S.R. #1

INTERIM COMMITTEE MEETING
SHELLFISH LABORATORY * NEWPORT, OREGON
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The following is a presentation of the work in progress at the Fish Commission Newport laboratory as summarized during the visit of the Legislative Interim Committee on May 27, 1948:

The crab fishery is the largest shellfish industry of the state producing over 5 million pounds of crabs per year since 1937, and for the past six years producing an average of 8½ million pounds a year. This gives a valuation of approximately one million dollars a year to the fishermen or a final retail value of nearly 2½ million dollars of meat per year. Over one-half of the time and money of the shellfish investigation has been assigned to the study of this fishery.

The largest single phase of this study to date has been a tagging program in the Astoria-Tillamook area in conjunction with the State of Washington who again, during the winter of 1947-1948, were running a similar program off the coast north of the Columbia River. The primary purpose of this was to determine the interrelationships, if any, existing between the crab stocks on each side of the Columbia River. The foregoing is seen to be a very necessary prerequisite to proper management of a fishery in an area fished jointly by two separate states each with their own regulations. Preliminary analysis of the data gathered has shown the stocks there to be closely related through "migration" and intermingling, and may even be a single homogeneous stock extending from at least Tillamook Head north past Grays Harbor, Washington.

The bulk of the crabs tagged off North Head, just north of the Columbia River, moved north along Long Beach and off Grays Harbor, with some going as far north as Pt. Grenville. One lone crab was recovered off Sea Lion Rocks, 71 miles north of the point of tagging towards Destruction Island. Later in the spring it appeared as if the direction of movement reversed itself to the South with more tags being recovered South of the Columbia. One crab released in 75-90 fathoms of water 20 miles off shore was recovered in a commercial pot on the beach, and one tagged in 13 fathoms was retaken in drag gear in 80 fathoms. Obviously there is considerable movement of crabs both inshore-offshore and coastwise in this area. The results when completed will be carefully analyzed and coordinated with the findings of the Washington investigations to permit formation of regulations that will be to the best interests of the crab stocks and of the industries of both states in this overlapping area.

Another important phase of the crabinvestigation is determination of the extent of the stocks and intensity of the fishery. This is also obtained from the tagging work by means of sampling the commercial catches to find the number of crabs caught as against each tagged crab recovered.

To obtain information on the fishery itself both now and in thepast, records are being compiled on the boats and gear being fished in each area. Log books have been and are being distributed to many fishermen in which they record their catches, number of ports pulled, and other pertinent data for each day's fishing. The commercial catches in each area are sampled periodically to determine the composition of the catches and to permit detection of any changes that may occur in the stocks which would affect and be reflected in the landings.

The determination of soft-shell season, or time of shedding, of the crabs has been set as one of the first problems to be settled. It has been found that fishing during this time results in incomplete utilization of the resource through wastage of potential marketable crabs and meat so closed seasons during this time are needed. Naturally, before these may be set it is necessary to determine the proper time for each area of the coast and the amount of year to year fluctuation that may occur.

Although for the present the bulk of the effort is being directed towards long overdue problems of immediate concern to the industry basic research is also being carried out in the Newport laboratory as time permits on the life and habits of the crabs. This is in accordance with the general policy of the Commission which admits that while basic and theoretical research is highly desirable such must not be permitted to subjugate the general problems to a position of waiting on practical solution until frequently irrelevant details are solved.

Furthermore the emphasis is on problems encountered in the commercial fishery, a minor investigation is aoso being made of the sports fishery which in several areas is far from minor in proportions. This is being done by following much the same lines as those employed in the commercial fishery. This past year a fairly detailed study has been made in Netarts Bay as a more or less test case. Of course much that is found for either the sports or commercial fishery is immediately applicable to the other.

The clam stocks of the State are another very valuable resource which not only yield a considerable income from commercial digging, but of even more importance furnish recreation to many thousands of people each year on the Oregon beaches and bays. Here the problems are again both many and pressing but, especially in the case of the bay clams, offer more hope for comparatively rapid settlement due to the greater ease with which they may be studied. Surveys are being made to determine the extent and present condition of the stocks in each of the bays of the state, the extent to which they are dug, and any trends in abundance. In the case of clams which are found to be declining in abundance studies are directed first towards finding the cause and secondly towards corrective measures. In the case of the horse clam, for example, it has been found that in many areas they have been decreasing due to overdigging. This then necessitates revision of regulations so as to restrict the digging to an amount that will not endanger its future existence.

In the course of work on the horse clam it was found that the yield of meat varied greatly depending upon the time of the year, in turn determined by the time of spawning. A standard proceedure for obtaining the yield of meat per standard clam was set up and tests have been made on clams from different areas at regular intervals. The information that is being gathered from this permits the designing of regulations as to closed seasons for fishing which will prevent the wastage of meat from digging clams when in their poorest condition.

Very little work has been done on the razor clam yet due to lack of time and manpower. This species is of great importance and should, and will, be studied just as soon as possible. The stocks for the State are apparently in dire need of rebuilding. Further, the intensity of digging on this, as on all species of clams, may be very reasonably expected to increase greatly in the coming few years. Accordingly, if the existence of the fishery at anywheres near a normal level is to be maintained it will be necessary to carefully examine all existing regulations and revise those where such is necessary. It might be pointed out that the present old regulations are based entirely on conjecture and re-

quests from various groups in the past. There has never been a sound study made of the fishery or stocks in Oregon on which to base true sustained yield management regulations.

The new expanding oyster industry is also in need of assistance if this valuable industry is to again become firmly established in our waters. However, since this is primarily a private enterprise industry from start to finish it is being relegated to a position of minor assistance at the present until the more public resource fisheries are more thoroughly studied. A careful watch is being kept on introductions and imports of oyster seed in insure that no undesirable forms are introduced which would be detrimental to the tidelands and/or future industries of the State. An experiment is also underway testing a new variety of oyster in an attempt to improve the quality of the product. Considerable work should be done on the native oyster beds of the State which have declined to what is now a state of virtual non-existence.

In addition to the foregoing the Shellfish resources include a number of minor species or fisheries such as the Piddocks, or "rock-oysters", of the outer coast which supply quite a sport fishery; and the scallop fishery which has been extremely erratic in occurrence. Time does not permit much more than a casual inspection of these fisheries but they are being watched and studied as opportunities may permit.

In conclusion, the shellfish investigation might be summarized as following certain basic policies:

(1) The work is apportioned in relation to the respective values of the individual fisheries and the believed obligations of the State towards each.

(2) Within each fishery the work at the present is being directed first towards the most pressing problems of practical importance rather than towards any academic study of theoretical or biological fundamentals.

(3) A fair ratio of expended effort is being sought for between the commercial fisheries and the sports fisheries. If either one appears to receive greater emphasis in any program it is solely because such is felt justified on the grounds of comparative importance.

(4) Within the Shellfish resources, as in most fisheries of the State, we are faced with a multitude of long overdue problems. All are of importance and must be looked in to, even at the cost of undesireable lack of completeness in some details. After these immediate problems are placed on firmer foundation it will then be possible to maintain the needed information and revise any passed-over details.