

PRELIMINARY REPORT OF

OYSTER INVESTIGATIONS 1931

by

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## Introduction

The area of inland waters suitable for oyster culture on the coast of Oregon is limited in extent. There are barren tide flats amounting to a few thousand acres which may be utilized either for oyster or clam production; and there are more limited areas of shallow water where oysters may be cultivated. At the present time the only natural beds of commercial value for oysters are in the estuary of the Yaquina River.

During the summer of 1931 a preliminary examination of other bays has been made, and a more extensive investigation has been started on Yaquina Bay. Tide lands of Tillamook, Netarts, and Aloon Bays, have been planted to seed oyster imported from Japan. The growth of these oysters during the summer has been satisfactory in all cases. Further development will depend upon the ability of the oyster to survive the winter conditions in each of these bays. Netarte Bay receives very little drainage from the surrounding upland, and the salinity during the rainy seasons probably will not adversely affect the oysters. Tillamook Bay forms the outlet for several small rivers, but the bay is probably large enough to maintain a sufficiently high salinity. Alsea Bay is small in area and

receives a large amount of fresh water from the surrounding territory; therefore, its value for oyster culture is yet to be determined.

#### Yaquina Bay

A survey of the oyster bearing bottoms in Yaquina Bay was made in 1908 by M. Wygant, U. S. Deputy Surveyor. He found 101.95 acres of "natural" oyster beds, and 37.80 acres of "private" beds. The former represented only those areas which were tonged by the public. The latter were portions of naturally barren bottom upon which the local operators planted half of the seed which they took up from the natural beds when oystering. By act of the legislature the natural beds were set aside as a state reserve, and the private areas continued in the hands of the individual tongers. For some years after the passage of the reverse act ( ) the beds were administered loosely by the State Fish Commission through the local oyster grower's association. There were few legal restrictions upon those who worked the public beds, and controversies developed among the oystermen. A few tongers failed to return half of the seed to the State Reserve, and others showed their privileges in various ways. A definite oyster policy for the administration the the Yaquina Bay beds is now in the making. The State has closed the beds to general exploitation, and leased the grounds to the Oregon Oyster Co., which has

also obtained the rights on the private beds. In the evolution of a policy of administration a conflict of opinion has arise. Two principal points of contention are; one, the right of tongers to work the public beds, and two, the title to private areas. The residents of the vicinity maintain that they should be entitled to employment by the industry. The private beds with the exception of nine acres held by Dr. M. M. Davis under a fee simple title are unpatentable lands, which were granted by the oyster grower's association to its members upon certain conditions involving constant cultivation. This controversey is outside the scope of a biological survey, therefore, the present report will deal only with a suggested method of oyster culture on the Reserve.

There are no figures to show the normal production of the Yaquina Bay beds prior to the year 1923. The tongers paid neither a license fee nor a tax on their catch, so the State neither derived income from the beds nor kept records of production. Since 1923 the Oregon Oyster Company has oystered the beds, and their figures do not indicate a high yield. At the present time the beds are heavily stocked with marketable oysters, and the production for the coming year may be greater than can be maintained on a constant basis.

The area included in the State Reserve as shown in Figure 1, constitutes about 400 acres. The producing beds fall naturally into four divisions. The area between the western boundary of the Reserve and Boone Island is locally called the Big Bend beds. Between Boone Island and Oysterville the beds are called the Oysterville flats.

The Middle Grounds extend from Oysterville to Rocky Point, and the remaining bottom eastward to the boundary of the Reserve is known as the Shipyard Channel beds.

The Big Bend beds are washed by a good current on both the flood and ebb tides. The set is general, but light. At the present time this area carries a large number of adult oysters, and the bottom is covered with a heavy layer of clam shells. It was consistently worked for many years by the tongers, and produced a large proportion of the output of the bay. This bed should be oystered immediately. The seed oysters should be returned to the beds, but a portion of the clam shells that would necessarily be taken up with the oysters, and not needed as cultch, should be separated and reserved for planting other grounds next summer.

The Oysterville flats at one time included some of the best seed catching ground in the bay. Temporary docks were built along the north shore, extending from the Southern Pacific Railroad tracks to deep water. A log dump and booming ground was also maintained for a long time at the same place. A large amount of rocks was dumped around these structures and upon the oysters. The currents were obstructed, and nearby ground, not affected by construction, was covered with sediment and the oysters destroyed. Although the docks have been abandoned for many years a few piling and the rocks remain. What might be a productive oyster bed continues as a useless area. On the free portions of the Oysterville Flats are many large oysters. This division should be oystered during the coming season and the oysters removed.

The Middle ground is a large bed, but has comparatively few oysters. The set is generally light, but due to the fact that the ground has not been worked, there are scattered beds of old oysters that have reached their maximum age and should be marketed. Seed from other parts of the bay could well be planted here.

The Shipyard Channel is the best oyster producing area in the bay. A set of seed is obtained each year, and there is said to be occasionally a remarkable catch. The bed is now well stocked with oysters of all sizes. A large number of marketable oysters could be sold and the seed removed to some of the other areas. In all of the divisions, and especially in the Shipyard Channel there are rock reefs, sunken logs, large loose boulders, and other obstructions which make oystering difficult, but also prevent the depletion of the beds, unless they are worked too heavily for a period of years. The productivity of this area can be increased by the planting of clean shells before the spawning season.

#### Recommendations

A general policy of oystering the entire Reserve is recommended for the coming season. There are at least 2,000 sacks of oysters which have reached their maximum size, a large percentage of which probably will die before another spawning season. It is suggested that the Big Bend be worked immediately, and all of the seed be returned. The excess of shell not needed here should be held for planting on other beds. Due to the large amount of clam shells on this bed, culling necessarily will be slow; therefore, it is suggested that during the busy season at Thanksgiving and Christmas oysters might be

taken from the Middle ground and Shipyard Channel beds.

#### Summary

1. The Yaquina Bay contains the only commercially valuable oyster beds in the State of Oregon.
2. There are no adequate statistics to show the productivity of the beds in past years.
3. The beds are now heavily stocked with full grown oysters.
4. At least 2,000 sacks of oysters should be removed during the coming season, as a large percentage have reached their maximum age and may die before another spawning season.
5. Seed should be moved from the Shipyard Channel to other divisions of the Reserve, and this area should be heavily shelled before another spawning season.
6. The excess of shells not needed on the other beds should be separated in culling and used in cultching the Shipyard Channel.