

practices, is a prime necessity, along with legislation adequate to the needs of the particular fishery in question.

Offshore, the shrimp fishery, particularly that for the "golden Brazilian," or red shrimp, will probably stand considerable expansion, but needs exploration to develop new grounds.

Possibilities are present for the expansion of the red snapper and grouper fishery, and there are indications that two or three of the tunas, not now entering the commercial catch, may be present in sufficient quantity to support a fishery. Tile fish have also been found in the Gulf area.

Bearing these things in mind, the continental shelf should be thoroughly explored, with the following objectives:

- (1) Development of new shrimping grounds.
- (2) Development of new red snapper and grouper fisheries.
- (3) Development of new sponge grounds.
- (4) Location and development of a flatfish fishery.
- (5) Development of a shark fishery along the hundred fathom curve.
- (6) Location of tile fish in commercial quantities.
- (7) Location of deep sea scallop beds.
- (8) Location of tunas and determination of their abundance.
- (9) Investigation of the presence or absence of the "deep scattering layer," and its possible effect on fish.

A fertile field for development is presented in utilization of the by-products of the Gulf fisheries, and it is suggested that the seaweeds of the area may be plentiful enough to be utilized for various purposes.

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## **Potentialities of the Gulf Oyster Industry and Recommendations for their Realization**

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THE POTENTIALITIES of the Gulf coast for the production of oysters are apparently enormous, yet Dr. Radcliffe found in a recent survey that out of an estimated 916,000 acres of bottom available for culture, only 25,600 acres (*or less than 3 per cent*) are under lease. The balance of our steadily declining production comes from public reefs.

As an actual matter of fact, only one state on the Gulf coast has any appreciable production of cultivated oysters. That is Louisiana.

Within recent years there has been a good deal of research on the possibilities of the coast, and upon optimum habitats for the oyster of the area. More is needed, particularly on the time of spat fall, the best season to transplant oysters, the proper times to spread cultch, and *a thorough survey is needed of all bottoms to determine where it is possible to grow oysters with a reasonable degree of economic success.*

These things should be part of any state plan of research to protect the people engaging in such culture and to aid them in so far as is possible, to utilize their bottoms to the best possible advantage.

Research is also needed as to the best and most economical methods of improving bottoms not now fit for oyster production so that they can be used for this purpose.

There is widespread agreement with the statement made by Dr. Radcliffe that

in general the future development of the oyster industry in the South is not so much dependent upon the development of new scientific knowledge of what to do, as it is upon political and legal considerations and the practical application of knowledge now available.

It must be remembered that the laws of the Gulf coast states in regard to oysters are often such that they accomplish a diametrically opposite result from the one ostensibly intended. Nearly all of them are based on the old and erroneous concepts of public reefs, kept up by the state, for the benefit of everyone, Louisiana being a notable exception.

It has been repeatedly proven that this concept is fallacious. From the experiences of Maryland and other states, it has been learned that the cost of such a program is so great that it is impossible satisfactorily to maintain public grounds either by subsidy or by direct tax, and that it would be cheaper in the long run to give the money directly to the fishermen as a reward for not producing oysters. The end result would be about the same.

It has also been repeatedly proven that *oyster culture is successful only when the oyster producers have an actual financial interest in the beds which causes them to care for them just as they would for a piece of farmland that they owned.* Common sense and the dictates of the producer's pocketbook will make him care for such beds as he would never care for public reefs.

Any large expansion of the oyster industry on the Gulf coast is dependent mainly upon two things. These are laws designed to encourage the leasing of grounds for private use, and the enlistment of outside capital, from oyster growing areas, to develop these grounds.

It is wishful thinking to believe that, in the present state of economy, much support for such a program is going to come from the Gulf coast itself. Our fishing fleets operate on one fishery almost exclusively. *As long as shrimp are running the boats are going to fish for them. When they are not, the boats will stay tied to the docks waiting for them to run and will not engage in anything as hard and time consuming as oyster culture for fear that they will miss the shrimp.*

A fact that many people overlook in their consideration of oyster culture on this coast is that the Louisiana beds were started in the years before the shrimp fishery attained anything like its present proportions. Moreover, in the beginning, it had a hard core of Czechs as its mainstay, who were accustomed to long hours, hard work and a reasonable return for their money. Today, the sons of these men are turning to shrimping (rather than oystering) as a means of livelihood.

It must be remembered, also, that it takes money to cultivate oysters. The same amount of money expended on a shrimp boat will produce for the individual quicker and easier returns, with comparatively longer periods of idleness, in which to enjoy living.