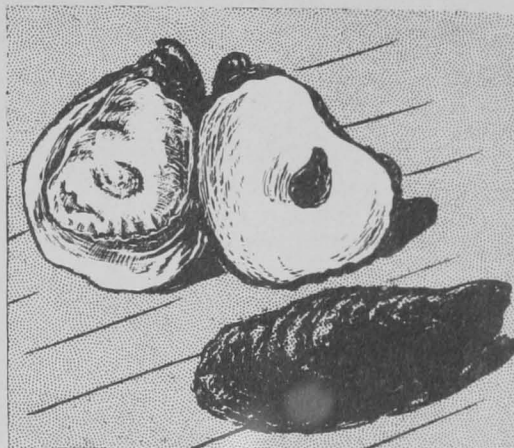


A SERIOUS SITUATION CONFRONTING THE OYSTER INDUSTRY^{1/}

By Walter A. Chipman, Jr.*

At present, the oyster industry is experiencing a crisis. There is a widespread scarcity of marketable oysters and, in general, the quality of oyster meats is poor. Oysters are indeed becoming so scarce that there are not enough of them to give a livelihood to many persons engaged in their gathering. As an illustration, consider the conditions in the upper Chesapeake Bay. At the beginning of this century, the oyster rocks of the Maryland part of the Bay supported more than 500 dredgers. Fifteen or twenty years ago, there were still about 200. In the fall of 1947, there were but 16 dredgers operating in Maryland. The situation in other States is even more serious. Public oyster bars have been completely depleted in Georgia; there is a continuous decline in the production of oysters in South Carolina, Florida, and Texas; and the mortality of oysters in Louisiana waters threatens the very existence of the large oyster industry of that State. This critical shortage has developed as a result of many years of mismanagement of public oyster grounds and continuing destruction of bottoms by domestic and industrial pollution. Except for these two factors, the natural conditions in the oyster-producing States remain the same as they were years ago and the potential productivity of public rocks today is as high as it has been in the past.

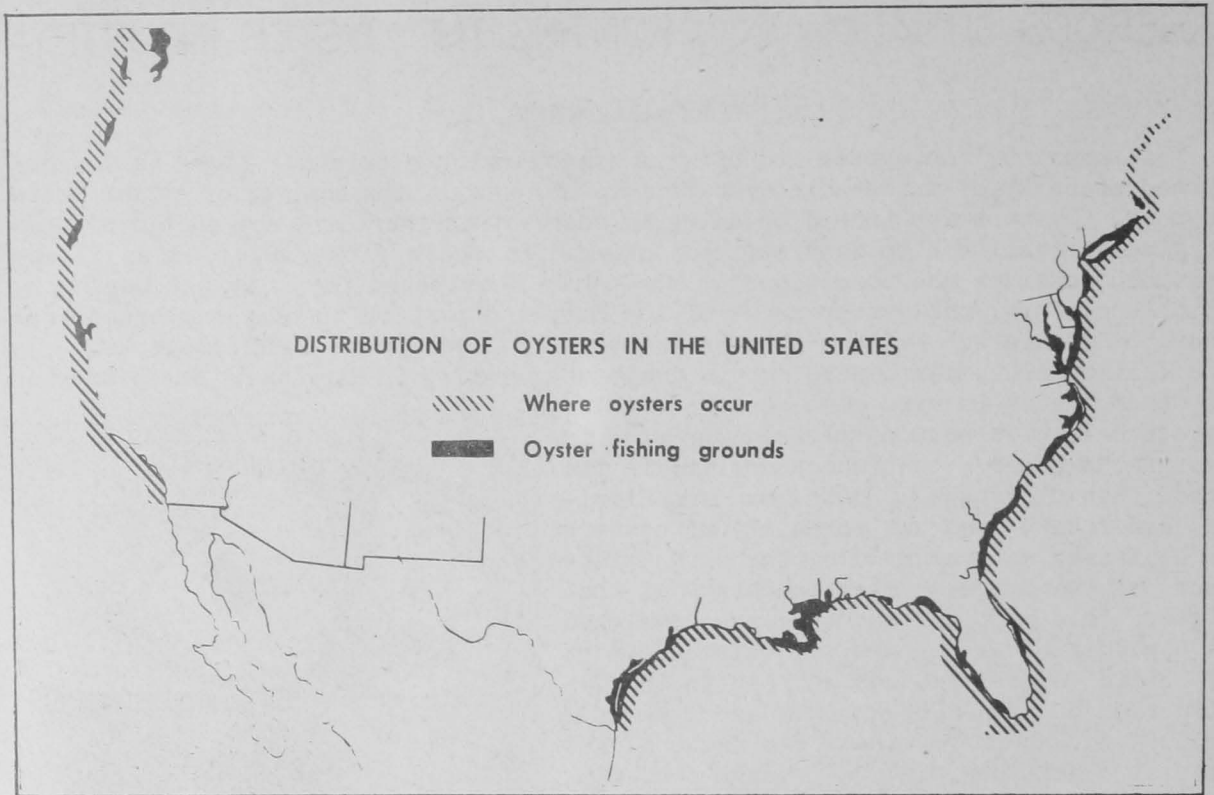


It is a well established fact that a high level of productivity of shellfish bottoms can be maintained only through the application of well developed and sound principles of cultivation or oyster farming. Natural oyster grounds are the most suitable bottoms for the cultivation of oysters. Virtually in all the States, these bottoms are classified as public grounds and open to tongers or dredgers. In the majority of the oyster-producing States, no sustained efforts are being made for the rehabilitation of public grounds and, consequently, the largest portion of them become non-productive; yet these grounds, still listed as public rocks, cannot be leased to private growers and are useless to the fishery.

In the few coastal States where rehabilitation of oyster bottoms has been attempted, it was limited to the planting of shells or seed. In many instances, the results were unsatisfactory because of the lack of technical knowledge in oyster cultural methods or wastefulness in conducting planting operations. In a few cases where planting was successful, the rehabilitated bars were depleted almost as soon as they were open to fishermen because no control was exercised over the harvesting of the oysters. From a national point of view, it is immaterial whether the cultivation of oysters is conducted by State governments or by private industry. The essential fact is that the supply of oysters on the grounds open to commercial fishing cannot be maintained by natural propagation alone. Planting of seed, control of enemies, and regulation of harvesting are

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needed to maintain the productivity of these grounds. Restrictions, such as closed seasons, limitation on the type of gear used, and similar measures applied to the bottoms open to dredging are not sufficient because, even with these, with a few exceptions, the rate of propagation on natural rocks is too slow and cannot replenish the stock removed by commercial fishing. The greatest danger is that overfishing with lack of cultivation will deplete the grounds beyond the possibility of their restoration.

Since State governments have exclusive jurisdiction over their respective oyster grounds, each State must decide whether it should initiate its own plan of rehabilitation and management or release the grounds to private oyster farming. Observations and experiments conducted during the past four years by the U. S. Fish and Wildlife Service in the Chesapeake Bay show that, from a purely technical point of view, the State management of oyster grounds, which is the principal method for restoring the productivity of oyster bottoms, is sound and feasible. The execution of a State plan requires, however, a large investment of capital, an amount far exceeding the public funds available for this purpose to the State governments. On the basis of prices prevailing during the past year, \$150.00 must be considered as the minimum cost of planting one acre of public ground with seed oysters. To restore many thousands of acres of depleted bottoms would require, therefore, a capital investment of many million dollars. For several years, the State of Maryland has tried the State management plan with only partial success. Greater accomplishments were not obtained since the capital needed far exceeds the money available to the State for that purpose.

Instead of going into the business of producing oysters for the market, it appears more practical for the State government to direct its efforts to the development and improvement of seed oyster grounds from which small oysters can be

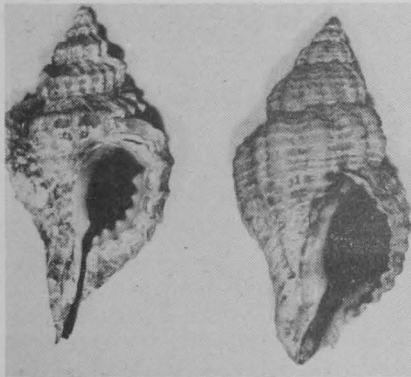
taken by individual planters. Insufficient seed is the principal difficulty of the shellfish industry. There are only a few places along our coast where nature provides conditions favorable to the production of young oysters. Unfortunately, most of these places are located in the harbors, bays, or in the mouths of rivers, close to centers of industrial development and, therefore, subject to industrial and domestic pollution. It is the duty of State governments to protect these grounds from further destruction and to increase their productivity. If the funds available to various States for the rehabilitation of shellfish bottoms be spent for the restoration and maintenance of public seed oyster grounds, the money will be used in a most effective and advantageous manner.



PLANTING SEED OYSTERS, CHINCOTEAGUE, VA.

For many years, the oyster industry of the entire Chesapeake Bay was dependent on seed oysters obtained from the James River. At present, the productivity of the James River grounds has diminished to such an extent that the State of Virginia has been forced to impose severe restrictions on the planting of this seed outside of the State waters. It is not an exaggeration to state that the oyster industry in Virginia would collapse if seed oyster grounds in the James River became non-productive. It is not known for certain what particular conditions in the James River are primarily responsible for the high productivity of its seed oyster grounds. It is reasonable to assume that the salinity of the water, the run-off of the river, and the character of the bottom are the important factors. There may be, however, other conditions or factors which make the James River

oyster rocks the most productive seed oyster area in the world. There is a project of the Federal Government to regulate the flow of the James River by the construction of dams. Undoubtedly, this project will be beneficial for controlling floods, but it is also obvious that it would materially change the present regime of the river. It is impossible to foresee whether these changes will be beneficial or destructive to seed oysters. The James River seed grounds are, at present, free of oyster drills, or screw borers, which are prevented from invading these bottoms by a low salinity. Slight increase in the concentration of salts, not exceeding two or more parts per thousand, would be sufficient to permit the drills to migrate from the mouth of the river upstream and invade the seed oyster area. This



COMMON OYSTER DRILLS, ENLARGED TWICE, USUALLY AVERAGE 1 INCH LONG

invasion would destroy the very foundation of the oyster industry in Virginia and of the Chesapeake Bay in general. It appears, therefore, necessary to make a thorough study of the James River seed oyster grounds in order to determine conditions that should be maintained to ensure their sustained productivity. The problem is complex and difficult, but not unsolvable. The project would require annual expenditures of but a small fraction of the cost of the huge engineering project.

Protection of shellfish grounds against pollution is a difficult and, frequently, a thankless job. The economic benefits to local communities derived from pulp mills, oil wells, and other industrial developments, which are primarily responsible for the pollution of coastal waters, may far exceed local benefits obtained from fishing and the processing of fishing products. There is no question as to the economic importance of mineral developments or of the manufacturing industries. The primary concern of all should be the working out of methods which would permit the co-existence of the various industries. This goal may be achieved by research in the problems of utilization of industrial byproducts, by develop-



ing safe methods of disposal of those poisonous industrial wastes which must be discarded, and by enforcing of anti-pollution laws.

Considerable progress has been made along these lines. Organizations for the abatement of pollution have recently brought to the fore evidence that many of our streams can and, eventually, will be made safe for aquatic life. There is need, however, of more attention to pollution of our coastal waters where industrial development is taking place at a rapid

rate. In the past, the U. S. Fish and Wildlife Service has conducted many studies on the effect of various types of pollution on the aquatic life of our bays and estuaries. No investigation or study conducted by a Governmental agency brings practical results unless the way is found to apply the findings in practice. The Federal Government has been lacking in authority to enforce anti-pollution measures. Protection of our shellfish-producing water bottoms from the destruction brought about by industrial pollution, particularly the guarding of our seed oyster grounds, is vital for the continuation of the oyster industry.

In summarizing, the Fish and Wildlife Service believes that, because of the prohibitive cost of large scale operations, it appears more advantageous for State governments to concentrate their efforts on their seed oyster grounds. The following measures seem to be most desirable:

Protection and development of the seed oyster grounds from which seed oysters may be taken by private planters.

Adoption of a practical system of State management of these grounds under which the public funds invested in rehabilitation be returned through a tax imposed on seed oysters taken by private planters.

The encouragement of private planting by liberalizing leasing laws, reclassification of public grounds, and establishment of experimental or demonstration oyster farms.

By retaining full control over the seed grounds and by restricting the leasing of grounds, the respective State governments could protect the interests of individual oystermen and prevent concentration of large holdings of oyster grounds by a few large companies.

