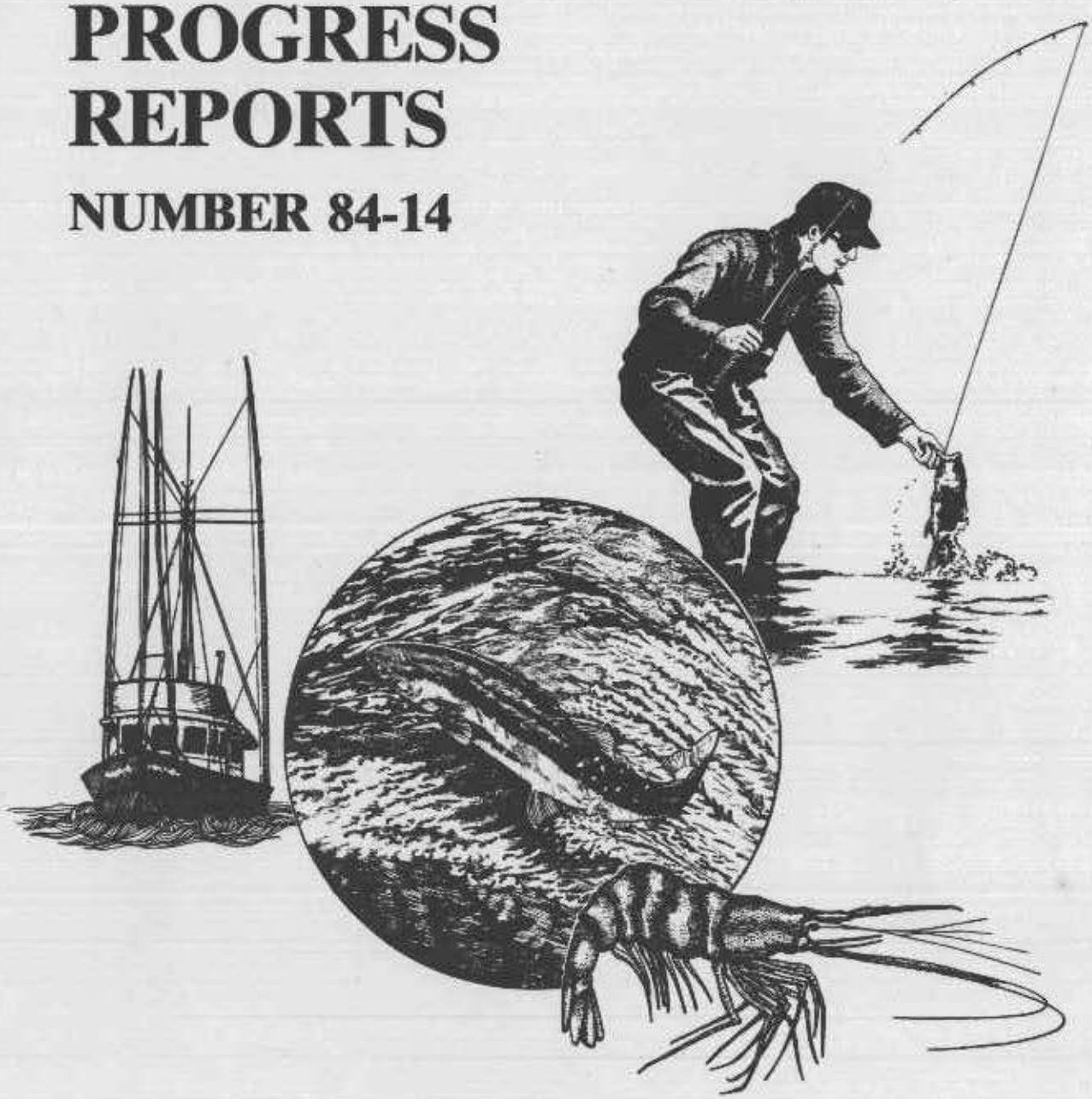
LIBRARY

PROGRESS REPORTS

NUMBER 84-14



FISH DIVISION

Oregon Department of Fish and Wildlife

1983 Clam Studies

1983 CLAM STUDIES

by

Tom Gaumer

INFORMATION REPORT 84-14

Oregon Department of Fish and Wildlife
Marine Region

Newport, Oregon

November, 1984

CONTENTS

TABLES

TABLES

FIGURES

1983 BAY CLAM SUMMARY REPORT

INTRODUCTION

This report summarizes the results of our bay clam studies in 1983. Activities summarized include monitoring of the recreational and commercial clam fisheries, hatchery stock enhancement studies, natural recruitment studies, and miscellaneous other projects.

Recreational Clam Fishery

Recreational clam interviews are conducted annually on each of the major clam harvesting tideflats of the Tillamook, Netarts, Nestucca, Yaquina, Alsea, and Siuslaw estuaries. In 1983 we added Umpqua, Coos, and Coquille estuaries to our survey agenda.

Sampling of clam diggers is usually conducted by two shellfish staff. A count of diggers is made on each tideflat at low tide; this equates to a peak digger count for that day. An effort is made to visit each tideflat at least two times per season, in the spring and again in midsummer. In the past we have had staff and time to cover the major clam beds 3 to 4 times per season. A sample of the harvest is measured and aged. We measure the height of the cockle clam and length of butter, gaper, littleneck, and softshell clams. We age the various species of clams by counting annual growth checks on the shell surface. The total number of annual checks is back calculated to give year of recruitment.

Our 1983 recreational clam interviews revealed a slight decrease in digging effort on most of the surveyed tideflats (Table 1). A part of this decrease might be a result of the low tides in 1983 not being as low as predicted by local tidebooks (Table 2). The higher observed tidal levels occurred along the entire coast, as evidenced by the fact that tidal heights

averaged 30 cm (1 ft) higher than normal at Tofino, Canada (Chettleburg 1983). This was the result of the well publicized El Niño that impacted the entire Pacific coast in 1983. May tides in Yaquina Bay averaged 0.2 ft higher than predicted as measured at the Mark O. Hatfield Marine Science Center. June and July tides averaged 0.6 ft higher than predicted, precluding many diggers from digging in traditionally productive clam beds. Largest decreases in peak digger counts were observed for the bridge bed (625 to 275 diggers) and Idaho Point (176 to 46 diggers) on Yaquina Bay. The bridge bed is definitely impacted by the higher tide levels since the area is inaccessible during medium low tides.

An unexplained phenomenon has occurred during the past several years in a number of our estuaries. Gaper clams generally occur in greatest abundance in areas containing a substrate of gravel, shell and some sand. This substrate preference applies to both intertidal and subtidal stocks. Since 1975 we have had little or no recruitment of gaper clams in this type of substrate. An example of this is at the popular Happy Camp clam bed in Netarts Bay and the Bridge Bed in Yaquina Bay. On the other hand, we have evidence of fair recruitment in areas containing a sand-mud substrate where gaper clams are generally not found in great abundance.

Interview data collected included catch/effort, digger origin, species composition, and age and size composition. These data are tabulated and presented in Tables 3-28. Summaries for each tideflat are presented in the text and are arranged by bay from north to south.

Tillamook Bay

Garibaldi Flat. Catch/effort data revealed that clams/trip and clams/hour have remained relatively constant since the Department's regulation change in 1977 which reduced the bag limit from 36 to 20 clams.

Cockle clams declined from 66.6% of the total recreational catch in 1978 to 24.2% of the catch in 1981 (Table 3). Since 1981 the catch has stabilized and the 1982 and 83 figures show 27.4% of the harvest being cockle clams. This reflects a dramatic change either in cockle clam availability or digger preference. Since the late 1970's we believe the harvest reduction is due to a decrease in cockle abundance intertidally. Butter clams, on the other hand, have increased from 10.5% of the harvest in 1977 to 39.7% in 1983. Percentage of harvest of gaper clams remained somewhat constant during these four years and native littleneck clams show a gradual increase in digger harvest.

Mean size of gaper clams decreased in 1983 from 114.1 mm to 107.9 mm. Butter clams continued to exhibit an overall decrease in mean size, and mean size of cockle and littleneck clams also decreased in 1983. This general decrease in mean size for all four species might be a function of El Niño and the impact it had on depressing availability of plankton, an important food item.

Bay Ocean Flat. Unlike the catch/effort on Garibaldi Flat, the Bay Ocean clam bed has experienced a dramatic decline in clam production. Catch/trip and catch/hour have declined steadily since 1976, to a low value of less than 0.1 animals per trip in 1982 (Table 4). In 1983 this increased to 5.7 clams/trip primarily because of one successful clam digging party. Total harvest for the 11 clam diggers interviewed in 1983 showed 63 clams harvested, 59 of which were cockle clams. Historically, cockle clams have made up over 75% of the harvest from this bed. Local oystermen claim a massive increase in sand shrimp in this area in recent years has been the major factor behind the poor digging success.

Netarts Bay

Happy Camp. Clam digging on the Happy Camp clam bed continued to be very good in 1983 with 10.7 clams/trip being taken (Table 5). Since gaper clams made up over 95% of the harvest, this success rate suggests most diggers were getting their daily bag limit of 12 gapers. Nearly 100% of the harvested gapers were of the 1975 year-class. The gapers averaged 101.9 mm in size, an increase of 4.2 mm since 1982.

Cape Lookout Sand Spit. Clam diggers using the Cape Lookout sand spit are interviewed as they return to the Netarts boat basin. As with Happy Camp, the Cape Lookout sand spit continued to produce clams at a relatively constant rate. Catch/trip and catch/hour averaged 18.4 and 11.1 clams, respectively (Table 6). As in previous years, cockles were the principal species collected representing nearly 80% of the take. Gaper, butter, and native littleneck clams made up the remainder of the bag. Unlike Happy Camp, most of the gaper clams (93.3%) were of year-classes younger than 1975. The cockle clams averaged 69.5 mm in size and were dominated by the 1980 and 1981 year-classes.

Nestucca Bay

Little Nestucca Flat. After a relatively poor digging year in 1981, both 1982 and 1983 showed catch/effort back up to a respectable 29.7 and 28.3 clams/trip respectively (Table 7). Softshell clams were the only species taken and averaged 80.5 mm in size.

Yaquina Bay

Bridge Bed. Catch/effort for this tideflat revealed a dramatic decline in 1983. The 7.6 clams/trip was the lowest ever recorded and the 5.6 clams/hour was also a record low (Table 8). In 1983 gaper clams comprised over 72% of the harvest and averaged 104.6 mm in size. Over 83% of the gapers were of the 1975 year-class. Most of this fishery occurs on the gravel island

under the 101 Highway Bridge. As mentioned earlier, the impact of El Nino on the tidal heights no doubt affected digger success on this tideflat. In addition, for the past several years this area has supported one of the heaviest digging efforts of any of our Yaquina Bay tideflats. Extremely high survival of the 1975 year-class gaper set provided the digger excellent digging for seven years, but the flat in 1983 started showing the effects of this heavy digging pressure.

Breakwater Bed. Unlike the bridge bed, catch/effort on the breakwater has remained relatively constant for the past several years (Table 9). Access is strictly by boat which limits the digging pressure on this area. In 1983 over 85% of the clams harvested were gaper clams. The gapers averaged 100.7 mm in size. No single year-class dominated the harvest. This is one clam bed where some recruitment of gaper clams has occurred every year since 1975.

Idaho Point. In 1983 there was a slight increase in catch/effort observed on this clam bed (Table 10). The clam bed is subjected to a very intensive cockle fishery where over 86% of the take is this species. The cockles averaged 52.6 mm, a reduction of 1.8 mm and the smallest mean size ever recorded for this tideflat. Since 1977, there has been a gradual decrease in mean size of the cockle suggesting possible over harvest. Cockles of the 1980 and 1981 year-classes were dominant in the 1983 harvest.

Northwest Gas Plant. The harvest of clams from this clam bed showed a remarkable upturn in catch/effort in 1983 more than doubling that recorded in 1982 (Table 11). Clam diggers averaged 9.5 clams/trip in 1983 compared to 4.5 in 1982. Species composition data revealed that over 84% of the clams harvested were cockle clams, averaging 57.0 mm in size, an increase of 6.8 mm since 1982. The fishery was primarily on two year-old cockles; over 58% were of the 1981 year-class. The first occurrence of a strong showing of native

littlenecks was also observed with 13.7% of the take this species. Littlenecks averaged 45.8 mm in size.

Coquille Point. This tideflat is starting to experience more digging pressure, perhaps because of the poor digging on other Yaquina Bay tideflats. Catch/effort has improved since 1981 with 5.4 clams/trip being taken (Table 12). Butter clams were the principal species recorded comprising over 40% of the take. In 1982, 93% of the clams harvested were gaper clams. The butter clams averaged 74.9 mm in size.

Critser's Island. In 1983 we added an important softshell clam digging area in Yaquina Bay to our surveys. We interviewed 42 clam diggers that caught an average of 32.9 softshells/digger (Table 13). The clams averaged 82.5 mm in size.

Alsea Bay

Alsea Bay was added to our sampling program in 1982. Two areas were surveyed; North Shore and Bay Shore. In 1983 we added a softshell digging area.

North Shore. Three diggers were interviewed and they averaged 7.3 cockles/digger (Table 14). This was a reduction of 10.5 clams/digger since 1982. The cockles were also smaller in 1983 averaging 71.0 mm in size and were primarily four-year-old clams (1979 year-class). The North Shore flat is located directly under the Alsea bridge on the north side of the estuary.

Bayshore. We interviewed 24 diggers on this tideflat and they averaged 13.2 clams/digger, a decrease of 3.3 clams/digger since 1982 (Table 15). Over 99% of the clams taken were cockles that averaged 76.4 mm. Over 60% of the clams were of the 1979 year-class. This fishery occurs primarily subtidally with clams taken with long handled rakes made out of modified pitch forks.

Softshell Clam Bed. The softshell clam diggers averaged 22.8 clams/person from this tideflat (Table 16). The clams averaged 96.8 mm in size which is considerably larger than for those measured in Nestucca, Yaquina, and Siuslaw bays.

Siuslaw Bay

North Fork Flat. Clam digging continues to be excellent on this clam bed where catch/effort information revealed over 35 clams/trip taken (Table 17). Only softshell clams were taken from this area and they averaged 92.8 mm in size. Although the digging pressure is very heavy in this area, little impact has been observed on the availability or size of the clams.

Umpqua Estuary

We added the Umpqua estuary to our sampling program in 1983 due to its importance as a softshell clam producer. Although our sampling effort was small, catch/effort data revealed diggers getting their limit of 36 clams (Table 18).

Coos Bay

Nine clam digging ares in Coos Bay were added to our sampling program in 1983. Sampling effort in the future will depend on availability of man power.

Hanson's Marina. The six diggers sampled averaged 16.8 clams/trip and 22.4 clams/hour (Table 19). Species composition figures revealed that over 69% of the species taken were gaper clams. Butter, cockle, and native littleneck clams were also taken.

Charleston Triangle. We interviewed 40 clam diggers and they averaged 19.3 clams/trip (Table 20). Over 55% of the clams harvested were cockle clams with butter and native littleneck clams well represented in the harvest. The cockle clams averaged 51.2 mm in size.

Charleston Flat. Sixty interviewed clam diggers averaged 14.3 clams/digger (Table 21). Cockle and gaper clams were the principal species taken and averaged 59.9 mm and 100.6 mm, respectively.

Peterson Flat. Clam diggers on Peterson Flat averaged 19.6 clams/trip (Table 22). Gaper clams were the principal species taken followed by native littleneck and cockle clams. No measurements were taken from the clams.

Pigeon Point. We interviewed 65 diggers and they averaged 15.4 clams/trip (Table 23). Gaper and butter clams were the principal species taken accounting for 51.4 and 32.0% of the harvest, respectively.

Sitka Flat. The 46 interviewed clam diggers averaged 14.7 clams/trip from this clam bed (Table 24). The gaper clam was the most frequently taken species making up 50.9% of the harvest. The gapers averaged 108.0 mm in size.

Empire Flat. Clam diggers on Empire Flat averaged 15.1 clams/trip (Table 25). Gaper clams comprised 58.8% of the harvest.

North Spit. We interviewed 65 clam diggers on North Spit and they averaged 10.7 clams/trip (Table 26). Gaper clams were the principal species taken accounting for 75.3% of the harvest. The gapers averaged 109.6 mm in size.

Clam Island. The 57 interviewed clam diggers averaged 17.6 clams/trip from this clam bed (Table 27). Gaper and cockle clams were the principal species taken making up 54.2 and 36.5% of the harvest, respectively. The gapers and cockles averaged 107.7 and 54.1 mm in size, respectively.

Coquille Estuary

The Coquille estuary was the most southern estuary surveyed for clam diggers. The diggers averaged 35.8 clams/trip; all were softshells (Table 28).

Commercial Clam Harvest

In 1983, there were 136,185 pounds of clams reported to be commercially harvested in Oregon's estuaries (Table 29). Of this total, 95,091 pounds (69.8%) were gaper clams. Coos Bay produced 89,682 pounds (94.3%) of the total gaper harvest. Other clams harvested coastwide were native littlenecks (34,444 lbs), butters (4,035 lbs), cockles (2,579 lbs), and softshells (36 lbs). Thirty-seven fishermen reported landings in 1983, nine less than in 1982. Eight hundred eleven landings were made in 1983, 273 more than in 1982.

Coos Bay produced the most clams in 1983 with 95,717 lbs reported (Table 30). Nehalem, Yaquina, and Tillamook bays produced 31,856 lbs, 5,253 lbs, and 3,144 lbs, respectively. Netarts and Siuslaw bays produced minor poundages of clams.

Commercial Clam Fishery by Mechanical Means

Yaquina Bay. One commercial clam harvesting permit was issued for Yaquina Bay in 1983. Three fishermen harvested and landed clams under this permit. During the year 4,940 pounds of gaper clams were taken under permit from the bay. Fishermen averaged 823 lbs/trip and they received an average of $0.18/lb. The gaper clams averaged 116.0 mm in size and were primarily of the 1975 and 76 year-classes (Figure 1).

Coos Bay. We issued six commercial clam harvesting permits for Coos Bay in 1983; seven were issued in 1982. Of the six permits issued, four were used and resulted in a production of 66,906 pounds of clams. Of the 66,906 pounds harvested, 63,045 pounds (94.2%) were gaper clams. Fishermen averaged 291 lbs/trip and received an average of $0.32/lb.

The gaper clams harvested in the permit area averaged 137.2 mm in size and were primarily of the 1973, 74 and 75 year-classes (Figure 2). Clams harvested in 1982 from the same area averaged 134.2 mm in size. No clams younger than the 1978 year-class were observed.

Commercial Clam Fishery by Hand

Commercial clam fishermen harvested a reported 64,339 lbs of clams by hand in Oregon's estuaries in 1983. Many of these clams were taken in Coos and Nehalem bays where a reported 28,811 lbs and 31,856 lbs, respectively, were taken. The Coos Bay landings were primarily subtidal gapers whereas the Nehalem Bay landings were entirely subtidal native littlenecks. The littlenecks brought $1.00 to $1.15/pound to the fishermen.

Experimental Offshore Clam Fishery

In 1983 we issued one permit to a commercial fishermen to mechanically explore for, and harvest, clams off the southern Oregon coast. No landings were reported in 1983 for this permit holder.

Special Studies

Hatchery Stock Enhancement; Manila Littleneck Clams

Netarts Bay. We continued to monitor the growth characteristics of Manila littleneck clams that were selected for their fast growing ability vs. normal growing clams (Gaumer and Lukas, 1975). We also compared growth of clams in a screened vs. unscreened area.

Results showed that clams spawned in August 1974 from fast growing parent stock did not grow during the past year and actually were 0.3 mm smaller than the clams sampled in 1982. They averaged 42.8 mm in size whereas progeny from "normal" clams grew 1.9 mm and averaged 41.7 mm (Figure 3).

Manila clams planted in the fenced test plot averaged 40.7 mm, an increase of 0.3 mm since 1982, whereas clams planted in an adjacent fenced test plot averaged 40.2 mm, a decrease of 2.4 mm. Manilas planted adjacent to an eelgrass bed and at a slightly lower elevation were 44.0 mm in mean length,

a decrease of 4.0 mm since 1982 (Figure 4). Clams in all three test plots averaged 13.1 mm when released. The decrease in mean size might be the results of larger clams in the original releases starting to die of old age.

A new study was started in June 1982, in Netarts Bay, where 18,000 Manila littleneck clams, averaging 6.9 mm long, were planted in a fenced test plot at a density of 180/ft^2. These clams were progeny of adults collected from the Netarts test area in 1981 and spawned and reared in the OSU laboratory by Wilbur Breese. By June 1983 the planted clams averaged 22.5 mm in size, an increase of 15.6 mm, and averaged 3.8 clams/ft^2, giving a survival rate of 2.1%.

Tillamook Bay. We continued our studies on clam introductions into Tillamook Bay. During the year approximately 11,000 adult Manila littleneck clams were imported from Washington and released in test plots (Figure 5). In addition, 2,000,000 1982 year-class and 10,000 1983 year-class juvenile Manila clams, produced under laboratory conditions at Oregon State University, were placed in the bay.

A sample of 1982 year-class Manila clams released in March 1983 showed the clams averaged 14.1 mm long in February 1984. Survival was poor at 0.4% of the original release.

Natural Recruitment Studies

Yaquina Bay. We collected 20 subtidal dredge samples from Area 2 of Yaquina Bay in October 1983 to determine year-class strength and recruitment success. Each sample covered 1 ft^2 of surface area; depth of samples averaged 12-14 inches.

The 20 samples produced 191 gaper clams (9.6/ft^2) that averaged 106.5 mm in length. No recruitment of gaper clams was recorded for the 1980-83 year classes (Figure 6).

Nehalem Bay. In May we collected 42 subtidal dredge samples to determine distribution and abundance of native littleneck clams in a 14.7 acre area (Figure 7). The survey area included the site of an ongoing commercial clam fishery. Each sample covered 2 ft^2 of surface area; depth of samples averaged 12 inches.

We collected 670 littleneck clams (8.0/ft^2) that averaged 36.9 mm in length. Population estimates revealed that 5,100,000 million littleneck clams weighing 268,000 pounds inhabited the site. Age composition data show consistent recruitment in the area with 2-5 year old clams well represented in the sample (Figure 8).

Shellfish License Survey

While interviewing bay clam diggers, we asked several questions to provide Department economists with background information for a future request for a shellfish license. The 859 clam diggers interviewed made 3,826 trips to dig clams and averaged 4.5 trips in 1982; 10.7% of the diggers were less than 14 years of age. Of the total diggers, 53.7% had purchased an angling license in 1982.

Sign Replacement

In 1983 the shellfish staff continued a coastwide project of repairing or replacing regulation signs. Most of the signs south of Tillamook Bay were inspected and 121 were repaired or replaced. An estimated 50 additional-repairs or replacements are needed to bring the signs up to date.

ACKNOWLEDGMENT

I wish to thank Darrell Demory, Jean McCrae and Rick Starr for their assistance in gathering the data that was used in this report.

LITERATURE CITED

Chettleburg, Peter. 1983. Effects of El Niño. Western Fisheries. Vol. 109. No. 2.

Gaumer, Thomas F. and Gerald Lukas. 1975. Methods of Supplementing Clam and Abalone Production. Comm. Fish. Res. and Devel. Act. July 1, 1974 to June 30, 1975. Fish Comm. of Ore. Proc. Rept. 35 pp.

APPENDIX

Table 1. Peak Counts of Clam Diggers[1/].

Estuary	Tideflat	1975	1976	1977	1978	1979	1980	1981	1982	1983
Tillamook	Garibaldi Flat	425	350	131	225	256	300	460	516	487
	Bay Ocean	-	280	122	39	107	-	33	13	10
Netarts	Happy Camp	-	175	73	-	150	160	425	500	478
Nestucca	Little Nestucca	-	-	-	-	-	-	44	6	12
Yaquina	Bridge Bed	-	245	138	30	91	84	225	625	275
	Breakwater Bed	-	127	120	62	23	20	27	63	26
	Idaho Point	-	110	98	45	66	61	38	176	46
	NW Gas Plant	-	-	-	-	24	26	41	16	12
	Coquille Point	-	-	-	-	17	18	45	41	20
Alsea	North Beach	-	-	-	-	-	-	-	4	3
	Bay Shore	-	-	-	-	-	-	-	49	31
Siuslaw	North Fork	-	55	-	-	109	57	146	33	22

1/ Number of clam diggers actually on tideflat at time of count. Count occurred at or near low tide.

Table 2. Predicted and Actual Tidal Heights on Yaquina Bay as Measured at Mark Hatfield Marine Science Center, 1983.

Date	Predicted Tide (OSU tide book)	Measured Tide (at MSC)	Difference (ft)	Average (ft)
May 12	-1.0	-0.9	+0.1	
13	-1.6	-1.4	+0.2	
14	-2.0	-1.8	+0.2	
15	-2.1	-1.8	+0.3	
16	-2.0	-1.8	+0.2	
17	-1.7	-1.6	+0.1	
18	-1.2	-1.3	+0.1	+0.2
June 11	-2.4	-1.8	+0.6	
12	-2.7	-2.2	+0.5	
13	-2.7	-2.2	+0.5	
14	-2.4	-1.7	+0.7	
15	-1.9	-1.6	+0.3	
16	-1.3	-0.6	+0.7	+0.6
July 8	-1.5	-0.8	+0.7	
9	-2.3	-1.7	+0.6	
10	-2.7	-2.3	+0.4	
11	-2.9	-2.6	+0.3	
12	-2.8	-2.1	+0.7	
13	-2.4	-1.5	+0.9	
14	-1.7	-1.0	+0.7	+0.6

Table 3. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Tillamook — Tideflat: Garibaldi Flat

	1962	1963	1965	1971	1975	1976	1977 1/	1978	1979	1980	1981	1982	1983
No. Diggers Sampled	149	758	319	13,048	104	207	252	239	597	456	359	219	132
No. Clams Sampled	3,296	19,053	8,414	389,946	2,472	4,825	4,647	4,631	11,104	8,728	6,558	4,249	2,471
No. Digger Hours	-	-	-	20,439	-	283.2	335.8	261.1	715.2	548.9	443.3	219.5	158.0
Hours/trip	-	-	-	1.6	-	1.4	1.3	1.1	1.2	1.2	1.2	1.3	1.2
Clams/trip	22.1	25.1	22.9	29.9	23.8	23.3	18.4	19.4	18.6	19.1	18.3	19.4	18.7
Clams/hour	-	-	-	19.1	-	17.0	13.8	17.7	15.5	15.9	14.0	14.6	15.6
Digger origin (%)													
Local	-	-	38	21	-	32.9	27.8	33.1	30.2	22.4	27.6	38.8	37.7
State	-	-	62	73	-	57.0	57.3	55.2	64.7	72.6	63.5	57.1	46.9
Non-State	-	-	-	-	-	-	-	-	-	-	-	4.1	15.4
Species Comp. (%)													
Butter	31.9	27.0	-	16.3	20.7	18.2	10.5	11.5	13.5	28.7	42.8	45.8	39.7
Cockle	38.2	45.0	-	16.8	43.4	28.5	46.7	66.6	64.0	46.5	24.2	27.4	27.4
Gaper	6.3	7.0	-	5.4	5.3	18.5	17.2	7.1	9.6	7.1	5.7	6.0	4.5
Littleneck	23.6	21.0	-	60.8	29.7	34.7	24.9	14.7	12.7	17.7	27.2	20.8	28.4
Softshell	-	-	-	-	-	-	-	-	-	-	-	-	-
Clams/trip													
Butter	7.1	6.8	-	5.0	4.9	4.2	1.9	2.2	2.5	5.5	7.8	8.9	7.4
Cockle	8.4	11.3	-	4.9	10.3	6.6	8.6	12.9	11.9	8.9	4.4	5.3	5.1
Gaper	1.4	1.8	-	1.6	1.3	4.3	3.2	1.4	1.8	1.4	1.4	1.2	0.9
Littleneck	5.2	5.3	-	18.4	7.0	8.1	4.6	2.8	2.4	3.4	5.0	4.0	5.3
Softshell	-	-	-	-	-	-	-	-	-	-	-	-	-
Clams/hour													
Butter	-	-	-	3.2	-	3.1	1.5	2.0	2.1	4.6	6.3	6.7	6.2
Cockle	-	-	-	3.1	-	4.9	6.5	11.8	9.9	7.4	3.6	4.0	4.3
Gaper	-	-	-	1.1	-	3.2	2.4	1.3	1.5	1.1	0.9	0.9	0.7
Littleneck	-	-	-	11.7	-	5.9	3.5	2.6	2.0	2.8	4.0	3.0	4.4
Softshell	-	-	-	-	-	-	-	-	-	-	-	-	-
Size Comp. (x size)													
Butter	-	-	-	-	77.3	81.6	83.8	83.0	72.3	64.8	70.6	70.3	68.8
Cockle	-	-	-	-	63.9	64.3	55.9	55.2	60.9	55.0	56.9	60.1	54.0
Gaper	-	-	-	-	67.5	56.8	69.3	82.0	84.2	90.2	91.3	114.1	107.9
Littleneck	-	-	-	-	36.7	36.8	39.4	38.2	38.5	36.5	39.5	38.0	37.0
Softshell	-	-	-	-	-	-	-	-	-	-	-	-	-
No. Clams Measured													
Butter	-	-	-	-	219	536	394	145	555	304	413	379	481
Cockle	-	-	-	-	290	978	1,517	637	1,501	535	254	389	407
Gaper	-	-	-	-	74	349	538	84	327	111	81	7	21
Littleneck	-	-	-	-	297	518	862	233	171	187	251	392	461
Softshell	-	-	-	-	-	-	-	-	-	-	-	-	-

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 4. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Tillamook — Tideflat: Bay Ocean

	1971	1976	1977 1/	1978	1979	1980	1981	1982	1983	19	19	19
No. Diggers Sampled	10,379	94	170	38	79	119	34	13	11			
No. Clams Sampled	216,728	2,242	2,664	574	1,063	1,465	314	1	63			
No. Digger Hours	16,156	171	333	70.4	146.1	215.6	57.5	17.0	16.0			
Hours/trip	1.6	1.8	2.0	1.9	1.8	1.8	1.7	1.3	1.5			
Clams/trip	20.9	23.9	15.7	15.1	13.5	12.3	9.2	<0.1	5.7			
Clams/hour	13.4	13.1	8.0	8.2	7.3	6.8	5.5	<0.1	3.9			
Digger origin (%)												
Local	21.0	20.2	14.7	13.2	10.1	21.8	20.6	15.4	0.0			
State	73.0	74.5	79.0	76.3	89.9	73.1	70.6	84.6	72.7			
Non-State	16.0	5.3	6.5	10.5	0.0	5.0	8.8	0.0	27.3			
Species Comp. (%)												
Butter	<0.1	0.1	0.6	-	-	0.4	-	-	-			
Cockle	85.0	85.8	78.5	87.3	91.4	89.6	74.2	-	95.2			
Gaper	8.8	12.3	17.5	12.2	8.0	7.1	1.3	-	-			
Littleneck	1.3	0.1	0.8	-	0.1	0.5	1.3	-	-			
Softshell	-	-	-	-	-	-	-	100.0	-			
Clams/trip												
Butter	<0.1	<0.1	0.1	-	-	<0.1	-	-	-			
Cockle	17.1	20.5	12.3	13.2	12.3	11.0	6.9	-	5.5			
Gaper	1.8	2.9	2.7	1.8	1.1	0.9	0.1	-	-			
Littleneck	0.3	<0.1	0.1	-	<0.1	<0.1	0.1	-	-			
Softshell	-	-	-	-	-	-	-	<0.1	-			
Clams/hour												
Butter	<0.1	<0.1	<0.1	-	-	<0.1	-	-	-			
Cockle	11.0	11.3	6.3	7.1	6.7	6.1	4.1	-	3.8			
Gaper	1.1	1.6	1.4	1.0	0.6	0.5	0.1	-	-			
Littleneck	0.2	<0.1	0.1	-	<0.1	<0.1	0.1	-	-			
Softshell	-	-	-	-	-	-	-	<0.1	-			
Size Comp. (x size)												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	66.0	66.1	64.0	68.4	71.2	60.6	-	67.6			
Gaper	-	110.6	107.9	104.7	109.3	106.2	105.5	-	-			
Littleneck	-	-	-	-	42.0	-	37.0	-	-			
Softshell	-	-	-	-	-	-	-	-	-			
No. Clams Measured												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	1,075	781	318	525	277	213	-	59			
Gaper	-	224	118	68	79	44	4	-	-			
Littleneck	-	-	-	-	-	-	4	-	-			
Softshell	-	-	-	-	-	-	-	1	-			

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 5. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Netarts — Tideflat: Happy Camp

	1971	1975	1976	1977 1/	1978	1979	1980	1981	1982	1983	19	19
No. Diggers Sampled	5,106	18	141	187	146	222	106	71	168	280		
No. Clams Sampled	85,230	164	1,709	2,727	1,747	2,823	1,293	991	2,020	2,994		
No. Digger Hours	6,613	-	193	254	149.2	204.4	67.7	66.8	150.5	290.0		
Hours/trip	1.3	-	1.4	1.4	1.0	0.9	0.6	0.9	0.9	1.0		
Clams/trip	16.7	9.1	12.1	14.6	12.0	12.7	12.2	12.9	12.0	10.7		
Clams/hour	12.9	-	8.9	10.7	11.7	13.8	19.1	14.8	13.4	10.3		
Digger origin (%)												
Local	17.6	-	29.1	14.9	11.0	28.4	17.9	40.3	48.2	22.5		
State	74.8	-	66.0	75.9	71.2	59.9	73.6	50.6	44.0	72.9		
Non-State	7.6	-	5.0	9.1	17.8	11.7	8.5	9.1	7.7	4.6		
Species Comp. (%)												
Butter	2.6	47.1	20.8	9.2	5.8	7.7	5.4	13.7	5.0	0.7		
Cockle	1.0	0.0	0.1	21.9	-	-	0.1	0	<0.1	0.1		
Gaper	95.7	36.6	73.6	62.5	91.0	90.3	92.5	82.7	94.3	98.5		
Littleneck	0.8	15.9	5.3	5.4	3.1	0.2	2.0	3.4	0.6	0.8		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/trip												
Butter	0.4	3.3	2.5	1.3	0.7	1.0	0.7	1.8	0.6	0.1		
Cockle	0.2	0.0	<0.1	3.2	0.0	-	<0.1	0	<0.1	<0.1		
Gaper	16.0	4.3	8.9	9.1	10.9	11.5	11.3	10.6	11.3	10.5		
Littleneck	0.1	1.4	0.6	0.8	0.4	0.2	0.2	0.4	0.1	0.1		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/hour												
Butter	0.3	-	1.8	1.0	0.7	1.1	1.0	2.0	0.7	0.1		
Cockle	0.1	-	<0.1	2.3	0.0	-	<0.1	0	<0.1	<0.1		
Gaper	12.3	-	6.5	6.7	10.7	12.5	17.7	12.3	12.7	10.2		
Littleneck	0.1	-	0.5	0.6	0.4	0.3	0.4	0.5	0.1	0.1		
Softshell	-	-	-	-	-	-	-	-	-	-		
Size Comp. (x size)												
Butter	-	102.8	100.2	103.0	103.2	107.2	105.9	109.7	102.5	82.0		
Cockle	-	-	-	-	-	-	-	-	-	31.0		
Gaper	93.2	112.1	96.3	86.1	87.5	92.1	93.6	98.9	97.7	101.9		
Littleneck	-	65.3	67.6	70.0	70.1	73.6	66.7	71.3	70.7	55.8		
Softshell	-	-	-	-	-	-	-	-	-	-		
No. Clams Measured												
Butter	-	66	219	-	-	-	24	109	62	6		
Cockle	-	190	-	-	-	-	-	-	-	1		
Gaper	282	190	643	557	921	417	468	454	565	338		
Littleneck	-	43	99	28	54	34	3	22	9	4		
Softshell	-	-	-	-	-	-	-	-	-	-		

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 6. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Netarts

Tideflat: Cape Lookout Sand Spit

	1971	1975	1976	1977 1/	1978	1979	1980	1981	1982	1983	19	19
No. Diggers Sampled	6,473	43	76	509	72	85	63	80	56	118		
No. Clams Sampled	115,811	1,038	2,433	9,293	1,324	1,560	1,074	1,397	1,029	2,174		
No. Digger Hours	8,656	-	148	1,055	148.8	178	88.5	149.5	83.0	196.5		
Hours/trip	1.3	-	1.9	2.1	2.1	2.1	1.4	1.9	1.5	1.7		
Clams/trip	17.9	24.1	32.0	18.3	18.4	18.4	17.0	17.5	18.4	18.4		
Clams/hour	13.4	-	16.5	8.8	8.9	8.8	12.1	9.3	12.4	11.1		
Digger origin (%)												
Local	17.6	-	23.7	23.1	22.2	36.5	17.5	12.5	44.6	38.1		
State	74.8	-	76.3	66.6	77.8	61.2	76.2	81.3	51.8	53.4		
Non-State	7.6	-	0.0	10.6	0.0	2.3	6.3	7.5	3.6	8.5		
Species Comp. (%)												
Butter	38.4	49.0	15.8	6.6	2.0	5.5	1.9	7.7	0.3	11.0		
Cockle	44.4	46.0	76.9	72.3	72.7	74.4	93.3	76.7	84.9	80.4		
Gaper	8.9	2.7	3.7	15.3	22.4	16.0	4.8	13.3	12.1	5.9		
Littleneck	6.9	1.3	3.2	2.1	1.3	3.8	-	1.9	2.6	2.6		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/trip												
Butter	6.9	11.8	5.1	1.2	0.4	1.0	0.3	1.4	0.1	2.0		
Cockle	8.0	11.1	24.6	13.2	13.4	13.6	15.9	13.4	15.6	14.8		
Gaper	1.6	0.7	1.2	2.8	4.1	2.9	0.8	2.3	2.2	1.1		
Littleneck	1.2	0.3	1.0	0.4	0.2	0.7	-	0.3	0.5	0.5		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/hour												
Butter	5.1	-	2.6	0.6	0.2	0.5	0.2	0.7	<0.1	1.2		
Cockle	5.9	-	12.7	6.4	6.5	6.5	11.3	7.2	10.5	8.9		
Gaper	1.2	-	0.6	1.3	2.0	1.4	0.6	1.2	1.5	0.7		
Littleneck	0.9	-	0.5	0.2	0.1	0.3	-	0.2	0.3	0.3		
Softshell	-	-	-	-	-	-	-	-	-	-		
Size Comp. (x size)												
Butter	84.5	80.3	71.8	74.1	76.9	80.4	75.6	74.2	67.7	68.8		
Cockle	65.4	73.3	73.0	75.7	72.7	75.2	72.2	72.0	71.3	69.5		
Gaper	108.1	80.4	87.4	103.4	100.5	91.7	110.7	104.7	119.0	117.7		
Littleneck	-	57.8	-	-	57.9	53.7	-	53.3	49.5	42.2		
Softshell	-	-	-	-	-	-	-	-	-	-		
No. Clams Measured												
Butter	32	237	294	80	11	86	20	49	3	27		
Cockle	245	257	674	851	555	812	525	486	534	238		
Gaper	52	257	36	170	144	191	44	48	71	15		
Littleneck	-	31	-	-	12	60	-	13	26	53		
Softshell	-	-	-	-	-	-	-	-	-	-		

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 7. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Nestucca — Tideflat: Little Nestucca Flat

	1971	1977 [1]	1979	1980	1981	1982	1983	19	19	19	19	19
No. Diggers Sampled	1,466	34	16	38	23	22	22					
No. Clams Sampled	23,211	1,049	484	1,120	357	653	623					
No. Digger Hours	1,584	43	21	72	27	31	33.5					
Hours/trip	1.1	1.3	1.3	1.9	1.2	1.4	1.5					
Clams/trip	15.8	30.9	30.3	29.5	15.5	29.7	28.3					
Clams/hour	14.7	24.4	23.2	15.6	13.2	21.4	18.6					
Digger origin (%)												
Local	12.4	52.9	18.8	0	13.0	4.5	18.2					
State	73.5	47.1	62.5	86.8	87.0	86.4	77.3					
Non-State	14.1	0	18.8	13.2	0.0	9.1	4.6					
Species Comp. (%)												
Butter												
Cockle	0	0	0	0	0	0	0					
Gaper	0	0	0	0	0	0	0					
Littleneck	0	0	0	0	0	0	0					
Softshell	100.0	100.0	100.0	100.0	100.0	100.0	100.0					
Clams/trip												
Butter												
Cockle	0	0	0	0	0	0	0					
Gaper	0	0	0	0	0	0	0					
Littleneck	0	0	0	0	0	0	0					
Softshell	15.8	30.9	30.3	29.5	15.5	29.7	28.3					
Clams/hour												
Butter												
Cockle	0	0	0	0	0	0	0					
Gaper	0	0	0	0	0	0	0					
Littleneck	0	0	0	0	0	0	0					
Softshell	14.7	24.4	23.2	15.6	13.2	21.4	18.6					
Size Comp. (x size)												
Butter												
Cockle	-	0	0	0	0	0	0					
Gaper	-	0	0	0	0	0	0					
Littleneck	-	0	0	0	0	0	0					
Softshell	-	86.0	84.2	79.9	78.3	75.6	80.5					
No. Clams Measured												
Butter												
Cockle	0	0	0	0	0	0	0					
Gaper	0	0	0	0	0	0	0					
Littleneck	0	0	0	0	0	0	0					
Softshell	0	250	332	254	163	547	300					

[1] Regulation change in bag limit; effective Jan. 1, 1977

Table 8. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Yaquina — Tideflat: Bridge Bed

	1971	1972	1975	1976	1977 1/	1978	1979	1980	1981	1982	1983	19
No. Diggers Sampled	4,518	-	88	29	357	89	143	142	342	149	202	
No. Clams Sampled	41,769	-	694	414	2,838	892	1,313	1,222	3,773	1,609	1,543	
No. Digger Hours	6,769	-	-	36.0	488	109.9	120.0	159.5	353.9	154.0	273.5	
Hours/trip	1.5	-	-	1.2	1.4	1.2	0.8	1.1	1.0	1.0	1.4	
Clams/trip	9.2	-	7.9	14.3	7.9	10.0	9.2	8.6	11.0	10.8	7.6	
Clams/hour	6.2	-	-	11.7	5.8	8.1	10.9	7.7	10.7	10.4	5.6	
Digger origin (%)												
Local	-	-	-	31.0	19.6	24.7	22.4	18.3	44.7	48.3	32.2	
State	-	-	-	48.3	70.9	69.7	76.2	70.4	49.1	48.3	67.8	
Non-State	-	-	-	20.7	9.5	4.5	1.4	11.3	6.1	3.4	0	
Species Comp. (%)												
Butter	0.2	-	0.8	0.2	0.8	0.6	0.2	1.7	0.8	1.9	3.2	
Cockle	79.4	-	42.1	72.2	45.4	24.6	7.9	1.4	15.7	7.2	12.9	
Gaper	19.5	-	54.8	24.6	43.6	72.1	89.6	94.8	81.0	85.4	72.9	
Littleneck	0.8	-	2.3	1.4	1.4	1.1	0.4	2.1	1.7	4.5	2.8	
Softshell	-	-	-	-	-	-	-	-	-	-	-	
Clams/trip												
Butter	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.2	0.3	
Cockle	7.3	-	3.3	10.3	3.6	2.5	0.7	<0.1	1.7	0.8	1.0	
Gaper	1.8	-	4.3	3.5	3.5	7.2	8.2	8.2	8.9	9.2	5.6	
Littleneck	<0.1	-	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.5	0.2	
Softshell	-	-	-	-	-	-	-	-	-	-	-	
Clams/hour												
Butter	<0.1	-	-	<0.1	<0.1	0.1	<0.1	0.1	0.1	0.2	0.2	
Cockle	4.9	-	-	8.4	2.6	2.0	0.9	0.1	1.1	0.8	0.7	
Gaper	1.2	-	-	2.9	2.5	5.9	9.8	7.3	8.6	8.9	4.1	
Littleneck	-	-	-	-	-	-	-	-	-	-	0.2	
Softshell	-	-	-	-	-	-	-	-	-	-	-	
Size Comp. (x size)												
Butter	-	-	-	-	-	-	67.5	71.9	72.5	80.4	74.0	
Cockle	60.5	31.1	49.3	46.7	57.5	69.9	66.8	55.8	57.4	65.1	66.9	
Gaper	-	-	107.1	115.5	95.0	101.7	96.8	100.0	107.7	105.9	104.6	
Littleneck	-	-	60.3	-	-	-	51.5	62.2	54.7	54.7	52.4	
Softshell	-	-	-	-	-	-	-	-	-	-	-	
No. Clams Measured												
Butter	-	-	-	-	-	-	-	14	20	5	35	
Cockle	-	25	276	205	592	202	51	6	536	86	138	
Gaper	-	-	316	62	593	154	279	419	1,370	308	406	
Littleneck	-	-	12	-	-	-	2	19	55	9	34	
Softshell	-	-	-	-	-	-	-	-	-	-	-	

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 9. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Yaquina — Tideflat: Breakwater Bed

	1971	1975	1976	1977 1/	1978	1979	1980	1981	1982	1983	19	19
No. Diggers Sampled	1,455	46	-	48	20	10	21	16	14	17		
No. Clams Sampled	22,175	515	-	511	270	142	261	166	157	190		
No. Digger Hours	2,179	-	-	69.1	21.5	20.0	44	27	20.5	24.0		
Hours/trip	1.5	-	-	1.4	1.1	2.0	2.1	1.7	1.5	1.4		
Clams/trip	15.2	11.2	-	10.6	13.5	14.2	12.4	10.4	11.2	11.2		
Clams/hour	10.2	-	-	7.4	12.6	7.1	5.9	6.1	7.7	7.9		
Digger origin (%)												
Local	-	-	-	35.4	55.0	30.0	28.6	18.8	71.4	52.9		
State	-	-	-	64.6	45	-	71.4	50.0	28.6	47.1		
Non-State	-	-	-	-	-	-	-	31.3	0	0		
Species Comp. (%)												
Butter	1.2	1.5	-	1.4	0.7	0	6.5	1.8	2.5	1.1		
Cockle	15.3	3.9	-	18.2	13.7	7.0	11.1	19.9	1.9	8.4		
Gaper	83.0	95.0	-	78.9	84.4	84.5	81.2	75.3	94.9	85.8		
Littleneck	0.4	0.2	-	0.8	0.4	0	1.1	1.2	0.6	0.5		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/trip												
Butter	0.2	<0.1	-	0.1	0.1	0	0.8	0.2	0.3	0.1		
Cockle	2.3	0.4	-	1.9	1.8	1.0	1.4	2.1	0.2	0.9		
Gaper	12.7	10.6	-	-	0	0	10.1	7.8	10.6	9.6		
Littleneck	<0.1	<0.1	-	0.1	0.1	0	0.1	0.1	0.1	0.1		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/hour												
Butter	0.1	-	-	0.1	0.1	0	0.4	0.1	0.2	0.1		
Cockle	1.6	-	-	1.3	1.7	0.5	0.6	1.2	0.1	0.7		
Gaper	8.4	-	-	5.8	10.6	6.0	4.8	4.6	7.3	6.8		
Littleneck	<0.1	-	-	0.1	0.1	0	0.1	0.1	<0.1	<0.1		
Softshell	-	-	-	-	-	-	-	-	-	-		
Size Comp. (x size)												
Butter	<0.1	-	-	0.1	<0.1	<0.1	85.3	-	-	97.0		
Cockle	75.6	-	-	72.5	76.1	-	-	62.6	-	81.6		
Gaper	113.8	116.2	-	123.3	118.9	-	109.1	106.4	106.4	100.7		
Littleneck	-	-	-	-	-	-	64.0	-	-	51.0		
Softshell	-	-	-	-	-	-	-	-	-	-		
No. Clams Measured												
Butter	-	-	-	-	-	-	16	0	4	1		
Cockle	-	-	-	-	79	37	0	27	3	12		
Gaper	-	310	-	198	207	-	195	69	142	109		
Littleneck	-	-	-	-	-	-	3	0	1	1		
Softshell	-	-	-	-	-	-	-	-	-	-		

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 10. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Yaquina — Tideflat: Idaho Point

	1971	1975	1976	1977 1/	1978	1979	1980	1981	1982	1983	19	19
No. Diggers Sampled	10,462	123	42	309	20	193	182	147	80	138		
No. Clams Sampled	138,784	2,600	812	3,773	298	2,783	3,118	2,339	1,219	2,171		
No. Digger Hours	15,621	-	76.5	464	25.2	247.8	301.6	222.3	144.5	219.0		
Hours/trip	1.5	-	1.8	1.5	1.3	1.3	1.7	1.5	1.8	1.6		
Clams/trip	13.3	21.1	19.3	12.2	14.9	14.4	17.1	15.9	15.2	15.7		
Clams/hour	8.9	-	10.6	8.1	11.8	11.2	10.3	10.5	8.4	9.9		
Digger origin (%)												
Local	-	-	35.7	12.3	45.0	31.6	28.6	15.6	18.8	9.4		
State	-	-	33.3	84.1	50.0	62.7	65.4	70.7	81.3	85.5		
Non-State	-	-	31.0	3.6	5.0	5.7	6.0	13.6	0	5.1		
Species Comp. (%)												
Butter	0.3	<0.1	0.5	0.5	0	1.7	0	0.1	0	0.4		
Cockle	77.7	93.2	72.5	78.5	83.9	70.2	87.2	93.4	95.0	85.5		
Gaper	21.7	5.8	18.4	13.1	15.1	20.7	12.8	4.1	2.9	2.8		
Littleneck	0.4	<0.1	0.1	0.2	0	0.1	0	0.5	0.9	0.7		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/trip												
Butter	<0.1	<0.1	0.1	0.1	0	0.2	0	0	0	0.1		
Cockle	10.3	19.7	14.0	9.6	12.5	10.1	14.9	14.9	14.5	13.5		
Gaper	2.9	1.2	3.6	1.6	2.3	3.0	2.2	0.6	0.4	0.4		
Littleneck	<0.1	<0.1	<0.1	<0.1	0	<0.1	0	<0.1	<0.1	0.1		
Softshell	-	-	-	-	-	-	-	-	-	-		
Clams/hour												
Butter	0.1	-	0.1	0.1	0	0.2	0	0	0	<0.1		
Cockle	6.9	-	7.7	6.4	9.9	7.9	1.3	9.8	8.0	8.5		
Gaper	1.9	-	2.0	1.1	1.8	2.3	9.0	0.4	0.2	0.3		
Littleneck	<0.1	-	<0.1	<0.1	0	<0.1	0	0.0	0.1	0.1		
Softshell	-	-	-	-	-	-	-	-	-	-		
Size Comp. (x size)												
Butter	-	-	-	-	-	75.1	-	87.3	-	0		
Cockle	61.0	58.6	58.3	60.2	59.0	58.2	57.8	54.3	54.4	52.6		
Gaper	113.0	96.6	91.3	93.5	95.2	95.9	94.5	91.7	83.3	89.1		
Littleneck	-	-	-	-	-	55.3	-	50.1	42.7	42.6		
Softshell	-	-	-	-	-	-	-	-	-	-		
No. Clams Measured												
Butter	-	-	-	-	-	-	-	4	-	0		
Cockle	-	-	-	-	-	45	1,620	1,302	-	540		
Gaper	-	369	522	1,804	250	1,471	181	75	-	40		
Littleneck	-	171	126	173	42	24	-	9	-	5		
Softshell	-	-	-	-	-	-	-	-	-	-		

1/ Regulation change in bag limit; effective Jan. 1, 1977

Table 11. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Yaquina — Tideflat: Northwest Gas Plant

	1971	1975	1976	1977 [1]	1978	1979	1980	1981	1982	1983	19	19
No. Diggers Sampled	5,857	92	93	315	49	137	63	38	29	23		
No. Clams Sampled	119,702	13,541	583	3,852	684	1,073	495	151	128	219		
No. Digger Hours	8,725	-	139.0	402.0	66.8	164.8	84.3	54.4	32.5	25.0		
Hours/trip	1.5	-	1.5	1.3	1.4	1.2	1.3	1.4	1.1	1.1		
Clams/trip	20.4	14.7	17.0	12.2	14.0	7.8	7.9	4.0	4.4	9.5		
Clams/hour	13.7	-	11.4	9.6	10.2	6.5	5.9	2.8	3.9	8.8		
Digger origin (%)												
Local	-	-	9.7	22.5	59.2	33.6	30.2	36.8	65.5	34.8		
State	-	-	86.0	72.1	38.8	49.6	68.3	57.9	34.5	65.2		
Non-State	-	-	4.3	5.4	2.0	16.8	1.5	5.3	0	0		
Species Comp. (%)												
Butter	0.6	1.9	0.1	1.1	0.1	0.2	0.6	2.0	0	0.5		
Cockle	85.1	60.6	71.3	74.5	82.6	81.9	78.4	11.3	91.4	84.0		
Gaper	12.7	29.8	22.0	13.8	16.8	11.9	19.6	34.4	7.0	0		
Littleneck	0.7	1.3	0.3	0.5	0.4	0.6	1.4	2.0	1.6	13.7		
Softshell	-	-	-	-	-	-	-	47.0	-	-		
Clams/trip												
Butter	0.1	0.3	<0.1	0.1	<0.1	<0.1	0.1	0.1	0	<0.1		
Cockle	17.4	8.9	12.1	9.1	11.5	6.4	6.2	0.4	4.0	8.0		
Gaper	2.6	4.4	3.7	1.7	2.3	0.9	1.5	1.4	0.3	0		
Littleneck	0.1	0.2	<0.1	0.1	0.1	<0.1	0.1	0.1	0.1	1.3		
Softshell	-	-	-	-	-	-	-	1.9	-	-		
Clams/hour												
Butter	<0.1	-	<0.1	0.1	<0.1	<0.1	<0.1	0.1	0	<0.1		
Cockle	11.7	-	8.1	7.1	8.5	5.3	4.6	0.3	3.6	7.4		
Gaper	1.7	-	2.5	1.3	1.7	0.8	1.2	1.0	0.3	0		
Littleneck	<0.1	-	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	1.2		
Softshell	-	-	-	-	-	-	-	1.3	-	-		
Size Comp. (x size)												
Butter	-	-	-	-	-	-	99.0	80.0	0	97.0		
Cockle[2]	66.3	63.4	56.5	60.7	60.0	59.4	52.5	47.1	50.2	57.0		
Gaper	95.3	91.3	91.5	92.8	101.1	94.9	96.0	88.8	87.3	96.5		
Littleneck	-	-	-	-	-	-	47.4	48.0	45.5	45.8		
Softshell	-	-	-	-	-	-	-	57.5	-	-		
No. Clams Measured												
Butter	-	-	-	-	-	-	1	1	0	1		
Cockle	-	219	648	889	525	606	349	18	60	177		
Gaper	-	451	217	152	106	96	61	46	7	8		
Littleneck	-	-	-	-	-	5	5	2	0	30		
Softshell	-	-	-	-	-	-	-	2	-	-		

[1] Regulation change in bag limit; effective Jan. 1, 1977

[2] 1972, Cockle = 66.6mm

Table 12. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Yaquina

Tideflat: Coquille Point

	1981	1982	1983	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	11	53	27									
No. Clams Sampled	24	267	147									
No. Digger Hours	9	75.0	33.0									
Hours/trip	0.8	1.4	1.2									
Clams/trip	2.2	5.0	5.4									
Clams/hour	2.7	3.6	4.5									
Digger origin (%)												
Local	0	9.4	25.9									
State	100	75.5	55.6									
Non-State	0	15.1	18.5									
Species Comp. (%)												
Butter	4.2	3.0	40.1									
Cockle	0	0	34.7									
Gaper	95.8	93.3	15.7									
Littleneck	0	3.0	8.2									
Softshell	-	-	-									
Clams/trip												
Butter	0.1	0.2	2.2									
Cockle	0	0	1.9									
Gaper	2.1	4.7	0.9									
Littleneck	0	0.2	0.4									
Softshell	-	-	-									
Clams/hour												
Butter	0.1	0.1	1.8									
Cockle	0	0	1.6									
Gaper	2.6	3.3	0.7									
Littleneck	0	0.1	0.4									
Softshell	-	-	-									
Size Comp. (x size)												
Butter	88.0	93.6	74.9									
Cockle	-	-	47.2									
Gaper	94.5	96.6	98.9									
Littleneck	-	61.3	45.9									
Softshell	-	-	-									
No. Clams Measured												
Butter	1	5	22									
Cockle	0	0	51									
Gaper	23	142	15									
Littleneck	0	4	12									
Softshell	-	-	-									

Table 13. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Yaquina

Tideflat: Critser's Island

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	42											
No. Clams Sampled	1,380											
No. Digger Hours	56											
Hours/trip	1.3											
Clams/trip	32.9											
Clams/hour	24.6											
Digger origin (%)												
Local	40.5											
State	59.5											
Non-State	0											
Species Comp. (%)												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	100.0											
Clams/trip												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	32.9											
Clams/hour												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	24.6											
Size Comp. (x size)												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	82.5											
No. Clams Measured												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	56.9											

Table 14. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Alsea

Tideflat: North Shore

	1982	1983	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	4	3										
No. Clams Sampled	71	22										
No. Digger Hours	6.0	4.5										
Hours/trip	1.5	1.5										
Clams/trip	17.8	7.3										
Clams/hour	11.8	4.9										
Digger origin (%)												
Local	100.0	0										
State	0	100.0										
Non-State	0	0										
Species Comp. (%)												
Butter	0	0										
Cockle	100.0	90.9										
Gaper	0	0										
Littleneck	0	4.6										
Softshell	-	4.6										
Clams/trip												
Butter	0	0										
Cockle	17.8	6.7										
Gaper	0	0										
Littleneck	0	0.3										
Softshell	-	0.3										
Clams/hour												
Butter	0	0										
Cockle	11.8	4.4										
Gaper	0	0										
Littleneck	0	0.2										
Softshell	-	0.2										
Size Comp. (x size)												
Butter	0	-										
Cockle	80.1	71.0										
Gaper	0	-										
Littleneck	0	39.0										
Softshell	-	58.0										
No. Clams Measured												
Butter	0	-										
Cockle	39	20										
Gaper	0	-										
Littleneck	0	1										
Softshell	-	1										

Table 15. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Alsea

Tideflat: Bayshore

	1982	1983	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	32	24										
No. Clams Sampled	529	316										
No. Digger Hours	46	39.5										
Hours/trip	1.4	1.7										
Clams/trip	16.5	13.2										
Clams/hour	11.5	8.0										
Digger origin (%)												
Local	59.4	66.7										
State	25.0	25.0										
Non-State	15.6	8.3										
Species Comp. (%)												
Butter	-	-										
Cockle	99.8	99.7										
Gaper	0.2	-										
Littleneck	-	-										
Softshell	-	0.3										
Clams/trip												
Butter	-	-										
Cockle	16.5	13.1										
Gaper	<0.1	-										
Littleneck	-	-										
Softshell	-	<0.1										
Clams/hour												
Butter	-	-										
Cockle	11.5	8.0										
Gaper	<0.1	-										
Littleneck	-	-										
Softshell	-	<0.1										
Size Comp. (x size)												
Butter	-	-										
Cockle	72.9	76.4										
Gaper	-	-										
Littleneck	-	-										
Softshell	-	-										
No. Clams Measured												
Butter	-	-										
Cockle	159	295										
Gaper	-	-										
Littleneck	-	-										
Softshell	-	-										

Table 16. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Alsea

Tideflat: Softshell

	1983	1984	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	4											
No. Clams Sampled	91											
No. Digger Hours	6.0											
Hours/trip	1.5											
Clams/trip	22.8											
Clams/hour	15.2											
Digger origin (%)												
Local	50.0											
State	50.0											
Non-State	0											
Species Comp. (%)												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	100.0											
Clams/trip												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	22.8											
Clams/hour												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	15.2											
Size Comp. (x size)												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	96.8											
No. Clams Measured												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	86.0											

Table 17. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Siuslaw

Tideflat: North Fork[1]/

	1971	1976	1977	1978	1979	1980	1981	1982	1983	19	19	19
No. Diggers Sampled	3,203	39	51	21	42	7	115	21	33			
No. Clams Sampled	72,756	1,067	1,426	670	1,140	188	3,445	875	1,163			
No. Digger Hours	4,844	54	101	31.5	55.3	5.0	145.2	28	32.0			
Hours/trip	1.5	1.4	2.0	1.5	1.3	0.7	1.3	1.3	1.0			
Clams/trip	22.7	27.4	28.0	31.9	27.1	26.9	30.0	41.7	35.2			
Clams/hour	15.0	19.8	14.1	21.3	20.6	37.6	23.7	31.3	36.3			
Digger origin (%)												
Local	-	12.8	28.8	28.6	19.0	28.6	38.3	47.6	51.5			
State	-	84.6	66.7	71.4	47.6	71.4	48.7	52.4	42.4			
Non-State	-	2.6	4.4	-	33.3	0	13.0	0	9.1			
Species Comp. (%)												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	-	-	-	-	-	-	-	-			
Gaper	-	-	-	-	-	-	-	-	-			
Littleneck	-	-	-	-	-	-	-	-	-			
Softshell	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
Clams/trip												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	-	-	-	-	-	-	-	-			
Gaper	-	-	-	-	-	-	-	-	-			
Littleneck	-	-	-	-	-	-	-	-	-			
Softshell	22.7	27.4	28.0	31.9	27.1	26.9	30.0	41.7	35.2			
Clams/hour												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	-	-	-	-	-	-	-	-			
Gaper	-	-	-	-	-	-	-	-	-			
Littleneck	-	-	-	-	-	-	-	-	-			
Softshell	15.0	19.8	14.1	21.3	20.6	37.6	23.7	31.3	36.3			
Size Comp. (x size)												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	-	-	-	-	-	-	-	-			
Gaper	-	-	-	-	-	-	-	-	-			
Littleneck	-	-	-	-	-	-	-	-	-			
Softshell	-	107.4	96.5	99.0	89.5	90.0	89.4	90.7	92.8			
No. Clams Measured												
Butter	-	-	-	-	-	-	-	-	-			
Cockle	-	-	-	-	-	-	-	-	-			
Gaper	-	-	-	-	-	-	-	-	-			
Littleneck	-	-	-	-	-	-	-	-	-			
Softshell	-	741	408	335	676	110	1,629	757	867			

1/ Includes digging on west side, east side and in North Fork of Siuslaw & near Florence.

Table 18. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Umpqua

Tideflat: Softshell

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	2											
No. Clams Sampled	72											
No. Digger Hours	4.0											
Hours/trip	2.0											
Clams/trip	36.0											
Clams/hour	18.0											
Digger origin (%)												
Local	0											
State	100.0											
Non-State	0											
Species Comp. (%)												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	100.0											
Clams/trip												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	36.0											
Clams/hour												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	18.0											
Size Comp. (x size)												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	-											
No. Clams Measured												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell	-											

Table 19. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Hanson's Marina - South Slough

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	6											
No. Clams Sampled	101											
No. Digger Hours	4.5											
Hours/trip	0.8											
Clams/trip	16.8											
Clams/hour	22.4											
Digger origin (%)												
Local	100.0											
State	0											
Non-State	0											
Species Comp. (%)												
Butter	4.0											
Cockle	19.8											
Gaper	69.3											
Littleneck	6.9											
Softshell	0											
Clams/trip												
Butter	0.7											
Cockle	3.3											
Gaper	11.7											
Littleneck	1.2											
Softshell	0											
Clams/hour												
Butter	0.9											
Cockle	4.4											
Gaper	15.6											
Littleneck	1.6											
Softshell	0											
Size Comp. (x size)[1]/												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												
No. Clams Measured[1]/												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												

1/ Not taken

Table 20. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Charleston Triangle

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	40											
No. Clams Sampled	771											
No. Digger Hours	44											
Hours/trip	1.1											
Clams/trip	19.3											
Clams/hour	17.5											
Digger origin (%)												
Local	22.5											
State	72.5											
Non-State	5.0											
Species Comp. (%)												
Butter	19.6											
Cockle	55.1											
Gaper	3.9											
Littleneck	23.2											
Softshell	0											
Clams/trip												
Butter	3.8											
Cockle	10.6											
Gaper	0.8											
Littleneck	4.5											
Softshell	0											
Clams/hour												
Butter	3.4											
Cockle	9.7											
Gaper	0.7											
Littleneck	4.1											
Softshell	0											
Size Comp. (x size)												
Butter	73.3											
Cockle	51.2											
Gaper	88.6											
Littleneck	55.2											
Softshell	0											
No. Clams Measured												
Butter	39											
Cockle	45											
Gaper	26											
Littleneck	18											
Softshell	0											

Table 21. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Charleston Flat

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	60											
No. Clams Sampled	859											
No. Digger Hours	124.5											
Hours/trip	2.1											
Clams/trip	14.3											
Clams/hour	6.9											
Digger origin (%)												
Local	21.7											
State	73.3											
Non-State	5.0											
Species Comp. (%)												
Butter	2.0											
Cockle	46.6											
Gaper	38.8											
Littleneck	10.6											
Softshell	0											
Clams/trip												
Butter	0.3											
Cockle	6.7											
Gaper	5.6											
Littleneck	1.5											
Softshell	0											
Clams/hour												
Butter	0.1											
Cockle	3.2											
Gaper	2.7											
Littleneck	0.7											
Softshell	0											
Size Comp. (x size)												
Butter	84.0											
Cockle	59.9											
Gaper	100.6											
Littleneck	55.0											
Softshell	0											
No. Clams Measured												
Butter	1											
Cockle	38											
Gaper	13											
Littleneck	3											
Softshell	0											

Table 22. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Peterson Flat

	1983	19	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	12												
No. Clams Sampled	235												
No. Digger Hours	23.5												
Hours/trip	2.0												
Clams/trip	19.6												
Clams/hour	10.0												
Digger origin (%)													
Local	25.0												
State	75.0												
Non-State	0												
Species Comp. (%)													
Butter	8.1												
Cockle	21.7												
Gaper	45.1												
Littleneck	25.1												
Softshell	0												
Clams/trip													
Butter	1.6												
Cockle	4.3												
Gaper	8.8												
Littleneck	4.9												
Softshell	0												
Clams/hour													
Butter	0.8												
Cockle	2.2												
Gaper	4.5												
Littleneck	2.5												
Softshell	0												
Size Comp. (x size)[1/]													
Butter													
Cockle													
Gaper													
Littleneck													
Softshell													
No. Clams Measured[1/]													
Butter													
Cockle													
Gaper													
Littleneck													
Softshell													

1/ Not Taken

Table 23. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Pigeon Point

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	65											
No. Clams Sampled	1,003											
No. Digger Hours	133											
Hours/trip	2.1											
Clams/trip	15.4											
Clams/hour	7.5											
Digger origin (%)												
Local	36.9											
State	53.9											
Non-State	9.2											
Species Comp. (%)												
Butter	32.0											
Cockle	0.5											
Gaper	51.4											
Littleneck	16.0											
Softshell	0											
Clams/trip												
Butter	4.9											
Cockle	0.1											
Gaper	7.9											
Littleneck	2.5											
Softshell	0											
Clams/hour												
Butter	2.4											
Cockle	<0.1											
Gaper	3.9											
Littleneck	1.2											
Softshell	0											
Size Comp. (x size)[1]/												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												
No. Clams Measured[1]/												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												

1/ Not taken

Table 24. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Sitka Flat

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	46											
No. Clams Sampled	678											
No. Digger Hours	81.5											
Hours/trip	1.8											
Clams/trip	14.7											
Clams/hour	8.3											
Digger origin (%)												
Local	58.7											
State	41.3											
Non-State	0											
Species Comp. (%)												
Butter	19.8											
Cockle	1.0											
Gaper	50.9											
Littleneck	28.2											
Softshell	0											
Clams/trip												
Butter	2.9											
Cockle	0.2											
Gaper	7.5											
Littleneck	4.2											
Softshell	0											
Clams/hour												
Butter	1.6											
Cockle	0.1											
Gaper	4.2											
Littleneck	2.3											
Softshell	0											
Size Comp. (x size)												
Butter	85.9											
Cockle	37.9											
Gaper	108.0											
Littleneck	67.2											
Softshell	0											
No. Clams Measured												
Butter	44											
Cockle	7											
Gaper	46											
Littleneck	9											
Softshell	0											

Table 25. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Empire Flat

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	70											
No. Clams Sampled	1,057											
No. Digger Hours	99											
Hours/trip	1.4											
Clams/trip	15.1											
Clams/hour	10.7											
Digger origin (%)												
Local	54.3											
State	34.3											
Non-State	11.4											
Species Comp. (%)												
Butter	1.4											
Cockle	11.2											
Gaper	58.8											
Littleneck	0.3											
Softshell	0											
Clams/trip												
Butter	0.2											
Cockle	1.7											
Gaper	8.9											
Littleneck	< 0.1											
Softshell	0											
Clams/hour												
Butter	0.2											
Cockle	1.2											
Gaper	6.3											
Littleneck	< 0.1											
Softshell	0											
Size Comp. (x size)[1/]												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												
No. Clams Measured[1/]												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												

1/ Not taken

Table 26. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: North Spit

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	65											
No. Clams Sampled	692											
No. Digger Hours	93											
Hours/trip	1.4											
Clams/trip	10.7											
Clams/hour	7.4											
Digger origin (%)												
Local	72.3											
State	27.7											
Non-State	0											
Species Comp. (%)												
Butter	3.5											
Cockle	17.6											
Gaper	75.3											
Littleneck	3.6											
Softshell	0											
Clams/trip												
Butter	0.4											
Cockle	1.9											
Gaper	8.0											
Littleneck	0.4											
Softshell	0											
Clams/hour												
Butter	0.3											
Cockle	1.3											
Gaper	5.6											
Littleneck	0.3											
Softshell	0											
Size Comp. (x size)												
Butter	0											
Cockle	67.7											
Gaper	109.6											
Littleneck	72.0											
Softshell	0											
No. Clams Measured												
Butter	0											
Cockle	20											
Gaper	185											
Littleneck	2											
Softshell	0											

Table 27. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coos

Tideflat: Clam Island

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	57											
No. Clams Sampled	1,002											
No. Digger Hours	82											
Hours/trip	1.4											
Clams/trip	17.6											
Clams/hour	12.2											
Digger origin (%)												
Local	36.8											
State	57.9											
Non-State	5.3											
Species Comp. (%)												
Butter	2.8											
Cockle	36.5											
Gaper	54.2											
Littleneck	1.1											
Softshell	5.4											
Clams/trip												
Butter	0.5											
Cockle	6.4											
Gaper	9.5											
Littleneck	0.2											
Softshell	1.0											
Clams/hour												
Butter	0.3											
Cockle	4.5											
Gaper	6.6											
Littleneck	0.1											
Softshell	0.7											
Size Comp. (x size)												
Butter	78.7											
Cockle	54.1											
Gaper	107.7											
Littleneck	55.5											
Softshell	0											
No. Clams Measured												
Butter	6											
Cockle	8											
Gaper	46											
Littleneck	4											
Softshell	0											

Table 28. ANNUAL SUMMARY OF RECREATIONAL INTERVIEW DATA

Bay: Coquille

Tideflat: Bandon Softshell

	1983	19	19	19	19	19	19	19	19	19	19	19
No. Diggers Sampled	6											
No. Clams Sampled	215											
No. Digger Hours	5											
Hours/trip	0.8											
Clams/trip	35.8											
Clams/hour	43.0											
Digger origin (%)												
Local	100.0											
State	0											
Non-State	0											
Species Comp. (%)												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	100.0											
Clams/trip												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	35.8											
Clams/hour												
Butter	0											
Cockle	0											
Gaper	0											
Littleneck	0											
Softshell	43.0											
Size Comp. (x size)[1/]												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												
No. Clams Measured[1/]												
Butter												
Cockle												
Gaper												
Littleneck												
Softshell												

1/ Not taken

Table 29. Summary of pounds of Bay Clams Reported Harvested in Oregon, 1970-83.

Year	Butter	Cockle	Gaper	Littleneck	Softshell	Macoma	Total
1970	885	12,257	1,218	863	10,661	0	25,884
1971	217	9,391	10,345	639	7,714	220	28,526
1972	52	7,269	34,006	1,406	18,772	0	61,505
1973	95	5,756	185	9,771	1,349	0	17,156
1974	412	6,073	0	8,987	843	0	16,315
1975	0	6,855	15,024	4,311	360	0	26,550
1976	816	322	85,831	455	630	0	88,054
1977	607	859	81,775	232	1,366	894	85,733
1978	1,452	6,717	207,685	1,056	16	0	216,926
1979	606	2,299	91,028	0	979	0	94,912
1980	40	2,244	74,459	4,268	456	0	81,467
1981	2,409	4,580	68,508	4,892	749	0	81,138
1982	3,654	10,517	106,440	13,231	248	0	134,105
1983	4,035	2,579	95,091	34,444	36	0	136,185

Table 30. Summary of Reported Commercial Harvest of Bay Clams in Major Oregon Estuaries, 1969-83.

Year	Nehalem	Tillamook	Netarts	Yaquina	Alsea	Siuslaw	Umpqua	Coos	Total
1970	258	7,819	2,210	444	0	0	10,631	4,522	25,884
1971[1]/	589	5,948	1,598	1,819	0	0	7,459	10,893	28,306
1972	80	9,637	914	57	70	0	6,105	44,642	61,505
1973	329	11,997	1,191	0	0	0	786	2,853	17,156
1974[1]/	882	9,309	2,409	398	0	0	445	3,232	16,675
1975[1]/	0	4,637	0	0	13	0	309	21,553	26,512
1976[1]/	0	820	0	0	480	0	0	86,529	87,829
1977[1]/	0	1,881	0	71,013	0	0	35	12,066	84,995
1978[1]/	0	2,905	0	172,047	0	0	0	41,804	216,756
1979	174	433	0	74,565	0	3,432	0	16,308	94,912
1980	373	5,320	486	244	0	9,109	0	65,935	81,467
1981	65	4,259	0	128	0	684	0	76,002	81,138
1982[1]/	10,862	11,501	37	15	0	223	25	111,427	134,090
1983	31,856	3,144	200	5,253	0	15	0	95,717	136,185

[1]/ Totals exclude landings of clams reported from Columbia River, Astoria, Bandon and Port Orford.

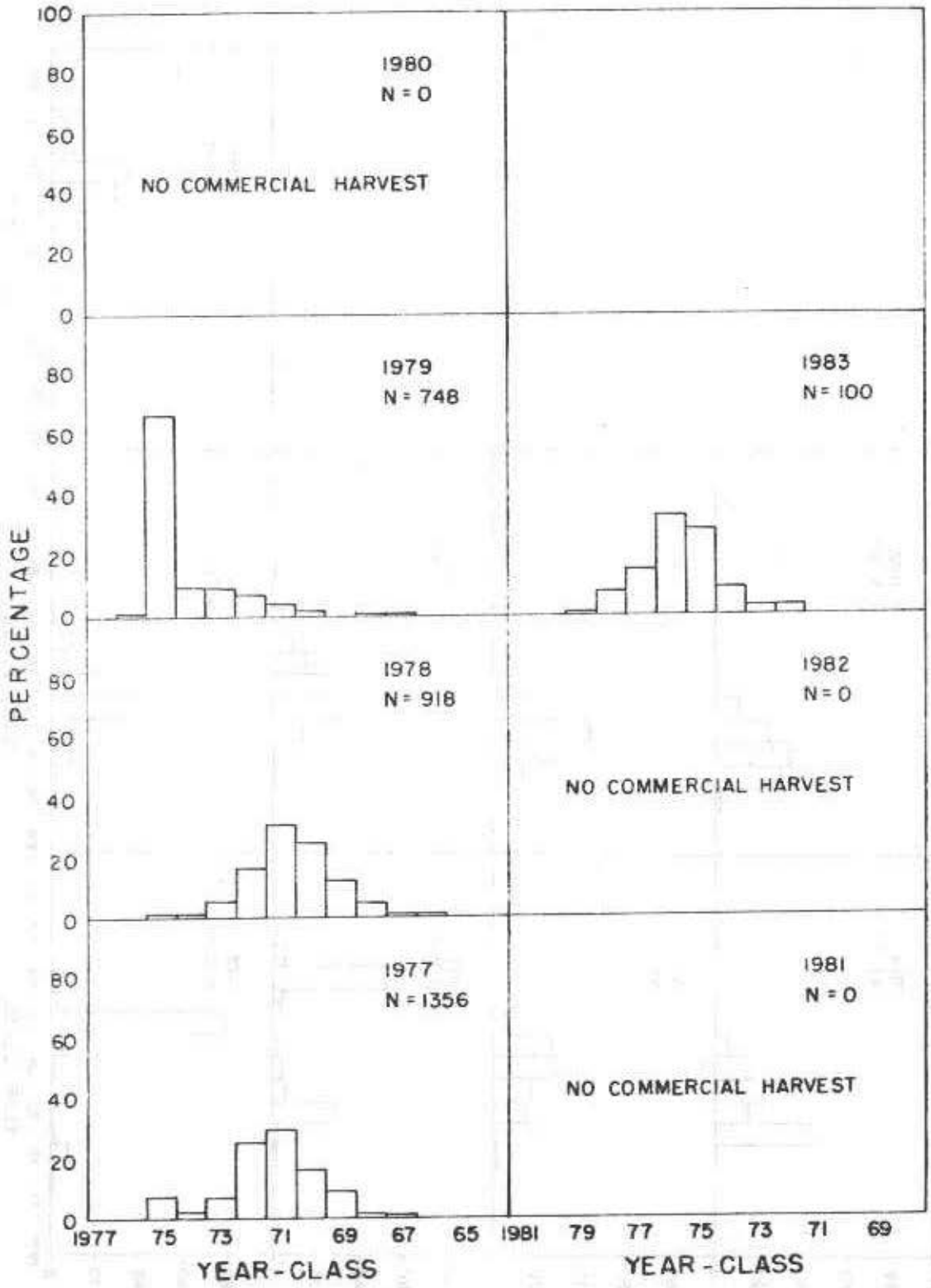


Figure 1. Age Composition of Commercial Subtidal Gaper Clam Harvest, Area 2, Yaquina Bay, 1977-83.

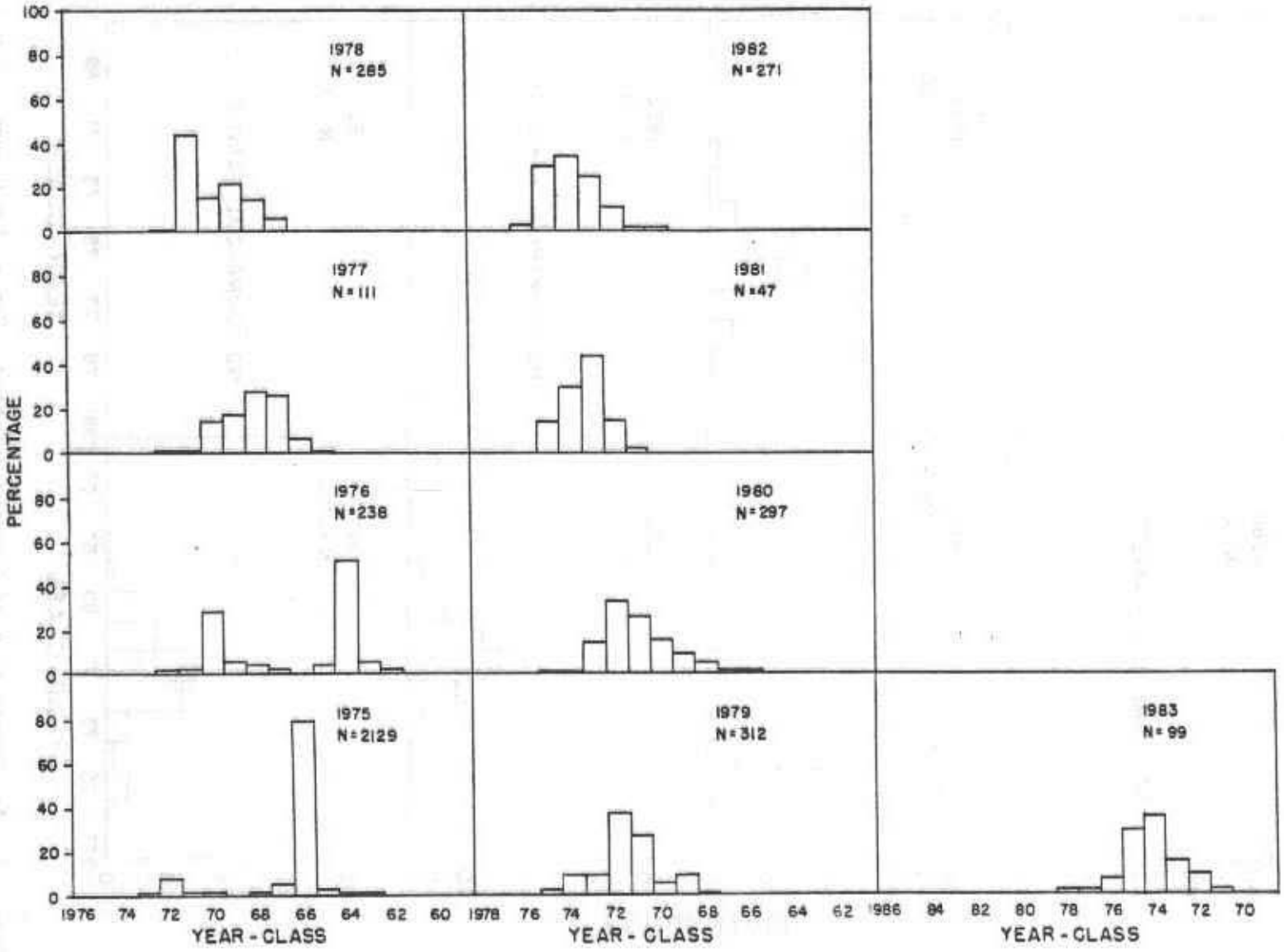


Figure 2. Age Composition of Commercial Subtidal Gaper Clam Harvest, Pigeon Point, Coos Bay, 1975-83.

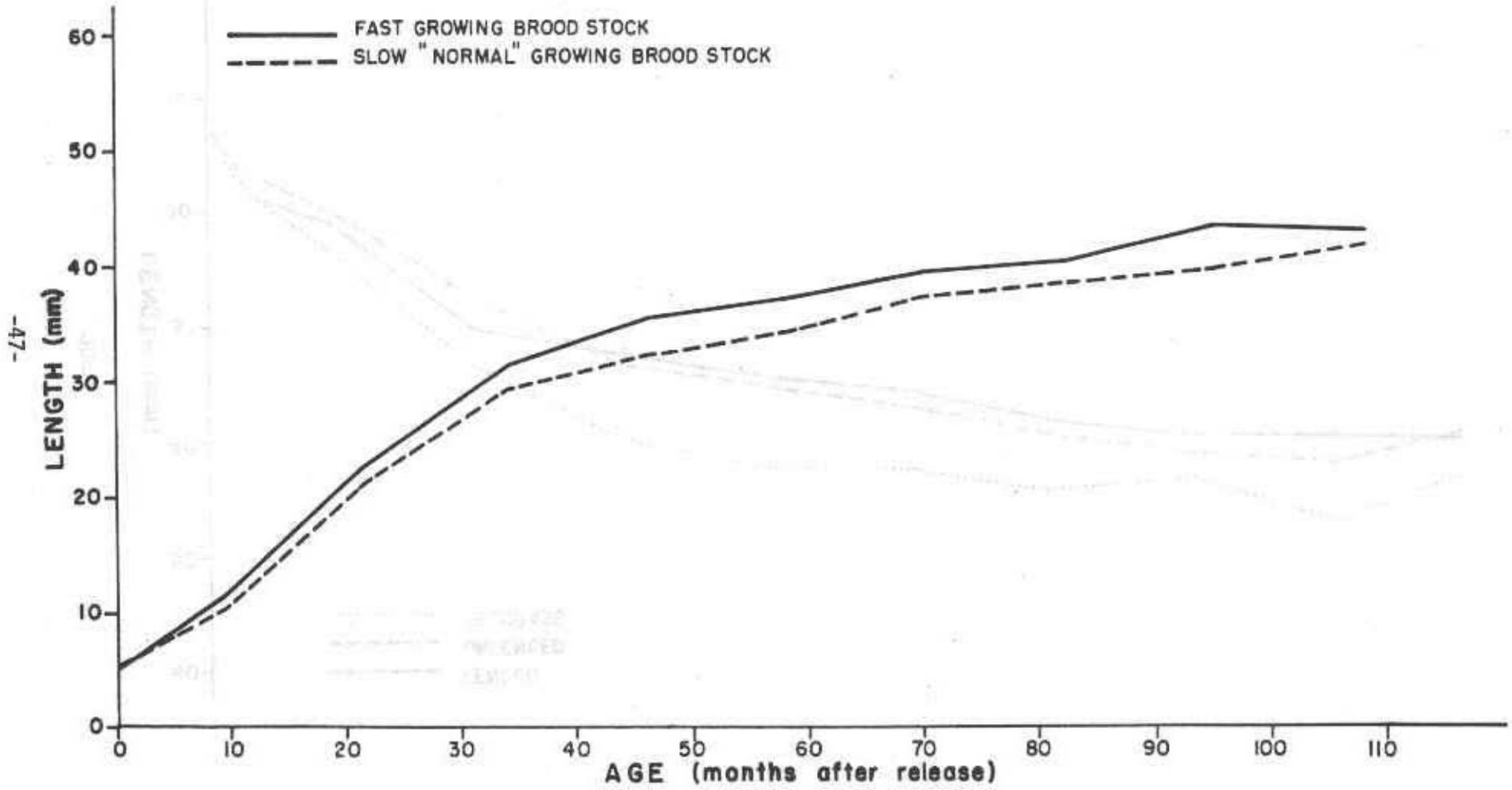


Figure 3. Growth Curve of Manila Littleneck Clams Spawned and Planted from Normal and Fast Growing Brood Stock, Netarts Bay, 1974-83.

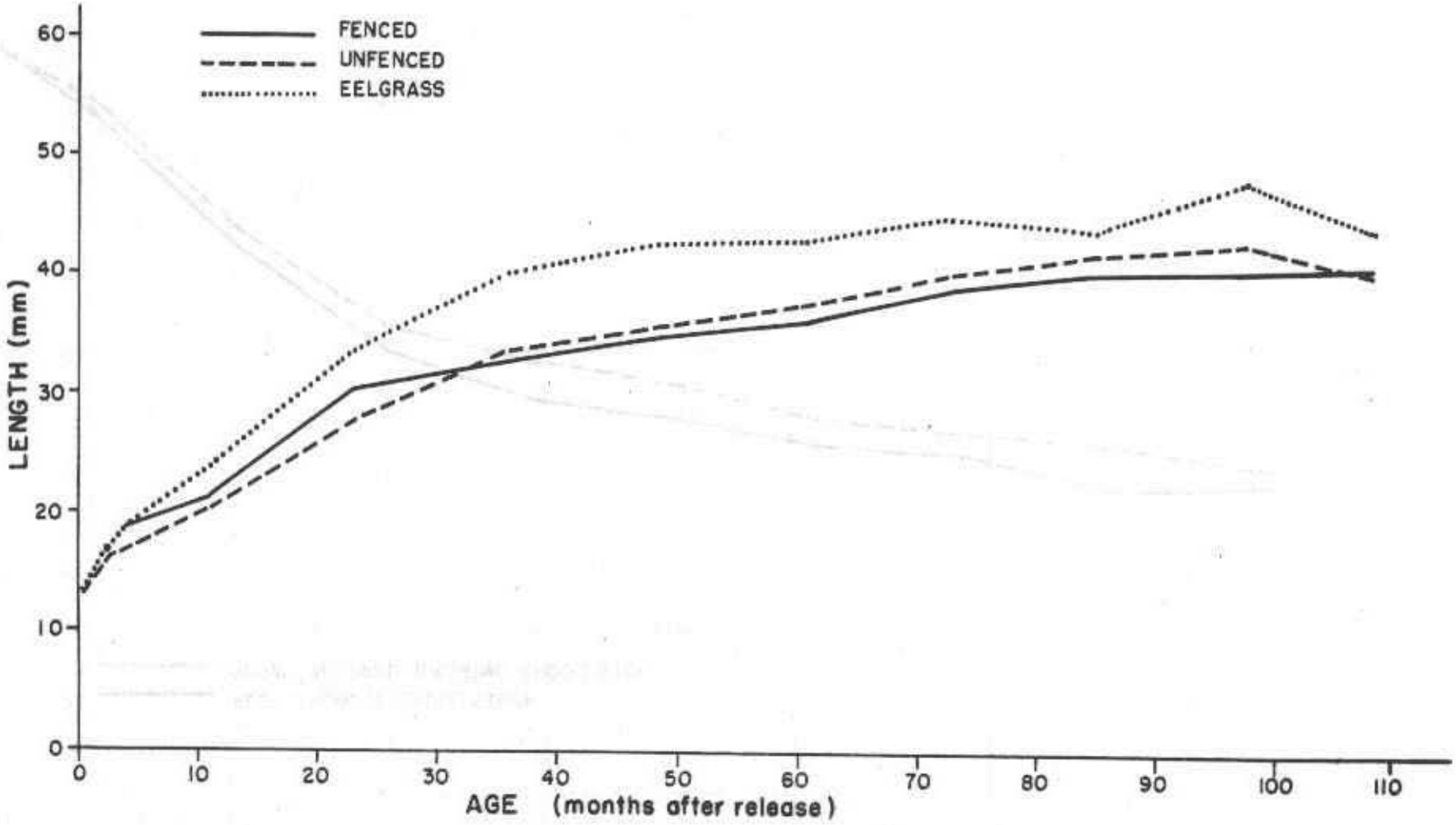


Figure 4. Growth Curve of Manila Littleneck Clams Planted in Fenced and Unfenced and Eelgrass Covered Areas of Netarts Bay, 1974-83.

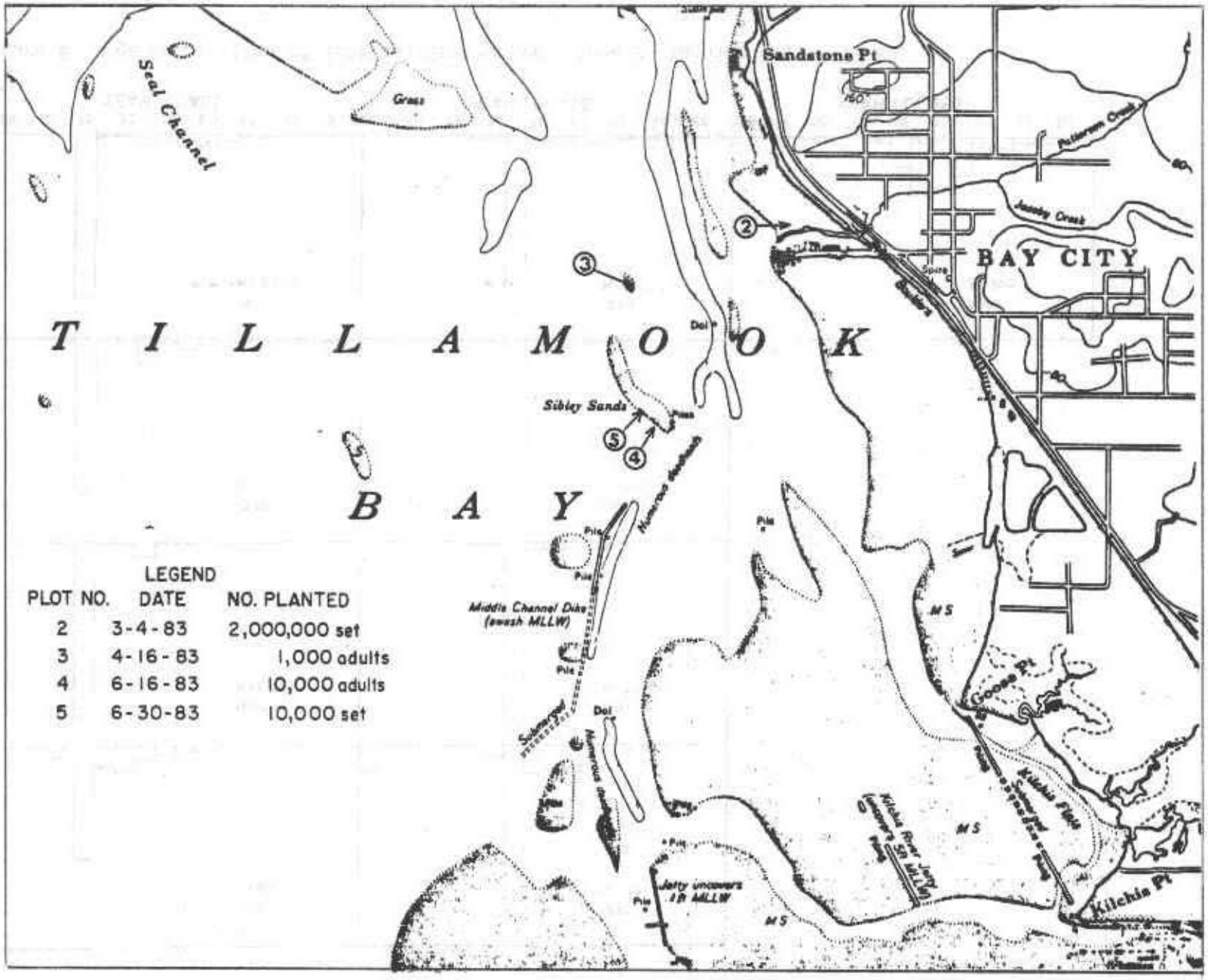


Figure 5. Summary of Manila Littleneck Clam Releases in Tillamook Bay, 1983.

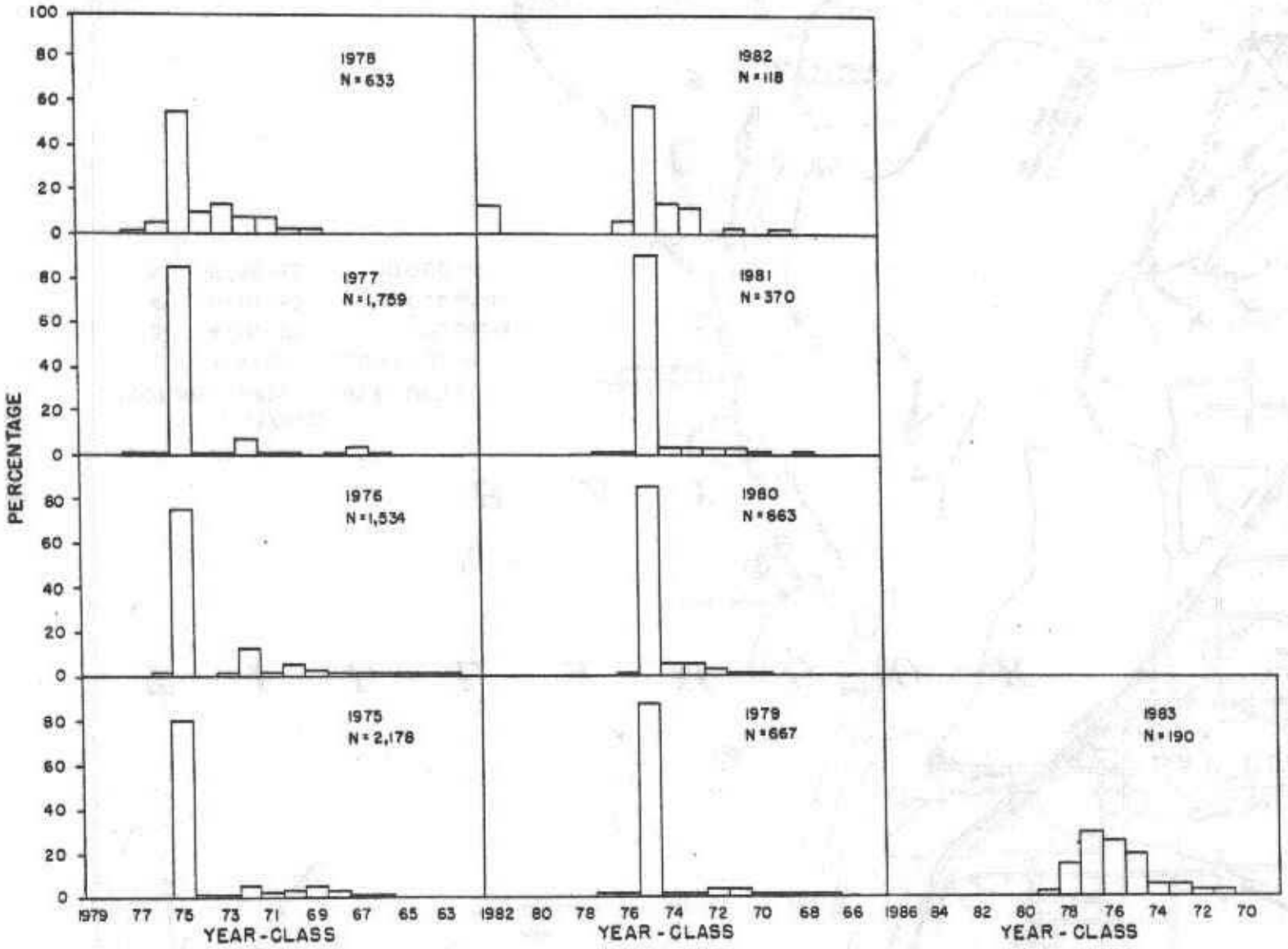


Figure 6. Age Composition of Subtidal Gaper Clams, Area 2, Yaquina Bay, 1975-83.

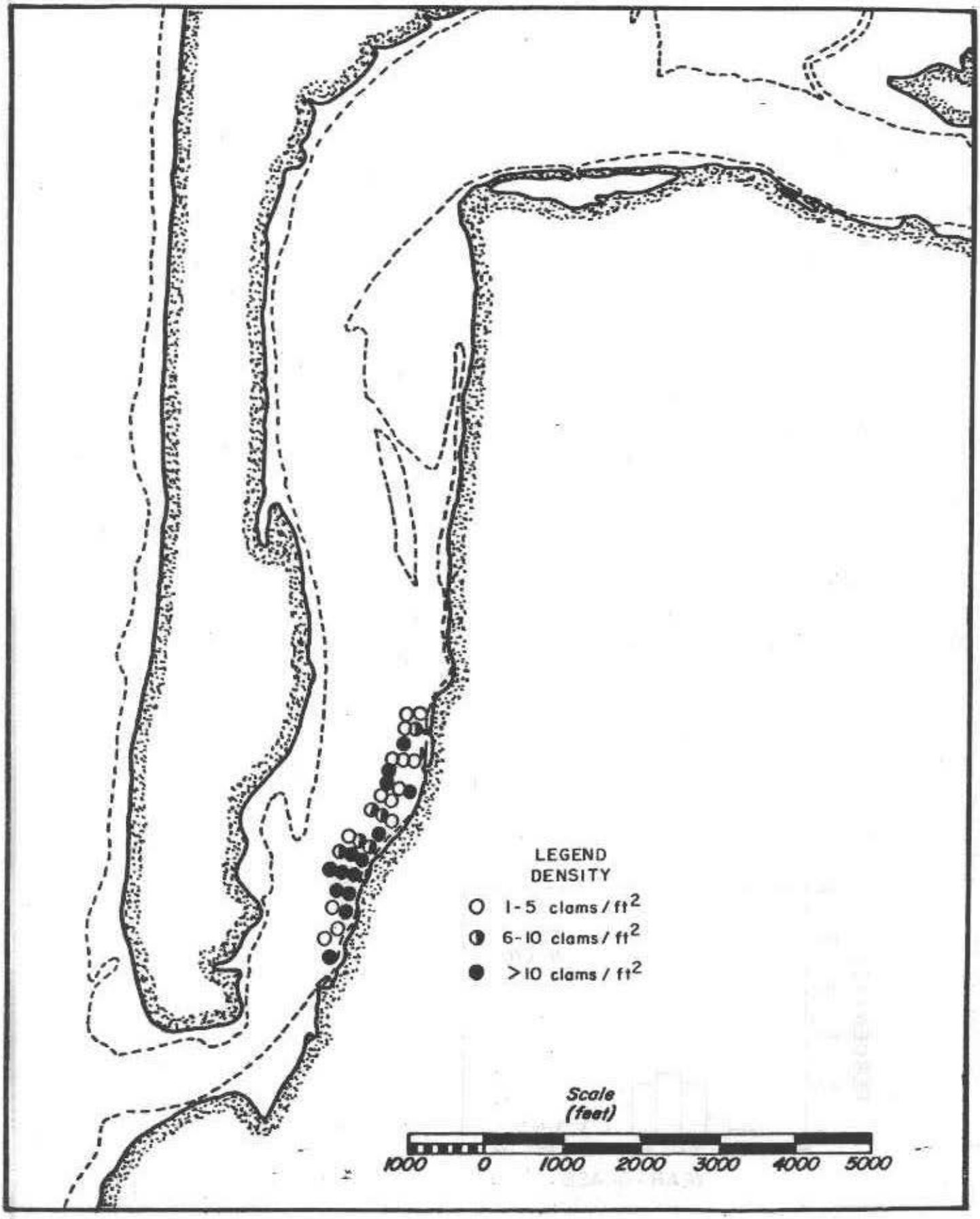


Figure 7. Distribution and Abundance of Native Littleneck Clams in Nehalem Bay, 1983.

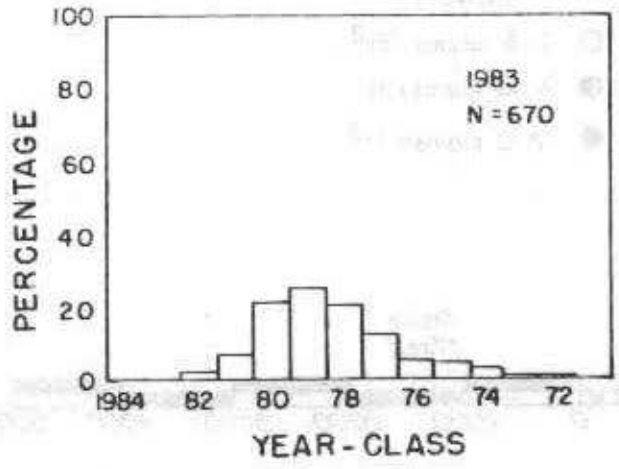


Figure 8. Age Composition of Subtidal Native Littleneck Clams, Nehalem Bay, 1983.