

SHELLFISH INVESTIGATION
INFORMATION REPORT

1986 RAZOR CLAM FISHERY

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INTRODUCTION

Razor clams from Clatsop Beach (Tillamook Head to the Columbia River) were sampled regularly from March through September and periodically the remainder of the year. Sport and commercial diggers were interviewed to obtain data on number, age composition of clams dug, and harvest area. Data from other beaches south of Tillamook Head were collected as time permitted. New regulations for the commercial fishery were implemented. Random wastage and age-length samples were collected and other miscellaneous projects were completed.

SPORT FISHERY

Clatsop Beach

The spring and summer harvest was 248,975 clams which included 29,379 clams wasted. The average number of clams per digger trip was 5.3 for 41,509 digger trips. Clam abundance was evenly distributed on most areas north of Seaside. Table 1 lists harvest, catch rates, and number of diggers by statistical area.

In February a population of razor clams was located by diggers on the river beach north of the south jetty. The clams averaged 85 mm in length and were in very poor condition, probably from fresh water in the Columbia River. By May most of the clams were gone--36,500 were taken by 2,260 diggers and the remainder died.

Clam wastage averaged 8.5% during the spring months and became a problem in areas 3 and 4. Random samples collected during the summer and fall indicated a strong 1985 year class in most areas with the heaviest set in area 3. The age composition of sport dug clams in Table 2 shows the dominate 1985 year class, a poor 1984 year class, and the lack of older clams.

Table 1. Sport Harvest of Razor Clams and Number of Diggers by Area from Clatsop Beach, March to September, 1986.

Area	Miles of Beach	No. of Digger Trips	Clams Dug/ Digger Trip	No. of Clams Dug	No. of Clams Wasted	Harvest Total
0	.5	2,268	16.1	36,523	0	36,523
1	3.6	4,985	2.0	9,923	6,214	16,137
2	6.2	7,254	6.6	47,953	6,415	54,368
3	5.0	4,914	5.7	27,766	3,715	31,481
4	1.2	4,565	9.6	44,012	5,888	49,900
5	2.0	17,523	3.0	53,419	7,147	60,566
Total	12.3	41,509	5.3	219,596	29,379	248,975

- Area 0 (Beach north of south jetty)
- Area 1 Columbia River to Fort Stevens Park Road
- Area 2 Fort Stevens Park Road to Sunset Beach Road
- Area 3 Sunset Beach Road to Gearhart Beach Road
- Area 4 Gearhart Beach Road to Necanicum River
- Area 5 Necanicum River to Tillamook Head

Fall growth of the 1985 year class was poor. This made the 1985 year class undesirable for fall harvesting.

The fall fishery contributed a calculated 40,000 clams (including 4,000 clams wasted) taken on 4,000 digger trips for an average of 10.0 clams per trip. The fall harvest is included in Table 5. Clams were available but averaged only 3 1/2 inches in shell length which discouraged many diggers.

Table 2. Age Composition in Percent of Sport Dug Clams, from Clatsop Beach, 1981-1986.

Year of Harvest	AGE					
	0	1	2	3	4	5+
1981	44.1	51.4	3.1	1.3	0.1	0.0
1982	18.1	80.7	0.6	0.5	0.1	0.0
1983	29.5	55.7	13.7	1.1	0.0	0.0
1984	46.8	46.7	6.2	0.3	0.0	0.0
1985	13.1	83.7	3.2	0.1	0.0	0.0
1986	52.3	29.0	18.5	0.2	0.0	0.0
10-year Average	32.7	53.2	11.1	2.0	0.6	0.4

Many complaints were received about the number of Washington diggers on Oregon beaches after the Washington season closed. Diggers again voiced the need for a razor clam license.

BEACHES SOUTH OF TILLAMOOK HEAD

Digging was poor in the Newport area but clams were more abundant from Whiskey Run Beach in the Coos Bay area and Short Sands Beach in the Cannon Beach area. Up to 100 diggers per day were counted on the better tides in April and May. Catch data is listed in Table 3.

Table 3. Catch Data for Beaches South of Tillamook Head

Beaches	No. Dig.	No. Clams.	Av. Clams	Age Comp in %			
				0	1	2	3+
Indian	4	0	0.0				
Arch Cape	2	0	0.0				
Short Sands	11	203	18.5		60.6	30.3	9.1
South Slough	6	33	5.5				
Sacchi	1	8	8.0				
Whiskey Run	18	186	10.3	13.5	86.5		
Bandon	8	28	3.5				

COMMERCIAL FISHERY

The commercial harvest was 2,935 pounds taken by 51 diggers although 134 harvest permits were issued. At \$2.15/pound many people were enticed into the fishery but clams were small. Although the age composition (Table 4) shows good abundance of 1 and 2-year-old clams, growth was poor. Fall sampling showed that 95% of the clams were not of commercial size. As a result, wastage was noted.

Two landings of razor clams (279 pounds) from Washington were landed in Oregon, but state police lacked evidence to issue a citation.

Our requirement for a harvest permit and logbook has been working well. Eleven people landed clams without permits and many diggers failed to return logs. However, upon requesting a permit for the next year they must submit previous logs first. We have received many favorable comments on the logbook system.

Razor clam gill tissue was collected monthly and sent to Oregon State University for NIX analysis.

Table 4. Age Composition in Percent of Commercially Dug Clams from Clatsop Beach, 1981-1986.

Year of Harvest	AGE					
	0	1	2	3	4	5+
1981	1.4	89.8	8.8	0.0	0.0	0.0
1982	0.4	98.7	0.7	0.2	0.0	0.0
1983	2.5	65.5	24.0	8.0	0.0	0.0
1984	93.7	5.1	1.2	0.0	0.0	0.0
1985	11.2	85.8	2.7	0.2	0.1	0.0
1986	10.0	30.0	58.0	2.0	0.0	0.0
10-year Average	12.2	60.7	20.0	4.3	1.8	1.0

A mini study on razor clam condition, other than that produced by spawning was begun. There is a possibility that NIX and body condition may be related so the moisture content which reflects the general meat condition of the clams is being tested. The following criteria are being used: 1) clams be same size, 2) clean clams and remove foot, 3) blot excess moisture, 4) weigh clams at 1/2 hr intervals, and bake at 350° for 1 hr. Samples will be taken monthly for 12 months.

Razor clam samples were also sent in for PSP analysis. Toxin levels have remained low.

Table 5. Annual Harvest and Effort Data for the Sport and Commercial Fishery

Year	Commercial		Sport			Wastage	Total Harvest
	Number of Diggers	Number of Clams Landed	Number of Diggers	Clams per Digger Trip	Number of Clams Dug		
1955	295	904,000	56,000	21.6	1,212,000	295,000	2,411,000
1956	253	490,000	60,000	17.7	1,061,000	295,000	1,846,000
1957	193	336,000	77,000	21.4	1,646,000	416,000	2,398,000
1958*	221	386,000	89,000	18.9	1,679,000	218,000	2,283,000
1959	118	179,000	54,000	12.0	646,000	124,000	949,000
1960	93	154,000	48,000	12.4	596,000	46,000	796,000
1961	58	80,000	51,000	11.4	583,000	70,000	733,000
1962	79	102,000	56,000	15.9	892,000	105,000	1,099,000
1963	77	107,000	55,000	13.0	713,000	70,000	890,000
1964	125	125,000	71,000	15.5	1,098,000	264,000	1,487,000
1965	213	399,000	76,000	14.9	1,134,000	186,000	1,719,000
1966	217	282,000	78,000	13.6	1,052,000	434,000	1,768,000
1967	297	494,000	74,000	19.9	1,472,000	195,000	2,161,000
1968	340	361,000	64,000	13.0	831,000	162,000	1,354,000
1969	185	111,000	59,000	14.4	851,000	155,000	1,117,000
1970	79	61,000	56,000	12.8	751,000	125,000	901,000
1971	134	123,000	77,000	12.6	968,000	213,000	1,304,000
1972	76	49,000	69,000	9.2	636,000	139,000	824,000
1973*	111	89,000	76,000	9.5	725,000	159,000	973,000
1974	58	32,000	44,000	7.9	347,000	5,000	384,000
1975	146	171,000	75,000	10.5	785,000	157,000	1,113,000
1976	391	717,000	119,000	12.0	1,431,000	63,000	2,211,000
1977	269	143,000	51,000	9.6	499,000	33,000	675,000
1978	253	205,000	72,000	11.8	849,000	137,000	1,191,000
1979	236	180,000	90,000	10.7	958,000	63,000	1,201,000
1980	145	116,000	70,000	10.6	747,000	143,000	1,006,000
1981	91	128,000	30,000	6.2	187,000	49,000	364,000
1982	209	165,000	84,000	9.1	758,000	123,000	1,046,000
1983*	9	1,000	32,000	3.3	105,000	12,000	118,000
1984 ^a	34	37,000	23,000	14.8	341,000	15,000	393,000
1985 ^a	340	303,000	94,000	10.4	984,000	147,000	1,434,000
1986 ^a	51	18,000	46,000	5.3	260,000	33,000	311,000

* Occurrence of El Nino

^a Fall fishery included