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SHELLFISH / MARINE HABITAT INVESTIGATION

INFORMATION REPORT

1997 RAZOR CLAM FISHERY

BY

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INTRODUCTION

The razor clam fishery on Clatsop beach (Tillamook Head to Columbia River) was sampled four days each tide series April through July. The winter and fall fishery were monitored regularly. Sport and commercial diggers were interviewed to obtain data on digging effort, number and age composition of clams, and harvest area. Data from beaches south of Tillamook Head were collected as time permitted. Random age and length data, samples for toxin analysis, wastage of clams and other miscellaneous data were collected and reported.

SPORT FISHERY

Clatsop Beach

The 1997 estimated harvest of 233,271 clams included 47,587 wasted clams. This harvest was one of the lowest on record. The catch was taken on 27,332 digger trips and the average catch per trip was 6.8 clams. Paralytic shellfish toxins in razor clams closed the beach to digging during the winter.

The winter fishery produced few clams. Bad weather hindered digging and the lack of clams discouraged diggers.

The spring harvest of 189,300 clams, including 38,618 wasted clams, was taken on 24,532 digger trips. Diggers averaged 6.1 clams per trip with 42.9% of the effort on Area 2 (Sunset beach). Table 1 lists harvest, catch rates and number of diggers by area. The age composition of the sport catch is listed in Table 2. Wastage of small clams occurred on Seaside and Gearhart beach when the large late setting 1996 year class mixed with a few older clams. Diggers returned to the beach 20.4% of the clams they dug.

The fall digging was hindered by bad weather and a November beach closure due to paralytic shellfish toxins in clams. An estimated 44,000 clams, including 9,000 wasted clams, was taken on 2,800 digger trips. Most of the effort was on Area 5 (Seaside beach). Diggers averaged 12.5 clams per trip. Wastage continued to be a problem in the Seaside area as diggers returned small clams in order to get larger ones. The 1997 set was found in November in fair numbers on Seaside beach.

Two regulations changes affected sport digging this year. Concerned sport diggers questioned the need for the change in the

Table 1. SPORT HARVEST OF RAZOR CLAMS AND NUMBER OF DIGGERS BY AREA FROM CLATSOP BEACH, APRIL THROUGH JULY, 1997.

AREA	MILES OF BEACH	NO. OF DIGGER TRIPS	CLAMS DUG / DIGGER TRIP	NO. OF CLAMS DUG	NO. OF CLAMS WASTED	TOTAL CLAMS HARVESTED
1	3.6	6124	8.6	52903	13558	66461
2	6.2	10525	5.9	62353	15980	78333
3	5.0	4039	3.8	15469	3964	19433
4	1.2	858	5.1	4335	1111	5446
5	2.0	2986	5.2	15624	4004	19628
TOTAL	18.0	24532	6.1	150684	38617	189301

- Area 1 Columbia River to Peter Iredale.
- Area 2 Peter Iredale 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.

Table 2. AGE COMPOSITION OF SPORT DUG CLAMS IN PERCENT FROM CLATSOP BEACH, 1992-1997.

YEAR OF HARVEST	AGE IN YEARS					
	0	1	2	3	4	5+
1992	no season					
1993	no season					
1994	3.1	44.6	47.6	4.5	0.2	0.0
1995	1.9	27.9	39.2	23.9	5.5	1.6
1996	10.5	40.3	27.4	15.2	5.6	1.0
1997	40.2	29.9	19.8	7.8	1.5	0.8
10 YR. AV.	15.0	42.3	31.2	8.9	2.2	0.4

TABLE 3. ANNUAL EFFORT AND HARVEST DATA FOR THE RAZOR CLAM FISHERY							
YEAR	COMMERCIAL FISHERY		SPORT FISHERY				TOTAL
	NO. OF	NO. OF	NO. OF	CLAMS/	NO. OF	NO. OF	CLAMS
	DIGGERS	CLAMS	TRIPS	TRIP	CLAMS DUG	CLAMS WASTED	HARVESTED
1955	295	904000	56000	22	1212000	295000	2411000
1956	253	490000	60000	18	1061000	295000	1846000
1957	193	336000	77000	21	1646000	416000	2398000
*1958	221	386000	89000	19	1679000	218000	2283000
1959	118	179000	54000	12	646000	124000	949000
1960	93	154000	48000	12	596000	46000	796000
1961	58	80000	51000	11	583000	70000	733000
1962	79	102000	56000	16	892000	105000	1099000
1963	77	107000	55000	13	713000	70000	890000
1964	125	125000	71000	16	1098000	264000	1487000
1965	213	399000	76000	15	1134000	186000	1719000
1966	217	282000	78000	14	1052000	434000	1768000
1967	297	494000	74000	20	1472000	195000	2161000
1968	340	361000	64000	13	831000	162000	1354000
1969	185	111000	59000	14	851000	155000	1117000
1970	79	61000	56000	13	715000	125000	901000
1971	134	123000	77000	13	968000	213000	1304000
1972	76	49000	69000	9	636000	139000	824000
*1973	111	89000	76000	10	725000	159000	973000
1974	58	32000	44000	8	347000	5000	384000
1975	146	171000	75000	10	785000	157000	1113000
1976	391	717000	119000	12	1431000	63000	2211000
*1977	269	143000	51000	10	499000	33000	675000
1978	253	205000	72000	12	849000	137000	1191000
1979	236	180000	90000	11	958000	63000	1201000
1980	145	116000	70000	11	747000	143000	1006000
1981	91	128000	30000	6	187000	49000	364000
1982	209	165000	84000	9	758000	123000	1046000
*1983	9	1000	32000	3	105000	12000	118000
1984	34	37000	23000	15	341000	15000	393000
1985	340	303000	94000	10	984000	147000	1434000
1986	51	18000	46000	5	260000	33000	311000
1987	173	236000	68000	15	1010000	83000	1329000
1988	178	161000	84000	11	1016000	168000	1345000
1989	228	195000	97000	11	1082000	136000	1413000
1990	151	75000	55000	11	579000	61000	715000
*1991	129	130000	57000	11	643000	80000	853000
1992	NO SEASON BECAUSE OF DOMOIC ACID AND PSP						
1993	NO SEASON BECAUSE OF PSP						
1994	107	78000	59000	15	885000	0	963000
1995	159	276000	91000	10	912000	67000	1255000
*1996	75	17000	21000	9	192000	11000	220000
1997	13	8000	27000	7	186000	47000	241000
* OCCURRENCE OF EL NINO	FALL SPORT HARVEST INCLUDED IN TOTAL FOR 1984 TO PRESENT						

regulation which reduced the sport limit to 15 clams, feeling it favored commercial diggers. Extending the summer closure through September drew no complaints.

Beaches South Of Tillamook Head

Digging occurred on many beaches along the coast but effort was minimal and production poor. Domoic acid in razor clams on the central coast kept the Lincoln county beaches closed during the winter and spring months. High PSP levels in mussels closed Tillamook County beaches to digging in November. Surveys found no clams on beaches in the Cannon Beach area except for Short Sands Beach.

COMMERCIAL FISHERY

The commercial harvest was 8,000 clams (1,779 pounds), one of the lower on record. Harvest data are listed in Table 3. Areas 1 (Peter Iredale) produced most of the spring landings while Area 5 (Seaside) produced most of the fall harvest. Commercial catch and effort by harvest area is listed in Table 4. The age composition of commercially dug clams are listed in Table 5.

Table 4. COMMERCIAL CATCH/EFFORT AND POUNDS IN PERCENT LANDED BY AREA FROM CLATSOP BEACH, 1997.

	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	TOTAL
POUNDS/HOUR	3.6	3.4	4.7	4.3	4.0	3.9
PERCENT OF POUNDS LANDED	17.0	21.7	7.5	18.9	34.9	100.0

Table 5. AGE COMPOSITION IN PERCENT FOR COMMERCIALY DUG CLAMS,
CLATSOP BEACH, 1992-1997.

YEAR OF HARVEST	AGE IN YEARS					
	0	1	2	3	4	5+
1992	NO SEASON					
1993	NO SEASON					
1994	1.5	38.5	46.4	12.0	1.5	0.1
1995	0.0	20.7	43.2	22.9	10.4	2.8
1996	0.3	49.1	23.4	16.0	11.2	0.0
1997	0.0	26.0	33.8	39.0	1.2	0.0
10 YR. AV.	3.6	44.0	34.2	14.2	3.5	.5

A total of 49 commercial harvesters were issued ODF&W shellfish harvest permits but only 13 diggers sold clams. The value of clams to the digger reached \$3.50 per pound for human consumption. Low numbers of clams had many harvesters keeping their catches for personal use. Many commercially dug clams were reported not being sold to wholesale buyers.

The Oregon Department of Agriculture held a meeting in Astoria to inform commercial diggers of options for a shellfish sanitation plan, which would close the ocean beach in front of the Necanicum River to commercial digging of clams for human consumption. Water testing has indicated high fecal coliform rates in the ocean surf. No formal action was taken in 1997.

MISCELLANEOUS PROJECTS

Toxin Closures

Lincoln County beaches remained closed to the taking of razor clams through the winter because of domoic acid in razor clams. They opened May 30. High concentrations of PSP toxin in mussels closed southern beaches to shellfish harvesting from August 15 to September 19. Clatsop and Tillamook county beaches were closed to shellfish harvesting because of high PSP rates in mussels from November 18 through December 8.

Astoria staff collected Clatsop Beach razor clam samples used for toxin analysis during beach closures.