

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 |
|-------|----------------|---------------------|------------------------|------------------|---------------------|---------------|
| 1 | .5 | 2,268 | 16.1 | 36,523 | 0 | 36,523 |
| 2 | 3.6 | 4,985 | 2.0 | 9,923 | 6,214 | 16,137 |
| 3 | 5.0 | 4,914 | 5.7 | 27,766 | 3,715 | 54,368 |
| 4 | 1.2 | 4,565 | 9.6 | 44,012 | 5,888 | 31,481 |
| 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 |

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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 |
| 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 |
| 1986 | 52.3 | 29.0 | 18.5 | 0.2 | 0.0 | 0.4 |
| 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 | 1.9 |

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 | 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 | 984,000 | 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