

Summary notes - Meeting of Steering Committee for West Coast Oyster Mortality Investigations, Portland, Oregon, March 18, 1968

Present were: Dr. Harold Orcutt, California Department of Fish and Game; Dr. Stanley Katkansky, California Department of Fish and Game; Dr. Thomas E. Kruse, Oregon Fish Commission; Mr. Dale Snow, Oregon Fish Commission; Mr. Cedric Lindsay, Washington Department of Fisheries; Mr. Ronald Westley, Washington Department of Fisheries; Dr. Albert K. Sparks, University of Washington; Dr. Carl Sinderman, BCF Oxford Laboratory; Dr. Victor Loosanoff, Consultant; John Glude, BCF, Chairman.

Mr. David McMillin, representative of Pacific Coast Oyster Growers Association, phoned to indicate that an emergency had arisen and he would be unable to attend the meeting, but wished to express several questions for discussion.

- (1) Has enough information been gathered during the past three years so that we can state "this is the causitive organism."?
- (2) Have criteria been established for acceptable proof of cause and effect for pathogenic organisms?
- (3) Have we found "the cause" of mortalities, but are continuing research in search of additional organisms?
- (4) What practical recommendations can we give the oyster industry for "living with" the present situation?

During a general discussion the following partial answers to Mr. McMillin's questions emerged:

(1) It appears likely that there is not a single "cause", but at least two organisms or environmental conditions which cause mortality.

(2) Criteria for defining "causative organisms" are well established but difficult to meet because of the requirement that the organism be kept in pure culture and transferred to uninfected oysters. Techniques for this are only now being developed.

(3) Recommendations to assist the oyster industry include advice regarding locations where high mortalities might be expected, prediction of high mortality years, age of oysters when mortality might be expected, transplanting oysters to areas of fast growth but high mortality for short periods, improved handling practices, prediction of mortality trends, raft and rack culture to expedite growth, selection of resistant seed, etc.

It was decided, in view of Mr. McMillin's questions, to present a panel discussion at the Pacific Coast Oyster Growers Association meeting during the summer of 1968 as a report to industry. John Glude will chair the panel and arrange for reports concerning scientific and practical results which have been achieved by this program.

The review of West Coast Oyster Mortality Research, conducted by Doctors Daniel B. Quayle and Jay D. Andrews in February 1968, was then discussed. Committee members generally agreed with the recommendations of the review team and proposed modifications to research programs to take into account their recommendations. California proposes to intensify sampling in Humboldt Bay, to de-emphasize

monitoring south of San Francisco, and to station a man at Humboldt Bay at least for the summer of 1968. They recognize the need to follow up studies of ameboid organisms found in oysters from Humboldt Bay, and agree that this work should be done by the Oxford Laboratory as recommended by Doctors Quayle and Andrews. Dr. Sparks considers this ameboid organism to be a serious oyster pathogen in Humboldt Bay, and concurs with the recommendation that intensive studies of this organism be conducted by the Oxford, Maryland Laboratory.

Dr. Sparks spoke on the need to collaborate more closely between groups to insure uniformity of methods for field and laboratory research. It was agreed that Washington Department of Fisheries and California Department of Fish and Game would work out standard methods for the new seed planting experiment in Humboldt Bay and Case Inlet (North Bay, Washington). It was also agreed that Washington Department of Fisheries would assemble the seed oysters from five sources for this experiment and would provide live seed oyster samples to the University of Washington for histological studies.

Committee members questioned the extent to which studies should be broadened to include Ostrea lurida as recommended by Doctors Quayle and Andrews. It appears to be worthwhile for Oregon to continue sampling of O. lurida populations; however, Washington Department of Fisheries prefers to limit the effort on this species because of the costs involved. It was pointed out that the original investigation proposal was for studies

concerning mortalities of Pacific oysters only, and agreed that expansion to include other species should be limited to cases where it appeared likely that there might be some relation between mortalities of the various species of oysters.

Committee members agreed that a slide-reader conference should be held as recommended by Doctors Quayle and Andrews. It was decided tentatively that this should be held at the University of Washington during late June. Dr. Sparks agreed to organize this three-day workshop which would have three principal objectives.

(1) Orientation of slide readers and agreement on standard methods.

(2) To develop a list of pathogens with descriptive characteristics and sample slides.

(3) Agreement on "working" names for unidentified organisms.

Attendance would include specialists from each of the research groups. It was also agreed that Gilbert Pauley of Battelle Northwest would be invited to participate.

The review team recommendation for a decrease in the intensity of reporting was approved by the Steering Committee. It was decided that each group should submit three brief quarterly reports and one complete annual report each year.

It was also decided that the research during the first three-year period ending June 30, 1968, would be compiled into a joint report for

publication by the Bureau of Commercial Fisheries, probably in the Special Scientific Report Series. This publication would have an introductory statement describing the circumstances under which this research program was initiated, and a paper describing the history of oyster mortalities on the Pacific Coast. This would be followed by reports describing the investigations by each research team. These would include papers by individual authors to establish priority of publication.

After the meeting it was agreed that Dr. Carl Sinderman would coordinate the preparation of this publication. Each group should provide Dr. Sinderman with a list of titles and authors for their section of the report by April 15, 1968.

Discussions Regarding Specific Programs

Oregon--The decrease in number of sampling stations in Yaquina Bay from six to three, recommended by the review team, was acceptable. Sample sizes will be increased to 20 oysters per month. Samples of Ostrea lurida will also be taken and all will be sent to University of Washington for processing. Dale Snow estimates that Oregon Fish Commission spends \$4,000 to \$5,000 per year on oyster mortalities in addition to the Federal program.

Washington--Ron Westley agrees generally with the recommendations of the review team but indicated that the recommended program might have to be reduced in order to stay within available funds.

They would propose to add one other project, however, which would involve transplanting partially-grown (one year and older) seed oysters from Dabob Bay to North Bay (Case Inlet) to determine if these oysters will fatten to marketable condition before dying. If successful, this might provide an oystering procedure which would make it possible to utilize the fattening characteristics of Case Inlet. Ron estimates that Washington Department of Fisheries spends about \$35,000 a year on oyster mortalities in addition to Federal funds.

University of Washington--Dr. Sparks agrees in general with the comments of the review team and indicated that they would be able to process and examine the additional slides which would result from increasing sample sizes to 20 oysters each. They will also prepare "type" slides and photographs of organisms to help each group in identification.

California--Doctors Orcutt and Katkansky agree in general with the recommendations of the review team and plan to reduce or eliminate routine monitoring at Morro Bay and in Elkhorn Slough. They do not plan to conduct studies in San Francisco Bay as part of this program; however, Walt Dahlstrom may continue some of these in connection with his other shellfish programs. California will concentrate on studies in Humboldt Bay and will station a man there at least for this summer. They will carry out qualitative sampling of phytoplankton blooms for the present but may change later to quantitative samples if so indicated.

They will not begin the proposed bacteriological studies.

Dr. Loosanoff recommended examining large final samples of oysters from the low mortality areas such as Morro Bay and Elkhorn Slough and comparing the organisms found in these oysters with those found in Humboldt Bay samples.

Dr. Orcutt estimated that California spends about \$15,000 on oyster mortality studies in addition to this Federal program. The State has no PL 309 program on oysters except that part of the cost of the new laboratory at Monterey will be chargeable to oysters since they propose that the pathology group will be housed there.

Oxford Laboratory--Dr. Sinderman agrees in general with the recommendations of the review team and has decided to emphasize culture of ameboid organisms under Mr. Sawyer. Sawyer now has an organism from sick Denman Island oysters in culture. He also is able to distinguish cultured ameboid organisms by antigen techniques.

Oxford is now getting monthly samples of oysters from Denman Island through Dan Quayle, from Willapa Bay through Clyde Sayce, and also plans to get oysters from Japan through Dr. Imai. Dr. Sinderman estimates that the Bureau of Commercial Fisheries spends about \$18,000 on West Coast oyster mortality research in addition to the \$32,000 specifically allocated for these studies.

Funding

John Glude stated that there is no indication that increased funds

will be available for fiscal year 1969 and succeeding years. Therefore, the changes in emphasis recommended by the review team will have to be made within the present funding level. No decisions were made by the committee regarding target funding levels for each group for fiscal year 1969, and it was generally agreed that John Glude should provide each group with guidelines based on the general decisions regarding program direction reached by the committee. This will be provided in a letter to each group suggesting areas of research and funding levels for the next contract period which will not exceed three years.

It was agreed that the next meeting of the Steering Committee would be held during October or November of 1968.