SHELLFISH INVESTIGATION

INFORMATION REPORT

1985 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 1,069,000 clams which included 140,000 clams wasted. The average number of clams per digger trip was 10.4 for 89,246 digger trips. Area 2 was the most productive, accounting for 30.9% of clams dug and 31.0% of the digger trips. Table 1 lists harvest, catch rates, and number of diggers by statistical area. The 1985 harvest was the largest since the 1.5 million taken in 1976.

Clam wastage averaged 13.1% during the spring months and became a problem in Areas 4 and 5. Random samples collected during the summer and fall contained fair numbers of the 1984 year class in areas 4 and 5, but were lacking in other areas. The age composition of the sport clams shows the dominate 1983 year class and the lack of older and younger clams (Table 2). Good growth conditions were noted and the 1983 and 1984 year classes averaged 10 mm more growth than in average years. This made the 1984 year class available for fall harvesting. A false annuli during spawning will have to be recognized in future years.

Table 1. Sport Harvest of Razor Clams and Number of Diggers by Area from Clatsop Beach, March to September, 1985.

Area	Miles of Beach	No. of Digger Trips	Clams Dug/ Digger Trip	No. of Clams Dug	No. of Clams Wasted	Harvest Total
1	3.6	11,064	10.8	120,221	18,123	138,344
2	6.2	27,360	10.4	286,472	43,185	329,657
3	5.0	20,638	9.9	203,996	30,752	234,748
4	1.2	11,676	10.2	119,531	18,019	137,550
5	2.0	18,238	10.9	198,392	29,907	228,299
Total	18.0	89,246	10.4	928,612	139,986	1,068,598

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

Razor clam data obtained from the Corps of Engineers dredging in the lower Columbia River off jetty sands indicated that razor clams were located along the slopes of the main channel. Large numbers of clams from the 1984 year class (15 to 49 mm) were found in May and June dredge spoils. No larger clams were found. Random digging in the fall revealed a population of razor clams on the north side of the south jetty which averaged 79 mm in length. Through December no digging had been observed on this population.

The fall fishery contributed an estimated 55,000 clams taken on 5,000 digger trips for an average of 11.1 clams per trip. The fall harvest is included in Table 4. Clams were available and weather was good but effort was low.

Table 2. Age composition of sport dug clams, in percent, from Clatsop Beach, 1980-1985.

Year of Harvest	0	1	2	3	4	5+
1980	44.6	32.0	16.7	6.1	0.5	0.1
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	83.6	3.2	0.1	0.0	0.0
10-year average	28.9	58.2	9.5	2.3	0.7	0.4

Many complaints were received about the number of Washington diggers on the Oregon beaches due to closure of the Washington razor clam season. There is substantial support from diggers for having a shellfish license and most feel an out-of-state license fee should be equal to that of Washington. Sampling indicated that 81.5% of the razor clam diggers were Oregon residents which compares to the 98.7% found in 1980 sampling. An aditional 9% of Oregon residents reported digging in Oregon when they usually dig in Washington. Thus, 26.2% of the digging effort may have been the result of the Washington razor clam closure.

Beaches South of Tillamook Head

Digging was very poor in most areas although Myers Creek Beach produced a few clams early in the season. Whiskey Run and South Slough Spit provided some minor digging early in the season on the lowest tides. Newport and Cannon Beach digging was poor at best.

COMMERCIAL FISHERY

Commercial harvesters landed 58,219 pounds on 3,842 trips. This was the best year since 1976, and at $2.00 per pound, enticed many diggers into the fishery. Most of the spring fishery was in areas 1 and 2 while area 5 provided most of the fall catch. The 1983 year class dominated spring catches and due to good growth the 1984 year class dominated the fall fishery. Age composition of the commercial catch is listed in Table 3. Some wastage was observed in areas 4 and 5 during the fall fishery. Random samples during the fall indicated that 33% of the population was not of commercial size.

Problems developed in the fishery in that some clams were not being sold to licensed buyers and commercial diggers from Washington were reported not selling catches in Oregon. Landing records indicate that 28.2% of the commercial poundage checked was not sold during the spring fishery. No clams were reported bought by bait dealers.

Table 3. Age composition in percent of commercially dug clams from Clatsop Beach, 1978-1985.

Year of Harvest	AGE 0	1	2	3	4	5+
1980	0.7	90.9	7.5	0.7	0.0	0.2
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
10-yr average	12.1	66.5	14.4	4.2	1.8	1.0

Several regulations which affect commercial diggers went into force on July 1:

635-05-001 (1) It is unlawful without prior authorization from the Oregon State Health Division for any person to sell shellfish for human consumption taken from an area designated as restricted or closed by the Oregon State Health Division.

(2) Clams taken from an area designated as restricted or closed by State Health Division may be sold for bait, provided:

(A) They are dyed with a Department approved dye.

(B) Dyeing must occur before leaving the restricted or closed area or before the time of docking of the vessel used in harvesting.

(C) Clams taken from restricted or closed areas may not be possessed aboard a vessel while clams from unrestriced areas are on board. Upon leaving the vessel or the digging area, clams taken from restricted or closed areas may not be mixed with clams from unrestricted areas. It will be presumed that any clams on board a vessel fishing in a restricted or closed area have been harvested in the restricted or closed area.

(d) Prior to sale, clams taken from restricted or closed areas and live boxed must be stored in a restricted or closed area pending sale.

635-05-002 Clams must be sold to a wholesale fish dealer or bait dealer within 48 hours of harvest or leaving the digging area, whichever comes last.

635-05-016 (1) It is unlawful:

(A) To take clams for commercial purposes without first obtaining a permit from the Department of Fish and Wildife.

(B) To take clams except under the terms and conditions specified in the permit (log books are required to be kept and turned in monthly whether the

digger digs or not. Next year's permit is contingent on logs being turned in).

Meetings were held in Coos Bay, Newport and Astoria to get industry input. Some concern about dyeing bait clams was expressed but was not a problem with razor clams. No closures have affected Clatsosp beaches. The requirement to keep a log book was a problem for some who did not get the word until after they made landings in the fall. A total of 264 diggers dug after they made landings in the fall. A total of 264 diggers dug after July 1 of which 51 failed to obtain permits.

A six month trial period was given before enforcing the new regulations. All diggers were required to send in a log book before a new permit would be issued. A list of violators was given to the State police. The ground work for issuing a plastic credit card to shellfish permit holders which would have their commercial license number and Health Division number on it has been done. Cards will be issued for the 1986 season.

NIX (NUCLEAR INCLUSION UNKNOWN)

Monthly samples of razor clams have been sent to OSU for examination of incidence of NIX. A progress report by Robert E. Olson indicated that the prevalence of the parasite was 91.7% in Agate Beach clams and 100.0% in Clatsop beach clams. The average index of infestation by month was always very low (0-10 nix/field, light infestation with little associated gill damage). Five clams from Clatsop Beach collected between July and December, 1984, were infected at a moderate rate (10-5 NIX/field, gill damage evident, presumptive compromise of respiratory function). The average index of infestation was lower at Agate Beach than at Clatsop Beach. Levels of infestation were highest in summer and fall. No detectable relationship between average infestation rates and the average age of clams was found.

Table 4. 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	583,00	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	129,000	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	984,0000	147,000	1,434,000

* Occurrence of El Nino

[a] Fall fishery included