

KODIAK MANAGEMENT AREA
1995/96 HERRING SAC ROE FISHERY
INFORMATION PACKET

By

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KODIAK MANAGEMENT AREA

1995 Sac Roe Herring Fishery Season Summary

The 1995 sac roe herring fishery started at 12:00 Noon on April 15 and continued through June 30. The initial fishing periods were 24 hours in duration starting at 12:00 noon on odd number days of the week and closing at 12:00 noon on even numbered days, followed by 24 hour closures. Starting on April 21 fishing periods were reduced to 10 hours, running from 12:00 noon until 10:00 P.M. followed by 38 hour closures. This change in the duration of fishing periods resulted from several factors 1) Alaska Department of Fish and Game's (ADF&G) inability to monitor the purse seiners during the night, 2) near record numbers of purse seine gear participating in the fishery, 3) low roe recovery standards which were set by some processors. On April 27 the duration of fishing periods was increased to 24 hours in only the management areas which ADF&G had a fishery monitoring crew present. Starting on May 3 the fishing periods returned to the 24 hour openings followed by a 24 hour closure for all management units, which were not previously closed due to a herring harvest.

A total of 144 permit holders participated in this fishery, with 71 gillnetters and 73 purse seiners harvesting 4,604 tons during 922 landings. The preseason Guideline Harvest Level (GHL) was 4,480 tons. Purse seine gear accounted for 83% (3,837 Tons) of the harvest with gillnet gear accounting for 17% (767 Tons). A total of 109 tenders were registered to transport herring to processors. There were 12 floating processors and 7 shore based plants represented by 14 different companies registered to process herring in the Kodiak Management Area. Roe recovery percentages averaged 9.8% for seine gear and 10.8% for gillnet gear.

Age, weight, and length data was collected from the pure seine harvest for 18 management units. Age-7 herring were the dominant age class harvested in the 1995 season, representing 37% of the total harvest. The remaining age classes represented the following percentage of the harvest; Age-3 (3%), Age-4 (16%), Age-5 (9%), Age-6 (2%), Age-8 (28%) and Age 9-11+ (5%). The average weight for purse seine caught herring was 209 grams which is up from the 1994 fishery average of 188 grams, a year which had a high percentage of Age-6 herring harvested.

Prices paid for herring this season varied greatly. Using an overall estimated average of \$1,270 dollars per ton for dock delivered fish the total exvessel value of the fishery was estimated at \$5.8 million dollars. The average exvessel value for purse seine fishers was \$67,000 and gillnetters at \$14,000.

ADF&G stationed four mobile field crews and two state vessels in anticipated herring harvest locations. These crews monitored the fishery to collect effort and harvest data used to manage the fishery, along with commercial catch samples to obtain age and weight data. A total of 19 emergency orders were issued during the herring season which established fishing periods or closed management units when GHL's had been reached.

1996 HARVEST EXPECTATIONS

Herring harvests in the West Afognak and the Uganik Districts have relied strongly on a dominant single age class of herring to support these fisheries, primarily age-7 herring in the 1995 season. Similarly, the management units of the Eastside District and some management units of the Alitak District have also relied on a strong single age class, age-8 herring in the 1995 season. These two age classes are responsible for the last four years of record to near record sac roe herring harvests.

The number of age-3 through age-5 year old herring in the 1995 fishery indicates good recruitment for the West Afognak, Uganik, and Eastside Districts. Age-8 and age-9 year old herring are expected to comprise the majority of the 1996 harvest for these management units. The Uyak, North Afognak, and South Afognak Districts were closed for the 1995 season due to a decline in herring abundance over the last four years. These management units will likely be closed to fishing again for the 1996 season in an effort to rebuild these stocks.

The preliminary 1996 GHL for the Kodiak Management Area sac roe herring fishery will be approximately 4,000 tons. Adjustments increasing or decreasing management unit GHL's will be under evaluation during the Winter of 1996 and will be published in the Kodiak Sac Roe Herring Harvest Strategy, in mid-March of 1996.

Table 1. Historical harvest and effort level for the sac roe herring fishery for the Kodiak Management Area, 1964-1995.

Year	Tons Harvested	Seine	Gillnet	Number of Vessels			
				Trawls	Gillnet	Seine	Total
1964	568	568	-	0	0	5	5
1965	657	657	-	0	0	8	8
1966	2,769	2,769	-	0	0	11	11
1967	1,662	1,662	-	0	0	5	5
1968	2,001	2,001	-	0	0	10	10
1969	1,130	1,130	-	0	0	21	21
1970	342	342	-	0	0	13	13
1971	284	284	-	0	0	4	4
1972	215	215	-	0	0	4	4
1973	831	831	-	0	0	11	11
1974	868	868	-	0	0	26	26
1975	8	8	-	0	0	2	2
1976	5	5	-	0	0	1	1
1977	338	338	-	0	0	11	11
1978	904	881	23	2	7	28	35
1979	1,735	1,457	278	0	125	57	182
1980	2,383	2,009	374	1	109	92	201
1981	2,065	1,596	469	0	114	79	193
1982	1,771	1,447	324	0	67	45	112
1983	2,318	1,797	521	0	64	41	105
1984	2,163	1,691	472	0	69	39	108
1985	1,968	1,244	724	0	81	34	115
1986	1,558	1,111	447	0	71	31	102
1987	2,146	1,591	555	0	62	29	91
1988	2,171	1,304	867	0	76	33	109
1989	2,249	1,513	736	0	83	37	120
1990	2,347	1,644	703	0	63	27	90
1991	2,432	1,697	735	0	64	32	96
1992	4,283	3,260	1,023	0	74	40	114
1993	4,929	4,203	726	0	86	41	127
1994	5,893	4,976	917	0	57	66	123
1995	4,604	3,837	768	0	71	73	144

Table 2. Kodiak sac roe herring fishery summary by year and by gear, 1979-1995.

YEAR	SEASON LENGTH (DAYS)	GUIDELINE HARVEST LEVEL (TONS)	TOTAL HARVEST (TONS)	HARVEST BY GEAR TYPE (TONS)		PERCENT HARVEST BY GEAR TYPE (TONS)		NUMBER OF LANDINGS		NO. UNITS		AVG. \$'S EARNED	
				SEINE	G/N	SEINE	G/N	SEINE	G/N	SEINE	G/N	SEINE	G/N
1979	36	2,400	1,735	1,457	278	84	16	-	-	57	125	38,347	3,333
1980	35	2,400	2,383	2,009	374	84	16	-	-	92	109	14,978	2,573
1981	48	2,400	2,065	1,596	469	77	23	207	406	79	114	14,402	3,471
1982	59	2,400	1,771	1,447	324	82	18	138	191	45	67	17,819	2,719
1983	51	2,400	2,319	1,797	522	78	22	164	284	41	64	35,061	6,520
1984	54	2,400	2,163	1,691	472	78	22	138	212	39	69	34,691	5,467
1985	59	2,000	1,968	1,244	724	63	37	118	348	34	81	32,935	8,039
1986	61	1,690	1,558	1,110	448	71	29	132	385	31	71	34,010	6,002
1987	61	1,640	2,146	1,591	554	74	26	122	411	29	62	54,872	8,945
1988	59	2,065	2,171	1,304	867	60	40	169	555	33	76	51,350	14,837
1989	76	2,415	2,249	1,513	736	67	33	171	627	37	83	34,749	7,537
1990	75	2,375	2,347	1,644	703	70	30	156	544	27	63	51,724	9,652
1991	83	2,510	2,432	1,697	735	70	30	169	587	32	64	45,077	9,762
1992	77	2,720	4,283	3,260	1,023	76	24	185	706	40	74	40,750	6,912
1993	77	3,525	4,929	4,203	726	85	15	237	294	41	86	56,380	4,640
1994	71	4,550	5,893	4,976	917	84	16	285	485	66	57	60,320	12,860
1995	73	4,480	4,604	3,837	767	83	17	280	642	73	71	66,850	13,750
17-YR AVG.	62	2,610	2,766	2,140	626	76	24	157	393	47	79	40,250	7,470

Table 3. Sac roe herring harvest summary listing guideline harvest levels by management unit, harvest in tons by gear type, percentage of harvest by gear type, total harvest, and date the management unit closed for the Kodiak Management Area, 1995.

Stat. Area	Mgmt. Units	Guideline Harvest Level	Purse (Tons)	%	Gillnet (Tons)	%	Total (Tons)	Date Closed
<i>WEST AFOGNAK DISTRICT</i>								
WA10	Raspberry Strait	350 Tons	0	-	3.0	100	3.0	6/30
WA20	Malina Bay	250 Tons	50.0	91	5.1	9	55.1	6/30
WA30	Paramanof Bay	400 Tons	671.8	95	37.2	5	709.0	4/16
WA32	Foul Bay	75 Tons	782.5	98	18.5	2	801.0	4/25
WA40	Devils Inlet	10 Tons	0	-	0	-	0	6/30
WA40	Blue Fox	50 Tons	0	-	0	-	0	6/30
WA50	Offshore W. Afognak ^a	-	0	-	0	-	0	6/30
5	DISTRICT TOTAL	1,135 Tons	1,504.3	96	63.8	4	1,568.1	
<i>NORTH AFOGNAK DISTRICT</i>								
NA10	Shuyak Island	20 Tons	0	-	0	-	0	6/30
NA20	Delphin Bay	Closed	0	-	0	-	0	-
NA30	Perenosa Bay	Closed	0	-	0	-	0	-
NA40	Seal Bay	Closed	0	-	0	-	0	-
NA50	Tonki Bay	Closed	0	-	0	-	0	-
	DISTRICT TOTAL	20 Tons	0	-	0	-	0	-
<i>SOUTH AFOGNAK DISTRICT</i>								
SA10	Izhut Bay	Closed	0	-	0	-	0	-
SA20	Kittoi Bay	Closed	0	-	0	-	0	-
SA30	MacDonalds Lagoon	Closed	0	-	0	-	0	-
SA40	Danger Bay	Closed	0	-	0	-	0	-
SA50	Litnik	Closed	0	-	0	-	0	-
SA60	Duck Bay	Closed	0	-	0	-	0	-
	DISTRICT TOTAL	Closed	0	-	0	-	0	-

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Stat. Area	Mgmt. Units	Guideline Harvest Level	Purse (Tons)	%	Gillnet (Tons)	%	Total (Tons)	Date Closed
UGANIK DISTRICT								
UG10	Kupreanof	10 Tons	0	-	0	-	0	6/30
UG20	Viekoda	100 Tons	0	-	0	-	0	6/30
UG21	Terror	200 Tons	323.1	90	34.4	10	357.5	4/20
UG30	Village Island	250 Tons	300.5	96	13.4	4	313.9	4/19
UG31	W. Uganik Pass	75 Tons	3.5	18	16.0	82	19.5	6/30
UG32	NE Arm Uganik	30 Tons	77.6	100	0	-	77.6	4/23
UG33	E. Arm Uganik	100 Tons	158.4	89	20.4	11	178.8	4/23
UG34	S. Arm Uganik	150 Tons	368.2	94	24.3	6	392.5	4/21
UG40	Offshore Uganik ^a	-	0	-	0	-	0	6/30
DISTRICT TOTAL		915 TONS	1,231.3	92	108.5	8	1,339.8	
UYAK DISTRICT								
UY10	Offshore Uyak ^a	Closed	0	-	0	-	0	-
UY20	Harvester Island	Closed	0	-	0	-	0	-
UY30	Inner Uyak	Closed	0	-	0	-	0	-
UY31	Larsen Bay	Closed	0	-	0	-	0	-
UY32	Browns Lagoon	Closed	0	-	0	-	0	-
UY40	Zachar Bay	Closed	0	-	0	-	0	-
UY50	Spiridon Bay	Closed	0	-	0	-	0	-
DISTRICT TOTAL		Closed	0	-	0	-	0	-
ALITAK DISTRICT								
AL10	Outer Alitak	(Exploration)	0	-	0	-	0	6/30
AL20	Inner Alitak	(Exploration)	7.6	44	9.7	56	17.3	6/30
AL21	Inner Deadman Bay	150 Tons	10.5	85	1.9	15	12.4	6/30
AL22	Outer Deadman Bay	125 Tons	112.0	95	5.8	5	117.8	6/30
AL30	Sulua Bay	190 Tons	173.6	87	25.5	13	199.1	5/13
AL31	Portage Bay	75 Tons	69.7	90	7.6	10	77.3	6/12
AL40	Lower Olga/Moser Bay	20 Tons	0	-	0	-	0	6/30
AL41	North Upper Olga Bay	10 Tons	0	-	0	-	0	6/30
AL50	Upper Olga Bay	75 Tons	0	-	0	-	0	6/30
AL60	Geese/Twoheaded	15 Tons	0	-	0	-	0	6/30
DISTRICT TOTAL		660 Tons	373.4	88	50.5	12	423.9	

-Continued-

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Stat. Area	Mgmt. Units	Guideline Harvest Level	Purse (Tons)	%	Gillnet (Tons)	%	Total (Tons)	Date Closed
<i>STURGEON/HALIBUT DIST.</i>								
SH10	Sturgeon/Halibut	(Exploration)	0	-	0	-	0	6/30
DISTRICT TOTAL		0 Tons	0		0		0	
<i>EASTSIDE DISTRICT</i>								
EA10	Kaiugnak	20 Tons	0	-	0	-	0	6/30
EA20	S.W. Sitkalidak Strait	20 Tons	0	-	0	-	0	6/30
EA21	Three Saints Bay	60 Tons	5.1	-	30.1	-	35.2	6/30
EA22	Newman Bay	40 Tons	0	-	2.4	100	2.4	6/30
EA23	W. Sitkalidak Strait	300 Tons	42.3	40	64.0	60	106.3	6/30
EA24	Barling Bay	50 Tons	28.3	50	28.2	50	56.5	5/13
EA30	E. Sitkalidak St.	290 Tons	152.0	39	238.6	61	390.6	5/24
EA31	Tanginak Anchorage	15 Tons	0	-	15.7	100	15.7	5/8
EA40	Outer Sitkalidak	(Exploration)	0	-	0	-	0	6/30
EA41	Boulder Bay	(Exploration)	0	-	0	-	0	6/30
EA42	Shearwater Bay	90 Tons	47.0	42	65.5	58	112.5	5/2
EA43	Outer Kiliuda Bay	80 Tons	132.7	99	0.1	1	132.8	4/28
EA44	Inner Kiliuda Bay	80 Tons	77.2	92	6.3	8	83.5	5/2
EA50	Outer Ugak Bay	60 Tons	123.1	91	12.1	9	135.2	5/17
EA51	Inner Ugak Bay	120 Tons	32.0	56	24.7	44	56.7	6/30
EA52	Pasagshak Bay	40 Tons	7.0	36	12.7	64	19.7	6/30
DISTRICT TOTAL		1,265 Tons	646.7	56	500.4	44	1,147.1	

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Stat. Area	Mgmt. Units	Guideline Harvest Level	Purse (Tons)	%	Gillnet (Tons)	%	Total (Tons)	Date Closed
NORTHEAST DISTRICT								
NE10	Woman's Bay	100 Tons	0	-	9.2	100	9.2	6/30
NE20	Kalsin Bay	15 Tons	0	-	0	-	0	6/30
NE30	Middle Bay	20 Tons	0	-	0	-	0	6/30
NE40	Inshore Chiniak	10 Tons	0	-	0	-	0	6/30
NE50	Offshore Chiniak	(Exploration)	0	-	0	-	0	6/30
DISTRICT TOTAL		145 Tons	0	-	9.2	100	9.2	
INNER MARMOT DISTRICT								
IM10	Monashka Bay	(Exploration)	0	-	0	-	0	6/30
IM20	Anton Larsen Bay	Closed	0	-	0	-	0	-
IM30	Sharatin Bay	10 Tons	0	-	0	-	0	6/30
IM40	Kizhuyak Bay	15 Tons	5.0	35	9.1	65	14.1	6/30
IM50	Spruce Island	10 Tons	0	-	0	-	0	6/30
DISTRICT TOTAL		35 Tons	5.0	35	9.1	65	14.1	
NORTH MAINLAND DISTRICT								
NM10	Hallo Bay	(Exploration)	0	-	0	-	0	6/30
NM20	Inner Kukak Bay	65 Tons	0	-	26.3	100	26.3	6/30
NM30	Outer Kukak Bay ^a	-	0	-	0	-	0	6/30
NM40	Missak Bay	(Exploration)	0	-	0	-	0	6/30
DISTRICT TOTAL		65 Tons	0	-	26.3	100	26.3	
MID MAINLAND DISTRICT								
MM10	Inner Katmai Bay	65 Tons	20.6	100	0	-	20.6	6/30
MM20	Outer Katmai Bay ^a	-	0	-	0	-	0	6/30
MM30	Alinchak Bay	50 Tons	0	-	0	-	0	6/30
MM40	Puqle Bay	(Exploration)	0	-	0	-	0	6/30
MM50	Portage Bay	(Exploration)	0	-	0	-	0	6/30
MM60	Outer Portage ^a	-	0	-	0	-	0	6/30
DISTRICT TOTAL		115 Tons	20.6	100	0	-	20.6	

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Table 3. (page 5 of 5)

Stat. Area	Mgmt. Units	Guideline Harvest Level	Purse (Tons)	%	Gillnet (Tons)	%	Total (Tons)	Date Closed
<i>SOUTH MAINLAND DISTRICT</i>								
SM10	Wide Bay	125 Tons	55.4	100	0	-	55.4	6/30
SM20	Lower Shelikof	(Exploration)	0	-	0	-	0	6/30
DISTRICT TOTAL		125 Tons	55.4	100	0	-	55.4	
GRAND TOTAL		4,480 Tons	3,836.7	83	767.8	17	4604.5	

^a These are offshore management units which are not expected to yield herring of sac roe quality. These units are more applicable to the food/bait fishery. (See Herring Food/Bait Fishery Management Plan.)

Table 4. Age Composition by percent of the sac roe herring harvests by management unit, Kodiak Management Area, 1995.^a

Area	Harvest (tons)	Percent at Age										N
		2	3	4	5	6	7	8	9	10	11+	
Malina Bay	55	-	-	5.7	12.5	3.8	62.6	7.9	1.5	1.1	4.9	265
Paramanof Bay	709	-	-	1.8	7.5	1.6	79.2	6.8	.5	-	2.5	438
Foul Bay	801	-	2.8	11.2	8.4	2.4	70.8	2.0	.4	-	2.0	250
Terror Bay	358	-	.8	5.6	11.3	1.6	76.6	1.6	.8	.8	.8	124
Village Islands	314	.6	1.8	6.0	15.0	2.4	70.1	2.4	.6	.6	.6	167
W. Uganik Passage	19	-	-	2.6	-	2.6	41.0	23.1	7.7	2.6	20.5	39
N.E. Arm Uganik	78	-	2.1	15.0	17.1	6.4	51.4	6.4	-	.7	.7	140
E. Arm Uganik	179	-	.7	6.3	17.6	3.5	66.2	4.9	-	-	.7	142
S. Arm Uganik	393	-	3.5	8.3	18.1	1.4	66.7	.7	.7	-	.7	144
Sulua Bay	199	-	-	26.9	9.0	5.1	38.5	20.5	-	-	-	78
Barling Bay	56	1.0	5.6	45.9	5.1	.5	4.1	32.1	1.0	2.0	2.6	196
W. Sitkalidak	106	1.4	3.6	17.3	4.1	.9	9.1	61.4	-	-	2.3	220
E. Sitkalidak	391	.7	6.4	22.6	10.2	.7	17.0	37.8	.5	.5	3.5	548
Outer Kiliuda Bay	133	-	.6	11.4	3.2	.6	13.3	70.3	-	-	.6	158
Inner Kiliuda Bay	84	.6	1.3	12.3	3.5	1.6	7.9	70.4	1.3	.6	.6	318
Shearwater Bay	113	-	6.3	25.6	11.9	1.3	12.5	38.1	1.3	-	3.1	160
Outer Ugak Bay	135	.7	.7	8.3	2.8	3.4	5.5	72.4	2.8	-	3.4	145
Inner Ugak Bay	57	-	-	1.3	1.3	13.0	2.6	74.0	2.6	1.3	3.9	77
Wide Bay	55	-	18.7	65.7	7.8	3.0	3.6	1.2	-	-	-	166
19 Mgmt. Units	4,235	.3	3.2	16.0	8.9	2.2	37.4	28.3	.7	.4	2.3	3,775

^a Of the 32 management units exploited in 1995, samples were collected from 19 (59%). These 19 units yielded 4,235 tons or 92% of the management area's total harvest of 4,604 tons.

Table 5. Average length in millimeters, by age, and management unit, for the sac roe herring fishery, Kodiak Management Area, 1995.^a

Area	Harvest (tons)	Average Length at Age										Avg.	N
		2	3	4	5	6	7	8	9	10	11+		
Malina Bay	55	-	-	210	230	237	244	254	268	271	268	243	265
Paramanof Bay	709	-	-	209	226	236	242	247	256	-	258	241	438
Foul Bay	801	-	195	213	231	244	244	256	267	-	262	239	250
Terror Bay	358	-	181	205	232	233	243	251	263	265	258	240	124
Village Islands	314	177	188	216	222	242	236	239	250	275	249	232	167
W. Uganik Passage	19	-	-	228	-	231	245	257	267	255	274	255	39
N.E. Arm Uganik	78	-	200	211	220	229	236	235	-	240	237	228	140
E. Arm Uganik	179	-	201	219	225	226	236	242	-	-	247	233	142
S. Arm Uganik	393	-	187	213	222	217	236	233	264	-	266	230	144
Sulua Bay	199	-	-	224	229	252	250	261	-	-	-	243	78
Barling Bay	56	172	209	225	231	228	256	266	267	266	282	241	195
W. Sitkalidak	106	157	194	220	228	249	248	261	-	-	277	248	220
E. Sitkalidak	391	166	209	224	234	247	257	264	263	264	278	247	548
Outer Kiliuda Bay	133	-	195	224	231	253	252	259	-	-	260	253	158
Inner Kiliuda Bay	84	150	207	227	236	255	254	264	266	270	285	256	318
Shearwater Bay	113	-	216	229	235	251	258	264	274	-	295	249	160
Outer Ugak Bay	135	155	198	225	224	253	253	259	261	-	278	254	145
Inner Ugak Bay	57	-	-	231	223	247	261	255	258	268	270	254	77
Wide Bay	55	-	191	211	226	249	250	257	-	-	-	212	166
19 Mgmt. Units	4,235	163	201	220	228	241	243	261	264	265	272		3,774

^a Of the 32 management units exploited in 1995, samples were collected from 19 (59%). These 19 units yielded 4,235 tons or 92% of the management area's total harvest of 4,604 tons.

Table 6. Average weight in grams, by age, and management unit for the sac roe herring fishery, Kodiak Management Area, 1995.^a

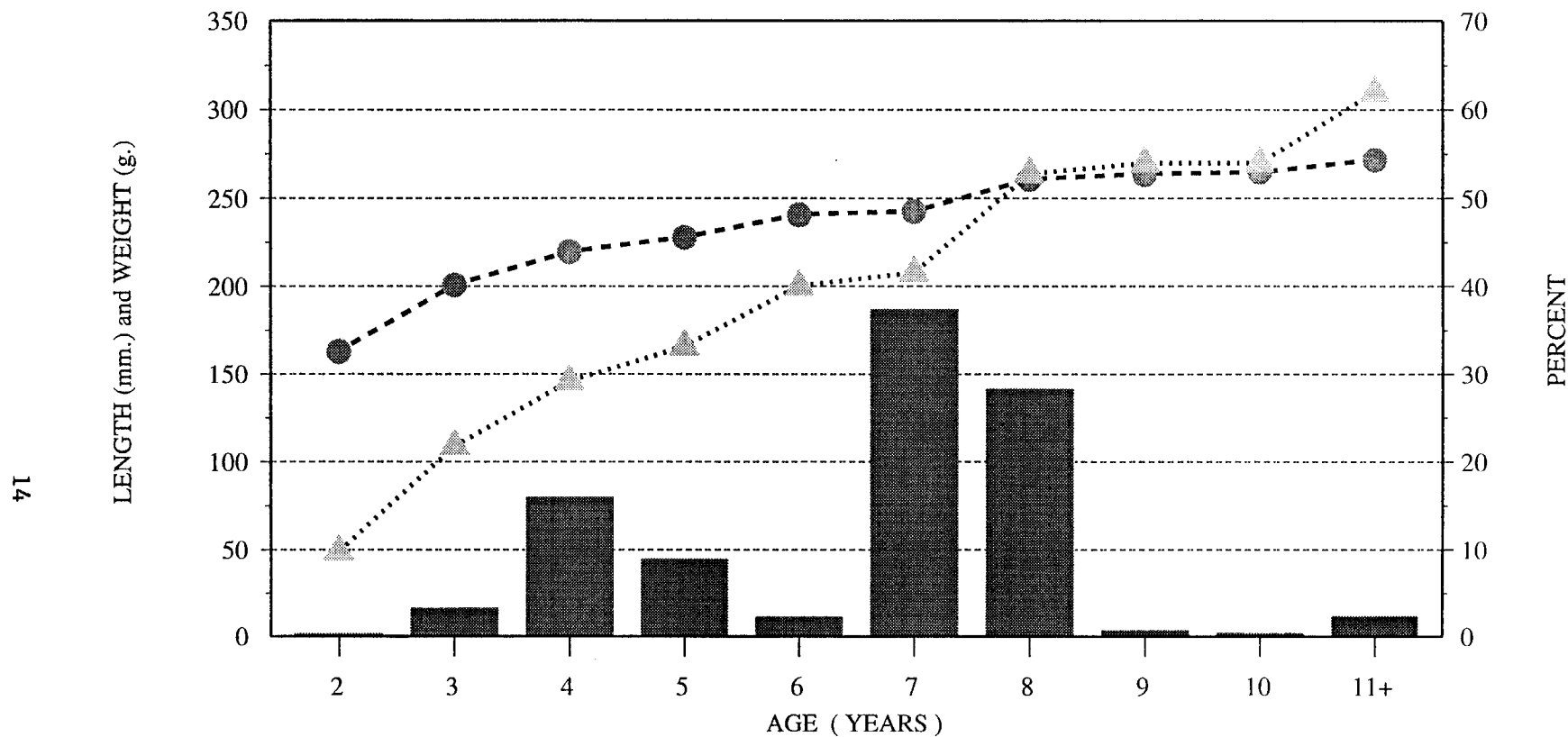
Area	Harvest (tons)	Average Weight at Age										Avg.	N
		2	3	4	5	6	7	8	9	10	11+		
Malina Bay	55	-	-	124	169	192	211	242	282	314	304	209	265
Paramanof Bay	709	-	-	121	161	188	210	222	249	-	271	207	437
Foul Bay	801	-	96	123	164	186	206	230	262	-	279	191	250
Terror Bay	358	-	65	111	162	169	201	226	245	253	261	191	124
Village Islands	314	59	95	138	159	202	194	214	204	348	225	185	167
W. Uganik Passage	19	-	-	160	-	143	201	247	280	255	326	242	39
N.E. Arm Uganik	78	-	125	127	148	165	184	176	-	175	185	166	140
E. Arm Uganik	179	-	94	139	150	162	194	194	-	-	234	181	142
S. Arm Uganik	393	-	88	139	155	150	196	184	217	-	290	180	143
Sulua Bay	199	-	-	143	166	214	215	259	-	-	-	200	77
Barling Bay	56	58	116	154	161	171	228	279	303	241	324	202	194
W. Sitkalidak	106	49	93	148	172	231	229	271	-	-	314	233	220
E. Sitkalidak	391	55	123	156	180	221	236	278	300	251	328	223	547
Outer Kiliuda Bay	133	-	118	160	186	221	239	269	-	-	288	249	158
Inner Kiliuda Bay	84	33	123	160	181	228	235	266	286	296	360	245	318
Shearwater Bay	113	-	129	163	182	231	247	272	281	-	366	224	160
Outer Ugak Bay	135	36	96	142	164	217	231	251	265	-	316	237	139
Inner Ugak Bay	57	-	-	182	161	229	272	250	214	282	325	248	77
Wide Bay	55	-	96	133	164	229	221	251	-	-	-	136	166
19 Mgmt. Units	4,235	49	109	146	166	200	208	264	270	270	310		3,763

^a Of the 32 management units exploited in 1995, samples were collected from 19 (59%). These 19 units yielded 4,235 tons or 92% of the management area's total harvest of 4,604 tons.

Table 7. Comparison of age, weight, and length (AWL) data from the sac roe herring fishery, Kodiak Management Area, 1989-1995.

Year	Age										Total Avg.	N
	2	3	4	5	6	7	8	9	10	11+		
% Age												
1989	.3	7.1	6.2	42.0	19.3	1.0	10.0	4.5	8.5	1.1		3,026
1990	.7	52.0	3.7	3.3	20.4	8.5	.6	3.0	2.6	5.2		7,672
1991	.05	26.3	49.4	2.6	1.4	8.7	5.2	.6	2.7	3.0		5,498
1992	.5	2.9	62.3	26.9	2.0	.7	2.0	1.2	.05	1.4		9,325
1993	.3	8.7	4.5	63.5	18.2	1.2	.2	1.6	.8	1.0		7,396
1994	.1	11.5	11.6	3.8	42.4	24.5	1.9	.7	2.0	1.5		6,965
1995	.3	3.2	16.0	8.9	2.2	37.4	28.3	.7	.4	2.3		3,774
Average Weights												
1989	60	85	130	176	224	251	269	271	276	284	199	2,569
1990	52	95	141	167	191	248	229	280	283	290	152	4,885
1991	53	81	137	169	191	221	255	261	301	292	153	4,239
1992	40	87	114	176	201	226	247	284	283	303	140	8,139
1993	58	94	134	144	203	226	226	250	281	310	156	6,852
1994	78	99	129	166	182	251	251	256	282	316	188	6,836
1995	49	109	146	166	200	208	264	270	270	310	209	3,763
Average Lengths												
1989	168	185	210	227	247	254	259	259	260	263	235	3,026
1990	158	188	214	226	232	250	245	261	258	260	212	7,671
1991	166	184	215	225	235	244	251	257	266	263	215	5,497
1992	162	194	202	231	240	250	254	264	265	268	214	9,323
1993	161	191	211	216	240	247	244	254	261	264	219	7,394
1994	175	194	211	227	231	253	252	253	259	267	231	6,965
1995	163	201	220	228	241	243	261	264	265	272	242	3,774

Figure 1. Summary of sac roe herring average length and weight at age, and percent of each age class in commercial catch samples, in the Kodiak Management Area, 1995.



N	13	121	604	336	85	1413	1069	30	17	87	3775
% BY AGE	0.3	3.2	16.0	8.9	2.2	37.4	28.3	0.7	0.4	2.3	100%
N	13	121	603	335	84	1412	1062	30	16	87	3763
AVG. WEIGHT (g.)	49	109	146	166	200	208	264	270	270	310	209
N	13	121	604	336	85	1413	1069	30	16	87	3774
AVG. LENGTH (mm.)	163	201	220	228	241	243	261	264	265	272	242

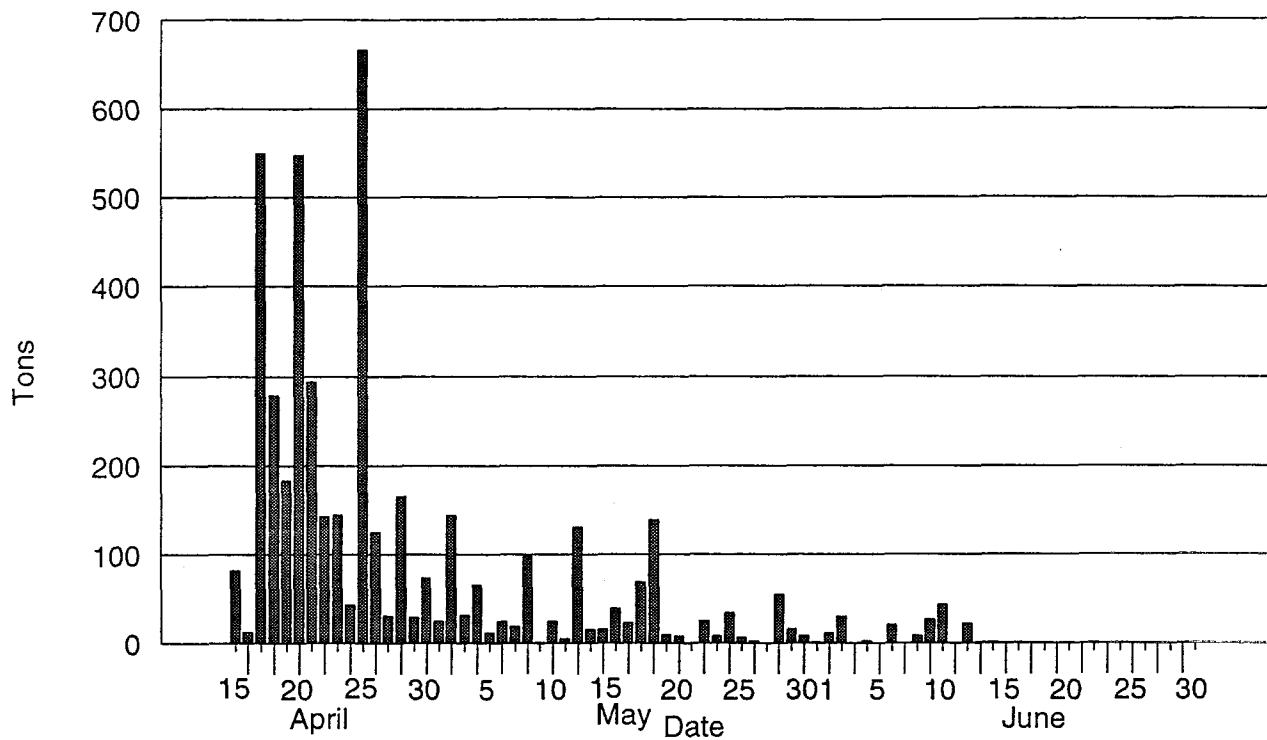


Figure 2. Sac roe herring harvest by day for the Kodiak Management Area, 1995

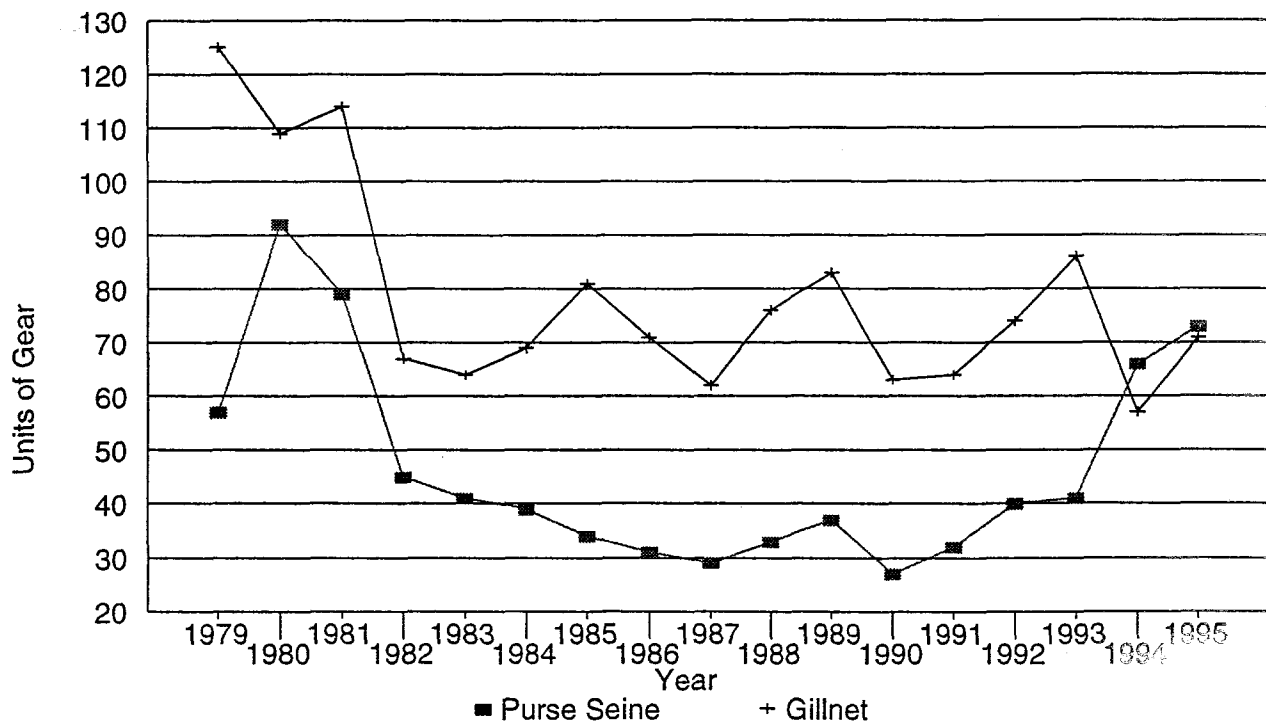


Figure 3. Number of units of each gear type which made landings in the Kodiak Management Area sac roe herring fishery, 1979-1995.

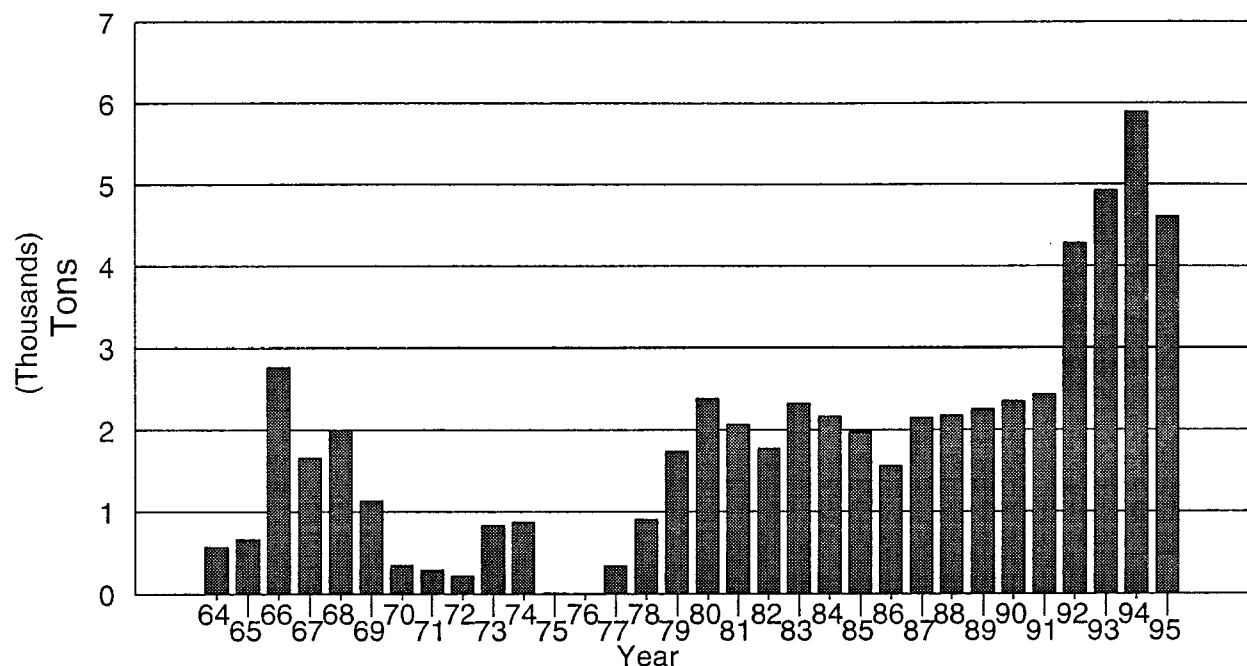


Figure 4. Historic sac roe herring harvest for the Kodiak Management Area, 1964-1995.

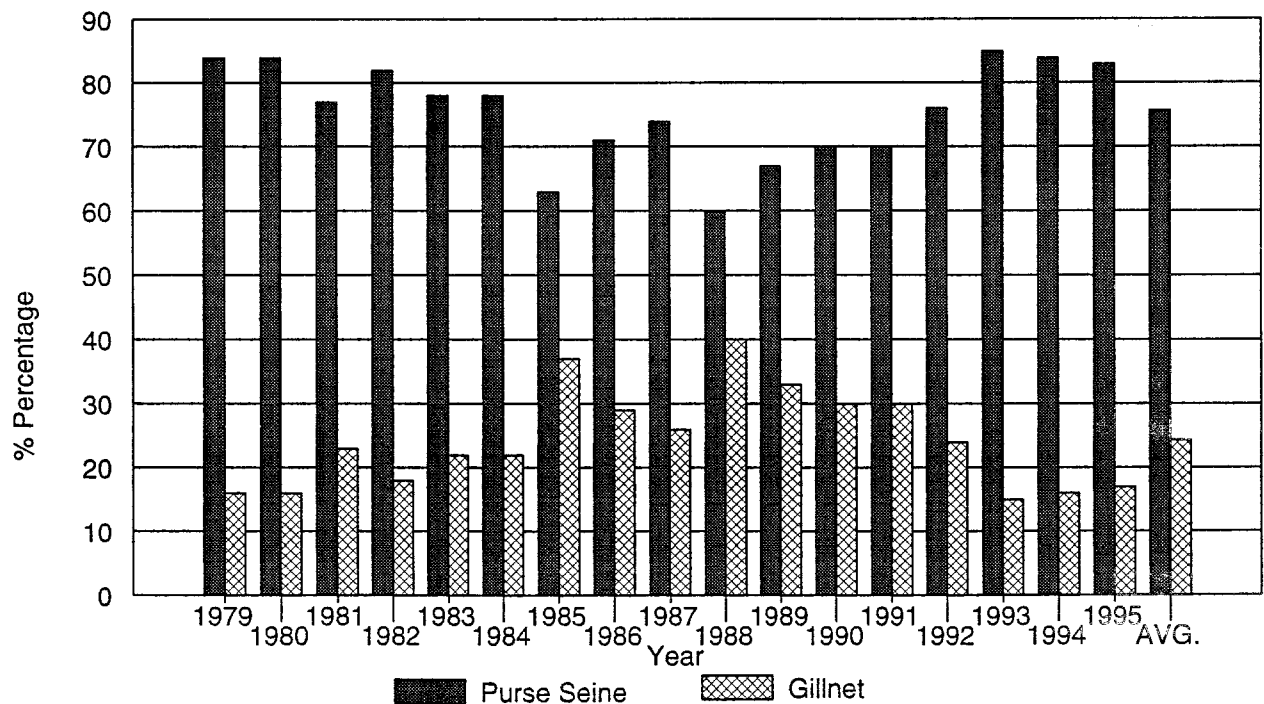


Figure 5. Percent of sac roe herring harvest by gear type for the Kodiak Management Area, 1979-1995.

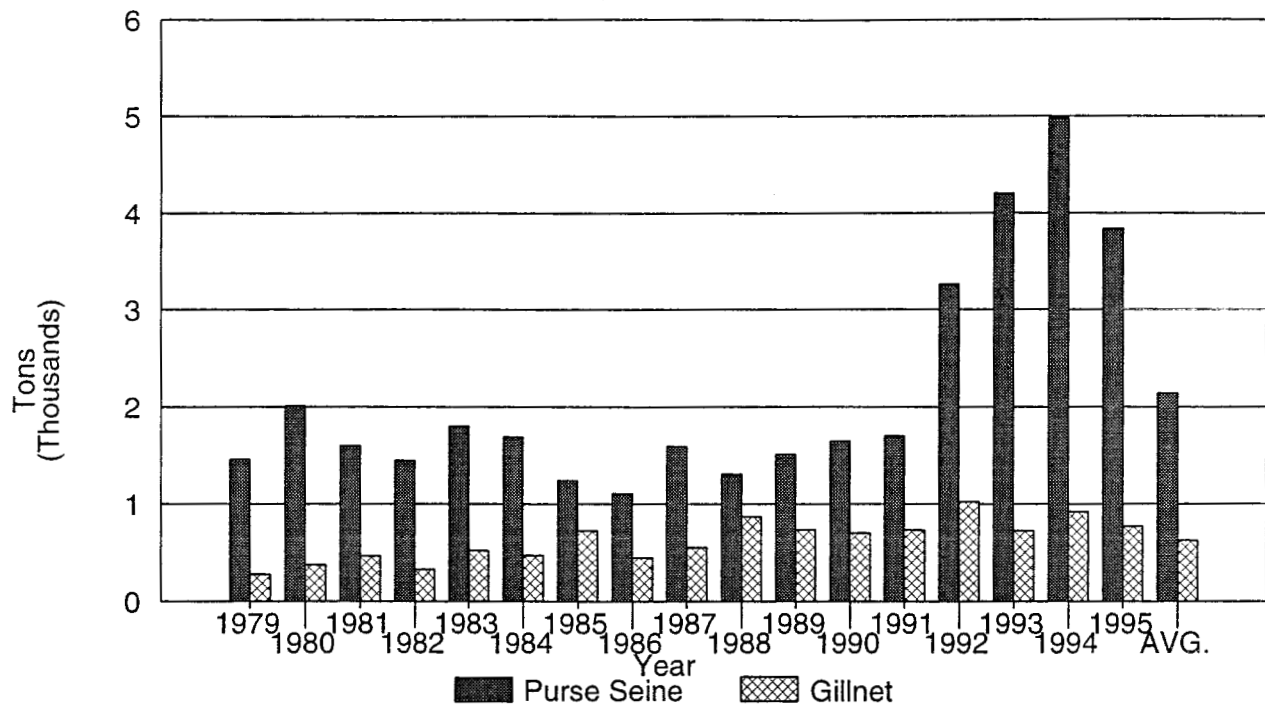


Figure 6. Sac roe herring harvest by gear type for the Kodiak Management Area, 1979-1995.

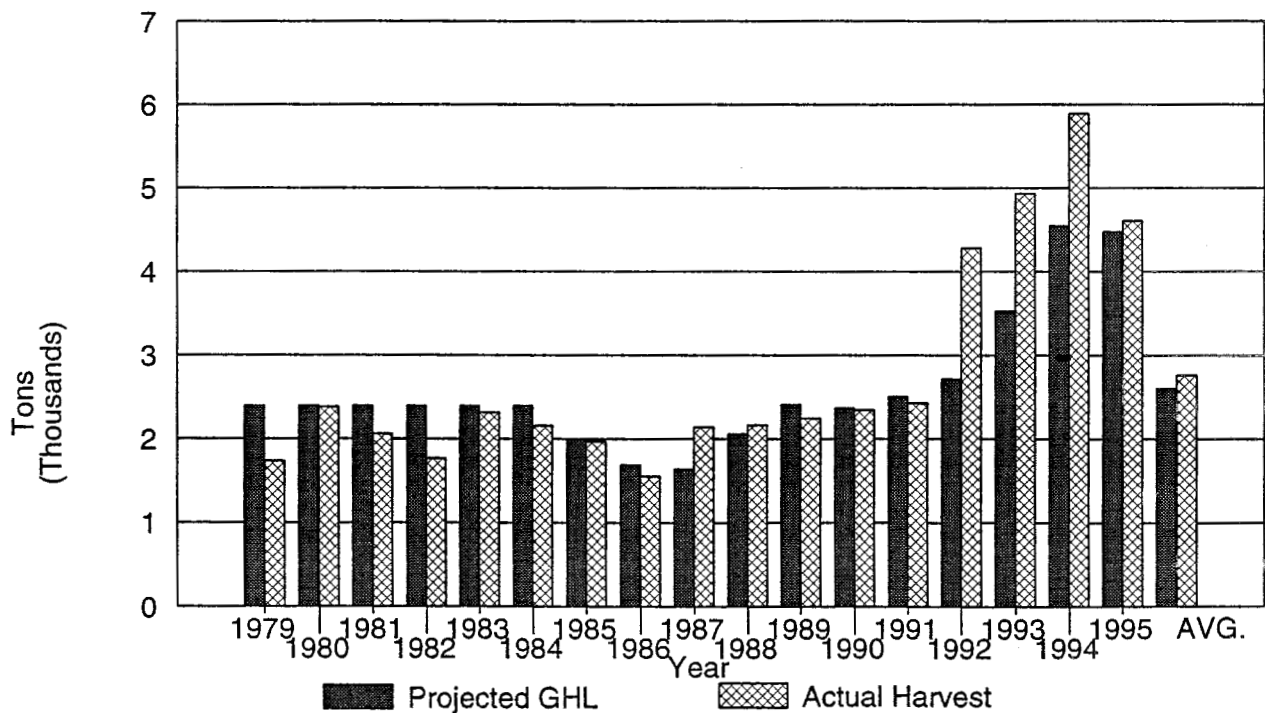


Figure 7. Comparison of the projected guideline harvest level (GHL) to the actual sac roe herring harvest in the Kodiak Management Area, 1979-1995.

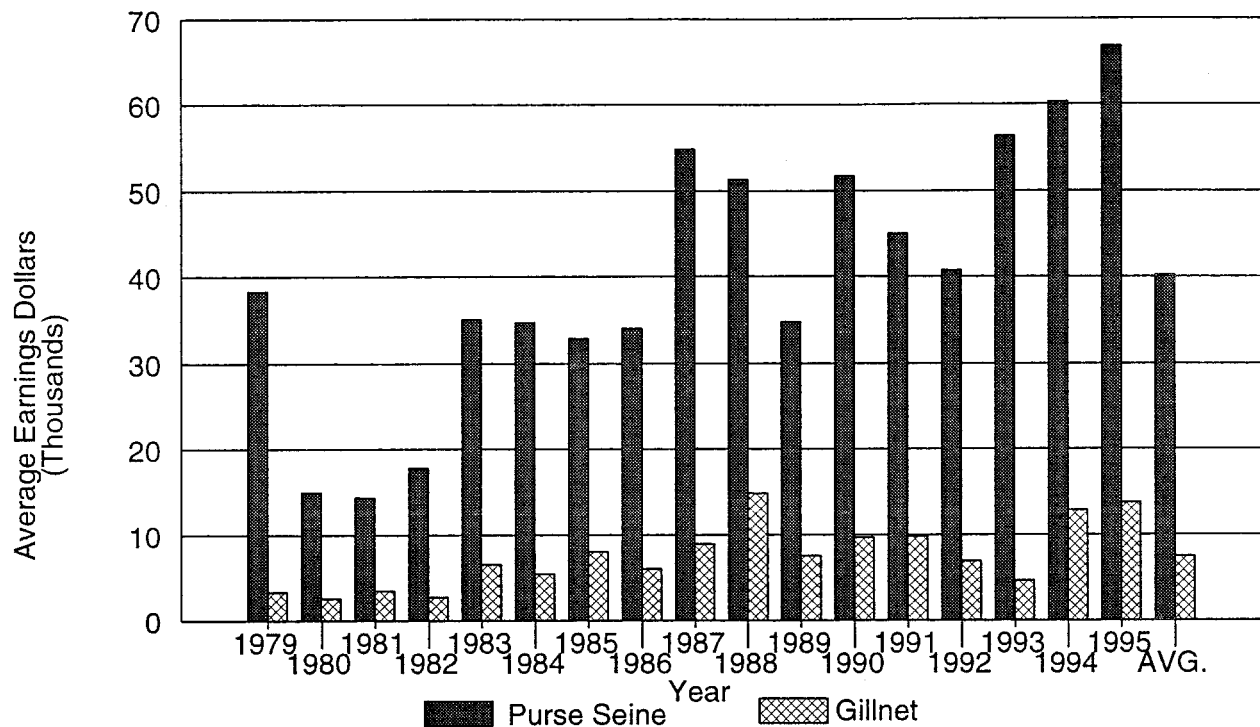


Figure 8. Average earnings (dollars) by year and gear type for the sac roe herring fishery, Kodiak Management Area, 1979-1995.

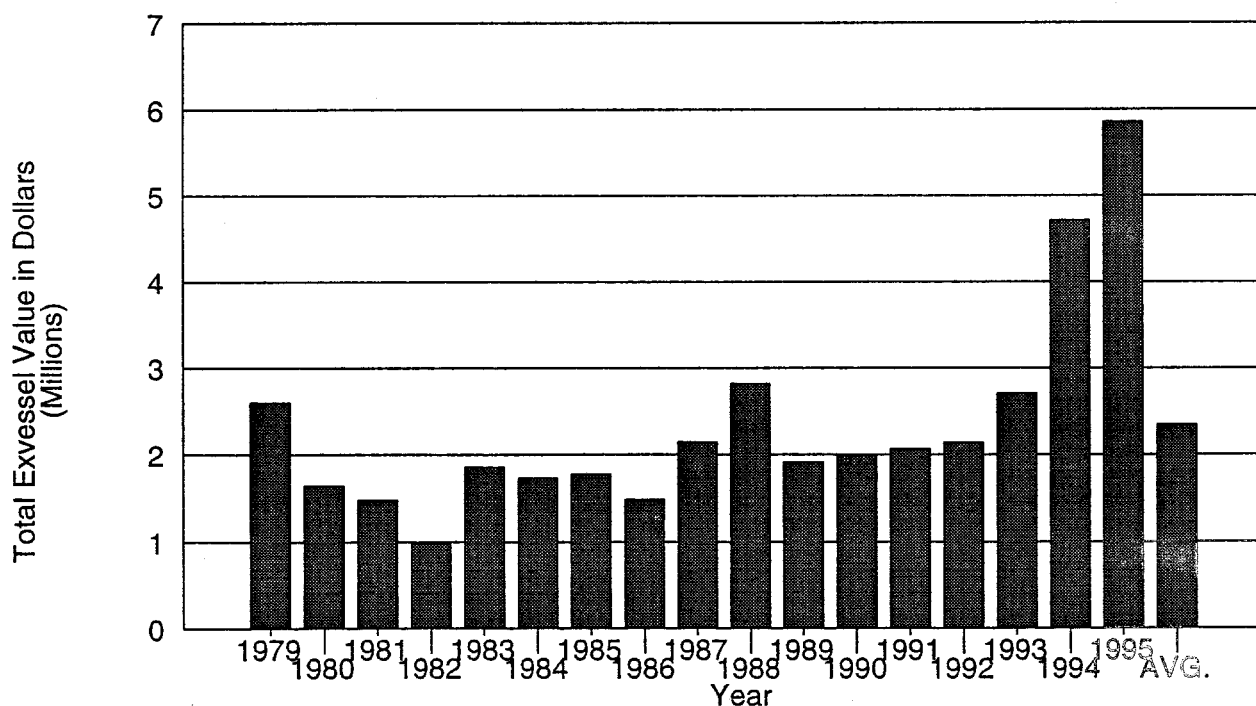


Figure 9. Total exvessel value (dollars) by year for the sac roe herring fishery in the Kodiak Management Area, 1979-1995.

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