8.7	87.0	4.3	0.0	5.9	70.6	23.5
	12	68	45	0	113	0.0	2.9	91.2	5.9	0.0	2.2	84.4	13.3
	13	23	12	0	35	0.0	8.7	69.6	21.7	0.0	16.7	75.0	8.3
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	5	0	0	5	0.0	0.0	100.0	0.0				
	16	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		234	155	0	389	0.0	5.6	89.3	5.1	0.0	6.5	81.9	11.6

Appendix B.8. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Hagemeister Section, 11 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	6	2	1	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	7	5	4	0	9	0.0	0.0	60.0	40.0	0.0	0.0	75.0	25.0
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9	13	3	0	16	0.0	23.1	46.2	30.8	0.0	0.0	66.7	33.3
11 May	10	4	4	0	8	0.0	25.0	25.0	50.0	0.0	0.0	50.0	50.0
	11	13	13	0	26	0.0	15.4	61.5	23.1	0.0	0.0	69.2	30.8
	12	17	15	0	32	0.0	17.6	41.2	41.2	0.0	0.0	73.3	26.7
	13	13	11	0	24	0.0	15.4	23.1	61.5	0.0	0.0	90.9	9.1
	14	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
Sample Total		69	54	0	123	0.0	18.8	42.0	39.1	0.0	0.0	74.1	25.9

Appendix B.9. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Kulukak, Togiak and Hagemeister Sections, 8-20 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6	7	4	0	11	0.0	85.7	14.3	0.0	0.0	0.0	100.0	0.0
	7	13	16	0	29	0.0	61.5	38.5	0.0	0.0	18.8	75.0	6.3
	8	5	5	0	10	0.0	60.0	40.0	0.0	0.0	0.0	80.0	20.0
	9	25	18	0	43	0.0	28.0	72.0	0.0	0.0	27.8	72.2	0.0
	10	7	7	0	14	0.0	57.1	42.9	0.0	0.0	42.9	57.1	0.0
8 May	11	28	19	0	47	0.0	42.9	57.1	0.0	0.0	15.8	84.2	0.0
	12	34	29	0	63	0.0	38.2	61.8	0.0	0.0	10.3	86.2	3.4
	13	18	14	0	32	0.0	44.4	50.0	5.6	0.0	35.7	64.3	0.0
	14	2	2	0	4	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	15	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17												
Sample Total		143	116	0	259	0.0	43.4	55.9	0.7	0.0	19.0	78.4	2.6
	5												
	6	3	3	0	6	0.0	66.7	0.0	33.3	0.0	0.0	100.0	0.0
	7	10	14	0	24	0.0	10.0	70.0	20.0	0.0	7.1	78.6	14.3
	8	4	5	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	41	40	0	81	0.0	24.4	65.9	9.8	0.0	0.0	95.0	5.0
	10	10	11	0	21	0.0	20.0	60.0	20.0	0.0	0.0	81.8	18.2
11 May	11	43	38	0	81	0.0	14.0	76.7	9.3	0.0	0.0	84.2	15.8
	12	55	38	0	93	0.0	14.5	70.9	14.5	0.0	2.6	81.6	15.8
	13	21	21	0	42	0.0	23.8	33.3	42.9	0.0	0.0	90.5	9.5
	14	4	3	0	7	0.0	50.0	25.0	25.0	0.0	0.0	66.7	33.3
	15	3	1	0	4	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		194	174	0	368	0.0	19.1	64.9	16.0	0.0	1.1	86.8	12.1
	5												
	6	5	3	0	8	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	7	5	12	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	2	4	0	6	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	9	19	13	0	32	0.0	26.3	57.9	15.8	0.0	7.7	92.3	0.0
	10	1	5	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
13 May	11	13	10	0	23	0.0	30.8	69.2	0.0	0.0	10.0	90.0	0.0
	12	11	9	0	20	0.0	0.0	81.8	18.2	0.0	0.0	100.0	0.0
	13	7	2	0	9	0.0	14.3	28.6	57.1	0.0	0.0	50.0	50.0
	14												
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		63	59	0	122	0.0	17.7	67.7	14.5	0.0	5.1	93.2	1.7

-Continued-

Appendix B.9. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6	1	8	0	9	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	7	11	12	0	23	0.0	18.2	81.8	0.0	0.0	0.0	100.0	0.0
	8	3	10	0	13	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	9	31	28	0	59	0.0	9.7	87.1	3.2	0.0	0.0	100.0	0.0
	10	12	7	0	19	0.0	16.7	83.3	0.0	0.0	14.3	71.4	14.3
14 May	11	25	22	0	47	0.0	8.0	84.0	8.0	0.0	4.5	63.6	31.8
	12	34	37	0	71	0.0	2.9	88.2	8.8	0.0	0.0	81.1	18.9
	13	14	7	0	21	0.0	7.1	71.4	21.4	0.0	0.0	85.7	14.3
	14												
	15												
	16												
	17												
Sample Total		131	131	0	262	0.0	9.9	83.2	6.9	0.0	1.5	86.3	12.2
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	12	12	0	24	0.0	16.7	83.3	0.0	0.0	0.0	100.0	0.0
	7	20	16	0	36	0.0	25.0	70.0	5.0	0.0	0.0	93.8	6.3
	8	4	6	0	10	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	9	10	10	0	20	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	5	4	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
18 May	11	9	2	0	11	0.0	11.1	66.7	22.2	0.0	0.0	100.0	0.0
	12	6	6	0	12	0.0	16.7	50.0	33.3	0.0	0.0	50.0	50.0
	13	0	5	0	5					0.0	0.0	80.0	20.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		67	62	0	129	0.0	13.4	76.1	10.4	0.0	0.0	91.9	8.1
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6	4	4	0	8	0.0	75.0	25.0	0.0	0.0	0.0	100.0	0.0
	7	12	23	0	35	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	8	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	10	10	0	20	0.0	30.0	70.0	0.0	0.0	0.0	100.0	0.0
	10	0	4	0	4					0.0	0.0	75.0	25.0
20 May	11	6	6	0	12	0.0	16.7	50.0	33.3	0.0	16.7	66.7	16.7
	12	7	7	0	14	0.0	42.9	57.1	0.0	0.0	0.0	100.0	0.0
	13	6	5	0	11	0.0	0.0	33.3	66.7	0.0	0.0	80.0	20.0
	14												
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		54	62	0	116	0.0	25.9	63.0	11.1	0.0	1.6	93.5	4.8

-Continued-

Appendix B.9. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5	2	0	0	2	0.0	0.0	50.0	50.0				
	6	32	34	0	66	0.0	46.9	50.0	3.1	0.0	0.0	100.0	0.0
	7	71	93	0	164	0.0	27.1	68.6	4.3	0.0	4.3	91.4	4.3
	8	24	33	0	57	0.0	16.7	79.2	4.2	0.0	3.0	93.9	3.0
	9	136	119	0	255	0.0	20.6	73.5	5.9	0.0	5.0	93.3	1.7
	10	35	38	0	73	0.0	22.9	71.4	5.7	0.0	10.5	78.9	10.5
8-20 May	11	124	97	0	221	0.0	21.0	71.0	8.1	0.0	6.2	79.4	14.4
	12	147	126	0	273	0.0	17.7	72.1	10.2	0.0	3.2	83.3	13.5
	13	66	54	0	120	0.0	22.7	45.5	31.8	0.0	9.3	79.6	11.1
	14	6	6	0	12	0.0	50.0	33.3	16.7	0.0	0.0	83.3	16.7
	15	6	4	0	10	0.0	16.7	83.3	0.0	0.0	0.0	100.0	0.0
	16	2	0	0	2	0.0	0.0	100.0	0.0				
	17	1	0	0	1	0.0	100.0	0.0	0.0				
All Samples		652	604	0	1256	0.0	22.4	67.9	9.7	0.0	5.0	86.9	8.1

Appendix B.10. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Nunavachak Section, 8-19 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6	4	3	0	7	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
	7	8	14	0	22	0.0	12.5	87.5	0.0	0.0	28.6	71.4	0.0
	8	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
8 May	9	12	6	0	18	0.0	8.3	91.7	0.0	0.0	0.0	100.0	0.0
	10	8	2	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	9	5	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	17	16	0	33	0.0	0.0	100.0	0.0	0.0	12.5	87.5	0.0
	13	3	9	0	12	0.0	0.0	100.0	0.0	0.0	44.4	55.6	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15	2	0	0	2	0.0	0.0	100.0	0.0				
	16	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		66	58	0	124	0.0	3.0	97.0	0.0	0.0	20.7	79.3	0.0
	3												
	4												
	5												
	6	2	7	0	9	0.0	50.0	50.0	0.0	0.0	14.3	57.1	28.6
	7	2	2	0	4	0.0	50.0	0.0	50.0	0.0	0.0	100.0	0.0
	8	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
10 May	9	7	3	0	10	0.0	85.7	14.3	0.0	0.0	0.0	100.0	0.0
	10	0	2	0	2					0.0	0.0	100.0	0.0
	11	4	3	0	7	0.0	50.0	50.0	0.0	0.0	0.0	33.3	66.7
	12	7	8	0	15	0.0	42.9	28.6	28.6	0.0	0.0	87.5	12.5
	13	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	14												
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
Sample Total		25	30	0	55	0.0	52.0	36.0	12.0	0.0	6.7	70.0	23.3
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6	15	11	0	26	0.0	20.0	66.7	13.3	0.0	0.0	100.0	0.0
	7	21	13	0	34	0.0	14.3	81.0	4.8	0.0	0.0	100.0	0.0
	8	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
14 May	9	18	19	0	37	0.0	22.2	77.8	0.0	0.0	0.0	94.7	5.3
	10	4	1	0	5	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	11	16	18	0	34	0.0	12.5	81.3	6.3	0.0	5.6	88.9	5.6
	12	23	9	0	32	0.0	4.3	87.0	8.7	0.0	0.0	100.0	0.0
	13	8	2	0	10	0.0	0.0	87.5	12.5	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
Sample Total		114	75	0	189	0.0	12.3	80.7	7.0	0.0	1.3	96.0	2.7

-Continued-

Appendix B.10. (p. 2 of 2)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4												
	5	2	0	0	2	0.0	0.0	100.0	0.0				
	6	30	25	0	55	0.0	6.7	93.3	0.0	0.0	0.0	100.0	0.0
	7	29	19	0	48	0.0	20.7	72.4	6.9	0.0	0.0	100.0	0.0
	8	1	0	0	1	0.0	0.0	100.0	0.0				
18 May	9	10	6	0	16	0.0	0.0	80.0	20.0	0.0	0.0	100.0	0.0
	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	0	2	0	2					0.0	0.0	100.0	0.0
	14												
	15												
	16												
Sample Total		80	57	0	137	0.0	10.0	83.8	6.3	0.0	0.0	100.0	0.0
	3	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	2	0	0	2	0.0	0.0	100.0	0.0				
	5	3	2	0	5	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	6	18	25	0	43	0.0	5.6	94.4	0.0	0.0	0.0	96.0	4.0
	7	18	18	0	36	0.0	5.6	88.9	5.6	0.0	0.0	100.0	0.0
	8	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
19 May	9	11	7	0	18	0.0	0.0	90.9	9.1	0.0	0.0	100.0	0.0
	10	0	2	0	2					0.0	0.0	100.0	0.0
	11	6	1	0	7	0.0	16.7	50.0	33.3	0.0	0.0	100.0	0.0
	12	9	8	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	0	3	0	3					0.0	0.0	100.0	0.0
	14												
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
Sample Total		73	71	0	144	0.0	5.5	89.0	5.5	0.0	0.0	98.6	1.4
	3	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	3	0	0	3	0.0	0.0	100.0	0.0				
	5	5	2	0	7	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	6	69	71	0	140	0.0	10.1	87.0	2.9	0.0	4.2	91.5	4.2
	7	78	66	0	144	0.0	15.4	78.2	6.4	0.0	6.1	93.9	0.0
	8	11	9	0	20	0.0	0.0	100.0	0.0	0.0	11.1	88.9	0.0
8-19 May	9	58	41	0	99	0.0	19.0	75.9	5.2	0.0	0.0	97.6	2.4
	10	13	7	0	20	0.0	7.7	76.9	15.4	0.0	0.0	100.0	0.0
	11	38	30	0	68	0.0	13.2	78.9	7.9	0.0	3.3	86.7	10.0
	12	59	43	0	102	0.0	6.8	86.4	6.8	0.0	4.7	93.0	2.3
	13	12	19	0	31	0.0	0.0	91.7	8.3	0.0	21.1	68.4	10.5
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	5	0	0	5	0.0	0.0	100.0	0.0				
	16	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		358	291	0	649	0.0	11.5	83.0	5.6	0.0	5.2	91.4	3.4

Appendix B.11. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Togiak Section, 8-15 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8												
	9	3	3	0	6	0.0	33.3	66.7	0.0	0.0	33.3	66.7	0.0
8 May	10	2	0	0	2	0.0	0.0	100.0	0.0				
	11	0	9	0	9					0.0	0.0	100.0	0.0
	12	9	15	0	24	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	13	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14												
	15												
Sample Total		17	33	0	50	0.0	11.8	88.2	0.0	0.0	6.1	93.9	0.0
	5												
	6	2	0	0	2	0.0	0.0	50.0	50.0				
	7	3	2	0	5	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	8	2	0	0	2	0.0	0.0	0.0	100.0				
	9	3	3	0	6	0.0	0.0	0.0	100.0	0.0	0.0	33.3	66.7
10 May	10	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	0	3	0	3					0.0	0.0	0.0	100.0
	12	4	6	0	10	0.0	25.0	25.0	50.0	0.0	0.0	0.0	100.0
	13	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
	15												
Sample Total		16	17	0	33	0.0	6.3	25.0	68.8	0.0	0.0	5.9	94.1
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	5	3	0	8	0.0	0.0	20.0	80.0	0.0	33.3	33.3	33.3
	7	6	4	0	10	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	2	5	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9	7	16	0	23	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
12 May	10	2	4	0	6	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	11	4	15	0	19	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	5	32	0	37	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	4	6	0	10	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
	15	0	2	0	2					0.0	0.0	0.0	100.0
Sample Total		35	88	0	123	0.0	0.0	5.7	94.3	0.0	2.3	1.1	96.6

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Appendix B.11. (p. 2 of 2)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6	4	12	0	16	0.0	25.0	50.0	25.0	0.0	0.0	91.7	8.3
	7	10	10	0	20	0.0	20.0	40.0	40.0	0.0	0.0	90.0	10.0
	8	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	9	13	12	0	25	0.0	0.0	38.5	61.5	0.0	0.0	66.7	33.3
14 May	10	5	2	0	7	0.0	20.0	0.0	80.0	0.0	0.0	0.0	100.0
	11	11	11	0	22	0.0	18.2	27.3	54.5	0.0	0.0	9.1	90.9
	12	7	21	0	28	0.0	0.0	42.9	57.1	0.0	0.0	14.3	85.7
	13	7	4	0	11	0.0	14.3	28.6	57.1	0.0	0.0	25.0	75.0
	14												
	15	0	1	0	1					0.0	0.0	0.0	100.0
Sample Total		58	75	0	133	0.0	12.1	32.8	55.2	0.0	0.0	45.3	54.7
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	7	6	0	13	0.0	0.0	14.3	85.7	0.0	0.0	0.0	100.0
	7	6	5	0	11	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	0	3	0	3					0.0	0.0	0.0	100.0
	9	8	4	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
15 May	10	8	4	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	9	16	0	25	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	11	13	0	24	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	0	9	0	9					0.0	0.0	0.0	100.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
Sample Total		51	61	0	112	0.0	0.0	2.0	98.0	0.0	0.0	0.0	100.0
	5	1	1	0	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
	6	18	22	0	40	0.0	5.6	27.8	66.7	0.0	9.1	54.5	36.4
	7	26	22	0	48	0.0	7.7	26.9	65.4	0.0	0.0	45.5	54.5
	8	5	10	0	15	0.0	0.0	0.0	100.0	0.0	0.0	10.0	90.0
	9	34	38	0	72	0.0	2.9	20.6	76.5	0.0	2.6	28.9	68.4
8-15 May	10	18	11	0	29	0.0	5.6	16.7	77.8	0.0	0.0	0.0	100.0
	11	24	54	0	78	0.0	8.3	12.5	79.2	0.0	0.0	18.5	81.5
	12	36	87	0	123	0.0	5.6	33.3	61.1	0.0	0.0	20.7	79.3
	13	14	25	0	39	0.0	7.1	28.6	64.3	0.0	0.0	20.0	80.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15	0	3	0	3					0.0	0.0	0.0	100.0
All Samples		177	274	0	451	0.0	5.6	23.2	71.2	0.0	1.5	24.5	74.1

Appendix B.12. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Hagemeister Section, 7-12 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
7 May	4												
	5												
	6												
	7	0	1	0	1					0.0	100.0	0.0	0.0
	8	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	9	4	4	0	8	0.0	100.0	0.0	0.0	0.0	75.0	25.0	0.0
	10	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	1	3	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	12	3	7	0	10	0.0	100.0	0.0	0.0	0.0	85.7	14.3	0.0
	13	1	6	0	7	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	14												
	15												
Sample Total		11	23	0	34	0.0	90.9	9.1	0.0	0.0	78.3	21.7	0.0
8 May	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6	11	14	0	25	0.0	54.5	45.5	0.0	0.0	57.1	42.9	0.0
	7	13	14	0	27	0.0	53.8	46.2	0.0	0.0	42.9	57.1	0.0
	8	2	5	0	7	0.0	50.0	50.0	0.0	0.0	60.0	40.0	0.0
	9	14	29	0	43	0.0	42.9	57.1	0.0	0.0	55.2	44.8	0.0
	10	5	11	0	16	0.0	60.0	40.0	0.0	0.0	27.3	72.7	0.0
	11	12	15	0	27	0.0	83.3	16.7	0.0	0.0	46.7	53.3	0.0
	12	14	27	1	42	0.0	28.6	71.4	0.0	0.0	55.6	44.4	0.0
	13	8	12	0	20	0.0	37.5	62.5	0.0	0.0	58.3	41.7	0.0
	14	1	2	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		81	131	1	213	0.0	51.9	48.1	0.0	0.0	49.6	50.4	0.0
12 May	4												
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	3	3	0	6	0.0	33.3	66.7	0.0	0.0	0.0	66.7	33.3
	7	15	8	0	23	0.0	26.7	20.0	53.3	0.0	37.5	50.0	12.5
	8	3	2	0	5	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	9	12	10	0	22	0.0	41.7	0.0	58.3	0.0	10.0	40.0	50.0
	10	6	1	0	7	0.0	16.7	0.0	83.3	0.0	0.0	0.0	100.0
	11	8	6	0	14	0.0	0.0	37.5	62.5	0.0	0.0	16.7	83.3
	12	7	11	0	18	0.0	57.1	0.0	42.9	0.0	0.0	36.4	63.6
	13	10	5	0	15	0.0	20.0	0.0	80.0	0.0	0.0	20.0	80.0
	14	0	1	0	1					0.0	0.0	0.0	100.0
	15												
Sample Total		65	47	0	112	0.0	26.2	13.8	60.0	0.0	8.5	34.0	57.4

-Continued-

Appendix B.12. (p. 2 of 2)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	6	14	17	0	31	0.0	50.0	50.0	0.0	0.0	47.1	47.1	5.9
	7	28	23	0	51	0.0	39.3	32.1	28.6	0.0	43.5	52.2	4.3
	8	6	8	0	14	0.0	33.3	33.3	33.3	0.0	37.5	37.5	25.0
7-12 May	9	30	43	0	73	0.0	50.0	26.7	23.3	0.0	46.5	41.9	11.6
	10	12	13	0	25	0.0	41.7	16.7	41.7	0.0	30.8	61.5	7.7
	11	21	24	0	45	0.0	47.6	28.6	23.8	0.0	41.7	37.5	20.8
	12	24	45	1	70	0.0	45.8	41.7	12.5	0.0	46.7	37.8	15.6
	13	19	23	0	42	0.0	31.6	26.3	42.1	0.0	47.8	34.8	17.4
	14	1	3	0	4	0.0	100.0	0.0	0.0	0.0	0.0	66.7	33.3
	15	0	1	0	1					0.0	0.0	100.0	0.0
All Samples		157	201	1	359	0.0	43.9	31.2	24.8	0.0	43.3	43.3	13.4

Appendix B.13. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Nunavachak, Togiak and Hagemeister Sections, 7-12 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7	0	1	0	1					0.0	100.0	0.0	0.0
	8	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
7 May	9	4	4	0	8	0.0	100.0	0.0	0.0	0.0	75.0	25.0	0.0
	10	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	1	3	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	12	3	7	0	10	0.0	100.0	0.0	0.0	0.0	85.7	14.3	0.0
	13	1	6	0	7	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	14												
	15												
	16												
Sample Total		11	23	0	34	0.0	90.9	9.1	0.0	0.0	78.3	21.7	0.0
	3												
	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6	15	18	0	33	0.0	40.0	60.0	0.0	0.0	61.1	38.9	0.0
	7	22	29	0	51	0.0	36.4	63.6	0.0	0.0	34.5	65.5	0.0
	8	4	7	0	11	0.0	25.0	75.0	0.0	0.0	42.9	57.1	0.0
8 May	9	29	38	0	67	0.0	27.6	72.4	0.0	0.0	44.7	55.3	0.0
	10	15	13	0	28	0.0	20.0	80.0	0.0	0.0	23.1	76.9	0.0
	11	21	29	0	50	0.0	47.6	52.4	0.0	0.0	24.1	75.9	0.0
	12	40	58	1	99	0.0	12.5	87.5	0.0	0.0	29.3	70.7	0.0
	13	13	25	0	38	0.0	23.1	76.9	0.0	0.0	44.0	56.0	0.0
	14	1	3	0	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		164	222	1	387	0.0	28.0	72.0	0.0	0.0	35.6	64.4	0.0
	3												
	4												
	5												
	6	4	7	0	11	0.0	25.0	50.0	25.0	0.0	14.3	57.1	28.6
	7	5	4	0	9	0.0	20.0	40.0	40.0	0.0	0.0	50.0	50.0
	8	3	2	0	5	0.0	0.0	33.3	66.7	0.0	50.0	50.0	0.0
10 May	9	10	6	0	16	0.0	60.0	10.0	30.0	0.0	0.0	66.7	33.3
	10	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	66.7	33.3
	11	4	6	0	10	0.0	50.0	50.0	0.0	0.0	0.0	16.7	83.3
	12	11	14	0	25	0.0	36.4	27.3	36.4	0.0	0.0	50.0	50.0
	13	2	5	0	7	0.0	0.0	50.0	50.0	0.0	0.0	20.0	80.0
	14												
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
Sample Total		41	47	0	88	0.0	34.1	31.7	34.1	0.0	4.3	46.8	48.9

-Continued-

Appendix B.13. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	1	1	0	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
	6	8	6	0	14	0.0	12.5	37.5	50.0	0.0	16.7	50.0	33.3
	7	21	12	0	33	0.0	19.0	14.3	66.7	0.0	25.0	33.3	41.7
	8	5	7	0	12	0.0	0.0	20.0	80.0	0.0	0.0	0.0	100.0
12 May	9	19	26	0	45	0.0	26.3	0.0	73.7	0.0	3.8	15.4	80.8
	10	8	5	0	13	0.0	12.5	12.5	75.0	0.0	0.0	0.0	100.0
	11	12	21	0	33	0.0	0.0	25.0	75.0	0.0	0.0	4.8	95.2
	12	12	43	0	55	0.0	33.3	0.0	66.7	0.0	0.0	9.3	90.7
	13	14	11	0	25	0.0	14.3	0.0	85.7	0.0	0.0	9.1	90.9
	14	0	1	0	1					0.0	0.0	0.0	100.0
	15	0	2	0	2					0.0	0.0	0.0	100.0
	16												
Sample Total		100	135	0	235	0.0	17.0	11.0	72.0	0.0	4.4	12.6	83.0
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6	19	23	0	42	0.0	21.1	63.2	15.8	0.0	0.0	95.7	4.3
	7	31	23	0	54	0.0	16.1	67.7	16.1	0.0	0.0	95.7	4.3
	8	6	4	0	10	0.0	0.0	83.3	16.7	0.0	0.0	75.0	25.0
14 May	9	31	31	0	62	0.0	12.9	61.3	25.8	0.0	0.0	83.9	16.1
	10	9	3	0	12	0.0	22.2	22.2	55.6	0.0	0.0	33.3	66.7
	11	27	29	0	56	0.0	14.8	59.3	25.9	0.0	3.4	58.6	37.9
	12	30	30	0	60	0.0	3.3	76.7	20.0	0.0	0.0	40.0	60.0
	13	15	6	0	21	0.0	6.7	60.0	33.3	0.0	0.0	50.0	50.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	16												
Sample Total		172	150	0	322	0.0	12.2	64.5	23.3	0.0	0.7	70.7	28.7
	3												
	4												
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	7	6	0	13	0.0	0.0	14.3	85.7	0.0	0.0	0.0	100.0
	7	6	5	0	11	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	0	3	0	3					0.0	0.0	0.0	100.0
15 May	9	8	4	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	10	8	4	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	9	16	0	25	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	11	13	0	24	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	0	9	0	9					0.0	0.0	0.0	100.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
	16												
Sample Total		51	61	0	112	0.0	0.0	2.0	98.0	0.0	0.0	0.0	100.0

-Continued-

Appendix B.13. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4												
	5	2	0	0	2	0.0	0.0	100.0	0.0				
	6	30	25	0	55	0.0	6.7	93.3	0.0	0.0	0.0	100.0	0.0
	7	29	19	0	48	0.0	20.7	72.4	6.9	0.0	0.0	100.0	0.0
	8	1	0	0	1	0.0	0.0	100.0	0.0				
18 May	9	10	6	0	16	0.0	0.0	80.0	20.0	0.0	0.0	100.0	0.0
	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	0	2	0	2					0.0	0.0	100.0	0.0
	14												
	15												
	16												
Sample Total		80	57	0	137	0.0	10.0	83.8	6.3	0.0	0.0	100.0	0.0
	3	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	2	0	0	2	0.0	0.0	100.0	0.0				
	5	3	2	0	5	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	6	18	25	0	43	0.0	5.6	94.4	0.0	0.0	0.0	96.0	4.0
	7	18	18	0	36	0.0	5.6	88.9	5.6	0.0	0.0	100.0	0.0
	8	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
19 May	9	11	7	0	18	0.0	0.0	90.9	9.1	0.0	0.0	100.0	0.0
	10	0	2	0	2					0.0	0.0	100.0	0.0
	11	6	1	0	7	0.0	16.7	50.0	33.3	0.0	0.0	100.0	0.0
	12	9	8	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	0	3	0	3					0.0	0.0	100.0	0.0
	14												
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
Sample Total		73	71	0	144	0.0	5.5	89.0	5.5	0.0	0.0	98.6	1.4
	3	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	4	0	0	4	0.0	25.0	75.0	0.0				
	5	7	4	0	11	0.0	14.3	57.1	28.6	0.0	25.0	75.0	0.0
	6	101	110	0	211	0.0	14.9	71.3	13.9	0.0	11.8	77.3	10.9
	7	132	111	0	243	0.0	18.9	58.3	22.7	0.0	12.6	75.7	11.7
	8	22	27	0	49	0.0	9.1	59.1	31.8	0.0	14.8	44.4	40.7
7-19 May	9	122	122	0	244	0.0	22.1	48.4	29.5	0.0	17.2	56.6	26.2
	10	43	31	0	74	0.0	16.3	34.9	48.8	0.0	12.9	48.4	38.7
	11	83	108	0	191	0.0	20.5	47.0	32.5	0.0	10.2	41.7	48.1
	12	119	175	1	295	0.0	14.3	61.3	24.4	0.0	13.1	42.9	44.0
	13	45	67	0	112	0.0	15.6	44.4	40.0	0.0	22.4	38.8	38.8
	14	3	5	0	8	0.0	33.3	33.3	33.3	0.0	0.0	60.0	40.0
	15	5	4	0	9	0.0	0.0	100.0	0.0	0.0	0.0	25.0	75.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		692	766	1	1459	0.0	17.3	55.9	26.7	0.0	13.8	54.8	31.3

Appendix B.14. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Kulukak Section, 6-23 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	4												
	5												
	6	4	2	0	6	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	7	1	3	0	4	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
6 May	8	0	2	0	2					0.0	0.0	100.0	0.0
	9	2	6	0	8	0.0	100.0	0.0	0.0	0.0	16.7	83.3	0.0
	10	3	1	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	3	2	0	5	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	12	4	2	0	6	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	13	3	6	0	9	0.0	100.0	0.0	0.0	0.0	16.7	83.3	0.0
	14												
Sample Total		21	25	0	46	0.0	100.0	0.0	0.0	0.0	24.0	76.0	0.0
	3												
	4												
	5												
	6	5	2	0	7	0.0	60.0	40.0	0.0	0.0	50.0	50.0	0.0
	7	4	4	0	8	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
11 May	8	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	9	18	8	0	26	0.0	38.9	55.6	5.6	0.0	0.0	75.0	25.0
	10	4	3	0	7	0.0	25.0	50.0	25.0	0.0	33.3	66.7	0.0
	11	10	5	0	15	0.0	60.0	30.0	10.0	0.0	0.0	80.0	20.0
	12	20	8	0	28	0.0	60.0	40.0	0.0	0.0	0.0	100.0	0.0
	13	6	2	0	8	0.0	16.7	66.7	16.7	0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	100.0	0.0	0.0
Sample Total		68	34	0	102	0.0	47.1	45.6	7.4	0.0	8.8	82.4	8.8
	3												
	4												
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6	10	5	0	15	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	7	13	10	0	23	0.0	15.4	76.9	7.7	0.0	20.0	80.0	0.0
12 May	8	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	11	8	0	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	5	1	0	6	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	11	13	4	0	17	0.0	7.7	92.3	0.0	0.0	0.0	100.0	0.0
	12	9	4	0	13	0.0	11.1	77.8	11.1	0.0	0.0	100.0	0.0
	13	2	6	0	8	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		65	42	0	107	0.0	12.3	84.6	3.1	0.0	4.8	95.2	0.0

-Continued-

Appendix B.14. (p. 2 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	12	5	0	17	0.0	8.3	75.0	16.7	0.0	0.0	100.0	0.0
14 May	8	2	3	0	5	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	9	1	0	0	1	0.0	0.0	100.0	0.0				
	10												
	11	0	1	0	1					0.0	0.0	100.0	0.0
	12	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14												
Sample Total		21	16	0	37	0.0	4.8	81.0	14.3	0.0	0.0	100.0	0.0
	3	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	4	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	5	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	6	12	17	0	29	0.0	25.0	58.3	16.7	0.0	11.8	41.2	47.1
	7	12	14	0	26	0.0	8.3	75.0	16.7	0.0	0.0	71.4	28.6
18 May	8	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	9	9	6	0	15	0.0	0.0	66.7	33.3	0.0	0.0	66.7	33.3
	10	4	1	0	5	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	11	3	0	0	3	0.0	33.3	66.7	0.0				
	12	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	75.0	25.0
	13	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
Sample Total		53	48	0	101	0.0	13.2	64.2	22.6	0.0	4.2	58.3	37.5
	3												
	4												
	5												
	6	2	0	0	2	0.0	0.0	100.0	0.0				
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
19 May	8												
	9	0	2	0	2					0.0	0.0	100.0	0.0
	10												
	11	1	0	0	1	0.0	0.0	100.0	0.0				
	12	0	1	0	1					0.0	0.0	100.0	0.0
	13	0	1	0	1					0.0	0.0	100.0	0.0
	14												
Sample Total		4	5	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0

-Continued-

Appendix B.14. (p. 3 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
20 May	3	5	1	0	6	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	4	6	0	0	6	0.0	16.7	83.3	0.0				
	5	0	2	0	2					0.0	0.0	100.0	0.0
	6	22	23	0	45	0.0	27.3	72.7	0.0	0.0	0.0	100.0	0.0
	7	12	8	0	20	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	8	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	7	3	0	10	0.0	14.3	71.4	14.3	0.0	0.0	100.0	0.0
	10	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	11	2	0	0	2	0.0	50.0	50.0	0.0				
	12	3	5	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	0	2	0	2					0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		60	48	0	108	0.0	25.0	73.3	1.7	0.0	0.0	100.0	0.0
21 May	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	0	2	0	2					0.0	0.0	100.0	0.0
	5	2	0	0	2	0.0	50.0	50.0	0.0				
	6	17	16	0	33	0.0	5.9	94.1	0.0	0.0	0.0	100.0	0.0
	7	17	8	0	25	0.0	23.5	76.5	0.0	0.0	0.0	100.0	0.0
	8	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	0	2	0	2					0.0	0.0	100.0	0.0
	11	2	0	0	2	0.0	0.0	100.0	0.0				
	12	3	0	0	3	0.0	0.0	33.3	66.7				
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14												
Sample Total		46	32	0	78	0.0	15.2	80.4	4.3	0.0	0.0	100.0	0.0
22 May	3												
	4												
	5												
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	0	1	0	1					0.0	0.0	100.0	0.0
	8												
	9	0	1	0	1					0.0	0.0	100.0	0.0
	10												
	11												
	12												
	13												
	14												
Sample Total		0	3	0	3					0.0	0.0	100.0	0.0

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Appendix B.14. (p. 4 of 4)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
23 May	3												
	4												
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	22	24	0	46	0.0	0.0	100.0	0.0	0.0	0.0	95.8	4.2
	7	18	20	0	38	0.0	5.6	83.3	11.1	0.0	0.0	100.0	0.0
	8	6	1	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	6	5	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	11	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	6	1	0	7	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		64	56	0	120	0.0	1.6	92.2	6.3	0.0	0.0	98.2	1.8
6-23 May	3	8	3	0	11	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	4	9	3	0	12	0.0	11.1	77.8	11.1	0.0	0.0	100.0	0.0
	5	6	7	0	13	0.0	16.7	66.7	16.7	0.0	0.0	71.4	28.6
	6	97	92	0	189	0.0	19.6	78.4	2.1	0.0	4.3	85.9	9.8
	7	90	74	0	164	0.0	16.7	74.4	8.9	0.0	5.4	89.2	5.4
	8	15	14	0	29	0.0	6.7	80.0	13.3	0.0	0.0	100.0	0.0
	9	56	42	0	98	0.0	17.9	73.2	8.9	0.0	2.4	88.1	9.5
	10	20	10	0	30	0.0	35.0	55.0	10.0	0.0	20.0	80.0	0.0
	11	35	14	0	49	0.0	34.3	62.9	2.9	0.0	0.0	92.9	7.1
	12	48	27	0	75	0.0	35.4	56.3	8.3	0.0	0.0	96.3	3.7
	13	16	21	0	37	0.0	31.3	50.0	18.8	0.0	4.8	90.5	4.8
	14	2	2	0	4	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
All Samples		402	309	0	711	0.0	22.9	69.9	7.2	0.0	4.2	88.7	7.1

Appendix B.15. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Nunavachak Section, 7 May-5 June 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7	0	1	0	1					0.0	0.0	100.0	0.0
	8												
7 May	9	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10												
	11	0	1	0	1					0.0	0.0	100.0	0.0
	12	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	0	2	0	2					0.0	0.0	100.0	0.0
	15												
	16												
Sample Total		4	13	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	3												
	4												
	5												
	6	2	7	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	14	10	0	24	0.0	7.1	78.6	14.3	0.0	0.0	100.0	0.0
	8	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
12 May	9	13	10	0	23	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	6	4	0	10	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	11	12	5	0	17	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
	12	16	3	0	19	0.0	0.0	93.8	6.3	0.0	0.0	66.7	33.3
	13	5	4	0	9	0.0	20.0	60.0	20.0	0.0	0.0	100.0	0.0
	14	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	15												
	16	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
Sample Total		71	48	0	119	0.0	2.8	88.7	8.5	0.0	0.0	93.8	6.3
	3												
	4												
	5												
	6												
	7												
	8												
14 May	9												
	10												
	11	1	0	0	1	0.0	100.0	0.0	0.0				
	12	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	13												
	14												
	15												
	16												
Sample Total		2	1	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0

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Appendix B.15. (p. 2 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	12	5	0	17	0.0	0.0	25.0	75.0	0.0	20.0	60.0	20.0
	4	5	1	0	6	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	5	6	6	0	12	0.0	0.0	16.7	83.3	0.0	0.0	16.7	83.3
	6	26	27	0	53	0.0	0.0	15.4	84.6	0.0	3.7	3.7	92.6
	7	11	11	0	22	0.0	0.0	18.2	81.8	0.0	0.0	9.1	90.9
	8	0	4	0	4					0.0	0.0	25.0	75.0
31 May	9	5	4	0	9	0.0	0.0	20.0	80.0	0.0	0.0	25.0	75.0
	10	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	0	3	0	3					0.0	0.0	33.3	66.7
	13	3	1	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
	15												
	16												
Sample Total		71	66	0	137	0.0	0.0	15.5	84.5	0.0	3.0	13.6	83.3
	3	6	6	0	12	0.0	0.0	83.3	16.7	0.0	16.7	83.3	0.0
	4	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	13	9	0	22	0.0	0.0	69.2	30.8	0.0	0.0	88.9	11.1
	7	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	0	2	0	2					0.0	0.0	100.0	0.0
1 June	9	4	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12												
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14												
	15												
	16												
Sample Total		31	27	0	58	0.0	0.0	80.6	19.4	0.0	3.7	85.2	11.1

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Appendix B.15. (p. 3 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	3	4	0	7	0.0	0.0	66.7	33.3	0.0	25.0	25.0	50.0
	4	3	2	0	5	0.0	0.0	33.3	66.7	0.0	50.0	0.0	50.0
	5	3	6	0	9	0.0	0.0	66.7	33.3	0.0	0.0	16.7	83.3
	6	32	14	0	46	0.0	0.0	15.6	84.4	0.0	14.3	21.4	64.3
	7	6	5	0	11	0.0	0.0	16.7	83.3	0.0	0.0	20.0	80.0
	8	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
2 June	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	10	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11												
	12												
	13												
	14												
	15												
	16												
Sample Total		52	36	0	88	0.0	0.0	23.1	76.9	0.0	11.1	16.7	72.2
	3	0	2	0	2					0.0	0.0	100.0	0.0
	4	0	2	0	2					0.0	0.0	50.0	50.0
	5	0	1	0	1					0.0	0.0	0.0	100.0
	6	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	7	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	8	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
3 June	9	0	2	0	2					0.0	0.0	0.0	100.0
	10												
	11												
	12												
	13												
	14												
	15												
	16												
Sample Total		6	12	0	18	0.0	0.0	33.3	66.7	0.0	0.0	33.3	66.7
	3	2	0	0	2	0.0	0.0	100.0	0.0				
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6	2	0	0	2	0.0	0.0	100.0	0.0				
	7	0	4	0	4					0.0	0.0	75.0	25.0
	8												
5 June	9	2	0	0	2	0.0	0.0	100.0	0.0				
	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11												
	12	0	1	0	1					0.0	0.0	0.0	100.0
	13												
	14	1	0	0	1	0.0	0.0	0.0	100.0				
	15												
	16												
Sample Total		9	5	0	14	0.0	0.0	77.8	22.2	0.0	0.0	60.0	40.0

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Appendix B.15. (p. 4 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	23	19	0	42	0.0	0.0	52.2	47.8	0.0	17.6	64.7	17.6
	4	11	8	0	19	0.0	0.0	36.4	63.6	0.0	12.5	50.0	37.5
	5	12	14	0	26	0.0	0.0	50.0	50.0	0.0	0.0	21.4	78.6
	6	79	58	0	137	0.0	0.0	28.6	71.4	0.0	5.2	32.8	62.1
	7	35	35	0	70	0.0	2.9	48.6	48.6	0.0	0.0	57.1	42.9
	8	4	13	0	17	0.0	0.0	25.0	75.0	0.0	0.0	38.5	61.5
7 May- 5 June	9	26	23	0	49	0.0	0.0	84.6	15.4	0.0	0.0	69.6	30.4
	10	11	8	0	19	0.0	0.0	54.5	45.5	0.0	0.0	50.0	50.0
	11	15	9	0	24	0.0	6.7	80.0	13.3	0.0	0.0	55.6	44.4
	12	19	12	0	31	0.0	5.3	89.5	5.3	0.0	0.0	66.7	33.3
	13	10	6	0	16	0.0	10.0	40.0	50.0	0.0	0.0	83.3	16.7
	14	2	4	0	6	0.0	0.0	0.0	100.0	0.0	0.0	75.0	25.0
	15												
	16	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
All Samples		248	210	0	458	0.0	1.6	50.4	48.0	0.0	3.4	50.0	46.6

Appendix B.16. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Togiak Section, 14 May–4 June 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4												
	6	2	5	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	2	0	0	3	0.0	50.0	50.0	0.0				
14 May	8	1	2	0	4	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	9	0	1	0	3					0.0	0.0	100.0	0.0
	11	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	1	0	0	1	0.0	100.0	0.0	0.0				
	13	0	1	0	1					0.0	0.0	0.0	100.0
	14												
Sample Total		8	11	0	27	0.0	50.0	50.0	0.0	0.0	9.1	81.8	9.1
	3												
	4												
	5												
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
18 May	8	0	1	0	1					0.0	0.0	100.0	0.0
	9	0	4	0	4					0.0	0.0	100.0	0.0
	10	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	75.0	25.0
	11	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	12	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	13												
	14												
Sample Total		6	15	0	21	0.0	0.0	83.3	16.7	0.0	0.0	80.0	20.0
	3	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	4	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	18	17	0	35	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	13	13	0	26	0.0	0.0	92.3	7.7	0.0	0.0	100.0	0.0
19 May	8	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	7	4	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10												
	11	5	0	0	5	0.0	0.0	100.0	0.0				
	12	5	5	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	3	3	0	6	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	14												
Sample Total		61	49	0	110	0.0	0.0	96.7	3.3	0.0	0.0	100.0	0.0

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Appendix B.16. (p. 2 of 4)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
23 May	3	14	4	0	18	0.0	0.0	85.7	14.3	0.0	0.0	100.0	0.0
	4	15	4	0	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	11	8	0	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	12	3	0	15	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	6	0	0	6	0.0	0.0	100.0	0.0				
	9	6	7	0	13	0.0	0.0	100.0	0.0	0.0	0.0	85.7	14.3
	10	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	11	0	0	11	0.0	0.0	100.0	0.0				
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14												
Sample Total		88	31	0	119	0.0	0.0	97.7	2.3	0.0	0.0	96.8	3.2
30 May	3												
	4	0	1	0	1					0.0	0.0	100.0	0.0
	5	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	6	15	22	0	37	0.0	0.0	60.0	40.0	0.0	4.5	22.7	72.7
	7	10	9	0	19	0.0	0.0	40.0	60.0	0.0	0.0	33.3	66.7
	8	4	7	0	11	0.0	0.0	50.0	50.0	0.0	0.0	14.3	85.7
	9	6	2	0	8	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	10	4	2	0	6	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	11	5	0	0	5	0.0	0.0	40.0	60.0				
	12	6	9	0	15	0.0	0.0	16.7	83.3	0.0	0.0	0.0	100.0
	13	5	5	0	10	0.0	0.0	0.0	100.0	0.0	20.0	20.0	60.0
	14												
Sample Total		57	58	0	115	0.0	0.0	35.1	64.9	0.0	3.4	20.7	75.9
31 May	3												
	4												
	5												
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7												
	8												
	9	0	1	0	1					0.0	0.0	100.0	0.0
	10												
	11												
	12												
	13												
	14												
Sample Total		1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0

-Continued-

Appendix B.16. (p. 3 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	0	1	0	1					0.0	0.0	100.0	0.0
	5												
	6	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	7	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
1 June	8	1	0	0	1	0.0	0.0	100.0	0.0				
	9												
	10												
	11												
	12												
	13												
	14												
Sample Total		7	7	0	14	0.0	0.0	100.0	0.0	0.0	0.0	85.7	14.3
	3	3	2	0	5	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	4	0	2	0	2					0.0	0.0	50.0	50.0
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6	9	6	0	15	0.0	0.0	88.9	11.1	0.0	0.0	83.3	16.7
	7	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
2 June	8												
	9	2	0	0	2	0.0	0.0	100.0	0.0				
	10												
	11	1	0	0	1	0.0	0.0	0.0	100.0				
	12	0	2	0	2					0.0	0.0	0.0	100.0
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	14												
Sample Total		18	15	0	33	0.0	0.0	88.9	11.1	0.0	13.3	53.3	33.3
	3	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	4	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	5												
	6	12	10	0	22	0.0	0.0	25.0	75.0	0.0	0.0	20.0	80.0
	7	13	6	0	19	0.0	0.0	30.8	69.2	0.0	0.0	16.7	83.3
3 June	8	1	6	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9	9	6	0	15	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	10	3	1	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	20	7	0	27	0.0	0.0	5.0	95.0	0.0	0.0	0.0	100.0
	12	6	6	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	7	2	0	9	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
Sample Total		74	50	0	124	0.0	0.0	10.8	89.2	0.0	0.0	10.0	90.0

-Continued-

Appendix B.16. (p. 4 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	12	12	0	24	0.0	0.0	16.7	83.3	0.0	0.0	16.7	83.3
	7	18	11	0	29	0.0	0.0	0.0	100.0	0.0	0.0	9.1	90.9
4 June	8	3	2	0	5	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	9	9	5	0	14	0.0	0.0	22.2	77.8	0.0	0.0	0.0	100.0
	10	3	5	0	8	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	13	12	0	25	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	8	7	0	15	0.0	0.0	12.5	87.5	0.0	0.0	0.0	100.0
	13	6	8	0	14	0.0	0.0	16.7	83.3	0.0	0.0	0.0	100.0
	14												
Sample Total		75	64	0	139	0.0	0.0	10.7	89.3	0.0	0.0	6.3	93.8
	3	24	11	0	35	0.0	4.2	79.2	16.7	0.0	9.1	72.7	18.2
	4	18	14	0	32	0.0	0.0	94.4	5.6	0.0	0.0	85.7	14.3
	5	13	4	0	19	0.0	0.0	76.9	23.1	0.0	0.0	75.0	25.0
	6	86	83	0	170	0.0	0.0	69.8	30.2	0.0	1.2	55.4	43.4
	7	71	49	0	121	0.0	1.4	50.7	47.9	0.0	2.0	55.1	42.9
14 May- 4 June	8	18	19	0	38	0.0	5.6	66.7	27.8	0.0	5.3	21.1	73.7
	9	39	30	0	71	0.0	0.0	48.7	51.3	0.0	0.0	53.3	46.7
	10	14	13	0	28	0.0	0.0	28.6	71.4	0.0	0.0	38.5	61.5
	11	50	25	0	75	0.0	0.0	28.0	72.0	0.0	0.0	20.0	80.0
	12	38	31	0	69	0.0	2.6	47.4	50.0	0.0	0.0	19.4	80.6
	13	23	20	0	43	0.0	0.0	21.7	78.3	0.0	5.0	20.0	75.0
	14	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
All Samples		395	301	0	704	0.0	1.0	54.2	44.8	0.0	1.7	45.2	53.2

Appendix B.17. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Hagemeister Section, 3-23 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7												
	8	0	1	0	1					0.0	100.0	0.0	0.0
	9												
3 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0
	3												
	4												
	5												
	6												
	7												
	8												
	9												
4 May	10												
	11												
	12												
	13	0	1	0	1					0.0	0.0	100.0	0.0
	14												
	15												
	16												
	17												
Sample Total		0	1	0	1					0.0	0.0	100.0	0.0
	3												
	4												
	5												
	6												
	7												
	8												
	9												
7 May	10												
	11	0	2	0	2					0.0	0.0	100.0	0.0
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		0	2	0	2					0.0	0.0	100.0	0.0

-Continued-

Appendix B.17. (p. 2 of 5)

		Sex (number)				Gonad Maturity (%) Male				Gonad Maturity (%) Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7												
	8												
	9	0	1	0	1					0.0	100.0	0.0	0.0
13 May	10												
	11												
	12	1	0	0	1	0.0	0.0	100.0	0.0				
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14												
	15												
	16												
	17												
Sample Total		2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	3												
	4												
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	7	4	0	0	4	0.0	50.0	50.0	0.0				
	8	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
14 May	10	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	2	0	6	0.0	25.0	50.0	25.0	0.0	50.0	50.0	0.0
	12	6	2	0	8	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	13	2	0	0	2	0.0	0.0	50.0	50.0				
	14												
	15												
	16												
	17												
Sample Total		23	8	0	31	0.0	26.1	65.2	8.7	0.0	12.5	87.5	0.0
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	0	1	0	1					0.0	0.0	100.0	0.0
	5												
	6	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9	0	2	0	2					0.0	0.0	100.0	0.0
16 May	10	2	0	0	2	0.0	0.0	100.0	0.0				
	11	1	0	0	1	0.0	0.0	100.0	0.0				
	12	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13												
	14												
	15												
	16												
	17												
Sample Total		12	8	0	20	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0

-Continued-

Appendix B.17. (p. 3 of 5)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
18 May	3	4	1	0	5	0.0	0.0	75.0	25.0	0.0	100.0	0.0	0.0
	4	4	5	0	9	0.0	0.0	100.0	0.0	0.0	60.0	40.0	0.0
	5	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	6	12	7	0	19	0.0	33.3	66.7	0.0	0.0	28.6	71.4	0.0
	7	14	8	0	22	0.0	28.6	71.4	0.0	0.0	25.0	75.0	0.0
	8	3	1	0	4	0.0	33.3	66.7	0.0	0.0	100.0	0.0	0.0
	9	14	4	0	18	0.0	35.7	64.3	0.0	0.0	25.0	75.0	0.0
	10	6	1	0	7	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	11	9	3	0	12	0.0	11.1	66.7	22.2	0.0	0.0	100.0	0.0
	12	11	6	0	17	0.0	18.2	72.7	9.1	0.0	0.0	100.0	0.0
	13	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		84	40	0	124	0.0	21.4	71.4	7.1	0.0	25.0	75.0	0.0
19 May	3	4	1	0	5	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	4									0.0	0.0	100.0	0.0
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	6	1	0	7	0.0	83.3	16.7	0.0	0.0	76.9	23.1	0.0
	7	7	13	0	20	0.0	100.0	0.0	0.0				
	8									0.0	50.0	25.0	25.0
	9	3	4	0	7	0.0	100.0	0.0	0.0				
	10	2	0	0	2	0.0	50.0	0.0	50.0	0.0	0.0	100.0	0.0
	11	6	1	0	7	0.0	66.7	0.0	33.3	0.0	0.0	100.0	0.0
	12	2	1	0	3	0.0	50.0	0.0	50.0	0.0	0.0	0.0	100.0
	13	2	1	0	3	0.0	0.0	0.0	100.0				
	14												
	15												
	16												
	17												
Sample Total		32	23	0	55	0.0	78.1	3.1	18.8	0.0	60.9	30.4	8.7
20 May	3												
	4	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	12	6	0	18	0.0	75.0	25.0	0.0	0.0	16.7	83.3	0.0
	7	5	6	0	11	0.0	60.0	40.0	0.0	0.0	16.7	83.3	0.0
	8	1	0	0	1	0.0	0.0	100.0	0.0				
	9	5	3	0	8	0.0	60.0	20.0	20.0	0.0	0.0	100.0	0.0
	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11	6	4	0	10	0.0	50.0	33.3	16.7	0.0	0.0	100.0	0.0
	12	1	2	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	13												
	14												
	15												
	16												
	17												
Sample Total		33	23	0	56	0.0	63.6	27.3	9.1	0.0	17.4	82.6	0.0

-Continued-

Appendix B.17. (p. 4 of 5)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7	1	0	0	1	0.0	0.0	100.0	0.0				
	8												
	9	2	0	0	2	0.0	100.0	0.0	0.0				
21 May	10												
	11	2	0	0	2	0.0	50.0	50.0	0.0				
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		5	0	0	5	0.0	60.0	40.0	0.0				
	3	0	3	0	3					0.0	0.0	100.0	0.0
	4	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	6	2	0	8	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	6	8	6	0	14	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	7	25	10	0	35	0.0	16.0	80.0	4.0	0.0	0.0	100.0	0.0
	8	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	15	4	0	19	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
22 May	10	9	0	0	9	0.0	0.0	100.0	0.0				
	11	7	2	0	9	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	12	8	2	0	10	0.0	62.5	37.5	0.0	0.0	0.0	100.0	0.0
	13	6	4	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14												
	15												
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		88	36	0	124	0.0	20.5	78.4	1.1	0.0	0.0	100.0	0.0
	3												
	4												
	5												
	6	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	8	2	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9	6	2	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
23 May	10	1	0	0	1	0.0	0.0	100.0	0.0				
	11	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		19	8	0	27	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0

-Continued-

Appendix B.17. (p. 5 of 5)

						Gonad Maturity (%)							
		Sex (number)				Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	9	5	0	14	0.0	44.4	44.4	11.1	0.0	40.0	60.0	0.0
	4	7	9	0	16	0.0	28.6	71.4	0.0	0.0	44.4	55.6	0.0
	5	9	6	0	15	0.0	33.3	55.6	11.1	0.0	16.7	83.3	0.0
	6	48	25	0	73	0.0	43.8	56.3	0.0	0.0	16.0	84.0	0.0
	7	65	40	0	105	0.0	30.8	67.7	1.5	0.0	32.5	67.5	0.0
	8	7	6	0	13	0.0	14.3	85.7	0.0	0.0	33.3	66.7	0.0
	9	46	21	0	67	0.0	34.8	63.0	2.2	0.0	19.0	76.2	4.8
3-23 May	10	23	2	0	25	0.0	4.3	82.6	13.0	0.0	0.0	100.0	0.0
	11	36	15	0	51	0.0	30.6	52.8	16.7	0.0	6.7	93.3	0.0
	12	31	14	0	45	0.0	35.5	58.1	6.5	0.0	0.0	100.0	0.0
	13	14	7	0	21	0.0	0.0	78.6	21.4	0.0	0.0	85.7	14.3
	14	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		298	151	0	449	0.0	30.5	63.4	6.0	0.0	20.5	78.1	1.3

Appendix B.18. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Kulukak, Nunavachak, Togiak, and Hagemeister Sections, 3-23 May 1990.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7												
	8	0	1	0	1					0.0	100.0	0.0	0.0
	9												
3 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0
	3												
	4												
	5												
	6												
	7												
	8												
	9												
4 May	10												
	11												
	12												
	13	0	1	0	1					0.0	0.0	100.0	0.0
	14												
	15												
	16												
	17												
Sample Total		0	1	0	1					0.0	0.0	100.0	0.0
	3	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	4												
	5												
	6	4	2	0	6	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	7	1	3	0	4	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	8	0	2	0	2					0.0	0.0	100.0	0.0
	9	2	6	0	8	0.0	100.0	0.0	0.0	0.0	16.7	83.3	0.0
6 May	10	3	1	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	3	2	0	5	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	12	4	2	0	6	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	13	3	6	0	9	0.0	100.0	0.0	0.0	0.0	16.7	83.3	0.0
	14												
	15												
	16		17										
Sample Total		21	25	0	46	0.0	100.0	0.0	0.0	0.0	24.0	76.0	0.0

-Continued-

Appendix B.18. (p. 2 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7	0	1	0	1					0.0	0.0	100.0	0.0
	8												
	9	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
7 May	10												
	11	0	3	0	3					0.0	0.0	100.0	0.0
	12	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	0	2	0	2					0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		4	15	0	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	3												
	4												
	5												
	6	5	2	0	7	0.0	60.0	40.0	0.0	0.0	50.0	50.0	0.0
	7	4	4	0	8	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	8	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	9	18	8	0	26	0.0	38.9	55.6	5.6	0.0	0.0	75.0	25.0
11 May	10	4	3	0	7	0.0	25.0	50.0	25.0	0.0	33.3	66.7	0.0
	11	10	5	0	15	0.0	60.0	30.0	10.0	0.0	0.0	80.0	20.0
	12	20	8	0	28	0.0	60.0	40.0	0.0	0.0	0.0	100.0	0.0
	13	6	2	0	8	0.0	16.7	66.7	16.7	0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	100.0	0.0	0.0
	15												
	16												
	17												
Sample Total		68	34	0	102	0.0	47.1	45.6	7.4	0.0	8.8	82.4	8.8
	3												
	4												
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6	12	12	0	24	0.0	16.7	83.3	0.0	0.0	0.0	100.0	0.0
	7	27	20	0	47	0.0	11.1	77.8	11.1	0.0	10.0	90.0	0.0
	8	2	5	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	24	18	0	42	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
12 May	10	11	5	0	16	0.0	9.1	81.8	9.1	0.0	0.0	100.0	0.0
	11	25	9	0	34	0.0	4.0	96.0	0.0	0.0	0.0	88.9	11.1
	12	25	7	0	32	0.0	4.0	88.0	8.0	0.0	0.0	85.7	14.3
	13	7	10	0	17	0.0	28.6	57.1	14.3	0.0	0.0	100.0	0.0
	14	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
	15												
	16	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	17												
Sample Total		136	90	0	226	0.0	7.4	86.8	5.9	0.0	2.2	94.4	3.3

-Continued-

Appendix B.18. (p. 3 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7												
	8												
	9	0	1	0	1					0.0	100.0	0.0	0.0
13 May	10												
	11												
	12	1	0	0	1	0.0	0.0	100.0	0.0				
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14												
	15												
	16												
	17												
Sample Total		2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4												
	5	2	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	7	8	0	16	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	7	18	5	0	24	0.0	22.2	66.7	11.1	0.0	0.0	100.0	0.0
	8	4	6	0	11	0.0	25.0	50.0	25.0	0.0	16.7	83.3	0.0
	9	2	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
14 May	10	2	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	6	5	0	11	0.0	33.3	50.0	16.7	0.0	20.0	80.0	0.0
	12	9	5	0	14	0.0	44.4	55.6	0.0	0.0	0.0	100.0	0.0
	13	3	3	0	6	0.0	0.0	66.7	33.3	0.0	0.0	66.7	33.3
	14												
	15												
	16												
	17												
Sample Total		54	36	0	98	0.0	24.1	66.7	9.3	0.0	5.6	91.7	2.8
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	0	1	0	1					0.0	0.0	100.0	0.0
	5												
	6	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9	0	2	0	2					0.0	0.0	100.0	0.0
16 May	10	2	0	0	2	0.0	0.0	100.0	0.0				
	11	1	0	0	1	0.0	0.0	100.0	0.0				
	12	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13												
	14												
	15												
	16												
	17												
Sample Total		12	8	0	20	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0

-Continued-

Appendix B.18. (p. 4 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	5	2	0	7	0.0	20.0	60.0	20.0	0.0	50.0	50.0	0.0
	4	7	6	0	13	0.0	0.0	85.7	14.3	0.0	50.0	50.0	0.0
	5	4	4	0	8	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
	6	26	25	0	51	0.0	26.9	65.4	7.7	0.0	16.0	52.0	32.0
	7	27	23	0	50	0.0	18.5	74.1	7.4	0.0	8.7	73.9	17.4
	8	6	3	0	9	0.0	16.7	66.7	16.7	0.0	33.3	66.7	0.0
	9	23	14	0	37	0.0	21.7	65.2	13.0	0.0	7.1	78.6	14.3
18 May	10	11	6	0	17	0.0	9.1	81.8	9.1	0.0	0.0	83.3	16.7
	11	13	5	0	18	0.0	15.4	69.2	15.4	0.0	0.0	80.0	20.0
	12	14	12	0	26	0.0	14.3	71.4	14.3	0.0	0.0	83.3	16.7
	13	5	2	0	7	0.0	0.0	60.0	40.0	0.0	0.0	50.0	50.0
	14	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		143	103	0	246	0.0	17.5	69.2	13.3	0.0	11.7	68.0	20.4
	3	7	2	0	9	0.0	57.1	42.9	0.0	0.0	50.0	50.0	0.0
	4	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	26	18	0	44	0.0	19.2	80.8	0.0	0.0	5.6	94.4	0.0
	7	21	27	0	48	0.0	33.3	61.9	4.8	0.0	37.0	63.0	0.0
	8	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	10	10	0	20	0.0	30.0	70.0	0.0	0.0	20.0	70.0	10.0
19 May	10	2	0	0	2	0.0	50.0	0.0	50.0				
	11	12	1	0	13	0.0	33.3	50.0	16.7	0.0	0.0	100.0	0.0
	12	7	7	0	14	0.0	14.3	71.4	14.3	0.0	0.0	100.0	0.0
	13	5	5	0	10	0.0	0.0	40.0	60.0	0.0	0.0	80.0	20.0
	14												
	15												
	16												
	17												
Sample Total		97	77	0	174	0.0	25.8	66.0	8.2	0.0	18.2	79.2	2.6
	3	5	1	0	6	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	4	8	1	0	9	0.0	37.5	62.5	0.0	0.0	100.0	0.0	0.0
	5	0	3	0	3					0.0	33.3	66.7	0.0
	6	34	29	0	63	0.0	44.1	55.9	0.0	0.0	3.4	96.6	0.0
	7	17	14	0	31	0.0	41.2	58.8	0.0	0.0	7.1	92.9	0.0
	8	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	12	6	0	18	0.0	33.3	50.0	16.7	0.0	0.0	100.0	0.0
20 May	10	3	1	0	4	0.0	33.3	33.3	33.3	0.0	0.0	100.0	0.0
	11	8	4	0	12	0.0	50.0	37.5	12.5	0.0	0.0	100.0	0.0
	12	4	7	0	11	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	13	0	2	0	2					0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		93	71	0	164	0.0	38.7	57.0	4.3	0.0	5.6	94.4	0.0

-Continued-

Appendix B.18. (p. 5 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	0	2	0	2					0.0	0.0	100.0	0.0
	5	2	0	0	2	0.0	50.0	50.0	0.0				
	6	17	16	0	33	0.0	5.9	94.1	0.0	0.0	0.0	100.0	0.0
	7	18	8	0	26	0.0	22.2	77.8	0.0	0.0	0.0	100.0	0.0
	8	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	4	3	0	7	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
21 May	10	0	2	0	2					0.0	0.0	100.0	0.0
	11	4	0	0	4	0.0	25.0	75.0	0.0				
	12	3	0	0	3	0.0	0.0	33.3	66.7				
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14												
	15												
	16												
	17												
Sample Total		51	32	0	83	0.0	19.6	76.5	3.9	0.0	0.0	100.0	0.0
	3	0	3	0	3					0.0	0.0	100.0	0.0
	4	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	6	2	0	8	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	6	8	7	0	15	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	7	25	11	0	36	0.0	16.0	80.0	4.0	0.0	0.0	100.0	0.0
	8	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	15	5	0	20	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
22 May	10	9	0	0	9	0.0	0.0	100.0	0.0				
	11	7	2	0	9	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	12	8	2	0	10	0.0	62.5	37.5	0.0	0.0	0.0	100.0	0.0
	13	6	4	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14												
	15												
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		88	39	0	127	0.0	20.5	78.4	1.1	0.0	0.0	100.0	0.0
	3	14	4	0	18	0.0	0.0	85.7	14.3	0.0	0.0	100.0	0.0
	4	15	4	0	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	36	34	0	70	0.0	0.0	100.0	0.0	0.0	0.0	97.1	2.9
	7	38	25	0	63	0.0	2.6	92.1	5.3	0.0	0.0	100.0	0.0
	8	12	2	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	18	14	0	32	0.0	0.0	100.0	0.0	0.0	0.0	92.9	7.1
23 May	10	6	2	0	8	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	11	6	5	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	17	1	0	18	0.0	0.0	94.1	5.9	0.0	0.0	100.0	0.0
	13	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
	15												
	16												
	17												
Sample Total		171	95	0	266	0.0	0.6	95.9	3.5	0.0	0.0	97.9	2.1

-Continued-

Appendix B.18. (p. 6 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	0	1	0	1					0.0	0.0	100.0	0.0
	5	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	6	19	22	0	41	0.0	0.0	60.0	40.0	0.0	4.5	22.7	72.7
	7	10	9	0	19	0.0	0.0	40.0	60.0	0.0	0.0	33.3	66.7
	8	4	7	0	11	0.0	0.0	50.0	50.0	0.0	0.0	14.3	85.7
	9	6	2	0	8	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
30 May	10	4	2	0	6	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	11	5	0	0	5	0.0	0.0	40.0	60.0				
	12	6	9	0	15	0.0	0.0	16.7	83.3	0.0	0.0	0.0	100.0
	13	5	5	0	10	0.0	0.0	0.0	100.0	0.0	20.0	20.0	60.0
	14												
	15												
	16												
	17												
Sample Total		61	62	0	123	0.0	0.0	35.1	64.9	0.0	3.4	20.7	75.9
	3	12	5	0	17	0.0	0.0	25.0	75.0	0.0	20.0	60.0	20.0
	4	5	1	0	6	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	5	6	6	0	12	0.0	0.0	16.7	83.3	0.0	0.0	16.7	83.3
	6	27	27	0	54	0.0	0.0	18.5	81.5	0.0	3.7	3.7	92.6
	7	11	11	0	22	0.0	0.0	18.2	81.8	0.0	0.0	9.1	90.9
	8	0	4	0	4					0.0	0.0	25.0	75.0
	9	5	5	0	10	0.0	0.0	20.0	80.0	0.0	0.0	40.0	60.0
31 May	10	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	0	3	0	3					0.0	0.0	33.3	66.7
	13	3	1	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
	15												
	16												
	17												
Sample Total		72	67	0	139	0.0	0.0	16.7	83.3	0.0	3.0	14.9	82.1
	3	7	6	0	13	0.0	0.0	85.7	14.3	0.0	16.7	83.3	0.0
	4	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	17	11	0	28	0.0	0.0	76.5	23.5	0.0	0.0	81.8	18.2
	7	2	7	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	4	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
1 June	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12												
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14												
	15												
	16												
	17												
Sample Total		38	34	0	72	0.0	0.0	84.2	15.8	0.0	2.9	85.3	11.8

-Continued-

Appendix B.18. (p. 7 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	6	6	0	12	0.0	0.0	83.3	16.7	0.0	33.3	33.3	33.3
	4	3	4	0	7	0.0	0.0	33.3	66.7	0.0	25.0	25.0	50.0
	5	4	6	0	10	0.0	0.0	75.0	25.0	0.0	0.0	16.7	83.3
	6	41	20	0	61	0.0	0.0	31.7	68.3	0.0	10.0	40.0	50.0
	7	7	7	0	14	0.0	0.0	28.6	71.4	0.0	14.3	28.6	57.1
	8	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
2 June	10	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	1	0	0	1	0.0	0.0	0.0	100.0				
	12	0	2	0	2					0.0	0.0	0.0	100.0
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	14												
	15												
	16												
	17												
Sample Total		70	51	0	121	0.0	0.0	40.0	60.0	0.0	11.8	27.5	60.8
	3	1	4	0	5	0.0	0.0	0.0	100.0	0.0	0.0	75.0	25.0
	4	1	4	0	5	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	5	0	1	0	1					0.0	0.0	0.0	100.0
	6	14	11	0	25	0.0	0.0	21.4	78.6	0.0	0.0	18.2	81.8
	7	16	7	0	23	0.0	0.0	37.5	62.5	0.0	0.0	28.6	71.4
	8	2	9	0	11	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9	9	8	0	17	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
3 June	10	3	1	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	20	7	0	27	0.0	0.0	5.0	95.0	0.0	0.0	0.0	100.0
	12	6	6	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	7	2	0	9	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
	16												
	17												
Sample Total		80	62	0	142	0.0	0.0	12.5	87.5	0.0	0.0	14.5	85.5
	3	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	12	12	0	24	0.0	0.0	16.7	83.3	0.0	0.0	16.7	83.3
	7	18	11	0	29	0.0	0.0	0.0	100.0	0.0	0.0	9.1	90.9
	8	3	2	0	5	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	9	9	5	0	14	0.0	0.0	22.2	77.8	0.0	0.0	0.0	100.0
4 June	10	3	5	0	8	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	13	12	0	25	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	8	7	0	15	0.0	0.0	12.5	87.5	0.0	0.0	0.0	100.0
	13	6	8	0	14	0.0	0.0	16.7	83.3	0.0	0.0	0.0	100.0
	14												
	15												
	16												
	17												
Sample Total		75	64	0	139	0.0	0.0	10.7	89.3	0.0	0.0	6.3	93.8

-Continued-

Appendix B.18. (p. 8 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	2	0	0	2	0.0	0.0	100.0	0.0				
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6	2	0	0	2	0.0	0.0	100.0	0.0				
	7	0	4	0	4					0.0	0.0	75.0	25.0
	8												
	9	2	0	0	2	0.0	0.0	100.0	0.0				
5 June	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11												
	12	0	1	0	1					0.0	0.0	0.0	100.0
	13												
	14	1	0	0	1	0.0	0.0	0.0	100.0				
	15												
	16												
	17												
Sample Total		9	5	0	14	0.0	0.0	77.8	22.2	0.0	0.0	60.0	40.0
	3	64	40	0	104	0.0	14.1	60.9	25.0	0.0	16.7	69.4	13.9
	4	45	34	0	79	0.0	6.7	73.3	20.0	0.0	14.7	70.6	14.7
	5	40	31	0	73	0.0	10.0	62.5	27.5	0.0	3.2	51.6	45.2
	6	312	258	0	571	0.0	13.0	60.1	26.9	0.0	4.7	64.0	31.4
	7	261	198	0	460	0.0	14.2	62.8	23.0	0.0	9.1	70.7	20.2
	8	44	52	0	97	0.0	6.8	70.5	22.7	0.0	5.8	51.9	42.3
	9	167	116	0	285	0.0	15.6	66.5	18.0	0.0	4.3	73.3	22.4
3 May- 5 June	10	68	33	0	102	0.0	11.8	58.8	29.4	0.0	6.1	57.6	36.4
	11	136	63	0	199	0.0	17.6	49.3	33.1	0.0	1.6	58.7	39.7
	12	136	84	0	220	0.0	22.1	58.8	19.1	0.0	0.0	64.3	35.7
	13	63	54	0	117	0.0	9.5	44.4	46.0	0.0	3.7	63.0	33.3
	14	7	9	0	16	0.0	14.3	42.9	42.9	0.0	11.1	55.6	33.3
	15												
	16	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		1345	973	0	2326	0.0	14.2	60.3	25.5	0.0	5.8	65.2	29.0

Appendix C

Appendix C.1. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Kulukak Section, 10-12 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
10 May	4											
	5	0	1	0	1	0.6	230		1	253		1
	6											
	7	6	8	0	14	9.0	331	49.8	14	274	10.0	14
	8	12	15	0	27	17.4	384	50.8	27	285	10.8	27
	9	3	2	0	5	3.2	386	62.1	5	288	11.1	5
	10	15	17	0	32	20.6	440	47.1	32	295	9.3	32
	11	4	6	0	10	6.5	469	47.8	10	302	10.0	10
	12	6	6	0	12	7.7	521	55.1	12	311	8.1	12
	13	13	25	0	38	24.5	530	55.4	38	311	9.4	38
	14	4	9	0	13	8.4	518	56.6	13	311	10.0	13
	15											
	16	0	1	0	1	0.6	526		1	310		1
	17	1	0	0	1	0.6	554		1	308		1
	18	1	0	0	1	0.6	494		1	320		1
Sample Total		65	90	0	155	100.0	456	86.8	155	298	16.3	155
12 May	4	19	4	0	23	6.7	167	28.9	23	229	9.3	23
	5	1	1	0	2	0.6	165	38.2	2	228	25.5	2
	6	1	4	0	5	1.5	293	73.6	5	264	3.0	5
	7	37	31	0	68	19.9	291	43.9	68	270	9.4	68
	8	29	30	0	59	17.3	353	37.4	59	285	8.6	59
	9	3	6	0	9	2.6	344	65.6	9	286	11.4	9
	10	25	26	0	51	15.0	421	61.1	51	300	10.8	51
	11	7	9	0	16	4.7	436	44.4	16	303	7.0	16
	12	18	13	0	31	9.1	475	55.7	31	309	11.7	31
	13	19	37	0	56	16.4	498	53.0	56	313	8.9	56
	14	10	8	0	18	5.3	468	65.0	18	315	10.0	18
	15	2	1	0	3	0.9	464	19.1	3	319	7.8	3
	16											
	17											
	18											
Sample Total		171	170	0	341	100.0	382	107.7	341	290	25.2	341
10-12 May	4	19	4	0	23	4.6	167	28.9	23	229	9.3	23
	5	1	2	0	3	0.6	187	46.2	3	236	23.1	3
	6	1	4	0	5	1.0	293	73.6	5	264	3.0	5
	7	43	39	0	82	16.5	298	47.1	82	271	9.5	82
	8	41	45	0	86	17.3	363	44.2	86	285	9.3	86
	9	6	8	0	14	2.8	359	65.4	14	287	10.9	14
	10	40	43	0	83	16.7	429	56.6	83	298	10.5	83
	11	11	15	0	26	5.2	449	47.7	26	302	8.1	26
	12	24	19	0	43	8.7	488	58.7	43	309	10.8	43
	13	32	62	0	94	19.0	511	56.0	94	312	9.1	94
	14	14	17	0	31	6.3	489	65.6	31	314	10.1	31
	15	2	1	0	3	0.6	464	19.1	3	319	7.8	3
	16	0	1	0	1	0.2	526		1	310		1
	17	1	0	0	1	0.2	554		1	308		1
	18	1	0	0	1	0.2	494		1	320		1
All Samples Combined		236	260	0	496	100.0	405	107.1	496	292	23.2	496
Sex Composition		47.6	52.4									
Unaged		43	52	0	95	19.2	422	90.4	95	295	24.6	95
Sex Composition		45.3	54.7									

Appendix C.2. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Nunavachak Section, 10-12 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	0	2	0	2	0.7	174	10.6	2	231	11.3	2
	5	2	0	0	2	0.7	181	0.0	2	237	3.5	2
	6	3	1	0	4	1.4	259	71.7	4	255	6.1	4
	7	16	23	0	39	14.0	314	51.9	39	271	9.3	39
	8	17	36	0	53	19.0	362	44.5	53	285	9.6	53
	9	4	9	0	13	4.7	388	35.3	13	291	8.5	13
10 May	10	16	26	0	42	15.1	439	61.6	42	301	10.6	42
	11	8	6	0	14	5.0	435	53.2	14	301	10.3	14
	12	13	23	0	36	12.9	479	63.5	36	310	10.3	36
	13	21	37	0	58	20.8	508	60.3	58	315	9.5	58
	14	7	6	0	13	4.7	502	68.6	13	320	6.9	13
	15	1	1	0	2	0.7	509	38.9	2	325	6.4	2
	16	0	1	0	1	0.4	609		1	330		1
Sample Total		108	171	0	279	100.0	422	95.5	279	297	20.7	279
	3											
	4	1	2	2	5	3.7	145	26.6	5	228	9.1	5
	5	1	1	0	2	1.5	195	78.5	2	246	31.8	2
	6	0	1	0	1	0.7	333		1	282		1
	7	3	5	0	8	5.9	292	56.4	8	279	11.9	8
	8	14	14	2	30	22.2	352	45.1	30	288	7.8	30
	9	1	6	1	8	5.9	380	81.9	8	291	12.6	8
12 May	10	9	10	0	19	14.1	429	44.4	19	302	11.4	19
	11	2	6	1	9	6.7	452	42.2	9	312	5.0	9
	12	10	7	2	19	14.1	455	64.8	19	312	8.2	19
	13	4	11	1	16	11.9	503	44.6	16	319	9.5	16
	14	8	6	0	14	10.4	470	56.8	14	316	9.4	14
	15	1	2	1	4	3.0	452	45.2	4	325	10.6	4
	16											
Sample Total		54	71	10	135	100.0	405	97.1	135	299	22.6	135
	3											
	4	1	4	2	7	1.7	153	26.2	7	229	8.8	7
	5	3	1	0	4	1.0	188	46.0	4	241	19.2	4
	6	3	2	0	5	1.2	274	70.3	5	260	13.2	5
	7	19	28	0	47	11.4	310	52.7	47	272	10.1	47
	8	31	50	2	83	20.0	359	44.8	83	286	9.1	83
	9	5	15	1	21	5.1	385	55.8	21	291	9.9	21
10-12 May	10	25	36	0	61	14.7	435	56.6	61	301	10.8	61
	11	10	12	1	23	5.6	442	48.9	23	305	9.9	23
	12	23	30	2	55	13.3	471	64.4	55	311	9.6	55
	13	25	48	1	74	17.9	507	57.1	74	316	9.6	74
	14	15	12	0	27	6.5	485	63.7	27	318	8.4	27
	15	2	3	1	6	1.4	471	48.7	6	325	8.7	6
	16	0	1	0	1	0.2	609		1	330		1
All Samples Combined		162	242	10	414	100.0	416	96.2	414	298	21.3	414
Sex Composition		40.1	59.9									
Unaged		24	42	0	66	15.9	411	99.4	66	298	20.9	66
Sex Composition		36.4	63.6									

Appendix C.3. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Togiak Section, 10-12 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	1	0	0	1	0.3	189		1	235		1
	5											
	6	2	1	0	3	0.9	268	32.6	3	260	14.6	3
	7	16	25	0	41	12.5	308	36.1	41	270	9.3	41
	8	22	36	0	58	17.7	366	38.4	58	283	7.8	58
	9	3	6	0	9	2.8	375	38.3	9	289	8.1	9
10 May	10	24	38	0	62	19.0	444	55.3	62	298	9.7	62
	11	15	10	0	25	7.6	458	41.4	25	303	7.7	25
	12	21	25	0	46	14.1	478	56.2	46	306	9.8	46
	13	30	34	0	64	19.6	515	49.6	64	312	8.7	64
	14	6	9	0	15	4.6	541	57.8	15	317	8.1	15
	15	2	1	0	3	0.9	500	91.4	3	315	15.3	3
	16											
	17											
	18											
Sample Total		142	185	0	327	100.0	433	88.3	327	296	17.5	327
	3	0	1	0	1	0.3	97		1	192		1
	4	24	28	0	52	15.1	151	15.9	52	224	7.6	52
	5	6	6	0	12	3.5	188	41.0	12	237	10.1	12
	6	4	5	0	9	2.6	242	22.1	9	260	8.0	9
	7	24	38	0	62	18.0	295	36.4	62	270	8.9	62
	8	22	30	0	52	15.1	347	40.6	52	283	7.9	52
	9	4	5	0	9	2.6	405	29.8	9	296	7.4	9
12 May	10	17	19	0	36	10.5	412	55.4	36	297	9.1	36
	11	3	17	0	20	5.8	427	61.1	20	309	11.1	20
	12	10	15	0	25	7.3	447	65.5	25	310	11.7	25
	13	15	28	0	43	12.5	473	63.2	43	313	8.8	43
	14	3	15	0	18	5.2	478	70.5	18	318	7.3	18
	15	0	1	0	1	0.3	516		1	329		1
	16	2	0	0	2	0.6	493	5.7	2	331	8.5	2
	17											
	18	1	1	0	2	0.6	374	60.1	2	303	9.9	2
Sample Total		135	209	0	344	100.0	343	120.6	344	281	32.4	344
	3	0	1	0	1	0.1	97		1	192		1
	4	25	28	0	53	7.9	152	16.6	53	225	7.7	53
	5	6	6	0	12	1.8	188	41.0	12	237	10.1	12
	6	6	6	0	12	1.8	249	26.3	12	260	9.2	12
	7	40	63	0	103	15.4	300	36.7	103	270	9.1	103
	8	44	66	0	110	16.4	357	40.4	110	283	7.8	110
	9	7	11	0	18	2.7	390	36.6	18	292	8.3	18
10-12 May	10	41	57	0	98	14.6	432	57.2	98	298	9.5	98
	11	18	27	0	45	6.7	444	52.8	45	306	9.7	45
	12	31	40	0	71	10.6	467	61.0	71	307	10.6	71
	13	45	62	0	107	15.9	498	58.9	107	312	8.7	107
	14	9	24	0	33	4.9	507	71.7	33	317	7.6	33
	15	2	2	0	4	0.6	504	75.0	4	319	14.2	4
	16	2	0	0	2	0.3	493	5.7	2	331	8.5	2
	17											
	18	1	1	0	2	0.3	374	60.1	2	303	9.9	2
All Samples Combined		277	394	0	671	100.0	387	115.2	671	288	27.3	671
Sex Composition		41.3	58.7									
Unaged		39	63	0	102	15.2	379	119.7	102	286	28.5	102
Sex Composition		38.2	61.8									

Appendix C.4. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Hagemeister Section, 10-12 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
10 May	3											
	4											
	5	1	0	0	1	0.3	226		1	253		1
	6											
	7	19	29	0	48	13.5	326	31.7	48	279	12.6	48
	8	33	39	0	72	20.2	368	38.8	72	287	8.6	72
	9	7	8	0	15	4.2	405	67.3	15	298	12.2	15
	10	24	44	0	68	19.1	447	40.2	68	304	8.8	68
	11	12	19	0	31	8.7	491	64.1	31	312	12.3	31
	12	28	32	1	61	17.1	507	53.0	61	315	16.4	61
	13	13	21	0	34	9.6	535	67.5	34	320	11.6	34
	14	6	18	0	24	6.7	536	50.5	24	322	9.1	24
	15	2	0	0	2	0.6	519	4.2	2	323	1.4	2
	16											
Sample Total		145	210	1	356	100.0	441	88.6	356	302	18.9	356
12 May	3											
	4	2	0	0	2	0.6	160	39.6	2	234	19.1	2
	5											
	6	2	1	0	3	0.8	241	21.2	3	266	5.0	3
	7	14	14	0	28	7.8	319	45.4	28	280	9.1	28
	8	16	30	0	46	12.8	368	45.7	46	290	9.7	46
	9	7	10	0	17	4.7	428	46.3	17	300	10.2	17
	10	30	45	0	75	20.9	444	56.6	75	307	10.1	75
	11	10	17	0	27	7.5	473	49.8	27	310	10.0	27
	12	27	32	0	59	16.4	500	49.2	59	316	9.5	59
	13	32	39	0	71	19.8	515	71.3	71	318	11.1	71
	14	11	13	0	24	6.7	509	83.6	24	317	14.8	24
	15	3	0	0	3	0.8	544	123.0	3	323	3.8	3
	16	1	3	0	4	1.1	606	27.2	4	328	7.4	4
Sample Total		155	204	0	359	100.0	453	90.6	359	306	17.4	359
10-12 May	3											
	4	2	0	0	2	0.3	160	39.6	2	234	19.1	2
	5	1	0	0	1	0.1	226		1	253		1
	6	2	1	0	3	0.4	241	21.2	3	266	5.0	3
	7	33	43	0	76	10.6	323	37.2	76	279	11.3	76
	8	49	69	0	118	16.5	368	41.4	118	288	9.1	118
	9	14	18	0	32	4.5	418	57.3	32	299	11.0	32
	10	54	89	0	143	20.0	446	49.4	143	306	9.5	143
	11	22	36	0	58	8.1	482	58.1	58	311	11.3	58
	12	55	64	1	120	16.8	504	51.1	120	316	13.4	120
	13	45	60	0	105	14.7	521	70.4	105	319	11.2	105
	14	17	31	0	48	6.7	522	69.7	48	319	12.4	48
	15	5	0	0	5	0.7	534	88.1	5	323	2.8	5
	16	1	3	0	4	0.6	606	27.2	4	328	7.4	4
All Samples Combined		300	414	1	715	100.0	447	89.7	715	304	18.3	715
Sex Composition		42.0	58.0									
Unaged		39	52	0	91	12.7	436	84.3	91	304	15.9	91
Sex Composition		42.9	57.1									

Appendix C.5. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Pyrite Point Section, 12 May 1991.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
12 May	3											
	4	1	0	0	1	1.9	177		1	245		1
	5											
	6											
	7	1	1	0	2	3.8	293	8.5	2	281	0.7	2
	8	5	3	0	8	15.1	330	36.9	8	281	8.8	8
	9	4	0	0	4	7.5	388	27.5	4	304	13.3	4
	10	2	4	0	6	11.3	426	42.8	6	301	6.5	6
	11	2	2	0	4	7.5	430	19.8	4	304	5.2	4
	12	2	13	0	15	28.3	500	46.1	15	315	10.7	15
	13	4	3	0	7	13.2	473	54.5	7	314	6.9	7
	14	1	2	0	3	5.7	458	45.9	3	308	10.7	3
	15	1	1	0	2	3.8	553	114.6	2	324	15.6	2
	16											
	17											
	18	0	1	0	1	1.9	356		1	278		1
Sample Total		23	30	0	53	100.0	432	87.7	53	303	17.9	53
Sex Composition		43.4	56.6									
Unaged		11	9	0	20	37.7	478	73.4	20	314	15.1	20
Sex Composition		55.0	45.0									

Appendix C.6. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Kulukak Section, Nunavachak, Togiak, Hagemeister, and Pyrite Point Sections, 10-12 May, 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5	0	1	0	1	0.6	230		1	253		1
	6											
	7	6	8	0	14	9.0	331	49.8	14	274	10.0	14
	8	12	15	0	27	17.4	384	50.8	27	285	10.8	27
	9	3	2	0	5	3.2	386	62.1	5	288	11.1	5
10 May	10	15	17	0	32	20.6	440	47.1	32	295	9.3	32
	11	4	6	0	10	6.5	469	47.8	10	302	10.0	10
	12	6	6	0	12	7.7	521	55.1	12	311	8.1	12
	13	13	25	0	38	24.5	530	55.4	38	311	9.4	38
	14	4	9	0	13	8.4	518	56.6	13	311	10.0	13
	15											
	16	0	1	0	1	0.6	526		1	310		1
	17	1	0	0	1	0.6	554		1	308		1
	18	1	0	0	1	0.6	494		1	320		1
Sample Total		65	90	0	155	100.0	456	86.8	155	298	16.3	155
	3											
	4	19	4	0	23	6.7	167	28.9	23	229	9.3	23
	5	1	1	0	2	0.6	165	38.2	2	228	25.5	2
	6	1	4	0	5	1.5	293	73.6	5	264	3.0	5
	7	37	31	0	68	19.9	291	43.9	68	270	9.4	68
	8	29	30	0	59	17.3	353	37.4	59	285	8.6	59
	9	3	6	0	9	2.6	344	65.6	9	286	11.4	9
12 May	10	25	26	0	51	15.0	421	61.1	51	300	10.8	51
	11	7	9	0	16	4.7	436	44.4	16	303	7.0	16
	12	18	13	0	31	9.1	475	55.7	31	309	11.7	31
	13	19	37	0	56	16.4	498	53.0	56	313	8.9	56
	14	10	8	0	18	5.3	468	65.0	18	315	10.0	18
	15	2	1	0	3	0.9	464	19.1	3	319	7.8	3
	16											
	17											
	18											
Sample Total		171	170	0	341	100.0	382	107.7	341	290	25.2	341
	3											
	4	0	2	0	2	0.7	174	10.6	2	231	11.3	2
	5	2	0	0	2	0.7	181	0.0	2	237	3.5	2
	6	3	1	0	4	1.4	259	71.7	4	255	6.1	4
	7	16	23	0	39	14.0	314	51.9	39	271	9.3	39
	8	17	36	0	53	19.0	362	44.5	53	285	9.6	53
	9	4	9	0	13	4.7	388	35.3	13	291	8.5	13
10 May	10	16	26	0	42	15.1	439	61.6	42	301	10.6	42
	11	8	6	0	14	5.0	435	53.2	14	301	10.3	14
	12	13	23	0	36	12.9	479	63.5	36	310	10.3	36
	13	21	37	0	58	20.8	508	60.3	58	315	9.5	58
	14	7	6	0	13	4.7	502	68.6	13	320	6.9	13
	15	1	1	0	2	0.7	509	38.9	2	325	6.4	2
	16	0	1	0	1	0.4	609		1	330		1
	17											
	18											
Sample Total		108	171	0	279	100.0	422	95.5	279	297	20.7	279

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Appendix C.6. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	1	2	2	5	3.7	145	26.6	5	228	9.1	5
	5	1	1	0	2	1.5	195	78.5	2	246	31.8	2
	6	0	1	0	1	0.7	333		1	282		1
	7	3	5	0	8	5.9	292	56.4	8	279	11.9	8
	8	14	14	2	30	22.2	352	45.1	30	288	7.8	30
	9	1	6	1	8	5.9	380	81.9	8	291	12.6	8
12 May	10	9	10	0	19	14.1	429	44.4	19	302	11.4	19
	11	2	6	1	9	6.7	452	42.2	9	312	5.0	9
	12	10	7	2	19	14.1	455	64.8	19	312	8.2	19
	13	4	11	1	16	11.9	503	44.6	16	319	9.5	16
	14	8	6	0	14	10.4	470	56.8	14	316	9.4	14
	15	1	2	1	4	3.0	452	45.2	4	325	10.6	4
	16											
	17											
	18											
Sample Total		54	71	10	135	100.0	405	97.1	135	299	22.6	135
	3											
	4	1	0	0	1	0.3	189		1	235		1
	5											
	6	2	1	0	3	0.9	268	32.6	3	260	14.6	3
	7	16	25	0	41	12.5	308	36.1	41	270	9.3	41
	8	22	36	0	58	17.7	366	38.4	58	283	7.8	58
	9	3	6	0	9	2.8	375	38.3	9	289	8.1	9
10 May	10	24	38	0	62	19.0	444	55.3	62	298	9.7	62
	11	15	10	0	25	7.6	458	41.4	25	303	7.7	25
	12	21	25	0	46	14.1	478	56.2	46	306	9.8	46
	13	30	34	0	64	19.6	515	49.6	64	312	8.7	64
	14	6	9	0	15	4.6	541	57.8	15	317	8.1	15
	15	2	1	0	3	0.9	500	91.4	3	315	15.3	3
	16											
	17											
	18											
Sample Total		142	185	0	327	100.0	433	88.3	327	296	17.5	327
	3	0	1	0	1	0.3	97		1	192		1
	4	24	28	0	52	15.1	151	15.9	52	224	7.6	52
	5	6	6	0	12	3.5	188	41.0	12	237	10.1	12
	6	4	5	0	9	2.6	242	22.1	9	260	8.0	9
	7	24	38	0	62	18.0	295	36.4	62	270	8.9	62
	8	22	30	0	52	15.1	347	40.6	52	283	7.9	52
	9	4	5	0	9	2.6	405	29.8	9	296	7.4	9
12 May	10	17	19	0	36	10.5	412	55.4	36	297	9.1	36
	11	3	17	0	20	5.8	427	61.1	20	309	11.1	20
	12	10	15	0	25	7.3	447	65.5	25	310	11.7	25
	13	15	28	0	43	12.5	473	63.2	43	313	8.8	43
	14	3	15	0	18	5.2	478	70.5	18	318	7.3	18
	15	0	1	0	1	0.3	516		1	329		1
	16	2	0	0	2	0.6	493	5.7	2	331	8.5	2
	17											
	18	1	1	0	2	0.6	374	60.1	2	303	9.9	2
Sample Total		135	209	0	344	100.0	343	120.6	344	281	32.4	344

-Continued-

Appendix C.6. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5	1	0	0	1	0.3	226		1	253		1
	6											
	7	19	29	0	48	13.5	326	31.7	48	279	12.6	48
	8	33	39	0	72	20.2	368	38.8	72	287	8.6	72
	9	7	8	0	15	4.2	405	67.3	15	298	12.2	15
10 May	10	24	44	0	68	19.1	447	40.2	68	304	8.8	68
	11	12	19	0	31	8.7	491	64.1	31	312	12.3	31
	12	28	32	1	61	17.1	507	53.0	61	315	16.4	61
	13	13	21	0	34	9.6	535	67.5	34	320	11.6	34
	14	6	18	0	24	6.7	536	50.5	24	322	9.1	24
	15	2	0	0	2	0.6	519	4.2	2	323	1.4	2
	16											
	17											
	18											
Sample Total		145	210	1	356	100.0	441	88.6	356	302	18.9	356
	3											
	4	3	0	0	3	0.7	166	29.7	3	237	15.0	3
	5											
	6	2	1	0	3	0.7	241	21.2	3	266	5.0	3
	7	15	15	0	30	7.3	317	44.3	30	280	8.7	30
	8	21	33	0	54	13.1	362	46.2	54	288	10.0	54
	9	11	10	0	21	5.1	421	45.7	21	301	10.6	21
12 May	10	32	49	0	81	19.7	443	55.7	81	306	10.0	81
	11	12	19	0	31	7.5	467	49.0	31	309	9.7	31
	12	29	45	0	74	18.0	500	48.3	74	316	9.7	74
	13	36	42	0	78	18.9	511	70.7	78	318	10.8	78
	14	12	15	0	27	6.6	503	81.3	27	316	14.5	27
	15	4	1	0	5	1.2	548	104.3	5	323	8.3	5
	16	1	3	0	4	1.0	606	27.2	4	328	7.4	4
	17											
	18	0	1	0	1	0.2	356		1	278		1
Sample Total		178	234	0	412	100.0	450	90.4	412	306	17.5	412
	3	0	1	0	1	0.0	97		1	192		1
	4	48	36	2	86	3.7	157	22.3	86	227	8.9	86
	5	11	9	0	20	0.9	189	40.1	20	239	13.7	20
	6	12	13	0	25	1.1	262	49.5	25	262	8.7	25
	7	136	174	0	310	13.2	307	43.4	310	273	10.5	310
	8	170	233	2	405	17.2	361	42.6	405	286	9.0	405
	9	36	52	1	89	3.8	394	56.6	89	294	11.3	89
10-12 May	10	162	229	0	391	16.6	437	54.2	391	301	10.4	391
	11	63	92	1	156	6.6	458	55.7	156	307	10.4	156
	12	135	166	3	304	12.9	487	58.8	304	312	12.2	304
	13	151	235	1	387	16.5	509	61.7	387	315	10.0	387
	14	56	86	0	142	6.0	503	69.0	142	317	10.3	142
	15	12	7	1	20	0.9	501	70.4	20	322	8.9	20
	16	3	5	0	8	0.3	568	56.8	8	327	9.0	8
	17	1	0	0	1	0.0	554		1	308		1
	18	2	2	0	4	0.2	399	72.5	4	301	18.2	4
All Samples Combined		998	1340	11	2349	100.0	415	105.0	2349	296	23.6	2349
Sex Composition		42.7	57.3									
Unaged		156	218	0	374	15.9	415	101.6	374	296	24.1	374
Sex Composition		41.7	58.3									

Appendix C.7. Age, sex, and size composition of Pacific herring caught by commercial gill net, Kulukak Section, 10-11 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
10 May	7	9	8	0	17	12.9	337	30.8	17	278	7.3	17
	8	17	15	0	32	24.2	381	33.4	32	286	9.4	32
	9	7	5	0	12	9.1	434	67.8	12	299	13.1	12
	10	8	12	0	20	15.2	445	48.1	20	301	11.5	20
	11	8	4	0	12	9.1	451	50.7	12	305	9.6	12
	12	8	6	0	14	10.6	491	64.5	14	310	8.0	14
	13	13	8	0	21	15.9	516	54.2	21	304	25.8	21
	14	1	2	0	3	2.3	542	72.5	3	319	22.0	3
	15											
	16	1	0	0	1	0.8	514		1	318		1
Sample Total		72	60	0	132	100.0	434	77.3	132	297	17.7	132
11 May	7	4	7	0	11	8.7	342	44.0	11	283	12.2	11
	8	10	17	0	27	21.3	363	39.6	27	289	9.6	27
	9	3	3	0	6	4.7	403	70.7	6	303	11.4	6
	10	6	7	0	13	10.2	406	39.4	13	301	8.1	13
	11	9	6	0	15	11.8	441	47.3	15	303	11.1	15
	12	15	10	0	25	19.7	460	54.8	25	310	11.1	25
	13	12	15	0	27	21.3	477	67.1	27	314	15.8	27
	14	1	2	0	3	2.4	489	43.0	3	320	7.5	3
	15											
	16											
Sample Total		60	67	0	127	100.0	423	70.9	127	302	15.8	127
10-11 May	7	13	15	0	28	10.8	339	35.9	28	280	9.7	28
	8	27	32	0	59	22.8	373	37.3	59	287	9.5	59
	9	10	8	0	18	6.9	423	68.3	18	301	12.3	18
	10	14	19	0	33	12.7	430	48.2	33	301	10.1	33
	11	17	10	0	27	10.4	445	48.2	27	304	10.3	27
	12	23	16	0	39	15.1	471	59.6	39	310	10.0	39
	13	25	23	0	48	18.5	494	64.3	48	310	21.1	48
	14	2	4	0	6	2.3	516	60.9	6	319	14.7	6
	15											
	16	1	0	0	1	0.4	514		1	318		1
All Samples Combined		132	127	0	259	100.0	429	74.3	259	299	17.0	259
Sex Composition		51.0	49.0									
Unaged		27	13	0	40	15.4	432	77.6	40	294	39.7	40
Sex Composition		67.5	32.5									

Appendix C.8. Age, sex, and size composition of Pacific herring caught by commercial gill net, Nunavachak Section, 10 May 1991.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
10 May	4	2	0	0	2	1.4	161	14.1	2	227	9.9	2
	5											
	6	2	1	0	3	2.2	249	32.0	3	259	7.5	3
	7	14	15	0	29	21.0	313	44.0	29	275	9.2	29
	8	20	19	0	39	28.3	357	39.9	39	283	8.9	39
	9	5	2	0	7	5.1	400	56.0	7	295	10.9	7
	10	16	9	0	25	18.1	431	54.2	25	298	8.5	25
	11	2	3	0	5	3.6	459	50.7	5	304	11.6	5
	12	8	5	0	13	9.4	485	53.8	13	307	11.0	13
	13	3	4	0	7	5.1	484	48.3	7	311	4.4	7
	14	5	3	0	8	5.8	547	36.3	8	319	5.9	8
Sample Total		77	61	0	138	100.0	391	89.5	138	290	18.4	138
Sex Composition		55.8	44.2									
Unaged		7	5	0	12	8.7	435	86.6	12	301	16.5	12
Sex Composition		58.3	41.7									

Appendix C.9. Age, sex, and size composition of Pacific herring caught by commercial gill net, Kulukak and Nunavachak Sections, 10-11 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	2	0	0	2	0.7	161	14.1	2	227	9.9	2
	5											
	6	2	1	0	3	1.1	249	32.0	3	259	7.5	3
	7	23	23	0	46	17.0	321	41.0	46	276	8.6	46
	8	37	34	0	71	26.3	368	38.8	71	284	9.2	71
	9	12	7	0	19	7.0	421	64.2	19	298	12.2	19
10 May	10	24	21	0	45	16.7	437	51.4	45	299	10.0	45
	11	10	7	0	17	6.3	453	49.2	17	304	9.9	17
	12	16	11	0	27	10.0	488	58.5	27	309	9.5	27
	13	16	12	0	28	10.4	508	53.9	28	306	22.5	28
	14	6	5	0	11	4.1	546	44.5	11	319	11.0	11
	15											
	16	1	0	0	1	0.4	514		1	318		1
Sample Total		149	121	0	270	100.0	412	86.3	270	293	18.4	270
	4											
	5											
	6											
	7	4	7	0	11	8.7	342	44.0	11	283	12.2	11
	8	10	17	0	27	21.3	363	39.6	27	289	9.6	27
	9	3	3	0	6	4.7	403	70.7	6	303	11.4	6
11 May	10	6	7	0	13	10.2	406	39.4	13	301	8.1	13
	11	9	6	0	15	11.8	441	47.3	15	303	11.1	15
	12	15	10	0	25	19.7	460	54.8	25	310	11.1	25
	13	12	15	0	27	21.3	477	67.1	27	314	15.8	27
	14	1	2	0	3	2.4	489	43.0	3	320	7.5	3
	15											
	16											
Sample Total		60	67	0	127	100.0	423	70.9	127	302	15.8	127
	4	2	0	0	2	0.5	161	14.1	2	227	9.9	2
	5											
	6	2	1	0	3	0.8	249	32.0	3	259	7.5	3
	7	27	30	0	57	14.4	325	42.0	57	277	9.7	57
	8	47	51	0	98	24.7	367	38.9	98	286	9.4	98
	9	15	10	0	25	6.3	417	64.8	25	299	12.0	25
10-11 May	10	30	28	0	58	14.6	430	50.4	58	300	9.5	58
	11	19	13	0	32	8.1	448	48.0	32	304	10.3	32
	12	31	21	0	52	13.1	475	58.0	52	309	10.2	52
	13	28	27	0	55	13.9	493	62.3	55	310	19.7	55
	14	7	7	0	14	3.5	533	48.9	14	319	10.1	14
	15											
	16	1	0	0	1	0.3	514		1	318		1
All Samples Combined		209	188	0	397	100.0	416	81.7	397	296	18.0	397
Sex Composition		52.6	47.4									
Unaged		34	18	0	52	13.1	432	78.9	52	296	35.7	52
Sex Composition		65.4	34.6									

Appendix C.10. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, 0Nunavachak Section, 6-11 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6 May	4											
	5											
	6	0	1	0	1	3.7	340		1	280		1
	7	0	1	0	1	3.7	272		1	271		1
	8	2	3	0	5	18.5	327	47.8	5	277	12.8	5
	9	1	0	0	1	3.7	474		1	315		1
	10	0	6	0	6	22.2	419	48.0	6	295	11.7	6
	11	1	1	0	2	7.4	435	67.2	2	301	9.9	2
	12	5	3	0	8	29.6	450	55.2	8	306	6.7	8
	13	0	2	0	2	7.4	481	9.9	2	315	7.1	2
	14	1	0	0	1	3.7	452		1	311		1
	15											
Sample Total		10	17	0	27	100.0	412	72.0	27	297	16.0	27
9 May	4	0	1	0	1	0.9	145		1	226		1
	5											
	6	0	1	0	1	0.9	305		1	279		1
	7	13	20	0	33	31.1	324	44.6	33	275	10.3	33
	8	9	5	0	14	13.2	353	36.7	14	284	6.8	14
	9	1	1	0	2	1.9	413	29.0	2	290	2.1	2
	10	3	6	0	9	8.5	455	71.1	9	302	13.7	9
	11	3	6	0	9	8.5	516	41.2	9	310	6.8	9
	12	9	7	0	16	15.1	486	32.8	16	309	6.6	16
	13	4	10	0	14	13.2	529	66.8	14	314	13.0	14
	14	0	6	0	6	5.7	587	40.8	6	322	8.1	6
	15	0	1	0	1	0.9	530		1	323		1
Sample Total		42	64	0	106	100.0	423	106.4	106	295	20.7	106
10 May	4											
	5	1	0	0	1	1.8	178		1	232		1
	6	1	0	0	1	1.8	225		1	258		1
	7	2	2	0	4	7.3	320	57.5	4	283	4.9	4
	8	5	6	0	11	20.0	387	40.7	11	290	8.1	11
	9	2	2	0	4	7.3	381	57.3	4	294	6.7	4
	10	5	8	0	13	23.6	465	49.4	13	308	10.1	13
	11	2	3	0	5	9.1	476	69.2	5	307	7.9	5
	12	4	4	0	8	14.5	501	79.4	8	312	12.6	8
	13	3	5	0	8	14.5	542	35.2	8	318	6.3	8
	14											
	15											
Sample Total		25	30	0	55	100.0	440	94.5	55	301	17.9	55

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Appendix C.10. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
11 May	4	0	3	0	3	8.6	149	25.4	3	218	8.6	3
	5											
	6	0	1	0	1	2.9	221		1	248		1
	7	3	4	0	7	20.0	273	28.5	7	270	7.4	7
	8	2	4	0	6	17.1	327	50.2	6	278	9.7	6
	9											
	10	2	4	0	6	17.1	394	48.0	6	296	9.6	6
	11	1	1	0	2	5.7	358	55.2	2	300	19.1	2
	12	0	2	0	2	5.7	442	19.8	2	306	15.6	2
	13	3	3	0	6	17.1	457	28.7	6	307	8.1	6
	14	0	2	0	2	5.7	490	18.4	2	312	19.8	2
	15											
Sample Total		11	24	0	35	100.0	349	102.6	35	283	27.5	35
6-11 May	4	0	4	0	4	1.8	148	20.8	4	220	8.0	4
	5	1	0	0	1	0.4	178		1	232		1
	6	1	3	0	4	1.8	273	59.2	4	266	15.8	4
	7	18	27	0	45	20.2	314	46.5	45	275	9.8	45
	8	18	18	0	36	16.1	355	46.4	36	284	9.6	36
	9	4	3	0	7	3.1	403	54.6	7	296	10.0	7
	10	10	24	0	34	15.2	442	59.9	34	302	12.1	34
	11	7	11	0	18	8.1	479	71.2	18	307	8.9	18
	12	18	16	0	34	15.2	478	54.0	34	309	8.7	34
	13	10	20	0	30	13.5	515	59.3	30	314	10.6	30
	14	1	8	0	9	4.0	550	64.9	9	318	10.7	9
	15	0	1	0	1	0.4	530		1	323		1
All Samples Combined		88	135	0	223	100.0	415	103.0	223	295	21.4	223
Sex Composition		39.5	60.5									
Unaged		15	28	0	43	19.3	422	102.3	43	299	18.2	43
Sex Composition		34.9	65.1									

Appendix C.11. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Togiak Section, 9-11 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
9 May	4	1	0	0	1	1.7	141		1	224		1
	5											
	6	0	1	0	1	1.7	350		1	282		1
	7	6	8	0	14	23.3	321	34.4	14	271	9.2	14
	8	4	5	0	9	15.0	374	51.3	9	283	9.3	9
	9	1	2	0	3	5.0	415	55.8	3	294	10.3	3
	10	7	5	0	12	20.0	448	47.5	12	300	10.7	12
	11	1	1	0	2	3.3	461	31.8	2	309	12.7	2
	12	3	6	0	9	15.0	530	77.2	9	312	8.2	9
	13	3	3	0	6	10.0	524	45.9	6	314	8.1	6
	14	3	0	0	3	5.0	492	41.1	3	310	6.1	3
Sample Total		29	31	0	60	100.0	421	98.4	60	293	20.3	60
10 May	4											
	5											
	6											
	7	3	12	0	15	15.3	324	40.1	15	277	8.6	15
	8	3	15	0	18	18.4	375	48.1	18	287	10.3	18
	9	3	3	0	6	6.1	415	42.8	6	296	6.6	6
	10	9	7	0	16	16.3	422	47.3	16	297	11.7	16
	11	3	4	0	7	7.1	480	44.8	7	307	8.8	7
	12	6	6	0	12	12.2	486	49.9	12	312	6.1	12
	13	6	10	0	16	16.3	554	68.7	16	320	9.6	16
	14	4	4	0	8	8.2	547	66.4	8	321	9.6	8
Sample Total		37	61	0	98	100.0	442	94.7	98	300	17.8	98
11 May	4	1	0	0	1	1.3	170		1	233		1
	5											
	6	1	1	0	2	2.5	282	30.4	2	267	17.0	2
	7	5	13	0	18	22.5	314	34.1	18	276	9.1	18
	8	6	7	0	13	16.3	355	41.7	13	286	10.1	13
	9	1	3	0	4	5.0	375	55.6	4	293	14.3	4
	10	3	7	0	10	12.5	438	52.1	10	303	8.8	10
	11	2	2	0	4	5.0	519	77.5	4	314	11.5	4
	12	3	7	0	10	12.5	518	51.9	10	318	6.9	10
	13	2	9	0	11	13.8	522	53.3	11	316	8.4	11
	14	2	5	0	7	8.8	523	78.5	7	323	4.4	7
Sample Total		26	54	0	80	100.0	419	105.3	80	298	21.2	80

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Appendix C.11. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
9-11 May	4	2	0	0	2	0.8	156	20.5	2	229	6.4	2
	5											
	6	1	2	0	3	1.3	304	45.0	3	272	14.8	3
	7	14	33	0	47	19.7	319	35.7	47	275	9.1	47
	8	13	27	0	40	16.8	368	46.6	40	286	9.9	40
	9	5	8	0	13	5.5	403	49.3	13	295	9.4	13
	10	19	19	0	38	16.0	434	48.6	38	299	10.7	38
	11	6	7	0	13	5.5	489	55.4	13	309	9.8	13
	12	12	19	0	31	13.0	509	60.7	31	314	7.4	31
	13	11	22	0	33	13.9	538	60.7	33	317	9.0	33
	14	9	9	0	18	7.6	529	67.9	18	320	8.5	18
All Samples Combined		92	146	0	238	100.0	429	99.4	238	298	19.8	238
Sex Composition		38.7	61.3									
Unaged		28	35	0	63	26.5	454	100.7	63	301	21.8	63
Sex Composition		44.4	55.6									

Appendix C.12. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Hagemeister Section, 6-16 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6 May	4	1	0	0	1	1.6	140		1	231		1
	5	0	1	0	1	1.6	196		1	242		1
	6	0	1	0	1	1.6	218		1	271		1
	7	4	5	0	9	14.1	316	80.1	9	280	16.4	9
	8	5	11	0	16	25.0	349	42.0	16	288	9.0	16
	9	2	2	0	4	6.3	423	58.8	4	301	7.3	4
	10	4	4	0	8	12.5	401	38.1	8	298	5.4	8
	11	1	3	0	4	6.3	478	35.8	4	318	1.0	4
	12	6	5	0	11	17.2	464	46.8	11	308	7.1	11
	13	0	4	0	4	6.3	538	28.6	4	325	9.4	4
	14	1	3	0	4	6.3	514	30.8	4	322	5.4	4
	15	0	1	0	1	1.6	538		1	331		1
	16											
	17											
Sample Total		24	40	0	64	100.0	401	97.2	64	297	20.5	64
7 May	4	0	1	0	1	1.2	146		1	222		1
	5											
	6	0	1	0	1	1.2	314		1	275		1
	7	4	4	0	8	9.9	314	45.6	8	278	12.5	8
	8	4	8	0	12	14.8	384	33.2	12	293	9.8	12
	9	3	0	0	3	3.7	367	22.7	3	290	7.4	3
	10	9	13	0	22	27.2	457	44.2	22	307	7.0	22
	11	1	2	0	3	3.7	453	76.9	3	311	13.6	3
	12	7	5	0	12	14.8	495	39.9	12	315	7.8	12
	13	6	6	0	12	14.8	537	37.1	12	322	8.0	12
	14	1	5	0	6	7.4	550	51.1	6	325	8.1	6
	15	0	1	0	1	1.2	588		1	331		1
	16											
	17											
Sample Total		35	46	0	81	100.0	449	90.4	81	305	19.1	81
9 May	4	2	2	0	4	3.5	318	194.6	4	250	46.2	4
	5	0	2	0	2	1.8	191	15.6	2	244	11.3	2
	6	1	0	0	1	0.9	256		1	259		1
	7	4	9	0	13	11.4	357	80.3	13	282	13.1	13
	8	7	10	0	17	14.9	367	80.2	17	291	10.9	17
	9	3	4	0	7	6.1	407	48.6	7	299	5.9	7
	10	8	12	0	20	17.5	444	53.0	20	303	9.1	20
	11	4	7	0	11	9.6	490	47.4	11	309	8.0	11
	12	8	9	0	17	14.9	503	52.3	17	316	7.6	17
	13	9	9	0	18	15.8	529	54.8	18	318	8.0	18
	14	1	2	0	3	2.6	544	49.5	3	312	9.5	3
	15											
	16											
	17	0	1	0	1	0.9	599		1	337		1
Sample Total		47	67	0	114	100.0	441	102.3	114	301	21.4	114

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Appendix C.12. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4											
	5	1	0	0	1	1.1	184		1	246		1
	6											
	7	5	12	0	17	17.9	317	67.7	17	279	15.7	17
	8	7	6	0	13	13.7	349	47.0	13	286	8.9	13
	9	1	4	0	5	5.3	420	80.6	5	301	9.4	5
11 May	10	7	7	0	14	14.7	397	65.6	14	304	12.7	14
	11	6	3	0	9	9.5	434	62.4	9	307	8.9	9
	12	7	6	0	14	14.7	488	81.4	14	317	12.9	14
	13	5	13	0	18	18.9	496	67.6	18	320	8.5	18
	14	2	2	0	4	4.2	544	64.8	4	328	8.5	4
	15											
	16											
	17											
Sample Total		41	53	0	95	100.0	417	99.3	95	302	20.4	95
	4											
	5											
	6	1	0	0	1	1.2	326		1	280		1
	7	4	9	0	13	15.1	320	47.6	13	283	15.4	13
	8	8	14	0	22	25.6	328	29.0	22	288	8.2	22
	9	3	1	0	4	4.7	369	40.1	4	303	12.9	4
14 May	10	5	9	0	14	16.3	408	50.3	14	309	8.1	14
	11	4	3	0	7	8.1	379	24.3	7	313	8.3	7
	12	7	2	0	9	10.5	438	59.5	9	313	7.9	9
	13	7	3	0	11	12.8	441	53.0	11	325	8.8	11
	14	2	0	0	2	2.3	394	31.1	2	314	7.1	2
	15	2	0	0	2	2.3	432	70.7	2	328	8.5	2
	16											
	17	0	1	0	1	1.2	510		1	354		1
Sample Total		43	42	0	86	100.0	378	65.2	86	303	18.7	86
	4	14	7	0	21	17.1	155	17.7	21	233	7.8	21
	5	3	1	0	4	3.3	177	18.0	4	244	4.3	4
	6	0	1	0	1	0.8	250		1	270		1
	7	17	13	0	30	24.4	293	37.0	30	279	10.8	30
	8	12	11	0	23	18.7	333	39.5	23	285	14.1	23
	9	3	2	0	5	4.1	366	56.3	5	298	11.7	5
16 May	10	4	8	0	12	9.8	427	42.3	12	307	8.7	12
	11	3	3	0	6	4.9	440	43.0	6	309	5.7	6
	12	6	3	0	9	7.3	462	65.4	9	319	12.1	9
	13	3	5	0	8	6.5	466	69.8	8	316	12.7	8
	14	1	2	0	3	2.4	509	61.2	3	328	5.5	3
	15											
	16											
	17	0	1	0	1	0.8	599		1	328		1
Sample Total		66	57	0	123	100.0	327	116.3	123	283	30.3	123

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Appendix C.12. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6-16 May	4	17	10	0	27	4.8	178	90.2	27	235	18.3	27
	5	4	4	0	8	1.4	184	15.4	8	244	5.2	8
	6	2	3	0	5	0.9	273	45.6	5	271	7.8	5
	7	38	52	0	90	16.0	315	60.1	90	280	13.3	90
	8	43	60	0	103	18.3	348	50.1	103	288	10.7	103
	9	15	13	0	28	5.0	395	56.3	28	299	9.1	28
	10	37	53	0	90	16.0	428	54.2	90	305	9.1	90
	11	19	21	0	40	7.1	446	60.1	40	310	8.2	40
	12	41	30	0	72	12.8	480	61.3	72	315	9.7	72
	13	30	40	0	71	12.6	502	64.8	71	321	9.1	71
	14	8	14	0	22	3.9	522	63.0	22	323	8.9	22
	15	2	2	0	4	0.7	498	88.3	4	330	5.2	4
	16											
	17	0	3	0	3	0.5	569	51.4	3	340	13.2	3
All Samples Combined		256	305	0	563	100.0	399	107.3	563	298	24.1	563
Sex Composition		45.6	54.4									
Unaged		28	40	0	68	12.1	421	105.6	68	301	21.6	68
Sex Composition		41.2	58.8									

Appendix C.13 Age, sex, and size composition of Pacific herring caught by test commercial purse seine in the Nunavachak, Togiak, and Hagemeister Sections, 6-16May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	1	0	0	1	1.1	140		1	231		1
	5	0	1	0	1	1.1	196		1	242		1
	6	0	2	0	2	2.2	279	86.3	2	276	6.4	2
	7	4	6	0	10	11.0	311	76.8	10	279	15.7	10
	8	7	14	0	21	23.1	344	43.3	21	285	10.7	21
	9	3	2	0	5	5.5	433	55.9	5	303	9.1	5
6 May	10	4	10	0	14	15.4	409	41.9	14	297	8.4	14
	11	2	4	0	6	6.6	463	46.5	6	312	9.7	6
	12	11	8	0	19	20.9	458	49.5	19	307	6.9	19
	13	0	6	0	6	6.6	519	37.1	6	322	9.5	6
	14	2	3	0	5	5.5	501	38.3	5	320	6.8	5
	15	0	1	0	1	1.1	538		1	331		1
	16											
	17											
Sample Total		34	57	0	91	100.0	404	90.2	91	297	19.2	91
	4	0	1	0	1	1.2	146		1	222		1
	5											
	6	0	1	0	1	1.2	314		1	275		1
	7	4	4	0	8	9.9	314	45.6	8	278	12.5	8
	8	4	8	0	12	14.8	384	33.2	12	293	9.8	12
	9	3	0	0	3	3.7	367	22.7	3	290	7.4	3
7 May	10	9	13	0	22	27.2	457	44.2	22	307	7.0	22
	11	1	2	0	3	3.7	453	76.9	3	311	13.6	3
	12	7	5	0	12	14.8	495	39.9	12	315	7.8	12
	13	6	6	0	12	14.8	537	37.1	12	322	8.0	12
	14	1	5	0	6	7.4	550	51.1	6	325	8.1	6
	15	0	1	0	1	1.2	588		1	331		1
	16											
	17											
Sample Total		35	46	0	81	100.0	449	90.4	81	305	19.1	81
	4	3	3	0	6	2.1	259	175.6	6	242	38.0	6
	5	0	2	0	2	0.7	191	15.6	2	244	11.3	2
	6	1	2	0	3	1.1	304	47.0	3	273	12.5	3
	7	23	37	0	60	21.4	330	53.5	60	276	11.2	60
	8	20	20	0	40	14.3	364	60.9	40	286	9.7	40
	9	5	7	0	12	4.3	410	44.1	12	296	7.4	12
9 May	10	18	23	0	41	14.6	448	54.6	41	302	10.5	41
	11	8	14	0	22	7.9	498	45.6	22	310	7.5	22
	12	20	22	0	42	15.0	502	53.7	42	313	7.8	42
	13	16	22	0	38	13.6	528	56.9	38	316	10.1	38
	14	4	8	0	12	4.3	553	56.3	12	316	9.2	12
	15	0	1	0	1	0.4	530		1	323		1
	16											
	17	0	1	0	1	0.4	599		1	337		1
Sample Total		118	162	0	280	100.0	430	103.1	280	297	21.1	280

-Continued-

Appendix C.13. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
10 May	4											
	5	1	0	0	1	0.7	178		1	232		1
	6	1	0	0	1	0.7	225		1	258		1
	7	5	14	0	19	12.4	323	42.5	19	278	8.1	19
	8	8	21	0	29	19.0	379	45.0	29	288	9.5	29
	9	5	5	0	10	6.5	401	49.2	10	295	6.3	10
	10	14	15	0	29	19.0	441	52.2	29	302	12.2	29
	11	5	7	0	12	7.8	478	53.3	12	307	8.1	12
	12	10	10	0	20	13.1	492	61.8	20	312	9.0	20
	13	9	15	0	24	15.7	550	59.1	24	319	8.5	24
	14	4	4	0	8	5.2	547	66.4	8	321	9.6	8
	15											
	16											
	17											
Sample Total		62	91	0	153	100.0	441	94.3	153	301	17.8	153
11 May	4	1	3	0	4	1.9	154	23.2	4	222	10.2	4
	5	1	0	0	1	0.5	184		1	246		1
	6	1	2	0	3	1.4	261	41.0	3	261	16.3	3
	7	13	29	0	42	20.0	309	51.5	42	276	12.2	42
	8	15	17	0	32	15.2	347	45.2	32	285	9.8	32
	9	2	7	0	9	4.3	400	70.5	9	297	11.8	9
	10	12	18	0	30	14.3	410	59.8	30	302	11.0	30
	11	9	6	0	15	7.1	446	80.2	15	307	11.0	15
	12	10	15	0	26	12.4	496	70.0	26	317	11.1	26
	13	10	25	0	35	16.7	497	61.1	35	316	9.5	35
	14	4	9	0	13	6.2	524	66.9	13	323	9.4	13
	15											
	16											
	17											
Sample Total		78	131	0	210	100.0	407	104.9	210	298	22.9	210
14 May	4											
	5											
	6	1	0	0	1	1.2	326		1	280		1
	7	4	9	0	13	15.1	320	47.6	13	283	15.4	13
	8	8	14	0	22	25.6	328	29.0	22	288	8.2	22
	9	3	1	0	4	4.7	369	40.1	4	303	12.9	4
	10	5	9	0	14	16.3	408	50.3	14	309	8.1	14
	11	4	3	0	7	8.1	379	24.3	7	313	8.3	7
	12	7	2	0	9	10.5	438	59.5	9	313	7.9	9
	13	7	3	0	11	12.8	441	53.0	11	325	8.8	11
	14	2	0	0	2	2.3	394	31.1	2	314	7.1	2
	15	2	0	0	2	2.3	432	70.7	2	328	8.5	2
	16											
	17	0	1	0	1	1.2	510		1	354		1
Sample Total		43	42	0	86	100.0	378	65.2	86	303	18.7	86

-Continued-

Appendix C. 13. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	14	7	0	21	17.1	155	17.7	21	233	7.8	21
	5	3	1	0	4	3.3	177	18.0	4	244	4.3	4
	6	0	1	0	1	0.8	250		1	270		1
	7	17	13	0	30	24.4	293	37.0	30	279	10.8	30
	8	12	11	0	23	18.7	333	39.5	23	285	14.1	23
	9	3	2	0	5	4.1	366	56.3	5	298	11.7	5
16 May	10	4	8	0	12	9.8	427	42.3	12	307	8.7	12
	11	3	3	0	6	4.9	440	43.0	6	309	5.7	6
	12	6	3	0	9	7.3	462	65.4	9	319	12.1	9
	13	3	5	0	8	6.5	466	69.8	8	316	12.7	8
	14	1	2	0	3	2.4	509	61.2	3	328	5.5	3
	15											
	16											
	17	0	1	0	1	0.8	599		1	328		1
Sample Total		66	57	0	123	100.0	327	116.3	123	283	30.3	123
	4	19	14	0	33	3.2	173	82.4	33	233	17.5	33
	5	5	4	0	9	0.9	183	14.5	9	243	6.4	9
	6	4	8	0	12	1.2	281	47.8	12	270	11.7	12
	7	70	112	0	182	17.8	316	51.3	182	277	11.7	182
	8	74	105	0	179	17.5	354	49.0	179	287	10.4	179
	9	24	24	0	48	4.7	398	53.3	48	297	9.3	48
6-16 May	10	66	96	0	162	15.8	433	54.2	162	303	10.4	162
	11	32	39	0	71	6.9	462	64.1	71	309	8.6	71
	12	71	65	0	137	13.4	486	60.3	137	313	9.3	137
	13	51	82	0	134	13.1	514	63.9	134	318	9.8	134
	14	18	31	0	49	4.8	529	64.6	49	321	9.1	49
	15	2	3	0	5	0.5	504	77.9	5	328	5.4	5
	16											
	17	0	3	0	3	0.3	569	51.4	3	340	13.2	3
All Samples Combined		436	586	0	1024	100.0	409	105.3	1024	297	22.6	1024
Sex Composition		42.7	57.3									
Unaged		71	103	0	174	17.0	433	103.6	174	300	20.8	174
Sex Composition		40.8	59.2									

Appendix C.14. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Kulukak Section, 7-21 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	3	1	0	4	80.0	198	32.8	4	232	14.2	4
	5											
	6											
	7											
	8	0	1	0	1	20.0	314		1	270		1
	9											
7 May	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		3	2	0	5	100.0	221	59.0	5	240	20.9	5
	3											
	4	0	3	0	3	2.6	194	25.7	3	230	4.4	3
	5	1	0	0	1	0.9	198		1	233		1
	6											
	7	6	5	0	11	9.5	302	34.3	11	274	9.5	11
	8	15	12	0	27	23.3	352	33.6	27	283	9.6	27
	9	2	3	0	5	4.3	384	26.0	5	293	7.4	5
9 May	10	15	4	0	19	16.4	422	36.3	19	299	6.6	19
	11	10	5	0	15	12.9	436	39.3	15	304	8.6	15
	12	13	2	0	15	12.9	470	49.2	15	309	9.2	15
	13	7	4	0	11	9.5	474	50.5	11	307	10.4	11
	14	7	1	0	8	6.9	487	61.4	8	314	9.4	8
	15											
	16											
	17	0	1	0	1	0.9	582		1	328		1
Sample Total		76	40	0	116	100.0	404	81.7	116	294	19.4	116
	3											
	4	2	4	0	6	5.9	180	31.2	6	228	4.3	6
	5											
	6	3	0	0	3	2.9	224	25.0	3	255	8.3	3
	7	12	11	1	24	23.5	299	36.9	24	271	8.5	24
	8	7	16	0	23	22.5	357	35.1	23	287	9.0	23
	9	2	4	0	6	5.9	378	57.2	6	293	11.5	6
11 May	10	4	4	0	8	7.8	401	40.3	8	292	10.7	8
	11	7	4	0	11	10.8	440	61.8	11	305	12.8	11
	12	5	6	0	11	10.8	446	34.6	11	299	14.0	11
	13	1	4	0	5	4.9	526	40.0	5	313	11.7	5
	14	1	3	0	4	3.9	545	44.3	4	319	5.7	4
	15	1	0	0	1	1.0	462		1	307		1
	16											
	17											
Sample Total		45	56	1	102	100.0	369	96.4	102	286	22.8	102

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Appendix C.14. (p. 2 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	5	2	0	7	7.1	152	13.6	7	222	5.9	7
	5	1	1	0	2	2.0	175	1.4	2	230	4.2	2
	6	1	1	0	2	2.0	256	8.5	2	259	0.7	2
	7	17	10	0	27	27.3	298	42.1	27	270	11.0	27
	8	13	12	0	25	25.3	337	25.9	25	281	8.4	25
	9	2	3	0	5	5.1	384	52.4	5	291	12.0	5
13 May	10	3	4	0	7	7.1	392	39.1	7	289	9.7	7
	11	3	1	0	4	4.0	441	56.9	4	299	8.3	4
	12	5	4	0	9	9.1	459	56.5	9	304	14.2	9
	13	8	1	0	9	9.1	456	53.0	9	307	12.5	9
	14	0	1	0	1	1.0	572		1	324		1
	15	1	0	0	1	1.0	510		1	318		1
	16											
	17											
Sample Total		59	40	0	99	100.0	345	96.0	99	280	24.5	99
	3											
	4	10	6	0	16	15.0	149	21.2	16	225	6.5	16
	5	6	4	0	10	9.3	180	16.9	10	235	8.1	10
	6	3	2	0	5	4.7	246	67.2	5	255	10.6	5
	7	11	11	0	22	20.6	287	26.7	22	267	8.1	22
	8	14	7	0	21	19.6	322	41.6	21	278	6.8	21
	9	0	3	0	3	2.8	343	103.2	3	288	9.1	3
14 May	10	4	8	0	12	11.2	407	49.6	12	293	11.0	12
	11	2	2	0	4	3.7	424	96.6	4	301	11.6	4
	12	4	0	0	4	3.7	436	80.8	4	301	15.3	4
	13	2	5	0	7	6.5	477	44.3	7	311	8.5	7
	14	0	1	0	1	0.9	468		1	303		1
	15	0	1	0	1	0.9	598		1	322		1
	16	1	0	0	1	0.9	538		1	315		1
	17											
Sample Total		57	50	0	107	100.0	306	114.5	107	269	28.7	107
	3											
	4	6	3	0	9	8.3	147	21.2	9	225	9.1	9
	5	1	1	0	2	1.8	171	1.4	2	243	4.9	2
	6	1	1	0	2	1.8	212	14.1	2	249	5.7	2
	7	15	21	0	36	33.0	304	31.9	36	274	6.9	36
	8	12	17	0	29	26.6	340	39.7	29	282	9.6	29
	9	5	1	0	6	5.5	350	65.6	6	284	8.3	6
15 May	10	6	3	0	9	8.3	396	53.5	9	297	8.7	9
	11	2	1	0	3	2.8	408	66.9	3	303	6.6	3
	12	6	0	0	6	5.5	380	35.6	6	298	14.5	6
	13	0	3	0	3	2.8	480	47.0	3	315	7.5	3
	14	1	2	0	3	2.8	459	67.4	3	315	4.7	3
	15	1	0	0	1	0.9	472		1	322		1
	16											
	17											
Sample Total		56	53	0	109	100.0	324	84.7	109	278	22.7	109

-Continued-

Appendix C.14. (p. 3 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	8	7	0	15	17.2	142	21.4	15	227	9.5	15
	5	1	1	0	2	2.3	193	18.4	2	247	8.5	2
	6	2	1	0	3	3.4	223	25.7	3	257	10.6	3
	7	12	10	2	24	27.6	278	46.2	22	270	10.2	24
	8	9	7	1	17	19.5	330	44.7	16	281	9.2	17
	9	0	1	0	1	1.1	432		1	290		1
16 May	10	3	5	1	9	10.3	407	52.1	8	298	13.5	9
	11	2	0	0	2	2.3	391	21.2	2	302	1.4	2
	12	0	1	1	2	2.3	532		1	308	6.4	2
	13	4	2	4	10	11.5	477	60.3	6	312	8.3	10
	14	1	1	0	2	2.3	488	62.2	2	314	4.2	2
	15											
	16											
	17											
Sample Total		42	36	9	87	100.0	300	114.0	78	274	28.8	87
	3	0	1	0	1	0.8	172		1	230		1
	4	34	26	0	60	50.8	145	25.8	60	227	10.2	60
	5	1	2	0	3	2.5	157	29.7	3	231	9.1	3
	6	0	3	0	3	2.5	246	37.4	3	262	7.6	3
	7	8	8	0	16	13.6	273	29.0	16	270	5.3	16
	8	6	9	0	15	12.7	313	46.1	15	280	9.4	15
	9	0	1	0	1	0.8	352		1	295		1
18 May	10	1	3	0	4	3.4	351	46.9	4	288	9.5	4
	11	2	1	0	3	2.5	371	10.3	3	292	6.7	3
	12	1	4	0	5	4.2	486	72.8	5	317	4.8	5
	13	2	1	0	3	2.5	445	37.5	3	313	5.9	3
	14	2	2	0	4	3.4	445	78.1	4	316	12.5	4
	15											
	16											
	17											
Sample Total		57	61	0	118	100.0	233	113.4	118	254	32.7	118
	3	1	0	0	1	0.8	96		1	205		1
	4	29	43	0	72	59.0	140	18.4	72	224	8.5	72
	5	1	2	0	3	2.5	207	49.1	3	251	19.4	3
	6	3	2	0	5	4.1	201	42.4	5	249	17.0	5
	7	7	8	0	15	12.3	285	41.1	15	269	9.4	15
	8	4	4	0	8	6.6	305	27.4	8	281	11.2	8
	9	1	0	0	1	0.8	350		1	292		1
19 May	10	3	3	0	6	4.9	405	41.6	6	301	6.7	6
	11	2	1	0	3	2.5	341	59.1	3	295	10.0	3
	12	1	1	0	2	1.6	399	77.8	2	307	6.4	2
	13	1	2	0	3	2.5	441	90.0	3	313	21.4	3
	14	1	1	0	2	1.6	446	87.7	2	317	1.4	2
	15											
	16	1	0	0	1	0.8	482		1	313		1
	17											
Sample Total		55	67	0	122	100.0	212	105.5	122	247	32.5	122

-Continued-

Appendix C.14. (p. 4 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	0	1	0	1	0.8	130		1	215		1
	4	19	28	0	47	38.5	143	18.3	47	224	8.1	47
	5	3	3	0	6	4.9	148	13.8	6	224	3.3	6
	6	2	3	0	5	4.1	221	24.1	5	257	9.7	5
	7	14	16	0	30	24.6	289	27.3	30	270	7.8	30
	8	11	9	0	20	16.4	319	31.7	20	283	9.2	20
	9	1	2	0	3	2.5	351	31.3	3	287	9.2	3
20 May	10	1	1	0	2	1.6	388	22.6	2	297	2.1	2
	11	0	1	0	1	0.8	370		1	303		1
	12	1	3	0	4	3.3	395	57.1	4	306	8.0	4
	13	1	1	0	2	1.6	260	172.5	2	312	19.1	2
	14	1	0	0	1	0.8	412		1	315		1
	15											
	16											
	17											
Sample Total		54	68	0	122	100.0	234	92.0	122	255	30.6	122
	3											
	4	22	29	0	51	44.3	144	18.8	51	223	8.9	51
	5	1	1	0	2	1.7	199	43.8	2	239	9.2	2
	6											
	7	11	13	0	24	20.9	270	31.5	24	268	8.8	24
	8	8	12	0	20	17.4	332	39.4	20	285	8.5	20
	9	2	2	0	4	3.5	348	46.4	4	285	10.3	4
21 May	10	6	2	0	8	7.0	371	61.6	8	300	16.5	8
	11											
	12	2	0	0	2	1.7	466	50.9	2	308	7.8	2
	13	1	2	0	3	2.6	424	38.0	3	308	12.7	3
	14	0	1	0	1	0.9	560		1	313		1
	15											
	16											
	17											
Sample Total		53	62	0	115	100.0	243	105.5	115	255	32.6	115
	3	1	2	0	3	0.3	133	38.1	3	217	12.6	3
	4	138	152	0	290	26.3	145	22.9	290	225	8.9	290
	5	16	15	0	31	2.8	176	28.0	31	235	11.3	31
	6	15	13	0	28	2.5	227	39.4	28	255	10.4	28
	7	113	113	3	229	20.8	290	36.2	227	270	8.7	229
	8	99	106	1	206	18.7	334	38.9	205	282	9.2	206
	9	15	20	0	35	3.2	366	53.0	35	289	9.3	35
7-21 May	10	46	37	1	84	7.6	401	47.2	83	296	10.6	84
	11	30	16	0	46	4.2	421	58.7	46	302	9.8	46
	12	38	21	1	60	5.4	447	59.4	59	305	12.2	60
	13	27	25	4	56	5.1	462	70.7	52	310	10.6	56
	14	14	13	0	27	2.5	486	66.8	27	315	7.7	27
	15	3	1	0	4	0.4	511	61.9	4	317	7.1	4
	16	2	0	0	2	0.2	510	39.6	2	314	1.4	2
	17	0	1	0	1	0.1	582		1	328		1
All Samples Combined		557	535	10	1102	100.0	294	118.4	1093	268	31.9	1102
Sex Composition		51.0	49.0									
Unaged		94	92	1	187	17.0	325	116.3	186	277	31.6	187
Sex Composition		50.5	49.5									

Appendix C.15. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Nunavachak Section, 15 May- 5 June 1991.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
15 May	3											
	4	2	5	0	7	5.9	161	12.1	7	234	8.5	7
	5	0	1	0	1	0.8	194		1	243		1
	6	2	0	0	2	1.7	291	5.7	2	272	0.0	2
	7	16	15	0	31	26.1	297	31.1	31	274	10.1	31
	8	14	13	0	27	22.7	330	44.9	27	285	10.4	27
	9	6	4	0	10	8.4	370	39.7	10	293	10.1	10
	10	8	8	0	16	13.4	407	60.1	16	303	9.4	16
	11	4	1	0	5	4.2	424	38.0	5	307	2.4	5
	12	8	4	0	12	10.1	460	45.5	12	318	8.0	12
	13	1	3	0	4	3.4	521	50.4	4	320	9.3	4
	14	0	2	0	2	1.7	449	20.5	2	312	5.7	2
	15	1	1	0	2	1.7	423	26.2	2	316	5.7	2
Sample Total		62	57	0	119	100.0	350	89.5	119	288	22.9	119
16 May	3											
	4	17	16	0	33	42.3	151	19.5	33	233	7.8	33
	5	1	1	0	2	2.6	204	26.9	2	254	8.5	2
	6	2	1	0	3	3.8	253	60.1	3	268	17.4	3
	7	12	9	0	21	26.9	276	37.4	21	273	9.6	21
	8	6	3	0	9	11.5	312	42.4	9	283	8.2	9
	9	1	2	0	3	3.8	382	62.6	3	299	10.1	3
	10	2	0	0	2	2.6	391	19.8	2	300	9.9	2
	11											
	12	0	2	0	2	2.6	490	53.0	2	317	7.1	2
	13	0	2	0	2	2.6	480	64.3	2	319	11.3	2
	14	0	1	0	1	1.3	532		1	336		1
	15											
Sample Total		41	37	0	78	100.0	246	104.5	78	261	29.2	78
29 May	3	1	1	0	2	5.6	107	17.0	2	208	14.8	2
	4	10	10	0	20	55.6	135	14.8	20	223	9.2	20
	5											
	6	0	1	0	1	2.8	248		1	266		1
	7	1	3	0	4	11.1	248	56.4	4	265	14.6	4
	8	2	4	0	6	16.7	302	63.6	6	277	11.2	6
	9	1	0	0	1	2.8	346		1	302		1
	10	0	1	0	1	2.8	490		1	333		1
	11											
	12	0	1	0	1	2.8	533		1	323		1
	13											
	14											
	15											
Sample Total		15	21	0	36	100.0	204	110.3	36	245	34.0	36

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Appendix C.15. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
31 May	3											
	4	4	1	0	5	100.0	138	15.7	5	223	3.8	5
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
Sample Total		4	1	0	5	100.0	138	15.7	5	223	3.8	5
2 June	3	0	1	0	1	4.3	97		1	199		1
	4	8	7	0	15	65.2	135	13.9	15	226	6.2	15
	5	0	2	0	2	8.7	148	24.0	2	233	14.8	2
	6											
	7	1	1	0	2	8.7	260	11.3	2	280	3.5	2
	8											
	9											
	10	0	1	0	1	4.3	425		1	312		1
	11											
	12	0	1	0	1	4.3	414		1	318		1
	13	1	0	0	1	4.3	394		1	310		1
	14											
	15											
Sample Total		10	13	0	23	100.0	181	99.2	23	241	33.6	23
5 June	3	0	2	0	2	6.7	111	0.0	2	210	4.2	2
	4	11	11	0	22	73.3	138	15.0	22	223	8.6	22
	5	1	2	0	3	10.0	167	36.6	3	236	14.4	3
	6	1	0	0	1	3.3	172		1	237		1
	7	2	0	0	2	6.7	202	29.7	2	253	4.2	2
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
Sample Total		15	15	0	30	100.0	144	26.5	30	226	12.5	30

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Appendix C.15. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
15 May- 5 June	3	1	4	0	5	1.7	107	10.2	5	207	9.0	5
	4	52	50	0	102	35.1	143	18.2	102	227	9.0	102
	5	2	6	0	8	2.7	175	33.1	8	241	13.5	8
	6	5	2	0	7	2.4	251	52.8	7	264	15.9	7
	7	32	28	0	60	20.6	282	39.9	60	273	10.7	60
	8	22	20	0	42	14.4	322	47.3	42	284	10.2	42
	9	8	6	0	14	4.8	371	42.1	14	295	9.8	14
	10	10	10	0	20	6.9	411	57.1	20	304	11.2	20
	11	4	1	0	5	1.7	424	38.0	5	307	2.4	5
	12	8	8	0	16	5.5	466	47.8	16	318	7.2	16
	13	2	5	0	7	2.4	491	64.7	7	318	8.9	7
	14	0	3	0	3	1.0	476	50.3	3	320	14.4	3
	15	1	1	0	2	0.7	423	26.2	2	316	5.7	2
All Samples Combined		147	144	0	291	100.0	266	119.8	291	264	34.4	291
Sex Composition		50.5	49.5									
Unaged		12	19	0	31	10.7	290	110.6	31	272	30.0	31
Sex Composition		38.7	61.3									

Appendix C.16. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Togiak Section, 14 May-9 June 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
14 May	3											
	4	4	0	0	4	6.5	186	62.9	4	229	6.4	4
	5											
	6											
	7	8	6	0	14	22.6	279	35.3	14	273	9.2	14
	8	7	7	0	14	22.6	328	34.7	14	284	7.2	14
	9	1	0	0	1	1.6	331		1	288		1
	10	2	6	0	8	12.9	386	67.9	8	295	13.1	8
	11	2	1	0	3	4.8	395	73.8	3	300	15.7	3
	12	3	3	0	6	9.7	462	62.4	6	310	4.3	6
	13	6	2	0	8	12.9	439	44.3	8	314	6.6	8
	14	3	1	0	4	6.5	461	83.7	4	324	7.0	4
	15											
	16											
Sample Total		36	26	0	62	100.0	354	93.1	62	289	24.1	62
15 May	3											
	4	10	7	0	17	27.9	145	13.4	17	225	6.1	17
	5	1	0	0	1	1.6	139		1	232		1
	6											
	7	6	3	0	9	14.8	279	25.5	9	274	4.6	9
	8	3	4	0	7	11.5	308	47.0	7	284	12.7	7
	9	3	1	0	4	6.6	326	51.9	4	291	10.4	4
	10	3	3	0	6	9.8	387	35.8	6	300	9.6	6
	11	3	3	0	6	9.8	441	40.0	6	313	10.6	6
	12	0	1	0	1	1.6	513		1	332		1
	13	3	3	0	6	9.8	400	41.3	6	311	9.2	6
	14	3	1	0	4	6.6	459	28.0	4	319	2.4	4
	15											
	16											
Sample Total		35	26	0	61	100.0	300	120.3	61	276	36.6	61
16 May	3											
	4	10	9	0	19	16.1	149	19.2	19	229	10.2	19
	5	1	0	0	1	0.8	225		1	272		1
	6	1	1	0	2	1.7	258	67.2	2	260	17.0	2
	7	7	5	0	12	10.2	264	29.6	12	274	8.2	12
	8	6	16	0	22	18.6	309	36.7	22	288	10.0	22
	9	3	3	0	6	5.1	355	52.8	6	297	4.7	6
	10	5	6	0	11	9.3	343	33.7	11	297	9.9	11
	11	3	2	0	5	4.2	378	49.4	5	304	16.7	5
	12	11	8	0	19	16.1	405	42.2	19	313	12.9	19
	13	6	5	0	11	9.3	414	40.6	11	319	8.5	11
	14	0	9	0	9	7.6	455	41.3	9	324	8.2	9
	15	1	0	0	1	0.8	398		1	311		1
	16											
Sample Total		54	64	0	118	100.0	323	101.1	118	288	31.7	118

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Appendix C.16. (p. 2 of 6)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
18 May	3											
	4	10	12	0	22	17.9	149	13.9	22	226	8.3	22
	5	1	1	0	2	1.6	189	77.8	2	241	19.8	2
	6											
	7	13	9	0	22	17.9	268	34.5	22	270	11.3	22
	8	13	14	0	27	22.0	310	39.2	27	282	8.3	27
	9	2	3	0	5	4.1	359	51.2	5	294	10.3	5
	10	5	5	0	10	8.1	356	43.9	10	297	8.3	10
	11	2	3	0	5	4.1	390	46.4	5	307	11.1	5
	12	4	5	0	9	7.3	412	50.7	9	312	12.9	9
	13	8	5	0	13	10.6	440	32.6	13	315	7.0	13
	14	3	4	0	7	5.7	437	47.8	7	317	9.4	7
	15											
	16	0	1	0	1	0.8	448		1	335		1
Sample Total		61	62	0	123	100.0	310	103.5	123	280	32.0	123
20 May	3											
	4	34	35	0	69	55.2	140	17.3	69	222	8.2	69
	5	1	3	0	4	3.2	143	18.4	4	228	9.4	4
	6	1	0	0	1	0.8	225		1	258		1
	7	10	12	0	22	17.6	273	29.2	22	268	7.6	22
	8	5	6	0	11	8.8	298	33.0	11	279	4.4	11
	9	3	0	0	3	2.4	358	31.3	3	287	7.0	3
	10	4	4	0	8	6.4	367	50.0	8	296	9.0	8
	11											
	12	0	1	0	1	0.8	408		1	290		1
	13	3	1	0	4	3.2	404	81.5	4	300	9.9	4
	14	1	0	0	1	0.8	374		1	296		1
	15	0	1	0	1	0.8	542		1	318		1
	16											
Sample Total		62	63	0	125	100.0	214	98.5	125	246	30.5	125
21 May	3											
	4											
	5	1	0	0	1	1.4	134		1	224		1
	6											
	7	3	4	0	7	10.1	278	38.2	7	274	8.3	7
	8	4	7	0	11	15.9	322	42.1	11	285	10.0	11
	9	1	0	0	1	1.4	354		1	285		1
	10	3	3	0	6	8.7	380	42.9	6	304	7.9	6
	11	2	1	0	3	4.3	392	9.5	3	310	1.7	3
	12	8	2	0	10	14.5	407	23.8	10	310	5.3	10
	13	7	8	0	15	21.7	423	40.8	15	311	10.1	15
	14	6	8	0	14	20.3	425	37.6	14	318	11.6	14
	15	0	1	0	1	1.4	403		1	305		1
	16											
Sample Total		35	34	0	69	100.0	380	68.3	69	302	19.5	69

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Appendix C.16. (p. 3 of 6)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
29 May	3	0	2	0	2	2.7	140	41.0	2	210	2.8	2
	4	22	22	0	44	60.3	133	15.1	44	225	7.7	44
	5	3	1	0	4	5.5	130	22.8	4	227	12.9	4
	6											
	7	1	5	0	6	8.2	257	29.0	6	273	6.1	6
	8	3	1	0	4	5.5	254	37.2	4	271	10.0	4
	9	1	0	0	1	1.4	342		1	302		1
	10	3	2	0	5	6.8	350	62.5	5	298	18.8	5
	11	0	1	0	1	1.4	335		1	290		1
	12	2	1	0	3	4.1	358	14.5	3	308	1.5	3
	13	1	1	0	2	2.7	432	99.7	2	317	7.8	2
	14	1	0	0	1	1.4	428		1	322		1
	15											
	16											
Sample Total		37	36	0	73	100.0	192	97.2	73	245	33.5	73
30 May	3											
	4	13	15	0	28	57.1	138	14.9	28	227	7.0	28
	5	2	1	0	3	6.1	176	44.2	3	241	18.3	3
	6	1	0	0	1	2.0	220		1	266		1
	7	2	2	0	4	8.2	242	20.2	4	272	3.9	4
	8	1	3	0	4	8.2	284	69.8	4	287	21.0	4
	9											
	10	4	0	0	4	8.2	333	34.9	4	298	8.5	4
	11											
	12	2	0	0	2	4.1	407	3.5	2	308	5.7	2
	13	3	0	0	3	6.1	433	32.7	3	314	6.0	3
	14											
	15											
	16											
Sample Total		28	21	0	49	100.0	208	101.1	49	252	33.5	49
31 May	3											
	4	21	19	0	40	63.5	136	13.2	40	228	6.2	40
	5	3	4	0	7	11.1	142	19.3	7	231	10.7	7
	6	0	1	0	1	1.6	149		1	238		1
	7	5	1	0	6	9.5	233	22.5	6	264	7.4	6
	8	2	1	0	3	4.8	266	35.1	3	280	15.5	3
	9											
	10											
	11	0	1	0	1	1.6	447		1	335		1
	12	1	0	0	1	1.6	364		1	311		1
	13	2	2	0	4	6.3	358	45.6	4	306	17.0	4
	14											
	15											
	16											
Sample Total		34	29	0	63	100.0	175	78.2	63	242	28.3	63

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Appendix C.16. (p. 4 of 6)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
2 June	3	1	1	0	2	3.0	130	18.4	2	224	6.4	2
	4	16	18	0	34	51.5	146	34.4	34	228	11.3	34
	5	2	0	0	2	3.0	149	29.0	2	235	10.6	2
	6											
	7	4	1	0	5	7.6	264	32.7	5	272	5.3	5
	8	4	3	0	7	10.6	293	30.5	7	278	6.8	7
	9	1	0	0	1	1.5	281		1	288		1
	10	3	0	0	3	4.5	335	35.0	3	297	9.5	3
	11	1	1	0	2	3.0	385	41.7	2	300	9.9	2
	12	1	0	0	1	1.5	442		1	308		1
	13	2	4	0	6	9.1	423	51.8	6	317	10.5	6
	14	1	2	0	3	4.5	401	71.6	3	314	17.2	3
	15											
	16											
Sample Total		36	30	0	66	100.0	229	112.7	66	256	36.0	66
4 June	3	0	1	0	1	14.3	117		1	206		1
	4	2	3	0	5	71.4	152	12.9	5	227	8.8	5
	5											
	6											
	7											
	8	0	1	0	1	14.3	376		1	297		1
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
Sample Total		2	5	0	7	100.0	179	88.5	7	234	29.8	7
5 June	3	0	1	0	1	2.6	118		1	207		1
	4	11	9	0	20	51.3	128	9.7	20	222	6.3	20
	5	2	0	0	2	5.1	164	20.5	2	239	7.1	2
	6											
	7	0	1	0	1	2.6	275		1	270		1
	8	3	1	0	4	10.3	262	70.2	4	276	7.4	4
	9	0	1	0	1	2.6	256		1	282		1
	10											
	11	0	1	0	1	2.6	329		1	290		1
	12	3	0	0	3	7.7	388	33.0	3	307	8.9	3
	13	3	1	0	4	10.3	382	42.5	4	305	13.0	4
	14	1	1	0	2	5.1	393	6.4	2	301	3.5	2
	15											
	16											
Sample Total		23	16	0	39	100.0	215	112.7	39	251	37.1	39

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Appendix C.16. (p. 5 of 6)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6 June	3	0	1	0	1	2.1	135		1	218		1
	4	11	11	0	22	46.8	133	16.0	22	222	7.6	22
	5											
	6	0	1	0	1	2.1	251		1	268		1
	7	5	7	0	12	25.5	248	18.2	12	271	6.4	12
	8	1	3	0	4	8.5	282	14.6	4	280	8.5	4
	9											
	10	0	4	0	4	8.5	349	49.8	4	298	10.6	4
	11	0	1	0	1	2.1	380		1	304		1
	12											
	13	1	0	0	1	2.1	336		1	303		1
	14	0	1	0	1	2.1	415		1	322		1
	15											
	16											
Sample Total		18	29	0	47	100.0	212	88.0	47	252	32.7	47
7 June	3											
	4	22	12	0	34	43.0	140	16.0	34	226	9.4	34
	5	3	2	0	5	6.3	168	38.1	4	246	19.9	5
	6											
	7	9	11	0	20	25.3	238	43.2	16	269	10.4	20
	8	2	8	0	10	12.7	240	10.0	6	273	4.6	10
	9	1	2	0	3	3.8	330	54.5	3	298	14.1	3
	10	1	0	0	1	1.3	311		1	296		1
	11	0	2	0	2	2.5	384	10.6	2	308	7.8	2
	12											
	13	1	0	0	1	1.3	378		1	304		1
	14	2	0	0	2	2.5	406	7.8	2	316	2.8	2
	15	0	1	0	1	1.3	325		1	290		1
	16											
Sample Total		41	38	0	79	100.0	204	82.4	70	254	29.3	79
9 June	3											
	4	20	9	0	29	85.3	136	12.9	29	225	6.4	29
	5	1	2	0	3	8.8	134	14.1	3	226	7.1	3
	6											
	7											
	8											
	9											
	10	1	0	0	1	2.9	335		1	298		1
	11											
	12											
	13											
	14	0	1	0	1	2.9	358		1	306		1
	15											
	16											
Sample Total		22	12	0	34	100.0	148	51.9	34	230	19.4	34

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Appendix C.16. (p. 6 of 6)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	6	0	7	0.7	130	20.6	7	214	8.1	7
	4	206	181	0	387	38.1	140	19.7	387	225	8.3	387
	5	21	14	0	35	3.4	152	33.2	34	235	14.8	35
	6	3	3	0	6	0.6	227	51.2	6	258	13.1	6
	7	73	67	0	140	13.8	263	34.1	136	271	8.7	140
	8	54	75	0	129	12.7	302	43.8	125	282	9.9	129
14 May- 9 June	9	16	10	0	26	2.6	341	47.5	26	293	8.8	26
	10	34	33	0	67	6.6	359	47.4	67	298	10.0	67
	11	13	17	0	30	3.0	396	47.2	30	307	12.7	30
	12	35	21	0	56	5.5	411	46.7	56	311	10.4	56
	13	46	32	0	78	7.7	417	47.6	78	312	10.1	78
	14	21	28	0	49	4.8	432	47.4	49	318	10.6	49
	15	1	3	0	4	0.4	417	90.6	4	306	11.9	4
	16	0	1	0	1	0.1	448		1	335		1
All Samples Combined		524	491	0	1015	100.0	257	117.1	1006	264	36.8	1015
Sex Composition		51.6	48.4									
Unaged		64	54	0	118	11.6	269	111.1	117	269	34.9	118
Sex Composition		54.2	45.8									

Appendix C.17. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Hagemeister sections combined, 6 May-9 June 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6 May	4	0	4	0	4	6.7	170	34.0	4	229	10.0	4
	5	1	1	0	2	3.3	282	39.6	2	270	10.6	2
	6											
	7	3	4	0	7	11.7	323	32.0	7	275	12.9	7
	8	5	4	0	9	15.0	377	74.9	9	291	14.6	9
	9	1	2	0	3	5.0	401	62.7	3	301	11.7	3
	10	3	1	0	4	6.7	451	50.2	4	304	7.8	4
	11	4	2	0	6	10.0	454	60.8	6	309	4.9	6
	12	4	6	0	10	16.7	499	62.4	10	314	8.6	10
	13	7	5	0	12	20.0	487	63.6	12	314	11.2	12
	14	0	3	0	3	5.0	537	79.2	3	309	9.8	3
	15											
	16											
	17											
Sample Total		28	32	0	60	100.0	418	110.5	60	297	25.3	60
7 May	4											
	5											
	6	0	1	0	1	3.8	220		1	257		1
	7											
	8	0	3	0	3	11.5	396	89.7	3	295	12.5	3
	9	1	0	0	1	3.8	352		1	280		1
	10	0	3	0	3	11.5	449	94.5	3	303	17.2	3
	11	0	1	0	1	3.8	456		1	314		1
	12	3	2	0	5	19.2	456	61.9	5	307	6.8	5
	13	2	6	0	8	30.8	493	69.5	8	312	14.1	8
	14	2	1	0	3	11.5	522	76.2	3	317	11.9	3
	15	1	0	0	1	3.8	522		1	322		1
	16											
	17											
Sample Total		9	17	0	26	100.0	457	89.6	26	306	16.9	26
9 May	4	1	2	0	3	75.0	163	26.4	3	230	2.0	3
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12	1	0	0	1	25.0	484		1	310		1
	13											
	14											
	15											
	16											
	17											
Sample Total		2	2	0	4	100.0	244	161.8	4	250	40.0	4

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Appendix C.17. (p. 2 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4											
	5											
	6	2	0	0	2	4.5	290	14.1	2	278	4.2	2
	7	3	5	0	8	18.2	313	34.9	8	282	14.2	8
	8	3	4	0	7	15.9	328	27.7	7	286	7.7	7
	9	1	0	0	1	2.3	336		1	292		1
14 May	10	5	2	0	7	15.9	369	47.0	7	302	9.7	7
	11	3	2	0	5	11.4	428	113.5	5	315	14.6	5
	12	2	2	0	4	9.1	482	37.5	4	318	3.9	4
	13	3	7	0	10	22.7	491	61.9	10	322	11.4	10
	14											
	15											
	16											
	17											
Sample Total		22	22	0	44	100.0	393	91.4	44	302	19.7	44
	4	1	1	0	2	1.9	172	22.6	2	241	12.0	2
	5											
	6	1	1	0	2	1.9	230	33.9	2	261	2.8	2
	7	18	6	0	24	23.1	266	29.3	24	271	7.4	24
	8	18	11	0	29	27.9	329	51.6	29	287	9.4	29
	9	1	3	0	4	3.8	384	39.7	4	300	12.8	4
15 May	10	11	2	0	13	12.5	416	58.7	13	305	13.1	13
	11	3	3	0	6	5.8	470	50.7	6	316	10.1	6
	12	7	2	0	9	8.7	447	40.5	9	313	8.1	9
	13	10	1	0	11	10.6	465	75.3	11	322	9.7	11
	14	2	2	0	4	3.8	485	44.4	4	326	7.0	4
	15											
	16											
	17											
Sample Total		72	32	0	104	100.0	361	95.7	104	294	22.1	104
	4	8	7	0	15	13.5	157	19.5	15	233	8.7	15
	5	2	2	0	4	3.6	185	34.2	4	240	12.5	4
	6	1	0	0	1	0.9	228		1	255		1
	7	13	13	0	26	23.4	292	35.7	26	275	7.8	26
	8	12	10	0	22	19.8	332	43.6	22	285	7.2	22
	9	3	2	0	5	4.5	392	41.1	5	301	11.1	5
17 May	10	9	2	0	11	9.9	385	49.9	11	298	10.9	11
	11	4	2	0	6	5.4	435	67.6	6	315	13.2	6
	12	6	5	0	11	9.9	439	100.1	11	311	21.5	11
	13	2	4	0	6	5.4	503	95.4	6	322	20.0	6
	14	3	1	0	4	3.6	473	104.7	4	321	15.7	4
	15											
	16											
	17											
Sample Total		63	48	0	111	100.0	331	112.9	111	283	29.4	111

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Appendix C.17. (p. 3 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
18 May	4	2	1	0	3	2.5	158	21.1	3	235	6.9	3
	5	0	1	0	1	0.8	156		1	238		1
	6	5	1	0	6	5.0	240	22.0	6	264	11.4	6
	7	21	7	0	28	23.3	293	38.4	28	278	8.7	28
	8	11	12	0	23	19.2	330	49.6	23	287	12.0	23
	9	2	3	0	5	4.2	421	75.9	5	303	6.3	5
	10	13	3	0	16	13.3	401	40.0	16	308	10.0	16
	11	3	1	0	4	3.3	424	46.5	4	313	4.0	4
	12	3	6	0	9	7.5	459	52.9	9	316	11.2	9
	13	4	11	0	15	12.5	462	60.2	15	320	10.3	15
	14	2	3	0	5	4.2	458	41.6	5	326	12.8	5
	15	2	1	0	3	2.5	499	19.7	3	325	6.6	3
	16	0	1	0	1	0.8	614		1	329		1
	17	0	1	0	1	0.8	448		1	331		1
Sample Total		68	52	0	120	100.0	366	96.5	120	296	24.0	120
19 May	4	5	7	0	12	17.9	147	35.4	12	230	16.6	12
	5											
	6	2	1	0	3	4.5	249	54.9	3	264	14.6	3
	7	12	7	0	19	28.4	281	36.2	19	277	9.0	19
	8	4	5	0	9	13.4	338	26.6	9	285	6.7	9
	9	0	2	0	2	3.0	331	26.9	2	285	7.8	2
	10	5	4	0	9	13.4	387	67.6	9	299	14.0	9
	11	0	1	0	1	1.5	428		1	313		1
	12	2	4	0	6	9.0	476	61.5	6	303	42.6	6
	13	3	1	0	4	6.0	485	61.9	4	320	10.0	4
	14	1	1	0	2	3.0	505	1.4	2	332	7.1	2
	15											
	16											
	17											
Sample Total		34	33	0	67	100.0	317	116.5	67	279	31.9	67
20 May	4	1	2	0	3	3.9	168	13.1	3	238	9.0	3
	5	2	2	0	4	5.2	170	43.0	4	240	14.0	4
	6	0	2	0	2	2.6	205	7.1	2	254	0.0	2
	7	8	8	0	16	20.8	282	35.4	16	277	7.9	16
	8	13	9	0	22	28.6	319	38.6	22	286	7.9	22
	9	4	2	0	6	7.8	383	80.2	6	296	12.7	6
	10	4	2	0	6	7.8	352	46.1	6	297	9.5	6
	11	2	1	0	3	3.9	453	32.7	3	315	3.6	3
	12	5	3	0	8	10.4	449	64.0	8	315	8.8	8
	13	2	4	0	6	7.8	483	39.8	6	319	4.6	6
	14	1	0	0	1	1.3	390		1	312		1
	15											
	16											
	17											
Sample Total		42	35	0	77	100.0	335	96.8	77	288	23.3	77

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Appendix C.17. (p. 4 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	33	29	0	62	50.8	149	21.7	62	231	8.2	62
	5	7	1	0	8	6.6	182	28.2	8	243	13.4	8
	6	0	2	0	2	1.6	171	63.6	2	237	24.0	2
	7	16	9	0	25	20.5	279	41.6	25	272	10.5	25
	8	11	3	0	14	11.5	311	41.9	14	282	11.6	14
	9	5	1	0	6	4.9	343	49.5	6	285	9.3	6
21 May	10	2	0	0	2	1.6	286	48.1	2	287	6.4	2
	11											
	12	1	0	0	1	0.8	448		1	319		1
	13	0	1	0	1	0.8	586		1	331		1
	14	1	0	0	1	0.8	482		1	329		1
	15											
	16											
	17											
Sample Total		76	46	0	122	100.0	217	90.9	122	252	26.8	122
	4	51	53	0	104	14.1	153	23.9	104	232	9.5	104
	5	12	7	0	19	2.6	189	45.1	19	244	14.7	19
	6	11	8	0	19	2.6	233	41.4	19	260	14.2	19
	7	94	59	0	153	20.8	286	38.0	153	275	9.4	153
	8	77	61	0	138	18.8	331	49.4	138	286	9.8	138
	9	18	15	0	33	4.5	379	59.7	33	296	11.8	33
6-21 May	10	52	19	0	71	9.7	394	59.4	71	302	11.8	71
	11	19	13	0	32	4.4	445	63.0	32	314	9.2	32
	12	34	30	0	64	8.7	462	64.7	64	312	16.8	64
	13	33	40	0	73	9.9	482	65.6	73	319	11.7	73
	14	12	11	0	23	3.1	486	66.1	23	322	11.9	23
	15	3	1	0	4	0.5	505	19.7	4	324	5.6	4
	16	0	1	0	1	0.1	614		1	329		1
	17	0	1	0	1	0.1	448		1	331		1
All Samples Combined		416	319	0	735	100.0	336	118.4	735	285	30.2	735
Sex Composition		56.6	43.4									
Unaged		46	27	1	74	10.1	317	121.7	74	279	31.1	74
Sex Composition		63.0	37.0									

Appendix C.18. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Kulukak, Nunavachak, Togiak and Hagemeister sections combined, 6 May-9 June 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
6 May	3											
	4	0	4	0	4	6.7	170	34.0	4	229	10.0	4
	5	1	1	0	2	3.3	282	39.6	2	270	10.6	2
	6											
	7	3	4	0	7	11.7	323	32.0	7	275	12.9	7
	8	5	4	0	9	15.0	377	74.9	9	291	14.6	9
	9	1	2	0	3	5.0	401	62.7	3	301	11.7	3
	10	3	1	0	4	6.7	451	50.2	4	304	7.8	4
	11	4	2	0	6	10.0	454	60.8	6	309	4.9	6
	12	4	6	0	10	16.7	499	62.4	10	314	8.6	10
	13	7	5	0	12	20.0	487	63.6	12	314	11.2	12
	14	0	3	0	3	5.0	537	79.2	3	309	9.8	3
	15											
	16											
	17											
Sample Total		28	32	0	60	100.0	418	110.5	60	297	25.3	60
7 May	3											
	4	3	1	0	4	12.9	198	32.8	4	232	14.2	4
	5											
	6	0	1	0	1	3.2	220		1	257		1
	7											
	8	0	4	0	4	12.9	376	83.9	4	289	16.0	4
	9	1	0	0	1	3.2	352		1	280		1
	10	0	3	0	3	9.7	449	94.5	3	303	17.2	3
	11	0	1	0	1	3.2	456		1	314		1
	12	3	2	0	5	16.1	456	61.9	5	307	6.8	5
	13	2	6	0	8	25.8	493	69.5	8	312	14.1	8
	14	2	1	0	3	9.7	522	76.2	3	317	11.9	3
	15	1	0	0	1	3.2	522		1	322		1
	16											
	17											
Sample Total		12	19	0	31	100.0	419	122.0	31	295	30.1	31
9 May	3											
	4	1	5	0	6	5.0	179	28.6	6	230	3.0	6
	5	1	0	0	1	0.8	198		1	233		1
	6											
	7	6	5	0	11	9.2	302	34.3	11	274	9.5	11
	8	15	12	0	27	22.5	352	33.6	27	283	9.6	27
	9	2	3	0	5	4.2	384	26.0	5	293	7.4	5
	10	15	4	0	19	15.8	422	36.3	19	299	6.6	19
	11	10	5	0	15	12.5	436	39.3	15	304	8.6	15
	12	14	2	0	16	13.3	471	47.7	16	309	8.9	16
	13	7	4	0	11	9.2	474	50.5	11	307	10.4	11
	14	7	1	0	8	6.7	487	61.4	8	314	9.4	8
	15											
	16											
	17	0	1	0	1	0.8	582		1	328		1
Sample Total		78	42	0	120	100.0	398	89.1	120	293	21.6	120

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Appendix C.18. (p. 2 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	2	4	0	6	5.9	180	31.2	6	228	4.3	6
	5											
	6	3	0	0	3	2.9	224	25.0	3	255	8.3	3
	7	12	11	1	24	23.5	299	36.9	24	271	8.5	24
	8	7	16	0	23	22.5	357	35.1	23	287	9.0	23
	9	2	4	0	6	5.9	378	57.2	6	293	11.5	6
11 May	10	4	4	0	8	7.8	401	40.3	8	292	10.7	8
	11	7	4	0	11	10.8	440	61.8	11	305	12.8	11
	12	5	6	0	11	10.8	446	34.6	11	299	14.0	11
	13	1	4	0	5	4.9	526	40.0	5	313	11.7	5
	14	1	3	0	4	3.9	545	44.3	4	319	5.7	4
	15	1	0	0	1	1.0	462		1	307		1
	16											
	17											
Sample Total		45	56	1	102	100.0	369	96.4	102	286	22.8	102
	3											
	4											
	5											
	6											
	7											
	8	1	1	0	2	100.0	339	9.9	2	291	2.1	2
	9											
14 May	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		1	1	0	2	100.0	339	9.9	2	291	2.1	2
	3											
	4	5	2	0	7	7.1	152	13.6	7	222	5.9	7
	5	1	1	0	2	2.0	175	1.4	2	230	4.2	2
	6	1	1	0	2	2.0	256	8.5	2	259	0.7	2
	7	17	10	0	27	27.3	298	42.1	27	270	11.0	27
	8	13	12	0	25	25.3	337	25.9	25	281	8.4	25
	9	2	3	0	5	5.1	384	52.4	5	291	12.0	5
13 May	10	3	4	0	7	7.1	392	39.1	7	289	9.7	7
	11	3	1	0	4	4.0	441	56.9	4	299	8.3	4
	12	5	4	0	9	9.1	459	56.5	9	304	14.2	9
	13	8	1	0	9	9.1	456	53.0	9	307	12.5	9
	14	0	1	0	1	1.0	572		1	324		1
	15	1	0	0	1	1.0	510		1	318		1
	16											
	17											
Sample Total		59	40	0	99	100.0	345	96.0	99	280	24.5	99

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Appendix C.18. (p. 3 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
14 May	3											
	4	14	6	0	20	9.5	156	34.9	20	226	6.5	20
	5	6	4	0	10	4.7	180	16.9	10	235	8.1	10
	6	5	2	0	7	3.3	258	59.2	7	262	14.1	7
	7	22	22	0	44	20.9	289	32.7	44	271	11.1	44
	8	23	17	0	40	19.0	324	37.5	40	281	7.7	40
	9	2	3	0	5	2.4	339	73.2	5	289	6.7	5
	10	11	16	0	27	12.8	391	55.2	27	296	11.5	27
	11	7	5	0	12	5.7	419	91.8	12	306	14.6	12
	12	9	5	0	14	6.6	460	60.5	14	310	10.4	14
	13	11	14	0	25	11.8	470	54.9	25	316	10.2	25
	14	3	2	0	5	2.4	463	72.5	5	319	11.0	5
	15	0	1	0	1	0.5	598		1	322		1
	16	1	0	0	1	0.5	538		1	315		1
	17											
Sample Total		114	97	0	211	100.0	338	109.8	211	282	29.0	211
15 May	3											
	4	19	16	0	35	8.9	150	17.3	35	228	8.8	35
	5	2	2	0	4	1.0	169	22.6	4	240	6.1	4
	6	4	2	0	6	1.5	244	40.6	6	261	10.7	6
	7	55	45	0	100	25.4	290	33.8	100	273	8.0	100
	8	47	45	0	92	23.4	331	45.8	92	284	10.1	92
	9	15	9	0	24	6.1	360	49.8	24	292	10.9	24
	10	28	16	0	44	11.2	405	54.8	44	302	10.6	44
	11	12	8	0	20	5.1	440	48.8	20	311	9.3	20
	12	21	7	0	28	7.1	441	52.4	28	312	12.7	28
	13	14	10	0	24	6.1	460	70.8	24	318	9.9	24
	14	6	7	0	13	3.3	465	40.9	13	319	6.8	13
	15	2	1	0	3	0.8	439	34.0	3	318	5.3	3
	16											
	17											
Sample Total		225	168	0	393	100.0	338	97.3	393	285	26.2	393
16 May	3											
	4	35	32	0	67	23.7	149	19.9	67	230	9.1	67
	5	3	2	0	5	1.8	204	20.9	5	255	11.9	5
	6	5	3	0	8	2.8	243	46.3	8	262	13.7	8
	7	31	24	2	57	20.1	274	39.4	55	272	9.6	57
	8	21	26	1	48	17.0	317	40.8	47	285	9.7	48
	9	4	6	0	10	3.5	371	55.2	10	297	6.5	10
	10	10	11	1	22	7.8	372	50.4	21	297	11.0	22
	11	5	2	0	7	2.5	382	41.7	7	304	13.7	7
	12	11	11	1	23	8.1	419	53.9	22	313	12.0	23
	13	10	9	4	23	8.1	441	56.5	19	316	8.9	23
	14	1	11	0	12	4.2	467	46.7	12	323	9.0	12
	15	1	0	0	1	0.4	398		1	311		1
	16											
	17											
Sample Total		137	137	9	283	100.0	294	110.2	274	277	32.0	283

-Continued-

Appendix C.18. (p. 4 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
17 May	3											
	4	8	7	0	15	13.5	157	19.5	15	233	8.7	15
	5	2	2	0	4	3.6	185	34.2	4	240	12.5	4
	6	1	0	0	1	0.9	228		1	255		1
	7	13	13	0	26	23.4	292	35.7	26	275	7.8	26
	8	12	10	0	22	19.8	332	43.6	22	285	7.2	22
	9	3	2	0	5	4.5	392	41.1	5	301	11.1	5
	10	9	2	0	11	9.9	385	49.9	11	298	10.9	11
	11	4	2	0	6	5.4	435	67.6	6	315	13.2	6
	12	6	5	0	11	9.9	439	100.1	11	311	21.5	11
	13	2	4	0	6	5.4	503	95.4	6	322	20.0	6
	14	3	1	0	4	3.6	473	104.7	4	321	15.7	4
	15											
	16											
	17											
Sample Total		63	48	0	111	100.0	331	112.9	111	283	29.4	111
18 May	3	0	1	0	1	0.3	172		1	230		1
	4	46	39	0	85	23.5	146	23.2	85	227	9.7	85
	5	2	4	0	6	1.7	167	42.9	6	236	11.6	6
	6	5	4	0	9	2.5	242	25.7	9	263	9.8	9
	7	42	24	0	66	18.3	280	36.4	66	273	9.7	66
	8	30	35	0	65	18.0	318	44.9	65	283	10.2	65
	9	4	7	0	11	3.0	387	66.7	11	298	8.8	11
	10	19	11	0	30	8.3	379	47.2	30	302	11.7	30
	11	7	5	0	12	3.3	397	43.2	12	305	11.4	12
	12	8	15	0	23	6.4	446	61.7	23	315	10.8	23
	13	14	17	0	31	8.6	451	48.2	31	317	8.8	31
	14	7	9	0	16	4.4	446	51.8	16	320	11.4	16
	15	2	1	0	3	0.8	499	19.7	3	325	6.6	3
	16	0	2	0	2	0.6	531	117.4	2	332	4.2	2
	17	0	1	0	1	0.3	448		1	331		1
Sample Total		186	175	0	361	100.0	304	117.6	361	277	34.3	361
19 May	3	1	0	0	1	0.5	96		1	205		1
	4	34	50	0	84	44.4	141	21.5	84	225	10.1	84
	5	1	2	0	3	1.6	207	49.1	3	251	19.4	3
	6	5	3	0	8	4.2	219	50.0	8	255	17.0	8
	7	19	15	0	34	18.0	283	37.9	34	274	9.9	34
	8	8	9	0	17	9.0	322	31.1	17	283	9.1	17
	9	1	2	0	3	1.6	337	21.9	3	287	7.0	3
	10	8	7	0	15	7.9	394	57.5	15	300	11.4	15
	11	2	2	0	4	2.1	363	65.1	4	300	12.0	4
	12	3	5	0	8	4.2	457	69.5	8	304	36.1	8
	13	4	3	0	7	3.7	466	71.9	7	317	14.7	7
	14	2	2	0	4	2.1	476	61.0	4	325	9.6	4
	15											
	16	1	0	0	1	0.5	482		1	313		1
	17											
Sample Total		89	100	0	189	100.0	249	120.4	189	258	35.8	189

-Continued-

Appendix C.18. (p. 5 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
20 May	3	0	1	0	1	0.3	130		1	215		1
	4	54	65	0	119	36.7	142	18.0	119	223	8.5	119
	5	6	8	0	14	4.3	152	26.6	14	230	11.0	14
	6	3	5	0	8	2.5	218	20.0	8	256	7.5	8
	7	32	36	0	68	21.0	282	30.3	68	271	8.4	68
	8	29	24	0	53	16.4	315	35.4	53	284	8.2	53
	9	8	4	0	12	3.7	369	59.3	12	292	11.0	12
	10	9	7	0	16	4.9	364	45.2	16	297	8.3	16
	11	2	2	0	4	1.2	432	49.3	4	312	6.7	4
	12	6	7	0	13	4.0	429	62.5	13	310	10.7	13
	13	6	6	0	12	3.7	420	110.3	12	311	12.2	12
	14	3	0	0	3	0.9	392	19.1	3	308	10.2	3
	15	0	1	0	1	0.3	542		1	318		1
	16											
	17											
Sample Total		158	166	0	324	100.0	250	106.9	324	259	33.2	324
21 May	3											
	4	55	58	0	113	36.9	147	20.5	113	228	9.4	113
	5	9	2	0	11	3.6	181	32.2	11	241	13.0	11
	6	0	2	0	2	0.7	171	63.6	2	237	24.0	2
	7	30	26	0	56	18.3	275	36.7	56	270	9.7	56
	8	23	22	0	45	14.7	323	41.0	45	284	9.8	45
	9	8	3	0	11	3.6	346	43.4	11	285	8.6	11
	10	11	5	0	16	5.2	364	59.0	16	300	13.5	16
	11	2	1	0	3	1.0	392	9.5	3	310	1.7	3
	12	11	2	0	13	4.2	420	34.5	13	310	5.9	13
	13	8	11	0	19	6.2	432	53.4	19	312	11.0	19
	14	7	9	0	16	5.2	437	50.1	16	318	11.3	16
	15	0	1	0	1	0.3	403		1	305		1
	16											
	17											
Sample Total		164	142	0	306	100.0	264	112.0	306	265	34.3	306
29 May	3	1	3	0	4	3.7	124	31.9	4	209	8.8	4
	4	32	32	0	64	58.7	134	14.9	64	225	8.2	64
	5	3	1	0	4	3.7	130	22.8	4	227	12.9	4
	6	0	1	0	1	0.9	248		1	266		1
	7	2	8	0	10	9.2	253	39.4	10	269	10.4	10
	8	5	5	0	10	9.2	283	57.7	10	275	10.7	10
	9	2	0	0	2	1.8	344	2.8	2	302	0.0	2
	10	3	3	0	6	5.5	373	80.0	6	304	22.0	6
	11	0	1	0	1	0.9	335		1	290		1
	12	2	2	0	4	3.7	402	88.5	4	312	7.4	4
	13	1	1	0	2	1.8	432	99.7	2	317	7.8	2
	14	1	0	0	1	0.9	428		1	322		1
	15											
	16											
	17											
Sample Total		52	57	0	109	100.0	196	101.4	109	245	33.5	109

-Continued-

Appendix C.18. (p. 6 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	13	15	0	28	57.1	138	14.9	28	227	7.0	28
	5	2	1	0	3	6.1	176	44.2	3	241	18.3	3
	6	1	0	0	1	2.0	220		1	266		1
	7	2	2	0	4	8.2	242	20.2	4	272	3.9	4
	8	1	3	0	4	8.2	284	69.8	4	287	21.0	4
	9											
30 May	10	4	0	0	4	8.2	333	34.9	4	298	8.5	4
	11											
	12	2	0	0	2	4.1	407	3.5	2	308	5.7	2
	13	3	0	0	3	6.1	433	32.7	3	314	6.0	3
	14											
	15											
	16											
	17											
Sample Total		28	21	0	49	100.0	208	101.1	49	252	33.5	49
	3											
	4	25	20	0	45	66.2	136	13.3	45	227	6.1	45
	5	3	4	0	7	10.3	142	19.3	7	231	10.7	7
	6	0	1	0	1	1.5	149		1	238		1
	7	5	1	0	6	8.8	233	22.5	6	264	7.4	6
	8	2	1	0	3	4.4	266	35.1	3	280	15.5	3
	9											
31 May	10											
	11	0	1	0	1	1.5	447		1	335		1
	12	1	0	0	1	1.5	364		1	311		1
	13	2	2	0	4	5.9	358	45.6	4	306	17.0	4
	14											
	15											
	16											
	17											
Sample Total		38	30	0	68	100.0	172	75.9	68	241	27.7	68
	3	1	2	0	3	3.4	119	23.1	3	215	14.8	3
	4	24	25	0	49	55.1	142	29.9	49	228	10.0	49
	5	2	2	0	4	4.5	148	21.7	4	234	10.6	4
	6											
	7	5	2	0	7	7.9	263	27.1	7	274	5.8	7
	8	4	3	0	7	7.9	293	30.5	7	278	6.8	7
	9	1	0	0	1	1.1	281		1	288		1
2 June	10	3	1	0	4	4.5	357	53.5	4	301	10.9	4
	11	1	1	0	2	2.2	385	41.7	2	300	9.9	2
	12	1	1	0	2	2.2	428	19.8	2	313	7.1	2
	13	3	4	0	7	7.9	418	48.5	7	316	9.9	7
	14	1	2	0	3	3.4	401	71.6	3	314	17.2	3
	15											
	16											
	17											
Sample Total		46	43	0	89	100.0	217	110.8	89	252	35.8	89

-Continued-

Appendix C.18. (p. 7 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
4 June	3	0	1	0	1	14.3	117		1	206		1
	4	2	3	0	5	71.4	152	12.9	5	227	8.8	5
	5											
	6											
	7											
	8	0	1	0	1	14.3	376		1	297		1
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		2	5	0	7	100.0	179	88.5	7	234	29.8	7
5 June	3	0	3	0	3	4.3	113	4.0	3	209	3.5	3
	4	22	20	0	42	60.9	133	13.6	42	223	7.6	42
	5	3	2	0	5	7.2	166	27.9	5	237	10.9	5
	6	1	0	0	1	1.4	172		1	237		1
	7	2	1	0	3	4.3	226	47.1	3	259	10.3	3
	8	3	1	0	4	5.8	262	70.2	4	276	7.4	4
	9	0	1	0	1	1.4	256		1	282		1
	10											
	11	0	1	0	1	1.4	329		1	290		1
	12	3	0	0	3	4.3	388	33.0	3	307	8.9	3
	13	3	1	0	4	5.8	382	42.5	4	305	13.0	4
	14	1	1	0	2	2.9	393	6.4	2	301	3.5	2
	15											
	16											
	17											
Sample Total		38	31	0	69	100.0	184	92.9	69	240	31.5	69
6 June	3	0	1	0	1	2.1	135		1	218		1
	4	11	11	0	22	46.8	133	16.0	22	222	7.6	22
	5											
	6	0	1	0	1	2.1	251		1	268		1
	7	5	7	0	12	25.5	248	18.2	12	271	6.4	12
	8	1	3	0	4	8.5	282	14.6	4	280	8.5	4
	9											
	10	0	4	0	4	8.5	349	49.8	4	298	10.6	4
	11	0	1	0	1	2.1	380		1	304		1
	12											
	13	1	0	0	1	2.1	336		1	303		1
	14	0	1	0	1	2.1	415		1	322		1
	15											
	16											
	17											
Sample Total		18	29	0	47	100.0	212	88.0	47	252	32.7	47

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Appendix C.18. (p. 8 of 8)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	22	12	0	34	43.0	140	16.0	34	226	9.4	34
	5	3	2	0	5	6.3	168	38.1	4	246	19.9	5
	6											
	7	9	11	0	20	25.3	238	43.2	16	269	10.4	20
	8	2	8	0	10	12.7	240	10.0	6	273	4.6	10
	9	1	2	0	3	3.8	330	54.5	3	298	14.1	3
7 June	10	1	0	0	1	1.3	311		1	296		1
	11	0	2	0	2	2.5	384	10.6	2	308	7.8	2
	12											
	13	1	0	0	1	1.3	378		1	304		1
	14	2	0	0	2	2.5	406	7.8	2	316	2.8	2
	15	0	1	0	1	1.3	325		1	290		1
	16											
	17											
Sample Total		41	38	0	79	100.0	204	82.4	70	254	29.3	79
	3											
	4	20	9	0	29	85.3	136	12.9	29	225	6.4	29
	5	1	2	0	3	8.8	134	14.1	3	226	7.1	3
	6											
	7											
	8											
	9											
9 June	10	1	0	0	1	2.9	335		1	298		1
	11											
	12											
	13											
	14	0	1	0	1	2.9	358		1	306		1
	15											
	16											
	17											
Sample Total		22	12	0	34	100.0	148	51.9	34	230	19.4	34
	3	3	12	0	15	0.5	123	23.7	15	212	9.5	15
	4	447	436	0	883	28.1	143	21.5	883	226	9.0	883
	5	51	42	0	93	3.0	170	36.7	92	238	13.9	93
	6	34	26	0	60	1.9	232	42.4	60	258	12.7	60
	7	312	267	3	582	18.5	281	38.0	576	272	9.3	582
	8	252	262	1	515	16.4	325	45.7	510	283	9.8	515
	9	57	51	0	108	3.4	365	53.9	108	293	10.3	108
6 May- 9 June	10	142	99	1	242	7.7	388	54.8	241	299	11.2	242
	11	66	47	0	113	3.6	421	58.7	113	307	11.3	113
	12	115	80	1	196	6.2	443	60.5	195	310	13.6	196
	13	108	102	4	214	6.8	453	67.1	210	314	11.3	214
	14	47	55	0	102	3.2	459	62.8	102	318	10.4	102
	15	8	6	0	14	0.4	470	70.8	14	316	10.3	14
	16	2	2	0	4	0.1	521	72.5	4	323	10.7	4
	17	0	2	0	2	0.1	515	94.8	2	330	2.1	2
All Samples Combined		1644	1489	10	3143	100.0	289	121.8	3125	270	34.3	3143
Sex Composition		52.5	47.5									
Unaged		216	192	2	410	13.0	305	117.6	408	274	32.5	410
Sex Composition		52.9	47.1									

Appendix D

Appendix D.1. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Kulukak Section, 10-12 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6												
	7	6	8	0	14	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	8	12	15	0	27	0.0	16.7	83.3	0.0	0.0	20.0	80.0	0.0
	9	3	2	0	5	33.3	0.0	66.7	0.0	0.0	100.0	0.0	0.0
	10	15	17	0	32	0.0	13.3	86.7	0.0	0.0	11.8	88.2	0.0
10 May	11	4	6	0	10	0.0	25.0	75.0	0.0	0.0	16.7	83.3	0.0
	12	6	6	0	12	0.0	33.3	50.0	16.7	0.0	0.0	100.0	0.0
	13	13	25	0	38	0.0	38.5	61.5	0.0	0.0	12.0	84.0	4.0
	14	4	9	0	13	0.0	25.0	75.0	0.0	0.0	11.1	77.8	11.1
	15												
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		65	90	0	155	1.5	24.6	72.3	1.5	0.0	13.3	84.4	2.2
	4	19	4	0	23	0.0	0.0	94.7	5.3	0.0	0.0	100.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	37	31	0	68	0.0	0.0	91.9	8.1	0.0	0.0	96.8	3.2
	8	29	30	0	59	0.0	0.0	93.1	6.9	0.0	3.3	96.7	0.0
	9	3	6	0	9	0.0	33.3	33.3	33.3	0.0	0.0	100.0	0.0
	10	25	26	0	51	0.0	0.0	96.0	4.0	0.0	7.7	92.3	0.0
12 May	11	7	9	0	16	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	18	13	0	31	0.0	5.6	94.4	0.0	0.0	0.0	100.0	0.0
	13	19	37	0	56	0.0	0.0	89.5	10.5	0.0	2.7	97.3	0.0
	14	10	8	0	18	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		171	170	0	341	0.0	1.2	93.0	5.8	0.0	2.4	97.1	0.6
	4	19	4	0	23	0.0	0.0	94.7	5.3	0.0	0.0	100.0	0.0
	5	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	43	39	0	82	0.0	4.7	88.4	7.0	0.0	0.0	97.4	2.6
	8	41	45	0	86	0.0	4.9	90.2	4.9	0.0	8.9	91.1	0.0
	9	6	8	0	14	16.7	16.7	50.0	16.7	0.0	25.0	75.0	0.0
	10	40	43	0	83	0.0	5.0	92.5	2.5	0.0	9.3	90.7	0.0
10-12 May	11	11	15	0	26	0.0	9.1	90.9	0.0	0.0	6.7	93.3	0.0
	12	24	19	0	43	0.0	12.5	83.3	4.2	0.0	0.0	100.0	0.0
	13	32	62	0	94	0.0	15.6	78.1	6.3	0.0	6.5	91.9	1.6
	14	14	17	0	31	0.0	7.1	92.9	0.0	0.0	5.9	88.2	5.9
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18	1	0	0	1	0.0	100.0	0.0	0.0				
All Samples		236	260	0	496	0.4	7.6	87.3	4.7	0.0	6.2	92.7	1.2

Appendix D.2. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Nunavachak Section, 10-12 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
10 May	4	0	2	0	2					0.0	50.0	50.0	0.0
	5	2	0	0	2	0.0	0.0	100.0	0.0				
	6	3	1	0	4	0.0	66.7	33.3	0.0	0.0	0.0	0.0	100.0
	7	16	23	0	39	0.0	12.5	75.0	12.5	0.0	39.1	60.9	0.0
	8	17	36	0	53	0.0	0.0	94.1	5.9	0.0	25.0	75.0	0.0
	9	4	9	0	13	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	10	16	26	0	42	0.0	12.5	81.3	6.3	0.0	19.2	80.8	0.0
	11	8	6	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	13	23	0	36	0.0	7.7	84.6	7.7	0.0	21.7	73.9	4.3
	13	21	37	0	58	0.0	19.0	81.0	0.0	0.0	10.8	83.8	5.4
	14	7	6	0	13	0.0	14.3	71.4	14.3	0.0	16.7	83.3	0.0
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		108	171	0	279	0.0	11.1	83.3	5.6	0.0	21.6	76.0	2.3
12 May	4	1	2	2	5	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	3	5	0	8	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	8	14	14	2	30	0.0	0.0	92.9	7.1	0.0	7.1	85.7	7.1
	9	1	6	1	8	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
	10	9	10	0	19	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	11	2	6	1	9	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
	12	10	7	2	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	4	11	1	16	0.0	0.0	75.0	25.0	0.0	0.0	90.9	9.1
	14	8	6	0	14	0.0	0.0	87.5	12.5	0.0	0.0	66.7	33.3
	15	1	2	1	4	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	16												
Sample Total		54	71	10	135	0.0	1.9	87.0	11.1	0.0	4.2	85.9	9.9
10-12 May	4	1	4	2	7	0.0	0.0	0.0	100.0	0.0	75.0	25.0	0.0
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	3	2	0	5	0.0	66.7	33.3	0.0	0.0	0.0	50.0	50.0
	7	19	28	0	47	0.0	10.5	73.7	15.8	0.0	32.1	67.9	0.0
	8	31	50	2	83	0.0	0.0	93.5	6.5	0.0	20.0	78.0	2.0
	9	5	15	1	21	0.0	0.0	100.0	0.0	0.0	20.0	73.3	6.7
	10	25	36	0	61	0.0	12.0	84.0	4.0	0.0	13.9	86.1	0.0
	11	10	12	1	23	0.0	0.0	100.0	0.0	0.0	0.0	91.7	8.3
	12	23	30	2	55	0.0	4.3	91.3	4.3	0.0	16.7	80.0	3.3
	13	25	48	1	74	0.0	16.0	80.0	4.0	0.0	8.3	85.4	6.3
	14	15	12	0	27	0.0	6.7	80.0	13.3	0.0	8.3	75.0	16.7
	15	2	3	1	6	0.0	0.0	50.0	50.0	0.0	0.0	66.7	33.3
	16	0	1	0	1					0.0	0.0	100.0	0.0
All Samples		162	242	10	414	0.0	8.0	84.6	7.4	0.0	16.5	78.9	4.5

Appendix D.3. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Togiak Section, 10-12 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	7	16	25	0	41	0.0	31.3	68.8	0.0	0.0	24.0	76.0	0.0
	8	22	36	0	58	0.0	22.7	77.3	0.0	0.0	30.6	69.4	0.0
	9	3	6	0	9	0.0	33.3	66.7	0.0	0.0	16.7	83.3	0.0
10 May	10	24	38	0	62	0.0	12.5	87.5	0.0	0.0	34.2	65.8	0.0
	11	15	10	0	25	0.0	20.0	80.0	0.0	0.0	30.0	70.0	0.0
	12	21	25	0	46	0.0	14.3	85.7	0.0	0.0	40.0	56.0	4.0
	13	30	34	0	64	0.0	23.3	76.7	0.0	0.0	38.2	61.8	0.0
	14	6	9	0	15	0.0	16.7	83.3	0.0	0.0	44.4	55.6	0.0
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		142	185	0	327	0.0	20.4	79.6	0.0	0.0	33.0	66.5	0.5
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	24	28	0	52	0.0	50.0	33.3	16.7	0.0	89.3	10.7	0.0
	5	6	6	0	12	0.0	66.7	33.3	0.0	0.0	66.7	33.3	0.0
	6	4	5	0	9	0.0	25.0	25.0	50.0	0.0	80.0	20.0	0.0
	7	24	38	0	62	0.0	8.3	66.7	25.0	0.0	26.3	60.5	13.2
	8	22	30	0	52	0.0	9.1	81.8	9.1	0.0	33.3	50.0	16.7
	9	4	5	0	9	0.0	0.0	75.0	25.0	0.0	20.0	80.0	0.0
12 May	10	17	19	0	36	0.0	11.8	76.5	11.8	0.0	21.1	63.2	15.8
	11	3	17	0	20	0.0	0.0	33.3	66.7	0.0	11.8	35.3	52.9
	12	10	15	0	25	0.0	30.0	30.0	40.0	0.0	20.0	46.7	33.3
	13	15	28	0	43	0.0	0.0	53.3	46.7	0.0	7.1	67.9	25.0
	14	3	15	0	18	0.0	33.3	33.3	33.3	0.0	0.0	40.0	60.0
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16	2	0	0	2	0.0	0.0	50.0	50.0				
	17												
	18	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
Sample Total		135	209	0	344	0.0	20.0	55.6	24.4	0.0	31.6	46.9	21.5
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	25	28	0	53	0.0	48.0	36.0	16.0	0.0	89.3	10.7	0.0
	5	6	6	0	12	0.0	66.7	33.3	0.0	0.0	66.7	33.3	0.0
	6	6	6	0	12	0.0	33.3	33.3	33.3	0.0	66.7	33.3	0.0
	7	40	63	0	103	0.0	17.5	67.5	15.0	0.0	25.4	66.7	7.9
	8	44	66	0	110	0.0	15.9	79.5	4.5	0.0	31.8	60.6	7.6
	9	7	11	0	18	0.0	14.3	71.4	14.3	0.0	18.2	81.8	0.0
10-12 May	10	41	57	0	98	0.0	12.2	82.9	4.9	0.0	29.8	64.9	5.3
	11	18	27	0	45	0.0	16.7	72.2	11.1	0.0	18.5	48.1	33.3
	12	31	40	0	71	0.0	19.4	67.7	12.9	0.0	32.5	52.5	15.0
	13	45	62	0	107	0.0	15.6	68.9	15.6	0.0	24.2	64.5	11.3
	14	9	24	0	33	0.0	22.2	66.7	11.1	0.0	16.7	45.8	37.5
	15	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	16	2	0	0	2	0.0	0.0	50.0	50.0				
	17												
	18	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
All Samples		277	394	0	671	0.0	20.2	67.9	11.9	0.0	32.2	56.1	11.7

Appendix D.4. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Hagemeister Section, 10-12 May 1991.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
10 May	3											
	4											
	5	1	0	0	1	0.3	226		1	253		1
	6											
	7	19	29	0	48	13.5	326	31.7	48	279	12.6	48
	8	33	39	0	72	20.2	368	38.8	72	287	8.6	72
	9	7	8	0	15	4.2	405	67.3	15	298	12.2	15
	10	24	44	0	68	19.1	447	40.2	68	304	8.8	68
	11	12	19	0	31	8.7	491	64.1	31	312	12.3	31
	12	28	32	1	61	17.1	507	53.0	61	315	16.4	61
	13	13	21	0	34	9.6	535	67.5	34	320	11.6	34
	14	6	18	0	24	6.7	536	50.5	24	322	9.1	24
	15	2	0	0	2	0.6	519	4.2	2	323	1.4	2
	16											
Sample Total		145	210	1	356	100.0	441	88.6	356	302	18.9	356
12 May	3											
	4	2	0	0	2	0.6	160	39.6	2	234	19.1	2
	5											
	6	2	1	0	3	0.8	241	21.2	3	266	5.0	3
	7	14	14	0	28	7.8	319	45.4	28	280	9.1	28
	8	16	30	0	46	12.8	368	45.7	46	290	9.7	46
	9	7	10	0	17	4.7	428	46.3	17	300	10.2	17
	10	30	45	0	75	20.9	444	56.6	75	307	10.1	75
	11	10	17	0	27	7.5	473	49.8	27	310	10.0	27
	12	27	32	0	59	16.4	500	49.2	59	316	9.5	59
	13	32	39	0	71	19.8	515	71.3	71	318	11.1	71
	14	11	13	0	24	6.7	509	83.6	24	317	14.8	24
	15	3	0	0	3	0.8	544	123.0	3	323	3.8	3
	16	1	3	0	4	1.1	606	27.2	4	328	7.4	4
Sample Total		155	204	0	359	100.0	453	90.6	359	306	17.4	359
10-12 May	3											
	4	2	0	0	2	0.3	160	39.6	2	234	19.1	2
	5	1	0	0	1	0.1	226		1	253		1
	6	2	1	0	3	0.4	241	21.2	3	266	5.0	3
	7	33	43	0	76	10.6	323	37.2	76	279	11.3	76
	8	49	69	0	118	16.5	368	41.4	118	288	9.1	118
	9	14	18	0	32	4.5	418	57.3	32	299	11.0	32
	10	54	89	0	143	20.0	446	49.4	143	306	9.5	143
	11	22	36	0	58	8.1	482	58.1	58	311	11.3	58
	12	55	64	1	120	16.8	504	51.1	120	316	13.4	120
	13	45	60	0	105	14.7	521	70.4	105	319	11.2	105
	14	17	31	0	48	6.7	522	69.7	48	319	12.4	48
	15	5	0	0	5	0.7	534	88.1	5	323	2.8	5
	16	1	3	0	4	0.6	606	27.2	4	328	7.4	4
All Samples Combined		300	414	1	715	100.0	447	89.7	715	304	18.3	715
Sex Composition		42.0	58.0									
Unaged		39	52	0	91	12.7	436	84.3	91	304	15.9	91
Sex Composition		42.9	57.1									

Appendix D.5. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Pyrite Point Section, 12 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6												
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	5	3	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	4	0	0	4	0.0	25.0	50.0	25.0				
	10	2	4	0	6	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
12 May	11	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	2	13	0	15	0.0	0.0	100.0	0.0	0.0	15.4	84.6	0.0
	13	4	3	0	7	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		23	30	0	53	0.0	9.1	86.4	4.5	0.0	10.0	90.0	0.0

Appendix D.6. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Kulukak, Nunavachak, Togiak, Hagemeister and Pyrite Point Sections, 10-12 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6												
	7	6	8	0	14	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	8	12	15	0	27	0.0	16.7	83.3	0.0	0.0	20.0	80.0	0.0
	9	3	2	0	5	33.3	0.0	66.7	0.0	0.0	100.0	0.0	0.0
10 May	10	15	17	0	32	0.0	13.3	86.7	0.0	0.0	11.8	88.2	0.0
	11	4	6	0	10	0.0	25.0	75.0	0.0	0.0	16.7	83.3	0.0
	12	6	6	0	12	0.0	33.3	50.0	16.7	0.0	0.0	100.0	0.0
	13	13	25	0	38	0.0	38.5	61.5	0.0	0.0	12.0	84.0	4.0
	14	4	9	0	13	0.0	25.0	75.0	0.0	0.0	11.1	77.8	11.1
	15												
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		65	90	0	155	1.5	24.6	72.3	1.5	0.0	13.3	84.4	2.2
	3												
	4	19	4	0	23	0.0	0.0	94.7	5.3	0.0	0.0	100.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	37	31	0	68	0.0	0.0	91.9	8.1	0.0	0.0	96.8	3.2
	8	29	30	0	59	0.0	0.0	93.1	6.9	0.0	3.3	96.7	0.0
	9	3	6	0	9	0.0	33.3	33.3	33.3	0.0	0.0	100.0	0.0
12 May	10	25	26	0	51	0.0	0.0	96.0	4.0	0.0	7.7	92.3	0.0
	11	7	9	0	16	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	18	13	0	31	0.0	5.6	94.4	0.0	0.0	0.0	100.0	0.0
	13	19	37	0	56	0.0	0.0	89.5	10.5	0.0	2.7	97.3	0.0
	14	10	8	0	18	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		171	170	0	341	0.0	1.2	93.0	5.8	0.0	2.4	97.1	0.6
	3												
	4	0	2	0	2					0.0	50.0	50.0	0.0
	5	2	0	0	2	0.0	0.0	100.0	0.0				
	6	3	1	0	4	0.0	66.7	33.3	0.0	0.0	0.0	0.0	100.0
	7	16	23	0	39	0.0	12.5	75.0	12.5	0.0	39.1	60.9	0.0
	8	17	36	0	53	0.0	0.0	94.1	5.9	0.0	25.0	75.0	0.0
	9	4	9	0	13	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
10 May	10	16	26	0	42	0.0	12.5	81.3	6.3	0.0	19.2	80.8	0.0
	11	8	6	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	13	23	0	36	0.0	7.7	84.6	7.7	0.0	21.7	73.9	4.3
	13	21	37	0	58	0.0	19.0	81.0	0.0	0.0	10.8	83.8	5.4
	14	7	6	0	13	0.0	14.3	71.4	14.3	0.0	16.7	83.3	0.0
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		108	171	0	279	0.0	11.1	83.3	5.6	0.0	21.6	76.0	2.3

-Continued-

Appendix D.6. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	1	2	2	5	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	3	5	0	8	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	8	14	14	2	30	0.0	0.0	92.9	7.1	0.0	7.1	85.7	7.1
	9	1	6	1	8	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
12 May	10	9	10	0	19	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	11	2	6	1	9	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
	12	10	7	2	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	4	11	1	16	0.0	0.0	75.0	25.0	0.0	0.0	90.9	9.1
	14	8	6	0	14	0.0	0.0	87.5	12.5	0.0	0.0	66.7	33.3
	15	1	2	1	4	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	16												
	17												
	18												
Sample Total		54	71	10	135	0.0	1.9	87.0	11.1	0.0	4.2	85.9	9.9
	3												
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5												
	6	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	7	16	25	0	41	0.0	31.3	68.8	0.0	0.0	24.0	76.0	0.0
	8	22	36	0	58	0.0	22.7	77.3	0.0	0.0	30.6	69.4	0.0
	9	3	6	0	9	0.0	33.3	66.7	0.0	0.0	16.7	83.3	0.0
10 May	10	24	38	0	62	0.0	12.5	87.5	0.0	0.0	34.2	65.8	0.0
	11	15	10	0	25	0.0	20.0	80.0	0.0	0.0	30.0	70.0	0.0
	12	21	25	0	46	0.0	14.3	85.7	0.0	0.0	40.0	56.0	4.0
	13	30	34	0	64	0.0	23.3	76.7	0.0	0.0	38.2	61.8	0.0
	14	6	9	0	15	0.0	16.7	83.3	0.0	0.0	44.4	55.6	0.0
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		142	185	0	327	0.0	20.4	79.6	0.0	0.0	33.0	66.5	0.5
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	24	28	0	52	0.0	50.0	33.3	16.7	0.0	89.3	10.7	0.0
	5	6	6	0	12	0.0	66.7	33.3	0.0	0.0	66.7	33.3	0.0
	6	4	5	0	9	0.0	25.0	25.0	50.0	0.0	80.0	20.0	0.0
	7	24	38	0	62	0.0	8.3	66.7	25.0	0.0	26.3	60.5	13.2
	8	22	30	0	52	0.0	9.1	81.8	9.1	0.0	33.3	50.0	16.7
	9	4	5	0	9	0.0	0.0	75.0	25.0	0.0	20.0	80.0	0.0
12 May	10	17	19	0	36	0.0	11.8	76.5	11.8	0.0	21.1	63.2	15.8
	11	3	17	0	20	0.0	0.0	33.3	66.7	0.0	11.8	35.3	52.9
	12	10	15	0	25	0.0	30.0	30.0	40.0	0.0	20.0	46.7	33.3
	13	15	28	0	43	0.0	0.0	53.3	46.7	0.0	7.1	67.9	25.0
	14	3	15	0	18	0.0	33.3	33.3	33.3	0.0	0.0	40.0	60.0
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16	2	0	0	2	0.0	0.0	50.0	50.0				
	17												
	18	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
Sample Total		135	209	0	344	0.0	20.0	55.6	24.4	0.0	31.6	46.9	21.5

-Continued-

Appendix D.6. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6												
	7	19	29	0	48	0.0	0.0	100.0	0.0	0.0	3.4	96.6	0.0
	8	33	39	0	72	0.0	12.1	87.9	0.0	0.0	0.0	100.0	0.0
	9	7	8	0	15	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
10 May	10	24	44	0	68	0.0	12.5	87.5	0.0	0.0	0.0	100.0	0.0
	11	12	19	0	31	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	28	32	1	61	0.0	3.6	96.4	0.0	0.0	0.0	100.0	0.0
	13	13	21	0	34	0.0	7.7	92.3	0.0	0.0	0.0	100.0	0.0
	14	6	18	0	24	0.0	16.7	83.3	0.0	0.0	11.1	88.9	0.0
	15	2	0	0	2	0.0	0.0	100.0	0.0				
	16												
	17												
	18												
Sample Total		145	210	1	356	0.0	6.9	93.1	0.0	0.0	1.4	98.6	0.0
	3												
	4	3	0	0	3	0.0	0.0	100.0	0.0				
	5												
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	15	15	0	30	0.0	26.7	73.3	0.0	0.0	0.0	100.0	0.0
	8	21	33	0	54	0.0	19.0	81.0	0.0	0.0	3.0	97.0	0.0
	9	11	10	0	21	0.0	27.3	63.6	9.1	0.0	0.0	100.0	0.0
12 May	10	32	49	0	81	0.0	15.6	84.4	0.0	0.0	4.1	95.9	0.0
	11	12	19	0	31	0.0	27.3	72.7	0.0	0.0	5.3	94.7	0.0
	12	29	45	0	74	0.0	20.7	79.3	0.0	0.0	8.9	91.1	0.0
	13	36	42	0	78	0.0	11.1	83.3	5.6	2.4	0.0	97.6	0.0
	14	12	15	0	27	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	15	4	1	0	5	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	16	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	17												
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		178	234	0	412	0.0	19.2	79.1	1.7	0.4	3.4	96.2	0.0
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	48	36	2	86	0.0	25.0	62.5	12.5	0.0	77.8	22.2	0.0
	5	11	9	0	20	0.0	36.4	63.6	0.0	0.0	44.4	55.6	0.0
	6	12	13	0	25	0.0	33.3	50.0	16.7	0.0	30.8	61.5	7.7
	7	136	174	0	310	0.0	11.0	80.1	8.8	0.0	14.9	81.6	3.4
	8	170	233	2	405	0.0	10.0	86.5	3.5	0.0	15.5	82.0	2.6
	9	36	52	1	89	2.8	13.9	75.0	8.3	0.0	13.5	84.6	1.9
10-12 May	10	162	229	0	391	0.0	11.1	86.4	2.5	0.0	12.2	86.5	1.3
	11	63	92	1	156	0.0	11.3	85.5	3.2	0.0	7.6	81.5	10.9
	12	135	166	3	304	0.0	12.6	83.0	4.4	0.0	13.3	82.5	4.2
	13	151	235	1	387	0.0	13.9	78.1	7.9	0.4	9.8	85.1	4.7
	14	56	86	0	142	0.0	14.3	80.4	5.4	0.0	9.3	76.7	14.0
	15	12	7	1	20	0.0	16.7	75.0	8.3	0.0	0.0	71.4	28.6
	16	3	5	0	8	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18	2	2	0	4	0.0	50.0	0.0	50.0	0.0	0.0	50.0	50.0
All Samples		998	1340	11	2349	0.1	13.1	80.8	5.9	0.1	14.5	81.0	4.5

Appendix D.7. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Kulukak Section, 10-11 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	7	9	8	0	17	0.0	11.1	88.9	0.0	0.0	25.0	75.0	0.0
	8	17	15	0	32	0.0	11.8	88.2	0.0	0.0	26.7	73.3	0.0
	9	7	5	0	12	0.0	14.3	85.7	0.0	0.0	60.0	40.0	0.0
	10	8	12	0	20	0.0	25.0	75.0	0.0	0.0	25.0	75.0	0.0
10 May	11	8	4	0	12	0.0	12.5	87.5	0.0	0.0	75.0	25.0	0.0
	12	8	6	0	14	0.0	12.5	87.5	0.0	0.0	50.0	50.0	0.0
	13	13	8	0	21	0.0	7.7	92.3	0.0	0.0	50.0	50.0	0.0
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		72	60	0	132	0.0	12.5	87.5	0.0	0.0	36.7	63.3	0.0
	7	4	7	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	10	17	0	27	0.0	0.0	100.0	0.0	0.0	17.6	76.5	5.9
	9	3	3	0	6	0.0	33.3	33.3	33.3	0.0	33.3	66.7	0.0
	10	6	7	0	13	0.0	16.7	66.7	16.7	0.0	0.0	71.4	28.6
11 May	11	9	6	0	15	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	12	15	10	0	25	0.0	6.7	86.7	6.7	0.0	10.0	90.0	0.0
	13	12	15	0	27	0.0	0.0	100.0	0.0	0.0	20.0	66.7	13.3
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
Sample Total		60	67	0	127	0.0	6.7	88.3	5.0	0.0	11.9	80.6	7.5
	7	13	15	0	28	0.0	7.7	92.3	0.0	0.0	13.3	86.7	0.0
	8	27	32	0	59	0.0	7.4	92.6	0.0	0.0	21.9	75.0	3.1
	9	10	8	0	18	0.0	20.0	70.0	10.0	0.0	50.0	50.0	0.0
	10	14	19	0	33	0.0	21.4	71.4	7.1	0.0	15.8	73.7	10.5
10-11 May	11	17	10	0	27	0.0	11.8	88.2	0.0	0.0	30.0	70.0	0.0
	12	23	16	0	39	0.0	8.7	87.0	4.3	0.0	25.0	75.0	0.0
	13	25	23	0	48	0.0	4.0	96.0	0.0	0.0	30.4	60.9	8.7
	14	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		132	127	0	259	0.0	9.8	87.9	2.3	0.0	23.6	72.4	3.9

Appendix D.8. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Nunavachak Section, 10 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	2	0	0	2	0.0	50.0	50.0	0.0				
	5												
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	7	14	15	0	29	0.0	14.3	78.6	7.1	0.0	13.3	86.7	0.0
	8	20	19	0	39	0.0	10.0	85.0	5.0	0.0	5.3	94.7	0.0
10 May	9	5	2	0	7	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	10	16	9	0	25	0.0	12.5	87.5	0.0	0.0	0.0	100.0	0.0
	11	2	3	0	5	0.0	0.0	100.0	0.0	0.0	33.3	33.3	33.3
	12	8	5	0	13	0.0	12.5	87.5	0.0	0.0	20.0	80.0	0.0
	13	3	4	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	5	3	0	8	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
Sample Total		77	61	0	138	0.0	10.4	87.0	2.6	0.0	13.1	85.2	1.6

Appendix D.9. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Kulukak, and Nunavachak sections combined, 11-12 May, 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	2	0	0	2	0.0	50.0	50.0	0.0				
	5												
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	7	23	23	0	46	0.0	13.0	82.6	4.3	0.0	17.4	82.6	0.0
	8	37	34	0	71	0.0	10.8	86.5	2.7	0.0	14.7	85.3	0.0
	9	12	7	0	19	0.0	8.3	91.7	0.0	0.0	57.1	42.9	0.0
10 May	10	24	21	0	45	0.0	16.7	83.3	0.0	0.0	14.3	85.7	0.0
	11	10	7	0	17	0.0	10.0	90.0	0.0	0.0	57.1	28.6	14.3
	12	16	11	0	27	0.0	12.5	87.5	0.0	0.0	36.4	63.6	0.0
	13	16	12	0	28	0.0	6.3	93.8	0.0	0.0	33.3	66.7	0.0
	14	6	5	0	11	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		149	121	0	270	0.0	11.4	87.2	1.3	0.0	24.8	74.4	0.8
	4												
	5												
	6												
	7	4	7	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	10	17	0	27	0.0	0.0	100.0	0.0	0.0	17.6	76.5	5.9
	9	3	3	0	6	0.0	33.3	33.3	33.3	0.0	33.3	66.7	0.0
11 May	10	6	7	0	13	0.0	16.7	66.7	16.7	0.0	0.0	71.4	28.6
	11	9	6	0	15	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	12	15	10	0	25	0.0	6.7	86.7	6.7	0.0	10.0	90.0	0.0
	13	12	15	0	27	0.0	0.0	100.0	0.0	0.0	20.0	66.7	13.3
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
Sample Total		60	67	0	127	0.0	6.7	88.3	5.0	0.0	11.9	80.6	7.5
	4	2	0	0	2	0.0	50.0	50.0	0.0				
	5												
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	7	27	30	0	57	0.0	11.1	85.2	3.7	0.0	13.3	86.7	0.0
	8	47	51	0	98	0.0	8.5	89.4	2.1	0.0	15.7	82.4	2.0
	9	15	10	0	25	0.0	13.3	80.0	6.7	0.0	50.0	50.0	0.0
10-11 May	10	30	28	0	58	0.0	16.7	80.0	3.3	0.0	10.7	82.1	7.1
	11	19	13	0	32	0.0	10.5	89.5	0.0	0.0	30.8	61.5	7.7
	12	31	21	0	52	0.0	9.7	87.1	3.2	0.0	23.8	76.2	0.0
	13	28	27	0	55	0.0	3.6	96.4	0.0	0.0	25.9	66.7	7.4
	14	7	7	0	14	0.0	0.0	100.0	0.0	0.0	14.3	85.7	0.0
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		209	188	0	397	0.0	10.0	87.6	2.4	0.0	20.2	76.6	3.2

Appendix D.10. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Nunavachak Section, 6-11 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7	0	1	0	1					0.0	100.0	0.0	0.0
	8	2	3	0	5	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
6 May	9	1	0	0	1	0.0	100.0	0.0	0.0				
	10	0	6	0	6					0.0	100.0	0.0	0.0
	11	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	5	3	0	8	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	0	2	0	2					0.0	100.0	0.0	0.0
	14	1	0	0	1	0.0	100.0	0.0	0.0				
	15												
Sample Total		10	17	0	27	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	4	0	1	0	1					0.0	100.0	0.0	0.0
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7	13	20	0	33	0.0	53.8	46.2	0.0	0.0	70.0	30.0	0.0
	8	9	5	0	14	0.0	22.2	77.8	0.0	0.0	20.0	80.0	0.0
9 May	9	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	3	6	0	9	0.0	33.3	66.7	0.0	0.0	33.3	66.7	0.0
	11	3	6	0	9	0.0	33.3	66.7	0.0	0.0	50.0	50.0	0.0
	12	9	7	0	16	0.0	33.3	66.7	0.0	0.0	14.3	85.7	0.0
	13	4	10	0	14	0.0	25.0	75.0	0.0	0.0	20.0	80.0	0.0
	14	0	6	0	6					0.0	33.3	66.7	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		42	64	0	106	0.0	35.7	64.3	0.0	0.0	42.2	57.8	0.0
	4												
	5	1	0	0	1	0.0	100.0	0.0	0.0				
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	2	2	0	4	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	8	5	6	0	11	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
10 May	9	2	2	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	10	5	8	0	13	0.0	20.0	80.0	0.0	0.0	50.0	37.5	12.5
	11	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	66.7	33.3
	12	4	4	0	8	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	13	3	5	0	8	0.0	33.3	66.7	0.0	0.0	40.0	60.0	0.0
	14												
	15												
Sample Total		25	30	0	55	0.0	12.0	88.0	0.0	0.0	50.0	43.3	6.7

-Continued-

Appendix D.10. (p. 2 of 2)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	0	3	0	3					0.0	66.7	33.3	0.0
	5												
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	3	4	0	7	0.0	0.0	0.0	100.0	0.0	0.0	25.0	75.0
	8	2	4	0	6	0.0	0.0	0.0	100.0	25.0	0.0	25.0	50.0
11 May	9												
	10	2	4	0	6	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	11	1	1	0	2	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
	12	0	2	0	2					0.0	100.0	0.0	0.0
	13	3	3	0	6	0.0	33.3	33.3	33.3	0.0	0.0	33.3	66.7
	14	0	2	0	2					0.0	0.0	0.0	100.0
	15												
Sample Total		11	24	0	35	9.1	9.1	9.1	72.7	8.3	16.7	20.8	54.2
	4	0	4	0	4					0.0	75.0	25.0	0.0
	5	1	0	0	1	0.0	100.0	0.0	0.0				
	6	1	3	0	4	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
	7	18	27	0	45	0.0	38.9	44.4	16.7	0.0	59.3	29.6	11.1
	8	18	18	0	36	0.0	22.2	66.7	11.1	5.6	44.4	38.9	11.1
6-11 May	9	4	3	0	7	0.0	25.0	75.0	0.0	0.0	66.7	33.3	0.0
	10	10	24	0	34	0.0	20.0	60.0	20.0	0.0	50.0	29.2	20.8
	11	7	11	0	18	14.3	28.6	57.1	0.0	9.1	36.4	45.5	9.1
	12	18	16	0	34	0.0	44.4	55.6	0.0	0.0	50.0	50.0	0.0
	13	10	20	0	30	0.0	30.0	60.0	10.0	0.0	30.0	60.0	10.0
	14	1	8	0	9	0.0	100.0	0.0	0.0	0.0	25.0	50.0	25.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
All Samples		88	135	0	223	1.1	33.0	56.8	9.1	1.5	46.7	40.7	11.1

Appendix D.11. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Togiak Section, 9-11 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
9 May	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5												
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	6	8	0	14	0.0	50.0	50.0	0.0	0.0	25.0	75.0	0.0
	8	4	5	0	9	0.0	50.0	50.0	0.0	0.0	60.0	40.0	0.0
	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	7	5	0	12	0.0	85.7	14.3	0.0	0.0	40.0	60.0	0.0
	11	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	3	6	0	9	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
	13	3	3	0	6	0.0	66.7	33.3	0.0	0.0	66.7	33.3	0.0
	14	3	0	0	3	0.0	66.7	33.3	0.0				
Sample Total		29	31	0	60	0.0	58.6	41.4	0.0	0.0	45.2	54.8	0.0
10 May	4												
	5												
	6												
	7	3	12	0	15	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	8	3	15	0	18	0.0	0.0	100.0	0.0	0.0	53.3	46.7	0.0
	9	3	3	0	6	0.0	33.3	66.7	0.0	0.0	33.3	66.7	0.0
	10	9	7	0	16	0.0	11.1	88.9	0.0	0.0	42.9	57.1	0.0
	11	3	4	0	7	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	12	6	6	0	12	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	13	6	10	0	16	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	14	4	4	0	8	0.0	25.0	75.0	0.0	0.0	75.0	25.0	0.0
Sample Total		37	61	0	98	0.0	8.1	91.9	0.0	0.0	49.2	50.8	0.0
11 May	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5												
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	7	5	13	0	18	0.0	40.0	40.0	20.0	0.0	76.9	15.4	7.7
	8	6	7	0	13	0.0	50.0	50.0	0.0	0.0	85.7	0.0	14.3
	9	1	3	0	4	0.0	0.0	100.0	0.0	0.0	66.7	0.0	33.3
	10	3	7	0	10	0.0	66.7	33.3	0.0	0.0	71.4	14.3	14.3
	11	2	2	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	3	7	0	10	0.0	66.7	33.3	0.0	0.0	85.7	0.0	14.3
	13	2	9	0	11	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	14	2	5	0	7	0.0	50.0	0.0	50.0	0.0	20.0	40.0	40.0
Sample Total		26	54	0	80	0.0	57.7	34.6	7.7	0.0	72.2	14.8	13.0

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Appendix D.11. (p. 2 of 2)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	2	0	0	2	0.0	100.0	0.0	0.0				
	5												
	6	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	7	14	33	0	47	0.0	35.7	57.1	7.1	0.0	45.5	51.5	3.0
	8	13	27	0	40	0.0	38.5	61.5	0.0	0.0	63.0	33.3	3.7
9-11 May	9	5	8	0	13	0.0	20.0	80.0	0.0	0.0	37.5	50.0	12.5
	10	19	19	0	38	0.0	47.4	52.6	0.0	0.0	52.6	42.1	5.3
	11	6	7	0	13	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	12	12	19	0	31	0.0	16.7	83.3	0.0	0.0	68.4	26.3	5.3
	13	11	22	0	33	0.0	36.4	63.6	0.0	0.0	59.1	40.9	0.0
	14	9	9	0	18	0.0	44.4	44.4	11.1	0.0	44.4	33.3	22.2
All Samples		92	146	0	238	0.0	38.0	59.8	2.2	0.0	56.8	38.4	4.8

Appendix D.12. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Hagemeister Section, 6-16 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	0	1	0	1					0.0	0.0	0.0	100.0
	7	4	5	0	9	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	5	11	0	16	0.0	80.0	20.0	0.0	0.0	100.0	0.0	0.0
	9	2	2	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
6 May	10	4	4	0	8	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	1	3	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	6	5	0	11	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	0	4	0	4					0.0	100.0	0.0	0.0
	14	1	3	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17												
Sample Total		24	40	0	64	0.0	95.8	4.2	0.0	0.0	97.5	0.0	2.5
	4	0	1	0	1					0.0	100.0	0.0	0.0
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7	4	4	0	8	0.0	75.0	25.0	0.0	0.0	100.0	0.0	0.0
	8	4	8	0	12	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	9	3	0	0	3	0.0	100.0	0.0	0.0				
7 May	10	9	13	0	22	0.0	77.8	22.2	0.0	0.0	100.0	0.0	0.0
	11	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	7	5	0	12	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	6	6	0	12	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	14	1	5	0	6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17												
Sample Total		35	46	0	81	0.0	91.4	8.6	0.0	0.0	100.0	0.0	0.0
	4	2	2	0	4	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	5	0	2	0	2					0.0	100.0	0.0	0.0
	6	1	0	0	1	0.0	100.0	0.0	0.0				
	7	4	9	0	13	0.0	25.0	75.0	0.0	0.0	44.4	55.6	0.0
	8	7	10	0	17	0.0	0.0	100.0	0.0	0.0	70.0	30.0	0.0
	9	3	4	0	7	0.0	33.3	66.7	0.0	0.0	50.0	50.0	0.0
9 May	10	8	12	0	20	0.0	12.5	87.5	0.0	0.0	58.3	41.7	0.0
	11	4	7	0	11	0.0	0.0	100.0	0.0	0.0	71.4	28.6	0.0
	12	8	9	0	17	0.0	0.0	100.0	0.0	0.0	55.6	44.4	0.0
	13	9	9	0	18	0.0	0.0	100.0	0.0	0.0	77.8	22.2	0.0
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17	0	1	0	1					0.0	100.0	0.0	0.0
Sample Total		47	67	0	114	0.0	12.8	87.2	0.0	0.0	61.2	38.8	0.0

-Continued-

Appendix D.12. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5	1	0	0	1	0.0	100.0	0.0	0.0				
	6												
	7	5	12	0	17	0.0	60.0	20.0	20.0	0.0	50.0	41.7	8.3
	8	7	6	0	13	0.0	57.1	28.6	14.3	0.0	50.0	50.0	0.0
	9	1	4	0	5	0.0	100.0	0.0	0.0	0.0	50.0	25.0	25.0
11 May	10	7	7	0	14	0.0	28.6	28.6	42.9	0.0	14.3	42.9	42.9
	11	6	3	0	9	0.0	16.7	66.7	16.7	0.0	0.0	66.7	33.3
	12	7	6	0	14	0.0	14.3	71.4	14.3	0.0	33.3	33.3	33.3
	13	5	13	0	18	0.0	20.0	60.0	20.0	0.0	23.1	61.5	15.4
	14	2	2	0	4	0.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0
	15												
	16												
	17												
Sample Total		41	53	0	95	0.0	34.1	43.9	22.0	0.0	34.0	47.2	18.9
	4												
	5												
	6	1	0	0	1	0.0	100.0	0.0	0.0				
	7	4	9	0	13	0.0	0.0	100.0	0.0	0.0	11.1	66.7	22.2
	8	8	14	0	22	0.0	12.5	75.0	12.5	0.0	0.0	85.7	14.3
	9	3	1	0	4	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
14 May	10	5	9	0	14	0.0	0.0	0.0	100.0	0.0	0.0	77.8	22.2
	11	4	3	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	7	2	0	9	0.0	14.3	14.3	71.4	0.0	0.0	100.0	0.0
	13	7	3	0	11	0.0	0.0	14.3	85.7	0.0	0.0	66.7	33.3
	14	2	0	0	2	0.0	0.0	0.0	100.0				
	15	2	0	0	2	0.0	0.0	0.0	100.0				
	16												
	17	0	1	0	1					0.0	0.0	0.0	100.0
Sample Total		43	42	0	86	0.0	7.0	30.2	62.8	0.0	2.4	69.0	28.6
	4	14	7	0	21	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	17	13	0	30	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	12	11	0	23	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
16 May	10	4	8	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	3	5	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		66	57	0	123	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0

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Appendix D.12. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	17	10	0	27	0.0	17.6	82.4	0.0	0.0	20.0	80.0	0.0
	5	4	4	0	8	0.0	25.0	75.0	0.0	0.0	75.0	25.0	0.0
	6	2	3	0	5	0.0	100.0	0.0	0.0	0.0	33.3	33.3	33.3
	7	38	52	0	90	0.0	28.9	68.4	2.6	0.0	38.5	55.8	5.8
	8	43	60	0	103	0.0	30.2	65.1	4.7	0.0	48.3	48.3	3.3
	9	15	13	0	28	0.0	46.7	40.0	13.3	0.0	46.2	38.5	15.4
6-16 May	10	37	53	0	90	0.0	37.8	40.5	21.6	0.0	47.2	43.4	9.4
	11	19	21	0	40	0.0	15.8	57.9	26.3	0.0	47.6	33.3	19.0
	12	41	30	0	72	0.0	36.6	48.8	14.6	0.0	56.7	36.7	6.7
	13	30	40	0	71	0.0	23.3	53.3	23.3	0.0	50.0	42.5	7.5
	14	8	14	0	22	0.0	25.0	37.5	37.5	0.0	64.3	35.7	0.0
	15	2	2	0	4	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0
	16												
	17	0	3	0	3					0.0	33.3	33.3	33.3
All Samples		256	305	0	563	0.0	30.5	55.5	14.1	0.0	47.5	44.9	7.5

Appendix D.13. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Nunavachak, Togiak, and Hagemeister Sections, 10-14 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	0	2	0	2					0.0	50.0	0.0	50.0
	7	4	6	0	10	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	7	14	0	21	0.0	85.7	14.3	0.0	0.0	100.0	0.0	0.0
	9	3	2	0	5	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
6 May	10	4	10	0	14	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	2	4	0	6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	11	8	0	19	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	0	6	0	6					0.0	100.0	0.0	0.0
	14	2	3	0	5	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17												
Sample Total		34	57	0	91	0.0	97.1	2.9	0.0	0.0	98.2	0.0	1.8
	4	0	1	0	1					0.0	100.0	0.0	0.0
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7	4	4	0	8	0.0	75.0	25.0	0.0	0.0	100.0	0.0	0.0
	8	4	8	0	12	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	9	3	0	0	3	0.0	100.0	0.0	0.0				
7 May	10	9	13	0	22	0.0	77.8	22.2	0.0	0.0	100.0	0.0	0.0
	11	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	7	5	0	12	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	6	6	0	12	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	14	1	5	0	6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17												
Sample Total		35	46	0	81	0.0	91.4	8.6	0.0	0.0	100.0	0.0	0.0
	4	3	3	0	6	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	5	0	2	0	2					0.0	100.0	0.0	0.0
	6	1	2	0	3	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	7	23	37	0	60	0.0	47.8	52.2	0.0	0.0	54.1	45.9	0.0
	8	20	20	0	40	0.0	20.0	80.0	0.0	0.0	55.0	45.0	0.0
	9	5	7	0	12	0.0	20.0	80.0	0.0	0.0	28.6	71.4	0.0
9 May	10	18	23	0	41	0.0	44.4	55.6	0.0	0.0	47.8	52.2	0.0
	11	8	14	0	22	0.0	25.0	75.0	0.0	0.0	64.3	35.7	0.0
	12	20	22	0	42	0.0	15.0	85.0	0.0	0.0	45.5	54.5	0.0
	13	16	22	0	38	0.0	18.8	81.3	0.0	0.0	50.0	50.0	0.0
	14	4	8	0	12	0.0	50.0	50.0	0.0	0.0	25.0	75.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17	0	1	0	1					0.0	100.0	0.0	0.0
Sample Total		118	162	0	280	0.0	32.2	67.8	0.0	0.0	50.6	49.4	0.0

-Continued-

Appendix D.13. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5	1	0	0	1	0.0	100.0	0.0	0.0				
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	5	14	0	19	0.0	0.0	100.0	0.0	0.0	28.6	71.4	0.0
	8	8	21	0	29	0.0	0.0	100.0	0.0	0.0	57.1	42.9	0.0
	9	5	5	0	10	0.0	20.0	80.0	0.0	0.0	60.0	40.0	0.0
10 May	10	14	15	0	29	0.0	14.3	85.7	0.0	0.0	46.7	46.7	6.7
	11	5	7	0	12	0.0	0.0	100.0	0.0	0.0	57.1	28.6	14.3
	12	10	10	0	20	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	13	9	15	0	24	0.0	11.1	88.9	0.0	0.0	46.7	53.3	0.0
	14	4	4	0	8	0.0	25.0	75.0	0.0	0.0	75.0	25.0	0.0
	15												
	16												
	17												
Sample Total		62	91	0	153	0.0	9.7	90.3	0.0	0.0	49.5	48.4	2.2
	4	1	3	0	4	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	5	1	0	0	1	0.0	100.0	0.0	0.0				
	6	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	7	13	29	0	42	0.0	38.5	23.1	38.5	0.0	55.2	27.6	17.2
	8	15	17	0	32	0.0	46.7	33.3	20.0	5.9	52.9	23.5	17.6
	9	2	7	0	9	0.0	50.0	50.0	0.0	0.0	57.1	14.3	28.6
11 May	10	12	18	0	30	0.0	33.3	25.0	41.7	0.0	33.3	22.2	44.4
	11	9	6	0	15	11.1	33.3	44.4	11.1	16.7	33.3	33.3	16.7
	12	10	15	0	26	0.0	30.0	60.0	10.0	0.0	66.7	13.3	20.0
	13	10	25	0	35	0.0	40.0	40.0	20.0	0.0	36.0	48.0	16.0
	14	4	9	0	13	0.0	25.0	25.0	50.0	0.0	22.2	33.3	44.4
	15												
	16												
	17												
Sample Total		78	131	0	210	1.3	38.5	35.9	24.4	1.5	46.6	29.0	22.9
	4												
	5												
	6	1	0	0	1	0.0	100.0	0.0	0.0				
	7	4	9	0	13	0.0	0.0	100.0	0.0	0.0	11.1	66.7	22.2
	8	8	14	0	22	0.0	12.5	75.0	12.5	0.0	0.0	85.7	14.3
	9	3	1	0	4	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
14 May	10	5	9	0	14	0.0	0.0	0.0	100.0	0.0	0.0	77.8	22.2
	11	4	3	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	7	2	0	9	0.0	14.3	14.3	71.4	0.0	0.0	100.0	0.0
	13	7	3	0	11	0.0	0.0	14.3	85.7	0.0	0.0	66.7	33.3
	14	2	0	0	2	0.0	0.0	0.0	100.0				
	15	2	0	0	2	0.0	0.0	0.0	100.0				
	16												
	17	0	1	0	1					0.0	0.0	0.0	100.0
Sample Total		43	42	0	86	0.0	7.0	30.2	62.8	0.0	2.4	69.0	28.6

-Continued-

Appendix D.13. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	14	7	0	21	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	17	13	0	30	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	12	11	0	23	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
16 May	10	4	8	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	3	5	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		66	57	0	123	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	19	14	0	33	0.0	26.3	73.7	0.0	0.0	35.7	64.3	0.0
	5	5	4	0	9	0.0	40.0	60.0	0.0	0.0	75.0	25.0	0.0
	6	4	8	0	12	0.0	50.0	50.0	0.0	0.0	50.0	37.5	12.5
	7	70	112	0	182	0.0	32.9	60.0	7.1	0.0	45.5	48.2	6.3
	8	74	105	0	179	0.0	29.7	64.9	5.4	1.0	51.4	42.9	4.8
	9	24	24	0	48	0.0	37.5	54.2	8.3	0.0	45.8	41.7	12.5
6-16 May	10	66	96	0	162	0.0	37.9	47.0	15.2	0.0	49.0	39.6	11.5
	11	32	39	0	71	3.1	25.0	56.3	15.6	2.6	53.8	30.8	12.8
	12	71	65	0	137	0.0	35.2	56.3	8.5	0.0	58.5	36.9	4.6
	13	51	82	0	134	0.0	27.5	56.9	15.7	0.0	47.6	46.3	6.1
	14	18	31	0	49	0.0	38.9	38.9	22.2	0.0	48.4	38.7	12.9
	15	2	3	0	5	0.0	0.0	0.0	100.0	0.0	66.7	33.3	0.0
	16												
	17	0	3	0	3					0.0	33.3	33.3	33.3
All Samples		436	586	0	1024	0.2	32.6	56.7	10.6	0.3	49.7	42.3	7.7

Appendix D.14. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Kulukak Section, 7-21 May 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	3	1	0	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	5												
	6												
	7												
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9												
7 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		3	2	0	5	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	3												
	4	0	3	0	3					0.0	0.0	100.0	0.0
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6												
	7	6	5	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	15	12	0	27	0.0	13.3	86.7	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
9 May	10	15	4	0	19	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	11	10	5	0	15	0.0	10.0	90.0	0.0	0.0	20.0	80.0	0.0
	12	13	2	0	15	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	7	4	0	11	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	14	7	1	0	8	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		76	40	0	116	0.0	11.8	88.2	0.0	0.0	2.5	97.5	0.0
	3												
	4	2	4	0	6	0.0	50.0	50.0	0.0	0.0	50.0	50.0	0.0
	5												
	6	3	0	0	3	0.0	0.0	100.0	0.0				
	7	12	11	1	24	0.0	25.0	66.7	8.3	0.0	36.4	63.6	0.0
	8	7	16	0	23	0.0	14.3	71.4	14.3	0.0	6.3	81.3	12.5
	9	2	4	0	6	0.0	0.0	100.0	0.0	0.0	25.0	50.0	25.0
11 May	10	4	4	0	8	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	11	7	4	0	11	0.0	14.3	85.7	0.0	0.0	25.0	50.0	25.0
	12	5	6	0	11	0.0	0.0	100.0	0.0	0.0	16.7	66.7	16.7
	13	1	4	0	5	0.0	0.0	100.0	0.0	0.0	75.0	25.0	0.0
	14	1	3	0	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		45	56	1	102	0.0	15.6	77.8	6.7	0.0	23.2	67.9	8.9

-Continued-

Appendix D.14. (p. 2 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	17	10	0	27	0.0	0.0	100.0	0.0	0.0	10.0	90.0	0.0
	8	13	12	0	25	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
13 May	10	3	4	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	5	4	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	8	1	0	9	0.0	12.5	75.0	12.5	0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		59	40	0	99	0.0	1.7	96.6	1.7	0.0	2.5	97.5	0.0
	3												
	4	10	6	0	16	0.0	0.0	90.0	10.0	0.0	0.0	100.0	0.0
	5	6	4	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	11	11	0	22	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	14	7	0	21	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	0	3	0	3					0.0	0.0	100.0	0.0
14 May	10	4	8	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	4	0	0	4	0.0	0.0	100.0	0.0				
	13	2	5	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17												
Sample Total		57	50	0	107	0.0	0.0	98.2	1.8	0.0	0.0	100.0	0.0
	3												
	4	6	3	0	9	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	15	21	0	36	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	12	17	0	29	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	5	1	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
15 May	10	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	6	0	0	6	0.0	0.0	100.0	0.0				
	13	0	3	0	3					0.0	0.0	100.0	0.0
	14	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		56	53	0	109	0.0	0.0	100.0	0.0	0.0	1.9	98.1	0.0

-Continued-

Appendix D.14. (p. 3 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	8	7	0	15	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	12	10	2	24	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	9	7	1	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	0	1	0	1					0.0	0.0	100.0	0.0
16 May	10	3	5	1	9	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
	11	2	0	0	2	0.0	0.0	100.0	0.0				
	12	0	1	1	2					0.0	0.0	100.0	0.0
	13	4	2	4	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		42	36	9	87	0.0	0.0	100.0	0.0	0.0	0.0	97.2	2.8
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	34	26	0	60	0.0	0.0	100.0	0.0	0.0	11.5	88.5	0.0
	5	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	6	0	3	0	3					0.0	33.3	66.7	0.0
	7	8	8	0	16	0.0	0.0	100.0	0.0	0.0	12.5	87.5	0.0
	8	6	9	0	15	0.0	16.7	83.3	0.0	0.0	11.1	77.8	11.1
	9	0	1	0	1					0.0	0.0	100.0	0.0
18 May	10	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	12	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		57	61	0	118	0.0	1.8	93.0	5.3	0.0	11.5	86.9	1.6
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	29	43	0	72	0.0	0.0	100.0	0.0	0.0	18.6	79.1	2.3
	5	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	3	2	0	5	0.0	0.0	100.0	0.0	0.0	50.0	0.0	50.0
	7	7	8	0	15	0.0	0.0	100.0	0.0	0.0	12.5	62.5	25.0
	8	4	4	0	8	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	9	1	0	0	1	0.0	0.0	100.0	0.0				
19 May	10	3	3	0	6	0.0	0.0	33.3	66.7	0.0	0.0	100.0	0.0
	11	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	12	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	0.0	50.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17												
Sample Total		55	67	0	122	0.0	0.0	87.3	12.7	0.0	16.4	76.1	7.5

-Continued-

Appendix D.14. (p. 4 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	19	28	0	47	0.0	0.0	100.0	0.0	0.0	0.0	96.4	3.6
	5	3	3	0	6	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	6	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	14	16	0	30	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	11	9	0	20	0.0	9.1	90.9	0.0	0.0	0.0	100.0	0.0
	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
20 May	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	66.7	33.3
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
	15												
	16												
	17												
Sample Total		54	68	0	122	0.0	1.9	96.3	1.9	0.0	1.5	94.1	4.4
	3												
	4	22	29	0	51	0.0	0.0	100.0	0.0	0.0	0.0	93.1	6.9
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6												
	7	11	13	0	24	0.0	0.0	72.7	27.3	0.0	0.0	92.3	7.7
	8	8	12	0	20	0.0	0.0	100.0	0.0	0.0	0.0	91.7	8.3
	9	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
21 May	10	6	2	0	8	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	11												
	12	2	0	0	2	0.0	0.0	100.0	0.0				
	13	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		53	62	0	115	0.0	0.0	90.6	9.4	0.0	0.0	93.5	6.5
	3	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	138	152	0	290	0.0	2.9	96.4	0.7	0.0	9.2	88.2	2.6
	5	16	15	0	31	0.0	0.0	100.0	0.0	0.0	13.3	86.7	0.0
	6	15	13	0	28	0.0	0.0	100.0	0.0	0.0	15.4	76.9	7.7
	7	113	113	3	229	0.0	2.7	93.8	3.5	0.0	6.2	91.2	2.7
	8	99	106	1	206	0.0	5.1	91.9	3.0	0.0	1.9	94.3	3.8
	9	15	20	0	35	0.0	6.7	93.3	0.0	0.0	5.0	90.0	5.0
7-21 May	10	46	37	1	84	0.0	6.5	82.6	10.9	0.0	0.0	97.3	2.7
	11	30	16	0	46	0.0	6.7	83.3	10.0	0.0	12.5	75.0	12.5
	12	38	21	1	60	0.0	0.0	97.4	2.6	0.0	4.8	85.7	9.5
	13	27	25	4	56	0.0	7.4	88.9	3.7	0.0	16.0	80.0	4.0
	14	14	13	0	27	0.0	14.3	64.3	21.4	0.0	0.0	100.0	0.0
	15	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	2	0	0	2	0.0	0.0	100.0	0.0				
	17	0	1	0	1					0.0	0.0	100.0	0.0
All Samples		557	535	10	1102	0.0	4.0	92.3	3.8	0.0	6.5	89.9	3.6

Appendix D.15. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Nunavachak Section, 15 May- 5 June 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	2	5	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6	2	0	0	2	0.0	0.0	100.0	0.0				
	7	16	15	0	31	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	14	13	0	27	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
15 May	9	6	4	0	10	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	10	8	8	0	16	0.0	0.0	87.5	12.5	0.0	0.0	100.0	0.0
	11	4	1	0	5	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	12	8	4	0	12	0.0	0.0	87.5	12.5	0.0	0.0	100.0	0.0
	13	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	0	2	0	2					0.0	0.0	100.0	0.0
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
Sample Total		62	57	0	119	0.0	0.0	93.5	6.5	0.0	0.0	100.0	0.0
	3												
	4	17	16	0	33	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	12	9	0	21	0.0	0.0	100.0	0.0	0.0	0.0	88.9	11.1
	8	6	3	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
16 May	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	2	0	0	2	0.0	0.0	100.0	0.0				
	11												
	12	0	2	0	2					0.0	0.0	100.0	0.0
	13	0	2	0	2					0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15												
Sample Total		41	37	0	78	0.0	0.0	100.0	0.0	0.0	0.0	97.3	2.7
	3	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	4	10	10	0	20	0.0	0.0	60.0	40.0	0.0	0.0	40.0	60.0
	5												
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	8	2	4	0	6	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
29 May	9	1	0	0	1	0.0	0.0	100.0	0.0				
	10	0	1	0	1					0.0	0.0	100.0	0.0
	11												
	12	0	1	0	1					0.0	0.0	100.0	0.0
	13												
	14												
	15												
Sample Total		15	21	0	36	0.0	0.0	60.0	40.0	0.0	0.0	66.7	33.3

-Continued-

Appendix D.15. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	4	1	0	5	0.0	0.0	25.0	75.0	0.0	0.0	0.0	100.0
	5												
	6												
	7												
	8												
31 May	9												
	10												
	11												
	12												
	13												
	14												
	15												
Sample Total		4	1	0	5	0.0	0.0	25.0	75.0	0.0	0.0	0.0	100.0
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	8	7	0	15	0.0	12.5	62.5	25.0	0.0	14.3	28.6	57.1
	5	0	2	0	2					0.0	0.0	50.0	50.0
	6												
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	8												
2 June	9												
	10	0	1	0	1					0.0	0.0	100.0	0.0
	11												
	12	0	1	0	1					0.0	0.0	0.0	100.0
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14												
	15												
Sample Total		10	13	0	23	0.0	10.0	60.0	30.0	0.0	7.7	38.5	53.8
	3	0	2	0	2					0.0	100.0	0.0	0.0
	4	11	11	0	22	0.0	0.0	54.5	45.5	0.0	0.0	72.7	27.3
	5	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	2	0	0	2	0.0	0.0	50.0	50.0				
	8												
5 June	9												
	10												
	11												
	12												
	13												
	14												
	15												
Sample Total		15	15	0	30	0.0	0.0	53.3	46.7	0.0	13.3	60.0	26.7

-Continued-

Appendix D.15. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	4	0	5	0.0	0.0	100.0	0.0	0.0	50.0	25.0	25.0
	4	52	50	0	102	0.0	1.9	71.2	26.9	0.0	2.0	70.0	28.0
	5	2	6	0	8	0.0	0.0	50.0	50.0	0.0	0.0	66.7	33.3
	6	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	32	28	0	60	0.0	0.0	93.8	6.3	0.0	0.0	92.9	7.1
	8	22	20	0	42	0.0	0.0	95.5	4.5	0.0	0.0	100.0	0.0
15 May- 5 June	9	8	6	0	14	0.0	0.0	87.5	12.5	0.0	0.0	100.0	0.0
	10	10	10	0	20	0.0	0.0	90.0	10.0	0.0	0.0	100.0	0.0
	11	4	1	0	5	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	12	8	8	0	16	0.0	0.0	87.5	12.5	0.0	0.0	87.5	12.5
	13	2	5	0	7	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	14	0	3	0	3					0.0	0.0	100.0	0.0
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
All Samples		147	144	0	291	0.0	0.7	83.7	15.6	0.0	2.1	84.0	13.9

Appendix D.16. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Togiak Section, 14 May-9 June 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	4	0	0	4	0.0	0.0	100.0	0.0				
	5												
	6												
	7	8	6	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	7	7	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
14 May	9	1	0	0	1	0.0	0.0	100.0	0.0				
	10	2	6	0	8	0.0	50.0	0.0	50.0	0.0	0.0	100.0	0.0
	11	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	6	2	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
Sample Total		36	26	0	62	0.0	2.8	94.4	2.8	0.0	0.0	100.0	0.0
	3												
	4	10	7	0	17	0.0	0.0	100.0	0.0	0.0	14.3	85.7	0.0
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6												
	7	6	3	0	9	0.0	0.0	83.3	16.7	0.0	0.0	66.7	33.3
	8	3	4	0	7	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
15 May	9	3	1	0	4	0.0	0.0	33.3	66.7	0.0	0.0	100.0	0.0
	10	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	66.7	33.3
	12	0	1	0	1					0.0	0.0	100.0	0.0
	13	3	3	0	6	0.0	0.0	33.3	66.7	0.0	0.0	100.0	0.0
	14	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	15												
	16												
Sample Total		35	26	0	61	0.0	0.0	80.0	20.0	0.0	3.8	84.6	11.5
	3												
	4	10	9	0	19	0.0	0.0	70.0	30.0	0.0	22.2	66.7	11.1
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	7	5	0	12	0.0	0.0	42.9	57.1	0.0	0.0	40.0	60.0
	8	6	16	0	22	0.0	0.0	50.0	50.0	0.0	0.0	12.5	87.5
16 May	9	3	3	0	6	0.0	0.0	0.0	100.0	0.0	0.0	33.3	66.7
	10	5	6	0	11	0.0	0.0	0.0	100.0	0.0	16.7	33.3	50.0
	11	3	2	0	5	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	12	11	8	0	19	0.0	0.0	18.2	81.8	0.0	12.5	37.5	50.0
	13	6	5	0	11	0.0	0.0	16.7	83.3	0.0	0.0	0.0	100.0
	14	0	9	0	9					0.0	0.0	11.1	88.9
	15	1	0	0	1	0.0	0.0	0.0	100.0				
	16												
Sample Total		54	64	0	118	0.0	0.0	31.5	68.5	0.0	6.3	29.7	64.1

-Continued-

Appendix D.16. (p. 2 of 6)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
18 May	3												
	4	10	12	0	22	0.0	0.0	90.0	10.0	0.0	0.0	91.7	8.3
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6												
	7	13	9	0	22	0.0	7.7	0.0	92.3	0.0	0.0	66.7	33.3
	8	13	14	0	27	0.0	0.0	38.5	61.5	0.0	0.0	35.7	64.3
	9	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	10	5	5	0	10	0.0	0.0	60.0	40.0	0.0	0.0	20.0	80.0
	11	2	3	0	5	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	12	4	5	0	9	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	8	5	0	13	0.0	0.0	25.0	75.0	0.0	0.0	20.0	80.0
	14	3	4	0	7	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	15												
	16	0	1	0	1					0.0	0.0	0.0	100.0
Sample Total		61	62	0	123	0.0	1.6	39.3	59.0	0.0	0.0	41.9	58.1
20 May	3												
	4	34	35	0	69	0.0	17.6	82.4	0.0	0.0	22.9	77.1	0.0
	5	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	0	0	1	0.0	100.0	0.0	0.0				
	7	10	12	0	22	0.0	10.0	80.0	10.0	0.0	8.3	91.7	0.0
	8	5	6	0	11	0.0	0.0	40.0	60.0	0.0	33.3	50.0	16.7
	9	3	0	0	3	0.0	33.3	66.7	0.0				
	10	4	4	0	8	0.0	25.0	75.0	0.0	0.0	0.0	75.0	25.0
	11												
	12	0	1	0	1					0.0	0.0	100.0	0.0
	13	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	0.0	100.0				
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
Sample Total		62	63	0	125	0.0	16.1	74.2	9.7	0.0	19.0	77.8	3.2
21 May	3												
	4												
	5	1	0	0	1	0.0	0.0	0.0	100.0				
	6												
	7	3	4	0	7	0.0	0.0	33.3	66.7	0.0	0.0	25.0	75.0
	8	4	7	0	11	0.0	0.0	0.0	100.0	0.0	0.0	42.9	57.1
	9	1	0	0	1	0.0	0.0	100.0	0.0				
	10	3	3	0	6	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	11	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	8	2	0	10	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	13	7	8	0	15	0.0	0.0	0.0	100.0	0.0	12.5	0.0	87.5
	14	6	8	0	14	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16												
Sample Total		35	34	0	69	0.0	0.0	8.6	91.4	0.0	2.9	11.8	85.3

-Continued-

Appendix D.16. (p. 3 of 6)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
29 May	3	0	2	0	2					0.0	0.0	100.0	0.0
	4	22	22	0	44	0.0	9.1	54.5	36.4	0.0	0.0	81.8	18.2
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	6												
	7	1	5	0	6	0.0	0.0	0.0	100.0	0.0	0.0	40.0	60.0
	8	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	9	1	0	0	1	0.0	0.0	100.0	0.0				
	10	3	2	0	5	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	13	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	0.0	100.0				
	15												
	16												
Sample Total		37	36	0	73	0.0	5.4	56.8	37.8	0.0	0.0	69.4	30.6
30 May	3												
	4	13	15	0	28	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
	8	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	9												
	10	4	0	0	4	0.0	0.0	75.0	25.0				
	11												
	12	2	0	0	2	0.0	0.0	100.0	0.0				
	13	3	0	0	3	0.0	0.0	33.3	66.7				
	14												
	15												
	16												
Sample Total		28	21	0	49	0.0	0.0	85.7	14.3	0.0	0.0	85.7	14.3
31 May	3												
	4	21	19	0	40	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	5	3	4	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	6	0	1	0	1					0.0	0.0	0.0	100.0
	7	5	1	0	6	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9												
	10												
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	1	0	0	1	0.0	0.0	0.0	100.0				
	13	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
	15												
	16												
Sample Total		34	29	0	63	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0

-Continued-

Appendix D.16. (p. 4 of 6)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
2 June	3	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	16	18	0	34	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	2	0	0	2	0.0	50.0	50.0	0.0				
	6												
	7	4	1	0	5	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	8	4	3	0	7	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	9	1	0	0	1	0.0	0.0	100.0	0.0				
	10	3	0	0	3	0.0	0.0	66.7	33.3				
	11	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	1	0	0	1	0.0	0.0	100.0	0.0				
	13	2	4	0	6	0.0	0.0	0.0	100.0	0.0	0.0	25.0	75.0
	14	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
	16												
Sample Total		36	30	0	66	0.0	2.8	75.0	22.2	0.0	0.0	80.0	20.0
4 June	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5												
	6												
	7												
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9												
	10												
	11												
	12												
	13												
	14												
	15												
	16												
Sample Total		2	5	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
5 June	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	11	9	0	20	0.0	0.0	27.3	72.7	0.0	0.0	0.0	100.0
	5	2	0	0	2	0.0	0.0	0.0	100.0				
	6												
	7	0	1	0	1					0.0	0.0	0.0	100.0
	8	3	1	0	4	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	9	0	1	0	1					0.0	0.0	100.0	0.0
	10												
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	3	0	0	3	0.0	0.0	0.0	100.0				
	13	3	1	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
	16												
Sample Total		23	16	0	39	0.0	0.0	17.4	82.6	0.0	0.0	12.5	87.5

-Continued-

Appendix D.16. (p. 5 of 6)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	11	11	0	22	0.0	0.0	45.5	54.5	0.0	18.2	63.6	18.2
	5												
	6	0	1	0	1					0.0	0.0	0.0	100.0
	7	5	7	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
6 June	9												
	10	0	4	0	4					0.0	0.0	0.0	100.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12												
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14	0	1	0	1					0.0	0.0	0.0	100.0
	15												
	16												
Sample Total		18	29	0	47	0.0	0.0	27.8	72.2	0.0	10.3	24.1	65.5
	3												
	4	22	12	0	34	0.0	0.0	54.5	45.5	0.0	8.3	50.0	41.7
	5	3	2	0	5	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	6												
	7	9	11	0	20	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	8	2	8	0	10	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
7 June	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11	0	2	0	2					0.0	0.0	0.0	100.0
	12												
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14	2	0	0	2	0.0	0.0	50.0	50.0				
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16												
Sample Total		41	38	0	79	0.0	0.0	46.3	53.7	0.0	2.6	15.8	81.6
	3												
	4	20	9	0	29	0.0	0.0	85.0	15.0	0.0	0.0	77.8	22.2
	5	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	6												
	7												
	8												
9 June	9												
	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11												
	12												
	13												
	14	0	1	0	1					0.0	0.0	0.0	100.0
	15												
	16												
Sample Total		22	12	0	34	0.0	0.0	81.8	18.2	0.0	0.0	66.7	33.3

-Continued-

Appendix D.16. (p. 6 of 6)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	6	0	7	0.0	0.0	100.0	0.0	0.0	16.7	83.3	0.0
	4	206	181	0	387	0.0	3.9	67.0	29.1	0.0	7.7	68.5	23.8
	5	21	14	0	35	0.0	4.8	57.1	38.1	0.0	0.0	42.9	57.1
	6	3	3	0	6	0.0	33.3	66.7	0.0	0.0	0.0	33.3	66.7
	7	73	67	0	140	0.0	2.7	42.5	54.8	0.0	1.5	46.3	52.2
	8	54	75	0	129	0.0	0.0	46.3	53.7	0.0	2.7	38.7	58.7
14 May- 9 June	9	16	10	0	26	0.0	6.3	62.5	31.3	0.0	0.0	40.0	60.0
	10	34	33	0	67	0.0	5.9	50.0	44.1	0.0	3.0	51.5	45.5
	11	13	17	0	30	0.0	0.0	53.8	46.2	0.0	0.0	29.4	70.6
	12	35	21	0	56	0.0	0.0	25.7	74.3	0.0	4.8	38.1	57.1
	13	46	32	0	78	0.0	0.0	28.3	71.7	0.0	3.1	28.1	68.8
	14	21	28	0	49	0.0	0.0	33.3	66.7	0.0	0.0	7.1	92.9
	15	1	3	0	4	0.0	0.0	0.0	100.0	0.0	33.3	0.0	66.7
	16	0	1	0	1					0.0	0.0	0.0	100.0
All Samples		524	491	0	1015	0.0	2.9	51.9	45.2	0.0	4.5	49.1	46.4

Appendix D.17. Sexual maturity of Pacific herring with test variable mesh gill net by age and sex, Hagemeister section, Togiak District, 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	0	4	0	4					0.0	75.0	25.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	6												
	7	3	4	0	7	0.0	33.3	66.7	0.0	0.0	100.0	0.0	0.0
	8	5	4	0	9	0.0	40.0	60.0	0.0	0.0	75.0	25.0	0.0
	9	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
6 May	10	3	1	0	4	0.0	66.7	33.3	0.0	0.0	100.0	0.0	0.0
	11	4	2	0	6	0.0	50.0	50.0	0.0	0.0	50.0	50.0	0.0
	12	4	6	0	10	0.0	25.0	75.0	0.0	0.0	83.3	16.7	0.0
	13	7	5	0	12	0.0	42.9	57.1	0.0	0.0	80.0	20.0	0.0
	14	0	3	0	3					0.0	33.3	66.7	0.0
	15												
	16												
	17												
Sample Total		28	32	0	60	0.0	42.9	57.1	0.0	0.0	78.1	21.9	0.0
	4												
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8	0	3	0	3					0.0	66.7	33.3	0.0
	9	1	0	0	1	0.0	100.0	0.0	0.0				
7 May	10	0	3	0	3					0.0	66.7	33.3	0.0
	11	0	1	0	1					0.0	0.0	100.0	0.0
	12	3	2	0	5	0.0	66.7	33.3	0.0	0.0	50.0	50.0	0.0
	13	2	6	0	8	0.0	50.0	50.0	0.0	0.0	83.3	16.7	0.0
	14	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		9	17	0	26	0.0	44.4	55.6	0.0	0.0	70.6	29.4	0.0
	4	1	2	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	5												
	6												
	7												
	8												
	9												
9 May	10												
	11												
	12	1	0	0	1	0.0	0.0	100.0	0.0				
	13												
	14												
	15												
	16												
	17												
Sample Total		2	2	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0

-Continued-

Appendix D.17. (p. 2 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5												
	6	2	0	0	2	0.0	0.0	100.0	0.0				
	7	3	5	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	3	4	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	1	0	0	1	0.0	0.0	100.0	0.0				
14 May	10	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	3	7	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14												
	15												
	16												
	17												
Sample Total		22	22	0	44	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5												
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	18	6	0	24	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	18	11	0	29	0.0	0.0	94.4	5.6	0.0	0.0	100.0	0.0
	9	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
15 May	10	11	2	0	13	0.0	0.0	90.9	9.1	0.0	0.0	100.0	0.0
	11	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	7	2	0	9	0.0	0.0	71.4	28.6	0.0	0.0	100.0	0.0
	13	10	1	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		72	32	0	104	0.0	0.0	94.4	5.6	0.0	0.0	100.0	0.0
	4	8	7	0	15	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	13	13	0	26	0.0	0.0	92.3	7.7	0.0	0.0	100.0	0.0
	8	12	10	0	22	0.0	0.0	91.7	8.3	0.0	10.0	90.0	0.0
	9	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
17 May	10	9	2	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	6	5	0	11	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	13	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		63	48	0	111	0.0	0.0	93.7	6.3	0.0	2.1	97.9	0.0

-Continued-

Appendix D.17. (p. 3 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6	5	1	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	21	7	0	28	0.0	4.8	95.2	0.0	0.0	0.0	100.0	0.0
	8	11	12	0	23	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
18 May	10	13	3	0	16	0.0	0.0	100.0	0.0	0.0	0.0	66.7	33.3
	11	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	3	6	0	9	0.0	0.0	100.0	0.0	0.0	0.0	66.7	33.3
	13	4	11	0	15	0.0	0.0	75.0	25.0	0.0	0.0	90.9	9.1
	14	2	3	0	5	0.0	0.0	50.0	50.0	0.0	0.0	66.7	33.3
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	0	1	0	1					0.0	0.0	0.0	100.0
Sample Total		68	52	0	120	0.0	1.5	95.6	2.9	0.0	0.0	88.5	11.5
	4	5	7	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5												
	6	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	7	12	7	0	19	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	4	5	0	9	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	9	0	2	0	2					0.0	0.0	100.0	0.0
19 May	10	5	4	0	9	0.0	40.0	60.0	0.0	0.0	0.0	100.0	0.0
	11	0	1	0	1					0.0	0.0	100.0	0.0
	12	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		34	33	0	67	0.0	11.8	85.3	2.9	0.0	0.0	100.0	0.0
	4	1	2	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	5	2	2	0	4	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	6	0	2	0	2					0.0	0.0	100.0	0.0
	7	8	8	0	16	0.0	37.5	62.5	0.0	0.0	0.0	100.0	0.0
	8	13	9	0	22	0.0	38.5	53.8	7.7	0.0	0.0	100.0	0.0
	9	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
20 May	10	4	2	0	6	0.0	75.0	25.0	0.0	0.0	0.0	100.0	0.0
	11	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	5	3	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	100.0	0.0				
	15												
	16												
	17												
Sample Total		42	35	0	77	0.0	31.0	66.7	2.4	0.0	0.0	100.0	0.0

-Continued-

Appendix D.17. (p. 4 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	33	29	0	62	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	7	1	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	2	0	2					0.0	0.0	100.0	0.0
	7	16	9	0	25	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	11	3	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	5	1	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
21 May	10	2	0	0	2	0.0	0.0	100.0	0.0				
	11												
	12	1	0	0	1	0.0	0.0	100.0	0.0				
	13	0	1	0	1					0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	0.0	100.0				
	15												
	16												
	17												
Sample Total		76	46	0	122	0.0	0.0	98.7	1.3	0.0	0.0	100.0	0.0
	4	51	53	0	104	0.0	2.0	98.0	0.0	0.0	9.4	90.6	0.0
	5	12	7	0	19	0.0	8.3	91.7	0.0	0.0	14.3	85.7	0.0
	6	11	8	0	19	0.0	9.1	90.9	0.0	0.0	12.5	87.5	0.0
	7	94	59	0	153	0.0	5.3	93.6	1.1	0.0	6.8	93.2	0.0
	8	77	61	0	138	0.0	10.4	84.4	5.2	0.0	9.8	90.2	0.0
	9	18	15	0	33	0.0	11.1	88.9	0.0	0.0	13.3	86.7	0.0
6-21 May	10	52	19	0	71	0.0	13.5	84.6	1.9	0.0	15.8	78.9	5.3
	11	19	13	0	32	0.0	10.5	89.5	0.0	0.0	7.7	92.3	0.0
	12	34	30	0	64	0.0	8.8	82.4	8.8	0.0	20.0	73.3	6.7
	13	33	40	0	73	0.0	12.1	84.8	3.0	0.0	22.5	75.0	2.5
	14	12	11	0	23	0.0	0.0	75.0	25.0	0.0	18.2	72.7	9.1
	15	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	0	1	0	1					0.0	0.0	0.0	100.0
All Samples		416	319	0	735	0.0	8.2	88.7	3.1	0.0	12.5	85.6	1.9

Appendix D.18. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Kulukak, Nunavachak, Togiak and Hagemeister sections 6 May-9 June 1991.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	0	4	0	4					0.0	75.0	25.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	6												
	7	3	4	0	7	0.0	33.3	66.7	0.0	0.0	100.0	0.0	0.0
	8	5	4	0	9	0.0	40.0	60.0	0.0	0.0	75.0	25.0	0.0
	9	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
6 May	10	3	1	0	4	0.0	66.7	33.3	0.0	0.0	100.0	0.0	0.0
	11	4	2	0	6	0.0	50.0	50.0	0.0	0.0	50.0	50.0	0.0
	12	4	6	0	10	0.0	25.0	75.0	0.0	0.0	83.3	16.7	0.0
	13	7	5	0	12	0.0	42.9	57.1	0.0	0.0	80.0	20.0	0.0
	14	0	3	0	3					0.0	33.3	66.7	0.0
	15												
	16												
	17												
Sample Total		28	32	0	60	0.0	42.9	57.1	0.0	0.0	78.1	21.9	0.0
	3												
	4	3	1	0	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8	0	4	0	4					0.0	50.0	50.0	0.0
	9	1	0	0	1	0.0	100.0	0.0	0.0				
7 May	10	0	3	0	3					0.0	66.7	33.3	0.0
	11	0	1	0	1					0.0	0.0	100.0	0.0
	12	3	2	0	5	0.0	66.7	33.3	0.0	0.0	50.0	50.0	0.0
	13	2	6	0	8	0.0	50.0	50.0	0.0	0.0	83.3	16.7	0.0
	14	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		12	19	0	31	0.0	58.3	41.7	0.0	0.0	63.2	36.8	0.0
	3												
	4	1	5	0	6	0.0	0.0	100.0	0.0	0.0	40.0	60.0	0.0
	5	1	0	0	1	0.0	0.0	100.0	0.0				
	6												
	7	6	5	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	15	12	0	27	0.0	13.3	86.7	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
9 May	10	15	4	0	19	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	11	10	5	0	15	0.0	10.0	90.0	0.0	0.0	20.0	80.0	0.0
	12	14	2	0	16	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	7	4	0	11	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	14	7	1	0	8	0.0	14.3	85.7	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		78	42	0	120	0.0	11.5	88.5	0.0	0.0	7.1	92.9	0.0

-Continued-

Appendix D.18. (p. 2 of 8)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	2	4	0	6	0.0	50.0	50.0	0.0	0.0	50.0	50.0	0.0
	5												
	6	3	0	0	3	0.0	0.0	100.0	0.0				
	7	12	11	1	24	0.0	25.0	66.7	8.3	0.0	36.4	63.6	0.0
	8	7	16	0	23	0.0	14.3	71.4	14.3	0.0	6.3	81.3	12.5
	9	2	4	0	6	0.0	0.0	100.0	0.0	0.0	25.0	50.0	25.0
11 May	10	4	4	0	8	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	11	7	4	0	11	0.0	14.3	85.7	0.0	0.0	25.0	50.0	25.0
	12	5	6	0	11	0.0	0.0	100.0	0.0	0.0	16.7	66.7	16.7
	13	1	4	0	5	0.0	0.0	100.0	0.0	0.0	75.0	25.0	0.0
	14	1	3	0	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		45	56	1	102	0.0	15.6	77.8	6.7	0.0	23.2	67.9	8.9
	3												
	4												
	5												
	6												
	7												
	8	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9												
14 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	3												
	4	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	17	10	0	27	0.0	0.0	100.0	0.0	0.0	10.0	90.0	0.0
	8	13	12	0	25	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
13 May	10	3	4	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	5	4	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	8	1	0	9	0.0	12.5	75.0	12.5	0.0	0.0	100.0	0.0
	14	0	1	0	1					0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17												
Sample Total		59	40	0	99	0.0	1.7	96.6	1.7	0.0	2.5	97.5	0.0

-Continued-

Appendix D.18. (p. 3 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	14	6	0	20	0.0	0.0	92.9	7.1	0.0	0.0	100.0	0.0
	5	6	4	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	22	22	0	44	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	23	17	0	40	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
14 May	10	11	16	0	27	0.0	9.1	81.8	9.1	0.0	0.0	100.0	0.0
	11	7	5	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	9	5	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	11	14	0	25	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17												
Sample Total		114	97	0	211	0.0	0.9	97.4	1.8	0.0	0.0	100.0	0.0
	3												
	4	19	16	0	35	0.0	0.0	100.0	0.0	0.0	12.5	87.5	0.0
	5	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	55	45	0	100	0.0	0.0	98.2	1.8	0.0	0.0	97.8	2.2
	8	47	45	0	92	0.0	0.0	95.7	4.3	0.0	0.0	100.0	0.0
	9	15	9	0	24	0.0	0.0	80.0	20.0	0.0	0.0	100.0	0.0
15 May	10	28	16	0	44	0.0	0.0	92.9	7.1	0.0	0.0	100.0	0.0
	11	12	8	0	20	0.0	0.0	91.7	8.3	0.0	0.0	87.5	12.5
	12	21	7	0	28	0.0	0.0	85.7	14.3	0.0	0.0	100.0	0.0
	13	14	10	0	24	0.0	0.0	85.7	14.3	0.0	0.0	100.0	0.0
	14	6	7	0	13	0.0	0.0	83.3	16.7	0.0	0.0	85.7	14.3
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		225	168	0	393	0.0	0.0	93.3	6.7	0.0	1.2	97.0	1.8
	3												
	4	35	32	0	67	0.0	0.0	91.4	8.6	0.0	6.3	90.6	3.1
	5	3	2	0	5	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	6	5	3	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	31	24	2	57	0.0	0.0	87.1	12.9	0.0	0.0	83.3	16.7
	8	21	26	1	48	0.0	0.0	85.7	14.3	0.0	0.0	46.2	53.8
	9	4	6	0	10	0.0	0.0	25.0	75.0	0.0	0.0	66.7	33.3
16 May	10	10	11	1	22	0.0	0.0	50.0	50.0	0.0	9.1	54.5	36.4
	11	5	2	0	7	0.0	0.0	40.0	60.0	0.0	0.0	50.0	50.0
	12	11	11	1	23	0.0	0.0	18.2	81.8	0.0	9.1	54.5	36.4
	13	10	9	4	23	0.0	0.0	50.0	50.0	0.0	0.0	44.4	55.6
	14	1	11	0	12	0.0	0.0	100.0	0.0	0.0	0.0	27.3	72.7
	15	1	0	0	1	0.0	0.0	0.0	100.0				
	16												
	17												
Sample Total		137	137	9	283	0.0	0.0	73.0	27.0	0.0	2.9	65.7	31.4

-Continued-

Appendix D.18. (p. 4 of 8)

		Sex (number)				Gonad Maturity (%) Male				Gonad Maturity (%) Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	8	7	0	15	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	13	13	0	26	0.0	0.0	92.3	7.7	0.0	0.0	100.0	0.0
	8	12	10	0	22	0.0	0.0	91.7	8.3	0.0	10.0	90.0	0.0
	9	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
17 May	10	9	2	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	6	5	0	11	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	13	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		63	48	0	111	0.0	0.0	93.7	6.3	0.0	2.1	97.9	0.0
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	46	39	0	85	0.0	0.0	97.8	2.2	0.0	7.7	89.7	2.6
	5	2	4	0	6	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	6	5	4	0	9	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	7	42	24	0	66	0.0	4.8	66.7	28.6	0.0	4.2	83.3	12.5
	8	30	35	0	65	0.0	3.3	70.0	26.7	0.0	2.9	68.6	28.6
	9	4	7	0	11	0.0	0.0	100.0	0.0	0.0	0.0	71.4	28.6
18 May	10	19	11	0	30	0.0	0.0	89.5	10.5	0.0	0.0	54.5	45.5
	11	7	5	0	12	0.0	0.0	71.4	28.6	0.0	0.0	40.0	60.0
	12	8	15	0	23	0.0	0.0	50.0	50.0	0.0	0.0	53.3	46.7
	13	14	17	0	31	0.0	0.0	50.0	50.0	0.0	0.0	70.6	29.4
	14	7	9	0	16	0.0	0.0	28.6	71.4	0.0	0.0	44.4	55.6
	15	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16	0	2	0	2					0.0	0.0	50.0	50.0
	17	0	1	0	1					0.0	0.0	0.0	100.0
Sample Total		186	175	0	361	0.0	1.6	76.3	22.0	0.0	4.0	71.4	24.6
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	34	50	0	84	0.0	0.0	100.0	0.0	0.0	16.0	82.0	2.0
	5	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	5	3	0	8	0.0	20.0	80.0	0.0	0.0	33.3	33.3	33.3
	7	19	15	0	34	0.0	0.0	100.0	0.0	0.0	6.7	80.0	13.3
	8	8	9	0	17	0.0	12.5	50.0	37.5	0.0	0.0	100.0	0.0
	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
19 May	10	8	7	0	15	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	11	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	12	3	5	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	4	3	0	7	0.0	0.0	100.0	0.0	0.0	33.3	33.3	33.3
	14	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	15												
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17												
Sample Total		89	100	0	189	0.0	4.5	86.5	9.0	0.0	11.0	84.0	5.0

-Continued-

Appendix D.18. (p. 5 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	54	65	0	119	0.0	13.0	87.0	0.0	0.0	12.3	86.2	1.5
	5	6	8	0	14	0.0	16.7	83.3	0.0	0.0	12.5	87.5	0.0
	6	3	5	0	8	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	7	32	36	0	68	0.0	12.5	84.4	3.1	0.0	2.8	97.2	0.0
	8	29	24	0	53	0.0	20.7	65.5	13.8	0.0	8.3	87.5	4.2
	9	8	4	0	12	0.0	12.5	87.5	0.0	0.0	0.0	100.0	0.0
20 May	10	9	7	0	16	0.0	44.4	55.6	0.0	0.0	0.0	85.7	14.3
	11	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	12	6	7	0	13	0.0	0.0	83.3	16.7	0.0	0.0	85.7	14.3
	13	6	6	0	12	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	14	3	0	0	3	0.0	0.0	66.7	33.3				
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17												
Sample Total		158	166	0	324	0.0	15.2	79.7	5.1	0.0	7.8	89.2	3.0
	3												
	4	55	58	0	113	0.0	0.0	100.0	0.0	0.0	0.0	96.6	3.4
	5	9	2	0	11	0.0	0.0	88.9	11.1	0.0	0.0	100.0	0.0
	6	0	2	0	2					0.0	0.0	100.0	0.0
	7	30	26	0	56	0.0	0.0	83.3	16.7	0.0	0.0	84.6	15.4
	8	23	22	0	45	0.0	0.0	82.6	17.4	0.0	0.0	77.3	22.7
	9	8	3	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
21 May	10	11	5	0	16	0.0	0.0	63.6	36.4	0.0	0.0	40.0	60.0
	11	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	12	11	2	0	13	0.0	0.0	27.3	72.7	0.0	0.0	0.0	100.0
	13	8	11	0	19	0.0	0.0	12.5	87.5	0.0	9.1	27.3	63.6
	14	7	9	0	16	0.0	0.0	0.0	100.0	0.0	0.0	11.1	88.9
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16												
	17												
Sample Total		164	142	0	306	0.0	0.0	76.8	23.2	0.0	0.7	76.1	23.2
	3	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	66.7	33.3
	4	32	32	0	64	0.0	6.3	56.3	37.5	0.0	0.0	68.8	31.3
	5	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	2	8	0	10	0.0	0.0	0.0	100.0	0.0	0.0	62.5	37.5
	8	5	5	0	10	0.0	0.0	60.0	40.0	0.0	0.0	80.0	20.0
	9	2	0	0	2	0.0	0.0	100.0	0.0				
29 May	10	3	3	0	6	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
	13	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	14	1	0	0	1	0.0	0.0	0.0	100.0				
	15												
	16												
	17												
Sample Total		52	57	0	109	0.0	3.8	57.7	38.5	0.0	0.0	68.4	31.6

-Continued-

Appendix D.18. (p. 6 of 8)

Sex (number)		Male				Gonad Maturity (%) Female							
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	13	15	0	28	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
	8	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	9												
30 May	10	4	0	0	4	0.0	0.0	75.0	25.0				
	11												
	12	2	0	0	2	0.0	0.0	100.0	0.0				
	13	3	0	0	3	0.0	0.0	33.3	66.7				
	14												
	15												
	16												
	17												
Sample Total		28	21	0	49	0.0	0.0	85.7	14.3	0.0	0.0	85.7	14.3
	3												
	4	25	20	0	45	0.0	0.0	4.0	96.0	0.0	0.0	0.0	100.0
	5	3	4	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	6	0	1	0	1					0.0	0.0	0.0	100.0
	7	5	1	0	6	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9												
31 May	10												
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	1	0	0	1	0.0	0.0	0.0	100.0				
	13	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14												
	15												
	16												
	17												
Sample Total		38	30	0	68	0.0	0.0	2.6	97.4	0.0	0.0	0.0	100.0
	3	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	4	24	25	0	49	0.0	4.2	87.5	8.3	0.0	4.0	80.0	16.0
	5	2	2	0	4	0.0	50.0	50.0	0.0	0.0	0.0	50.0	50.0
	6												
	7	5	2	0	7	0.0	0.0	60.0	40.0	0.0	0.0	0.0	100.0
	8	4	3	0	7	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	9	1	0	0	1	0.0	0.0	100.0	0.0				
2 June	10	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	11	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	13	3	4	0	7	0.0	0.0	0.0	100.0	0.0	0.0	25.0	75.0
	14	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
	16												
	17												
Sample Total		46	43	0	89	0.0	4.3	71.7	23.9	0.0	2.3	67.4	30.2

-Continued-

Appendix D.18. (p. 7 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	5												
	6												
	7												
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9												
4 June	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		2	5	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	3	0	3	0	3					0.0	66.7	33.3	0.0
	4	22	20	0	42	0.0	0.0	40.9	59.1	0.0	0.0	40.0	60.0
	5	3	2	0	5	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	8	3	1	0	4	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	9	0	1	0	1					0.0	0.0	100.0	0.0
5 June	10												
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12	3	0	0	3	0.0	0.0	0.0	100.0				
	13	3	1	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15												
	16												
	17												
Sample Total		38	31	0	69	0.0	0.0	31.6	68.4	0.0	6.5	35.5	58.1
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	11	11	0	22	0.0	0.0	45.5	54.5	0.0	18.2	63.6	18.2
	5												
	6	0	1	0	1					0.0	0.0	0.0	100.0
	7	5	7	0	12	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	8	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9												
6 June	10	0	4	0	4					0.0	0.0	0.0	100.0
	11	0	1	0	1					0.0	0.0	0.0	100.0
	12												
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14	0	1	0	1					0.0	0.0	0.0	100.0
	15												
	16												
	17												
Sample Total		18	29	0	47	0.0	0.0	27.8	72.2	0.0	10.3	24.1	65.5

-Continued-

Appendix D.18. (p. 8 of 8)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	22	12	0	34	0.0	0.0	54.5	45.5	0.0	8.3	50.0	41.7
	5	3	2	0	5	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	6												
	7	9	11	0	20	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	8	2	8	0	10	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
7 June	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11	0	2	0	2					0.0	0.0	0.0	100.0
	12												
	13	1	0	0	1	0.0	0.0	0.0	100.0				
	14	2	0	0	2	0.0	0.0	50.0	50.0				
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16												
	17												
Sample Total		41	38	0	79	0.0	0.0	46.3	53.7	0.0	2.6	15.8	81.6
	3												
	4	20	9	0	29	0.0	0.0	85.0	15.0	0.0	0.0	77.8	22.2
	5	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	6												
	7												
	8												
	9												
9 June	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11												
	12												
	13												
	14	0	1	0	1					0.0	0.0	0.0	100.0
	15												
	16												
	17												
Sample Total		22	12	0	34	0.0	0.0	81.8	18.2	0.0	0.0	66.7	33.3
	3	3	12	0	15	0.0	0.0	100.0	0.0	0.0	25.0	66.7	8.3
	4	447	436	0	883	0.0	3.1	80.0	16.8	0.0	7.8	78.2	14.0
	5	51	42	0	93	0.0	3.9	78.4	17.6	0.0	7.1	69.0	23.8
	6	34	26	0	60	0.0	5.9	94.1	0.0	0.0	11.5	76.9	11.5
	7	312	267	3	582	0.0	3.2	81.7	15.1	0.0	4.5	80.5	15.0
	8	252	262	1	515	0.0	5.2	80.2	14.7	0.0	3.8	77.9	18.3
	9	57	51	0	108	0.0	7.0	82.5	10.5	0.0	5.9	80.4	13.7
6 May- 9 June	10	142	99	1	242	0.0	8.5	76.1	15.5	0.0	4.0	78.8	17.2
	11	66	47	0	113	0.0	6.1	78.8	15.2	0.0	6.4	63.8	29.8
	12	115	80	1	196	0.0	2.6	70.4	27.0	0.0	10.0	68.8	21.3
	13	108	102	4	214	0.0	5.6	61.1	33.3	0.0	13.7	62.7	23.5
	14	47	55	0	102	0.0	4.3	53.2	42.6	0.0	3.6	47.3	49.1
	15	8	6	0	14	0.0	0.0	87.5	12.5	0.0	16.7	50.0	33.3
	16	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	17	0	2	0	2					0.0	0.0	50.0	50.0
All Samples		1644	1489	10	3143	0.0	4.4	77.7	17.9	0.0	6.7	74.9	18.3

Appendix E

Appendix E.1. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Kulukak Section, 20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
20 May	4	18	19	0	37	12.7	169	21.8	37	234	11.3	37
	5	74	69	0	143	49.0	212	25.9	143	249	8.7	143
	6	3	1	0	4	1.4	259	50.9	4	258	8.8	4
	7	1	2	0	3	1.0	307	67.8	3	274	14.0	3
	8	23	31	0	54	18.5	352	51.8	54	285	11.8	54
	9	9	19	0	28	9.6	392	63.5	28	291	12.2	28
	10	4	3	0	7	2.4	430	54.9	7	304	11.6	7
	11	5	3	0	8	2.7	448	61.3	8	299	12.9	8
	12	2	2	0	4	1.4	525	82.4	4	319	9.8	4
	13	1	1	0	2	0.7	466	101.1	2	306	8.5	2
	14	0	2	0	2	0.7	547	107.5	2	327	24.0	2
Sample Total		140	152	0	292	100.0	271	102.0	292	263	25.3	292
Sex Composition		47.9	52.1									
Unaged		53	58	0	111	38.0	289	121.2	111	266	29.7	111
Sex Composition		47.7	52.3									

Appendix E.2. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Nunavachak Section, 20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	0	0	1	0.4	101		1	195		1
	4	10	0	0	10	3.6	156	21.4	10	226	11.3	10
	5	10	8	0	18	6.5	227	22.2	18	254	7.0	18
	6	0	1	0	1	0.4	253		1	259		1
	7	1	2	0	3	1.1	346	31.4	3	289	13.1	3
	8	17	25	0	42	15.1	377	57.3	42	292	10.8	42
	9	20	37	0	57	20.4	427	65.9	57	300	11.0	57
20 May	10	10	8	0	18	6.5	439	48.5	18	306	10.3	18
	11	14	16	0	30	10.8	473	53.6	30	309	8.5	30
	12	7	9	0	16	5.7	499	52.8	16	317	7.8	16
	13	7	2	0	9	3.2	536	55.0	9	324	9.3	9
	14	15	30	0	45	16.1	533	60.9	45	324	8.7	45
	15	11	14	0	25	9.0	571	84.0	25	326	9.3	25
	16	2	0	0	2	0.7	568	2.1	2	318	9.9	2
	17	0	1	0	1	0.4	561		1	325		1
	18	1	0	0	1	0.4	603		1	336		1
Sample Total		126	153	0	279	100.0	440	119.4	279	302	26.3	279
Sex Composition		45.2	54.8									
Unaged		21	18	0	39	14.0	442	93.6	39	305	19.2	39
Sex Composition		53.8	46.2									

Appendix E.3. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Togiak Section, 20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	0	1	0	1	0.3	105		1	205		1
	4	53	69	0	122	33.0	156	20.8	122	230	8.6	122
	5	70	113	0	183	49.5	203	37.3	183	247	10.5	183
	6	2	3	0	5	1.4	183	26.2	5	242	9.5	5
	7	1	2	0	3	0.8	291	16.9	3	269	4.2	3
	8	7	11	0	18	4.9	371	65.5	18	291	12.9	18
	9	8	6	0	14	3.8	383	46.6	14	298	8.6	14
20 May	10	0	3	0	3	0.8	348	133.1	3	285	36.2	3
	11	2	4	0	6	1.6	479	154.8	6	308	28.1	6
	12	1	3	0	4	1.1	487	88.6	4	314	14.9	4
	13	2	4	0	6	1.6	539	49.0	6	326	9.2	6
	14	2	1	0	3	0.8	501	34.3	3	317	4.0	3
	15											
	16											
	17											
	18	2	0	0	2	0.5	371	33.9	2	300	8.5	2
Sample Total		150	220	0	370	100.0	220	99.0	370	250	26.1	370
Sex Composition		40.5	59.5									
Unaged		12	18	0	30	8.1	228	105.4	30	251	27.3	30
Sex Composition		40.0	60.0									

Appendix E.4. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Walrus Islands Section, 18 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	6	8	0	14	3.9	158	20.0	14	228	11.2	14
	5	16	21	0	37	10.2	225	47.4	37	249	10.0	37
	6	1	1	0	2	0.6	245	2.1	2	260	15.6	2
	7	7	1	0	8	2.2	375	97.7	8	278	8.6	8
	8	32	22	0	54	14.9	386	42.5	54	290	9.4	54
	9	21	21	0	42	11.6	426	34.6	42	297	10.2	42
	10	9	10	0	19	5.2	467	45.5	19	306	10.5	19
18 May	11	22	27	0	49	13.5	503	52.9	49	311	10.7	49
	12	13	15	0	28	7.7	524	61.9	28	314	10.9	28
	13	24	20	0	44	12.2	534	62.5	44	320	9.8	44
	14	16	25	0	41	11.3	574	53.3	41	324	10.4	41
	15	10	12	0	22	6.1	573	65.6	22	328	9.5	22
	16	0	1	0	1	0.3	664		1	343		1
	17											
	18	1	0	0	1	0.3	435		1	293		1
Sample Total		178	184	0	362	100.0	447	128.8	362	299	28.3	362
Sex Composition		49.2	50.8									
Unaged		15	16	0	31	8.6	480	137.2	31	304	30.0	31
Sex Composition		48.4	51.6									

Appendix E.5. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Hagemeister Section, 20 May 1992.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
20 May	3	1	0	0	1	0.3	158		1	234		1
	4	1	0	0	1	0.3	118		1	211		1
	5	1	3	0	4	1.2	239	38.1	4	259	9.9	4
	6	2	1	0	3	0.9	265	59.5	3	266	13.0	3
	7	1	2	1	4	1.2	333	67.9	3	279	7.3	4
	8	17	23	0	40	11.7	381	59.8	39	294	8.2	40
	9	23	29	0	52	15.2	429	45.5	52	303	7.4	52
	10	6	6	1	13	3.8	494	68.8	12	313	12.5	13
	11	24	22	2	48	14.1	493	60.6	45	312	9.4	48
	12	17	20	1	38	11.1	530	52.4	37	319	9.0	38
	13	23	20	0	43	12.6	516	65.1	43	320	11.6	43
	14	21	43	0	64	18.8	554	67.7	63	325	8.4	64
	15	8	18	0	26	7.6	556	58.8	25	326	8.8	26
	16	0	2	0	2	0.6	586		1	337	8.5	2
	17	0	1	0	1	0.3	631		1	332		1
	18	0	1	0	1	0.3	544		1	331		1
Sample Total		145	191	5	341	100.0	485	95.2	331	312	17.5	341
Sex Composition		43.2	56.8									
Unaged		12	30	0	42	12.3	502	96.9	42	315	17.7	42
Sex Composition		28.6	71.4									

Appendix E.6. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Pyrite Point Section, 20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	2	1	0	3	1.0	157	31.0	3	227	8.3	3
	5	5	3	0	8	2.7	216	37.2	8	251	9.5	8
	6	3	2	0	5	1.7	257	23.1	5	269	10.5	5
	7	4	1	0	5	1.7	296	65.7	5	273	17.5	5
	8	20	29	0	49	16.4	369	55.0	46	288	11.8	49
	9	22	25	0	47	15.8	408	50.3	46	299	9.2	47
	10	3	6	0	9	3.0	448	68.4	9	307	12.3	9
20 May	11	19	19	0	38	12.8	485	47.1	38	313	9.2	38
	12	15	13	0	28	9.4	512	62.2	28	319	12.3	28
	13	11	19	0	30	10.1	537	52.3	29	319	9.7	30
	14	20	34	1	55	18.5	543	52.7	54	322	10.1	55
	15	7	10	0	17	5.7	566	52.3	17	328	9.5	17
	16	3	0	0	3	1.0	545	49.9	3	335	2.1	3
	17											
	18	1	0	0	1	0.3	514		1	318		1
Sample Total		135	162	1	298	100.0	459	105.4	292	306	21.7	298
Sex Composition		45.5	54.5									
Unaged		31	25	0	56	18.8	456	108.1	54	307	21.3	56
Sex Composition		55.4	44.6									

Appendix E.7. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Cape Newenham Section, 20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
20 May	4	0	1	0	1	1.4	137		1	224		1
	5	0	1	0	1	1.4	244		1	258		1
	6											
	7	1	0	0	1	1.4	309		1	273		1
	8	0	3	0	3	4.3	366	57.2	3	289	16.0	3
	9	7	5	0	12	17.4	457	56.1	12	305	11.0	12
	10	2	2	0	4	5.8	444	94.2	4	303	11.1	4
	11	2	5	0	7	10.1	522	42.3	7	323	9.3	7
	12	4	2	0	6	8.7	492	54.2	6	314	12.0	6
	13	7	7	0	14	20.3	535	58.6	14	320	12.4	14
	14	4	9	0	13	18.8	554	53.8	13	322	13.7	13
	15	2	5	0	7	10.1	531	57.5	7	321	14.2	7
Sample Total		29	40	0	69	100.0	494	92.2	69	312	19.9	69
Sex Composition		42.0	58.0									
Unaged		2	1	0	3	4.3	486	50.7	3	313	4.0	3
Sex Composition		66.7	33.3									

Appendix E.8. Age, sex, and size composition of Pacific herring caught by commercial purse seine, Kulukak, Nunavachak, Togiak, Hagemeister, Pyrite Point and Cape Newenham sections combined, 20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	2	1	0	3	0.2	121	31.8	3	211	20.3	3
	4	84	90	0	174	10.6	158	21.9	174	230	9.6	174
	5	160	197	0	357	21.6	209	33.1	357	248	9.8	357
	6	10	8	0	18	1.1	238	48.9	18	258	14.3	18
	7	9	9	1	19	1.2	312	51.9	18	276	12.7	19
	8	84	122	0	206	12.5	368	57.0	202	290	11.5	206
	9	89	121	0	210	12.7	417	58.2	209	300	10.5	210
20 May	10	25	28	1	54	3.3	447	71.8	53	306	14.3	54
	11	66	69	2	137	8.3	485	62.0	134	311	11.3	137
	12	46	49	1	96	5.8	515	58.6	95	318	10.2	96
	13	51	53	0	104	6.3	527	59.7	103	320	10.9	104
	14	62	119	1	182	11.0	544	60.8	180	323	9.6	182
	15	28	47	0	75	4.5	561	66.8	74	326	9.6	75
	16	5	2	0	7	0.4	559	35.9	6	331	10.2	7
	17	0	2	0	2	0.1	596	49.5	2	329	4.9	2
	18	4	1	0	5	0.3	481	106.4	5	317	17.4	5
Sample Total		725	918	6	1649	100.0	375	151.9	1633	287	35.1	1649
Sex Composition		44.1	55.9									
Unaged		131	150	0	281	17.0	370	146.7	279	286	34.2	281
Sex Composition		46.6	53.4									

Appendix E.9. Age, sex, and size composition of Pacific herring caught by commercial gill net, Kulukak Section, 20-26 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4											
	5	10	8	0	18	16.2	258	33.7	18	261	11.2	18
	6	3	0	0	3	2.7	287	24.0	3	263	2.9	3
	7	1	1	0	2	1.8	316	46.0	2	277	17.0	2
	8	15	12	0	27	24.3	366	49.8	27	287	12.9	27
	9	17	7	0	24	21.6	396	66.2	24	294	16.7	24
	10	1	1	0	2	1.8	418	10.6	2	305	14.1	2
20 May	11	5	5	0	10	9.0	483	29.1	10	310	8.3	10
	12	4	0	0	4	3.6	475	56.1	4	309	12.1	4
	13	1	2	0	3	2.7	472	36.5	3	309	16.8	3
	14	6	3	0	9	8.1	524	58.9	9	320	10.7	9
	15	4	4	0	8	7.2	525	57.5	8	319	9.0	8
	16	0	1	0	1	0.9	599		1	330		1
	17											
	18											
Sample Total		67	44	0	111	100.0	397	100.7	111	293	22.8	111
	4											
	5	3	3	0	6	2.6	249	14.3	6	260	8.3	6
	6	0	1	0	1	0.4	241		1	250		1
	7	7	5	0	12	5.1	337	42.3	12	285	9.6	12
	8	38	32	0	70	29.9	360	41.2	70	289	10.6	70
	9	38	29	0	67	28.6	391	45.9	67	296	11.8	67
	10	5	3	0	8	3.4	410	20.9	8	304	7.8	8
22 May	11	13	9	0	22	9.4	445	55.8	22	309	13.6	22
	12	8	6	0	14	6.0	446	54.2	14	310	8.9	14
	13	10	8	0	18	7.7	484	57.5	18	319	11.7	18
	14	6	6	0	12	5.1	509	44.8	12	321	11.7	12
	15	2	2	0	4	1.7	546	44.0	4	327	10.8	4
	16											
	17											
	18											
Sample Total		130	104	0	234	100.0	399	72.4	234	298	17.3	234
	4	1	0	0	1	0.4	246		1	261		1
	5	9	15	0	24	9.0	233	17.2	24	259	6.9	24
	6	4	1	0	5	1.9	270	17.2	5	268	7.6	5
	7	2	6	0	8	3.0	318	40.6	8	282	8.7	8
	8	49	42	0	91	34.1	350	44.5	91	290	9.2	91
	9	39	27	0	66	24.7	377	39.6	66	297	10.7	66
	10	8	3	0	11	4.1	384	20.9	11	298	6.7	11
25 May	11	12	5	0	17	6.4	442	40.5	17	309	10.1	17
	12	6	6	0	12	4.5	462	78.6	12	312	13.2	12
	13	6	3	0	9	3.4	479	49.0	9	324	8.1	9
	14	9	8	0	17	6.4	493	70.3	17	318	11.2	17
	15	3	2	0	5	1.9	452	32.6	5	327	10.0	5
	16											
	17											
	18	0	1	0	1	0.4	483		1	335		1
Sample Total		148	119	0	267	100.0	371	79.5	267	295	18.7	267

-Continued-

Appendix E.9. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4											
	5	1	1	0	2	2.1	223	60.8	2	251	19.8	2
	6											
	7	3	1	0	4	4.2	329	17.0	4	283	3.5	4
	8	13	8	0	21	22.1	343	36.9	21	285	6.1	21
	9	11	15	0	26	27.4	381	42.5	26	295	11.5	26
	10	2	2	0	4	4.2	393	28.8	4	303	5.0	4
26 May	11	4	2	0	6	6.3	403	33.2	6	308	7.2	6
	12	2	4	0	6	6.3	410	36.8	6	310	10.4	6
	13	0	1	0	1	1.1	502		1	318		1
	14	11	7	0	18	18.9	477	80.5	18	318	12.6	18
	15	5	1	0	6	6.3	499	98.2	6	322	8.8	6
	16											
	17											
	18	1	0	0	1	1.1	324		1	288		1
Sample Total		53	42	0	95	100.0	397	79.5	95	299	17.9	95
	4	1	0	0	1	0.1	246		1	261		1
	5	23	27	0	50	7.1	243	28.0	50	260	9.2	50
	6	7	2	0	9	1.3	272	22.2	9	264	8.0	9
	7	13	13	0	26	3.7	328	38.2	26	283	8.9	26
	8	115	94	0	209	29.6	355	43.7	209	289	10.1	209
	9	105	78	0	183	25.9	385	46.7	183	296	12.1	183
	10	16	9	0	25	3.5	397	24.2	25	301	7.5	25
20-26 May	11	34	21	0	55	7.8	446	49.0	55	309	10.9	55
	12	20	16	0	36	5.1	448	62.4	36	311	10.6	36
	13	17	14	0	31	4.4	482	51.3	31	320	11.4	31
	14	32	24	0	56	7.9	496	68.1	56	319	11.5	56
	15	14	9	0	23	3.3	506	69.2	23	323	9.5	23
	16	0	1	0	1	0.1	599		1	330		1
	17											
	18	1	1	0	2	0.3	404	112.4	2	312	33.2	2
All Samples Combined		398	309	0	707	100.0	388	81.9	707	296	19.0	707
Sex Composition		56.3	43.7									
Unaged		79	72	0	151	21.4	388	73.2	151	294	19.1	151
Sex Composition		52.3	47.7									

Appendix E.10. Age, sex, and size composition of Pacific herring caught by commercial gill net, Nunavachak Section, 20-27 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
20 May	5											
	6											
	7	1	0	0	1	0.7	319		1	273		1
	8	8	11	0	19	14.0	344	29.4	19	295	11.4	19
	9	27	11	0	38	27.9	382	53.7	38	302	10.6	38
	10	1	0	0	1	0.7	312		1	296		1
	11	15	10	0	25	18.4	418	54.5	25	317	9.0	25
	12	5	3	0	8	5.9	440	67.7	8	316	11.8	8
	13	5	4	0	9	6.6	456	50.9	9	321	7.3	9
	14	10	14	0	24	17.6	459	61.8	24	323	12.3	24
	15	8	3	0	11	8.1	490	60.1	11	326	10.2	11
	16											
Sample Total		80	56	0	136	100.0	413	69.7	136	311	15.2	136
27 May	5	5	5	0	10	6.2	196	21.2	10	238	5.4	10
	6	1	2	0	3	1.9	286	59.4	3	258	11.2	3
	7	4	2	0	6	3.7	369	40.4	6	287	9.7	6
	8	29	19	0	48	29.6	342	49.4	43	281	12.6	48
	9	23	24	0	47	29.0	364	49.2	46	285	9.7	47
	10	5	2	0	7	4.3	349	89.0	5	285	12.1	7
	11	6	8	0	14	8.6	416	71.3	13	300	14.5	13
	12	6	3	0	9	5.6	430	49.5	9	305	15.3	9
	13	4	0	0	4	2.5	377	65.6	4	295	16.8	4
	14	4	1	0	5	3.1	409	83.6	5	297	16.8	5
	15	4	2	0	6	3.7	473	73.0	5	312	8.3	6
	16	1	2	0	3	1.9	479	82.6	3	272	60.5	3
Sample Total		92	70	0	162	100.0	361	78.2	152	284	20.2	161
20-27 May	5	5	5	0	10	3.4	196	21.2	10	238	5.4	10
	6	1	2	0	3	1.0	286	59.4	3	258	11.2	3
	7	5	2	0	7	2.3	361	41.3	7	285	10.3	7
	8	37	30	0	67	22.5	343	44.0	62	285	13.8	67
	9	50	35	0	85	28.5	372	51.7	84	293	13.2	85
	10	6	2	0	8	2.7	343	81.0	6	287	11.9	8
	11	21	18	0	39	13.1	418	59.8	38	311	13.5	38
	12	11	6	0	17	5.7	435	57.0	17	310	14.5	17
	13	9	4	0	13	4.4	431	65.1	13	313	16.5	13
	14	14	15	0	29	9.7	451	67.2	29	318	16.1	29
	15	12	5	0	17	5.7	485	62.4	16	321	11.5	17
	16	1	2	0	3	1.0	479	82.6	3	272	60.5	3
All Samples Combined		172	126	0	298	100.0	386	78.7	288	297	22.5	297
Sex Composition		57.7	42.3									
Unaged		13	13	0	26	8.7	381	70.8	26	297	20.1	26
Sex Composition		50.0	50.0									

Appendix E.11. Age, sex, and size composition of Pacific herring caught by commercial gill net, Togiak, 21 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
21 May	7	3	2	0	5	3.7	350	17.7	5	278	5.3	5
	8	15	19	0	34	25.2	375	42.5	34	289	10.1	34
	9	17	20	0	37	27.4	390	47.6	37	291	9.6	37
	10	2	1	0	3	2.2	374	31.5	3	294	13.9	3
	11	9	10	0	19	14.1	442	47.4	19	305	8.9	19
	12	2	3	0	5	3.7	457	52.2	5	304	7.3	5
	13	5	3	0	8	5.9	473	81.5	8	316	8.7	8
	14	11	7	0	18	13.3	489	47.1	18	321	7.8	18
	15	1	4	0	5	3.7	531	87.4	5	322	9.5	5
	16											
	17											
	18	1	0	0	1	0.7	362		1	281		1
Sample Total		66	69	0	135	100.0	417	68.6	135	299	15.9	135
Sex Composition		48.9	51.1									
Unaged		11	3	0	14	10.4	430	63.6	14	300	16.3	14
Sex Composition		78.6	21.4									

Appendix E.12. Age, sex, and size composition of Pacific herring caught by commercial gill net, Kulukak, Nunavachak, and Togiak sections combined, 20-27 May 1992.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
20 May	4											
	5	10	8	0	18	7.3	258	33.7	18	261	11.2	18
	6	3	0	0	3	1.2	287	24.0	3	263	2.9	3
	7	2	1	0	3	1.2	317	32.6	3	276	12.2	3
	8	23	23	0	46	18.6	357	43.4	46	290	12.8	46
	9	44	18	0	62	25.1	387	58.8	62	299	13.8	62
	10	2	1	0	3	1.2	382	61.4	3	302	11.3	3
	11	20	15	0	35	14.2	437	56.5	35	315	9.2	35
	12	9	3	0	12	4.9	452	63.7	12	314	11.8	12
	13	6	6	0	12	4.9	460	46.7	12	318	11.0	12
	14	16	17	0	33	13.4	477	66.9	33	322	11.8	33
	15	12	7	0	19	7.7	505	60.0	19	323	10.1	19
	16	0	1	0	1	0.4	599		1	330		1
	17											
	18											
Sample Total		147	100	0	247	100.0	406	85.3	247	303	21.1	247
21 May	4											
	5											
	6											
	7	3	2	0	5	3.7	350	17.7	5	278	5.3	5
	8	15	19	0	34	25.2	375	42.5	34	289	10.1	34
	9	17	20	0	37	27.4	390	47.6	37	291	9.6	37
	10	2	1	0	3	2.2	374	31.5	3	294	13.9	3
	11	9	10	0	19	14.1	442	47.4	19	305	8.9	19
	12	2	3	0	5	3.7	457	52.2	5	304	7.3	5
	13	5	3	0	8	5.9	473	81.5	8	316	8.7	8
	14	11	7	0	18	13.3	489	47.1	18	321	7.8	18
	15	1	4	0	5	3.7	531	87.4	5	322	9.5	5
	16											
	17											
	18	1	0	0	1	0.7	362		1	281		1
Sample Total		66	69	0	135	100.0	417	68.6	135	299	15.9	135
22 May	4											
	5	3	3	0	6	2.6	249	14.3	6	260	8.3	6
	6	0	1	0	1	0.4	241		1	250		1
	7	7	5	0	12	5.1	337	42.3	12	285	9.6	12
	8	38	32	0	70	29.9	360	41.2	70	289	10.6	70
	9	38	29	0	67	28.6	391	45.9	67	296	11.8	67
	10	5	3	0	8	3.4	410	20.9	8	304	7.8	8
	11	13	9	0	22	9.4	445	55.8	22	309	13.6	22
	12	8	6	0	14	6.0	446	54.2	14	310	8.9	14
	13	10	8	0	18	7.7	484	57.5	18	319	11.7	18
	14	6	6	0	12	5.1	509	44.8	12	321	11.7	12
	15	2	2	0	4	1.7	546	44.0	4	327	10.8	4
	16											
	17											
	18											
Sample Total		130	104	0	234	100.0	399	72.4	234	298	17.3	234

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Appendix E.12. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	1	0	0	1	0.4	246		1	261		1
	5	9	15	0	24	9.0	233	17.2	24	259	6.9	24
	6	4	1	0	5	1.9	270	17.2	5	268	7.6	5
	7	2	6	0	8	3.0	318	40.6	8	282	8.7	8
	8	49	42	0	91	34.1	350	44.5	91	290	9.2	91
	9	39	27	0	66	24.7	377	39.6	66	297	10.7	66
	10	8	3	0	11	4.1	384	20.9	11	298	6.7	11
25 May	11	12	5	0	17	6.4	442	40.5	17	309	10.1	17
	12	6	6	0	12	4.5	462	78.6	12	312	13.2	12
	13	6	3	0	9	3.4	479	49.0	9	324	8.1	9
	14	9	8	0	17	6.4	493	70.3	17	318	11.2	17
	15	3	2	0	5	1.9	452	32.6	5	327	10.0	5
	16											
	17											
	18	0	1	0	1	0.4	483		1	335		1
Sample Total		148	119	0	267	100.0	371	79.5	267	295	18.7	267
	4											
	5	1	1	0	2	2.1	223	60.8	2	251	19.8	2
	6											
	7	3	1	0	4	4.2	329	17.0	4	283	3.5	4
	8	13	8	0	21	22.1	343	36.9	21	285	6.1	21
	9	11	15	0	26	27.4	381	42.5	26	295	11.5	26
	10	2	2	0	4	4.2	393	28.8	4	303	5.0	4
26 May	11	4	2	0	6	6.3	403	33.2	6	308	7.2	6
	12	2	4	0	6	6.3	410	36.8	6	310	10.4	6
	13	0	1	0	1	1.1	502		1	318		1
	14	11	7	0	18	18.9	477	80.5	18	318	12.6	18
	15	5	1	0	6	6.3	499	98.2	6	322	8.8	6
	16											
	17											
	18	1	0	0	1	1.1	324		1	288		1
Sample Total		53	42	0	95	100.0	397	79.5	95	299	17.9	95
	4											
	5	5	5	0	10	6.2	196	21.2	10	238	5.4	10
	6	1	2	0	3	1.9	286	59.4	3	258	11.2	3
	7	4	2	0	6	3.7	369	40.4	6	287	9.7	6
	8	29	19	0	48	29.6	342	49.4	43	281	12.6	48
	9	23	24	0	47	29.0	364	49.2	46	285	9.7	47
	10	5	2	0	7	4.3	349	89.0	5	285	12.1	7
27 May	11	6	8	0	14	8.6	416	71.3	13	300	14.5	13
	12	6	3	0	9	5.6	430	49.5	9	305	15.3	9
	13	4	0	0	4	2.5	377	65.6	4	295	16.8	4
	14	4	1	0	5	3.1	409	83.6	5	297	16.8	5
	15	4	2	0	6	3.7	473	73.0	5	312	8.3	6
	16	1	2	0	3	1.9	479	82.6	3	272	60.5	3
	17											
	18											
Sample Total		92	70	0	162	100.0	361	78.2	152	284	20.2	161

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Appendix E.12. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	1	0	0	1	0.1	246		1	261		1
	5	28	32	0	60	5.3	235	32.1	60	256	11.8	60
	6	8	4	0	12	1.1	276	32.2	12	263	8.7	12
	7	21	17	0	38	3.3	337	38.6	38	283	8.9	38
	8	167	143	0	310	27.2	354	44.3	305	288	11.1	310
	9	172	133	0	305	26.8	382	48.5	304	294	12.3	305
	10	24	12	0	36	3.2	385	43.8	34	297	10.8	36
20-27 May	11	64	49	0	113	9.9	436	53.8	112	309	11.7	112
	12	33	25	0	58	5.1	445	59.6	58	310	11.6	58
	13	31	21	0	52	4.6	468	62.6	52	318	12.6	52
	14	57	46	0	103	9.0	482	67.1	103	319	12.4	103
	15	27	18	0	45	3.9	501	68.8	44	322	10.1	45
	16	1	3	0	4	0.4	509	90.2	4	286	57.3	4
	17											
	18	2	1	0	3	0.3	390	83.0	3	301	29.4	3
All Samples Combined		636	504	0	1140	100.0	391	80.1	1130	297	19.6	1139
Sex Composition		55.8	44.2									
Unaged		103	88	0	191	16.8	390	72.8	191	295	19.0	191
Sex Composition		53.9	46.1									

Appendix E.13. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Kulukak Section, 19-20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	0	0	1	0.6	135		1	223		1
	4	8	8	0	16	10.4	165	20.6	16	232	9.5	16
	5	31	33	2	66	42.9	214	31.2	66	252	10.9	66
	6	1	1	0	2	1.3	252	89.8	2	257	30.4	2
	7	2	0	0	2	1.3	336	7.1	2	291	4.9	2
	8	7	11	0	18	11.7	367	60.3	18	289	14.2	18
	9	10	5	0	15	9.7	422	55.8	15	302	9.9	15
19 May	10	1	1	0	2	1.3	518	89.1	2	319	4.9	2
	11	2	6	0	8	5.2	523	60.7	8	316	5.7	8
	12	1	3	0	4	2.6	502	65.1	4	314	13.6	4
	13	1	7	0	8	5.2	587	38.7	8	329	12.2	8
	14	2	9	0	11	7.1	578	43.1	11	326	7.0	11
	15											
	16											
	17											
	18	1	0	0	1	0.6	614		1	343		1
Sample Total		68	84	2	154	100.0	324	152.5	154	275	34.3	154
	3											
	4	4	9	0	13	13.3	175	27.1	13	235	12.0	13
	5	6	6	0	12	12.2	204	28.9	12	250	8.0	12
	6	0	1	0	1	1.0	300		1	275		1
	7	2	1	0	3	3.1	306	69.3	3	279	10.1	3
	8	6	8	0	14	14.3	404	78.7	14	298	15.4	14
	9	6	5	0	11	11.2	459	42.9	11	307	10.0	11
20 May	10	0	4	0	4	4.1	442	57.3	4	301	10.7	4
	11	5	8	0	13	13.3	516	58.9	13	316	9.4	13
	12	2	3	0	5	5.1	504	19.9	5	314	11.8	5
	13	2	3	0	5	5.1	567	75.7	5	327	10.0	5
	14	1	9	0	10	10.2	570	62.1	10	326	8.0	10
	15	2	5	0	7	7.1	510	79.4	7	322	12.8	7
	16											
	17											
	18											
Sample Total		36	62	0	98	100.0	405	151.2	98	293	34.1	98
	3	1	0	0	1	0.4	135		1	223		1
	4	12	17	0	29	11.5	170	23.8	29	233	10.6	29
	5	37	39	2	78	31.0	212	30.9	78	252	10.5	78
	6	1	2	0	3	1.2	268	69.4	3	263	24.0	3
	7	4	1	0	5	2.0	318	51.8	5	284	9.9	5
	8	13	19	0	32	12.7	383	70.2	32	293	15.2	32
	9	16	10	0	26	10.3	438	53.1	26	304	10.0	26
19-20 May	10	1	5	0	6	2.4	468	71.3	6	307	12.6	6
	11	7	14	0	21	8.3	518	58.2	21	316	8.0	21
	12	3	6	0	9	3.6	503	42.3	9	314	11.8	9
	13	3	10	0	13	5.2	579	53.8	13	328	11.0	13
	14	3	18	0	21	8.3	574	51.7	21	326	7.3	21
	15	2	5	0	7	2.8	510	79.4	7	322	12.8	7
	16											
	17											
	18	1	0	0	1	0.4	614		1	343		1
All Samples Combined		104	146	2	252	100.0	356	156.8	252	282	35.3	252
Sex Composition		41.6	58.4									
Unaged		52	40	0	92	36.5	396	150.2	92	291	37.5	92
Sex Composition		56.5	43.5									

Appendix E.14. Age, sex, and size composition of Pacific herring caught with test commercial purse seine, Nunavachak Section, 16-20 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
16 May	3											
	4											
	5	0	1	0	1	100.0	194		1	250		1
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
Sample Total		0	1	0	1	100.0	194		1	250		1
17 May	3											
	4	14	13	0	27	20.0	166	24.5	27	235	9.7	27
	5	43	35	0	78	57.8	193	25.3	78	245	9.2	78
	6	2	2	0	4	3.0	224	26.1	4	256	5.8	4
	7	2	0	0	2	1.5	307	62.2	2	275	7.8	2
	8	5	2	0	7	5.2	334	61.7	7	278	10.2	7
	9	3	4	0	7	5.2	391	51.4	7	291	6.2	7
	10	0	4	0	4	3.0	397	37.4	4	294	5.7	4
	11											
	12											
	13	1	1	0	2	1.5	523	82.0	2	317	2.8	2
	14	2	1	0	3	2.2	544	45.7	3	322	1.0	3
	15											
	16	0	1	0	1	0.7	562		1	333		1
Sample Total		72	63	0	135	100.0	229	98.4	135	253	23.7	135
19 May	3	0	2	0	2	1.5	130	2.8	2	221	2.1	2
	4	23	26	0	49	36.0	160	20.6	49	231	9.3	49
	5	35	37	0	72	52.9	202	26.5	72	247	8.5	72
	6	0	1	0	1	0.7	200		1	240		1
	7											
	8	4	1	0	5	3.7	360	23.2	5	283	7.6	5
	9	1	2	0	3	2.2	407	85.3	3	295	15.2	3
	10											
	11	1	1	0	2	1.5	455	55.2	2	303	0.7	2
	12											
	13	1	0	0	1	0.7	487		1	325		1
	14											
	15	0	1	0	1	0.7	535		1	319		1
	16											
Sample Total		65	71	0	136	100.0	204	74.8	136	245	20.2	136

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Appendix E.14. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	0	1	0	1	4.3	188		1	235		1
	5	2	0	0	2	8.7	209	17.7	2	260	9.2	2
	6	1	0	0	1	4.3	210		1	252		1
	7	0	1	0	1	4.3	323		1	279		1
	8	0	4	0	4	17.4	400	18.1	4	298	5.6	4
20 May	9	3	1	0	4	17.4	460	62.3	4	308	10.0	4
	10	1	0	0	1	4.3	393		1	306		1
	11	0	2	0	2	8.7	506	31.1	2	328	4.9	2
	12											
	13	3	1	0	4	17.4	548	112.5	4	328	13.6	4
	14	0	2	0	2	8.7	549	10.6	2	326	0.0	2
	15	0	1	0	1	4.3	653		1	349		1
	16											
Sample Total		10	13	0	23	100.0	432	138.5	23	304	29.9	23
	3	0	2	0	2	0.7	130	2.8	2	221	2.1	2
	4	37	40	0	77	26.1	163	22.1	77	232	9.6	77
	5	80	73	0	153	51.9	197	26.0	153	246	9.1	153
	6	3	3	0	6	2.0	217	22.6	6	252	7.7	6
	7	2	1	0	3	1.0	312	45.0	3	276	6.1	3
	8	9	7	0	16	5.4	359	49.7	16	285	11.7	16
16-20 May	9	7	7	0	14	4.7	414	64.8	14	297	11.3	14
	10	1	4	0	5	1.7	396	32.4	5	297	7.2	5
	11	1	3	0	4	1.4	481	46.9	4	315	14.7	4
	12											
	13	5	2	0	7	2.4	532	89.3	7	324	10.9	7
	14	2	3	0	5	1.7	546	32.9	5	324	2.3	5
	15	0	2	0	2	0.7	594	83.4	2	334	21.2	2
	16	0	1	0	1	0.3	562		1	333		1
All Samples Combined		147	148	0	295	100.0	233	109.1	295	253	27.2	295
Sex Composition		49.8	50.2									
Unaged		13	4	0	17	5.8	280	146.8	17	266	35.6	17
Sex Composition		76.5	23.5									

Appendix E.15. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Togiak Section, 17-24 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
17 May	3											
	4	7	11	0	18	29.0	149	17.0	18	223	7.9	18
	5	18	17	0	35	56.5	203	30.7	35	243	9.8	35
	6	1	1	0	2	3.2	225	43.1	2	258	14.8	2
	7											
	8	0	2	0	2	3.2	369	23.3	2	280	7.1	2
	9	0	2	0	2	3.2	440	63.6	2	293	6.4	2
	10	0	1	0	1	1.6	350		1	278		1
	11	1	0	0	1	1.6	517		1	310		1
	12											
	13	1	0	0	1	1.6	371		1	292		1
	14											
	15											
	16											
Sample Total		28	34	0	62	100.0	211	81.8	62	243	21.6	62
18 May	3	1	0	0	1	1.5	138		1	219		1
	4	20	15	0	35	53.8	151	20.1	35	228	8.0	35
	5	12	6	0	18	27.7	184	26.7	18	241	8.9	18
	6	0	1	0	1	1.5	230		1	258		1
	7											
	8	1	0	0	1	1.5	327		1	280		1
	9	1	2	0	3	4.6	428	52.7	3	296	9.9	3
	10	0	1	0	1	1.5	493		1	311		1
	11	1	1	0	2	3.1	558	91.2	2	316	14.8	2
	12											
	13											
	14	2	0	0	2	3.1	537	23.3	2	326	1.4	2
	15	1	0	0	1	1.5	525		1	330		1
	16											
Sample Total		39	26	0	65	100.0	212	123.0	65	244	30.5	65
19 May	3											
	4	3	3	0	6	3.8	142	11.0	6	225	6.6	6
	5	15	14	0	29	18.2	218	52.1	29	249	13.9	29
	6	0	2	0	2	1.3	258	28.3	2	253	7.1	2
	7	1	0	0	1	0.6	328		1	272		1
	8	5	16	0	21	13.2	368	43.4	21	288	8.6	21
	9	11	13	0	24	15.1	402	62.3	24	296	12.4	24
	10	3	2	0	5	3.1	472	30.6	5	310	3.6	5
	11	8	14	0	22	13.8	495	57.9	22	312	8.8	22
	12	2	2	0	4	2.5	506	49.5	4	312	7.2	4
	13	7	8	0	15	9.4	526	89.8	15	316	11.8	15
	14	6	15	0	21	13.2	564	47.4	21	324	8.9	21
	15	3	3	0	6	3.8	574	50.5	6	327	10.8	6
	16	2	1	0	3	1.9	552	52.9	3	325	4.5	3
Sample Total		66	93	0	159	100.0	412	142.0	159	293	31.1	159

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Appendix E.15. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4	8	21	0	29	21.5	160	21.0	29	231	8.5	29
	5	23	45	0	68	50.4	208	33.1	68	251	10.7	68
	6	0	2	0	2	1.5	245	43.8	2	261	8.5	2
	7	0	5	0	5	3.7	292	56.2	5	271	11.8	5
	8	4	5	0	9	6.7	376	44.9	9	294	9.1	9
20 May	9	4	4	0	8	5.9	402	49.7	8	300	9.3	8
	10	0	1	0	1	0.7	525		1	315		1
	11	0	2	0	2	1.5	514	77.8	2	314	12.0	2
	12	0	3	0	3	2.2	553	51.9	3	324	4.0	3
	13											
	14	1	4	0	5	3.7	604	64.5	5	333	8.5	5
	15	0	2	0	2	1.5	622	4.2	2	342	1.4	2
	16	1	0	0	1	0.7	516		1	332		1
Sample Total		41	94	0	135	100.0	262	130.9	135	262	31.2	135
	3											
	4	10	1	0	11	16.7	137	15.8	11	229	8.2	11
	5	15	14	0	29	43.9	181	23.6	29	249	12.0	29
	6	1	0	0	1	1.5	138		1	237		1
	7	1	2	0	3	4.5	242	9.0	3	269	9.0	3
	8	2	5	0	7	10.6	288	40.5	7	285	14.6	7
24 May	9	1	1	0	2	3.0	325	4.9	2	292	2.8	2
	10											
	11	0	4	0	4	6.1	412	39.8	4	318	7.9	4
	12	1	0	0	1	1.5	394		1	322		1
	13	3	2	0	5	7.6	418	23.3	5	322	3.4	5
	14	1	1	0	2	3.0	414	9.2	2	322	12.0	2
	15	0	1	0	1	1.5	398		1	322		1
	16											
Sample Total		35	31	0	66	100.0	237	102.3	66	266	33.5	66
	3	1	0	0	1	0.2	138		1	219		1
	4	48	51	0	99	20.3	151	20.0	99	228	8.5	99
	5	83	96	0	179	36.8	202	36.6	179	248	11.7	179
	6	2	6	0	8	1.6	228	46.4	8	255	10.5	8
	7	2	7	0	9	1.8	279	50.1	9	271	9.6	9
	8	12	28	0	40	8.2	355	51.8	40	289	10.2	40
17–24 May	9	17	22	0	39	8.0	402	59.2	39	296	11.0	39
	10	3	5	0	8	1.6	466	55.6	8	307	12.1	8
	11	10	21	0	31	6.4	491	64.7	31	313	8.7	31
	12	3	5	0	8	1.6	510	67.4	8	317	8.2	8
	13	11	10	0	21	4.3	493	93.3	21	316	11.7	21
	14	10	20	0	30	6.2	559	63.3	30	325	9.2	30
	15	4	6	0	10	2.1	561	73.8	10	330	10.5	10
	16	3	1	0	4	0.8	543	46.8	4	327	5.2	4
All Samples Combined		209	278	0	487	100.0	294	150.3	487	268	36.0	487
Sex Composition		42.9	57.1									
Unaged		12	13	0	25	5.1	299	170.9	25	268	37.5	25
Sex Composition		48.0	52.0									

Appendix E.16. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Walrus Islands Section, 18 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
18 May	4	6	8	0	14	3.9	158	20.0	14	228	11.2	14
	5	16	21	0	37	10.2	225	47.4	37	249	10.0	37
	6	1	1	0	2	0.6	245	2.1	2	260	15.6	2
	7	7	1	0	8	2.2	375	97.7	8	278	8.6	8
	8	32	22	0	54	14.9	386	42.5	54	290	9.4	54
	9	21	21	0	42	11.6	426	34.6	42	297	10.2	42
	10	9	10	0	19	5.2	467	45.5	19	306	10.5	19
	11	22	27	0	49	13.5	503	52.9	49	311	10.7	49
	12	13	15	0	28	7.7	524	61.9	28	314	10.9	28
	13	24	20	0	44	12.2	534	62.5	44	320	9.8	44
	14	16	25	0	41	11.3	574	53.3	41	324	10.4	41
	15	10	12	0	22	6.1	573	65.6	22	328	9.5	22
	16	0	1	0	1	0.3	664		1	343		1
	17											
	18	1	0	0	1	0.3	435		1	293		1
Sample Total		178	184	0	362	100.0	447	128.8	362	299	28.3	362
Sex Composition		49.2	50.8									
Unaged		15	16	0	31	8.6	480	137.2	31	304	30.0	31
Sex Composition		48.4	51.6									

Appendix E.17. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Hagemeister Section, 16-24 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4											
	5											
	6											
	7											
	8	2	1	0	3	4.5	341	45.3	3	284	4.0	3
	9	8	10	0	18	27.3	433	40.8	18	304	9.8	18
	10	1	2	0	3	4.5	434	44.2	3	301	7.5	3
16 May	11	4	12	0	16	24.2	491	42.8	16	313	8.0	16
	12	2	1	0	3	4.5	467	85.2	3	309	16.6	3
	13	6	4	0	10	15.2	536	69.9	10	323	10.1	10
	14	5	6	0	11	16.7	564	55.7	11	327	10.7	11
	15	0	1	0	1	1.5	679		1	343		1
	16											
	17	1	0	0	1	1.5	585		1	321		1
	18											
Sample Total		29	37	0	66	100.0	488	79.9	66	313	14.7	66
	4	1	0	0	1	1.6	172		1	242		1
	5	9	10	0	19	30.6	218	31.0	19	257	5.8	19
	6											
	7	2	1	0	3	4.8	331	35.0	3	286	9.5	3
	8	5	2	0	7	11.3	362	56.6	7	295	13.6	7
	9	2	6	0	8	12.9	425	41.3	8	307	6.3	8
	10	1	1	0	2	3.2	408	12.7	2	298	18.4	2
18 May	11	2	3	0	5	8.1	478	33.8	5	325	8.1	5
	12	0	1	0	1	1.6	627		1	333		1
	13	3	1	0	4	6.5	536	65.4	4	323	6.8	4
	14	4	4	0	8	12.9	553	60.5	8	336	12.5	8
	15	2	1	0	3	4.8	542	25.5	3	327	10.5	3
	16											
	17											
	18	0	1	0	1	1.6	574		1	337		1
Sample Total		31	31	0	62	100.0	385	141.5	62	296	32.3	62
	4	6	11	0	17	11.3	153	24.0	17	229	8.6	17
	5	8	15	0	23	15.3	224	28.0	23	257	9.2	23
	6	1	1	0	2	1.3	245	25.5	2	261	13.4	2
	7	2	1	0	3	2.0	350	33.5	3	290	9.7	3
	8	4	13	0	17	11.3	371	42.9	17	293	9.4	17
	9	11	9	0	20	13.3	421	55.6	20	303	10.2	20
	10	3	2	0	5	3.3	459	73.1	5	313	12.9	5
19 May	11	4	7	0	11	7.3	503	66.3	11	316	11.1	11
	12	7	4	0	11	7.3	493	80.8	11	319	7.0	11
	13	4	7	0	11	7.3	535	49.7	11	321	8.3	11
	14	10	11	0	21	14.0	564	67.0	21	329	8.4	21
	15	3	4	0	7	4.7	547	52.0	7	324	9.8	7
	16	0	1	0	1	0.7	603		1	328		1
	17	1	0	0	1	0.7	575		1	344		1
	18											
Sample Total		64	86	0	150	100.0	400	151.8	150	295	34.5	150

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Appendix E.17. (p. 2 of 2)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	4	5	0	0	5	7.5	174	17.2	5	241	7.7	5
	5	9	18	0	27	40.3	203	24.6	27	252	9.8	27
	6	2	0	0	2	3.0	228	43.1	2	255	12.0	2
	7	0	1	0	1	1.5	328		1	281		1
	8	3	6	0	9	13.4	315	57.4	9	284	17.1	9
	9	7	5	0	12	17.9	383	61.4	12	301	15.6	12
	10											
24 May	11	2	1	0	3	4.5	407	7.2	3	308	10.4	3
	12	1	1	0	2	3.0	527	65.1	2	317	1.4	2
	13	2	0	0	2	3.0	398	34.6	2	307	5.7	2
	14	1	1	0	2	3.0	433	111.0	2	315	7.8	2
	15	1	0	0	1	1.5	552		1	336		1
	16	0	1	0	1	1.5	628		1	342		1
	17											
	18											
Sample Total		33	34	0	67	100.0	294	116.3	67	275	29.8	67
	4	12	11	0	23	6.7	158	23.8	23	232	9.6	23
	5	26	43	0	69	20.0	214	28.7	69	255	8.9	69
	6	3	1	0	4	1.2	236	30.6	4	258	11.0	4
	7	4	3	0	7	2.0	339	29.9	7	287	8.6	7
	8	14	22	0	36	10.4	352	53.1	36	290	12.8	36
	9	28	30	0	58	16.8	418	53.0	58	304	10.9	58
	10	5	5	0	10	2.9	441	57.1	10	306	13.3	10
16-24 May	11	12	23	0	35	10.1	486	53.9	35	316	9.9	35
	12	10	7	0	17	4.9	500	81.2	17	318	9.7	17
	13	15	12	0	27	7.8	525	67.4	27	321	9.3	27
	14	20	22	0	42	12.2	556	68.4	42	329	10.5	42
	15	6	6	0	12	3.5	557	55.5	12	328	10.4	12
	16	0	2	0	2	0.6	616	17.7	2	335	9.9	2
	17	2	0	0	2	0.6	580	7.1	2	333	16.3	2
	18	0	1	0	1	0.3	574		1	337		1
All Samples Combined		157	188	0	345	100.0	393	145.0	345	295	32.4	345
Sex Composition		45.5	54.5									
Unaged		13	13	0	26	7.5	415	99.7	26	302	19.0	26
Sex Composition		50.0	50.0									

Appendix E.18. Age, sex, and size composition of Pacific herring caught by test commercial purse seine, Kulukak, Nunavachak, Togiak, and Hagemeister sections combined, 16-24 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5	0	1	0	1	1.5	194		1	250		1
	6											
	7											
	8	2	1	0	3	4.5	341	45.3	3	284	4.0	3
	9	8	10	0	18	26.9	433	40.8	18	304	9.8	18
16 May	10	1	2	0	3	4.5	434	44.2	3	301	7.5	3
	11	4	12	0	16	23.9	491	42.8	16	313	8.0	16
	12	2	1	0	3	4.5	467	85.2	3	309	16.6	3
	13	6	4	0	10	14.9	536	69.9	10	323	10.1	10
	14	5	6	0	11	16.4	564	55.7	11	327	10.7	11
	15	0	1	0	1	1.5	679		1	343		1
	16											
	17	1	0	0	1	1.5	585		1	321		1
	18											
Sample Total		29	38	0	67	100.0	483	87.1	67	312	16.5	67
	3											
	4	21	24	0	45	22.8	160	23.2	45	230	10.9	45
	5	61	52	0	113	57.4	196	27.4	113	244	9.4	113
	6	3	3	0	6	3.0	224	28.0	6	256	8.1	6
	7	2	0	0	2	1.0	307	62.2	2	275	7.8	2
	8	5	4	0	9	4.6	342	56.2	9	278	9.2	9
	9	3	6	0	9	4.6	402	54.4	9	292	5.8	9
17 May	10	0	5	0	5	2.5	388	38.7	5	291	8.8	5
	11	1	0	0	1	0.5	517		1	310		1
	12											
	13	2	1	0	3	1.5	472	105.2	3	309	14.6	3
	14	2	1	0	3	1.5	544	45.7	3	322	1.0	3
	15											
	16	0	1	0	1	0.5	562		1	333		1
	17											
	18											
Sample Total		100	97	0	197	100.0	224	93.7	197	250	23.4	197
	3	1	0	0	1	0.2	138		1	219		1
	4	27	23	0	50	10.2	154	20.0	50	228	9.0	50
	5	37	37	0	74	15.1	213	42.6	74	249	10.3	74
	6	1	2	0	3	0.6	240	8.5	3	259	11.1	3
	7	9	2	0	11	2.2	363	85.8	11	280	9.1	11
	8	38	24	0	62	12.7	383	44.7	62	290	10.0	62
	9	24	29	0	53	10.8	426	35.8	53	298	10.3	53
18 May	10	10	12	0	22	4.5	463	46.1	22	305	10.9	22
	11	25	31	0	56	11.5	502	53.3	56	312	11.2	56
	12	13	16	0	29	5.9	528	63.7	29	315	11.3	29
	13	27	21	0	48	9.8	534	62.0	48	320	9.5	48
	14	22	29	0	51	10.4	569	53.9	51	326	11.2	51
	15	13	13	0	26	5.3	568	62.0	26	328	9.2	26
	16	0	1	0	1	0.2	664		1	343		1
	17											
	18	1	1	0	2	0.4	505	98.3	2	315	31.1	2
Sample Total		248	241	0	489	100.0	408	151.8	489	291	34.5	489

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Appendix E.18. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	2	0	3	0.5	132	3.5	3	221	2.1	3
	4	40	48	0	88	14.7	159	21.4	88	230	9.1	88
	5	89	99	2	190	31.7	211	34.0	190	250	10.8	190
	6	2	5	0	7	1.2	244	44.6	7	254	15.5	7
	7	5	1	0	6	1.0	342	23.4	6	287	10.0	6
	8	20	41	0	61	10.2	368	46.8	61	290	10.8	61
	9	33	29	0	62	10.4	414	58.9	62	300	11.5	62
19 May	10	7	5	0	12	2.0	474	58.8	12	313	8.7	12
	11	15	28	0	43	7.2	501	60.2	43	314	9.1	43
	12	10	9	0	19	3.2	498	69.1	19	316	8.8	19
	13	13	22	0	35	5.8	542	71.1	35	321	11.6	35
	14	18	35	0	53	8.8	567	54.6	53	326	8.5	53
	15	6	8	0	14	2.3	557	49.6	14	325	9.7	14
	16	2	2	0	4	0.7	565	50.2	4	326	4.0	4
	17	1	0	0	1	0.2	575		1	344		1
	18	1	0	0	1	0.2	614		1	343		1
Sample Total		263	334	2	599	100.0	339	157.5	599	278	36.4	599
	3											
	4	12	31	0	43	16.8	165	23.7	43	232	9.5	43
	5	31	51	0	82	32.0	207	32.0	82	251	10.3	82
	6	1	3	0	4	1.6	250	45.0	4	262	10.7	4
	7	2	7	0	9	3.5	300	53.9	9	275	10.6	9
	8	10	17	0	27	10.5	394	62.6	27	297	12.3	27
	9	13	10	0	23	9.0	439	54.1	23	305	9.9	23
20 May	10	1	5	0	6	2.3	448	61.5	6	304	10.1	6
	11	5	12	0	17	6.6	514	55.3	17	317	9.6	17
	12	2	6	0	8	3.1	522	40.5	8	318	10.4	8
	13	5	4	0	9	3.5	558	87.8	9	328	10.9	9
	14	2	15	0	17	6.6	578	59.8	17	328	8.1	17
	15	2	8	0	10	3.9	547	88.1	10	329	15.2	10
	16	1	0	0	1	0.4	516		1	332		1
	17											
	18											
Sample Total		87	169	0	256	100.0	332	157.9	256	278	36.3	256
	3											
	4	15	1	0	16	12.0	149	23.7	16	233	9.6	16
	5	24	32	0	56	42.1	191	26.4	56	250	10.9	56
	6	3	0	0	3	2.3	198	60.0	3	249	13.2	3
	7	1	3	0	4	3.0	264	43.5	4	272	9.5	4
	8	5	11	0	16	12.0	303	51.0	16	284	15.5	16
	9	8	6	0	14	10.5	374	60.3	14	300	14.7	14
24 May	10											
	11	2	5	0	7	5.3	410	28.6	7	314	9.7	7
	12	2	1	0	3	2.3	483	89.5	3	319	3.1	3
	13	5	2	0	7	5.3	412	25.7	7	318	8.1	7
	14	2	2	0	4	3.0	423	65.2	4	318	9.2	4
	15	1	1	0	2	1.5	475	108.9	2	329	9.9	2
	16	0	1	0	1	0.8	628		1	342		1
	17											
	18											
Sample Total		68	65	0	133	100.0	265	112.8	133	270	31.9	133

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Appendix E.18. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	2	2	0	4	0.2	133	4.3	4	221	2.1	4
	4	115	127	0	242	13.9	158	22.3	242	230	9.6	242
	5	242	272	2	516	29.6	205	33.8	516	249	10.7	516
	6	10	13	0	23	1.3	233	40.3	23	256	11.8	23
	7	19	13	0	32	1.8	325	69.1	32	279	10.4	32
	8	80	98	0	178	10.2	369	54.8	178	290	11.8	178
	9	89	90	0	179	10.3	419	52.5	179	300	11.1	179
16-24 May	10	19	29	0	48	2.8	454	54.9	48	305	11.3	48
	11	52	88	0	140	8.0	497	57.0	140	313	9.9	140
	12	29	33	0	62	3.6	513	65.6	62	316	10.3	62
	13	58	54	0	112	6.4	529	73.8	112	321	10.6	112
	14	51	88	0	139	8.0	564	59.6	139	326	9.7	139
	15	22	31	0	53	3.0	560	68.2	53	328	10.6	53
	16	3	5	0	8	0.5	579	56.4	8	332	7.9	8
	17	2	0	0	2	0.1	580	7.1	2	333	16.3	2
	18	2	1	0	3	0.2	541	94.0	3	324	27.3	3
All Samples Combined		795	944	2	1741	100.0	344	157.9	1741	279	36.4	1741
Sex Composition		45.7	54.3									
Unaged		105	86	0	191	11.0	389	155.6	191	289	36.3	191
Sex Composition		55.0	45.0									

Appendix E.19. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Kulukak Section, 13-26 May 1992.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
18 May	3											
	4											
	5	1	1	0	2	100.0	293	0.7	2	280	4.9	2
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
Sample Total		1	1	0	2	100.0	293	0.7	2	280	4.9	2
22 May	3											
	4	6	8	0	14	29.2	162	22.3	14	226	8.8	14
	5	3	11	0	14	29.2	199	22.2	14	241	9.1	14
	6											
	7											
	8	6	2	0	8	16.7	340	38.0	8	281	6.7	8
	9	2	2	0	4	8.3	380	58.6	4	295	6.4	4
	10											
	11											
	12	0	1	0	1	2.1	400		1	300		1
	13	3	2	0	5	10.4	479	40.8	5	303	11.7	5
	14	1	1	0	2	4.2	477	39.6	2	317	13.4	2
	15											
	16											
	17											
Sample Total		21	27	0	48	100.0	272	120.7	48	259	32.8	48

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Appendix E.19. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	0	1	0	1	0.8	172		1	236		1
	4	10	15	0	25	20.5	160	18.0	25	232	6.2	25
	5	25	18	0	43	35.2	193	26.3	43	246	8.3	43
	6	1	0	0	1	0.8	206		1	243		1
	7	1	0	0	1	0.8	196		1	254		1
	8	9	4	0	13	10.7	350	41.1	13	292	7.9	13
	9	4	5	0	9	7.4	396	49.0	9	295	10.4	9
23 May	10	0	3	0	3	2.5	429	39.3	3	307	16.2	3
	11	0	2	0	2	1.6	469	0.7	2	323	1.4	2
	12	4	2	0	6	4.9	428	34.6	6	314	6.9	6
	13	1	6	0	7	5.7	493	78.7	7	323	12.3	7
	14	3	1	0	4	3.3	491	44.5	4	323	10.4	4
	15	1	4	0	5	4.1	478	29.4	5	325	12.0	5
	16	0	2	0	2	1.6	462	1.4	2	323	2.1	2
	17											
Sample Total		59	63	0	122	100.0	283	130.1	122	269	36.0	122
	3											
	4	16	9	0	25	20.5	158	21.5	25	231	9.3	25
	5	19	22	0	41	33.6	192	26.4	41	245	9.5	41
	6											
	7											
	8	8	5	0	13	10.7	354	59.4	13	288	12.6	13
	9	6	8	0	14	11.5	399	51.7	14	296	8.4	14
24 May	10	1	2	0	3	2.5	394	60.7	3	296	9.5	3
	11	4	6	0	10	8.2	452	48.9	10	311	7.9	10
	12	0	2	0	2	1.6	498	102.5	2	314	11.3	2
	13	6	1	0	7	5.7	449	58.9	7	313	11.3	7
	14	2	3	0	5	4.1	519	23.8	5	324	8.6	5
	15	1	0	0	1	0.8	532		1	323		1
	16											
	17	1	0	0	1	0.8	472		1	318		1
Sample Total		64	58	0	122	100.0	291	132.9	122	269	34.4	122
	3											
	4	27	20	1	48	39.3	147	18.7	48	228	9.0	48
	5	30	10	0	40	32.8	173	28.4	40	242	10.9	40
	6											
	7											
	8	9	1	0	10	8.2	319	31.2	10	285	6.1	10
	9	4	4	0	8	6.6	392	43.2	8	292	8.4	8
25 May	10	1	1	0	2	1.6	424	8.5	2	304	8.5	2
	11	3	0	0	3	2.5	460	55.8	3	313	13.0	3
	12	2	2	0	4	3.3	418	52.4	4	308	16.6	4
	13											
	14	2	4	0	6	4.9	511	106.4	6	313	17.2	6
	15	0	1	0	1	0.8	509		1	320		1
	16											
	17											
Sample Total		78	43	1	122	100.0	228	122.6	122	252	31.9	122

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Appendix E.19. (p. 3 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	0	0	1	0.9	129		1	218		1
	4	25	24	0	49	42.6	150	17.9	49	233	8.9	49
	5	19	28	0	47	40.9	172	22.3	47	243	10.6	47
	6	1	1	0	2	1.7	200	47.4	2	252	12.0	2
	7											
	8	2	6	0	8	7.0	316	56.8	8	285	10.6	8
	9	2	2	0	4	3.5	400	41.0	4	309	5.1	4
26 May	10											
	11											
	12	0	1	0	1	0.9	461		1	330		1
	13											
	14	1	1	0	2	1.7	477	9.9	2	334	1.4	2
	15	0	1	0	1	0.9	497		1	345		1
	16											
	17											
Sample Total		51	64	0	115	100.0	191	83.9	115	247	26.5	115
	3	1	1	0	2	0.4	151	30.4	2	227	12.7	2
	4	84	76	1	161	30.3	153	19.8	161	230	8.8	161
	5	97	90	0	187	35.2	185	29.5	187	244	10.5	187
	6	2	1	0	3	0.6	202	33.7	3	249	9.8	3
	7	1	0	0	1	0.2	196		1	254		1
	8	34	18	0	52	9.8	338	47.8	52	287	9.7	52
	9	18	21	0	39	7.3	395	46.9	39	296	9.3	39
13-26 May	10	2	6	0	8	1.5	415	42.4	8	302	11.7	8
	11	7	8	0	15	2.8	456	44.9	15	313	9.0	15
	12	6	8	0	14	2.6	436	52.5	14	313	11.6	14
	13	10	9	0	19	3.6	473	63.0	19	314	13.8	19
	14	9	10	0	19	3.6	502	63.0	19	320	13.1	19
	15	2	6	0	8	1.5	491	30.2	8	327	11.8	8
	16	0	2	0	2	0.4	462	1.4	2	323	2.1	2
	17	1	0	0	1	0.2	472		1	318		1
All Samples Combined		274	256	1	531	100.0	251	125.2	531	259	33.7	531
Sex Composition		51.7	48.3									
Unaged		27	35	0	62	11.7	269	122.6	62	264	33.6	62
Sex Composition		43.5	56.5									

Appendix E. 20. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Nunavachak Section, 26 May 1992.

Sample Dates	Age	Sex (number)				Percent of Total	Weight			Length		
		Male	Female	Unknown	Total		Mean (g)	SD	Number Weighed	Mean (mm)	SD	Number Measured
26 May	4	12	14	0	26	19.8	146	26.9	26	228	10.0	26
	5	25	30	0	55	42.0	190	28.6	55	249	10.4	55
	6	3	2	0	5	3.8	215	30.1	5	258	7.6	5
	7	0	3	0	3	2.3	313	14.0	3	278	11.9	3
	8	3	6	0	9	6.9	314	25.4	9	290	13.5	9
	9	7	4	0	11	8.4	343	41.3	11	294	11.7	11
	10	1	3	0	4	3.1	389	36.7	4	308	5.3	4
	11	1	2	0	3	2.3	350	22.3	3	305	10.7	3
	12	3	3	0	6	4.6	407	27.5	6	316	9.2	6
	13	1	2	0	3	2.3	465	44.5	3	321	8.3	3
	14	2	2	0	4	3.1	445	16.4	4	324	5.0	4
	15	1	1	0	2	1.5	494	4.2	2	325	18.4	2
Sample Total		59	72	0	131	100.0	245	103.5	131	264	32.3	131
Sex Composition		45.0	55.0									
Unaged		11	9	0	20	15.3	271	124.2	20	271	36.6	20
Sex Composition		55.0	45.0									

Appendix E.21. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Togiak Section, 22-23 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	13	18	0	31	0.0	15.4	23.1	61.5	0.0	16.7	22.2	61.1
	5	22	26	0	48	0.0	31.8	40.9	27.3	0.0	23.1	26.9	50.0
	6	1	0	0	1	0.0	0.0	0.0	100.0				
	7	4	1	0	5	0.0	25.0	50.0	25.0	0.0	100.0	0.0	0.0
	8	24	10	0	34	0.0	20.8	75.0	4.2	0.0	10.0	70.0	20.0
	9	14	8	0	22	0.0	14.3	78.6	7.1	0.0	12.5	62.5	25.0
22 May	10	3	4	0	7	0.0	33.3	66.7	0.0	0.0	25.0	50.0	25.0
	11	10	4	0	14	0.0	0.0	90.0	10.0	0.0	75.0	25.0	0.0
	12	2	2	0	4	0.0	0.0	50.0	50.0	0.0	100.0	0.0	0.0
	13	3	1	0	4	0.0	66.7	33.3	0.0	0.0	100.0	0.0	0.0
	14	15	7	0	22	0.0	6.7	80.0	13.3	0.0	14.3	71.4	14.3
	15	3	1	0	4	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	2	0	0	2	0.0	0.0	100.0	0.0				
Sample Total		116	84	0	200	0.0	19.0	62.1	19.0	0.0	25.0	39.3	35.7
	3												
	4	15	20	0	35	0.0	66.7	13.3	20.0	0.0	45.0	45.0	10.0
	5	18	28	0	46	0.0	50.0	27.8	22.2	0.0	53.6	35.7	10.7
	6	2	3	0	5	0.0	50.0	0.0	50.0	0.0	0.0	33.3	66.7
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	8	10	13	0	23	0.0	40.0	60.0	0.0	0.0	23.1	61.5	15.4
	9	7	10	0	17	0.0	28.6	57.1	14.3	0.0	0.0	70.0	30.0
23 May	10	2	6	0	8	0.0	50.0	50.0	0.0	0.0	16.7	66.7	16.7
	11	5	3	0	8	0.0	0.0	80.0	20.0	0.0	0.0	33.3	66.7
	12	3	0	0	3	0.0	33.3	66.7	0.0				
	13	4	3	0	7	0.0	25.0	25.0	50.0	0.0	0.0	33.3	66.7
	14	5	0	0	5	0.0	0.0	60.0	40.0				
	15	1	0	0	1	0.0	0.0	0.0	100.0				
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		75	87	0	162	0.0	38.7	41.3	20.0	0.0	33.3	47.1	19.5
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	28	38	0	66	0.0	42.9	17.9	39.3	0.0	31.6	34.2	34.2
	5	40	54	0	94	0.0	40.0	35.0	25.0	0.0	38.9	31.5	29.6
	6	3	3	0	6	0.0	33.3	0.0	66.7	0.0	0.0	33.3	66.7
	7	5	2	0	7	0.0	20.0	60.0	20.0	0.0	100.0	0.0	0.0
	8	34	23	0	57	0.0	26.5	70.6	2.9	0.0	17.4	65.2	17.4
	9	21	18	0	39	0.0	19.0	71.4	9.5	0.0	5.6	66.7	27.8
22-23 May	10	5	10	0	15	0.0	40.0	60.0	0.0	0.0	20.0	60.0	20.0
	11	15	7	0	22	0.0	0.0	86.7	13.3	0.0	42.9	28.6	28.6
	12	5	2	0	7	0.0	20.0	60.0	20.0	0.0	100.0	0.0	0.0
	13	7	4	0	11	0.0	42.9	28.6	28.6	0.0	25.0	25.0	50.0
	14	20	7	0	27	0.0	5.0	75.0	20.0	0.0	14.3	71.4	14.3
	15	4	1	0	5	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	16	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	17	3	0	0	3	0.0	0.0	100.0	0.0				
All Samples		191	171	0	362	0.0	26.7	53.9	19.4	0.0	29.2	43.3	27.5

Appendix E.22. Age, sex, and size composition of Pacific herring caught by test variable mesh gill net, Hagemeister Section, 12-25 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6	0	1	0	1	50.0	409		1	287		1
	7											
	8											
	9											
12 May	10											
	11											
	12											
	13											
	14											
	15	0	1	0	1	50.0	533		1	328		1
	16											
	17											
	18											
Sample Total		0	2	0	2	100.0	471	87.7	2	308	29.0	2
	3											
	4											
	5	0	1	0	1	100.0	218		1	256		1
	6											
	7											
	8											
	9											
14 May	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		0	1	0	1	100.0	218		1	256		1
	3											
	4											
	5											
	6											
	7											
	8											
	9											
15 May	10											
	11											
	12	0	1	0	1	100.0	553		1	326		1
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		0	1	0	1	100.0	553		1	326		1

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Appendix E.22. (p. 2 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
16 May	3											
	4											
	5	0	1	0	1	100.0	223		1	258		1
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		0	1	0	1	100.0	223		1	258		1
17 May	3											
	4											
	5	0	1	0	1	33.3	195		1	249		1
	6	0	1	0	1	33.3	209		1	249		1
	7											
	8											
	9	1	0	0	1	33.3	501		1	327		1
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		1	2	0	3	100.0	302	172.8	3	275	45.0	3
22 May	3											
	4	6	4	0	10	6.8	200	88.8	10	239	7.4	10
	5	10	22	0	32	21.8	208	24.1	32	252	7.8	32
	6	1	1	0	2	1.4	221	8.5	2	260	6.4	2
	7	3	1	0	4	2.7	352	46.8	4	292	12.0	4
	8	11	16	0	27	18.4	351	51.0	27	289	9.1	27
	9	9	11	0	20	13.6	392	32.3	20	298	7.1	20
	10	4	4	0	8	5.4	435	43.6	8	311	5.9	8
	11	10	7	0	17	11.6	478	78.2	17	313	12.8	17
	12	3	1	0	4	2.7	458	54.2	4	318	11.0	4
	13	5	4	0	9	6.1	485	62.6	9	321	10.3	9
	14	3	7	0	10	6.8	526	88.6	10	325	11.5	10
	15	2	1	0	3	2.0	489	31.2	3	328	16.4	3
	16											
	17											
	18	0	1	0	1	0.7	563		1	334		1
Sample Total		67	80	0	147	100.0	360	125.4	147	289	29.8	147

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Appendix E.22. (p. 3 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5	5	2	0	7	7.6	209	27.8	7	264	20.5	7
	6											
	7											
	8	9	9	0	18	19.6	355	48.7	18	293	10.4	18
	9	10	9	0	19	20.7	392	35.8	19	298	7.2	18
23 May	10	3	3	0	6	6.5	441	70.7	6	305	14.5	6
	11	9	5	0	14	15.2	443	53.1	14	310	12.5	14
	12	1	1	0	2	2.2	426	12.7	2	313	5.7	2
	13	5	3	0	8	8.7	470	67.5	8	316	12.6	8
	14	7	4	0	11	12.0	512	64.7	11	323	8.1	11
	15	3	3	0	6	6.5	449	147.5	5	330	7.9	6
	16											
	17											
	18	1	0	0	1	1.1	531		1	335		1
Sample Total		53	39	0	92	100.0	409	95.5	91	304	19.8	91
	3	1	0	0	1	1.6	107		1	215		1
	4	7	12	0	19	30.6	136	13.7	19	228	7.1	19
	5	19	14	0	33	53.2	188	33.7	33	247	11.0	33
	6											
	7											
	8	0	1	0	1	1.6	332		1	288		1
	9	2	1	0	3	4.8	397	44.7	3	294	13.1	3
24 May	10											
	11											
	12	1	1	0	2	3.2	486	116.7	2	312	0.7	2
	13											
	14	2	0	0	2	3.2	499	113.8	2	329	13.4	2
	15	1	0	0	1	1.6	425		1	323		1
	16											
	17											
	18											
Sample Total		33	29	0	62	100.0	207	105.9	62	249	28.3	62
	3											
	4	3	6	0	9	10.1	178	29.8	9	244	8.8	9
	5	29	12	0	41	46.1	230	71.0	41	257	11.1	41
	6	0	1	0	1	1.1	235		1	261		1
	7	4	1	0	5	5.6	298	57.2	5	284	13.7	5
	8	8	3	0	11	12.4	325	37.9	11	291	8.7	11
	9	7	3	0	10	11.2	356	46.9	10	298	9.4	10
25 May	10											
	11	4	1	0	5	5.6	422	63.4	5	313	12.2	5
	12	2	0	0	2	2.2	458	68.6	2	362	41.0	2
	13	1	0	0	1	1.1	521		1	333		1
	14	3	1	0	4	4.5	457	41.5	4	317	1.8	4
	15											
	16											
	17											
	18											
Sample Total		61	28	0	89	100.0	284	101.6	89	275	28.9	89

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Appendix E.22. (p. 4 of 4)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	1	0	0	1	0.3	107		1	215		1
	4	16	22	0	38	9.5	163	54.7	38	234	10.3	38
	5	63	53	0	116	29.1	210	50.5	116	253	11.8	116
	6	1	4	0	5	1.3	259	84.5	5	263	14.5	5
	7	7	2	0	9	2.3	322	57.0	9	287	12.9	9
	8	28	29	0	57	14.3	347	48.1	57	291	9.4	57
	9	29	24	0	53	13.3	388	41.6	53	298	8.7	52
12-25 May	10	7	7	0	14	3.5	438	54.4	14	308	10.4	14
	11	23	13	0	36	9.0	457	69.1	36	312	12.4	36
	12	7	4	0	11	2.8	466	62.6	11	325	23.8	11
	13	11	7	0	18	4.5	480	62.3	18	319	11.6	18
	14	15	12	0	27	6.8	508	74.7	27	323	9.4	27
	15	6	5	0	11	2.8	467	104.5	10	329	9.5	11
	16											
	17											
	18	1	1	0	2	0.5	547	22.6	2	335	0.7	2
All Samples Combined		215	183	0	398	100.0	330	130.2	397	283	32.5	397
Sex Composition		54.0	46.0									
Unaged		30	16	0	46	11.6	349	118.8	46	288	27.5	46
Sex Composition		65.2	34.8									

Appendix E.23. Age, sex, and size composition of Pacific herring caught with test variable mesh gill net, Kulukak, Nunavachak, Togiak and Hagemeister sections combined, 12-26 May 1992.

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
12 May	3											
	4											
	5											
	6	0	1	0	1	50.0	409		1	287		1
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15	0	1	0	1	50.0	533		1	328		1
	16											
	17											
	18											
Sample Total		0	2	0	2	100.0	471	87.7	2	308	29.0	2
14 May	3											
	4											
	5	0	1	0	1	100.0	218		1	256		1
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		0	1	0	1	100.0	218		1	256		1

-Continued-

Appendix E.23. (p. 2 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3											
	4											
	5											
	6											
	7											
	8											
	9											
15 May	10											
	11											
	12	0	1	0	1	100.0	553		1	326		1
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		0	1	0	1	100.0	553		1	326		1
	3											
	4											
	5	0	1	0	1	100.0	223		1	258		1
	6											
	7											
	8											
	9											
16 May	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		0	1	0	1	100.0	223		1	258		1
	3											
	4											
	5	0	1	0	1	33.3	195		1	249		1
	6	0	1	0	1	33.3	209		1	249		1
	7											
	8											
	9	1	0	0	1	33.3	501		1	327		1
17 May	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		1	2	0	3	100.0	302	172.8	3	275	45.0	3

-Continued-

Appendix E.23. (p. 3 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
18 May	3											
	4											
	5	1	1	0	2	100.0	293	0.7	2	280	4.9	2
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											
	16											
	17											
	18											
Sample Total		1	1	0	2	100.0	293	0.7	2	280	4.9	2
22 May	3	0	1	0	1	0.3	110		1	203		1
	4	25	30	0	55	13.9	151	48.1	55	226	10.7	55
	5	35	59	0	94	23.8	200	30.9	94	247	10.7	94
	6	2	1	0	3	0.8	205	28.4	3	252	13.7	3
	7	7	2	0	9	2.3	339	49.7	9	281	22.6	9
	8	41	28	0	69	17.5	339	47.9	69	286	9.4	69
	9	25	21	0	46	11.6	379	46.0	46	295	8.6	46
	10	7	8	0	15	3.8	402	73.4	15	299	17.0	15
	11	20	11	0	31	7.8	440	92.2	31	309	13.4	31
	12	5	4	0	9	2.3	454	79.1	9	312	12.5	9
	13	11	7	0	18	4.6	472	68.5	18	312	13.8	18
	14	19	15	0	34	8.6	491	74.8	34	317	11.9	34
	15	5	2	0	7	1.8	513	31.6	7	320	12.9	7
	16	0	1	0	1	0.3	471		1	314		1
	17	2	0	0	2	0.5	461	120.2	2	328	0.7	2
	18	0	1	0	1	0.3	563		1	334		1
Sample Total		204	191	0	395	100.0	319	131.8	395	277	33.9	395
23 May	3	0	1	0	1	0.3	172		1	236		1
	4	25	35	0	60	16.0	155	19.8	60	230	7.9	60
	5	48	48	0	96	25.5	199	38.7	96	248	12.5	96
	6	3	3	0	6	1.6	194	37.4	6	251	14.7	6
	7	2	1	0	3	0.8	261	57.5	3	268	12.5	3
	8	28	26	0	54	14.4	342	47.0	54	290	10.8	54
	9	21	24	0	45	12.0	387	43.3	45	297	10.3	44
	10	5	12	0	17	4.5	409	59.2	17	302	13.7	17
	11	14	10	0	24	6.4	439	49.8	24	313	10.8	24
	12	8	3	0	11	2.9	423	28.3	11	311	7.7	11
	13	10	12	0	22	5.9	467	68.9	22	318	12.8	22
	14	15	5	0	20	5.3	502	68.8	20	322	9.3	20
	15	5	7	0	12	3.2	464	96.3	11	328	9.3	12
	16	1	2	0	3	0.8	472	16.8	3	327	8.5	3
	17	1	0	0	1	0.3	460		1	324		1
	18	1	0	0	1	0.3	531		1	335		1
Sample Total		187	189	0	376	100.0	310	129.1	375	277	35.2	375

-Continued-

Appendix E.23. (p. 4 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
24 May	3	1	0	0	1	0.5	107		1	215		1
	4	23	21	0	44	23.9	149	21.4	44	229	8.5	44
	5	38	36	0	74	40.2	190	29.7	74	246	10.2	74
	6											
	7											
	8	8	6	0	14	7.6	352	57.3	14	288	12.1	14
	9	8	9	0	17	9.2	399	49.2	17	296	8.9	17
	10	1	2	0	3	1.6	394	60.7	3	296	9.5	3
	11	4	6	0	10	5.4	452	48.9	10	311	7.9	10
	12	1	3	0	4	2.2	492	89.9	4	313	6.7	4
	13	6	1	0	7	3.8	449	58.9	7	313	11.3	7
	14	4	3	0	7	3.8	513	51.4	7	325	9.2	7
	15	2	0	0	2	1.1	479	75.7	2	323	0.0	2
	16											
	17	1	0	0	1	0.5	472		1	318		1
	18											
Sample Total		97	87	0	184	100.0	262	130.4	184	262	33.7	184
25 May	3											
	4	30	26	1	57	27.0	152	23.5	57	231	10.6	57
	5	59	22	0	81	38.4	202	61.0	81	250	13.4	81
	6	0	1	0	1	0.5	235		1	261		1
	7	4	1	0	5	2.4	298	57.2	5	284	13.7	5
	8	17	4	0	21	10.0	322	34.1	21	288	8.2	21
	9	11	7	0	18	8.5	372	47.5	18	295	9.1	18
	10	1	1	0	2	0.9	424	8.5	2	304	8.5	2
	11	7	1	0	8	3.8	436	59.8	8	313	11.6	8
	12	4	2	0	6	2.8	431	54.8	6	326	35.8	6
	13	1	0	0	1	0.5	521		1	333		1
	14	5	5	0	10	4.7	489	87.5	10	315	13.0	10
	15	0	1	0	1	0.5	509		1	320		1
	16											
	17											
	18											
Sample Total		139	71	1	211	100.0	251	117.3	211	262	32.6	211
26 May	3	1	0	0	1	0.4	129		1	218		1
	4	37	38	0	75	30.5	149	21.4	75	231	9.5	75
	5	44	58	0	102	41.5	182	27.4	102	246	10.9	102
	6	4	3	0	7	2.8	211	32.2	7	256	8.5	7
	7	0	3	0	3	1.2	313	14.0	3	278	11.9	3
	8	5	12	0	17	6.9	315	41.6	17	287	12.1	17
	9	9	6	0	15	6.1	359	47.5	15	298	12.5	15
	10	1	3	0	4	1.6	389	36.7	4	308	5.3	4
	11	1	2	0	3	1.2	350	22.3	3	305	10.7	3
	12	3	4	0	7	2.8	415	32.3	7	318	10.0	7
	13	1	2	0	3	1.2	465	44.5	3	321	8.3	3
	14	3	3	0	6	2.4	456	21.3	6	327	6.5	6
	15	1	2	0	3	1.2	495	3.5	3	332	17.4	3
	16											
	17											
	18											
Sample Total		110	136	0	246	100.0	220	98.4	246	256	30.8	246

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Appendix E.23. (5 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Percent of Total	Weight Mean (g)	SD	Number Weighed	Length Mean (mm)	SD	Number Measured
	3	2	2	0	4	0.3	130	30.0	4	218	13.6	4
	4	140	150	1	291	20.5	151	28.4	291	230	9.6	291
	5	225	227	0	452	31.8	195	39.9	452	248	11.8	452
	6	9	10	0	19	1.3	216	55.8	19	255	13.1	19
	7	13	7	0	20	1.4	313	53.8	20	279	17.6	20
	8	99	76	0	175	12.3	337	47.0	175	288	10.2	175
	9	75	67	0	142	10.0	382	47.4	142	296	10.0	141
12-26 May	10	15	26	0	41	2.9	404	60.3	41	301	13.9	41
	11	46	30	0	76	5.3	437	71.6	76	311	11.6	76
	12	21	17	0	38	2.7	441	60.8	38	315	16.6	38
	13	29	22	0	51	3.6	467	64.8	51	316	13.0	51
	14	46	31	0	77	5.4	493	70.2	77	320	11.3	77
	15	13	13	0	26	1.8	487	70.0	25	325	11.0	26
	16	1	3	0	4	0.3	472	13.7	4	324	9.6	4
	17	4	0	0	4	0.3	464	69.6	4	324	4.5	4
	18	1	1	0	2	0.1	547	22.6	2	335	0.7	2
All Samples Combined		739	682	1	1422	100.0	282	129.3	1421	269	34.6	1421
Sex Composition		52.0	48.0									
Unaged		85	70	0	155	10.9	303	127.8	155	274	33.6	155
Sex Composition		54.8	45.2									

Appendix F

Appendix F.1. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Kulukak Section, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	18	19	0	37	0.0	22.2	77.8	0.0	0.0	57.9	42.1	0.0
	5	74	69	0	143	0.0	16.2	83.8	0.0	0.0	40.6	59.4	0.0
	6	3	1	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	7	1	2	0	3	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	8	23	31	0	54	0.0	8.7	91.3	0.0	0.0	19.4	80.6	0.0
20 May	9	9	19	0	28	0.0	11.1	88.9	0.0	0.0	36.8	63.2	0.0
	10	4	3	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	5	3	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	2	2	0	4	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	0	2	0	2					0.0	50.0	50.0	0.0
Sample Total		140	152	0	292	0.0	14.3	85.7	0.0	0.0	36.8	63.2	0.0

Appendix F.2. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Nunavachak section, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	10	0	0	10	0.0	40.0	50.0	10.0				
	5	10	8	0	18	0.0	40.0	50.0	10.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	17	25	0	42	0.0	11.8	76.5	11.8	0.0	12.0	80.0	8.0
	9	20	37	0	57	0.0	0.0	90.0	10.0	0.0	2.7	89.2	8.1
20 May	10	10	8	0	18	0.0	0.0	80.0	20.0	0.0	0.0	87.5	12.5
	11	14	16	0	30	0.0	0.0	92.9	7.1	0.0	6.3	81.3	12.5
	12	7	9	0	16	0.0	14.3	85.7	0.0	0.0	0.0	77.8	22.2
	13	7	2	0	9	0.0	0.0	85.7	14.3	0.0	0.0	100.0	0.0
	14	15	30	0	45	0.0	6.7	80.0	13.3	3.3	0.0	90.0	6.7
	15	11	14	0	25	0.0	9.1	72.7	18.2	0.0	7.1	85.7	7.1
	16	2	0	0	2	0.0	0.0	100.0	0.0				
	17	0	1	0	1					0.0	0.0	100.0	0.0
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		126	153	0	279	0.0	11.1	77.8	11.1	0.7	3.9	86.9	8.5

Appendix F.3. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Togiak section, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	53	69	0	122	5.7	84.9	7.5	1.9	0.0	92.8	4.3	2.9
	5	70	113	0	183	4.3	85.7	5.7	4.3	0.9	85.8	11.5	1.8
	6	2	3	0	5	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	7	11	0	18	0.0	57.1	42.9	0.0	0.0	54.5	45.5	0.0
	9	8	6	0	14	0.0	37.5	62.5	0.0	0.0	33.3	50.0	16.7
20 May	10	0	3	0	3					0.0	33.3	66.7	0.0
	11	2	4	0	6	50.0	50.0	0.0	0.0	0.0	25.0	75.0	0.0
	12	1	3	0	4	0.0	100.0	0.0	0.0	0.0	33.3	33.3	33.3
	13	2	4	0	6	0.0	50.0	50.0	0.0	0.0	50.0	50.0	0.0
	14	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
	18	2	0	0	2	0.0	50.0	50.0	0.0				
Sample Total		150	220	0	370	4.7	80.0	12.7	2.7	0.5	81.8	15.0	2.7

Appendix F.4. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Walrus Islands Section, 18 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	6	8	0	14	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	16	21	0	37	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	6	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	7	1	0	8	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	32	22	0	54	0.0	68.8	31.3	0.0	0.0	95.5	4.5	0.0
	9	21	21	0	42	0.0	71.4	28.6	0.0	0.0	100.0	0.0	0.0
	10	9	10	0	19	0.0	77.8	22.2	0.0	0.0	100.0	0.0	0.0
18 May	11	22	27	0	49	0.0	59.1	40.9	0.0	0.0	96.3	3.7	0.0
	12	13	15	0	28	0.0	69.2	30.8	0.0	0.0	100.0	0.0	0.0
	13	24	20	0	44	0.0	75.0	25.0	0.0	0.0	75.0	25.0	0.0
	14	16	25	0	41	0.0	68.8	31.3	0.0	0.0	84.0	16.0	0.0
	15	10	12	0	22	0.0	90.0	10.0	0.0	0.0	66.7	33.3	0.0
	16	0	1	0	1					0.0	100.0	0.0	0.0
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		178	184	0	362	0.0	75.3	24.7	0.0	0.0	91.8	8.2	0.0

Appendix F.5. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Hagemeister section, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	1	3	0	4	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	6	2	1	0	3	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	7	1	2	1	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	8	17	23	0	40	0.0	58.8	41.2	0.0	0.0	52.2	47.8	0.0
	9	23	29	0	52	0.0	65.2	34.8	0.0	0.0	17.2	82.8	0.0
20 May	10	6	6	1	13	0.0	50.0	50.0	0.0	0.0	33.3	66.7	0.0
	11	24	22	2	48	0.0	62.5	33.3	4.2	0.0	31.8	68.2	0.0
	12	17	20	1	38	0.0	29.4	70.6	0.0	0.0	25.0	75.0	0.0
	13	23	20	0	43	0.0	73.9	21.7	4.3	0.0	25.0	75.0	0.0
	14	21	43	0	64	0.0	76.2	23.8	0.0	0.0	25.6	74.4	0.0
	15	8	18	0	26	0.0	87.5	12.5	0.0	0.0	22.2	77.8	0.0
	16	0	2	0	2					0.0	50.0	50.0	0.0
	17	0	1	0	1					0.0	0.0	100.0	0.0
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		145	191	5	341	0.0	64.1	34.5	1.4	0.0	28.8	71.2	0.0

Appendix F.6. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Pyrite Point Section, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	5	3	0	8	0.0	60.0	40.0	0.0	0.0	33.3	66.7	0.0
	6	3	2	0	5	0.0	33.3	66.7	0.0	0.0	100.0	0.0	0.0
	7	4	1	0	5	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	8	20	29	0	49	0.0	55.0	40.0	5.0	0.0	44.8	55.2	0.0
	9	22	25	0	47	0.0	54.5	45.5	0.0	0.0	52.0	48.0	0.0
	10	3	6	0	9	0.0	0.0	100.0	0.0	16.7	50.0	33.3	0.0
20 May	11	19	19	0	38	0.0	57.9	42.1	0.0	5.3	21.1	73.7	0.0
	12	15	13	0	28	0.0	53.3	46.7	0.0	0.0	7.7	92.3	0.0
	13	11	19	0	30	0.0	81.8	18.2	0.0	0.0	47.4	52.6	0.0
	14	20	34	1	55	0.0	65.0	35.0	0.0	0.0	32.4	67.6	0.0
	15	7	10	0	17	0.0	57.1	42.9	0.0	0.0	20.0	80.0	0.0
	16	3	0	0	3	0.0	33.3	66.7	0.0				
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		135	162	1	298	0.0	58.5	40.7	0.7	1.2	37.0	61.7	0.0

Appendix F.7. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Cape Newenham Section, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	0	1	0	1					0.0	100.0	0.0	0.0
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6												
	7	1	0	0	1	0.0	100.0	0.0	0.0				
	8	0	3	0	3					0.0	33.3	66.7	0.0
20 May	9	7	5	0	12	0.0	42.9	57.1	0.0	0.0	60.0	40.0	0.0
	10	2	2	0	4	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	11	2	5	0	7	0.0	50.0	50.0	0.0	0.0	60.0	40.0	0.0
	12	4	2	0	6	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	13	7	7	0	14	0.0	28.6	71.4	0.0	0.0	14.3	85.7	0.0
	14	4	9	0	13	0.0	0.0	100.0	0.0	0.0	11.1	88.9	0.0
	15	2	5	0	7	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
Sample Total		29	40	0	69	0.0	34.5	65.5	0.0	0.0	30.0	70.0	0.0

Appendix F.8. Sexual maturity of Pacific herring caught with commercial purse seine by age and sex, Kulukak, Nunavachak, Togiak, Hagemeister, and Cape Newenham sections combined, 20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	4	84	90	0	174	3.6	66.7	27.4	2.4	0.0	85.6	12.2	2.2
	5	160	197	0	357	1.9	50.0	45.6	2.5	0.5	65.5	33.0	1.0
	6	10	8	0	18	0.0	40.0	60.0	0.0	0.0	87.5	12.5	0.0
	7	9	9	1	19	0.0	88.9	11.1	0.0	0.0	33.3	66.7	0.0
	8	84	122	0	206	0.0	34.5	61.9	3.6	0.0	33.6	64.8	1.6
	9	89	121	0	210	0.0	38.2	59.6	2.2	0.0	25.6	71.1	3.3
20 May	10	25	28	1	54	0.0	12.0	80.0	8.0	3.6	25.0	67.9	3.6
	11	66	69	2	137	1.5	42.4	53.0	3.0	1.4	23.2	72.5	2.9
	12	46	49	1	96	0.0	37.0	63.0	0.0	0.0	16.3	77.6	6.1
	13	51	53	0	104	0.0	56.9	39.2	3.9	0.0	32.1	67.9	0.0
	14	62	119	1	182	0.0	50.0	46.8	3.2	0.8	20.2	77.3	1.7
	15	28	47	0	75	0.0	46.4	46.4	7.1	0.0	14.9	83.0	2.1
	16	5	2	0	7	0.0	20.0	80.0	0.0	0.0	50.0	50.0	0.0
	17	0	2	0	2					0.0	0.0	100.0	0.0
	18	4	1	0	5	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
Sample Total		725	918	6	1649	1.0	46.3	49.8	2.9	0.4	40.2	57.3	2.1

Appendix F.9. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Kulukak Section, 20-26 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5	10	8	0	18	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	6	3	0	0	3	0.0	0.0	100.0	0.0				
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	15	12	0	27	0.0	6.7	93.3	0.0	0.0	8.3	91.7	0.0
	9	17	7	0	24	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
20 May	11	5	5	0	10	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	12	4	0	0	4	0.0	25.0	75.0	0.0				
	13	1	2	0	3	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	14	6	3	0	9	0.0	16.7	83.3	0.0	0.0	33.3	66.7	0.0
	15	4	4	0	8	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		67	44	0	111	0.0	10.4	89.6	0.0	0.0	6.8	93.2	0.0
	4												
	5	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	7	5	0	12	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
	8	38	32	0	70	0.0	0.0	100.0	0.0	0.0	6.3	93.8	0.0
	9	38	29	0	67	0.0	0.0	92.1	7.9	0.0	0.0	96.6	3.4
	10	5	3	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
22 May	11	13	9	0	22	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	8	6	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	10	8	0	18	0.0	0.0	90.0	10.0	0.0	0.0	75.0	25.0
	14	6	6	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		130	104	0	234	0.0	0.0	96.9	3.1	0.0	1.9	94.2	3.8
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	9	15	0	24	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	6	4	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	2	6	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	49	42	0	91	0.0	0.0	100.0	0.0	0.0	0.0	97.6	2.4
	9	39	27	0	66	0.0	0.0	100.0	0.0	0.0	0.0	96.3	3.7
	10	8	3	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
25 May	11	12	5	0	17	0.0	0.0	91.7	8.3	0.0	0.0	100.0	0.0
	12	6	6	0	12	0.0	0.0	100.0	0.0	0.0	16.7	83.3	0.0
	13	6	3	0	9	0.0	0.0	83.3	16.7	0.0	0.0	66.7	33.3
	14	9	8	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		148	119	0	267	0.0	0.7	98.0	1.4	0.0	0.8	96.6	2.5

-Continued-

Appendix F.9. (p. 2 of 2)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
26 May	4												
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	6												
	7	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	13	8	0	21	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	11	15	0	26	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
	10	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	2	0	6	0.0	0.0	75.0	25.0	0.0	0.0	50.0	50.0
	12	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	75.0	25.0
	13	0	1	0	1					0.0	0.0	100.0	0.0
	14	11	7	0	18	0.0	0.0	72.7	27.3	0.0	0.0	57.1	42.9
	15	5	1	0	6	0.0	0.0	60.0	40.0	0.0	0.0	100.0	0.0
	16												
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		53	42	0	95	0.0	0.0	88.7	11.3	0.0	0.0	78.6	21.4
20–26 May	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	23	27	0	50	0.0	13.0	87.0	0.0	0.0	0.0	96.3	3.7
	6	7	2	0	9	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	13	13	0	26	0.0	0.0	100.0	0.0	0.0	0.0	92.3	7.7
	8	115	94	0	209	0.0	0.9	99.1	0.0	0.0	3.2	95.7	1.1
	9	105	78	0	183	0.0	0.0	97.1	2.9	0.0	0.0	93.6	6.4
	10	16	9	0	25	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	34	21	0	55	0.0	2.9	91.2	5.9	0.0	0.0	95.2	4.8
	12	20	16	0	36	0.0	5.0	95.0	0.0	0.0	6.3	87.5	6.3
	13	17	14	0	31	0.0	5.9	82.4	11.8	0.0	0.0	78.6	21.4
	14	32	24	0	56	0.0	3.1	87.5	9.4	0.0	4.2	83.3	12.5
	15	14	9	0	23	0.0	0.0	85.7	14.3	0.0	11.1	88.9	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
All Samples		398	309	0	707	0.0	2.0	95.0	3.0	0.0	1.9	92.9	5.2

Appendix F.10. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Nunavachak Section, 20-27 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	5												
	6												
	7	1	0	0	1	0.0	0.0	100.0	0.0				
	8	8	11	0	19	0.0	0.0	62.5	37.5	0.0	18.2	45.5	36.4
	9	27	11	0	38	0.0	7.4	59.3	33.3	0.0	9.1	36.4	54.5
20 May	10	1	0	0	1	0.0	0.0	0.0	100.0				
	11	15	10	0	25	0.0	0.0	46.7	53.3	0.0	0.0	20.0	80.0
	12	5	3	0	8	0.0	0.0	60.0	40.0	0.0	0.0	33.3	66.7
	13	5	4	0	9	0.0	0.0	40.0	60.0	0.0	25.0	25.0	50.0
	14	10	14	0	24	0.0	0.0	60.0	40.0	0.0	7.1	14.3	78.6
	15	8	3	0	11	0.0	0.0	87.5	12.5	0.0	0.0	33.3	66.7
	16												
Sample Total		80	56	0	136	0.0	2.5	58.8	38.8	0.0	8.9	28.6	62.5
	5	5	5	0	10	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	6	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	7	4	2	0	6	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	8	29	19	0	48	0.0	0.0	89.7	10.3	0.0	11.1	83.3	5.6
	9	23	24	0	47	0.0	0.0	78.3	21.7	0.0	4.2	87.5	8.3
27 May	10	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	6	8	0	14	0.0	0.0	50.0	50.0	0.0	12.5	75.0	12.5
	12	6	3	0	9	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	13	4	0	0	4	0.0	0.0	75.0	25.0				
	14	4	1	0	5	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	15	4	2	0	6	0.0	0.0	75.0	25.0	0.0	0.0	50.0	50.0
	16	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
Sample Total		92	70	0	162	0.0	0.0	80.4	19.6	0.0	7.2	84.1	8.7
	5	5	5	0	10	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	6	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	7	5	2	0	7	0.0	0.0	80.0	20.0	0.0	0.0	100.0	0.0
	8	37	30	0	67	0.0	0.0	83.8	16.2	0.0	13.8	69.0	17.2
	9	50	35	0	85	0.0	4.0	68.0	28.0	0.0	5.7	71.4	22.9
20-27 May	10	6	2	0	8	0.0	0.0	83.3	16.7	0.0	0.0	100.0	0.0
	11	21	18	0	39	0.0	0.0	47.6	52.4	0.0	5.6	44.4	50.0
	12	11	6	0	17	0.0	0.0	63.6	36.4	0.0	0.0	66.7	33.3
	13	9	4	0	13	0.0	0.0	55.6	44.4	0.0	25.0	25.0	50.0
	14	14	15	0	29	0.0	0.0	64.3	35.7	0.0	6.7	20.0	73.3
	15	12	5	0	17	0.0	0.0	83.3	16.7	0.0	0.0	40.0	60.0
	16	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
All Samples		172	126	0	298	0.0	1.2	70.3	28.5	0.0	8.0	59.2	32.8

Appendix F.11. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Togiak section, 21 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	7	3	2	0	5	0.0	33.3	66.7	0.0	0.0	100.0	0.0	0.0
	8	15	19	0	34	0.0	20.0	66.7	13.3	0.0	31.6	63.2	5.3
	9	17	20	0	37	0.0	41.2	47.1	11.8	0.0	50.0	45.0	5.0
	10	2	1	0	3	0.0	50.0	0.0	50.0	0.0	100.0	0.0	0.0
	11	9	10	0	19	0.0	11.1	66.7	22.2	0.0	0.0	90.0	10.0
21 May	12	2	3	0	5	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	13	5	3	0	8	0.0	0.0	60.0	40.0	0.0	33.3	33.3	33.3
	14	11	7	0	18	0.0	18.2	54.5	27.3	0.0	0.0	42.9	57.1
	15	1	4	0	5	0.0	0.0	0.0	100.0	0.0	50.0	50.0	0.0
	16												
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		66	69	0	135	0.0	22.7	57.6	19.7	0.0	33.3	55.1	11.6

Appendix F.12. Sexual maturity of Pacific herring caught with commercial gill net by age and sex, Kulukak, Nunavachak, and Togiak Sections, 20-27 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5	10	8	0	18	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	6	3	0	0	3	0.0	0.0	100.0	0.0				
	7	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	23	23	0	46	0.0	4.3	82.6	13.0	0.0	13.0	69.6	17.4
	9	44	18	0	62	0.0	4.5	75.0	20.5	0.0	5.6	61.1	33.3
	10	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
20 May	11	20	15	0	35	0.0	5.0	55.0	40.0	0.0	0.0	46.7	53.3
	12	9	3	0	12	0.0	11.1	66.7	22.2	0.0	0.0	33.3	66.7
	13	6	6	0	12	0.0	16.7	33.3	50.0	0.0	16.7	50.0	33.3
	14	16	17	0	33	0.0	6.3	68.8	25.0	0.0	11.8	23.5	64.7
	15	12	7	0	19	0.0	0.0	91.7	8.3	0.0	14.3	57.1	28.6
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		147	100	0	247	0.0	6.1	72.8	21.1	0.0	8.0	57.0	35.0
	4												
	5												
	6												
	7	3	2	0	5	0.0	33.3	66.7	0.0	0.0	100.0	0.0	0.0
	8	15	19	0	34	0.0	20.0	66.7	13.3	0.0	31.6	63.2	5.3
	9	17	20	0	37	0.0	41.2	47.1	11.8	0.0	50.0	45.0	5.0
	10	2	1	0	3	0.0	50.0	0.0	50.0	0.0	100.0	0.0	0.0
21 May	11	9	10	0	19	0.0	11.1	66.7	22.2	0.0	0.0	90.0	10.0
	12	2	3	0	5	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	13	5	3	0	8	0.0	0.0	60.0	40.0	0.0	33.3	33.3	33.3
	14	11	7	0	18	0.0	18.2	54.5	27.3	0.0	0.0	42.9	57.1
	15	1	4	0	5	0.0	0.0	0.0	100.0	0.0	50.0	50.0	0.0
	16												
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		66	69	0	135	0.0	22.7	57.6	19.7	0.0	33.3	55.1	11.6
	4												
	5	3	3	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	7	5	0	12	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
	8	38	32	0	70	0.0	0.0	100.0	0.0	0.0	6.3	93.8	0.0
	9	38	29	0	67	0.0	0.0	92.1	7.9	0.0	0.0	96.6	3.4
	10	5	3	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
22 May	11	13	9	0	22	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	12	8	6	0	14	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	10	8	0	18	0.0	0.0	90.0	10.0	0.0	0.0	75.0	25.0
	14	6	6	0	12	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		130	104	0	234	0.0	0.0	96.9	3.1	0.0	1.9	94.2	3.8

-Continued-

Appendix F.12. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Gonad Maturity (%) Male Unknown	Green	Ripe	Spawnout	Female Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	9	15	0	24	0.0	11.1	88.9	0.0	0.0	0.0	100.0	0.0
	6	4	1	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	2	6	0	8	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	49	42	0	91	0.0	0.0	100.0	0.0	0.0	0.0	97.6	2.4
	9	39	27	0	66	0.0	0.0	100.0	0.0	0.0	0.0	96.3	3.7
	10	8	3	0	11	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
25 May	11	12	5	0	17	0.0	0.0	91.7	8.3	0.0	0.0	100.0	0.0
	12	6	6	0	12	0.0	0.0	100.0	0.0	0.0	16.7	83.3	0.0
	13	6	3	0	9	0.0	0.0	83.3	16.7	0.0	0.0	66.7	33.3
	14	9	8	0	17	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	16												
	17												
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		148	119	0	267	0.0	0.7	98.0	1.4	0.0	0.8	96.6	2.5
	4												
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	6												
	7	3	1	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	8	13	8	0	21	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	11	15	0	26	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
	10	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
26 May	11	4	2	0	6	0.0	0.0	75.0	25.0	0.0	0.0	50.0	50.0
	12	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	75.0	25.0
	13	0	1	0	1					0.0	0.0	100.0	0.0
	14	11	7	0	18	0.0	0.0	72.7	27.3	0.0	0.0	57.1	42.9
	15	5	1	0	6	0.0	0.0	60.0	40.0	0.0	0.0	100.0	0.0
	16												
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		53	42	0	95	0.0	0.0	88.7	11.3	0.0	0.0	78.6	21.4
	4												
	5	5	5	0	10	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	6	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	7	4	2	0	6	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	8	29	19	0	48	0.0	0.0	89.7	10.3	0.0	11.1	83.3	5.6
	9	23	24	0	47	0.0	0.0	78.3	21.7	0.0	4.2	87.5	8.3
	10	5	2	0	7	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
27 May	11	6	8	0	14	0.0	0.0	50.0	50.0	0.0	12.5	75.0	12.5
	12	6	3	0	9	0.0	0.0	66.7	33.3	0.0	0.0	100.0	0.0
	13	4	0	0	4	0.0	0.0	75.0	25.0				
	14	4	1	0	5	0.0	0.0	75.0	25.0	0.0	0.0	100.0	0.0
	15	4	2	0	6	0.0	0.0	75.0	25.0	0.0	0.0	50.0	50.0
	16	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		92	70	0	162	0.0	0.0	80.4	19.6	0.0	7.2	84.1	8.7

-Continued-

Appendix F.12. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	1	0	0	1	0.0	0.0	100.0	0.0				
	5	28	32	0	60	0.0	10.7	89.3	0.0	0.0	3.1	93.8	3.1
	6	8	4	0	12	0.0	0.0	100.0	0.0	0.0	0.0	75:0	25.0
	7	21	17	0	38	0.0	4.8	90.5	4.8	0.0	11.8	82.4	5.9
	8	167	143	0	310	0.0	2.4	92.8	4.8	0.0	9.2	85.9	4.9
	9	172	133	0	305	0.0	5.2	83.7	11.0	0.0	9.0	80.5	10.5
	10	24	12	0	36	0.0	4.2	87.5	8.3	0.0	8.3	91.7	0.0
20–27 May	11	64	49	0	113	0.0	3.1	73.4	23.4	0.0	2.0	75.5	22.4
	12	33	25	0	58	0.0	3.0	84.8	12.1	0.0	8.0	80.0	12.0
	13	31	21	0	52	0.0	3.2	71.0	25.8	0.0	9.5	61.9	28.6
	14	57	46	0	103	0.0	5.3	75.4	19.3	0.0	4.3	56.5	39.1
	15	27	18	0	45	0.0	0.0	81.5	18.5	0.0	16.7	66.7	16.7
	16	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	17												
	18	2	1	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
All Samples		636	504	0	1140	0.0	3.9	84.4	11.6	0.0	7.8	79.3	12.9

Appendix F.13. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Kulukak Section, 19-20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	8	8	0	16	0.0	62.5	37.5	0.0	0.0	100.0	0.0	0.0
	5	31	33	2	66	0.0	32.3	67.7	0.0	0.0	97.0	3.0	0.0
	6	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	2	0	0	2	0.0	0.0	100.0	0.0				
	8	7	11	0	18	0.0	28.6	71.4	0.0	0.0	81.8	18.2	0.0
	9	10	5	0	15	0.0	30.0	70.0	0.0	0.0	60.0	40.0	0.0
19 May	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	11	2	6	0	8	0.0	0.0	100.0	0.0	0.0	83.3	16.7	0.0
	12	1	3	0	4	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
	13	1	7	0	8	0.0	0.0	100.0	0.0	0.0	28.6	71.4	0.0
	14	2	9	0	11	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
	15												
	16												
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		68	84	2	154	0.0	30.9	69.1	0.0	0.0	82.1	17.9	0.0
	3												
	4	4	9	0	13	0.0	0.0	100.0	0.0	0.0	88.9	11.1	0.0
	5	6	6	0	12	0.0	33.3	66.7	0.0	0.0	83.3	16.7	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	2	1	0	3	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	8	6	8	0	14	0.0	0.0	100.0	0.0	0.0	37.5	62.5	0.0
	9	6	5	0	11	0.0	0.0	100.0	0.0	0.0	40.0	60.0	0.0
20 May	10	0	4	0	4					0.0	75.0	25.0	0.0
	11	5	8	0	13	0.0	20.0	80.0	0.0	0.0	50.0	50.0	0.0
	12	2	3	0	5	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	13	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	9	0	10	0.0	0.0	100.0	0.0	0.0	22.2	77.8	0.0
	15	2	5	0	7	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	16												
	17												
	18												
Sample Total		36	62	0	98	0.0	11.1	88.9	0.0	0.0	48.4	51.6	0.0
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	12	17	0	29	0.0	41.7	58.3	0.0	0.0	94.1	5.9	0.0
	5	37	39	2	78	0.0	32.4	67.6	0.0	0.0	94.9	5.1	0.0
	6	1	2	0	3	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	7	4	1	0	5	0.0	25.0	75.0	0.0	0.0	100.0	0.0	0.0
	8	13	19	0	32	0.0	15.4	84.6	0.0	0.0	63.2	36.8	0.0
	9	16	10	0	26	0.0	18.8	81.3	0.0	0.0	50.0	50.0	0.0
19-20 May	10	1	5	0	6	0.0	0.0	100.0	0.0	0.0	80.0	20.0	0.0
	11	7	14	0	21	0.0	14.3	85.7	0.0	0.0	64.3	35.7	0.0
	12	3	6	0	9	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	13	3	10	0	13	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	14	3	18	0	21	0.0	0.0	100.0	0.0	0.0	44.4	55.6	0.0
	15	2	5	0	7	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	16												
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		104	146	2	252	0.0	24.0	76.0	0.0	0.0	67.8	32.2	0.0

Appendix F.14. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Nunavachak Section, 16-20 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6												
	7												
	8												
16 May	9												
	10												
	11												
	12												
	13												
	14												
	15												
	16												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0
	3												
	4	14	13	0	27	7.1	92.9	0.0	0.0	0.0	100.0	0.0	0.0
	5	43	35	0	78	4.7	93.0	2.3	0.0	0.0	88.6	11.4	0.0
	6	2	2	0	4	0.0	100.0	0.0	0.0	50.0	50.0	0.0	0.0
	7	2	0	0	2	0.0	100.0	0.0	0.0				
	8	5	2	0	7	0.0	80.0	20.0	0.0	0.0	100.0	0.0	0.0
17 May	9	3	4	0	7	0.0	66.7	33.3	0.0	0.0	50.0	50.0	0.0
	10	0	4	0	4					0.0	25.0	75.0	0.0
	11												
	12												
	13	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	2	1	0	3	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	15												
	16	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		72	63	0	135	4.2	88.9	6.9	0.0	1.6	81.0	17.5	0.0
	3	0	2	0	2					0.0	100.0	0.0	0.0
	4	23	26	0	49	13.0	78.3	8.7	0.0	3.8	96.2	0.0	0.0
	5	35	37	0	72	2.9	88.6	8.6	0.0	2.7	97.3	0.0	0.0
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8	4	1	0	5	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
19 May	9	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	10												
	11	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	12												
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14												
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
Sample Total		65	71	0	136	6.2	80.0	13.8	0.0	2.8	97.2	0.0	0.0

-Continued-

Appendix F.14. (p. 2 of 2)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	0	1	0	1					0.0	100.0	0.0	0.0
	5	2	0	0	2	0.0	50.0	50.0	0.0				
	6	1	0	0	1	0.0	100.0	0.0	0.0				
	7	0	1	0	1					0.0	100.0	0.0	0.0
	8	0	4	0	4					0.0	50.0	50.0	0.0
20 May	9	3	1	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	10	1	0	0	1	0.0	0.0	100.0	0.0				
	11	0	2	0	2					0.0	0.0	100.0	0.0
	12												
	13	3	1	0	4	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	14	0	2	0	2					0.0	50.0	50.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
Sample Total		10	13	0	23	0.0	30.0	70.0	0.0	0.0	46.2	53.8	0.0
	3	0	2	0	2					0.0	100.0	0.0	0.0
	4	37	40	0	77	10.8	83.8	5.4	0.0	2.5	97.5	0.0	0.0
	5	80	73	0	153	3.8	90.0	6.3	0.0	1.4	93.2	5.5	0.0
	6	3	3	0	6	0.0	100.0	0.0	0.0	33.3	66.7	0.0	0.0
	7	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	9	7	0	16	0.0	66.7	33.3	0.0	0.0	71.4	28.6	0.0
16–20 May	9	7	7	0	14	0.0	42.9	57.1	0.0	0.0	71.4	28.6	0.0
	10	1	4	0	5	0.0	0.0	100.0	0.0	0.0	25.0	75.0	0.0
	11	1	3	0	4	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	12												
	13	5	2	0	7	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	14	2	3	0	5	0.0	50.0	50.0	0.0	0.0	66.7	33.3	0.0
	15	0	2	0	2					0.0	50.0	50.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
All Samples		147	148	0	295	4.8	81.0	14.3	0.0	2.0	85.8	12.2	0.0

Appendix F.15. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Togiak section, 17-24 May 1992.

Gonad Maturity (%)		Sex (number)				Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4	7	11	0	18	14.3	85.7	0.0	0.0	0.0	100.0	0.0	0.0
	5	18	17	0	35	5.6	94.4	0.0	0.0	0.0	100.0	0.0	0.0
	6	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7												
	8	0	2	0	2					0.0	100.0	0.0	0.0
17 May	9	0	2	0	2					0.0	100.0	0.0	0.0
	10	0	1	0	1					0.0	100.0	0.0	0.0
	11	1	0	0	1	0.0	100.0	0.0	0.0				
	12												
	13	1	0	0	1	0.0	100.0	0.0	0.0				
	14												
	15												
	16												
Sample Total		28	34	0	62	7.1	92.9	0.0	0.0	0.0	100.0	0.0	0.0
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	20	15	0	35	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	12	6	0	18	0.0	83.3	16.7	0.0	0.0	100.0	0.0	0.0
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8	1	0	0	1	0.0	0.0	100.0	0.0				
18 May	9	1	2	0	3	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	10	0	1	0	1					0.0	100.0	0.0	0.0
	11	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12												
	13												
	14	2	0	0	2	0.0	0.0	100.0	0.0				
	15	1	0	0	1	0.0	100.0	0.0	0.0				
	16												
Sample Total		39	26	0	65	0.0	84.6	15.4	0.0	0.0	96.2	3.8	0.0
	3												
	4	3	3	0	6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	15	14	0	29	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	6	0	2	0	2					0.0	100.0	0.0	0.0
	7	1	0	0	1	0.0	100.0	0.0	0.0				
	8	5	16	0	21	0.0	60.0	40.0	0.0	0.0	93.8	6.3	0.0
19 May	9	11	13	0	24	0.0	81.8	18.2	0.0	0.0	76.9	23.1	0.0
	10	3	2	0	5	0.0	66.7	33.3	0.0	0.0	100.0	0.0	0.0
	11	8	14	0	22	0.0	50.0	50.0	0.0	0.0	92.9	7.1	0.0
	12	2	2	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	7	8	0	15	0.0	71.4	28.6	0.0	0.0	100.0	0.0	0.0
	14	6	15	0	21	0.0	66.7	33.3	0.0	0.0	73.3	26.7	0.0
	15	3	3	0	6	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	16	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
Sample Total		66	93	0	159	0.0	77.3	22.7	0.0	0.0	90.3	9.7	0.0

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Appendix F.15. (p. 2 of 2)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
20 May	3												
	4	8	21	0	29	0.0	75.0	25.0	0.0	0.0	100.0	0.0	0.0
	5	23	45	0	68	4.3	56.5	39.1	0.0	2.2	88.9	8.9	0.0
	6	0	2	0	2					0.0	100.0	0.0	0.0
	7	0	5	0	5					0.0	80.0	20.0	0.0
	8	4	5	0	9	0.0	0.0	100.0	0.0	0.0	40.0	60.0	0.0
	9	4	4	0	8	0.0	0.0	100.0	0.0	0.0	25.0	50.0	25.0
	10	0	1	0	1					0.0	0.0	100.0	0.0
	11	0	2	0	2					0.0	50.0	50.0	0.0
	12	0	3	0	3					0.0	100.0	0.0	0.0
	13												
	14	1	4	0	5	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	15	0	2	0	2					0.0	0.0	100.0	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		41	94	0	135	2.4	46.3	51.2	0.0	1.1	80.9	17.0	1.1
24 May	3												
	4	10	1	0	11	0.0	10.0	0.0	90.0	0.0	0.0	0.0	100.0
	5	15	14	0	29	0.0	0.0	13.3	86.7	0.0	14.3	7.1	78.6
	6	1	0	0	1	0.0	0.0	0.0	100.0				
	7	1	2	0	3	0.0	0.0	0.0	100.0	0.0	0.0	50.0	50.0
	8	2	5	0	7	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	9	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	10												
	11	0	4	0	4					0.0	0.0	0.0	100.0
	12	1	0	0	1	0.0	0.0	0.0	100.0				
	13	3	2	0	5	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	14	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16												
Sample Total		35	31	0	66	0.0	2.9	5.7	91.4	0.0	6.5	6.5	87.1
17-24 May	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	48	51	0	99	2.1	75.0	4.2	18.8	0.0	98.0	0.0	2.0
	5	83	96	0	179	2.4	66.3	15.7	15.7	1.0	82.3	5.2	11.5
	6	2	6	0	8	0.0	50.0	0.0	50.0	0.0	100.0	0.0	0.0
	7	2	7	0	9	0.0	50.0	0.0	50.0	0.0	57.1	28.6	14.3
	8	12	28	0	40	0.0	25.0	58.3	16.7	0.0	67.9	14.3	17.9
	9	17	22	0	39	0.0	52.9	41.2	5.9	0.0	63.6	27.3	9.1
	10	3	5	0	8	0.0	66.7	33.3	0.0	0.0	80.0	20.0	0.0
	11	10	21	0	31	0.0	60.0	40.0	0.0	0.0	71.4	9.5	19.0
	12	3	5	0	8	0.0	66.7	0.0	33.3	0.0	100.0	0.0	0.0
	13	11	10	0	21	0.0	54.5	18.2	27.3	0.0	80.0	0.0	20.0
	14	10	20	0	30	0.0	40.0	50.0	10.0	0.0	65.0	30.0	5.0
	15	4	6	0	10	0.0	100.0	0.0	0.0	0.0	50.0	33.3	16.7
	16	3	1	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
All Samples		209	278	0	487	1.4	62.2	21.1	15.3	0.4	79.5	10.1	10.1

Appendix F.16. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Walrus Islands Section, 18 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	6	8	0	14	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	16	21	0	37	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	6	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	7	1	0	8	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	32	22	0	54	0.0	68.8	31.3	0.0	0.0	95.5	4.5	0.0
	9	21	21	0	42	0.0	71.4	28.6	0.0	0.0	100.0	0.0	0.0
	10	9	10	0	19	0.0	77.8	22.2	0.0	0.0	100.0	0.0	0.0
18 May	11	22	27	0	49	0.0	59.1	40.9	0.0	0.0	96.3	3.7	0.0
	12	13	15	0	28	0.0	69.2	30.8	0.0	0.0	100.0	0.0	0.0
	13	24	20	0	44	0.0	75.0	25.0	0.0	0.0	75.0	25.0	0.0
	14	16	25	0	41	0.0	68.8	31.3	0.0	0.0	84.0	16.0	0.0
	15	10	12	0	22	0.0	90.0	10.0	0.0	0.0	66.7	33.3	0.0
	16	0	1	0	1					0.0	100.0	0.0	0.0
	17												
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		178	184	0	362	0.0	75.3	24.7	0.0	0.0	91.8	8.2	0.0

Appendix F.17. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Hagemeister Section, 16-24 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4												
	5												
	6												
	7												
	8	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	9	8	10	0	18	0.0	62.5	37.5	0.0	0.0	100.0	0.0	0.0
	10	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
16 May	11	4	12	0	16	0.0	75.0	25.0	0.0	0.0	100.0	0.0	0.0
	12	2	1	0	3	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	13	6	4	0	10	0.0	16.7	83.3	0.0	0.0	100.0	0.0	0.0
	14	5	6	0	11	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18												
Sample Total		29	37	0	66	0.0	44.8	55.2	0.0	0.0	100.0	0.0	0.0
	4	1	0	0	1	0.0	100.0	0.0	0.0				
	5	9	10	0	19	0.0	100.0	0.0	0.0	10.0	90.0	0.0	0.0
	6												
	7	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	5	2	0	7	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	9	2	6	0	8	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	10	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
18 May	11	2	3	0	5	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	12	0	1	0	1					0.0	100.0	0.0	0.0
	13	3	1	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	14	4	4	0	8	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	15	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	16												
	17												
	18	0	1	0	1					0.0	100.0	0.0	0.0
Sample Total		31	31	0	62	0.0	100.0	0.0	0.0	3.2	96.8	0.0	0.0
	4	6	11	0	17	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	8	15	0	23	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	6	1	1	0	2	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	4	13	0	17	0.0	100.0	0.0	0.0	0.0	92.3	7.7	0.0
	9	11	9	0	20	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	10	3	2	0	5	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
19 May	11	4	7	0	11	0.0	100.0	0.0	0.0	0.0	85.7	14.3	0.0
	12	7	4	0	11	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	13	4	7	0	11	0.0	100.0	0.0	0.0	0.0	85.7	14.3	0.0
	14	10	11	0	21	0.0	100.0	0.0	0.0	0.0	81.8	18.2	0.0
	15	3	4	0	7	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	16	0	1	0	1					0.0	100.0	0.0	0.0
	17	1	0	0	1	0.0	100.0	0.0	0.0				
	18												
Sample Total		64	86	0	150	0.0	100.0	0.0	0.0	0.0	93.0	7.0	0.0

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Appendix F.17. (p. 2 of 2)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	5	0	0	5	0.0	60.0	20.0	20.0				
	5	9	18	0	27	0.0	22.2	55.6	22.2	0.0	5.6	94.4	0.0
	6	2	0	0	2	0.0	100.0	0.0	0.0				
	7	0	1	0	1					0.0	100.0	0.0	0.0
	8	3	6	0	9	0.0	33.3	33.3	33.3	0.0	33.3	66.7	0.0
	9	7	5	0	12	0.0	42.9	14.3	42.9	0.0	0.0	100.0	0.0
	10												
24 May	11	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	12	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	13	2	0	0	2	0.0	50.0	50.0	0.0				
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	0.0	100.0				
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		33	34	0	67	0.0	39.4	33.3	27.3	0.0	11.8	88.2	0.0
	4	12	11	0	23	0.0	83.3	8.3	8.3	0.0	100.0	0.0	0.0
	5	26	43	0	69	0.0	73.1	19.2	7.7	2.3	58.1	39.5	0.0
	6	3	1	0	4	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	4	3	0	7	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	14	22	0	36	0.0	85.7	7.1	7.1	0.0	77.3	22.7	0.0
	9	28	30	0	58	0.0	75.0	14.3	10.7	0.0	83.3	16.7	0.0
	10	5	5	0	10	0.0	100.0	0.0	0.0	0.0	80.0	20.0	0.0
16-24 May	11	12	23	0	35	0.0	75.0	16.7	8.3	0.0	91.3	8.7	0.0
	12	10	7	0	17	0.0	90.0	10.0	0.0	0.0	85.7	14.3	0.0
	13	15	12	0	27	0.0	60.0	40.0	0.0	0.0	91.7	8.3	0.0
	14	20	22	0	42	0.0	70.0	30.0	0.0	0.0	86.4	13.6	0.0
	15	6	6	0	12	0.0	83.3	0.0	16.7	0.0	100.0	0.0	0.0
	16	0	2	0	2					0.0	50.0	50.0	0.0
	17	2	0	0	2	0.0	50.0	50.0	0.0				
	18	0	1	0	1					0.0	100.0	0.0	0.0
All Samples		157	188	0	345	0.0	77.1	17.2	5.7	0.5	80.3	19.1	0.0

Appendix F.18. Sexual maturity of Pacific herring caught with test commercial purse seine by age and sex, Kulukak, Nunavachak, Togiak, and Hagemeister Sections, 16-24 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6												
	7												
	8	2	1	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	9	8	10	0	18	0.0	62.5	37.5	0.0	0.0	100.0	0.0	0.0
16 May	10	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	11	4	12	0	16	0.0	75.0	25.0	0.0	0.0	100.0	0.0	0.0
	12	2	1	0	3	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	13	6	4	0	10	0.0	16.7	83.3	0.0	0.0	100.0	0.0	0.0
	14	5	6	0	11	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	15	0	1	0	1					0.0	100.0	0.0	0.0
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18												
Sample Total		29	38	0	67	0.0	44.8	55.2	0.0	0.0	100.0	0.0	0.0
	3												
	4	21	24	0	45	9.5	90.5	0.0	0.0	0.0	100.0	0.0	0.0
	5	61	52	0	113	4.9	93.4	1.6	0.0	0.0	92.3	7.7	0.0
	6	3	3	0	6	0.0	100.0	0.0	0.0	33.3	66.7	0.0	0.0
	7	2	0	0	2	0.0	100.0	0.0	0.0				
	8	5	4	0	9	0.0	80.0	20.0	0.0	0.0	100.0	0.0	0.0
	9	3	6	0	9	0.0	66.7	33.3	0.0	0.0	66.7	33.3	0.0
17 May	10	0	5	0	5					0.0	40.0	60.0	0.0
	11	1	0	0	1	0.0	100.0	0.0	0.0				
	12												
	13	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
	14	2	1	0	3	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	15												
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		100	97	0	197	5.0	90.0	5.0	0.0	1.0	87.6	11.3	0.0
	3	1	0	0	1	0.0	100.0	0.0	0.0				
	4	27	23	0	50	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	5	37	37	0	74	0.0	94.6	5.4	0.0	2.7	97.3	0.0	0.0
	6	1	2	0	3	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	9	2	0	11	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	8	38	24	0	62	0.0	71.1	28.9	0.0	0.0	95.8	4.2	0.0
	9	24	29	0	53	0.0	70.8	29.2	0.0	0.0	96.6	3.4	0.0
18 May	10	10	12	0	22	0.0	80.0	20.0	0.0	0.0	100.0	0.0	0.0
	11	25	31	0	56	0.0	64.0	36.0	0.0	0.0	96.8	3.2	0.0
	12	13	16	0	29	0.0	69.2	30.8	0.0	0.0	100.0	0.0	0.0
	13	27	21	0	48	0.0	77.8	22.2	0.0	0.0	76.2	23.8	0.0
	14	22	29	0	51	0.0	68.2	31.8	0.0	0.0	86.2	13.8	0.0
	15	13	13	0	26	0.0	92.3	7.7	0.0	0.0	69.2	30.8	0.0
	16	0	1	0	1					0.0	100.0	0.0	0.0
	17												
	18	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
Sample Total		248	241	0	489	0.0	79.8	20.2	0.0	0.4	92.9	6.6	0.0

-Continued-

Appendix F.18. (p. 2 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	2	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	4	40	48	0	88	7.5	80.0	12.5	0.0	2.1	97.9	0.0	0.0
	5	89	99	2	190	1.1	71.9	27.0	0.0	1.0	98.0	1.0	0.0
	6	2	5	0	7	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	7	5	1	0	6	0.0	60.0	40.0	0.0	0.0	100.0	0.0	0.0
	8	20	41	0	61	0.0	55.0	45.0	0.0	0.0	90.2	9.8	0.0
	9	33	29	0	62	0.0	72.7	27.3	0.0	0.0	82.8	17.2	0.0
19 May	10	7	5	0	12	0.0	71.4	28.6	0.0	0.0	80.0	20.0	0.0
	11	15	28	0	43	0.0	53.3	46.7	0.0	0.0	89.3	10.7	0.0
	12	10	9	0	19	0.0	90.0	10.0	0.0	0.0	88.9	11.1	0.0
	13	13	22	0	35	0.0	69.2	30.8	0.0	0.0	72.7	27.3	0.0
	14	18	35	0	53	0.0	77.8	22.2	0.0	0.0	74.3	25.7	0.0
	15	6	8	0	14	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
	16	2	2	0	4	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	17	1	0	0	1	0.0	100.0	0.0	0.0				
	18	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		263	334	2	599	1.5	71.5	27.0	0.0	0.6	90.4	9.0	0.0
	3												
	4	12	31	0	43	0.0	50.0	50.0	0.0	0.0	96.8	3.2	0.0
	5	31	51	0	82	3.2	51.6	45.2	0.0	2.0	88.2	9.8	0.0
	6	1	3	0	4	0.0	100.0	0.0	0.0	0.0	66.7	33.3	0.0
	7	2	7	0	9	0.0	50.0	50.0	0.0	0.0	85.7	14.3	0.0
	8	10	17	0	27	0.0	0.0	100.0	0.0	0.0	41.2	58.8	0.0
	9	13	10	0	23	0.0	0.0	100.0	0.0	0.0	40.0	50.0	10.0
20 May	10	1	5	0	6	0.0	0.0	100.0	0.0	0.0	60.0	40.0	0.0
	11	5	12	0	17	0.0	20.0	80.0	0.0	0.0	41.7	58.3	0.0
	12	2	6	0	8	0.0	0.0	100.0	0.0	0.0	66.7	33.3	0.0
	13	5	4	0	9	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	14	2	15	0	17	0.0	0.0	100.0	0.0	0.0	33.3	66.7	0.0
	15	2	8	0	10	0.0	0.0	100.0	0.0	0.0	12.5	87.5	0.0
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17												
	18												
Sample Total		87	169	0	256	1.1	29.9	69.0	0.0	0.6	66.3	32.5	0.6
	3												
	4	15	1	0	16	0.0	26.7	6.7	66.7	0.0	0.0	0.0	100.0
	5	24	32	0	56	0.0	8.3	29.2	62.5	0.0	9.4	56.3	34.4
	6	3	0	0	3	0.0	66.7	0.0	33.3				
	7	1	3	0	4	0.0	0.0	0.0	100.0	0.0	33.3	33.3	33.3
	8	5	11	0	16	0.0	20.0	20.0	60.0	0.0	18.2	36.4	45.5
	9	8	6	0	14	0.0	37.5	12.5	50.0	0.0	0.0	83.3	16.7
24 May	10												
	11	2	5	0	7	0.0	0.0	50.0	50.0	0.0	0.0	20.0	80.0
	12	2	1	0	3	0.0	50.0	0.0	50.0	0.0	0.0	100.0	0.0
	13	5	2	0	7	0.0	20.0	20.0	60.0	0.0	0.0	0.0	100.0
	14	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
	15	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17												
	18												
Sample Total		68	65	0	133	0.0	20.6	19.1	60.3	0.0	9.2	49.2	41.5

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Appendix F.18. (p. 3 of 3)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	2	2	0	4	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0
	4	115	127	0	242	4.3	76.5	10.4	8.7	0.8	97.6	0.8	0.8
	5	242	272	2	516	2.1	71.9	19.8	6.2	1.1	84.6	10.3	4.0
	6	10	13	0	23	0.0	90.0	0.0	10.0	7.7	84.6	7.7	0.0
	7	19	13	0	32	0.0	78.9	15.8	5.3	0.0	76.9	15.4	7.7
	8	80	98	0	178	0.0	56.3	40.0	3.8	0.0	75.5	19.4	5.1
	9	89	90	0	179	0.0	57.3	38.2	4.5	0.0	77.8	20.0	2.2
16-24 May	10	19	29	0	48	0.0	73.7	26.3	0.0	0.0	79.3	20.7	0.0
	11	52	88	0	140	0.0	55.8	42.3	1.9	0.0	81.8	13.6	4.5
	12	29	33	0	62	0.0	69.0	27.6	3.4	0.0	87.9	12.1	0.0
	13	58	54	0	112	0.0	58.6	36.2	5.2	0.0	66.7	29.6	3.7
	14	51	88	0	139	0.0	58.8	39.2	2.0	0.0	71.6	27.3	1.1
	15	22	31	0	53	0.0	81.8	13.6	4.5	0.0	61.3	35.5	3.2
	16	3	5	0	8	0.0	0.0	100.0	0.0	0.0	60.0	40.0	0.0
	17	2	0	0	2	0.0	50.0	50.0	0.0				
	18	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
All Samples		795	944	2	1741	1.3	66.5	27.0	5.2	0.5	81.3	15.3	3.0

Appendix F.19. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Kulukak Section, 13-26 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6												
	7												
	8												
	9												
18 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
Sample Total		1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	3												
	4	6	8	0	14	0.0	33.3	66.7	0.0	0.0	50.0	50.0	0.0
	5	3	11	0	14	0.0	0.0	66.7	33.3	0.0	54.5	45.5	0.0
	6												
	7												
	8	6	2	0	8	0.0	16.7	83.3	0.0	0.0	0.0	100.0	0.0
	9	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
22 May	10												
	11												
	12	0	1	0	1					0.0	0.0	0.0	100.0
	13	3	2	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
Sample Total		21	27	0	48	0.0	14.3	81.0	4.8	0.0	37.0	59.3	3.7

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Appendix F.19. (p. 2 of 3)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Gonad Maturity (%) Male Unknown	Green	Ripe	Spawnout	Female Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	10	15	0	25	0.0	0.0	80.0	20.0	0.0	0.0	73.3	26.7
	5	25	18	0	43	0.0	0.0	84.0	16.0	0.0	0.0	66.7	33.3
	6	1	0	0	1	0.0	0.0	100.0	0.0				
	7	1	0	0	1	0.0	0.0	100.0	0.0				
	8	9	4	0	13	0.0	0.0	66.7	33.3	0.0	0.0	75.0	25.0
	9	4	5	0	9	0.0	0.0	100.0	0.0	0.0	0.0	80.0	20.0
23 May	10	0	3	0	3					0.0	0.0	66.7	33.3
	11	0	2	0	2					0.0	0.0	50.0	50.0
	12	4	2	0	6	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	13	1	6	0	7	0.0	0.0	100.0	0.0	0.0	16.7	33.3	50.0
	14	3	1	0	4	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	15	1	4	0	5	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	16	0	2	0	2					0.0	0.0	0.0	100.0
	17												
Sample Total		59	63	0	122	0.0	0.0	79.7	20.3	0.0	1.6	60.3	38.1
	3												
	4	16	9	0	25	0.0	0.0	87.5	12.5	0.0	0.0	77.8	22.2
	5	19	22	0	41	0.0	0.0	89.5	10.5	0.0	0.0	77.3	22.7
	6												
	7												
	8	8	5	0	13	0.0	0.0	100.0	0.0	0.0	20.0	80.0	0.0
	9	6	8	0	14	0.0	0.0	100.0	0.0	0.0	0.0	87.5	12.5
24 May	10	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	6	0	10	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	12	0	2	0	2					0.0	0.0	100.0	0.0
	13	6	1	0	7	0.0	16.7	66.7	16.7	0.0	0.0	100.0	0.0
	14	2	3	0	5	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	1	0	0	1	0.0	0.0	100.0	0.0				
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		64	58	0	122	0.0	3.1	89.1	7.8	0.0	1.7	84.5	13.8
	3												
	4	27	20	1	48	0.0	0.0	92.6	7.4	0.0	0.0	80.0	20.0
	5	30	10	0	40	0.0	0.0	80.0	20.0	0.0	0.0	90.0	10.0
	6												
	7												
	8	9	1	0	10	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	9	4	4	0	8	0.0	0.0	100.0	0.0	0.0	0.0	75.0	25.0
25 May	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	3	0	0	3	0.0	0.0	100.0	0.0				
	12	2	2	0	4	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13												
	14	2	4	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17												
Sample Total		78	43	1	122	0.0	0.0	89.7	10.3	0.0	0.0	86.0	14.0

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Appendix F.19. (p. 3 of 3)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	0.0	100.0				
	4	25	24	0	49	0.0	0.0	36.0	64.0	0.0	4.2	29.2	66.7
	5	19	28	0	47	0.0	0.0	15.8	84.2	0.0	10.7	39.3	50.0
	6	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	7												
	8	2	6	0	8	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
	9	2	2	0	4	0.0	0.0	50.0	50.0	0.0	0.0	50.0	50.0
26 May	10												
	11												
	12	0	1	0	1					0.0	0.0	0.0	100.0
	13												
	14	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	15	0	1	0	1					0.0	0.0	0.0	100.0
	16												
	17												
Sample Total		51	64	0	115	0.0	0.0	31.4	68.6	0.0	6.3	37.5	56.3
	3	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	4	84	76	1	161	0.0	2.4	71.4	26.2	0.0	6.6	59.2	34.2
	5	97	90	0	187	0.0	0.0	70.1	29.9	0.0	10.0	61.1	28.9
	6	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	7	1	0	0	1	0.0	0.0	100.0	0.0				
	8	34	18	0	52	0.0	2.9	88.2	8.8	0.0	5.6	83.3	11.1
	9	18	21	0	39	0.0	0.0	94.4	5.6	0.0	0.0	81.0	19.0
13-26 May	10	2	6	0	8	0.0	0.0	100.0	0.0	0.0	0.0	83.3	16.7
	11	7	8	0	15	0.0	14.3	85.7	0.0	0.0	0.0	87.5	12.5
	12	6	8	0	14	0.0	0.0	66.7	33.3	0.0	0.0	50.0	50.0
	13	10	9	0	19	0.0	10.0	80.0	10.0	0.0	11.1	55.6	33.3
	14	9	10	0	19	0.0	0.0	88.9	11.1	0.0	0.0	80.0	20.0
	15	2	6	0	8	0.0	0.0	100.0	0.0	0.0	0.0	50.0	50.0
	16	0	2	0	2					0.0	0.0	0.0	100.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
All Samples		274	256	1	531	0.0	1.8	75.9	22.3	0.0	6.3	64.5	29.3

Appendix F.20. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Nunavachak Section, 26 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	4	12	14	0	26	0.0	0.0	83.3	16.7	0.0	0.0	71.4	28.6
	5	25	30	0	55	0.0	0.0	76.0	24.0	0.0	0.0	43.3	56.7
	6	3	2	0	5	0.0	0.0	66.7	33.3	0.0	0.0	0.0	100.0
	7	0	3	0	3					0.0	0.0	66.7	33.3
	8	3	6	0	9	0.0	0.0	33.3	66.7	0.0	16.7	16.7	66.7
26 May	9	7	4	0	11	0.0	0.0	85.7	14.3	0.0	0.0	50.0	50.0
	10	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	11	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	12	3	3	0	6	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	13	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	14	2	2	0	4	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0
	15	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
Sample Total		59	72	0	131	0.0	0.0	72.9	27.1	0.0	1.4	40.3	58.3

Appendix F.21. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Togiak section, 22-23 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	13	18	0	31	0.0	15.4	23.1	61.5	0.0	16.7	22.2	61.1
	5	22	26	0	48	0.0	31.8	40.9	27.3	0.0	23.1	26.9	50.0
	6	1	0	0	1	0.0	0.0	0.0	100.0				
	7	4	1	0	5	0.0	25.0	50.0	25.0	0.0	100.0	0.0	0.0
	8	24	10	0	34	0.0	20.8	75.0	4.2	0.0	10.0	70.0	20.0
	9	14	8	0	22	0.0	14.3	78.6	7.1	0.0	12.5	62.5	25.0
22 May	10	3	4	0	7	0.0	33.3	66.7	0.0	0.0	25.0	50.0	25.0
	11	10	4	0	14	0.0	0.0	90.0	10.0	0.0	75.0	25.0	0.0
	12	2	2	0	4	0.0	0.0	50.0	50.0	0.0	100.0	0.0	0.0
	13	3	1	0	4	0.0	66.7	33.3	0.0	0.0	100.0	0.0	0.0
	14	15	7	0	22	0.0	6.7	80.0	13.3	0.0	14.3	71.4	14.3
	15	3	1	0	4	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	2	0	0	2	0.0	0.0	100.0	0.0				
Sample Total		116	84	0	200	0.0	19.0	62.1	19.0	0.0	25.0	39.3	35.7
	3												
	4	15	20	0	35	0.0	66.7	13.3	20.0	0.0	45.0	45.0	10.0
	5	18	28	0	46	0.0	50.0	27.8	22.2	0.0	53.6	35.7	10.7
	6	2	3	0	5	0.0	50.0	0.0	50.0	0.0	0.0	33.3	66.7
	7	1	1	0	2	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	8	10	13	0	23	0.0	40.0	60.0	0.0	0.0	23.1	61.5	15.4
	9	7	10	0	17	0.0	28.6	57.1	14.3	0.0	0.0	70.0	30.0
23 May	10	2	6	0	8	0.0	50.0	50.0	0.0	0.0	16.7	66.7	16.7
	11	5	3	0	8	0.0	0.0	80.0	20.0	0.0	0.0	33.3	66.7
	12	3	0	0	3	0.0	33.3	66.7	0.0				
	13	4	3	0	7	0.0	25.0	25.0	50.0	0.0	0.0	33.3	66.7
	14	5	0	0	5	0.0	0.0	60.0	40.0				
	15	1	0	0	1	0.0	0.0	0.0	100.0				
	16	1	0	0	1	0.0	0.0	100.0	0.0				
	17	1	0	0	1	0.0	0.0	100.0	0.0				
Sample Total		75	87	0	162	0.0	38.7	41.3	20.0	0.0	33.3	47.1	19.5
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	28	38	0	66	0.0	42.9	17.9	39.3	0.0	31.6	34.2	34.2
	5	40	54	0	94	0.0	40.0	35.0	25.0	0.0	38.9	31.5	29.6
	6	3	3	0	6	0.0	33.3	0.0	66.7	0.0	0.0	33.3	66.7
	7	5	2	0	7	0.0	20.0	60.0	20.0	0.0	100.0	0.0	0.0
	8	34	23	0	57	0.0	26.5	70.6	2.9	0.0	17.4	65.2	17.4
	9	21	18	0	39	0.0	19.0	71.4	9.5	0.0	5.6	66.7	27.8
22-23 May	10	5	10	0	15	0.0	40.0	60.0	0.0	0.0	20.0	60.0	20.0
	11	15	7	0	22	0.0	0.0	86.7	13.3	0.0	42.9	28.6	28.6
	12	5	2	0	7	0.0	20.0	60.0	20.0	0.0	100.0	0.0	0.0
	13	7	4	0	11	0.0	42.9	28.6	28.6	0.0	25.0	25.0	50.0
	14	20	7	0	27	0.0	5.0	75.0	20.0	0.0	14.3	71.4	14.3
	15	4	1	0	5	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	16	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	17	3	0	0	3	0.0	0.0	100.0	0.0				
All Samples		191	171	0	362	0.0	26.7	53.9	19.4	0.0	29.2	43.3	27.5

Appendix F.22. Sexual maturity of Pacific herring caught with test variable mesh gillnet by age and sex, Hagemeister Section, 12-25 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
12 May	3												
	4												
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8												
	9												
	10												
	11												
	12												
	13												
	14												
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		0	2	0	2					0.0	50.0	50.0	0.0
14 May	3												
	4												
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6												
	7												
	8												
	9												
	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0
15 May	3												
	4												
	5												
	6												
	7												
	8												
	9												
	10												
	11												
	12	0	1	0	1					0.0	100.0	0.0	0.0
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0

-Continued-

Appendix F.22. (p. 2 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6												
	7												
	8												
	9												
16 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		0	1	0	1					0.0	0.0	100.0	0.0
	3												
	4												
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8												
	9	1	0	0	1	0.0	0.0	100.0	0.0				
17 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		1	2	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	3												
	4	6	4	0	10	0.0	100.0	0.0	0.0	0.0	50.0	50.0	0.0
	5	10	22	0	32	0.0	60.0	10.0	30.0	0.0	31.8	68.2	0.0
	6	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	7	3	1	0	4	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	8	11	16	0	27	0.0	63.6	27.3	9.1	0.0	25.0	68.8	6.3
	9	9	11	0	20	0.0	88.9	0.0	11.1	0.0	27.3	63.6	9.1
22 May	10	4	4	0	8	0.0	75.0	25.0	0.0	0.0	0.0	75.0	25.0
	11	10	7	0	17	0.0	80.0	0.0	20.0	0.0	14.3	85.7	0.0
	12	3	1	0	4	0.0	66.7	0.0	33.3	0.0	0.0	100.0	0.0
	13	5	4	0	9	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
	14	3	7	0	10	0.0	100.0	0.0	0.0	0.0	14.3	71.4	14.3
	15	2	1	0	3	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	16												
	17												
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		67	80	0	147	0.0	76.1	9.0	14.9	0.0	22.5	72.5	5.0

-Continued-

Appendix F.22. (p. 3 of 4)

Sample Dates	Age	Sex (number)				Gonad Maturity (%)							
						Male				Female			
		Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	5	2	0	7	0.0	20.0	80.0	0.0	0.0	50.0	50.0	0.0
	6												
	7												
	8	9	9	0	18	0.0	55.6	22.2	22.2	0.0	0.0	100.0	0.0
	9	10	9	0	19	0.0	60.0	20.0	20.0	0.0	11.1	88.9	0.0
23 May	10	3	3	0	6	0.0	66.7	33.3	0.0	0.0	0.0	100.0	0.0
	11	9	5	0	14	0.0	11.1	66.7	22.2	0.0	0.0	100.0	0.0
	12	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	5	3	0	8	0.0	20.0	40.0	40.0	0.0	0.0	100.0	0.0
	14	7	4	0	11	0.0	0.0	71.4	28.6	0.0	0.0	100.0	0.0
	15	3	3	0	6	0.0	0.0	0.0	100.0	0.0	0.0	66.7	33.3
	16												
	17												
	18	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		53	39	0	92	0.0	32.1	43.4	24.5	0.0	5.1	92.3	2.6
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	7	12	0	19	0.0	14.3	85.7	0.0	0.0	8.3	91.7	0.0
	5	19	14	0	33	0.0	26.3	42.1	31.6	0.0	0.0	100.0	0.0
	6												
	7												
	8	0	1	0	1					0.0	0.0	100.0	0.0
	9	2	1	0	3	0.0	50.0	50.0	0.0	0.0	0.0	100.0	0.0
24 May	10												
	11												
	12	1	1	0	2	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	13												
	14	2	0	0	2	0.0	50.0	0.0	50.0				
	15	1	0	0	1	0.0	0.0	0.0	100.0				
	16												
	17												
	18												
Sample Total		33	29	0	62	0.0	24.2	48.5	27.3	0.0	3.4	96.6	0.0
	3												
	4	3	6	0	9	0.0	33.3	66.7	0.0	0.0	16.7	83.3	0.0
	5	29	12	0	41	0.0	37.9	48.3	13.8	0.0	8.3	91.7	0.0
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	4	1	0	5	0.0	50.0	50.0	0.0	0.0	0.0	0.0	100.0
	8	8	3	0	11	0.0	25.0	37.5	37.5	0.0	33.3	66.7	0.0
	9	7	3	0	10	0.0	14.3	57.1	28.6	0.0	0.0	100.0	0.0
25 May	10												
	11	4	1	0	5	0.0	0.0	25.0	75.0	0.0	0.0	100.0	0.0
	12	2	0	0	2	0.0	0.0	100.0	0.0				
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14	3	1	0	4	0.0	33.3	66.7	0.0	0.0	0.0	100.0	0.0
	15												
	16												
	17												
	18												
Sample Total		61	28	0	89	0.0	29.5	50.8	19.7	0.0	10.7	85.7	3.6

-Continued-

Appendix F.22. (p. 4 of 4)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	16	22	0	38	0.0	50.0	50.0	0.0	0.0	18.2	81.8	0.0
	5	63	53	0	116	0.0	36.5	42.9	20.6	0.0	20.8	79.2	0.0
	6	1	4	0	5	0.0	0.0	100.0	0.0	0.0	50.0	50.0	0.0
	7	7	2	0	9	0.0	71.4	28.6	0.0	0.0	0.0	50.0	50.0
	8	28	29	0	57	0.0	50.0	28.6	21.4	0.0	17.2	79.3	3.4
	9	29	24	0	53	0.0	55.2	27.6	17.2	0.0	16.7	79.2	4.2
12-25 May	10	7	7	0	14	0.0	71.4	28.6	0.0	0.0	0.0	85.7	14.3
	11	23	13	0	36	0.0	39.1	30.4	30.4	0.0	7.7	92.3	0.0
	12	7	4	0	11	0.0	28.6	42.9	28.6	0.0	25.0	75.0	0.0
	13	11	7	0	18	0.0	54.5	27.3	18.2	0.0	0.0	100.0	0.0
	14	15	12	0	27	0.0	33.3	46.7	20.0	0.0	8.3	83.3	8.3
	15	6	5	0	11	0.0	0.0	0.0	100.0	0.0	0.0	80.0	20.0
	16												
	17												
	18	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
All Samples		215	183	0	398	0.0	43.7	35.8	20.5	0.0	15.8	80.9	3.3

Appendix F.23. Sexual maturity of Pacific herring caught with test variable mesh gill net by age and sex, Kulukak, Nunavachak, Togiak and Hagemeister sections combined, 12-26 May 1992.

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8												
	9												
12 May	10												
	11												
	12												
	13												
	14												
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		0	2	0	2					0.0	50.0	50.0	0.0
	3												
	4												
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6												
	7												
	8												
	9												
14 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0

-Continued-

Appendix F.23. (p. 2 of 5)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3												
	4												
	5												
	6												
	7												
	8												
	9												
15 May	10												
	11												
	12	0	1	0	1					0.0	100.0	0.0	0.0
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		0	1	0	1					0.0	100.0	0.0	0.0
	3												
	4												
	5	0	1	0	1					0.0	0.0	100.0	0.0
	6												
	7												
	8												
	9												
16 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		0	1	0	1					0.0	0.0	100.0	0.0
	3												
	4												
	5	0	1	0	1					0.0	100.0	0.0	0.0
	6	0	1	0	1					0.0	100.0	0.0	0.0
	7												
	8												
	9	1	0	0	1	0.0	0.0	100.0	0.0				
17 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		1	2	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0

-Continued-

Appendix F.23. (p. 3 of 5)

Sample Dates	Age	Sex (number) Male	Female	Unknown	Total	Gonad Maturity (%) Male Unknown	Green	Ripe	Spawnout	Female Unknown	Green	Ripe	Spawnout
	3												
	4												
	5	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	6												
	7												
	8												
	9												
18 May	10												
	11												
	12												
	13												
	14												
	15												
	16												
	17												
	18												
Sample Total		1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	3	0	1	0	1					0.0	100.0	0.0	0.0
	4	25	30	0	55	0.0	40.0	28.0	32.0	0.0	30.0	33.3	36.7
	5	35	59	0	94	0.0	37.1	34.3	28.6	0.0	32.2	45.8	22.0
	6	2	1	0	3	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0
	7	7	2	0	9	0.0	57.1	28.6	14.3	0.0	50.0	50.0	0.0
	8	41	28	0	69	0.0	31.7	63.4	4.9	0.0	17.9	71.4	10.7
	9	25	21	0	46	0.0	40.0	52.0	8.0	0.0	19.0	66.7	14.3
22 May	10	7	8	0	15	0.0	57.1	42.9	0.0	0.0	12.5	62.5	25.0
	11	20	11	0	31	0.0	40.0	45.0	15.0	0.0	36.4	63.6	0.0
	12	5	4	0	9	0.0	40.0	20.0	40.0	0.0	50.0	25.0	25.0
	13	11	7	0	18	0.0	63.6	36.4	0.0	0.0	14.3	85.7	0.0
	14	19	15	0	34	0.0	21.1	68.4	10.5	0.0	13.3	73.3	13.3
	15	5	2	0	7	0.0	20.0	40.0	40.0	0.0	0.0	100.0	0.0
	16	0	1	0	1					0.0	0.0	100.0	0.0
	17	2	0	0	2	0.0	0.0	100.0	0.0				
	18	0	1	0	1					0.0	0.0	100.0	0.0
Sample Total		204	191	0	395	0.0	37.3	46.6	16.2	0.0	25.7	56.0	18.3
	3	0	1	0	1					0.0	0.0	100.0	0.0
	4	25	35	0	60	0.0	40.0	40.0	20.0	0.0	25.7	57.1	17.1
	5	48	48	0	96	0.0	20.8	62.5	16.7	0.0	33.3	47.9	18.8
	6	3	3	0	6	0.0	33.3	33.3	33.3	0.0	0.0	33.3	66.7
	7	2	1	0	3	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0
	8	28	26	0	54	0.0	32.1	50.0	17.9	0.0	11.5	76.9	11.5
	9	21	24	0	45	0.0	38.1	47.6	14.3	0.0	4.2	79.2	16.7
23 May	10	5	12	0	17	0.0	60.0	40.0	0.0	0.0	8.3	75.0	16.7
	11	14	10	0	24	0.0	7.1	71.4	21.4	0.0	0.0	70.0	30.0
	12	8	3	0	11	0.0	12.5	62.5	25.0	0.0	0.0	33.3	66.7
	13	10	12	0	22	0.0	20.0	40.0	40.0	0.0	8.3	50.0	41.7
	14	15	5	0	20	0.0	0.0	66.7	33.3	0.0	0.0	80.0	20.0
	15	5	7	0	12	0.0	0.0	20.0	80.0	0.0	0.0	57.1	42.9
	16	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18	1	0	0	1	0.0	100.0	0.0	0.0				
Sample Total		187	189	0	376	0.0	24.6	54.0	21.4	0.0	16.9	60.8	22.2

-Continued-

Appendix F.23. (p. 4 of 5)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	1	0	0	1	0.0	0.0	100.0	0.0				
	4	23	21	0	44	0.0	4.3	87.0	8.7	0.0	4.8	85.7	9.5
	5	38	36	0	74	0.0	13.2	65.8	21.1	0.0	0.0	86.1	13.9
	6												
	7												
	8	8	6	0	14	0.0	0.0	100.0	0.0	0.0	16.7	83.3	0.0
	9	8	9	0	17	0.0	12.5	87.5	0.0	0.0	0.0	88.9	11.1
24 May	10	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	4	6	0	10	0.0	25.0	75.0	0.0	0.0	0.0	100.0	0.0
	12	1	3	0	4	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0
	13	6	1	0	7	0.0	16.7	66.7	16.7	0.0	0.0	100.0	0.0
	14	4	3	0	7	0.0	25.0	50.0	25.0	0.0	0.0	100.0	0.0
	15	2	0	0	2	0.0	0.0	50.0	50.0				
	16												
	17	1	0	0	1	0.0	0.0	100.0	0.0				
	18												
Sample Total		97	87	0	184	0.0	10.3	75.3	14.4	0.0	2.3	88.5	9.2
	3												
	4	30	26	1	57	0.0	3.3	90.0	6.7	0.0	3.8	80.8	15.4
	5	59	22	0	81	0.0	18.6	64.4	16.9	0.0	4.5	90.9	4.5
	6	0	1	0	1					0.0	0.0	100.0	0.0
	7	4	1	0	5	0.0	50.0	50.0	0.0	0.0	0.0	0.0	100.0
	8	17	4	0	21	0.0	11.8	70.6	17.6	0.0	25.0	75.0	0.0
	9	11	7	0	18	0.0	9.1	72.7	18.2	0.0	0.0	85.7	14.3
25 May	10	1	1	0	2	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	11	7	1	0	8	0.0	0.0	57.1	42.9	0.0	0.0	100.0	0.0
	12	4	2	0	6	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	13	1	0	0	1	0.0	0.0	100.0	0.0				
	14	5	5	0	10	0.0	20.0	80.0	0.0	0.0	0.0	100.0	0.0
	15	0	1	0	1					0.0	0.0	100.0	0.0
	16												
	17												
	18												
Sample Total		139	71	1	211	0.0	12.9	72.7	14.4	0.0	4.2	85.9	9.9
	3	1	0	0	1	0.0	0.0	0.0	100.0				
	4	37	38	0	75	0.0	0.0	51.4	48.6	0.0	2.6	44.7	52.6
	5	44	58	0	102	0.0	0.0	50.0	50.0	0.0	5.2	41.4	53.4
	6	4	3	0	7	0.0	0.0	50.0	50.0	0.0	0.0	0.0	100.0
	7	0	3	0	3					0.0	0.0	66.7	33.3
	8	5	12	0	17	0.0	0.0	60.0	40.0	0.0	8.3	50.0	41.7
	9	9	6	0	15	0.0	0.0	77.8	22.2	0.0	0.0	50.0	50.0
26 May	10	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	11	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	12	3	4	0	7	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	13	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	14	3	3	0	6	0.0	0.0	33.3	66.7	0.0	0.0	0.0	100.0
	15	1	2	0	3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	16												
	17												
	18												
Sample Total		110	136	0	246	0.0	0.0	53.6	46.4	0.0	3.7	39.0	57.4

-Continued-

Appendix F.23. (p. 5 of 5)

		Sex (number)				Gonad Maturity (%)							
						Male				Female			
Sample Dates	Age	Male	Female	Unknown	Total	Unknown	Green	Ripe	Spawnout	Unknown	Green	Ripe	Spawnout
	3	2	2	0	4	0.0	0.0	50.0	50.0	0.0	50.0	50.0	0.0
	4	140	150	1	291	0.0	15.7	59.3	25.0	0.0	14.0	57.3	28.7
	5	225	227	0	452	0.0	17.3	56.9	25.8	0.0	18.1	55.9	26.0
	6	9	10	0	19	0.0	11.1	44.4	44.4	0.0	20.0	30.0	50.0
	7	13	7	0	20	0.0	46.2	46.2	7.7	0.0	28.6	42.9	28.6
	8	99	76	0	175	0.0	24.2	63.6	12.1	0.0	14.5	71.1	14.5
	9	75	67	0	142	0.0	26.7	61.3	12.0	0.0	7.5	74.6	17.9
12-26 May	10	15	26	0	41	0.0	46.7	53.3	0.0	0.0	7.7	69.2	23.1
	11	46	30	0	76	0.0	21.7	58.7	19.6	0.0	13.3	70.0	16.7
	12	21	17	0	38	0.0	14.3	52.4	33.3	0.0	17.6	41.2	41.2
	13	29	22	0	51	0.0	34.5	48.3	17.2	0.0	9.1	59.1	31.8
	14	46	31	0	77	0.0	13.0	65.2	21.7	0.0	6.5	74.2	19.4
	15	13	13	0	26	0.0	7.7	38.5	53.8	0.0	0.0	61.5	38.5
	16	1	3	0	4	0.0	0.0	100.0	0.0	0.0	0.0	33.3	66.7
	17	4	0	0	4	0.0	0.0	100.0	0.0				
	18	1	1	0	2	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0
All Samples		739	682	1	1422	0.0	20.3	58.3	21.4	0.0	14.1	61.0	24.9

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