

PLAN FOR ENHANCEMENT OF RECREATIONAL CLAM FISHERIES

IN OREGON - 1986 TO 1991

INTRODUCTION

The clam fisheries of Oregon are an important recreational resource that attract many thousands of tourists to coastal areas. Millions of clams are taken each year from the numerous clam beds along the coast. However, due to the present limited manpower and resources at ODFW, Newport, the fishery is not closely monitored. The last intensive survey of clam fisheries was carried out in 1971 when the distribution and densities of clam populations and fishing efforts in the major Oregon bays were determined. The impact of clambers and the effects of various management practices on clam populations have not been studied in detail. Furthermore, it has been possible to put only limited effort into studying the potential for enhancement of clam fisheries by planting or by the introduction of potentially useful species.

OBJECTIVES

We have identified four areas of research and education that require attention. These are:

- 1) Development of a fishery for the Manila clam Tapes japonica.
- 2) Study the effects of clamming and management practices on clam populations.
- 3) Study the impact of mud and ghost shrimp on clam populations.
- 4) Improve public awareness of clams and clamming.

DESCRIPTION OF PROJECTS

1) Development of a fishery for the Manila clam Tapes japonica

The development of a fishery for the Manila clam Tapes japonica in Washington State in the last 12 years has been one of the great success stories for clam fisheries of the North-West U.S.A. The clam grows rapidly in favorable conditions and is harvested and marketed by many commercial clam growers in Washington. Clams are also distributed to retail stores in Oregon.

The Manila clam is an excellent candidate species for the development of a new clam fishery in Oregon. It is found high in the inter-tidal zone and clambers would not be dependent on low spring tides for harvesting the clams. Furthermore, the Manila clam occupies a habitat niche that is not presently utilized by native clam species, between populations of

the soft-shell clam (Mya arenaria), found in the high intertidal zone, and the hard-shell clams, found lower on the shore.

There have been several attempts to introduce the Manila clam to Oregon by ODFW, Newport, helped by OSU and OSU Sea Grant. Naturally reproducing populations are now found in Netarts Bay. Planted populations in Coos Bay have survived, grown and will soon be reaching sexual maturity. We propose to extend attempts to introduce the Manila clam to other bays in Oregon as follows:

- a) To establish viable, reproducing colonies of Manila clams in selected bays on the Oregon coast.

Groups of adult and juvenile clams will be planted in selected Oregon bays. These planted populations will be protected from predation by a covering of mesh screening. The clams will be allowed to reach sexual maturity and to produce offspring that may colonize other areas of the bays.

- b) To monitor the performance of planted clam populations and the colonization of other sites.

The growth, survival and reproductive condition of planted clam populations will be monitored. In a five year research period, it is expected that two to three generations of planted clams will reach sexual maturity. Colonization of new sites by clams may be difficult to detect during early stages of introduction, due to the expected low density of colonizing individuals. Monitoring of established clam populations in Netarts bay will be continued.

- c) To develop management strategies for the Manila clam that will allow maximum public access and maximum sustainable yield.

This phase of the program will depend on both the degree of success of introductions and the biology of the species.

2) Study the effects of clamming and management practices on clam populations.

Cockles (Clinocardium nuttallii) are probably the most commonly harvested species of clam in Oregon and, in many places, are subject to intensive fishing effort. It is proposed to study the effects of various management strategies on selected populations of cockles. In addition, the potential of enhancing cockle populations by planting hatchery-reared juveniles will be investigated.

3) Study the impact of ghost and mud shrimp on clams

Recent observations have indicated that the spread of the ghost shrimp (Callinassa californiensis) and the mud shrimp (Upogebia pugettensis) in Oregon's bays has had an adverse effect on clam populations. The activities of the shrimp disturb the sediment and smother the clams,

resulting in the loss of suitable substrates for clam production. Research needs to be undertaken to study interactions between shrimp and clam populations. More information on the life histories of the two species of shrimp is also required.

4) Improve public awareness of clams and clamming.

A pamphlet on the characteristics and use of commonly harvested clam species titled "Oregon's Captivating Clams" was produced by OSU Sea Grant and ODFW, Newport in 1982 and was well received. Copies of the pamphlet are now sold out and funds are requested for additional printing. A publication on clamming in Oregon is also near completion by Mr. Dale Snow, ODFW, Newport, and requires funding for its publication. A series of short films and slide presentations are also required to publicize and inform the public of available clam resources, their management, harvesting techniques and culinary uses. The presentations could be made available to schools and centers for adult education.

EVALUATION OF RESULTS

Periodic review of results is required to ensure that the objectives of the program are being pursued effectively. A major evaluation of the program should be carried out after 5 years in order to assess ongoing projects and identify new needs.

REQUIRED SUPPORT

In order to undertake the program outlined above it will be necessary to enlist additional help from either within ODFW or from outside, such as OSU. The projects, listed 1 to 4 above, are in our perceived order of priority. Therefore, funding raised from permit licenses should be apportioned accordingly.