

A detailed line drawing of various marine organisms. In the upper left, there are several fish of different species, some with prominent fins and others with more rounded bodies. In the center, a large crab is shown with its legs and claws. To the right, there are several oysters, some open and some closed, showing their shells and gills. The drawing is done in a simple, clean line-art style.

No. 83-1

# Marine Resource Report

## Oyster Survey, Great Wicomico River

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February, 1983*

*A Publication of the Virginia Sea Grant Marine  
Advisory Program, Virginia Institute of Marine Science,  
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OYSTER SURVEY, GREAT WICOMICO RIVER

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Virginia Marine Resource Report No. 83-1

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At the request of Fred Biddlecomb, representing the Virginia Watermen's Association, a survey of the Great Wicomico River was undertaken to assess the status of oyster stocks on public rocks. The survey was conducted cooperatively by the Fishery Science and Marine Advisory Services Departments of the Virginia Institute of Marine Science (VIMS) and Virginia Marine Resources Commission (VMRC).

On February 9, 1983, the VMRC vessel WOLFTRAP, equipped with patent tongs, was used to sample selected public rocks within the Great Wicomico (Figure 1). Onboard were VMRC Marine Patrol officers Dameron and Fisher, WOLFTRAP crew Hudson and Register, VIMS personnel and Thomas C. Winstead, representing the Watermen's Association.

Sampling was conducted so as to be consistent with past VMRC efforts. At each site a number of patent tong grabs were made (5 to 10) until a "table-full" of oysters were obtained. From this composite sample a sub-sample equalling a volume of 10 quarts was taken. This sample was then counted for number of spat (1982 strike only), small oysters (sub-legal excluding spat), market oysters and boxes. Following these counts, the total volume of shell was determined for the sub-sample. Additionally, for one patent tong grab, these same measurements and counts were made.

In order to put the data into a more meaningful form, the sub-samples were extrapolated to a per bushel estimate for each of the data categories. This was done by multiplying each count by 5; there being 50 quarts in a Virginia bushel. Table 1 presents the results of these extrapolations.

The percent mortality at the various rocks was estimated by counting the numbers of intact boxes and then dividing by the total number of oysters (spat, small and market) and boxes. Mortalities ranged from a low of 8% at Dameron Marsh to a high of 24% at Shell Creek. Although the mortalities

estimated were above average, they are not considered to be excessive for an area susceptible to MSX and Dermo. No drills were observed in any of the samples.

Estimates of market oysters per bushel ranged from 10 at Shell Creek to 65 at Ingram. The most oysters found were at Ingram (65/bu), Fleet Point (60/bu) and Whaleys East (50/bu). The number of market oysters found throughout the River indicates that commercial harvest would not be profitable in most areas.

The stock of small oysters is substantial and spread throughout the River. Provided they continue to grow and do not experience catastrophic mortalities, these small oysters could contribute to a good yield in the future.

The 1981 and 1982 strikes were very evident in our samples. Spat became more abundant as one proceeded up-river, with the highest estimated numbers occurring above the Glebe Point Bridge, in the area known as the Upper Middle Ground (1435 and 1470 spat per bushel). This area received a small shell planting of approximately 6000 bushels in 1982. The rest of the River received a good strike that if all spat were to survive to harvest size could yield substantial landings in the coming years.

It is believed that the total oysters per bushel estimates for the Great Wicomico are approximately half of what one might expect to find in good quality James River seed at the present time. Therefore, it may not be cost-effective to harvest seed from the Great Wicomico, except at the Upper Middle Grounds, for planting elsewhere. The total oysters per bushel estimates, on the strength of above average numbers of small oysters and spat, do suggest, however, that at the present time the Great Wicomico River may be more suitable as a grow-out area than as a seed source.

The above average strike of 1981, as evidenced by the counts of small oysters, and the exceptional strike of 1982 should be viewed with care, although optimistically. It may be that this indicates a recovery of the River to a pre-1972 setting pattern. However, in light of the fact that this area experienced a below average set during the 1972-1978 period, it would be prudent and biologically sound to make small trial plantings of shell until it is determined that the area is sufficiently recovered to support large-scale shelling.

Presently, the area appears to be deficient in good clean shell available for strike. When it is determined that the Great Wicomico will continue to strike regularly, shell should be planted in proportion to what is being removed (i.e., harvested).

Regardless, there is a need for a long range management plan for this, as well as all, rivers in Virginia. Decisions must be made as to the fate of the oyster rocks, be they grow-out or seed producers.

TABLE 1.

Summary of data from composite samples taken 9 February 1983 from the Great Wicomico River. Data were generated by taking a 10 quart sample from a composite of patent-tong grabs, counting all spat, small oysters, market oysters and boxes, then multiplying by 5 to obtain a per bushel estimate.

SITE	SPAT/BU	SMALL OYSTERS/ BU	MARKET OYSTERS/ BU	TOTAL OYSTERS/ BU	BOXES/BU	ESTIMATED % MORITALITY	QTS SHELL/ BU	QTS OYSTERS/ BU
Dameron Marsh	250	160	25	435	15	8	25	25
Ingram	100	145	65	310	20	9	10	40
Whaleys West	115	130	35	280	25	13	30	20
Whaleys East	310	245	50	605	0	-	15	35
Fleet Point	345	190	60	595	55	18	5	45
Cranes Creek	200	230	25	455	50	16	30	20
Shell Creek	525	115	10	650	40	24	40	10
Haynie Point	395	195	30	620	30	12	20	30
Upper Middle Ground	1435	0	0	1435	-	-	-	-
Upper Middle Ground	1470	0	0	1470	-	-	-	-

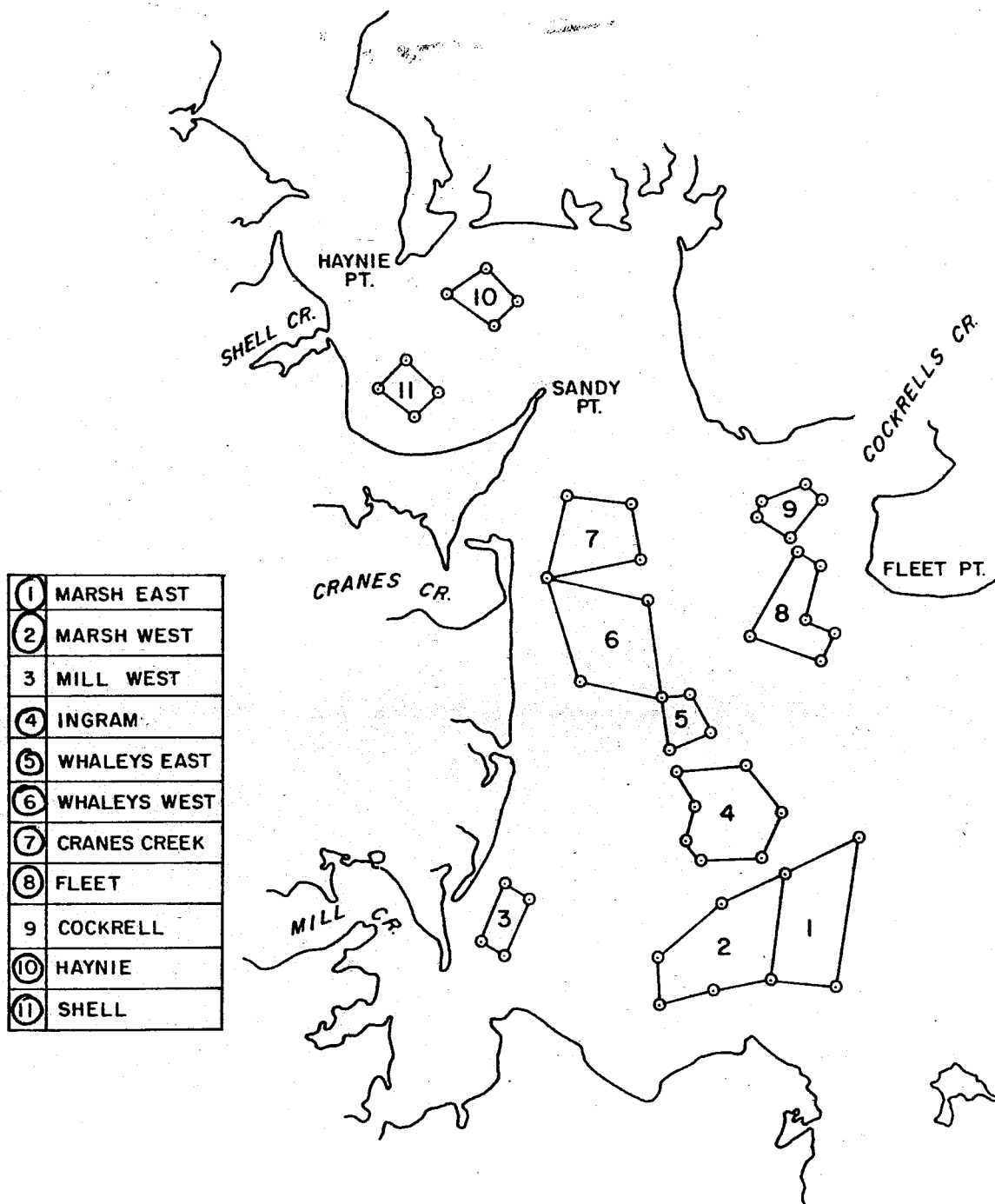


Figure 1. Location of public oyster rocks in the lower Great Wicomico River. Circled numbers indicate the sites sampled.