

Intertidal Clam Harvesting by Gas Powered Water Pumps in Coos Bay

An investigation was conducted on August 15, 1962, by Oregon Fish Commission personnel to determine what effects mechanical harvesting of clams by gas powered water pumps had on juvenile and adult gaper clams (Schizothaerus nuttalli) in Coos Bay, Oregon. This method of harvesting clams has recently been employed by both personal-use and commercial diggers in the Coos Bay area.

From 0650 to 0720 on August 15, 1962 a personal-use clam digger (Mr. Maurice Nulf) was observed using pumping equipment to take gaper clams on the Compass Station Island Flat in Coos Bay. His clam taking equipment consisted of an outboard skiff (OR48LC), waders, a 2½ horsepower gas powered Clinton water pump, a hard rubber intake hose (about 1 inch in diameter), a plastic garden hose, and some wooden stakes.

The gapers were located by feeling for their siphons then wooden stakes were placed in the mud to keep track of them until each clam could be removed individually. The garden hose was attached to the outlet of the pump and the intake hose was tied to a stake and submerged in about 2 feet of water. The clams were removed by pumping water directly down the siphon hole until the clam was loose and could be removed from the hole. This washing operation left a hole about 4 inches across and about 12 inches deep, although the depth varied with the individual clams. While the clam was being pumped out of the hole the washings flowed out of the top and left a circular pile of sand and mud about 2 or 3 inches deep around the hole. The diameter of the washings was about 12 inches. The area around the holes seemed to remain firm although it was difficult to keep track of the holes for an extended period of time since the digger was working in several inches of water. While the large gapers were being washed from the holes often smaller gapers would also be disturbed. These small clams were washed out over the ring of sand and settled around the outside edge. It was difficult to count or recover these clams since the water was clouded by the operation. However, the small gapers washed out of three holes were recovered and measured. The measurements are as follows:

Hole No. 1
15 gapers: 26, 30, 42, 31, 26, 33, 27, 34, 32, 32, 28, 29,
29, 25, 25

Hole No. 2
2 gapers: 51, 30
2 Nacoma sp: Not measured

Hole No. 3
2 gapers: 24, 27

Total No. of clams measured: 19
Summation: 581
 \bar{x} : 30.58

These clams were apparently undamaged, however, some clams of the same size were noted later with either one or both valves broken.

The gaper clams kept by the digger were measured and the following measurements were recorded:

145, 146, 119, 116, 130, 138, 122, 145, 141, 94, 128, 99, 134, 131, 129, 136, 131, 126, 123, 135 (violation-exceeding bag limit)

Summation: 2568
Number: 20
 \bar{x} : 128.40

The digger commented that he felt this method was better than digging with a shovel because the small gapers aren't crushed or buried and he felt that this method was selective to larger gapers.

No commercial clam diggers were observed on the flat on August 15, 1962. However, according to Mrs. L. E. Hollis, Mr. Larry E. Hollis, proprietor of C & L Seafoods, P. O. Box 422 Charleston, Oregon, and Mr. Ed Conquist, Grant Avenue, Charleston, Oregon frequently harvest clams on this flat with a gas powered water pump. Table 1 shows the pounds of gaper clams delivered to C & L Seafoods from July 1 through August 15, 1962. According to Mr. L. E. Hollis these clams were harvested from the Compass Station Island Flat by Mr. Ed Conquist using pumping equipment.

Some of the gaper clams from the August 15 delivery to C & L Seafoods were measured and the following measurements were recorded:

138, 134, 121, 121, 128, 122, 129, 115, 138, 120, 120, 115,
132, 131, 109, 118, 135, 121, 141, 110, 110, 105, 125, 125,
115, 122, 124, 142, 108, 121, 127, 129, 130, 120, 114, 126,
138, 127, 135, 112, 126, 133, 125, 131, 119, 120, 130, 122,
138, 148, 133, 115, 120, 115, 142, 147, 131, 116, 107, 117,
121, 123, 109, 131, 143, 134, 112, 119, 118, 112, 104, 102,
141, 126, 105, 123, 114, 130, 113, 116, 143, 127, 114, 126,
1 unmeasurable

Summation: 10394
Number: 84
 \bar{x} : 123.74

Table 1.

Gaper Clams Bought by C & L Seafood
July 7 to August 15, 1962

Date	Pounds of Gaper Clams
7/1/62	20
7/2/62	30
7/4/62	34
7/6/62	227
7/14/62	108
7/15/62	239
7/16/62	155
7/17/62	114
7/18/62	116
7/19/62	347
8/1/62	413
8/3/62	205
8/6/62	353
8/8/62	49
8/15/62	101
<hr/>	
7/1/62 through 8/15/62	2511

Mr. L. E. Hollis informed the investigators that Mr. Conquist uses no diving gear in his clam harvesting, and that he harvests clams from the Compass Station Island Flat only.

G. Spangler
August 21, 1962