
Virginia Marine Resource Bulletin

Virginia Sea Grant

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Virginia Sea Grant

Virginia Institute of Marine Science

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MARINE RESOURCE INFORMATION

BULLETIN

VIRGINIA INSTITUTE of MARINE SCIENCE

Vol. 2 No. 8

July 28, 1970

Weekly Summary For June-July

WEEKLY OYSTER SPATFALL ON SHELLSTRINGS IN VIRGINIA RIVERS

Prepared by the Virginia Institute of Marine Science
at Gloucester Point, Virginia 23062

JUNE-JULY 1970

Explanation

The Applied Biology Department in the VIMS Division of Applied Marine Science and Ocean Engineering conducts regular surveys of oyster "setting" in Virginia rivers. These surveys are made weekly from the end of May through early October each year. Starting at the mouth of each river and proceeding upstream to the limits of oyster setting, collecting areas are established on public and private beds. Spat counts are obtained from oyster shells strung on wire and suspended from stakes. The number of spat which set in one week on the smooth side of each shell on the string are tabulated.

Use of Information

Using the numbers of spat counted on shells during each week of the spawning season, it is possible to estimate 1) the potential of a particular area for receiving a "strike" or set of oysters, and 2) the weeks when the strike occurs. This information is useful because shells planted just before the period of maximum set have the best chance of getting a good strike. For example, spatfall counts indicated that in the Great Wicomico River optimum time for planting shells and shellbags was the last week in June during the past year; cultch planted later than mid-July had little chance for receiving a strike.

A good strike on shellstrings usually indicates that a strike has taken place on bottom shells. However, a good strike on shellstrings in some locations may not be accompanied by good spatfall on the rock.

One reason for such a failure is that bottom shells can become so fouled by other marine life (much of which cannot even be detected with the naked eye) that no room is left for small spat to attach. Even with a reasonable spatfall, survival may be extremely low due to predators such as screwborers in the saltier waters which kill many small oysters soon after attachment.

To provide information on the actual situation on the rocks, a companion survey of spatfall on bottoms will be issued in November 1970. This will help in determining the success of this year's strike on bottom shells and can be compared to the information presented in the series of tables attached to this report.

Key

Spat per Shell = a derived figure denoting the average number of spat set on the smooth side (one side only) of a shell.

To obtain approximate number of sets on both sides of oyster shells on shellstrings, total and spat per shell counts may be doubled. Figures presented here represent the count for one side only due to the difficulty in counting spat on the rough side of an oyster shell.

Index

0 to 1 spat per shell = poor set
 2 to 10 spat per shell = fair set
 11 to 100 spat per shell = good set

~~QUESTIONS CONCERNING SETTING AND SPATFALL MAY BE ADDRESSED TO~~
 MR. DEXTER HAVEN, VIRGINIA INSTITUTE OF MARINE SCIENCE, GLOUCESTER POINT, VIRGINIA 23062.

List of stations in various rivers in Virginia. The table shows average number of spat on a single oyster shell (smooth side only). See charts on pages 5 and 6 for locations. Note that numbers to the left of certain river areas have corresponding numbers on the charts to identify location.

| | June 29 to July 6 | July 6 to July 13 | July 13 to July 20 |
|------------------|-------------------------|-------------------------|--------------------------|
| JAMES RIVER | | | |
| Brown Shoals | 0 | 0 | 0 |
| Wreck Shoals | 0 | 0 | N.S.* |
| Horse Head | 0 | 0 | 0 |
| Point of Shoals | 0 | 0 | 0 |
| Deepwater Shoals | 0 | 0 | 0 |

*Not Sampled

| | July 1-8 | July 8-15 | July 15-23 |
|-------------|-------------|--------------|---------------|
| YORK RIVER | | | |
| VIMS Pier | 0 | 0 | 0 |
| Clay Bank | 0 | 0 | 0 |
| Foxes Creek | 0 | 0 | 0 |

| | July 2-9 | July 9-16 | July 16-23 |
|------------------------------------|-------------|--------------|---------------|
| MOBJACK BAY AREA | | | |
| 1 North River head | 0 | 38.1 | 0.5 |
| 2 North River Black Water Creek | 0 | 0 | 0.3 |
| 3 North River Cedar Point | 0 | 0 | 0.2 |
| 4 East River head | 0.1 | 33.8 | 0.8 |
| 5 East River Put-In Creek | 0 | 0 | 0 |
| 6 East River mouth | 0 | 1.1 | 0 |
| 11 Williams Wharf | 0 | 0 | 0 |

| | July 2-9 | July 9-16 | July 16-23 |
|------------------------|-------------|--------------|---------------|
| NEW POINT COMFORT AREA | | | |
| 7 Pepper Creek | 0.1 | 0 | 0 |
| 8 Dyer Creek | 0 | 2.1 | 3.7 |
| 9 Horn Harbor | 0 | 0 | 0.5 |
| 10 Winter Harbor | 0.4 | 0.4 | 0.1 |
| Stutts Creek | 0.2 | 3.8 | 0 |

| | June 30 to July 7 | July 7-14 | July 14-21 |
|-----------------------|-------------------------|--------------|---------------|
| PIANKATANK RIVER AREA | | | |
| 1 Milford Haven | 1.0 | 1.4 | 0.6 |
| 2 Stoakes Creek | 2.3 | 3.7 | 0.3 |
| 3 Point Breeze | 0.6 | 11.5 | 0.4 |
| 4 Three Branches | 2.0 | 0.1 | 0.1 |
| 5 Iron Point | 10.6 | 4.5 | 0.5 |
| 6 Island Bar | 13.1 | 17.2 | 0.4 |
| 7 Ginney Point | 11.5 | 29.7 | 2.3 |
| 8 Twiggs | 0.5 | 3.3 | 1.4 |
| 9 Ferry Point | 7.0 | 6.3 | N.S.* |
| 10 Hill Bay | 2.8 | 0 | 0.2 |
| 11 Burton Point | 1.7 | 7.3 | 2.6 |

*Not Sampled

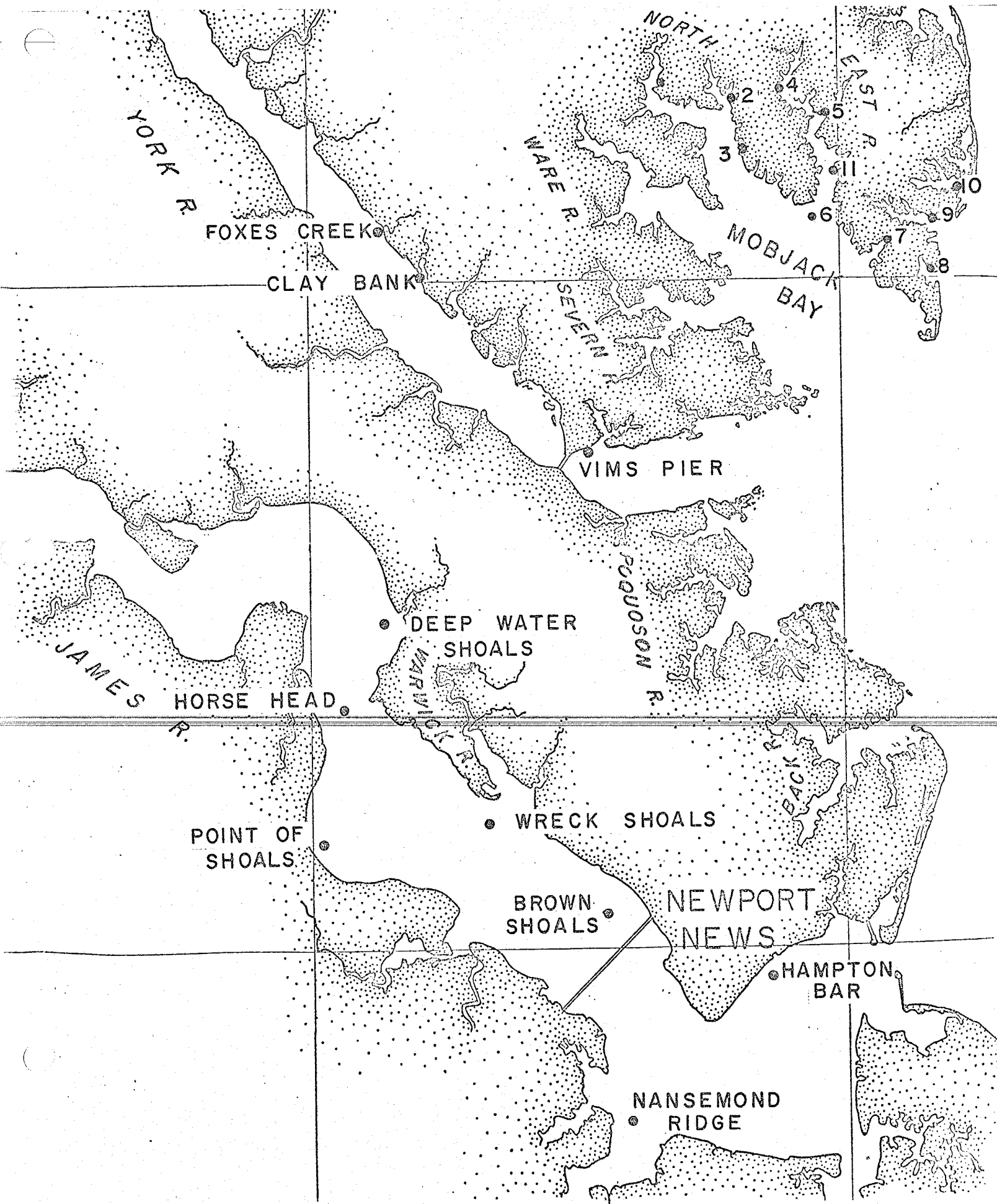
| | June 29 to July 6 | July 6-13 | July 13-20 |
|-----------------------------|-------------------------|--------------|---------------|
| GREAT WICOMICO RIVER | | | |
| 3 Off Mill Creek | 17.8 | 0 | 0.3 |
| 7 Off Cranes Creek | 9.9 | 2.1 | 2.3 |
| 8 Off Fleet Point | 0.9 | 0.5 | 0 |
| 9 Off Cockrells Creek | 7.8 | 0 | 0.2 |
| 10 SW Haynie Point | 112.5 | 12.1 | 0 |
| 11 Off Shell Creek | 57.2 | 43.8 | 2.5 |
| 13 Glebe Point | 530.7 | 27.7 | 1.6 |

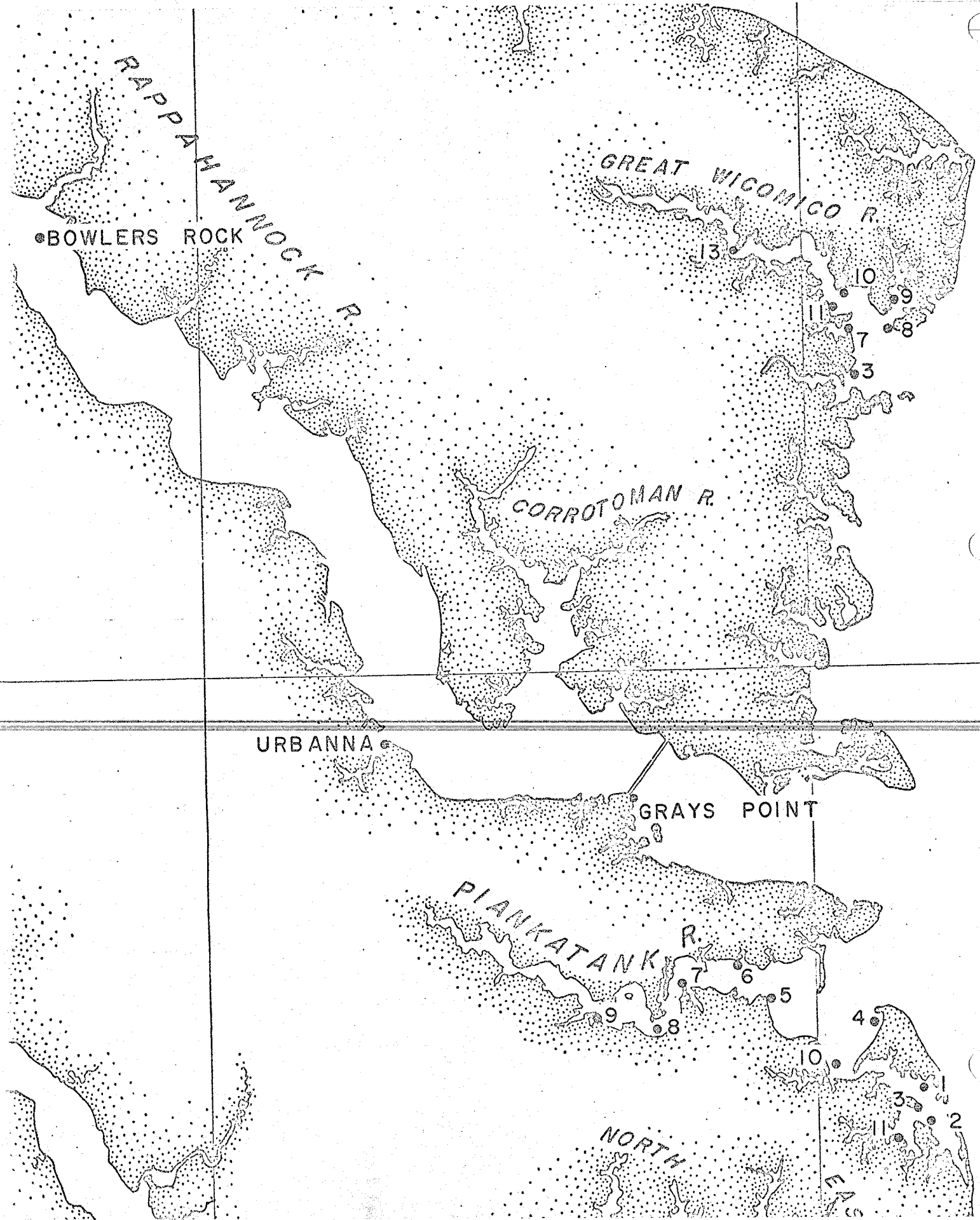
| | June 24 to July 1 | July 1-8 | July 8-20 |
|------------------------|-------------------------|-------------|--------------|
| NANSEMOND RIVER | | | |
| Nansemond Ridge | 0 | 0 | 0.1 |
| Larken's Rock | 0 | 0 | 0.1 |
| Half Pone | 0 | 0 | 0 |

| | July 1-8 | July 8-15 | July 15-22 |
|---------------------------|-------------|--------------|---------------|
| RAPPAHANNOCK RIVER | | | |
| 1 Grey's Point Bridge | 2.9 | 0 | 0 |

MARINE RESOURCE INFORMATION BULLETINS are prepared and distributed by the Information and Education Department, Virginia Institute of Marine Science, Gloucester Point, Virginia 23062, as part of a Sea Grant Advisory Services, Project under P.L. 89-688. Bulletins are mailed to persons in the seafood industry as well as to others using or managing the sea for profit or service. Purpose is to inform on matters relating to use, development, and replenishment of marine resources, including scientific studies, technological advances, legislation and problems. Copies of Bulletins are available free of charge. Anyone wishing to receive Bulletins regularly should write in care of the Institute. References to trade names of commercial products do not imply endorsement by VIMS.

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JULY 1970 OYSTER MEATS QUALITY INDEX
 (From Public Rocks)

By Dexter Haven, Head, Department of Applied Biology
 Division of Applied Marine Science and Ocean Engineering

Summary

Oyster for meat quality were collected from all rivers during the first two weeks in July.

Meat quality remained high in the Rappahannock River with only a slight dip in the lower river.

In the York and James Rivers there was a quality increase in all areas sampled and in most instances meats were above average in quality. The present levels for the two rivers probably represent the seasonal peak in quality. The reason for this maximum is that oysters have been accumulating solids in the form of animal fat or glycogen prior to spawning. Oysters shucked at this time would yield more meats per bushel than during the two preceding months.

| | May 1970 | June 1970 | July 1970 |
|--------------------|-------------|--------------|--------------|
| JAMES RIVER | | | |
| Brown Shoals | 5.9 | 7.1 | 7.8 |
| White Shoals | N.S.* | N.S.* | 8.4 |
| Gun Rock | N.S.* | N.S.* | N.S.* |
| Wreck Shoals | | | |
| shallow | N.S.* | N.S.* | 6.6 |
| deep | 6.2 | 6.7 | 7.6 |
| Point Shoals | 6.6 | 7.8 | 9.6 |
| Horsehead | 4.7 | 6.1 | 6.8 |
| Deepwater Shoals | 5.5 | 6.3 | 7.2 |
| YORK RIVER | | | |
| Green Rock | 7.1 | 7.3 | 9.0 |
| Pages Rock | 6.4 | 7.2 | 8.9 |
| Aberdeen Rock | 6.7 | 7.5 | 9.1 |
| Bells Rock | | | |
| shallow | N.S.* | N.S.* | N.S.* |
| deep | 7.2 | 7.8 | 8.2 |

*Not Sampled

RAPPAHANNOCK RIVER

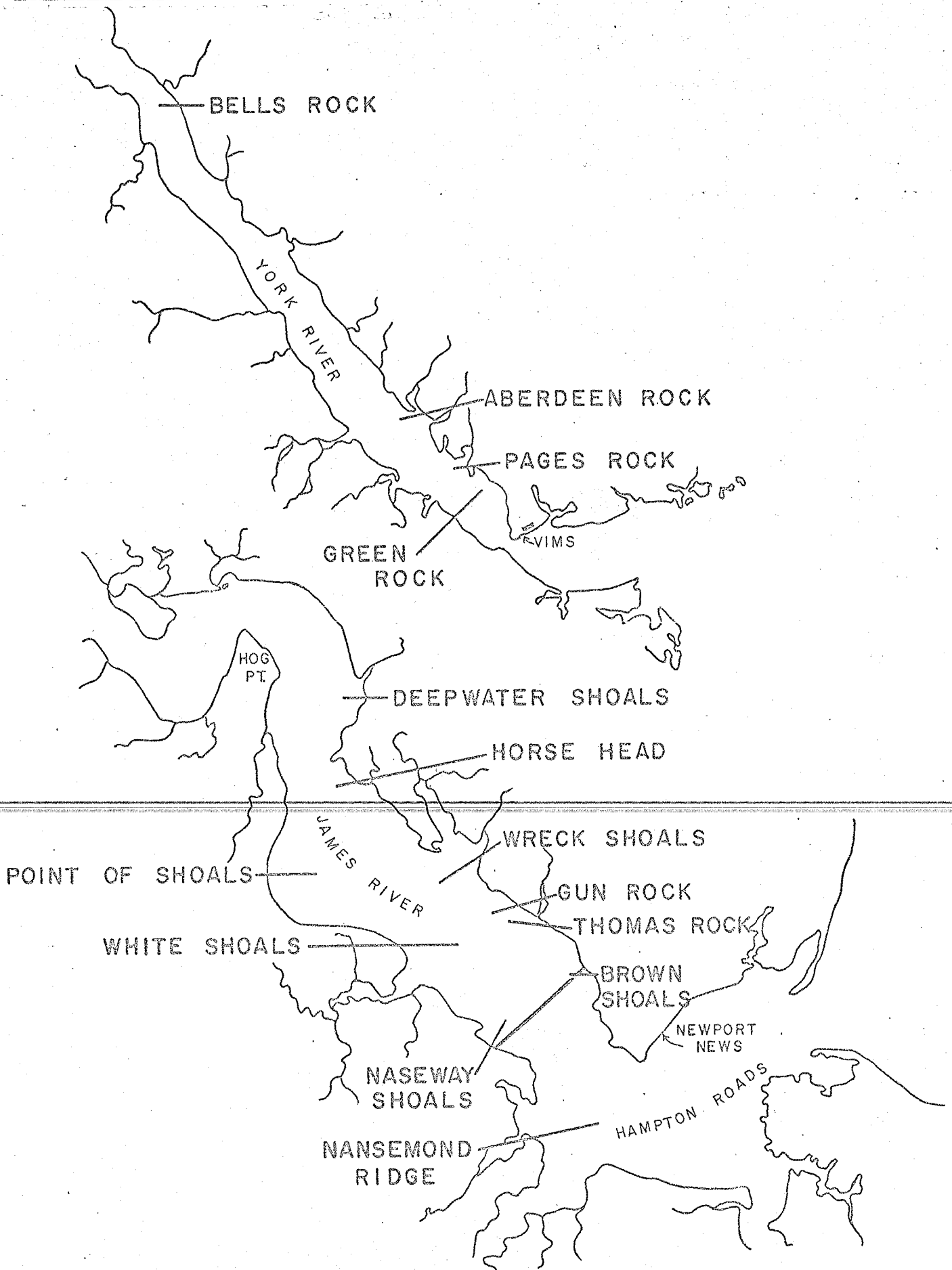
| | | | |
|---------------|-------|-------|-------|
| Urbanna | 12.0 | 11.8 | 10.1 |
| Smokey Point | | | |
| shallow | 10.7 | 10.1 | 10.0 |
| deep | N.S.* | N.S.* | N.S.* |
| Morattico Bar | | | |
| shallow | N.S.* | N.S.* | N.S.* |
| deep | 8.9 | 9.1 | 9.7 |
| Bowlers Rock | | | |
| shallow | 10.7 | 11.9 | 10.1 |
| deep | N.S.* | N.S.* | N.S.* |

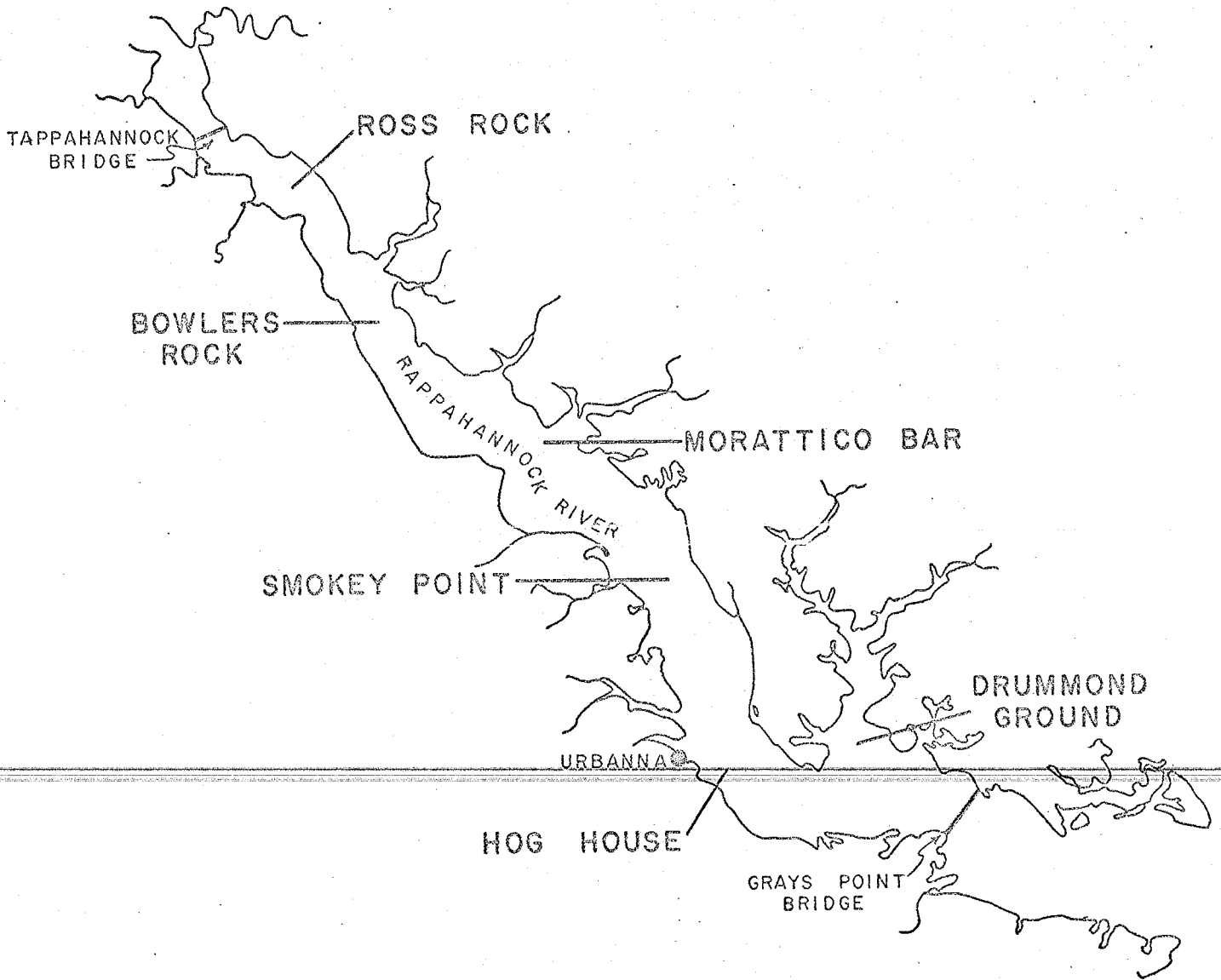
*Not Sampled

Key to Index numbers: 3.0 to 5.5 is below average; 5.6 to 7.5 average quality; 7.6 and above is above average in quality. Stations are listed by river, proceeding upstream.

Explanation

The Index number is obtained by comparing the actual size of oyster meats with the amount of space inside an oyster's shell cavity. For oysters with the same shell size (for example, three-inch shucking oysters) the Index indicates relative differences in meat size due to season, type of growing area, age, disease, nutrition, crowding and other natural factors. The Index does not reflect yield differences caused by the amount of clumping in a particular bushel or caused by processing methods. The higher the Index number, the greater the amount and quality of meats that can be expected from a bushel of oysters. Whether an oyster is small or large has no effect on the Index number because meats of small oysters can fill shell cavities as completely as meats of large oysters. Using the Index, one can compare the potential meat yield of oysters of the same size 1) from different growing areas and 2) from one season to the next. (A more detailed explanation of the Index is available upon request.)





CERTIFIED CRAB MEAT PLANT
IN NORTH CAROLINA

Prepared by the Tri-State Seafood Committee and the Virginia Institute of Marine Science as an aid to seafood buyers in locating certified crab meat suppliers.

NORTH CAROLINA

North Carolina Crustacea meat plants are certified by the North Carolina State Board of Health. All certificates expire December 31, 1970, unless revoked prior to that date.

| <u>Name</u> | <u>Address</u> | <u>Plant No.</u> |
|---------------------------------------|----------------|------------------|
| Aurora Packing Company | Aurora | N.C. 203 |
| Belhaven Fish and Oyster Company | Belhaven | N.C. 18 |
| Caroon Brothers | Lowland | N.C. 27 |
| Croaton Crab Company | Wanchese | N.C. 41 |
| C. B. Caroon Crab Company | Southport | N.C. 22 |
| Daniels Seafood Company | Aurora | N.C. 429 |
| Daniels Seafood Company | Nags Head | N.C. 172 |
| Engelhard Shrimp, Fish and Oyster Co. | Engelhard | N.C. 142 |
| Fulcher Crab Company | Oriental | N.C. 249 |
| J. D. Guthrie | Washington | N.C. 76 |
| Harbor Packing Company | Lowland | N.C. 11 |
| Ireland Brothers | Hobucken | N.C. 95 |
| Lowland Seafood Company | Lowland | N.C. 30 |
| Luther Lewis & Son | Davis | N.C. 39 |
| Riverview Crab Company | Oriental | N.C. 19 |
| Sound Packing Company | Whortonsville | N.C. 23 |
| Swanquarter Crab Company | Swanquarter | N.C. 34 |
| Washington Seafood Company | Washington | N.C. 302 |

CORRECTION

The July 15, 1970 issue of Marine Resource Information (Vol. 2 No. 7) incorrectly stated the expiration date of Virginia crab meat plant certification as March 31, 1970 (see page 7). Virginia crab plants are certified by the Virginia Department of Health and all certificates expire March 31, 1971 unless cancelled or revoked prior to that date.

