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AGE, SEX, AND SIZE COMPOSITION OF PACIFIC HERRING *Clupea harengus pallasi*, FROM SOUTHEASTERN CHUKCHI SEA COASTAL SITES, ALASKA, 1977-1982

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March 1983

ALASKA DEPARTMENT OF FISH AND GAME
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Don Collinsworth
Commissioner

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AGE, SEX, AND SIZE COMPOSITION OF PACIFIC HERRING, *CLUPEA HARENGUS PALLASI*, FROM SOUTHEASTERN CHUKCHI SEA COASTAL SITES, ALASKA, 1977-1982

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ABSTRACT

Pacific herring, *Clupea harengus pallasi*, were sampled in five areas of the southeastern Chukchi Sea during 1977-1982. Samples were taken from test commercial gillnets, as well as from Alaska Department of Fish and Game variable mesh gillnets and beach seines. Samples within each of the five areas were grouped by gear type, sampling week, and location.

A total of 5,384 herring was sampled for age, sex, length, and weight information. Sampling extent and duration was great enough only during 1980 and 1981 to examine trends in herring size and age composition over time and among areas. No obvious trends or consistent differences in age composition, sex ratio, or mean size at age were noted among the five areas sampled. Temporal changes in age class composition during the spawning season, although well defined in eastern Bering Sea spawning populations, were not apparent. Mean size at age of Chukchi Sea herring was smaller than that of eastern Bering Sea stocks over the 1977-1982 time period.

The 1977 year class dominated variable mesh gillnet catches in all areas, representing approximately 45 and 65% of the 1980 and 1981 total season samples, respectively. In general, with the exception of the 1976 year class which comprised approximately 18% of the total season samples in 1980, no other year class represented over 9% of the variable mesh gillnet samples in 1980 or 1981. Approximately 98% of all herring captured in test commercial gillnets during 1980 were age 5 and older.

INTRODUCTION

The purpose of this report is to present age, sex, and size information for Pacific herring, *Clupea harengus pallasi*, sampled in southeastern Chukchi Sea coastal waters during 1977-1982. Detailed analyses of these data are available (Barton 1978; Barton and Steinhoff 1980; Whitmore and Bergstrom 1983).

METHODS

Study Area Description

The study area consisted of the coastal waters from Cape Prince of Wales to Cape Krusenstern (Figure 1). Most herring samples within this area were collected from the Kotzebue (1979-1982), Kobuk (1978-1981) and Sheshalik (1980-1982) areas. Samples were also collected from the Shishmaref (1977 and 1979-1981) and Deering (1980) areas.

Sampling Techniques

Sampling techniques were the same as described by Fried et al. (1982a). Most herring were sampled from Alaska Department of Fish and Game (ADF&G) variable mesh gillnet (Shishmaref area, 1977, 1979, and 1981; Deering area, 1980; Kotzebue area, 1980, 1981, and 1982; Kobuk area, 1978, 1980, and 1981; Sheshalik area, 1980, 1981, and 1982) and beach seine (Kotzebue, 1981; Kobuk, 1979 and Sheshalik areas, 1980) catches. Variable mesh gillnets were 46 m long, 3 m deep with six 8 m panel of 25, 38, 51, 64, 76, and 102 mm stretch mesh (1.0, 1.5, 2.0, 2.5, 3.0, and 4.0 inches). However, on two occasions during 1981, special floating gillnets having different panel stretch mesh sizes (25, 38, 44, 51, 57, and 64 mm) were used in the Kotzebue and Kobuk areas. Beach seines were 61 m long, 2.5 m deep with 5 mm stretch mesh. Additionally, test commercial gillnet samples were obtained from an Alaska Native Foundation (ANF) commercial fishery feasibility study (Shishmaref, Deering, and Kotzebue areas, 1980) and from commercial ventures (Kotzebue area, 1980 and 1981). Test commercial gillnets used during the ANF study were 46 m long with 57 mm stretch mesh (Strombom 1981).

All herring sampled were aged using a microfiche reader to examine scales mounted between glass slides. Most herring were also identified according to sex and measured (standard length, mm). Approximately 14% of all samples were weighed (wet weight, g).

Samples within all areas were grouped into the same weekly periods presently used in eastern Bering Sea herring studies to facilitate temporal comparisons of herring population age structure within and between years. Samples were also grouped by gear type and location (area). Prior to 1980 there was little interest expressed by the public in developing a commercial herring fishery and, sampling effort by ADF&G was limited.

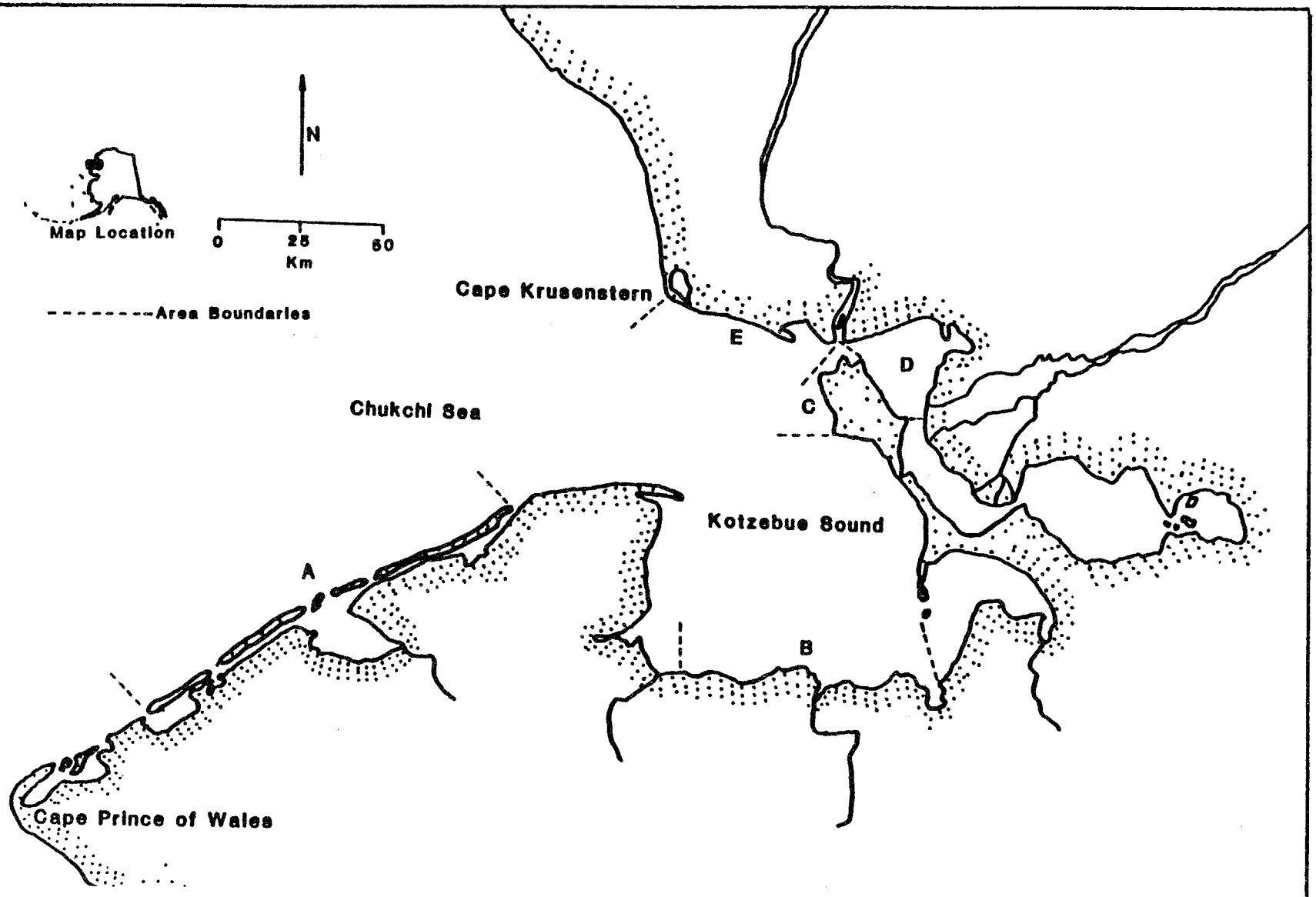

Figure 1. Southeastern Chukchi Sea study area (A=Shishmaref, B=Deering, C=Kotzebue, D=Kobuk and E=Sheshalik areas), 1977-1982.

RESULTS AND DISCUSSION

A total of 5,384 herring was examined from 1977-1982 (Tables 1-27). Most of the samples were collected during 1980 (2,241) and 1981 (2,612) (Tables 7-24). During other years (1977-1979 and 1982) sampling coverage was limited and sample sizes were small (Tables 1-6 and 25-27).

No obvious trends or consistent differences in age composition, sex ratio, or mean size at age were noted among the five areas sampled. Consistent temporal changes in age class composition during the spawning season, well defined in eastern Bering Sea spawning populations (e.g., herring age 5 and older appearing on the spawning grounds prior to younger year classes), were not apparent in Chukchi Sea samples (e.g., Tables 11 and 22). Additionally, mean size at age of Chukchi Sea stocks was smaller than that of eastern Bering Sea stocks (McBride et al. 1981; Fried et al. 1982a and 1982b).

The 1977 year class (age 4 in 1981), dominated variable mesh gillnet catches in all areas, representing approximately 45 and 65% of the 1980 and 1981 total season samples, respectively (Tables 7-11 and 18-22). In general, with the exception of the 1976 year class which comprised approximately 18% of the total season samples in 1980, no other year class comprised over 9% of any sample in either 1980 or 1981. Interestingly, year class trends for southeastern Chukchi Sea herring paralleled those of eastern Bering Sea herring (e.g., 1977 year class abundant; 1975 year class weak). Males slightly outnumbered females by about 1.1:1 for 1981 and 1982 variable mesh gillnet samples.

Approximately 98% of all herring captured in test commercial gillnets during 1980 were age 5 and older (1975 and earlier year classes) (Tables 13-17). Herring age 9 and older were most abundant in Kotzebue samples (75%), while herring age 7 and 8 were dominant in Deering (59%) and Shishmaref (73%) samples. Differences in age class composition between variable mesh and test commercial gillnet catches could be attributed to gillnet stretch mesh sizes; commercial gillnets and larger meshes and did not retain younger, smaller herring. Females outnumbered males in most test commercial gillnet samples by 2.1:1 (all samples combined).

Beach seine fishing effort resulted in small catches of predominantly juvenile herring (Tables 6, 12, and 13). This was due to the areas sampled (lagoon systems), as well as the small mesh size and fishing technique.

ACKNOWLEDGMENTS

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Table 1. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Shishmaref area, Kotzebue District, 1977.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
7/15- 7/21	5	10	4	-	14	87.5	-	-	184	14
	6	1	1	-	2	12.5	-	-	186	2
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		11	5	-	16	100.0	-	-	184	16

Table 2. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kobuk area, Kotzebue District, 1978.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
6/10- 6/16	5	-	-	-	-	-	-	-	-	-
	6	1	1	-	2	12.5	100	2	224	2
	7	3	3	-	6	37.5	117	6	221	6
	8	2	3	-	5	31.3	125	4	228	5
	9+	2	1	-	3	18.8	125	3	230	3
Period total		8	8	-	16	100.0	118	15	225	16

Table 3. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Shishmaref area, Kotzebue District, 1979.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	2	-	-	2	66.7	77	2	189	2
6/24- 6/30	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	1	-	1	33.3	151	1	243	1
Period total		2	1	-	3	100.0	102	3	207	3
	1	-	-	-	-	-	-	-	-	-
	2	26	22	-	48	23.4	50	23	165	48
	3	13	7	1	21	10.2	74	12	182	21
	4	9	2	-	11	5.4	80	6	186	11
7/ 1- 7/ 7	5	24	25	-	49	23.9	117	17	200	49
	6	10	2	-	12	5.9	65	4	187	12
	7	29	26	1	56	27.3	84	20	194	56
	8	6	-	-	6	2.9	129	4	218	6
	9+	1	1	-	2	1.0	104	1	213	2
Period total		118	85	2	205	100.0	81	87	187	205
	1	-	-	-	-	-	-	-	-	-
	2	26	22	-	48	23.1	50	23	165	48
	3	13	7	1	21	10.1	74	12	182	21
	4	11	2	-	13	6.3	79	8	186	13
All periods	5	24	25	-	49	23.6	117	17	200	49
	6	10	2	-	12	5.8	65	4	187	12
	7	29	26	1	56	26.9	84	20	194	56
	8	6	-	-	6	2.9	129	4	218	6
	9+	1	2	-	3	1.4	128	2	223	3
Total		120	86	2	208	100.0	82	90	188	208

Table 4. Age, sex, and size data for Pacific herring captured by subsistence gillnets in Shishmaref area, Kotzebue District, 1979.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
8/26- 9/ 1	5	1	-	-	1	2.9	-	-	220	1
	6	7	5	-	12	35.3	-	-	224	12
	7	7	6	-	13	38.2	-	-	222	13
	8	1	4	-	5	14.7	-	-	238	5
	9+	1	2	-	3	8.8	-	-	238	3
Period total		17	17	-	34	100.0	-	-	226	34

Table 5. Age, sex, and size data for Pacific herring captured by test commercial gillnets in Kotzebue area, Kotzebue District, 1979.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	1	2.5	-	-	162	1
	4	-	2	-	2	5.0	-	-	210	2
9/23- 9/29	5	4	1	-	5	12.5	-	-	206	5
	6	5	7	-	12	30.0	-	-	209	12
	7	3	9	-	12	30.0	-	-	222	12
	8	3	2	-	5	12.5	-	-	218	5
	9+	1	2	-	3	7.5	-	-	226	3
Period total		16	23	-	40	100.0	-	-	214	40

Table 6. Age, sex, and size data for Pacific herring captured by test beach seines in Kobuk area, Kotzebue District, 1979.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	3	6	8	17	58.6	21	17	126	17
	3	4	4	2	10	34.5	34	10	143	10
	4	1	-	-	1	3.4	67	1	174	1
6/24- 6/30	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	1	-	1	3.4	154	1	222	1
Period total		8	11	10	29	100.0	32	29	137	29

Table 7. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Deering area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
7/ [illegible]- 7/14	1	1	-	-	1	3.2	-	-	104	1
	2	-	-	-	-	-	-	-	-	-
	3	10	9	-	20	64.5	50	2	172	20
	4	1	-	-	1	3.2	72	1	186	1
	5	1	-	-	1	3.2	-	-	210	1
	6	3	-	-	3	9.7	-	-	217	3
	7	2	1	-	3	9.7	-	-	236	3
	8	2	-	-	2	6.5	111	1	231	2
	9+	-	-	-	-	-	-	-	-	-
Period total		20	10	-	31	100.0	71	4	186	31
7/15- 7/21	1	-	-	-	-	-	-	-	-	-
	2	7	-	-	7	2.8	-	-	162	6
	3	104	70	1	178	70.9	58	32	169	166
	4	21	10	-	31	12.4	61	4	175	30
	5	4	1	-	6	2.4	86	1	187	6
	6	4	4	-	8	3.2	83	1	204	7
	7	7	5	-	12	4.8	121	2	214	11
	8	2	4	-	6	2.4	124	1	210	6
	9+	1	2	-	3	1.2	-	-	234	3
Period total		150	96	1	251	100.0	64	41	175	235
9/23- 9/29	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	7.7	-	-	176	1
	4	-	1	-	1	7.7	-	-	177	1
	5	1	-	-	1	7.7	-	-	199	1
	6	2	1	-	3	23.1	140	1	212	3
	7	-	1	-	1	7.7	177	1	205	1
	8	1	4	-	5	38.5	164	2	224	5
	9+	-	1	-	1	7.7	-	-	207	1
Period total		4	9	-	13	100.0	161	4	209	13
All periods	1	1	-	-	1	0.3	-	-	106	1
	2	7	-	-	7	2.4	-	-	162	6
	3	114	80	1	199	67.5	57	34	169	187
	4	22	11	-	33	11.2	63	5	176	32
	5	6	1	-	8	2.7	86	1	192	8
	6	9	5	-	14	4.7	112	2	209	13
	7	9	7	-	16	5.4	140	3	217	15
	8	5	8	-	13	4.4	141	4	218	13
	9+	1	3	-	4	1.4	-	-	228	4
Total		174	115	1	295	100.0	73	49	178	279

Table 8. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kotzebue area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	14	13	-	27	47.4	77	5	174	26
	4	9	2	-	11	19.3	78	2	178	10
8/26- 9/ 1	5	2	-	-	2	3.5	-	-	207	2
	6	3	1	-	4	7.0	-	-	187	4
	7	2	1	-	3	5.3	-	-	197	3
	8	2	5	-	7	12.3	144	3	214	7
	9+	-	3	-	3	5.3	-	-	233	2
Period total		32	25	-	57	100.0	97	10	186	54
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	18	14	-	32	42.7	70	7	177	30
	4	12	7	-	19	25.3	74	2	180	19
9/ 2- 9/ 8	5	-	-	-	-	-	-	-	-	-
	6	2	-	-	2	2.7	-	-	198	2
	7	3	2	-	5	6.7	138	1	219	5
	8	4	3	-	7	9.3	174	1	223	7
	9+	3	7	-	10	13.3	184	2	235	10
Period total		42	33	-	75	100.0	101	13	194	73
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	15	22	-	37	45.7	80	9	179	34
	4	8	4	-	12	14.8	84	4	183	12
9/ 9- 9/15	5	1	3	-	4	4.9	113	1	203	4
	6	2	-	-	2	2.5	97	1	192	2
	7	5	4	-	9	11.1	-	-	207	9
	8	4	2	-	6	7.4	152	1	227	6
	9+	3	8	-	11	13.6	203	2	229	11
Period total		38	43	-	81	100.0	102	18	195	78
	1	-	-	-	-	-	-	-	-	-
	2	4	2	-	6	3.2	52	1	159	5
	3	19	15	-	34	17.9	70	7	174	34
	4	18	20	-	38	20.0	87	6	185	38
9/16- 9/22	5	9	9	-	18	9.5	92	2	192	18
	6	8	5	-	13	6.8	109	3	206	13
	7	12	7	-	19	10.0	120	3	211	19
	8	12	18	-	30	15.8	162	8	217	30
	9+	10	22	-	32	16.8	170	5	230	32
Period total		92	98	-	190	100.0	118	35	200	189
	1	-	-	-	-	-	-	-	-	-
	2	4	2	-	6	1.5	52	1	159	5
	3	66	64	-	130	32.3	77	28	176	124
	4	47	33	-	80	19.9	83	14	183	79
All periods	5	12	12	-	24	6.0	99	3	195	24
	6	15	6	-	21	5.2	106	4	200	21
	7	22	14	-	36	8.9	125	4	210	36
	8	22	28	-	50	12.4	158	13	218	50
	9+	16	40	-	56	13.9	180	9	231	55
Total		204	199	-	403	100.0	109	76	196	394

Table 9. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kobuk area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	49	45	-	94	40.5	52	14	165	94
	4	20	18	-	38	16.4	58	8	172	38
6/10- 6/16	5	7	2	-	9	3.9	-	-	184	9
	6	16	10	-	26	11.2	109	5	207	26
	7	10	10	-	20	8.6	119	3	215	20
	8	13	17	-	30	12.9	134	8	216	30
	9+	6	9	-	15	6.5	173	4	232	15
Period total		121	111	-	232	100.0	92	42	187	232
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	77	91	-	168	40.4	52	28	164	168
	4	35	45	-	80	19.2	56	12	170	80
6/17- 6/23	5	25	18	-	43	10.3	61	12	174	43
	6	15	10	-	25	6.0	117	1	191	25
	7	8	5	-	13	3.1	80	3	202	13
	8	19	19	-	38	9.1	142	6	210	38
	9+	23	25	1	49	11.8	160	11	222	49
Period total		202	213	1	416	100.0	80	73	180.	416
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	57	107	-	164	63.8	49	33	163	164
	4	18	26	-	44	17.1	61	9	171	44
6/24- 6/30	5	2	4	-	6	2.3	54	1	179	6
	6	5	3	-	8	3.1	64	1	193	8
	7	2	8	-	10	3.9	117	4	213	10
	8	4	6	-	10	3.9	128	1	217	10
	9+	6	9	-	15	5.8	135	1	223	15
Period total		94	163	-	257	100.0	60	50	173	257
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	6	15	-	21	70.0	46	3	162	21
	4	2	2	-	4	13.3	56	1	172	4
7/ 1- 7/ 7	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	3	-	3	10.0	-	-	214	3
	8	1	1	-	2	6.7	111	1	223	2
	9+	-	-	-	-	-	-	-	-	-

-Continued-

Table 9. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kobuk area, Kotzebue District, 1980 (continued).

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	7	3	-	10	50.0	71	2	170	10
	4	4	5	-	9	45.0	58	1	176	9
8/26- 9/ 1	5	-	-	-	-	-	-	-	-	-
	6	-	1	-	1	5.0	130	1	220	1
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		11	9	-	20	100.0	83	4	175	20
	1	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	0.7	-	-	159	1
	3	37	33	-	70	49.3	76	14	179	70
	4	11	14	-	25	17.6	84	3	183	24
9/ 9- 9/15	5	2	1	-	3	2.1	86	1	190	3
	6	5	5	-	10	7.0	123	3	210	10
	7	3	4	-	7	4.9	-	-	220	7
	8	5	10	-	15	10.6	153	2	224	15
	9+	7	4	-	11	7.7	198	4	230	11
Period total		71	71	-	142	100.0	106	27	193	141
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	2	1	-	3	25.0	112	1	183	3
	4	2	2	-	4	33.3	75	1	185	4
9/16- 9/22	5	2	2	-	4	33.3	-	-	202	4
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	1	-	1	8.3	-	-	249	1
Period total		6	6	-	12	100.0	94	2	195	12
	1	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	0.1	-	-	159	1
	3	235	295	-	530	47.8	55	95	166	530
	4	92	112	-	204	18.4	61	35	173	203
All periods	5	38	27	-	65	5.9	62	14	179	65
	6	41	29	-	70	6.3	111	11	200	70
	7	23	30	-	53	4.8	106	10	212	53
	8	42	53	-	95	8.6	137	18	215	95
	9+	42	48	1	91	8.2	169	20	225	91
Total		514	594	1	1109	100.0	81	203	181	1108

Table 10. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Sheshalik area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	100.0	-	-	160	1
	4	-	-	-	-	-	-	-	-	-
7/ 1- 7/ 7	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		1	-	-	1	100.0	-	-	160	1
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	5	9	-	14	33.3	58	3	165	14
	4	2	3	-	5	11.9	61	1	172	5
7/ 8- 7/14	5	1	-	-	1	2.4	-	-	197	1
	6	1	3	-	4	9.5	120	2	205	4
	7	2	4	-	6	14.3	-	-	213	6
	8	3	3	-	6	14.3	121	1	217	6
	9+	2	4	-	6	14.3	-	-	231	6
Period total		16	26	-	42	100.0	88	7	194	42
	1	-	-	-	-	-	-	-	-	-
	2	2	4	-	6	3.4	50	1	163	6
	3	43	78	-	122	69.7	52	24	169	122
	4	20	17	-	37	21.1	67	7	179	37
7/22- 7/28	5	-	2	-	2	1.1	-	-	198	2
	6	-	1	-	1	0.6	-	-	220	1
	7	-	4	-	4	2.3	-	-	221	4
	8	-	1	-	1	0.6	-	-	230	1
	9+	-	2	-	2	1.1	119	1	231	2
Period total		65	109	-	175	100.0	57	33	174	175
	1	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	9.5	41	1	160	2
	3	4	7	-	11	52.4	50	1	169	10
	4	2	2	-	4	19.0	82	1	176	4
7/29- 8/ 4	5	-	2	-	2	9.5	-	-	194	2
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	1	-	-	1	4.8	-	-	200	1
	9+	-	1	-	1	4.8	-	-	235	1
Period total		8	13	-	21	100.0	58	3	177	20
	1	1	1	-	2	6.5	13	1	105	2
	2	3	2	-	6	19.4	54	1	169	6
	3	3	4	-	7	22.6	-	-	176	7
	4	8	3	-	11	35.5	83	2	189	8
8/ 5- 8/11	5	3	1	-	4	12.9	95	1	201	2
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	1	-	-	1	3.2	-	-	240	1

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Table 10. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Sheshalik area, Kotzebue District, 1980 (continued).

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	1	1	-	2	6.5	13	1	105	2
	2	3	2	-	6	19.4	54	1	169	6
	3	3	4	-	7	22.6	-	-	176	7
	4	8	3	-	11	35.5	83	2	189	8
8/ 5- 8/11	5	3	1	-	4	12.9	95	1	201	2
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	1	-	-	1	3.2	-	-	240	1
Period total		19	11	-	31	100.0	66	5	177	26
	1	-	1	1	2	5.9	-	-	107	1
	2	1	3	-	4	11.8	47	1	147	4
	3	1	5	-	6	17.6	56	1	171	4
	4	10	2	-	12	35.3	87	2	191	11
8/12- 8/18	5	3	3	-	6	17.6	109	1	201	6
	6	1	3	-	4	11.8	93	1	208	4
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		16	17	1	34	100.0	80	6	184	30
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	2	-	2	18.2	-	-	174	2
	4	1	1	-	2	18.2	77	1	185	2
9/ 9- 9/15	5	-	-	-	-	-	-	-	-	-
	6	1	1	-	2	18.2	127	1	210	2
	7	1	-	-	1	9.1	-	-	234	1
	8	1	1	-	2	18.2	-	-	216	2
	9+	1	1	-	2	18.2	-	-	220	2
Period total		5	6	-	11	100.0	102	2	204	11
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	11	14	-	25	15.3	60	4	170	25
	4	13	27	-	40	24.5	80	6	178	38
9/16- 9/22	5	5	6	-	11	6.7	78	7	180	11
	6	6	5	-	11	6.7	74	2	192	10
	7	4	8	-	12	7.4	152	2	217	11
	8	12	20	-	32	19.6	149	7	217	32
	9+	8	24	-	32	19.6	178	5	228	32
Period total		59	104	-	163	100.0	111	33	198	159
	1	1	2	1	4	0.8	13	1	105	3
	2	7	10	-	18	3.8	48	4	161	18
	3	68	119	-	188	39.3	54	33	169	185
	4	56	55	-	111	23.2	75	20	180	105
All periods	5	12	14	-	26	5.4	83	9	190	24
	6	9	13	-	22	4.6	101	6	201	21
	7	7	16	-	23	4.8	152	2	217	22
	8	17	25	-	42	8.8	146	8	217	42
	9+	12	32	-	44	9.2	168	6	229	44
Total		189	286	1	478	100.0	82	89	184	464

Table 11. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Deering, Kotzebue, Kobuk, and Sheshalik areas, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
6/10- 6/16	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	49	45	-	94	40.5	52	14	165	94
	4	20	18	-	38	16.4	58	8	172	38
	5	7	2	-	9	3.9	-	-	184	9
	6	16	10	-	26	11.2	109	5	207	26
	7	10	10	-	20	8.6	119	3	215	20
	8	13	17	-	30	12.9	134	8	216	30
	9+	6	9	-	15	6.5	173	4	232	15
Period total		121	111	-	232	100.0	92	42	187	232
6/17- 6/23	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	77	91	-	168	40.4	52	28	164	168
	4	35	45	-	80	19.2	56	12	170	80
	5	25	18	-	43	10.3	61	12	174	43
	6	15	10	-	25	6.0	117	1	191	25
	7	8	5	-	13	3.1	80	3	202	13
	8	19	19	-	38	9.1	142	6	210	38
	9+	23	25	1	49	11.8	160	11	222	49
Period total		202	213	1	416	100.0	80	73	180	416
6/24- 6/30	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	57	107	-	164	63.8	49	33	163	164
	4	18	26	-	44	17.1	61	9	171	44
	5	2	4	-	6	2.3	54	1	179	6
	6	5	3	-	8	3.1	64	1	193	8
	7	2	8	-	10	3.9	117	4	213	10
	8	4	6	-	10	3.9	128	1	217	10
	9+	6	9	-	15	5.8	135	1	223	15
Period total		94	163	-	257	100.0	60	50	173	257
7/ 1- 7/ 7	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	7	15	-	22	71.0	46	3	162	22
	4	2	2	-	4	12.9	56	1	172	4
	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	3	-	3	9.7	-	-	214	3
	8	1	1	-	2	6.5	111	1	223	2
	9+	-	-	-	-	-	-	-	-	-
Period total		10	21	-	31	100.0	61	5	172	31
7/ 8- 7/14	1	1	-	-	1	1.4	-	-	106	1
	2	-	-	-	-	-	-	-	-	-
	3	15	18	-	34	46.6	55	5	169	34
	4	3	3	-	6	8.2	67	2	174	6
	5	2	-	-	2	2.7	-	-	204	2
	6	4	3	-	7	9.6	120	2	210	7
	7	4	5	-	9	12.3	-	-	220	9
	8	5	3	-	8	11.0	116	2	221	8
	9+	2	4	-	6	8.2	-	-	231	6
Period total		36	36	-	73	100.0	80	11	191	73
7/15- 7/21	1	-	-	-	-	-	-	-	-	-
	2	7	-	-	7	2.8	-	-	162	6
	3	104	70	1	178	70.9	58	32	169	146
	4	21	10	-	31	12.4	61	4	175	30
	5	4	1	-	6	2.4	86	1	187	6
	6	4	4	-	8	3.2	83	1	204	7
	7	7	5	-	12	4.8	121	2	214	11
	8	2	4	-	6	2.4	124	1	210	6
	9+	1	2	-	3	1.2	-	-	234	3
Period total		150	96	1	251	100.0	64	41	175	235

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Table 11. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Deering, Kotzebue, Kobuk, and Sheshalik areas, Kotzebue District, 1980 (continued).

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
7/22- 7/28	1	-	-	-	-	-	-	-	-	-
	2	2	4	-	6	3.4	50	1	143	6
	3	43	78	-	122	69.7	52	24	169	122
	4	20	17	-	37	21.1	67	7	179	37
	5	-	2	-	2	1.1	-	-	198	2
	6	-	1	-	1	0.6	-	-	220	1
	7	-	4	-	4	2.3	-	-	221	4
	8	-	1	-	1	0.6	-	-	230	1
	9+	-	2	-	2	1.1	119	1	231	2
Period total		65	109	-	175	100.0	57	33	174	175
7/29- 8/ 4	1	-	-	-	-	-	-	-	-	-
	2	1	1	-	2	9.5	41	1	160	2
	3	4	7	-	11	52.4	50	1	169	10
	4	2	2	-	4	19.0	82	1	176	4
	5	-	2	-	2	9.5	-	-	194	2
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	1	-	-	1	4.8	-	-	200	1
	9+	-	1	-	1	4.8	-	-	235	1
Period total		8	13	-	21	100.0	58	3	177	20
8/ 5- 8/11	1	1	1	-	2	6.5	13	1	105	2
	2	3	2	-	6	19.4	54	1	169	6
	3	3	4	-	7	22.6	-	-	176	7
	4	8	3	-	11	35.5	83	2	189	8
	5	3	1	-	4	12.9	95	1	201	2
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	1	-	-	1	3.2	-	-	240	1
Period total		19	11	-	31	100.0	66	5	177	26
8/12- 8/18	1	-	1	1	2	5.9	-	-	107	1
	2	1	3	-	4	11.8	47	1	147	4
	3	1	5	-	6	17.6	56	1	171	4
	4	10	2	-	12	35.3	87	2	191	11
	5	3	3	-	6	17.6	109	1	201	6
	6	1	3	-	4	11.8	93	1	208	4
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		16	17	1	34	100.0	80	6	184	30
8/26- 9/ 1	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	21	16	-	37	48.1	75	7	173	36
	4	13	7	-	20	26.0	71	3	177	19
	5	2	-	-	2	2.6	-	-	207	2
	6	3	2	-	5	6.5	130	1	193	5
	7	2	1	-	3	3.9	-	-	197	3
	8	2	5	-	7	9.1	144	3	214	7
	9+	-	3	-	3	3.9	-	-	233	2
Period total		43	34	-	77	100.0	93	14	183	74

-Continued-

Table 11. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Deering, Kotzebue, Kobuk, and Sheshalik areas, Kotzebue District, 1980 (continued).

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	18	14	-	32	42.7	70	7	177	30
	4	12	7	-	19	25.3	74	2	180	19
9/ 2- 9/ 8	5	-	-	-	-	-	-	-	-	-
	6	2	-	-	2	2.7	-	-	198	2
	7	3	2	-	5	6.7	138	1	219	5
	8	4	3	-	7	9.3	174	1	223	7
	9+	3	7	-	10	13.3	184	2	235	10
Period total		42	33	-	75	100.0	101	13	194	73
	1	-	-	-	-	-	-	-	-	-
	2	1	-	-	1	0.4	-	-	159	1
	3	52	57	-	109	46.6	77	23	179	106
	4	20	19	-	39	16.7	83	8	183	38
9/ 9- 9/15	5	3	4	-	7	3.0	100	2	197	7
	6	8	6	-	14	6.0	119	5	207	14
	7	9	8	-	17	7.3	-	-	214	17
	8	10	13	-	23	9.8	152	3	224	23
	9+	11	13	-	24	10.3	200	6	229	24
Period total		114	120	-	234	100.0	104	47	194	230
	1	-	-	-	-	-	-	-	-	-
	2	4	2	-	6	1.6	52	1	159	5
	3	32	30	-	62	17.0	75	12	173	62
	4	33	49	-	82	22.5	83	13	182	80
9/16- 9/22	5	16	17	-	33	9.0	81	9	189	33
	6	14	10	-	24	6.6	95	5	200	23
	7	16	15	-	31	8.5	133	5	213	30
	8	24	38	-	62	17.0	156	15	217	62
	9+	18	47	-	65	17.8	174	10	229	65
Period total		157	208	-	365	100.0	114	70	199	360
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	1	-	1	7.7	-	-	176	1
	4	-	1	-	1	7.7	-	-	177	1
9/23- 9/29	5	1	-	-	1	7.7	-	-	199	1
	6	2	1	-	3	23.1	140	1	212	3
	7	-	1	-	1	7.7	177	1	205	1
	8	1	4	-	5	38.5	164	2	224	5
	9+	-	1	-	1	7.7	-	-	207	1
Period total		4	9	-	13	100.0	161	4	209	13
	1	2	2	1	5	0.2	13	1	106	4
	2	19	12	-	32	1.4	49	5	161	30
	3	483	558	1	1047	45.8	59	190	168	1026
	4	217	211	-	428	18.7	69	74	177	419
All periods	5	68	54	-	123	5.4	74	27	185	121
	6	74	53	-	127	5.6	108	23	201	125
	7	61	67	-	128	5.6	120	19	213	126
	8	86	114	-	200	8.8	145	43	217	200
	9+	71	123	1	195	8.5	172	35	228	194
Total		1081	1194	3	2285	100.0	85	417	184	2245

Table 12. Age, sex, and size data for Pacific herring captured by test beach seines in Sheshalik area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
7/ 8- 7/14	1	-	-	2	2	100.0	-	-	80	2
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		-	-	2	2	100.0	-	-	80	2
8/12- 8/18	1	-	-	2	2	66.7	-	-	94	2
	2	-	1	-	1	33.3	-	-	103	1
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		-	1	2	3	100.0	-	-	97	3
All periods	1	-	-	4	4	80.0	-	-	87	4
	2	-	1	-	1	20.0	-	-	103	1
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Total		-	1	4	5	100.0	-	-	90	5

Table 13. Age, sex, and size data for Pacific herring captured by test commercial gillnets during an Alaska Native Foundation study in Shishmaref area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
9/30-10/ 6	5	-	1	-	1	0.9	-	-	218	1
	6	5	5	-	10	9.3	-	-	205	10
	7	11	25	-	36	33.3	-	-	206	36
	8	16	27	-	43	39.8	-	-	207	43
	9+	6	12	-	18	16.7	-	-	221	18
Period total		38	70	-	108	100.0	-	-	209	108

Table 14. Age, sex, and size data for Pacific herring captured by test commercial gillnets during an Alaska Native Foundation study in Deering area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	1.5	-	-	193	1
	4	1	-	-	1	1.5	-	-	209	1
9/16- 9/22	5	3	1	-	4	6.0	-	-	209	4
	6	6	7	-	13	19.4	-	-	214	13
	7	16	9	-	25	37.3	-	-	215	25
	8	5	10	-	15	22.4	-	-	216	15
	9+	2	6	-	8	11.9	-	-	220	8
Period total		34	33	-	67	100.0	-	-	215	67

Table 15. Age, sex, and size data for Pacific herring captured by test commercial gillnets in Kotzebue area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
6/ 3- 6/ 9	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	3.1	-	-	227	2
	8	4	8	-	12	18.5	-	-	211	12
	9+	11	40	-	51	78.5	-	-	224	51
Period total		16	49	-	65	100.0	-	-	222	65
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
6/24- 6/30	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	1	5	-	6	8.6	-	-	221	6
	8	1	10	-	11	15.7	-	-	221	11
	9+	10	43	-	53	75.7	-	-	228	52
Period total		12	58	-	70	100.0	-	-	227	69
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
All periods	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	2	6	-	8	5.9	-	-	223	8
	8	5	18	-	23	17.0	-	-	216	23
	9+	21	83	-	104	77.0	-	-	226	103
Total		28	107	-	135	100.0	-	-	224	134

Table 16. Age, sex, and size data for Pacific herring captured by test commercial gillnets during an Alaska Native Foundation study in Kotzebue area, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
9/ 9- 9/15	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	16.7	138	1	229	2
	8	1	4	-	5	41.7	133	1	227	5
	9+	1	4	-	5	41.7	-	-	231	5
Period total		3	9	-	12	100.0	136	2	229	12

Table 17. Age, sex, and size data for Pacific herring captured by test commercial gillnets in Deering, Kotzebue, and Shishmaref areas, Kotzebue District, 1980.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
6/ 3- 6/ 9	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	3.1	-	-	227	2
	8	4	8	-	12	18.5	-	-	211	12
	9+	11	40	-	51	78.5	-	-	224	51
Period total		16	49	-	65	100.0	-	-	222	65
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
6/24- 6/30	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	1	5	-	6	8.6	-	-	221	6
	8	1	10	-	11	15.7	-	-	221	11
	9+	10	43	-	53	75.7	-	-	228	52
Period total		12	58	-	70	100.0	-	-	227	69
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
9/ 9- 9/15	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	1	1	-	2	16.7	138	1	229	2
	8	1	4	-	5	41.7	133	1	227	5
	9+	1	4	-	5	41.7	-	-	231	5
Period total		3	9	-	12	100.0	136	2	229	12
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	1.5	-	-	193	1
	4	1	-	-	1	1.5	-	-	209	1
9/16- 9/22	5	3	1	-	4	6.0	-	-	209	4
	6	6	7	-	13	19.4	-	-	214	13
	7	16	9	-	25	37.3	-	-	215	25
	8	5	10	-	15	22.4	-	-	216	15
	9+	2	6	-	8	11.9	-	-	220	8
Period total		34	33	-	67	100.0	-	-	215	67
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
9/30-10/ 6	5	-	1	-	1	0.9	-	-	218	1
	6	5	5	-	10	9.3	-	-	205	10
	7	11	25	-	36	33.3	-	-	206	36
	8	16	27	-	43	39.8	-	-	207	43
	9+	6	12	-	18	16.7	-	-	221	18
Period total		38	70	-	108	100.0	-	-	209	108
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	0.3	-	-	193	1
	4	1	-	-	1	0.3	-	-	209	1
All periods	5	3	2	-	5	1.6	-	-	211	5
	6	11	12	-	23	7.1	-	-	210	23
	7	30	41	-	71	22.0	138	1	212	71
	8	27	59	-	86	26.7	133	1	212	86
	9+	30	105	-	135	41.9	-	-	225	134
Total		103	219	-	322	100.0	136	2	217	321

Table 18. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Shishmaref area, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
6/10- 6/16	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	2	-	-	2	66.7	-	-	205	2
	9+	-	1	-	1	33.3	-	-	222	1
Period total		2	1	-	3	100.0	-	-	210	3
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	21	23	1	45	28.1	89	7	184	45
6/17- 6/23	5	4	4	-	8	5.0	82	2	188	8
	6	9	6	-	15	9.4	87	4	194	15
	7	23	11	-	34	21.3	84	9	196	34
	8	25	31	-	56	35.0	100	14	202	56
	9+	1	1	-	2	1.3	88	1	205	2
Period total		83	76	1	160	100.0	91	37	194	160
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	2	1	-	3	100.0	60	3	172	3
6/24- 6/30	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		2	1	-	3	100.0	60	3	172	3
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	23	24	1	48	28.9	80	10	183	48
All periods	5	4	4	-	8	4.8	82	2	188	8
	6	9	6	-	15	9.0	87	4	194	15
	7	23	11	-	34	20.5	84	9	196	34
	8	27	31	-	58	34.9	100	14	203	58
	9+	1	2	-	3	1.8	88	1	210	3
Total		87	78	1	166	100.0	89	40	194	166

Table 19. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kotzebue area, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	4	1	1	6	4.9	-	-	164	6
	4	40	46	2	88	72.1	70	10	174	88
5/27- 6/ 2	5	6	3	-	9	7.4	-	-	191	9
	6	1	1	-	2	1.6	-	-	216	2
	7	-	-	-	-	-	-	-	-	-
	8	7	2	-	9	7.4	101	1	215	9
	9+	5	3	-	8	6.6	148	1	221	8
Period total		63	56	3	122	100.0	79	12	182	122
	1	-	-	-	-	-	-	-	-	-
	2	-	-	1	1	0.6	-	-	121	1
	3	9	8	1	18	11.0	52	2	164	15
	4	54	65	-	119	72.6	63	8	175	108
6/ 3- 6/ 9	5	3	4	-	7	4.3	74	1	181	7
	6	3	-	-	3	1.8	-	-	206	3
	7	-	1	-	1	0.6	-	-	210	1
	8	2	6	-	8	4.9	217	1	216	8
	9+	6	1	-	7	4.3	134	2	222	7
Period total		77	85	2	164	100.0	83	14	179	150
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	10	7	-	17	5.8	-	-	165	14
	4	89	80	-	169	58.1	-	-	177	162
6/10- 6/16	5	7	5	-	12	4.1	-	-	186	11
	6	4	3	-	7	2.4	-	-	197	7
	7	10	9	-	19	6.5	-	-	210	17
	8	10	15	-	25	8.6	-	-	214	25
	9+	25	17	-	42	14.4	-	-	218	40
Period total		155	136	-	291	100.0	-	-	188	276
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	4	7	-	11	6.6	49	2	166	11
	4	61	59	-	120	71.9	63	5	177	116
6/17- 6/23	5	9	7	-	16	9.6	-	-	186	16
	6	-	1	-	1	0.6	-	-	188	1
	7	1	3	-	4	2.4	-	-	194	3
	8	3	4	-	7	4.2	-	-	198	7
	9+	4	4	-	8	4.8	-	-	216	8
Period total		82	85	-	167	100.0	59	7	180	162

-Continued-

Table 19. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kotzebue area, Kotzebue District, 1981 (continued).

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	1	2	3	3.2	-	-	133	3
	3	4	4	-	8	8.4	-	-	147	8
	4	38	36	-	74	77.9	58	4	176	71
6/24- 6/30	5	2	1	-	3	3.2	-	-	183	3
	6	2	-	-	2	2.1	-	-	177	2
	7	2	2	-	4	4.2	-	-	185	3
	8	-	1	-	1	1.1	-	-	236	1
	9+	-	-	-	-	-	-	-	-	-
Period total		48	45	2	95	100.0	58	4	175	91
	1	-	-	-	-	-	-	-	-	-
	2	-	1	-	1	2.6	-	-	158	1
	3	4	1	1	6	15.4	45	1	161	6
	4	19	8	-	27	69.2	61	3	175	27
7/ 1- 7/ 7	5	3	-	-	3	7.7	-	-	187	3
	6	1	-	-	1	2.6	-	-	191	1
	7	-	-	-	-	-	-	-	-	-
	8	1	-	-	1	2.6	-	-	203	1
	9+	-	-	-	-	-	-	-	-	-
Period total		28	10	1	39	100.0	57	4	174	39
	1	-	-	-	-	-	-	-	-	-
	2	-	2	3	5	0.6	-	-	136	5
	3	35	28	3	66	7.5	49	5	145	60
	4	301	294	2	597	68.0	64	30	176	572
All periods	5	30	20	-	50	5.7	74	1	186	49
	6	11	5	-	14	1.8	-	-	198	16
	7	13	15	-	28	3.2	-	-	205	24
	8	23	28	-	51	5.8	159	2	212	51
	9+	40	25	-	65	7.4	139	3	218	63
Total		453	417	8	878	100.0	73	41	182	840

Table 20. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kobuk area, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	1	-	2	2.5	-	-	165	2
	4	31	32	-	63	79.7	-	-	176	62
6/ 3- 6/ 9	5	2	5	-	7	8.9	-	-	188	7
	6	2	-	-	2	2.5	-	-	190	2
	7	1	-	-	1	1.3	-	-	204	1
	8	1	1	-	2	2.5	-	-	204	2
	9+	2	-	-	2	2.5	-	-	214	2
Period total		40	39	-	79	100.0	-	-	179	78
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	9	5	-	14	8.2	-	-	164	14
	4	71	43	-	114	67.1	-	-	176	112
6/10- 6/16	5	3	7	-	10	5.9	-	-	186	10
	6	2	-	-	2	1.2	-	-	193	2
	7	1	3	-	4	2.4	-	-	206	4
	8	4	1	-	5	2.9	-	-	225	5
	9+	7	14	-	21	12.4	-	-	226	21
Period total		97	73	-	170	100.0	-	-	184	168
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	5	11	-	16	9.3	51	1	164	15
	4	63	57	-	120	69.8	58	8	175	115
6/17- 6/23	5	7	10	-	17	9.9	-	-	181	14
	6	1	1	-	2	1.2	-	-	203	2
	7	1	1	-	2	1.2	-	-	195	2
	8	2	3	-	5	2.9	-	-	219	5
	9+	2	8	-	10	5.8	115	1	222	10
Period total		81	91	-	172	100.0	63	10	179	163
	1	-	-	-	-	-	-	-	-	-
	2	-	2	2	4	1.5	-	-	132	4
	3	5	7	1	13	5.0	51	1	160	13
	4	112	55	1	168	64.6	61	20	174	165
6/24- 6/30	5	15	12	-	27	10.4	68	2	181	26
	6	3	1	-	4	1.5	-	-	182	4
	7	2	3	-	5	1.9	-	-	197	5
	8	6	5	-	11	4.2	140	1	208	11
	9+	16	12	-	28	10.8	116	4	212	28
Period total		159	97	4	260	100.0	72	28	179	256
	1	-	-	-	-	-	-	-	-	-
	2	-	1	1	2	1.1	-	-	130	2
	3	9	11	2	22	12.2	38	5	161	22
	4	107	25	-	132	73.3	55	10	174	130
7/ 1- 7/ 7	5	13	1	-	14	7.8	59	2	180	14
	6	-	-	-	-	-	-	-	-	-
	7	1	-	-	1	0.6	-	-	182	1
	8	3	1	-	4	2.2	105	1	205	4
	9+	5	-	-	5	2.8	102	1	215	5
Period total		138	39	3	180	100.0	56	19	174	178
	1	-	-	-	-	-	-	-	-	-
	2	-	3	3	6	0.7	-	-	132	6
	3	29	35	3	67	7.8	42	7	162	66
	4	384	212	1	597	69.3	59	38	175	584
All periods	5	40	35	-	75	8.7	63	4	182	71
	6	8	2	-	10	1.2	-	-	192	10
	7	6	7	-	13	1.5	-	-	199	13
	8	16	11	-	27	3.1	123	2	213	27
	9+	32	34	-	66	7.7	114	6	218	66
Total		515	339	7	861	100.0	65	57	179	843

Table 21. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Sheshalik area, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	3	-	-	3	1.9	72	1	177	3
	4	69	53	2	124	76.5	67	3	177	114
6/10- 6/16	5	6	-	-	6	3.7	-	-	182	5
	6	-	1	-	1	0.6	-	-	178	1
	7	1	2	-	3	1.9	-	-	198	3
	8	5	8	-	13	8.0	-	-	221	13
	9+	4	7	1	12	7.4	-	-	232	11
Period total		88	71	3	162	100.0	68	4	185	150
	1	-	-	-	-	-	-	-	-	-
	2	-	-	1	1	0.8	-	-	143	1
	3	-	1	-	1	0.8	-	-	170	1
	4	36	37	-	73	54.9	64	26	181	73
6/17- 6/23	5	11	9	-	20	15.0	64	1	187	20
	6	3	1	-	4	3.0	-	-	194	4
	7	1	4	-	5	3.8	94	1	194	5
	8	6	3	-	9	6.8	-	-	207	9
	9+	3	17	-	20	15.0	126	6	223	20
Period total		60	72	1	133	100.0	76	34	191	133
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	11.1	-	-	164	1
	4	-	-	-	-	-	-	-	-	-
6/24- 6/30	5	-	2	-	2	22.2	-	-	185	2
	6	-	-	-	-	-	-	-	-	-
	7	-	2	-	2	22.2	-	-	231	2
	8	-	-	-	-	-	-	-	-	-
	9+	1	3	-	4	44.4	-	-	222	4
Period total		2	7	-	9	100.0	-	-	209	9
	1	-	-	-	-	-	-	-	-	-
	2	-	-	1	1	0.3	-	-	143	1
	3	4	1	-	5	1.6	72	1	173	5
	4	105	90	2	197	64.8	65	29	179	187
All periods	5	17	11	-	28	9.2	64	1	186	27
	6	3	2	-	5	1.6	-	-	193	5
	7	2	8	-	10	3.3	94	1	203	10
	8	11	11	-	22	7.2	-	-	215	22
	9+	8	27	1	36	11.8	126	6	226	35
Total		150	150	4	304	100.0	75	38	189	292

Table 22. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Shishmaref, Kotzebue, Kobuk, and Sheshalik areas, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	4	1	1	6	4.9	-	-	164	6
	4	40	46	2	88	72.1	70	10	174	88
5/27- 6/ 2	5	6	3	-	9	7.4	-	-	191	9
	6	1	1	-	2	1.6	-	-	216	2
	7	-	-	-	-	-	-	-	-	-
	8	7	2	-	9	7.4	101	1	215	9
	9+	5	3	-	8	6.6	148	1	221	8
Period total		63	56	3	122	100.0	79	12	182	122
	1	-	-	-	-	-	-	-	-	-
	2	-	-	1	1	0.4	-	-	121	1
	3	10	9	1	20	8.2	52	2	144	17
	4	85	97	-	182	74.9	63	8	175	170
6/ 3- 6/ 9	5	5	9	-	14	5.8	74	1	184	14
	6	5	-	-	5	2.1	-	-	203	5
	7	1	1	-	2	0.8	-	-	207	2
	8	3	7	-	10	4.1	217	1	213	10
	9+	8	1	-	9	3.7	134	2	220	9
Period total		117	124	2	243	100.0	83	14	179	228
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	22	12	-	34	5.4	72	1	166	31
	4	229	176	2	407	65.0	67	3	177	388
6/10- 6/16	5	16	12	-	28	4.5	-	-	185	26
	6	6	4	-	10	1.6	-	-	195	10
	7	12	14	-	26	4.2	-	-	208	24
	8	21	24	-	45	7.2	-	-	217	45
	9+	36	39	1	76	12.1	-	-	222	73
Period total		342	281	3	626	100.0	68	4	186	597
	1	-	-	-	-	-	-	-	-	-
	2	-	-	1	1	0.2	-	-	143	1
	3	9	19	-	28	4.4	49	3	165	27
	4	181	174	1	358	56.6	67	46	178	349
6/17- 6/23	5	31	30	-	61	9.7	76	3	185	58
	6	13	9	-	22	3.5	87	4	195	22
	7	26	19	-	45	7.1	85	10	195	44
	8	36	41	-	77	12.2	100	14	204	77
	9+	10	30	-	40	6.3	120	8	221	40
Period total		306	324	2	632	100.0	80	88	186	618

-Continued-

Table 22. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Shishmaref, Kotzebue, Kobuk, and Sheshalik areas, Kotzebue District, 1981 (continued).

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	3	4	7	1.9	-	-	133	7
	3	10	11	1	22	6.0	51	1	163	22
	4	152	92	1	245	66.8	60	27	174	239
6/24- 6/30	5	17	15	-	32	8.7	68	2	182	31
	6	5	1	-	6	1.6	-	-	180	6
	7	4	7	-	11	3.0	-	-	200	10
	8	6	6	-	12	3.3	140	1	210	12
	9+	17	15	-	32	8.7	116	4	214	32
Period total		211	150	6	367	100.0	69	35	179	359
	1	-	-	-	-	-	-	-	-	-
	2	-	2	1	3	1.4	-	-	139	3
	3	13	12	3	28	12.8	39	6	161	28
	4	126	33	-	159	72.6	56	13	174	157
7/ 1- 7/ 7	5	16	1	-	17	7.8	59	2	181	17
	6	1	-	-	1	0.5	-	-	191	1
	7	1	-	-	1	0.5	-	-	182	1
	8	4	1	-	5	2.3	105	1	205	5
	9+	5	-	-	5	2.3	102	1	215	5
Period total		166	49	4	219	100.0	56	23	174	217
	1	-	-	-	-	-	-	-	-	-
	2	-	5	7	12	0.5	-	-	134	12
	3	69	64	6	138	6.2	47	13	164	131
	4	813	620	6	1439	65.1	64	107	176	1391
All periods	5	91	70	-	161	7.3	69	8	184	155
	6	31	15	-	46	2.1	87	4	195	46
	7	44	41	-	85	3.8	85	10	200	81
	8	77	81	-	158	7.2	109	18	209	158
	9+	81	88	1	170	7.7	121	16	220	167
Total		1205	984	20	2209	100.0	74	176	183	2141

Table 23. Age, sex, and size data for Pacific herring captured by test beach seines in Kotzebue area, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	1	1	20.0	-	-	125	1
	3	1	-	-	1	20.0	-	-	126	1
	4	3	-	-	3	60.0	55	1	173	3
6/17- 6/23	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		4	-	1	5	100.0	55	1	154	5

Table 24. Age, sex, and size data for Pacific herring captured by commercial gillnets in Kotzebue area, Kotzebue District, 1981.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	1	-	-	1	3.7	-	-	222	1
6/ 3- 6/ 9	5	1	-	-	1	3.7	-	-	232	1
	6	-	-	-	-	-	-	-	-	-
	7	1	3	-	4	14.8	-	-	216	4
	8	3	6	-	9	33.3	188	2	228	9
	9+	5	7	-	12	44.4	154	1	225	12
Period total		11	16	-	27	100.0	177	3	225	27

Table 25. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kotzebue area, Kotzebue District, 1982.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	4	1	-	5	9.4	-	-	179	5
6/10- 6/16	5	13	8	2	23	43.4	-	-	184	23
	6	3	-	-	3	5.7	-	-	200	3
	7	1	2	-	3	5.7	-	-	202	3
	8	6	2	-	8	15.1	-	-	212	8
	9+	5	5	1	11	20.8	-	-	217	11
Period total		32	18	3	53	100.0	-	-	197	53
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	0.8	-	-	154	1
	4	21	14	1	36	29.5	-	-	169	36
6/17- 6/23	5	32	23	2	57	46.7	-	-	177	57
	6	8	3	-	11	9.0	-	-	184	11
	7	1	2	-	3	2.5	-	-	207	3
	8	2	3	-	5	4.1	-	-	213	5
	9+	2	6	1	9	7.4	-	-	218	9
Period total		67	51	4	122	100.0	-	-	180	122
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	2	-	2	66.7	-	-	165	2
	4	-	-	-	-	-	-	-	-	-
9/16- 9/22	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	1	-	-	1	33.3	-	-	226	1
Period total		1	2	-	3	100.0	-	-	185	3
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	2	-	3	1.7	-	-	161	3
	4	25	15	1	41	23.0	-	-	170	41
All periods	5	45	31	4	80	44.9	-	-	179	80
	6	11	3	-	14	7.9	-	-	188	14
	7	2	4	-	6	3.4	-	-	205	6
	8	8	5	-	13	7.3	-	-	212	13
	9+	8	11	2	21	11.8	-	-	218	21
Total		100	71	7	178	100.0	-	-	185	178

Table 26. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Sheshalik area, Kotzebue District, 1982.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	14.3	-	-	164	1
	4	2	-	-	2	28.6	-	-	178	2
8/26- 9/ 1	5	2	1	-	3	42.9	-	-	185	3
	6	-	1	-	1	14.3	-	-	196	1
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		5	2	-	7	100.0	-	-	181	7
	1	-	-	3	3	100.0	-	-	62	3
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
9/ 2- 9/ 8	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		-	-	3	3	100.0	-	-	62	3
	1	-	-	3	3	30.0	-	-	62	3
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	10.0	-	-	164	1
	4	2	-	-	2	20.0	-	-	178	2
All periods	5	2	1	-	3	30.0	-	-	185	3
	6	-	1	-	1	10.0	-	-	196	1
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Total		5	2	3	10	100.0	-	-	146	10

Table 27. Age, sex, and size data for Pacific herring captured by variable mesh gillnets in Kotzebue and Sheshalik areas, Kotzebue District, 1982.

Sample Period	Age (years)	Sex: Male	Sex: Female	Sex: Unknown	Total	Percent of Total	Mean Weight (gm)	Number Weighed	Mean Standard Length (mm)	Number Measured
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	4	1	-	5	9.4	-	-	179	5
6/10- 6/16	5	13	8	2	23	43.4	-	-	184	23
	6	3	-	-	3	5.7	-	-	200	3
	7	1	2	-	3	5.7	-	-	202	3
	8	6	2	-	8	15.1	-	-	212	8
	9+	5	5	1	11	20.8	-	-	217	11
Period total		32	18	3	53	100.0	-	-	197	53
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	0.8	-	-	154	1
	4	21	14	1	36	29.5	-	-	169	36
6/17- 6/23	5	32	23	2	57	46.7	-	-	177	57
	6	8	3	-	11	9.0	-	-	184	11
	7	1	2	-	3	2.5	-	-	207	3
	8	2	3	-	5	4.1	-	-	213	5
	9+	2	6	1	9	7.4	-	-	218	9
Period total		67	51	4	122	100.0	-	-	180	122
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	1	-	-	1	14.3	-	-	164	1
	4	2	-	-	2	28.6	-	-	178	2
8/26- 9/ 1	5	2	1	-	3	42.9	-	-	185	3
	6	-	1	-	1	14.3	-	-	196	1
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		5	2	-	7	100.0	-	-	181	7
	1	-	-	3	3	100.0	-	-	62	3
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
9/ 2- 9/ 8	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	-	-	-	-	-	-	-	-	-
Period total		-	-	3	3	100.0	-	-	62	3
	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	2	-	2	66.7	-	-	165	2
	4	-	-	-	-	-	-	-	-	-
9/16- 9/22	5	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	-	-	-	-
	7	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-
	9+	1	-	-	1	33.3	-	-	226	1
Period total		1	2	-	3	100.0	-	-	185	3
	1	-	-	3	3	1.6	-	-	62	3
	2	-	-	-	-	-	-	-	-	-
	3	2	2	-	4	2.1	-	-	162	4
	4	27	15	1	43	22.9	-	-	171	43
All periods	5	47	32	4	83	44.1	-	-	179	83
	6	11	4	-	15	8.0	-	-	188	15
	7	2	4	-	6	3.2	-	-	205	6
	8	8	5	-	13	6.9	-	-	212	13
	9+	8	11	2	21	11.2	-	-	218	21
Total		105	73	10	188	100.0	-	-	183	188

Because the Alaska Department of Fish and Game receives federal funding, all of its public programs and activities are operated free from discrimination on the basis of race, color, national origin, age, or handicap. Any person who believes he or she has been discriminated against should write to:

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