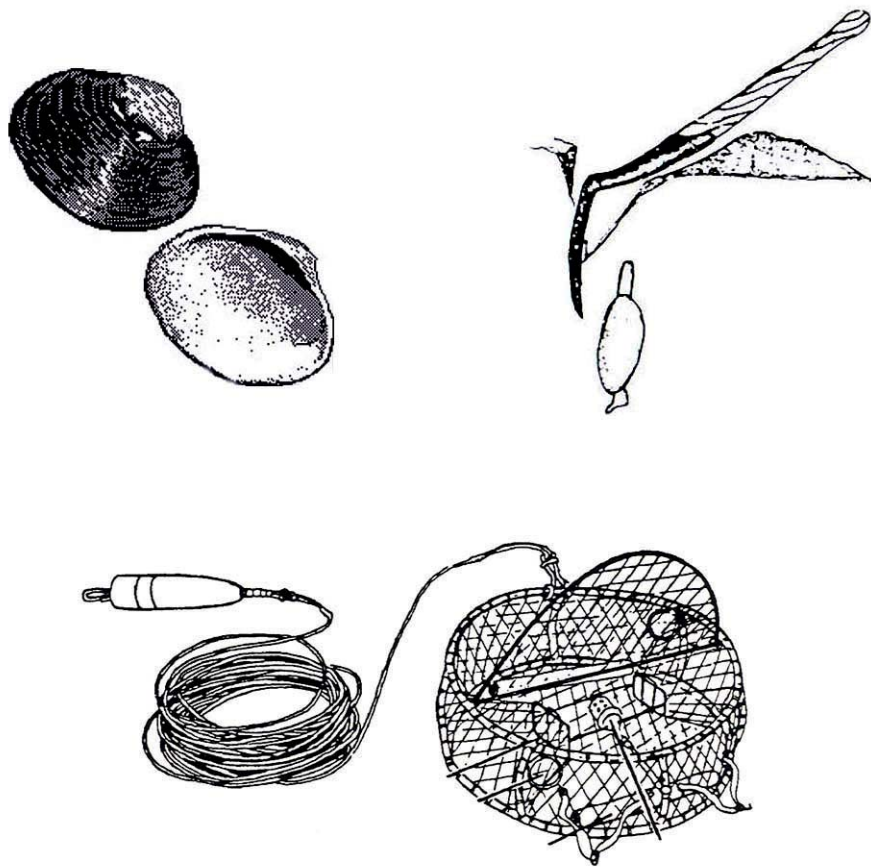


# Shellfish / Estuarine Habitat Projects DATA REPORT

## 2003 Clatsop Beach Razor Clam Fishery



**Marine Resources Program  
Oregon Department of Fish and Wildlife**



**2003 Clatsop Beach Razor Clam Fishery  
Status Report**

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*ODFW staff testing razor clam stock assessment pump on the Clatsop Beaches*

## **Introduction**

The 18-mile stretch of shoreline, known as the Clatsop beaches, extends from the South Jetty of the Columbia River, south, to Tillamook Head. Over 90% of Oregon's razor clam catch and effort occurs in this area. The Clatsop beach razor clam commercial fishery has been monitored by the Oregon Department of Fish and Wildlife (ODFW) since 1935. The recreational fishery has been monitored since 1955. Historically, the fishery has been sampled on low-tide series, with sampling per low-tide series ranging from 2-8 days during the spring and summer months and as time and weather permitted the rest of the year. Recreational and commercial harvesters were interviewed to obtain data on effort, catch, age composition and harvest area. ODFW staff collects random age and length data, performs wastage analysis, and more recently assists in collecting samples for the Oregon Department of Agriculture (ODA) to test for biological toxins.

## Methods

### **Sampling Area Description**

For sampling purposes, Clatsop beach is divided into five areas. Each area represents a distinct segment of the sampling area and estimates of total catch and effort are made separately for each area. This sampling procedure accounts for variability in effort and catch rates.

Area 1 (3.6 mi.) is from the South Jetty of the Columbia River to the Peter Iredale vehicle access point.

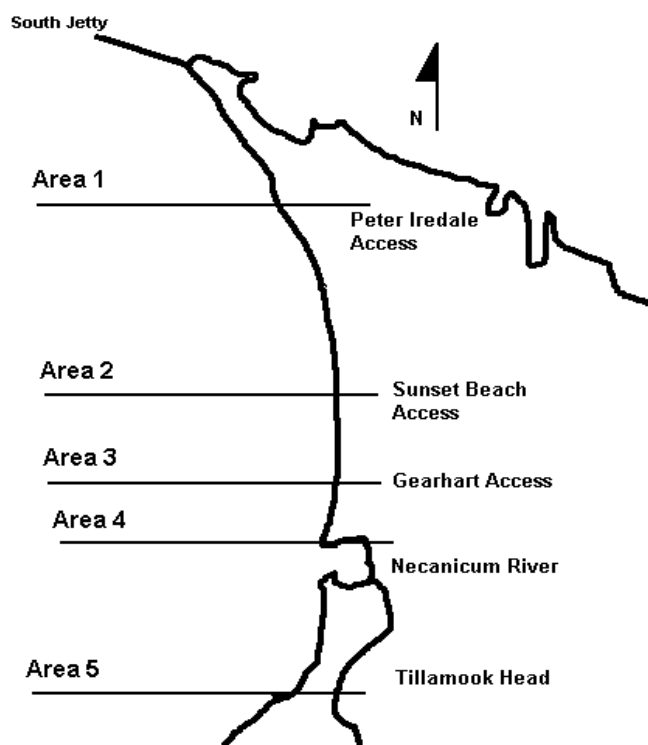
Area 2 (6.2 mi.) is from the Peter Iredale access to the Sunset beach vehicle access point.

Area 3 (5.0 mi.) is from the Sunset beach access to the Gearhart vehicle access point.

Area 4 (1.2 mi.) is from the Gearhart access to the Necanicum River.

Area 5 (2.0 mi.) is from the Necanicum River to Tillamook Head.

Areas 4 and 5 are restricted to walk-on access only.



### **Catch and Effort Estimates**

Staff conducted random digger interviews at the vehicle access points on the beaches in Areas 1-3 and interviewed diggers as they left the harvest area in Areas 4 and 5. Digger catch rates as well as catch per unit hour were determined. In March through July, digger interviews were conducted four days per low-tide series (eight to nine days each) to account for variability in catch rates.

Since 1955, a minimum of four effort counts during each low-tide series have been made of all vehicles and diggers in each area of the Clatsop beaches prior to maximum low-tide. Low-tide series are tides that are at or below the mean low tide of zero. Counts were made on both weekdays and weekends to take into account effort differences. Expansion factors for vehicle and digger counts were developed in the 1970s and 1980s. At that time, vehicle and digger counts were made at ½ hour and one hour intervals in each area as well as the use of car counters at access points to develop effort profiles during low-tide series. From this, total vehicle and digger effort were determined using the Area-Under-the-Curve calculation.

Effort totals were combined for each area during the low-tide series to determine total effort for each beach area. Average length of digger trips, average number of diggers per vehicle, and the proportion of vehicles from each state were determined from the sampling data. Total catch and effort estimates were made for each low-tide series using a computer program that combined total effort estimates with observed catch rates in each area.

## **Biological Sampling**

Random sampling of digger harvest for age composition and length frequencies were conducted during sampling interviews. Data collected were used to determine age composition per area during the year and each area total was combined to give overall age composition for the total harvest.

## **Results and Discussion**

### **Biological Toxins**

Periodically, algal blooms of certain species of phytoplankton that produce biological toxins are ingested by razor clams and stored in the muscles, gonads, gills and digestive systems. Two biological toxins that can contaminate razor clams are Paralytic Shellfish Poisoning (PSP) which is caused by a dinoflagellate and Domoic Acid (DA) which is caused by a diatom. Contaminated clams, if consumed by warm-blooded animals, can be harmful, affecting the neurological and gastrointestinal systems. The biological toxins cannot be cooked or soaked out, the clam needs to depurate (cleanse) the toxins out of its system. Depuration rates vary, with low levels getting flushed out in weeks while high levels may very well last the life of the clam (several years).

The ODA is the agency responsible for the monitoring of the toxin levels in shellfish. In cooperation with ODFW staff, samples from up to four separate areas on Clatsop beaches are collected every low-tide series for biological toxin analysis.

In October of 2002, DA was discovered in concentrations above the 20 parts per million (ppm) alert level on the Clatsop beaches, and on beaches south of Tillamook Head in November of 2002. The entire Oregon coast was closed to harvest. The 2002 DA closure continued into the 2003 season. Levels of DA dropped below the alert level on the Clatsop Beaches in time for an October 1, 2003 season opener. The Clatsop beaches were closed for a total of 273 days while the beaches south of Tillamook Head were closed for the entire year. Information on beach closures due to high toxin levels can be obtained from the ODA Shellfish Hotline: 800-448-2474.

## **2003 Weather and Surf Conditions**

Weather and the subsequent surf conditions are the most important factor in determining digger success for razor clams. Windy wet weather with associated high surf will substantially reduce digger success by making the clam “show” difficult if not impossible to see. High surf conditions alone can decrease digger success, since the constant pounding of the waves makes the clams less likely to show when diggers stomp or pound.

2003 conditions were very favorable for clam harvest in October. Surf conditions for the months of November through December were moderate with some large winter storms hitting the coast.

## **2003 Recreational Catch and Effort**

Clam diggers made an estimated 48,000 digging trips on the Clatsop beaches during 2003 (Table 1). Because of closures for biological toxins, the 2003 effort on the Clatsop beaches was for only the three-month period during the late fall and winter when digging is considerably poorer than during the spring and summer. Nonetheless, the 2003 harvest was second only to the 1994 three-month winter period in the last 15 years. The resulting total catch of razor clams was 541,000, considerably lower than the previous record high catch of 2,179,000 clams in 2002. The 2003 recreational harvest total includes 81,000 clams wasted in the harvest process. The average catch per digger trip, not including clams wasted, was 9.6 clams (Table 2).

The first low-tide series in November had the highest harvest (151,000 clams) of any tide series in 2003 (Table 2). Even though this tide series occurred toward the tail end of fall, with less than optimal weather, it accounted for over 30% of the total recreational harvest. Harvest was the largest in Areas 2 and 3, where over 342,000 clams (74%) were harvested recreationally. Area 1 (South Jetty) accounted for 57,000 clams or 12% of the total harvest. Area 5 (Seaside) accounted for 9% (37,000 clams) of the total harvest. Area 4 (Gearhart) accounted for 5% (24,000 clams) of the total harvest (Table 2).

Age composition for the 2003 recreational fishery indicated that the previous year’s clams had survived well, though there was a lack of younger clams, with less than 2% being 0-year clams. The majority of the harvest, 43%, was of the 1-year age class, while the 2-year age class made up 33% of the harvest, and the 3-year age class made up 27% of the harvest. Recreational harvesters were able to find a small number of 4 year age class clams contributing 3% of the total harvest (Table 3).

Unfortunately, a good harvest of available clams was accompanied by an increase in violations of catch regulations. The Oregon State Police (OSP) had their hands full every low-tide series with any number of fish game violations ranging from exceeding the daily bag limit to digging another person’s limit. Compliance continues to be below OSP respectful standards and at one time, enforcement personnel determined that, on average, 1 out of every 5 people were in violation of some razor clam regulation.



## **Exploratory Sampling**

In 2002, four areas south of Tillamook Head were explored for populations of clams and samples taken for age composition. Exploratory sampling sites were expanded in 2003 to include areas that had been noted by other individuals as previously being abundant with razor clams. This included a site north of the Clatsop beaches inside the Columbia River, known as Clatsop Spit. Table 4 details the observed age composition. The 2-year age class clams dominated the catch followed by the 0-age class. This pattern would indicate that razor clams can have juvenile set on these beaches, but survival is limited based upon environmental factors. It should be noted that Oswald West Park had a high number of 1-year age class clams in 2002, which had a good conversion to 2-year clams.

## **2003 Commercial Fishery**

The commercial fishery has been monitored since 1935, with the number of licensed diggers and recorded catch monitored since 1947. Commercial catches are sampled at processors for age and length frequencies as well as clams per pound averages. Documented landings (i.e. fish tickets) are then used with the sampled clams per pound averages to determine estimated total number of clams in the commercial harvest. Required harvest logbooks are used to determine catch per area and yield per hour.

The annual harvest and the number of permitted diggers tend to fluctuate with the number of clams available for harvest. A record high harvest of 1,900,000 clams occurred in 1952 and in 1983 the record low occurred of 1,000 clams (Table 5). In 1976, 391 commercial diggers participated, the highest since 1954 when 430 diggers participated which was considerably smaller than the all-time high of 790 diggers in 1950. The commercial fishery accounts for less than 20% of the total harvest on average. In years of high clam abundance, the percentage is higher and in years of low clam abundance, the percentage is smaller. Commercial harvest age composition fluctuates annually, but the trend has changed little over time due to minimum size requirement of 3.75" established in 1972 (Table 6).

The 2003 Clatsop beach commercial harvest was 105,000 clams (22,066 pounds), well above the ten year average of 50,000 clams per year (Table 5). The 2003 commercial harvest accounted for 16% of the total annual razor clam harvest. As with the recreational fishery, the 2003 commercial harvest was confined to a three month harvest window due to closures for biological toxins. ODFW issued a total of 114 Shellfish Harvest Permits to commercial harvesters in 2003: 40 were certified to sell for human consumption and 74 were strictly bait harvesters. Out of the 114 commercial razor clam harvesters, only 55 (48%) made commercial landings, of which 34 (85% of those certified) landed for human consumption and 21 (28% of those permitted) landed for bait. Poor human consumptive markets for razor clams and noncompliance in landing requirements most likely contributed to the lack of landing participation. For those who did participate, the average landing was 43 pounds per delivery. Prices for human consumption clams ranged from \$1.50 to \$2.00 per pound while bait prices ranged from \$1.00 to \$1.65 per pound. The majority of the commercially harvested clams came from Areas 2 and 4 (<75%). The age composition was 15% 1 year age

class clams, 46% 2 year age class clams, 28% 3 year age class clams, and less than 10% 4 year or older age class clams (Table 6).

We expect the number of commercial harvesters to continue to increase in the upcoming years because; 1) A large recruitment class in 2002 had virtually little harvest with only three months open in 2003, 2) Large commercial catches the previous year tend to increase spur-of-the-moment harvesters the following year, and 3) Large commercial Dungeness crab harvests associated with large razor clam abundance generate more need for crab bait and the subsequent bait harvesters.

**Table 1. Annual catch and effort data for the Clatsop Beach razor clam fishery, 1955-2003.**

Year	Recreational Fishery			Number of Clams Wasted	Total Rec. Harvest	Commercial Number of Clams	Total Harvest	
	Digger Trips	Catch per Unit Effort	Number of Clams					
1955	56,000	22	1,212,222	295,000	1,507,000	904,000	2,411,000	
1956	60,000	18	1,061,000	295,000	1,056,000	490,000	1,846,000	
1957	77,000	21	1,646,000	416,000	2,062,000	336,000	2,398,000	
1958	89,000	19	1,679,000	218,000	1,897,000	386,000	2,283,000	
1958	54,000	12	646,000	124,000	770,000	179,000	949,000	
1960	48,000	12	596,000	46,000	642,000	154,000	796,000	
1961	51,000	11	583,000	70,000	653,000	80,000	733,000	
1962	56,000	16	892,000	105,000	997,000	102,000	1,099,000	
1963	55,000	13	713,000	70,000	783,000	107,000	890,000	
1964	71,000	16	1,098,000	264,000	1,632,000	125,000	1,487,000	
1965	76,000	15	1,134,000	186,000	1,320,000	399,000	1,719,000	
1966	78,000	14	1,052,000	434,000	1,486,000	282,000	1,768,000	
1967	74,000	20	1,472,000	195,000	1,667,000	494,000	2,161,000	
1968	64,000	13	831,000	162,000	993,000	361,000	1,354,000	
1969	59,000	14	851,000	155,000	1,006,000	111,000	1,117,000	
1970	56,000	13	715,000	125,000	840,000	61,000	901,000	
1971	77,000	13	968,000	213,000	1,181,000	123,000	1,304,000	
1972	69,000	9	636,000	139,000	775,000	49,000	824,000	
1973	76,000	10	725,000	159,000	884,000	89,000	973,000	
1974	44,000	8	347,000	5,000	352,000	32,000	384,000	
1975	75,000	10	785,000	157,000	942,000	171,000	1,113,000	
1976	119,000	12	1,431,000	63,000	1,494,000	717,000	2,211,000	
1977	51,000	10	499,000	33,000	532,000	143,000	675,000	
1978	72,000	12	849,000	137,000	986,000	205,000	1,191,000	
1979	90,000	11	958,000	63,000	1,021,000	180,000	1,201,000	
1980	70,000	11	747,000	143,000	890,000	116,000	1,006,000	
1981	30,000	6	187,000	49,000	236,000	128,000	364,000	
1982	84,000	9	758,000	123,000	881,000	165,000	1,046,000	
1983	32,000	3	105,000	12,000	117,000	1,000	118,000	
1984	23,000	15	341,000	15,000	356,000	37,000	393,000	
1985	94,000	10	894,000	147,000	1,131,000	303,000	1,434,000	
1986	46,000	5	260,000	33,000	293,000	18,000	311,000	
1987	68,000	15	1,010,000	83,000	1,093,000	236,000	1,329,000	
1988	84,000	11	1,016,000	168,000	1,184,000	161,000	1,345,000	
1989	97,000	11	1,082,000	136,000	1,218,000	195,000	1,413,000	
1990	55,000	11	579,000	61,000	640,000	75,000	715,000	
1991	57,000	11	643,000	80,000	723,000	130,000	853,000	
1992								
1993								
			<b>Seasons Closed Due to Biotoxins</b>					
1994	59,000	15	885,000	0	885,000	78,000	963,000	
1995	91,000	10	912,000	67,000	979,000	276,000	1,255,000	
1996	21,000	9	192,000	11,000	203,000	17,000	220,000	
1997	27,000	7	186,000	47,000	233,000	8,000	241,000	
1998	21,000	7	149,000	12,000	161,000	11,000	172,000	
1999	32,000	5	167,000	10,000	177,000	2,000	179,000	
2000	17,000	5	78,000	0	78,000	4,000	82,000	
2001	7,300	10	70,000	8,000	78,000	5,000	83,000	
2002	147,000	13	1,852,000	327,000	2,179,000	481,000	2,660,000	
2003	48,000	10	46,000	81,000	541,000	105,000	646,000	

**Table 2. Recreational harvest (number of clams) by area, by tide series, 2003.**

	Area 1	Area 2	Area 3	Area 4	Area 5	Total	Total Effort		
Series 1	<i>DOMOIC ACID TOXIN CLOSURE</i>								
Series 2									
Series 3									
Series 4									
Series 5									
Series 6									
Series 7									
Series 8									
Series 9									
Series 10									
Series 11									
Series 12									
Series 13									
Series 14									
Series 15									
Series 16									<i>ODFW SEASON CLOSURE</i>
Series 17									
Series 18	1,846	6,500	7,819	1,144	2,743	20,052	1,726		
Series 19	5,914	20,505	26,220	2,229	1,971	<b>56,839</b>	<b>5,149</b>		
Series 20	16,954	50,914	58,243	6,600	18,400	151,111	13,936		
Series 21	15,330	27,930	32,273	4,620	4,300	84,453	8,911		
Series 22	12,549	37,349	36,600	4,380	7,983	98,860	10,651		
Series 23	1,200	3,739	4,680	630	750	10,998	1,948		
Series 24	2,674	13,149	16,500	4,434	814	37,571	5,771		
<b>Sport Total</b>	<b>56,467</b>	<b>160,083</b>	<b>182,335</b>	<b>24,037</b>	<b>36,961</b>	<b>459,883</b>	<b>48,092</b>		

<b>Sport Total w/15% Wastage</b>	<b>541,039</b>	<b>CPUE</b>	<b>9.6</b>
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**Table 4. Age composition (percent) for exploratory samples, 2003.**

Area	Age					
	0	1	2	3	4	5
Clatsop Spit	24.7	50.6	10.6	11.8	2.4	0.0
Indian Beach	47.6	0.0	28.6	19.0	4.8	0.0
Falcon Cove Beach	37.5	0.0	18.8	6.3	37.5	0.0
Arch Cape	0.0	0.0	0.0	100.0	0.0	0.0
Oswald West Park Beach	1.4	33.3	42.0	15.9	7.2	0.0
Cape Meares Beach	11.8	0.0	76.5	5.9	5.9	0.0
Oceanside	33.3	0.0	33.3	0.0	33.4	0.0

**Table 5. Annual commercial razor clam catch and effort, 1935-2003.**

Year	Pounds Landed	Number of Landings	Number of Clams	Lbs. / Landing	Clams / Pound	Number of Diggers	Landings / Digger
1935						93	
1936						161	
1937						135	
1938						107	
1939						202	
1940						243	
1941	123,934					238	
1942	13,353					192	
1943	15,698					57	
1944	57,787					197	
1945	81,794					242	
1946	151,477		606,000			719	
1947	166,355	2,662	666,000	62.5	4.00	558	4.8
1948	206,835	6,849	827,000	30.2	4.00	505	13.6
1949	200,486	6,683	802,000	30.0	4.00	381	9.8
1950	335,091	12,416	1,340,000	27.0	4.00	790	15.7
1951	255,631	8,283	1,534,000	30.9	6.00	574	14.4
1952	319,165	11,095	1,915,000	28.8	6.00	613	18.1
1953	264,278	8,527	1,320,000	31.0	4.99	592	14.4
1954	156,215	7,628	781,000	20.5	5.00	430	17.7
1955	180,818	5,496	904,000	32.9	5.00	295	18.6
1956	97,899	3,231	490,000	30.3	5.01	253	12.8
1957	67,157	2,469	336,000	27.2	5.00	193	12.8
1958	82,140	2,832	386,000	29.0	4.70	221	12.8
1958	48,401	1,518	179,000	31.9	3.70	118	12.9
1960	34,126	1,258	154,000	27.1	4.51	93	13.5
1961	17,845	671	80,000	26.6	4.48	58	11.6
1962	24,221	910	102,000	26.6	4.21	79	11.5
1963	23,822	889	107,000	26.8	4.49	77	11.5
1964	35,300	1,245	125,000	28.4	3.54	125	10.0
1965	79,767	2,192	399,000	36.4	5.00	213	10.3
1966	82,852	2,208	282,000	37.5	3.40	217	10.2
1967	120,452	4,130	494,000	29.2	4.10	297	13.9
1968	92,462	3,119	361,000	29.6	3.90	340	9.2
1969	25,124	975	111,000	25.8	4.42	185	5.3
1970	14,806	635	61,000	23.3	4.12	79	8.0
1971	30,135	1,450	123,000	20.8	4.08	134	10.8
1972	12,550	688	49,000	18.2	3.90	76	9.1
1973	16,030	721	89,000	22.2	5.55	111	6.5
1974	8,553	461	32,000	18.6	3.74	58	7.9

**Table 5. (continued)**

Year	Pounds Landed	Number of Landings	Number of Clams	Lbs. / Landing	Clams / Pound	Number of Diggers	Landings / Digger
1975	41,412	1,785	171,000	23.2	4.13	146	12.2
1976	118,019	5,160	717,000	22.9	6.08	391	13.2
1977	41,055	1,338	143,000	30.7	3.48	269	5.0
1978	40,000	1,810	205,000	22.1	5.13	253	7.2
1979	36,140	1,637	180,000	22.1	4.98	236	6.9
1980	20,291	919	116,000	22.1	5.72	145	6.3
1981	22,414	1,011	128,000	22.2	5.71	91	11.1
1982	26,524	1,806	165,000	14.7	6.22	209	8.6
1983	100	13	1,000	7.7	10.00	9	1.4
1984	5,803	323	37,000	18.0	6.38	34	9.5
1985	58,219	3,842	303,000	15.2	5.20	340	11.3
1986	2,935	302	18,000	9.7	6.13	51	5.9
1987	29,167	2,344	236,000	12.5	8.08	173	13.5
1988	33,910	2,695	161,000	12.6	4.72	178	15.1
1989	32,101	2,592	195,000	12.4	6.07	228	11.4
1990	13,474	1,337	75,000	10.1	5.57	151	8.9
1991	28,471	1,691	130,000	16.8	4.57	129	13.1
1992	7	1	35	7.0	5.00	81	0.0
1993	0	0	0	0.0	0.00	56	0.0
1994	19,116	651	78,000	29.4	4.08	107	6.1
1995	58,830	2,7050	276,000	21.7	4.69	159	17.0
1996	2,901	214	17,000	13.6	5.86	33	6.5
1997	2,011	217	8,000	9.3	3.98	13	16.7
1998	2,526	224	11,000	11.3	4.30	18	12.4
1999	483	45	2,000	10.7	4.96	12	3.8
2000	978	64	4,000	15.3	4.09	30	2.1
2001	987	62	5,000	15.9	5.07	24	2.6
2002	89,250	1,805	481,000	49.4	5.39	255	7.1
2003	22,066	515	105,000	42.8	7.76	114	4.5

**Table 6. Annual age composition (percent) for the Clatsop Beach commercial razor clam fishery, 1955-2003.**

Harvest Year	Percent Age composition						Com. Harvest (clams)
	0	1	2	3	4	5+	
1955	7.2	60.5	10.8	17.3	3.6	0.6	904,000
1956	4.5	52.6	29.9	8.9	3.9	0.2	490,000
1957	1.6	60.3	27.1	9.2	1.7	0.1	336,000
1958	0.6	55.2	27.9	13.2	2.9	0.2	386,000
1958	0.3	19.5	61.2	15.9	2.9	0.2	179,000
1960	0.4	53.9	25.0	16.6	3.7	0.4	154,000
1961	0.5	17.2	27.4	39.9	14.2	0.8	80,000
1962	3.1	69.4	19.8	6.5	1.0	0.2	102,000
1963	0.5	65.0	28.5	4.8	1.0	0.2	107,000
1964	0.3	55.0	27.2	13.0	4.0	0.5	125,000
1965	2.4	69.2	18.8	7.9	1.5	0.2	399,000
1966	0.2	31.3	47.4	12.3	8.0	0.8	282,000
1967	1.6	63.2	14.8	17.2	2.2	1.0	494,000
1968	0.1	39.0	39.3	12.6	7.5	1.5	361,000
1969							111,000
1970	1.0	30.3	28.5	27.0	12.2	1.0	61,000
1971	2.1	68.8	15.9	5.7	4.1	0.4	123,000
1972	0.0	9.9	78.0	11.4	0.7	0.0	49,000
1973	2.0	67.0	13.3	15.8	1.3	0.2	89,000
1974	0.4	40.0	35.9	13.0	10.2	0.2	32,000
1975	0.1	50.8	14.7	20.6	11.9	1.6	171,000
1976	8.7	87.4	2.6	0.9	0.4	0.0	717,000
1977	1.6	8.7	6.0	12.0	10.6	7.1	143,000
1978	0.8	70.8	10.7	12.6	3.4	1.7	205,000
1979	0.0	61.9	26.1	7.1	4.0	0.9	180,000
1980	0.7	90.9	7.5	0.7	.0	0.2	116,000
1981	1.4	89.8	8.8	0.0	.0	0.0	128,000
1982	0.4	98.7	0.7	0.2	.0	0.0	165,000
1983	2.5	65.5	24.0	8.0	.0	0.0	1,000
1984	93.7	5.1	1.2	0.0	.0	0.0	37,000
1985	11.2	85.8	2.7	0.2	0.1	0.0	303,000
1986	10.0	30.0	58.0	2.0	0.0	0.0	18,000
1987	0.0	98.4	1.6	0.0	0.0	0.0	236,000
1988	15.6	60.0	21.6	2.6	0.2	0.0	161,000
1989	6.5	87.1	2.2	3.7	0.3	0.2	195,000
1990	0.0	52.3	42.9	3.7	0.8	0.3	75,000
1991	1.5	18.5	60.4	13.8	2.2	0.6	130,000
1992							
1993							
				<i>Seasons Closed Due to Biotoxins</i>			
1994	1.5	38.5	46.4	12.0	1.5	0.1	78,000
1995	0.0	20.7	43.2	22.9	10.4	2.8	276,000
1996	0.3	49.1	23.4	16.0	11.2	0.0	17,000
1997	0.0	25.0	33.8	39.0	1.2	0.0	8,000
1998	1.8	40.7	36.3	16.4	4.3	0.5	11,000
1999	0.0	25.0	34.8	37.0	3.0	0.2	2,000
2000	3.0	18.5	43.6	15.7	16.2	3.0	4,000
2001	0.0	14.0	33.0	18.0	3.0	0.0	5,000
2002	7.6	67.1	23.2	1.7	0.4	0.0	481,000
2003	0.5	15.5	45.5	27.5	9.8	1.2	105,000
<b>10 Yr. Ave, 1994-2003</b>	<b>3.9</b>	<b>44.9</b>	<b>33.6</b>	<b>12.1</b>	<b>4.6</b>	<b>0.9</b>	





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