10-15-1970

Marine Resource Information Bulletin Vol. 2, No. 13

Virginia Sea Grant

Virginia Institute of Marine Science

MARINE RESOURCE INFORMATION

VIRGINIA INSTITUTE of MARINE SCIENCE BULLETIN

Vol. 2, No. 13 October 15, 1970

SCIENTISTS GIVE TIPS ON STRIPED BASS LANDINGS

Scientists at the Virginia Institute of Marine Science have recommended that gill-net fishermen use nets with 5 3/4 inch stretch mesh in the early months of 1971 to improve catches of the dominant 1966 year-class of striped bass.

This unusually successful 1966 hatch and survival of stripers, referred to as a strong or "dominant" year-class, has been supplying a large proportion of the fish caught in the commercial fisheries. Dr. George C. Grant, associate marine scientist in the VIMS Ichthyology Department, Victor G. Burrell, extension officer, and William H. Kriete, Jr., research assistant in the Ichthyology Department, have analyzed daily records made by four stake gill-net fishermen in the Rappahannock River from March 1967 to April 1970, and report that the 1966 year-class contributed most to a tripling of catches in the early months of 1970.

"Gill-net fishermen are in the best position to maximize catches of such dominant year-classes," said Dr. Grant, "providing they have knowledge of year-class abundance, average length at different ages, expected growth from one year to the next, and the relation between gill-net mesh size and mean length of striped bass caught."

The scientists explained that if fishermen have this information, they can vary the mesh size to follow the growth of dominant year-classes from one year to the next. As the year-class grows, the fishermen shift to larger mesh nets; when the year-class becomes less abundant and a new dominant year-class appears, the fishermen then shift down to a smaller mesh net.

According to the report, average fork lengths of striped bass expected to be caught in the nets commonly employed in the Rappahannock fishery are as follows: 13 1/2" fork length - 3 1/4" mesh; 16" fork length - 4" mesh; 19 1/4" fork length - 5" mesh. Striped bass which hatched in 1966 are expected to have an average fork length of 21 1/2 inches by the early months of 1971 and Dr. Grant pointed out that catches of the 1966 year-class will be reduced if the mesh size is not increased.

"Assuming a significant return of the 1966 year-class in the winter of 1971, and assuming striped bass grow to an expected average fork length of 21 1/2 inches, best catches of this size fish would be made by using gill-nets with 5 3/4 inch stretch mesh," Dr. Grant said.

The striped bass ascend rivers from March to June to spawn, and

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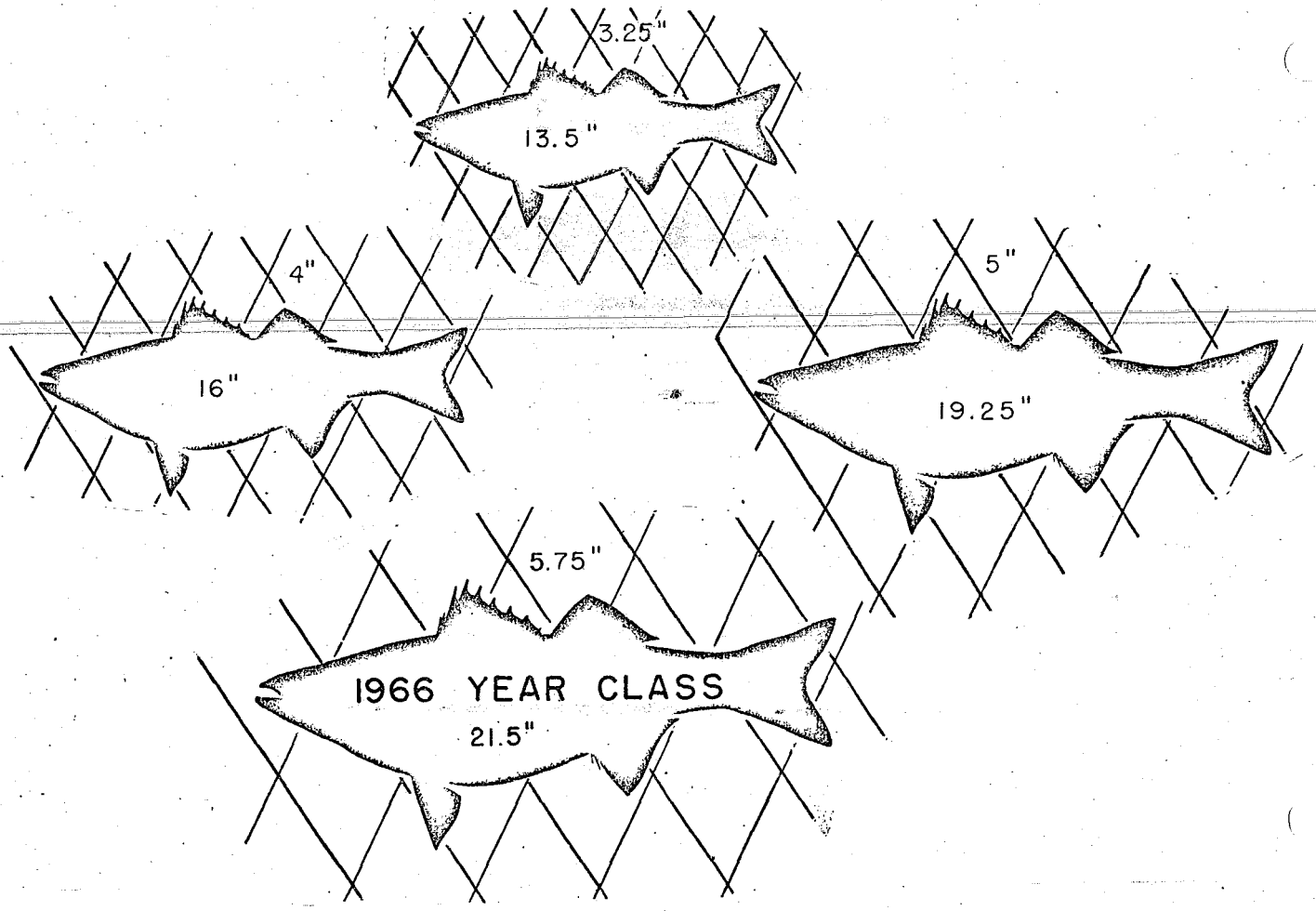
SCIENTISTS GIVE TIPS - (Continued from page 1)

occasionally produce an unusually successful hatch. In recent history, the best known strong year-classes of striped bass were those of 1934 and 1958, both of which resulted in good fishing in Virginia and northward along the coast from Chesapeake Bay to New England.

The high quality, white, flaky flesh of the striped bass is in high demand as a food, and a substantial commercial fishery has existed since colonial days. Abundance of the striped bass along the Atlantic Coast has been increasing, with minor fluctuations, during the past four decades. When unusually large year-classes appear, increased landings result.

The 1966 year-class is the latest dominant one and, according to Dr. Grant, nearly 60 per cent by weight of the striped bass landed by Rappahannock gill-nets during the winter of 1970 were from the 1966 hatching. The catch itself was nearly three times as great as for the previous year during the same period.

The figure on the opposite page shows total landings (A) and age composition (B) on striped bass in the sampled gill-net fishery, Rappahannock River, Virginia, during the winter of 1969 and 1970.



LARGER FISH REQUIRE LARGER SIZED MESH

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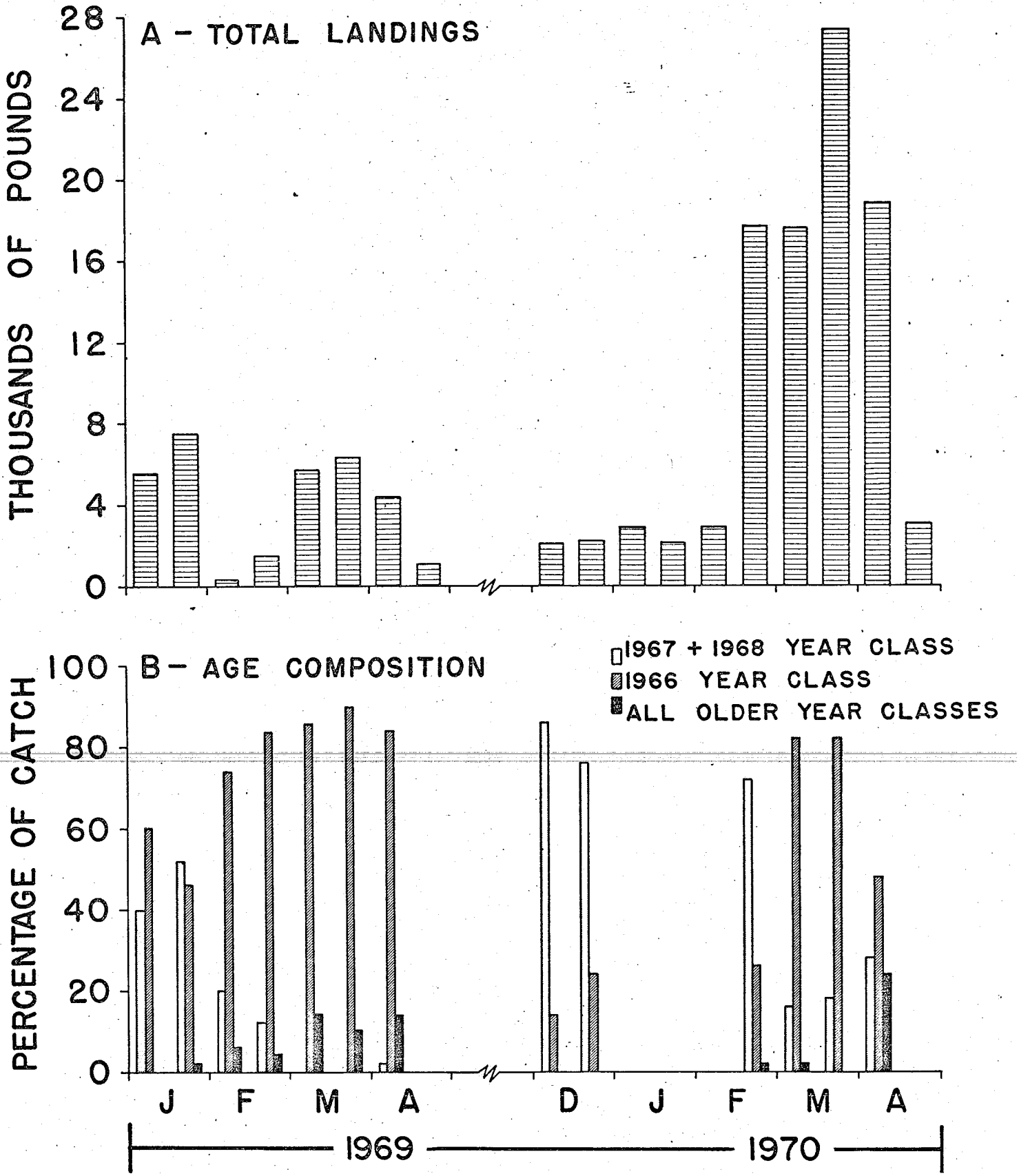

(NOTE: THIS RESEARCH WAS FUNDED IN PART WITH ANADROMOUS FISH ACT [P.L. 89-304] FUNDS, ADMINISTERED BY THE BUREAU OF SPORT FISHERIES AND WILDLIFE.)

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WEEKLY OYSTER SPATFALL ON SHELLSTRINGS IN VIRGINIA
SEPTEMBER-OCTOBER 1970

Spat counts are obtained from oyster shells strung on wire and suspended from stakes at stations in various rivers in Virginia. The average number of spat which set in one week on the smooth side of each shell on the string comprises the "spat per shell count."

To obtain approximate number of sets on both sides of oyster shells on shellstrings, spat per shell counts may be doubled. Explanation of how surveys are made and how this information may be used is available from the Information and Education Department, VIMS.

The following table presents the current weekly spatfall. See charts on page 6 for locations. Note that numbers to the left of certain river areas correspond to numbers on the charts to identify locations. This is the last report on spat fall for 1970. A summary for the year will be issued shortly.

SPAT PER SHELL

0 TO 1 SPAT PER SHELL = POOR SET
2 TO 10 SPAT PER SHELL = FAIR SET
11 TO 100 SPAT PER SHELL = GOOD SET

	Sept. 7 to Sept. 14	Sept. 14 to Sept. 18	Sept. 18 to Sept. 28	Sept. 28 to Oct. 5
JAMES RIVER				
Brown Shoals	0.1	0.4	1.0	0
Wreck Shoals	0	0	0.3	0.1
Horse Head	0.2	0.1	0.1	0
Point of Shoals	0	0.2	0	0
Deepwater Shoals	0	0.1	0.1	0
	Sept. 10 to Sept. 17	**Sept. 17 to Sept. 24**	**Sept. 24 to Oct. 1**	**Oct. 1 to Oct. 8**
YORK RIVER				
VIMS Pier	2.9	5.1	0.3	Study
Clay Bank	0	0	0	Ended
Foxes Creek	0	0	0	

SPAT PER SHELL COUNTS - Continued

	Sept. 10 to Sept. 17	Sept. 17 to Sept. 24	Sept. 24 to Oct. 1	
MOBJACK BAY AREA				
1 North River head	0	0	N.S.*	Study Ended
2 North River Black Water Cr.	0	0	0.1	
3 North River Cedar River	0.2	0.1	0	
4 East River head	0	0	0.1	
5 East River Put-In Creek	0	0	0.5	
6 East River mouth	3.9	2.2	7.4	
11 Williams Wharf	0	0.1	0.5	

	Sept. 10 to Sept. 17	Sept. 17 to Sept. 24	Sept. 24 to Oct. 1	
NEW POINT COMFORT AREA				
7 Pepper Creek	1.8	2.0	0.8	Study Ended
8 Dyer Creek	0.5	0.2	0.7	
9 Horn Harbor	0.1	0.1	0.1	
10 Winter Harbor	7.5	1.4	9.6	
Stutts Creek	0	0	0.1	

	Sept. 9 to Sept. 16	Sept. 16 to Sept. 23	Sept. 23 to Sept. 30	Sept. 30 to Oct. 7
PIANKATANK RIVER AREA				
1 Milford Haven	0.2	0.5	1.1	1.5
2 Stoakes Creek	1.1	0.5	0.1	0.6
3 Point Breeze	3.6	3.1	0.9	1.5
4 Three Branches	1.3	0.3	0.2	0.2
5 Iron Point	1.6	0	N.S.*	1.2
6 Island Bar	N.S.*	0.6	0.2	0.2
7 Ginney Point	0.7	0	0.1	0.4
8 Twiggs	0.3	0	0.3	0.5
9 Perry Point	0	0	0	0
10 Hill Bay	0.7	0	0.3	0.1
11 Burton Point	0.2	0.2	0.5	0.5

	Sept. 7 to Sept. 14	Sept. 14 to Sept. 21	Sept. 21 to Sept. 28	Sept. 28 to Oct. 7
GREAT WICOMICO RIVER				
3 Off Mill Creek	N.S.*	N.S.*	N.S.*	Study Ended
7 Off Cranes Creek	0.3	0.1	0.9	
8 Off Fleet Point	N.S.*	N.S.*	N.S.*	
9 Off Cockrells Cr.	N.S.*	N.S.*	N.S.*	
10 SW Haynie Point	N.S.*	N.S.*	N.S.*	
11 Off Shell Creek	N.S.*	N.S.*	N.S.*	
13 Glebe Point	0.2	0	0	

	Sept. 9 to Sept. 16	Sept. 16 to Sept. 23	Sept. 23 to Oct. 2	Oct. 2 to Oct. 9
NANSEMOND RIVER				
Nansemond Ridge	0.4	0.7	0.1	Study Ended
Larken's Rock	0.2	0	0	
Half Pone	0.1	0.3	0	

	Sept. 9 to Sept. 16	Sept. 16 to Sept. 22	Sept. 22 to Sept. 30	Sept. 30 to Oct. 7
RAPPAHANNOCK RIVER				
1 Grey's Point Br.	0.2	0.3	N.S.*	Study Ended

*Not Sampled

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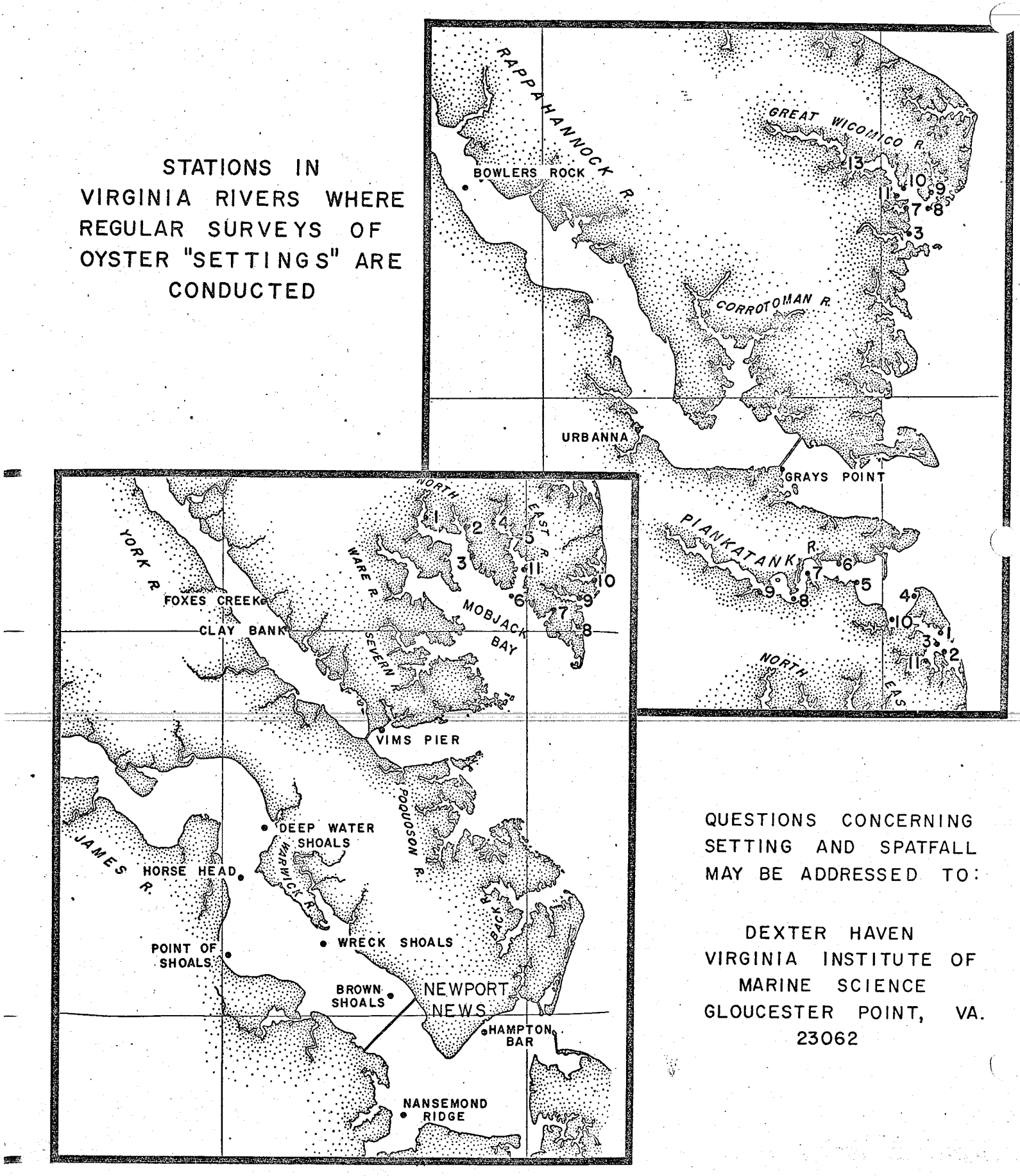
STATIONS IN VIRGINIA RIVERS WHERE REGULAR SURVEYS OF OYSTER "SETTINGS" ARE CONDUCTED



QUESTIONS CONCERNING SETTING AND SPATFALL MAY BE ADDRESSED TO:

DEXTER HAVEN
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- FROM THE EDITOR -

The editoral staff of the MARINE RESOURCES INFORMATION BULLETIN wishes to express its appreciation for the responses we have received to the mailing list verification form printed in the October 2, 1970 bulletin.

Your comments and suggestions are most helpful in planning further Bulletins and each question and suggestion we receive will be given careful consideration.

If you have not yet returned the form, we urge that you do so at your earliest convenience. Your cooperation will help us maintain an accurate, up-to-date distribution list.

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My connection with fishing industry is: ☐ Waterman ☐ Producer

If waterman, list type of gear: _____

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Other comments:

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