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MARINE RESOURCE INFORMATION

BULLETIN

VIRGINIA INSTITUTE OF MARINE SCIENCE

Vol. 3, No. 17

September 23, 1971

WEEKLY OYSTER SPATFALL ON SHELLSTRINGS AUGUST-SEPTEMBER 1971

(EDITOR'S NOTE: This will be the last regular report on setting issued by the Department of Applied Biology for 1971. A complete summary for the period of June through October will be issued in a November MRI BULLETIN. Persons desiring information on oyster set for late September should contact Mr. Dexter Haven, VIMS.)

The Applied Biology Department in the VIMS Division of Applied Marine Science and Ocean Engineering conducts regular surveys of oyster "setting" in Virginia rivers 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. This year for the first time, reports also were made on the Potomac River and tributaries. 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 the potential of a particular area for receiving a "strike" or set of oysters as well as 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.

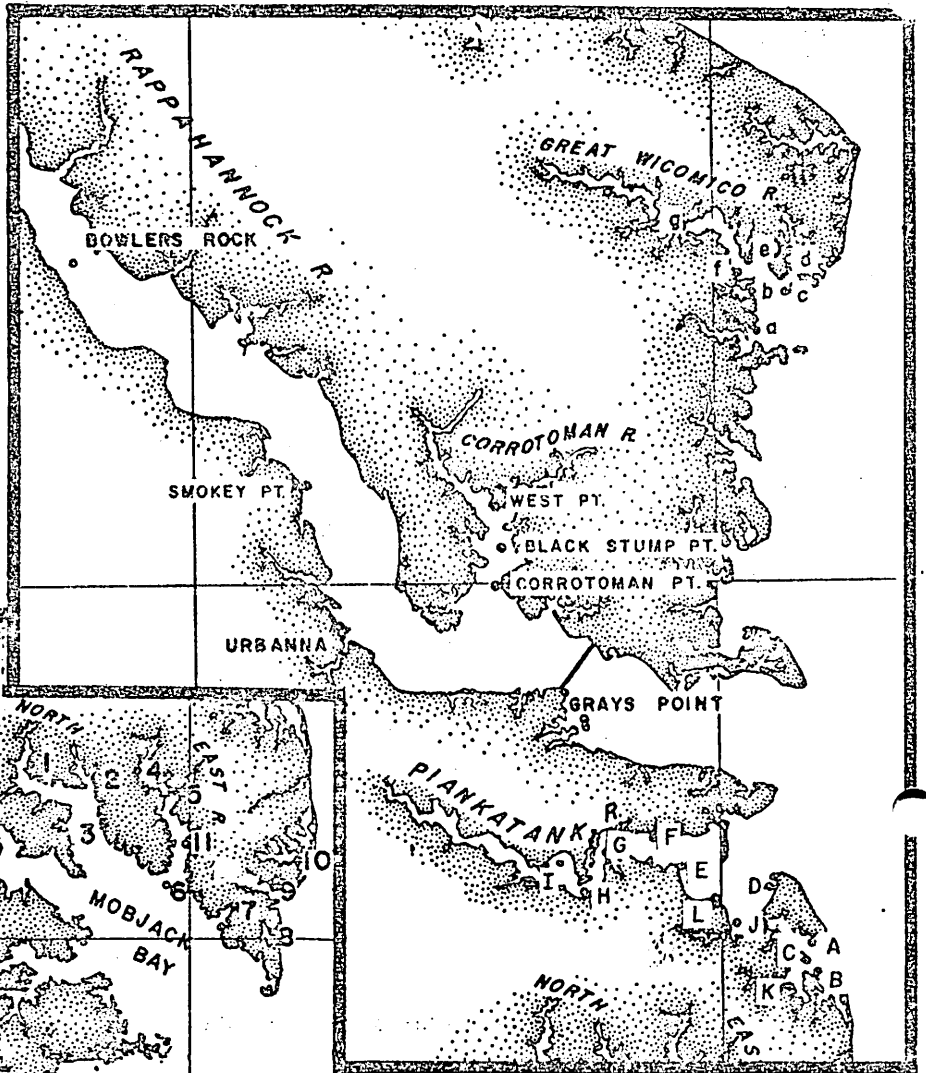
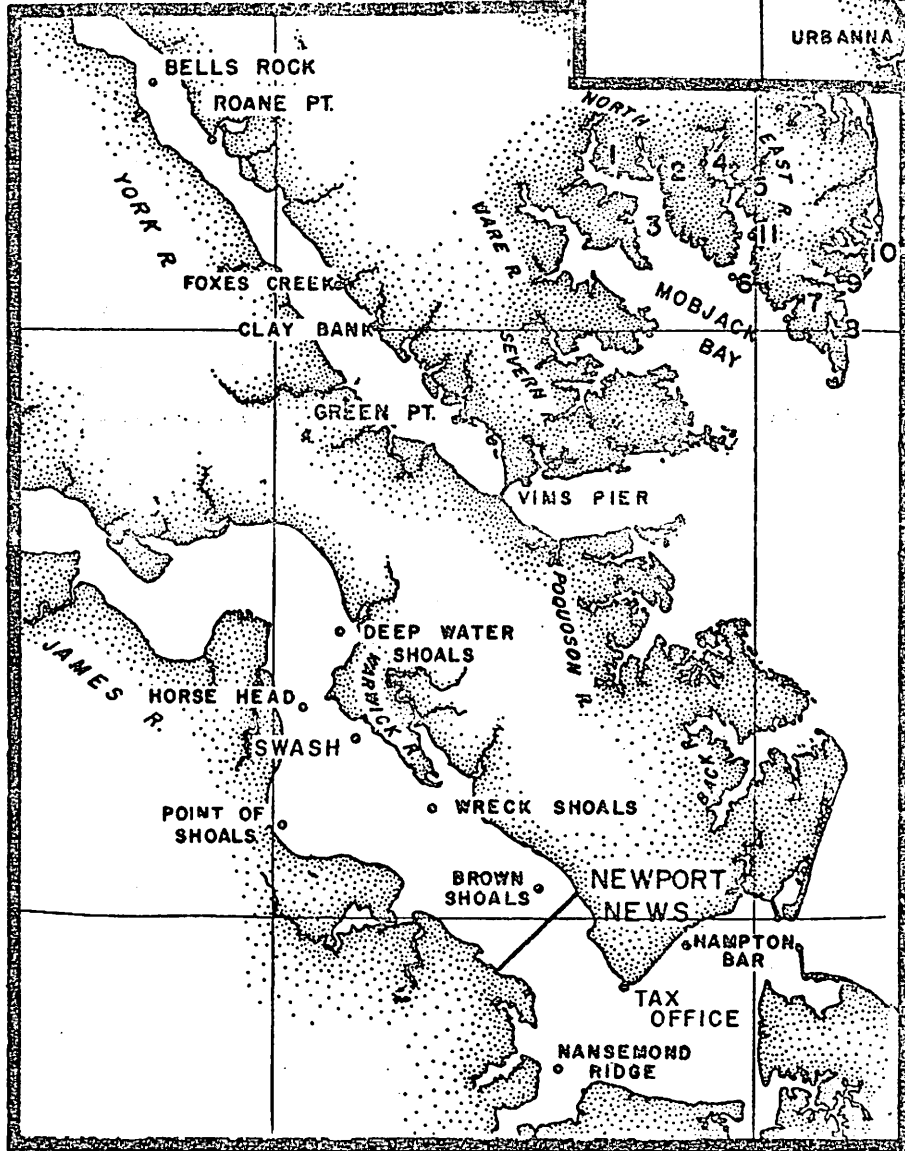
A good strike on shellstrings usually indicates that a strike has taken place on bottom shells. However, a good strike on shellstrings in some locations may not be accompanied by good spatfall on the rock. One reason for such a failure is that bottom shells can become so fouled by other marine life (much 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.

The table on pages 3 and 4 shows the average number of spat on a single oyster shell (smooth side only) at stations in the rivers. To obtain approximate number of sets on both sides of oyster shells on shellstrings, total and spat per shell counts may be doubled. Figures are presented here for one side only because it is difficult to accurately count spat on the rough side of an oyster shell.

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

PIANKATANK RIVER AREA

- A Milford Haven
- B Lilly's Neck
- C Point Breeze
- D Three Branches
- E Iron Point
- F Island Bar
- G Ginney Point
- H Twiggs
- I Ferry Point
- J Hill Bay
- K Stutts Creek
- L Burton Point



MOBJACK BAY AREA

- North River**
 - 1 Head
 - 2 Black Water Creek
 - 3 Cedar River
- East River**
 - 4 Head
 - 5 Put-In-Creek
 - 6 Mouth
 - 11 Williams Wharf

NEW POINT COMFORT AREA

- 7 Pepper Creek
- 8 Dyer Creek
- 9 Horn Harbor
- 10 Winter Harbor

GREAT WICOMICO AREA

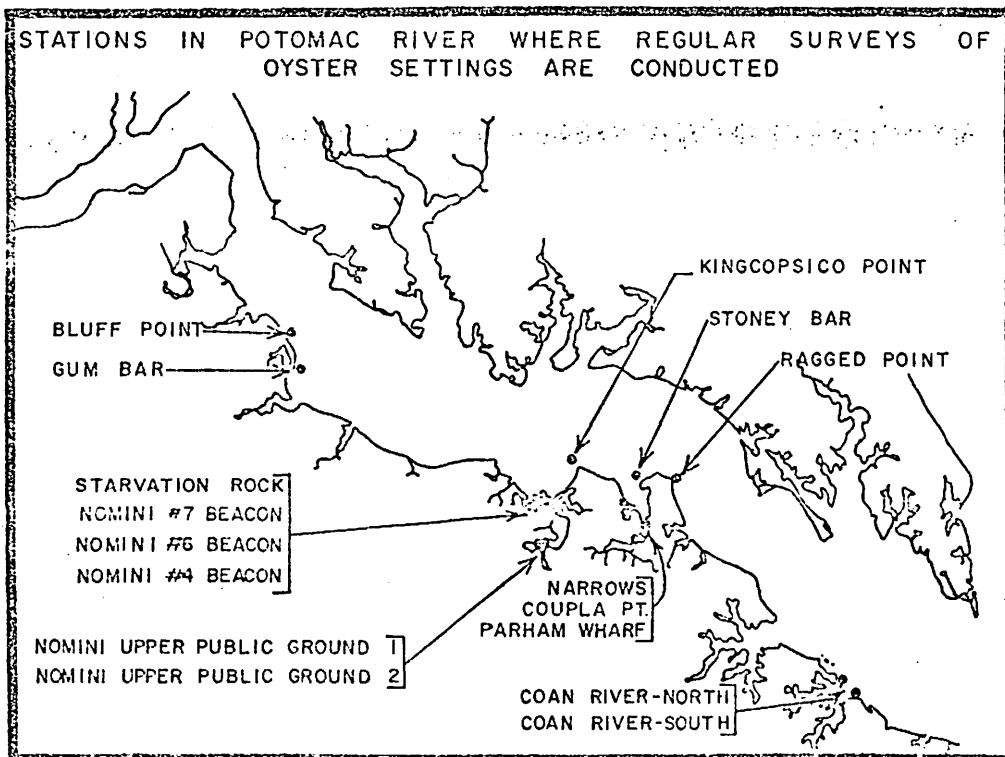
- a Off Mill Creek
- b Off Cranes Creek
- c Off Fleet Point
- d Off Cockrells Creek
- e SW Haynie Point
- f Off Shell Creek
- g Glebe Point

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

	Aug. 16 to Aug. 23	Aug. 23 to Aug. 30	Aug. 30 to Sept. 7	Sept. 7 to Sept. 13
JAMES RIVER				
Brown Shoals	2.7	17.0	6.1	1.5
Wreck Shoals	0.3	2.2	0.4	0
Horse Head	0.2	1.1	0.1	0
Point of Shoals	0.5	0.7	0	0
Deepwater Shoals	0.2	1.0	0	0.1
Hampton Flats	7.3	Lost	6.5	Lost
YORK RIVER				
VIMS Pier	0.9	3.9	17.2	53.2
Clay Bank	0.2	0.1	0.4	1.2
Foxes Creek	0	0	0.1	0
NANSEMOND RIVER				
Nansemond Ridge	2.9	2.9	4.4	2.0
Larken's Rock	1.5	1.9	0.2	0.3
Half Pone	2.0	7.5	Lost	0.4
MOBJACK BAY AREA				
North River				
1 Head	0	0	0	0
2 Black Water Creek	Lost	Lost	Lost	0
3 Cedar River	0	0	0.2	0
East River				
4 Head	0	0	0	0
5 Put-In-Creek	0	0	0.3	0
6 Mouth	0.4	0.8	5.2	8.2
11 Williams Wharf	0	0	3.5	0.4
NEW POINT COMFORT				
7 Pepper Creek	0.3	10.4	37.0	4.9
8 Dyer Creek	0	0.1	0.2	0.2
9 Horn Harbor	0	0.3	0.3	0.3
10 Winter Harbor	0.6	4.4	11.6	0.8

SPAT PER SHELL COUNTS - Continued

	Aug. 16 to Aug. 23	Aug. 23 to Aug. 30	Aug. 30 to Sept. 7	Sept. 7 to Sept. 13
PIANKATANK RIVER				
A Milford Haven	0.1	2.4	12.3	1.6
B Lillys Neck	0.1	6.3	7.9	3.0
C Point Breeze	0	0	0.8	0.8
D Three Branches	0	12.8	14.8	Lost
E Iron Point	2.8	4.7	5.1	0.4
F Island Bar	0	4.5	3.2	0.4
G Ginney Point	12.2	1.1	4.6	3.2
H Twiggs	7.9	11.9	.6	2.8
I Ferry Point	3.9	10.4	Lost	0.8
J Hill Bay	0	0.1	1.0	0
K Stutts Creek	0.1	0.3	1.8	1.4
L Burton Point	0.8	2.1	3.2	0.2
GREAT WICOMICO				
a Off Mill Creek	0.5	1.4	0.3	0
b Off Cranes Creek	1.0	1.4	0	0
c Off Fleet Point	0.3	0.6	0.8	0
d Off Cockrells Creek	1.3	Lost	0	0
e SW Haynie Point	1.2	3.5	0.2	0
f Off Shell Creek	1.3	1.0	0	0.2
g Glebe Point	18.8	3.3	0.2	0
RAPPAHANNOCK RIVER				
Grays Point	Aug. 18 to Aug. 25	Aug. 25 to Sept. 1	Sept. 1 to Sept. 8	Sept. 8 to Sept. 15
	0	.9	0.4	2.4



No spatfall was observed in the Potomac during the period from August 30 to September 13.

OYSTER MEATS QUALITY INDEX
September 1971

Oysters in the James River decreased in quality during September in the lower river and are below average in quality at this time. However, those in the upper James were average and increased in quality over the preceding month. Quality in 1971 was about the same as for 1970 in the upper river; in the lower James, quality was lower.

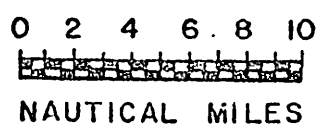
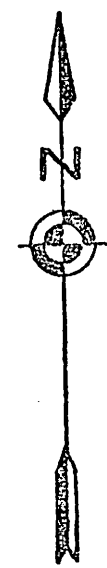
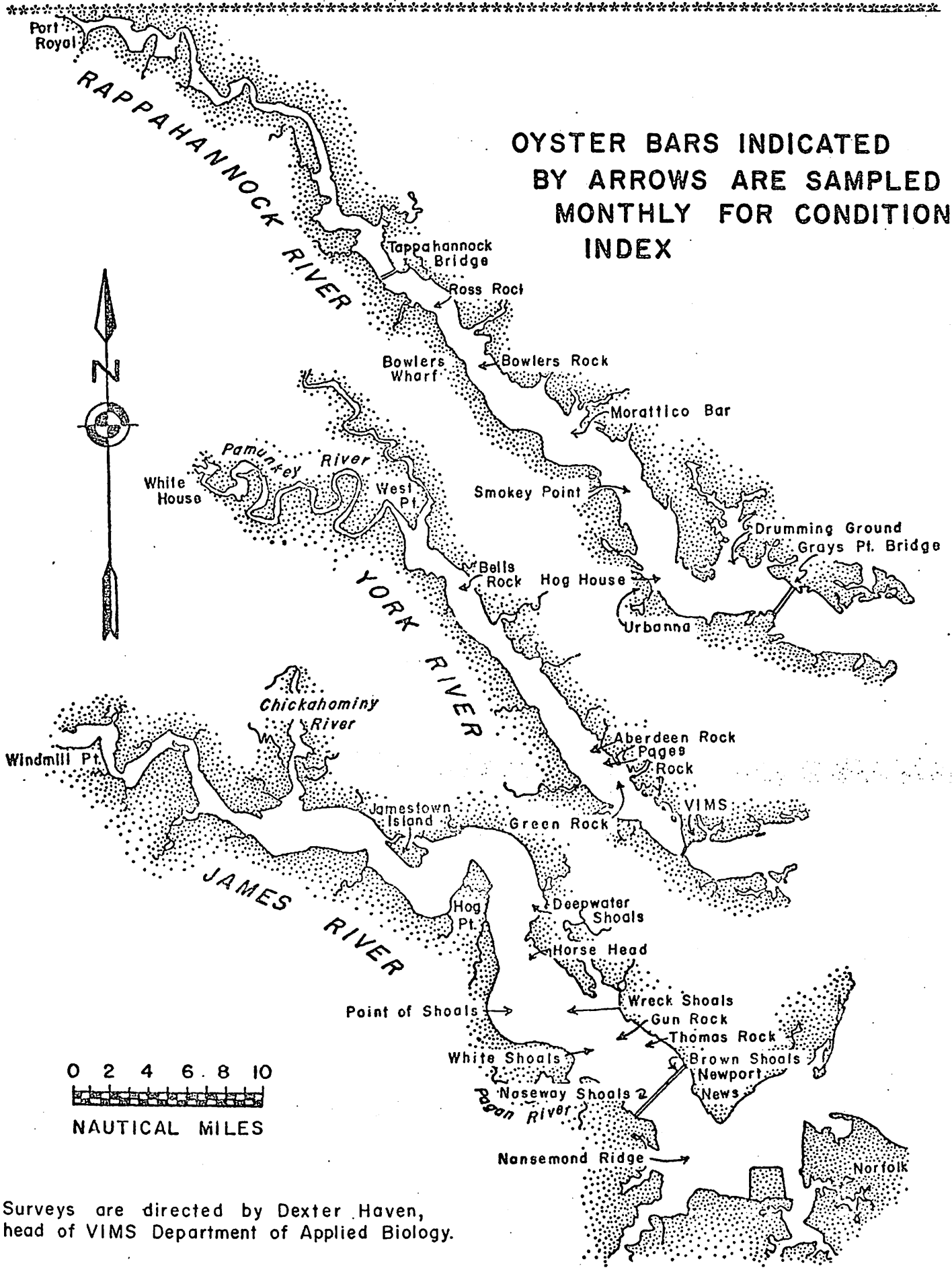
Indices for oysters during September in the York River showed that meat quality had decreased sharply at all stations. This decline is associated with spawning and it is expected to be the seasonal low. Quality this month is lower than it was during the same period in 1970.

In the Rappahannock, all stations showed a sharp decline over the previous month and oysters are rated mostly average except those in deep water at Smokey Point which are below average. As in the York River, this decline is associated with spawning. Indices for September in the Rappahannock are far below those obtained in the same locations one year ago. Scientists said spawning was late this year and this probably accounts for the drop in meats quality in the river this month. Oysters harvested now would yield less meats per bushel than they did last year at the same time and unless a sharp increase in index takes place shortly, yields in October will be less than they were during the same month last year.

<p>KEY TO INDEX NUMBERS</p> <p>3.0 to 5.5 -- Below average</p> <p>5.6 to 7.5 -- Average</p> <p>7.6 and up -- Above average</p>

	Aug.		Sept.	
	1970	1971	1970	1971
JAMES RIVER				
Brown Shoals	6.7	6.4	6.1	5.1
White Shoals	6.8	6.1	6.7	---
Wreck Shoals				
shallow	5.2	6.1	6.5	5.9
deep	6.2	5.7	6.2	---
Point of Shoals	9.7	8.3	9.1	8.3
Horse Head	6.6	6.8	6.7	6.9
Deepwater Shoals	9.0	7.1	8.6	8.9
YORK RIVER				
Green Rock	8.3	7.4	7.9	6.3
Pages Rock	7.9	7.1	6.7	6.1
Aberdeen Rock	8.3	7.4	7.1	6.1
Bells Rock				
deep	7.2	6.5	6.3	5.8
RAPPAHANNOCK RIVER				
Drumming Ground	---	---	---	---
Urbanna	9.1	9.3	9.3	6.8
Smokey Point				
shallow	8.0	8.9	---	6.1
deep	8.9	8.3	8.8	5.5
Morattico Bar				
deep	8.4	8.3	8.5	6.3
Bowlers Rock				
shallow	9.6	9.2	8.7	7.7
deep	9.5	8.5	---	6.7

OYSTER BARS INDICATED
BY ARROWS ARE SAMPLED
MONTHLY FOR CONDITION
INDEX



Surveys are directed by Dexter Haven,
head of VIMS Department of Applied Biology.