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Report to the Virginia Marine
Resources Commission on Drumming
Ground in the Rappahannock River, Va.

by

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VIMS Marine Resource Report # 84-2

At the request of Mr. Daniels, VIMS personnel (Mr. Haven and Mr. Walker) accompanied the Virginia Marine Resources Commission in a survey of oysters growing on Drumming Ground in the lower Rappahannock River. The study was made during the afternoon of February 1, 1983. The purpose of the study was to determine if the quality and amount of oysters existing there were satisfactory for replanting to another area.

Grabs were first made in the area with patent tongs. This gear indicated about 200-300 oysters per bushel of substrate.

Three tows were made with a commercial sized oyster dredge. Material from these hauls was examined by Mr. Walker and Mr. Haven at VIMS.

The dredged oysters came from two distinct areas. 1) a 1983 set on shell plants; 2) an older shell plant consisting largely of oysters which set in 1981. The following is our analysis of these two areas.

I. 1983 SHELL PLANTS

1. Total number spat/bu. = 230
2. Percent spat dead (on the basis of numbers of spat scars). = 53%

II. OLDER OYSTERS

(sum of two 1/2 bushel tubs)

1. Total numbers of market, small and yearling oysters/bu. = 385

2. Total number of spat/bu. = 16
3. Average length of small oysters = 2.3 inch.
4. Average length of market oysters = 3.4 inch.
5. Percent of total of various sizes
- market oysters = 12%
 - small oysters = 85%
 - yearling oysters = 3%
6. Percent mortality of larger oysters
(based on numbers of boxes). = 11%
7. Percent mortality of 1983 spat
(based on spat scars) = 48%

DESCRIPTION OF OYSTERS

ON DRUMMING GROUND

Most of the small oysters collected in the dredge on Drumming Ground were 1981 set; most showed from 1/8 up to 1/4 inch of very thin new growth on their shells which often could be broken off with the finger. The shells are thin and growth appears to have been very rapid during late fall.

On the average, the shells of the 1981 set are rounded and most were not excessively elongated. Excessive crowding was not indicated, and this view was supported by the fact that bottom cultch "counted" only 385 oysters per bushel.

About 30 small oysters were opened and the meats examined. They were rated as average or above average in quality.

Shells comprised about 1/3 of the content of each dredge. Mortalities of 11% for the older oysters were about average for the area.

Spat mortality was high (48-53%) and we do not know its cause.

CONCLUSIONS ON OYSTERS ON DRUMMING GROUND

I. 1983 shell plants

The density of 1983 spat (230 bu.) in one area, is lower than the level desired for an economic transplanting activity. The best use of spat on these shells is to leave them in place for later harvest as market oysters.

II. Older oysters (1981 set)

1. Many of the small oysters (now about 2.3 inches long) have very thin fragile marginal shell growth which is easily broken. If these oysters were to be dredged, this new growth could easily be damaged; if damage was severe many oysters would die later on after being transplanted.

2. Oysters on Drumming Ground in the second area sampled "count" only 385 per bushel of dredged bottom cultch. This number is lower than the 400 level which is generally regarded as the lower limit for an economic transplanting activity.

3. If left in place the oysters (now about 2.3 inches long) should reach market size by the fall of 1984.

4. The oysters do not appear to be excessively crowded on the bottom, nor do their bills appear to be severely elongated.

5. The cause of the high spat mortality is not known.