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Oyster Spatfall on Shellstrings in Virginia Rivers: 1975 Annual Summary

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SPECIAL REPORT

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1975 Annual Summary

OYSTER SPATFALL ON SHELLSTRINGS IN VIRGINIA RIVERS

By
Dexter Haven and Paul Kendall

The Virginia Institute of Marine Science (VIMS) conducts weekly surveys from June through early October to obtain oyster spatfall information. Spat counts are made from oyster shells strung on wire and suspended from stakes on public and private beds. The number of spat on shells are counted each week of the spawning season to determine the potential of a particular area for receiving a strike and to predict the most likely period the strikes will occur. Shells planted just before the period of maximum set have the best chance of getting a good strike.

A moderate or heavy strike on shellstrings usually indicates a significant strike on exposed cultch. However, a good strike on shellstrings in some locations may not always be accompanied by good spatfall on shells on the bottom. Bottom shells are sometimes so fouled by other marine life that no room is left for small spat to attach. Even with a reasonable spatfall, survival on the bottom in saltier waters may be extremely low, due to predators and blue crabs which eat the small spat.

Usually a light set of spat on shellstrings indicates a poor set on bottom cultch. During certain exceptional years, for reasons only partially understood, a light weekly set over a long period may result in an exceptional set on the natural bottom.

The average number of spat which set in one week on the smooth side of 10 shells is tabulated in this report. Weekly set is arbitrarily rated as follows: fair, 0.1 to 1.0; moderate, 1.1 to 10; heavy, 11 to 100. In evaluating setting levels it should be recognized that levels in certain rivers, such as the Rappahannock and Potomac, the set is typically zero in many sections and only fair in others. Other systems, including the lower James and Piankatank rivers, Mobjack Bay and Seaside of the Eastern Shore, typically receive a moderate or heavy set and as a result often produce commercial quantities of seed oysters or market oysters.

If shells are planted in any region, it is important to plant a week or two prior to peak setting. If shells are planted much earlier, they may become so fouled with marine organisms that larvae will not set. For further information on setting seasons and time to plant shells, contact Dexter Haven, Head, Department of Applied Biology, VIMS.

Inspectors and Police Boat Captains of the Virginia Marine Resources Commission aided in this survey by changing shellstrings in many of the estuaries. Their assistance is gratefully acknowledged.

Included in this report is a study of numbers of oyster spat setting on bushel samples of natural bottom cultch for selected locations in the 1975 season. The surveys were based on half bushel or bushel samples of bottom material collected by dredge.

SUMMARY OF SETTING IN THE RIVER SYSTEMS

JAMES RIVER - Important public rocks in the James River annually supply over 75 percent of the seed planted commercially in Virginia. However, they now receive only about 10 percent as much set as they did prior to 1960. In the early 1950's weekly sets as high as 50-100 spat/shellface were commonly observed in the mid-section of the seed area. The decline after 1960 is thought to be associated with MSX, which has reduced the brood stock in the lower river. Other factors such as chlorine associated with the discharge of sewerage treatment plants also may be involved.

In nearly all regions of the James River, set was equal to or slightly higher than 1974. On a river-wide basis it was highest in the lower James at Hampton Flats, Tax Office and Brown Shoals. Weekly levels in this area ranged from zero to moderate. Most setting occurred during August and September.

Upriver, from Miles Watch House to Deep Water Shoals, setting ranged from zero to moderate; peak set occurred over a poorly defined period from mid-August to October.

The 1975 spatfall, as shown on shellstrings, resulted in low levels of spat on bottom cultch. This relation has been typical of the lower James seed area since about 1960.

Spatfall sampled during the winter of 1975-76 on the natural seed rocks in the James was low, and far below 1974 recordings. The number of spat per bushel of bottom material were: Wreck Shoals, outer edge, 50; Wreck Shoals, top, 32; White Shoals, 94; Thomas Rock, 58; Naseway Shoals, 20; Point of Shoals, 4; Horsehead, 18; and Deep Water Shoals, 4.

YORK RIVER - In the York River, fair to moderate sets were recorded at Gloucester Point. Upriver at Foxes Creek and Clay Bank set was nearly zero. At Gloucester Point there appeared to be two periods of maximal setting. One occurred in mid-July; the second extended from September to October with a peak of 5.0 spat/shell/week in mid-September.

A survey of spatfall on the natural oyster rocks in the York in December 1975 showed a poor set. The following number of spat per bushel of bottom material were recorded: Green Rock, 20; Pages Rock, 94; Aberdeen Rock, 268; and Bell Rock, 36. These levels are regarded as low.

MOBJACK BAY - This region includes the North, East and Ware rivers as well as areas in Mobjack Bay. In these regions setting on shellstrings varied from fair to heavy.

In the North River setting was highest near the upper end of the oyster-growing area, where a heavy set of 13.8 spat/shell/week was observed in early September. At two downriver locations, setting was zero to moderate.

The East River showed fair to heavy setting over an exceptionally long period from July to October. The highest set of 15.8 spat/shell/week occurred in early September at Williams Wharf.

In the Ware River set ranged from fair to heavy with two periods of peak set. One occurred in early July with a peak of 24.0 spat/shell/week; the second in late August with 13.2 spat/shell/week.

In Mobjack Bay, off the entrance to the Severn River (Station 13), peak set reached moderate to heavy levels with two peak periods. One was in mid-July with 5.8 spat/shell/week; a second in late August reached 33.6 spat/shell/week.

NEW POINT COMFORT AREA - Sets in Pepper Creek and Winter Harbor were exceptionally heavy in 1975. From July to October, peak weekly sets in both areas occurred in September and were, respectively, 14.6 and 252.0 spat/shell/week. In Dyer Creek and Horn Harbor set was nearly zero. This low level has been characteristic of both areas for the past four years.

PIANKATANK RIVER AND MILFORD HAVEN - Setting was fair to moderate at most stations in the Piankatank River in 1975. In general, it was higher than 1974 but not as good as 1973. During 1975 setting began in July and extended to October. At most stations, there were two peak periods of setting: one during July and a second beginning in mid-August and extending to mid-September.

A survey of the natural oyster rocks in the system showed the following number of oysters per bushel of bottom material: Palace Bar, 308; Hill Bay, 278; Cape Tune, 236; Island Bar, 128; Burton Point, 158; and Ginney Point, 68.

RAPPAHANNOCK RIVER - In the lowest oyster-growing regions of the Rappahannock at Greenvale, the Corrotoman River, Mosquito Point and Broad Creek, setting ranged from fair to moderate with all four areas showing two peaks of setting. One occurred in July which ranged from 2.3 to 8.7 spat/shell/week; a second during September which ranged from 2.4 to 7.8 spat/shell/week. Setting was better in these locations in 1975 than in 1972-74.

A survey of setting on material collected from natural oyster rocks during the winter of 1975-76 in the Rappahannock indicated low levels of set. The following values were recorded for numbers of spat in bushel samples: Parrotts Rock, 64; Drumming Ground, 34; Corrotoman Point, 74; Smokey Point, 0; Morratico Bar, 0; and Bowlers Rock, 4.

GREAT WICOMICO RIVER - The set of oysters was nearly zero at all stations in 1975. From 1964 to 1970 the Great Wicomico had a consistent record of moderate to heavy setting, with the maximum peak weekly sets ranging from 4 to 283 spat/shell/week. In 1971, however, the set declined drastically and has remained low. Oxygen was often deficient in the deeper waters of this system from mid-July to September in 1971-74. Levels were higher in 1975, but deficiencies were still noted. Laboratory tests indicate that waters with levels similar to those noted are lethal to oyster larvae. Since tests were not made for oxygen in the Great Wicomico prior to 1971, it is not known when this condition developed. However, conditions of low oxygen in the system during recent years are associated with the low sets.

A survey of setting on natural bottom cultch for this system has not been completed.

POTOMAC RIVER - There was a light spatfall in the lower river at Cornfield, Jones Shore, Great Neck, Ragged Point and Kingcopsico Point. For the first time in four years, a set was observed on shellstrings at Ragged Point and Kingcopsico Point. Shellstrings at Thickett Point, Yeocomico and Gum Bar showed no spatfall. Set at Great Neck was slightly greater than the two previous years. The period of maximum set at Cornfield Harbor, Jones Shore, Great Neck, Ragged Point and Kingcopsico occurred in September.

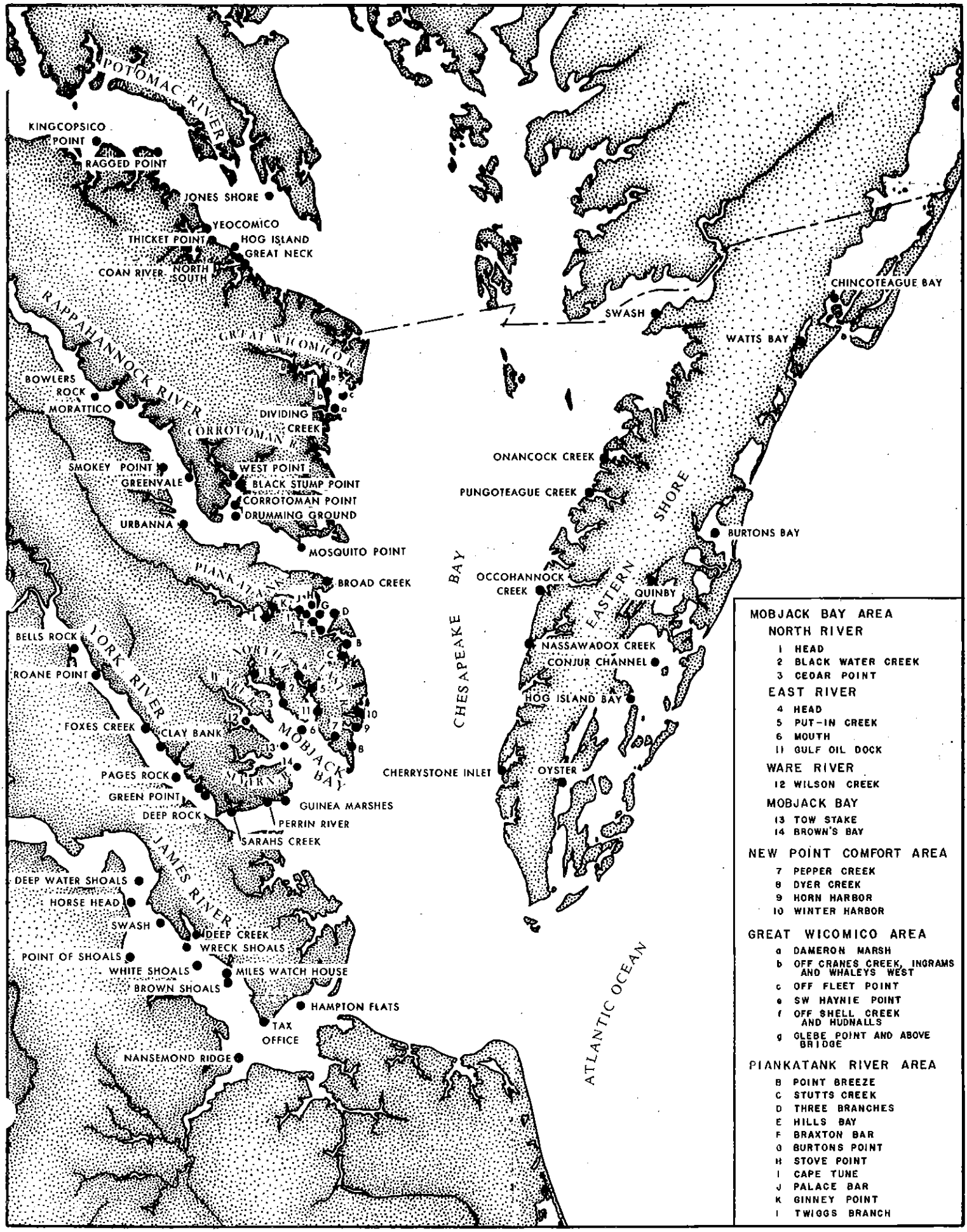
A survey of natural oyster rocks by the PRFC in this system showed the following counts of spat per bushel of planted shell: Jones Shore, 40 to 245; Cornfield, 280; Great Neck, 90-270; and Thicket Point, 115. Rocks on the upper oyster-growing areas (Swan Point, Cedar Point, Hogg Island and Sheepshead) did not get a set.

EASTERN SHORE (BAYSIDE) - Moderate to heavy setting occurred in Occahannock and Nassawadox creeks and Cherrystone Inlet during August and September 1975. The peak set occurred the first two weeks in September and ranged from about 2.8 to 11.2 spat/shell/week. A fair set was observed in Pocomoke Sound, Onancock and Pungoteague. This was over a long period with no defined peak.

In all instances, the 1975 set was higher than 1974.

EASTERN SHORE (SEASIDE) - The set on Seaside varied from fair to heavy depending on the region, with heaviest set occurring in the Machipongo River. While strings were not collected with regularity in this region, available data indicate that most setting occurred from mid-July to mid-September. At comparable stations, the set in 1975 was higher than in 1974.

SHELLSTRING SURVEY STATIONS



MOBJACK BAY AREA

NORTH RIVER
- 1 HEAD
- 2 BLACK WATER CREEK
- 3 CEDAR POINT

EAST RIVER
- 4 HEAD
- 5 PUT-IN CREEK
- 6 MOUTH
- 11 GULF OIL DOCK

WARE RIVER
- 12 WILSON CREEK

MOBJACK BAY
- 13 TOW STAKE
- 14 BROWN'S BAY

NEW POINT COMFORT AREA
- 7 PEPPER CREEK
- 8 DYER CREEK
- 9 HORN HARBOR
- 10 WINTER HARBOR

GREAT WICOMICO AREA
- a DAMERON MARSH
- b OFF CRANES CREEK, INGRAMS AND WHALEYS WEST
- c OFF FLEET POINT
- e SW HAYNIE POINT
- f OFF SHELL CREEK AND HUDNALLS
- g GLEBE POINT AND ABOVE BRIDGE

PIANKATANK RIVER AREA
- B POINT BREEZE
- C STUTTS CREEK
- D THREE BRANCHES
- E HILLS BAY
- F BRAXTON BAR
- G BURTONS POINT
- H STOVE POINT
- I CAPE TUNE
- J PALACE BAR
- K GINNEY POINT
- L TWIGGS BRANCH

VIRGINIA INSTITUTE OF MARINE SCIENCE
SPATFALL ON SHELLSTRINGS*
ANNUAL SUMMARY
1972 - 1975

James River

1975 Date Exposed**	Hampton Flats 1972	1973	1974	1975	Newport News Tax Office 1972	1973	1974	1975
June 13 - 24	0	0	--	0	--	--	--	0
June 24 - July 2	--	0	0.1	0	0	--	0.1	0
July 2 - 8	--	0	0	0	0	--	0	--
July 8 - 14	0	0	0.2	0.1	0	0	--	0.7
July 14 - 22	0	--	3.2		0	0	1.2	
July 22 - 29	0	0	0.3	0.2	0	0.4	0.4	0.1
July 29 - Aug. 5	--	0	0	0.1	0	0	--	0.5
Aug. 5 - 13	0	0	0.3	--	0	0.2	0.5	0.4
Aug. 13 - 19	0	0	--	--	0	1.1	2.9	0.4
Aug. 19 - 26	0	0.4	--	1.4	0	0.8	0.6	1.9
Aug. 26 - Sept. 3	0	0.7	0.9	2.0	0	4.3	4.4	4.6
Sept. 3 - 9	0.2	0.4		--	0.5	0		
Sept. 9 - 16	0.2	1.2	6.2	--	--	9.0	4.1	--
Sept.16 - 23	0	2.6	--	5.2	0.3	0.6	9.6	--
Sept.23 - 30	0	--	0.7	--	0.2	2.0	--	0.6
Sept.30 - Oct. 8	--	--	0.1	1.4	--	--	1.6	
TOTALS	0.4	5.3	12.0	10.4	1.0	18.4	25.4	9.2

1975 Date Exposed**	Brown Shoal 1972	1973	1974	1975	Miles Watch House 1972	1973	1974	1975
June 13 - 24	0	0	--	0	0	0	0	0
June 24 - July 2	0	--	--	0	0	0	0.1	0
July 2 - 8	--	0	0.2	0	0	0	0	0
July 8 - 14	0	0	0.2	0.2	0	0	0.2	0
July 14 - 22	0	0.2	--		0	0	0.6	
July 22 - 29	0	0.5	0.2	2.8	0	0.1	0.2	0
July 29 - Aug. 5	0.1	0.2	--	0.4	0	0	0.2	0.1
Aug. 5 - 13	--	0.2	2.0	0	0	0	0.1	0
Aug. 13 - 19	0	0.2	1.0	2.0	0	0	--	0
Aug. 19 - 26	0	1.4	0.9	1.6	0	0.1	0.7	0.2
Aug. 26 - Sept. 3	0	1.2	6.4	5.6	0	0.2	--	0.8
Sept. 3 - 9	0.3	8.5		1.8	0	0.5		1.6
Sept. 9 - 16	0.3	4.7	4.3	3.6	0.6	4.6	0.4	0.8
Sept.16 - 23	--	4.1	1.4	3.4	0	0.4	0.2	1.8
Sept.23 - 30	0	1.6	--	2.4	0	0.7	0.6	0.2
Sept.30 - Oct. 8	--	--	0	3.6	--	--	0	0
TOTALS	0.7	22.8	16.6	27.4	0.6	6.6	3.3	5.5

1975 Date Exposed**	Wreck Shoal 1972	1973	1974	1975	Point of Shoal 1972	1973	1974	1975
June 13 - 24	0	0	0	0	0	0	0	--
June 24 - July 2	0	0	0	--	0	0	0	0
July 2 - 8	0	0.1	0	0	0	0	0	0.1
July 8 - 14	0	0.3	0.3	0	0	0	1.3	0
July 14 - 22	0	0	0.6		0	0	0.1	
July 22 - 29	0	0	0	1.3	0	0	0	0
July 29 - Aug. 5	0.2	0.3	0.1	0.5	0	0	0.4	0.1
Aug. 5 - 13	0	0	0.6	0.1	0	0	0.1	0.2
Aug. 13 - 19	0	0	0.3	0	0	0	0.5	
Aug. 19 - 26	0.8	0.1	1.1	0	0.6	0.1	1.5	1.3
Aug. 26 - Sept. 3	0	0	0.2	1.6	0	0.2	0.6	1.0
Sept. 3 - 9	0	0		2.2	0.3	0.1		0.6
Sept. 9 - 16	1.2	0.3	0.4	0.8	1.1	0.1	0	0
Sept.16 - 23	0.6	0	0.2	4.0	0.3	0	0	1.0
Sept.23 - 30	0.2	--	0.3	1.0	0.2	0	0	0
Sept.30 - Oct. 8	--	--	0	0.6	--	--	0.2	0
TOTALS	3.0	1.1	4.1	12.1	2.5	0.5	4.7	4.3

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

James River, cont.

1975 Date Exposed**	Horsehead 1972	1973	1974	1975	Deepwater Shoals 1972	1973	1974	1975
June 13 - 24	0	0	0	0	0	0	0	0
June 24 - July 2	0	0	0	0	0	0	0	--
July 2 - July 8	0	0	0	0	0	0	0	0
July 8 - 14	0	0.2	1.1	} 0	0	0	1.0	} 0
July 14 - 22	0	0	0.1		0	0	0	
July 22 - 29	0	0	0	0	0	0	0	0
July 29 - Aug. 5	0	0	0.6	0	0	0	0.3	0
Aug. 5 - 13	0	0	0.3	} 0.3	0	0	0.1	} 0
Aug. 13 - 19	0	0	0.5		0	0	0.5	
Aug. 19 - 26	0.6	0.1	0.6	0.6	0	0	0.3	0.5
Aug. 26 - Sept. 3	0.3	0.1	} 0	0.8	0	0	} 0	0.6
Sept. 3 - 9	0.1	0.1		0.2	--	0.3		0
Sept. 9 - 16	1.1	0	0	0	0.2	0	0	--
Sept.16 - 23	0.7	0	0	0.4	0.5	0	0	0
Sept.23 - 30	0.5	0	0	0	0.2	0	0	0
Sept.30 - Oct. 8	--	--	0	0	--	--	0	0
TOTALS	3.3	0.5	3.2	2.3	0.9	0.3	2.2	1.1

York River

1975 Date Exposed**	VIMS Pier 1972	1973	1974	1975	Claybank 1972	1973	1974	1975
June 16 - 23	--	--	--	0	--	0	0	0
June 23 - 30	0	0	--	0	0	0	0	0.5
June 30 - July 7	0	--	--	0.1	0	0	0	4.4
July 7 - 15	0	--	0.7	0	0	0	0	0
July 15 - 22	0	--	0.2	0.9	0	--	0	0
July 22 - 31	0	0.1	0	0.1	0	0	0	0
July 31 - Aug. 6	0	0	--	0	0	0	0	0
Aug. 6 - 14	0	0.1	} 0	0	0	0	0	0
Aug. 14 - 21	0	1.3		--	0	0	0	0
Aug. 21 - 29	--	0	0.3	--	--	0	0.2	0
Aug. 29 - Sept. 5	0	1.2	0.8	3.0	0.2	0	} 0.4	0
Sept. 5 - 12	0.3	--	8.0	0	0	0		0
Sept.12 - 17	--	6.4	2.2	3.6	0.1	0.2	0.2	0
Sept.17 - 26	0	7.4	0.4	5.0	0	--	0	0.2
Sept.26 - Oct. 3	--	1.6	2.0	0	--	0.8	0	0
TOTALS	0.3	18.1	14.6	12.7	0.3	1.0	0.8	5.1

1975 Date Exposed**	Foxes Creek 1972	1973	1974	1975
June 16 - 23	--	0		0
June 23 - 30	0	0		0
June 30 - July 7	0	0		0.2
July 7 - 15	0	0		0
July 15 - 22	0	--		0
July 22 - 31	0	0		0
July 31 - Aug. 6	0	0		0
Aug. 6 - 14	0	0		0
Aug. 14 - 21	0	--		--
Aug. 21 - 29	--	--	Not Sampled	--
Aug. 29 - Sept. 5	0	0		0
Sept. 5 - 12	0.1	0.1		0
Sept.12 - 17	0	--		0
Sept.17 - 26	0	0.4		0.2
Sept.26 - Oct. 3	--	0		0
TOTALS	0.1	0.5		0.4

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Piankatank River and Milford Haven

1975 Date Exposed**	Stutts Creek, Mouth▲ 1974	Stutts Creek, Mouth▲ 1975	Stutts Creek - Station C 1972	Stutts Creek - Station C 1973	Stutts Creek - Station C 1974	Stutts Creek - Station C 1975
June 9 - 16	0	0	--	0	0	0
June 16 - 23	0	0	0	0	0	0
June 23 - July 2	--	--	0	0.4	0	0
July 2 - 7	0	0.2	0	0.2	0	0.1
July 7 - 14	0.2	3.2	0.1	1.3	0.4	0.2
July 14 - 21	1.0	0.1	0	0.9	0.3	3.6
July 21 - 28	0	0	0	0.6	0	0.1
July 28 - Aug. 4	0.2	0	0	0	0.1	0.3
Aug. 4 - 11	0	0.3	0	0.7	0	0
Aug. 11 - 19	0.1	0.1	0	0.6	0	0
Aug. 19 - 26	0	0.6	0	0	0	0
Aug. 26 - Sept. 2	--	1.0	0	0	0	0
Sept. 2 - 9	1.0	--	--	0.2	1.8	0.2
Sept. 9 - 16	0.2	--	0	0	0	0.6
Sept.16 - 23		--	0	0	0	0.2
Sept.23 - Oct. 1		--	0	0.2	0.2	0
TOTALS	2.7	5.5	0.1	5.1	2.8	5.3

1975 Date Exposed**	Point Breeze - Station B 1972	Point Breeze - Station B 1973	Point Breeze - Station B 1974	Point Breeze - Station B 1975	Three Branches - Station D 1972	Three Branches - Station D 1973	Three Branches - Station D 1974	Three Branches - Station D 1975
June 9 - 16	--	--	0	0	--	0	0	0
June 16 - 23	0	0	0	0	0	--	0	0
June 23 - July 2	0	0	0	0	0	0	0	0.4
July 2 - 7	0.1	1.0	0	0.2	0	0	0	0
July 7 - 14	0	1.2	0	--	0	0.4	0.5	0
July 14 - 21	0	4.5	1.6	1.8	0	2.0	1.7	--
July 21 - 28	0	0.8	0	0.3	0	3.0	0	0
July 28 - Aug. 4	0	0.4	1.0	0	0	1.2	0.2	0.4
Aug. 4 - 11	0	0.3	0	0.3	0	3.3	--	--
Aug. 11 - 19	0	0.3	0.1	--	0	0	0	0.6
Aug. 19 - 26	0	0.6	--	--	0	0.2	0	--
Aug. 26 - Sept. 2	0	0.7	0	--	0	0.8	--	--
Sept. 2 - 9	0	2.8	0.6	--	0	2.2	--	--
Sept. 9 - 16	0	3.6	0.2	1.8	0	1.2	0	0
Sept.16 - 23	--	1.0	0	0.4	0	0.8	1.2	0
Sept.23 - Oct. 1	0	--	0	0	0	0.4		0
TOTALS	0.1	17.2	3.5	4.6	0	15.5	3.6	1.4

Piankatank River

1975 Date Exposed**	Hills Bay - Station E 1972	Hills Bay - Station E 1973	Hills Bay - Station E 1974	Hills Bay - Station E 1975	Burton Point - Station G 1972	Burton Point - Station G 1973	Burton Point - Station G 1974	Burton Point - Station G 1975
June 9 - 16	--	0	0.2	0	--	--	0	0
June 16 - 23	0	0	0	0	0	0	--	0
June 23 - July 2	0	0	0	0.5	0	0	0	1.1
July 2 - 7	0.2	0.8	0	0.3	0	0.1	0	0.8
July 7 - 14	0	0.4	1.0	0.4	0	3.4	0.1	0.6
July 14 - 21	0	3.0	1.5	0.2	0	3.7	1.4	1.9
July 21 - 28	0	3.7	0	0.1	0	2.3	0.8	0.1
July 28 - Aug. 4	0	0.7	0.2	0	0	3.4	2.8	0.2
Aug. 4 - 11	0	13.5	0	0	0	15.4	0.1	0
Aug. 11 - 19	0	0.2	0	0.1	0	0.4	0.1	1.5
Aug. 19 - 26	0	1.8	0	1.0	0	1.0	0	1.6
Aug. 26 - Sept. 2	0	0.1		3.4	0	0.9	0	--
Sept. 2 - 9	0	6.8		--	0	4.6		2.2
Sept. 9 - 16	0	2.8	0.4	0.6	0	--	0	0
Sept.16 - 23	0	1.0		--	0	--		0
Sept.23 - Oct. 1	0.2	0.4		--	0	0.4		0
TOTALS	0.4	35.2	3.3	6.6	0	35.6	5.3	10.0

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Piankatank River, cont.

1975 Date Exposed**	Brexton Bar - Station F● 1975	Stove Point - Station H● 1975	Palace Bar - Station J 1972	1973	1974	1975
June 9 - 16	0	0	--	0	0	0
June 16 - 23	0	0	0.1	0.2	0.1	0
June 23 - July 2	0.3	0	0	0	0	0.5
June 2 - 7	0.3	0.6	0	4.7	0	5.6
July 7 - 14	0	--	0	2.5	1.8	3.9
July 14 - 21	0.6	0.6	0	3.3	1.7	2.3
July 21 - 28	0.2	--	0	2.4	0.9	0
July 28 - Aug. 4	0	0.2	0	3.7	3.2	0
Aug. 4 - 11	0	0.1	0	3.2	1.5	0
Aug. 11 - 19	--	--	0	3.7	0.3	--
Aug. 19 - 26	--	--	0	6.5	0	1.2
Aug. 26 - Sept. 2	7.2	--	0	1.0	0	3.0
Sept. 2 - 9	0.3	0	0	--	0.8	0.2
Sept. 9 - 16	--	0.4	0	0	0.2	2.0
Sept.16 - 23	--	--	0	2.6	--	0
Sept.23 - Oct. 1	--	--	0	0.6	--	0.2
TOTALS	8.9	1.9	0.1	34.4	10.5	18.9

1975 Date Exposed**	Ginney Point - Station K 1972	1973	1974	1975	Twigg Branch - Station L 1972	1973	1974	1975
June 9 - 16	--	0	0	0	--	0	0	--
June 16 - 23	0.1	0	0	0	0	0.2	0	--
June 23 - July 2	0	0	--	0.8	0	0	0	--
July 2 - 7	0.8	0	0	2.9	0.4	5.5	0.7	--
July 7 - 14	0.1	0.4	0.3	7.5	0	1.7	1.0	7.8
July 14 - 21	0	5.3	2.0	1.2	0	7.0	3.8	1.5
July 21 - 28	0	1.9	3.0	0	0	2.3	3.0	0
July 28 - Aug. 4	0	3.4	3.5	0	0.6	--	0.4	0
Aug. 4 - 11	0	0	1.5	--	0	0	0	0.1
Aug. 11 - 19	0	3.3	0.4	2.3	0	1.4	0.4	0
Aug. 19 - 26	0	11.7	0	9.6	0	20.2	--	4.1
Aug. 26 - Sept. 2	0	--	0.4	--	0	1.5	0	1.8
Sept. 2 - 9	0	5.8	0	0	0	2.8	0	0.2
Sept. 9 - 16	0	2.8	0.2	1.6	0	--	1.0	5.6
Sept.16 - 23	0	3.8	0.2	1.4	--	1.0	0	--
Sept.23 - Oct. 1	0.2	0.8		0	0	3.2		--
TOTALS	1.2	39.2	11.5	27.3	1.0	46.8	10.3	21.1

Rappahannock River

1975 Date Exposed**	Broad Creek, Inshore 1972	1973	1974	1975	Mosquito Point● 1975
June 10 - 17	--	--	--	0	0
June 17 - 23	--	--	--	0	0
June 23 - July 1	0	--	0	0.2	0.5
July 1 - 8	0	--	0	0.2	0.4
July 8 - 15	0	--	0	2.7	8.4
July 15 - 22	0	0	0.1	0	0
July 22 - 29	--	0	0	0.1	0
July 29 - Aug. 5	0	--	0.1	0.3	0.1
Aug. 5 - 12	0	0	0.6	0.1	0
Aug. 12 - 19	0	--	0	0.1	0
Aug. 19 - 26	0	--	0	--	0
Aug. 26 - Sept. 2	--	--	--	1.0	2.6
Sept. 2 - 8	0	--	0.4	2.6	2.2
Sept. 8 - 15	--	--		3.4	2.8
Sept.15 - 22	--	--	0.2	0.4	1.2
Sept.22 - 29	--	--		0	0
TOTALS	0	0	1.4	11.1	18.2

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Rappahannock River , cont.

1975 Date Exposed**	Corrotoman 1972	Corrotoman 1973	Corrotoman 1974	Corrotoman 1975	Greenvale 1972	Greenvale 1973	Greenvale 1974	Greenvale 1975
June 10 - 17	--	--	0	0	--	0	0	0
June 17 - 23	--	0	0	0	--	0	0	0
June 23 - July 1	0	0	0	2.3	0	0	0	2.5
July 1 - 8	0	0	0	0.5	0	0	0	0.8
July 8 - 15	0	--	0	--	0	--	0	7.0
July 15 - 22	0	0	0	0.4	0	0	0	0
July 22 - 29	0	0	0.1	0.2	0	0	--	0
July 29 - Aug. 5	0	0	0	0	0	0	0	0
Aug. 5 - 12	0	0	0	0	0	--	0	0
Aug. 12 - 19	0	0	0	3.4	0	0	0.9	0
Aug. 19 - 26	0	0	0	0	0	0	0	0
Aug. 26 - Sept. 2	0	--	0.2	4.8	0	--	0.4	0
Sept. 2 - 8	0	--	0.2	2.4	0	--	0	3.0
Sept. 8 - 15	0	0	--	1.2	0	--	--	3.8
Sept.15 - 22	0	0	0.8	0.2	0	--	0	7.8
Sept.22 - 29	0	0.4	0	--	0	0	--	--
TOTALS	0	0.4	1.3	15.4	0	0	1.3	24.9

Mobjack Bay

1975 Date Exposed**	Tow Stake ● Station 13 1975	Off Brown's Bay ● Station 14 1975
June 16 - 23	--	0
June 23 - 30	--	--
June 30 - July 7	2.6	0.1
July 7 - 15		2.0
July 15 - 23	5.8	5.1
July 23 - 30	0.2	0.4
July 30 - Aug. 11	0.1	0
Aug. 11 - 17	0	0
Aug. 17 - 25	0	0
Aug. 25 - Sept. 4	33.6	2.8
Sept. 4 - 22	4.8	0
Sept.22 - 26	0	0.4
Sept.26 - Oct. 1		--
TOTALS	47.1	10.8

Ware River

1975 Date Exposed**	Off Wilson Creek ▲ Station 12 1974	Off Wilson Creek ▲ Station 12 1975
June 16 - 23	--	0.8
June 23 - 30	--	7.3
June 30 - July 7	--	24.0
July 7 - 15	--	
July 15 - 23	2.3	--
July 23 - 30	--	0.3
July 30 - Aug. 11	0	0
Aug. 11 - 17	0	0
Aug. 17 - 25	0.2	0
Aug. 25 - Sept. 4	0	13.2
Sept. 4 - 22	0	3.6
Sept.22 - 26	0	0.1
Sept.26 - Oct. 1	0	
TOTALS	2.5	49.3

North River

1975 Date Exposed**	Cedar Point Farm - Station 3 1972	Cedar Point Farm - Station 3 1973	Cedar Point Farm - Station 3 1974	Cedar Point Farm - Station 3 1975	Blackwater Creek - Station 2 1972	Blackwater Creek - Station 2 1973	Blackwater Creek - Station 2 1974	Blackwater Creek - Station 2 1975
June 9 - 16	0	0	0	0	0	0	0	0
June 16 - 23			0.1	0	0	--	0	0
June 23 - July 1	0	0	0	0	0.4	0	0	0
July 1 - 8	0	0	0.6	0.6	9.2	0.8	0	0
July 8 - 15	0	0	0.5	0	3.3	0	0.2	0
July 15 - 22	0.2	0.3	0	0	0	0	0.2	0.1
July 22 - 29	0	0	0.1	0	0.3	0	0.2	0
July 29 - Aug. 5	0	0.2	0	0	0	0	0	0
Aug. 5 - 12	0	0.4	0	0	0	0.9	0	0
Aug. 12 - 19	0	2.1	0.5	0	0	0	0	0
Aug. 19 - 26	0.1	7.5	2.1	0.3	0.1	0.2	0	0
Aug. 26 - Sept. 2	0.8	0.2	0	0	0.9	0.2	0	0.2
Sept. 2 - 9	0.3	2.2	1.8	3.8	0	0	1.4	2.0
Sept. 9 - 16	0	0	0	0	0	0.2	0	0
Sept.16 - 23	0	3.2	0	0.2	0	0.4	0	--
Sept.23 - Oct. 1	0	0	0.2	0	0	0.2	0	--
TOTALS	1.4	16.1	5.3	4.9	14.2	2.9	2.0	2.3

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

North River cont.

East River

1975 Date Exposed**	Head - Station 1				Head - Station 4			
	1972	1973	1974	1975	1972	1973	1974	1975
June 9 - 16	0.1	0	0.1	0	0	--	0	0.4
June 16 - 23	0	0	0	0	0	0	0.3	0.5
June 23 - July 1	0.8	1.1	0	0	0.1	7.3	0.2	3.9
July 1 - 8	24.3	0.6	0	0.1	10.8	4.5	0	2.3
July 8 - 15	7.3	0	5.4	0	5.0	1.4	101.4	0.3
July 15 - 22	0.7	2.1	0	0.1	7.5	0	0.6	0
July 22 - 29	0.6	0.3	0.5	0	1.7	4.8	4.9	0
July 29 - Aug. 5	0.1	0	0.1	0.3	0	--	0.3	0
Aug. 5 - 12	0.6	0	0.2	0	0	--	0.3	0.1
Aug. 12 - 19	0	1.1	0	0.1	0.7	0.7	0.3	0.6
Aug. 19 - 26	0	0	0.7	0	0	0	0	0.1
Aug. 26 - Sept. 2	0.4	0.3	0	0	0.9	0.1	0.2	4.5
Sept. 2 - 9	0.1	--	0.6	13.8	0	0	0.6	7.8
Sept. 9 - 16	0.1	0.4	0.2	0.4	0	0.2	0	0
Sept.16 - 23	0	0.4	0	0	0	0.6	0	0
Sept.23 - Oct. 1	0	0	0	0	0	0.2	0	0
TOTALS	35.1	6.3	7.8	14.8	26.7	19.8	109.1	20.5

East River, cont.

1975 Date Exposed**	Mouth - Station 6				Williams Wharf - Station 11			
	1972	1973	1974	1975	1972	1973	1974	1975
June 9 - 16	--	--	0	0	0	0.8	0.4	2.0
June 16 - 23	0	--	0.3	0.1	0	0	0.6	2.8
June 23 - July 1	--	2.1	0	0	0	19.4	0.2	6.7
July 1 - 8	0.3	0.2	0.2	7.6	7.3	2.7	0	6.5
July 8 - 15	0.7	2.4	0.1	3.8	2.8	2.9	16.2	5.9
July 15 - 22	0.2	0.2	1.6	3.6	8.6	0.9	0.6	2.9
July 22 - 29	0	0.5	0.1		0.9	0.5	3.9	1.5
July 29 - Aug. 5	0.3	0	0	1.0	0	2.5	0.4	0.2
Aug. 5 - 12	0	0	0		0	0.3	1.6	1.6
Aug. 12 - 19	0	0	0	0.9	0	1.6	0	1.4
Aug. 19 - 26	0	0.4	0.2		0	0	0.2	4.7
Aug. 26 - Sept. 2	0.4	0	0.2	9.0	0.1	1.8	0.4	9.7
Sept. 2 - 9	0.1	3.7	1.8		0.1	3.4	2.0	15.8
Sept. 9 - 16	0	8.0	0.4	8.4	0	2.6	0	0.8
Sept.16 - 23	0	1.2	0.6	5.6	0	2.6	0	0.4
Sept.23 - Oct. 1	0	0	0.4	0.4	0	0	0	0
TOTALS	2.0	18.0	5.9	40.4	19.8	42.0	26.5	62.9

New Point Comfort Area

1975 Date Exposed**	Pepper Creek - Station 7				Dyer Creek - Station 8			
	1972	1973	1974	1975	1972	1973	1974	1975
June 9 - 16	--	--	0	0	0	0	0	0
June 16 - 23	0	0	0.1	0	0	0	0	0
June 23 - July 1	0	0	0.3	0	0	0	0	0
July 1 - 8	0	1.2	0.1	0.3	0	0	0	0
July 8 - 15	0	3.3	0	0.1	0	0	0	0
July 15 - 22	0.3	3.7	14.1	0.5	0.1	0.1	0.1	0
July 22 - 29	0	0.4	0.3		0.2	0.1	0.1	0
July 29 - Aug. 5	0	0.2	0.2	0.7	0	0	0	0
Aug. 5 - 12	0.4	0.1	0.1		0	0	0	0
Aug. 12 - 19	0.1	0	0	1.2	0	0	0	0
Aug. 19 - 26	0.1	0.7	0.6		0.2	0	0	0
Aug. 26 - Sept. 2	0.9	3.6	0.1	8.0	0	1.3	0	0
Sept. 2 - 9	0	13.5	2.0		0	0.6	1.0	0.2
Sept. 9 - 16	0	9.8	2.6	12.4	0.1	1.6	0.2	0
Sept.16 - 23	0	8.4	0.4	14.6	0	0.2	0	0.2
Sept.23 - Oct. 1	0	3.2	0.4	3.2	0	0.6	0	0
TOTALS	1.8	48.2	21.3	41.3	0.6	4.5	1.4	0.4

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

New Point Comfort Area, cont.

1975 Date Exposed**	Winter Harbor - Public Landing - Station 10				Horn Harbor - Mitcham's - Station 9			
	1972	1973	1974	1975	1972	1973	1974	1975
June 9 - 16	0	0	0	0	--	0	0	0
June 16 - 23	0	0	0	0	0	0	0	0
June 23 - July 1	0	0	--	0	0	0	0	0
July 1 - 8	0	1.8	1.6	7.0	0	0	0	0
July 8 - 15	0	0.6	0.6	2.1	0	0.7	0	0
July 15 - 22	0	2.9	19.9	6.3	0.2	0	0.7	0
July 22 - 29	0	0.6	0.1	30.7	0	0	0	0.1
July 29 - Aug. 5	0	0	1.6	1.4	0	--	0	0
Aug. 5 - 12	0	0	0	0.4	0	0	0	0
Aug. 12 - 19	0	0	0.9	4.3	--	0	0	0
Aug. 19 - 26	0.1	0.1	0	4.1	0	0	0	0
Aug. 26 - Sept. 2	0	--	5.8	1.9	0	0	0	0.1
Sept. 2 - 9	0.1	7.6	2.4	252.0	0	0	1.0	0
Sept. 9 - 16	0	18.0	7.4	58.6	0	0.8	0	0
Sept.16 - 23	0	--	0.4	35.6	0.1	0.2	0	0
Sept.23 - Oct. 1	0	2.8	2.6	16.2	0	0	0	0
TOTALS	0.2	34.4	43.3	420.6	0.3	1.7	1.7	0.2

Great Wicomico River

1975 Date Exposed**	Dameron Marsh - Station a				Cranes Creek - Station b			
	1972	1973	1974	1975	1972	1973	1974	1975
June 9 - 16	0	0	0	0	0	0	0	0.1
June 16 - 23	0	0	0	0	0	0	0	--
June 23 - 29	0	0	0	0	0	0	0	0
June 29 - July 7	0	0	0	0	0	0	0	0.3
July 7 - 14	0	0	0	0	0	0	0	0
July 14 - 21	0	0	0	0	0	0	0	0
July 21 - 28	0	0	0	0	0	--	0	0
July 28 - Aug. 4	0	0	0	0.1	0	0	0.4	0.2
Aug. 4 - 11	0	0	0	0	--	0	0.4	0
Aug. 11 - 18	0	0	0	0	0	0	0	0
Aug. 18 - 25	0	0	0.2	0	0	0	0.2	0
Aug. 25 - Sept. 2	0	0	0	0	0	0	0	0
Sept. 2 - 8	0	0.5	0	0	0	0	0	0
Sept. 8 - 15	0	1.8	0	0	0	0.6	0.2	0
Sept.15 - 22	0	0.4	0	0.4	0	0.2	0	0
Sept.22 - 28	--	0	0	0	--	0	0	0
TOTALS	0	2.7	0.2	0.5	0	0.8	1.2	0.6

1975 Date Exposed**	Fleet Point - Station c				Haynie Point - Station e			
	1972	1973	1974	1975	1972	1973	1974	1975
June 9 - 16	0	--	0	0	0	--	0	--
June 16 - 23	0	0	0	--	0	0	0	0.1
June 23 - 29	0	--	0	0	0	0	0	0
June 29 - July 7	--	0	0	0	0	0	0	0
July 7 - 14	0	--	0	0	0	0	0	0
July 14 - 21	0	0	0	0	0	0	0.1	0
July 21 - 28	0	0	0	0.1	0	0	0	0.6
July 28 - Aug. 4	0	0	--	0	0	0	0.3	0.5
Aug. 4 - 11	0	--	0.4	0.1	0	0	0.7	0
Aug. 11 - 18	0	0	0	0.2	0	0	0	0
Aug. 18 - 25	0	0	3.9	0	0	0	0.2	0
Aug. 25 - Sept. 2	0	0	1.0	0	0	0	0	0
Sept. 2 - 8	0	0.2	0	--	0	0	0	0
Sept. 8 - 15	0	0	0.4	0.6	0	2.2	0	0.2
Sept.15 - 22	0	0.3	0	0.2	0	0.2	0	0.2
Sept.22 - 28	--	0	0.4	--	--	0	0.2	0
TOTALS	0	1.0	6.1	1.2	0	2.4	1.5	1.6

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Great Wicomico River , cont.

1975 Date Exposed**	Shell Bar - Station f 1972	1973	1974	1975	Hudnall's Dock - Station f 1972	1973	1974	1975
June 9 - 16	0	0	0	--	0	--	0	--
June 16 - 23	0.3	0	0	--	0.4	0	0	0
June 23 - 29	0.2	0.1	0	0	0	0	0	0
June 29 - July 7	0	0	0	0	0	0	0	0
July 7 - 14	0	0	0	0	0	0	0	0
July 14 - 21	0	0	1.1	0.2	0	0	0	0.1
July 21 - 28	0	0	0	0	0	0	0	0
July 28 - Aug. 4	0	0	8.9	0	0	0	2.0	0
Aug. 4 - 11	0	0	1.0	0	0	0.1	0.8	0
Aug. 11 - 18	0	0	0.1	0	0	0	0	0
Aug. 18 - 25	0	0	0.1	0	0	0	0	0
Aug. 25 - Sept. 2	0	0.2	0	0	0	0	0	0
Sept. 2 - 8	0	0	0	0	0	0	0	0
Sept. 8 - 15	0	0	1.6	0	0	0	0.2	0
Sept.15 - 22	0	0	0	0	0	1.0	0	0
Sept.22 - 28	--	0.2	0	0	--	0	0	0
TOTALS	0.5	0.5	12.8	0.2	0.4	1.1	3.0	0.1

1975 Date Exposed**	Glebe Point - Station g 1972	1973	1974	1975
June 9 - 16	0	0	0	--
June 16 - 23	2.0	0	0.2	0
June 23 - 29	0.8	0	0	0
June 29 - July 7	0	0	0	0
July 7 - 14	0	0	0	--
July 14 - 21	0	0	0.4	0.2
July 21 - 28	0	0	0	0
July 28 - Aug. 4	0	0	2.3	0
Aug. 4 - 11	0	0	8.8	0
Aug. 11 - 18	0	0	0	0
Aug. 18 - 25	0.2	0	0	0
Aug. 25 - Sept. 2	0	0	0	0
Sept. 2 - 8	0	0	0	0
Sept. 8 - 15	0.1	0	0	0
Sept.15 - 22	0	0.2	0	0
Sept.22 - 28	--	0	0	0
TOTALS	3.1	0.2	11.7	0.2

Nansemond River

1975 Date Exposed**	Nansemond Ridge 1972	1973	1974	1975
June 9 - 16	--	--	--	0
June 16 - 23	0	--	--	0
June 23 - 30	0	--	--	0
June 30 - July 8	--	--	0	0
July 8 - 14	0	--	--	0
July 14 - 22	0	0	0.2	0.1
July 22 - 28	0	0	0.2	0
July 28 - Aug. 4	--	0	0.3	0.1
Aug. 4 - 12	0	0	0.4	0
Aug. 12 - 19	0.2	0	0.7	0.2
Aug. 19 - 26	0.1	0	1.2	1.2
Aug. 26 - Sept. 23	1.0	0	0.8	0.6
Sept.23 - 30	--	0.2	--	2.2
Sept.30 - Oct. 7	--	--	--	2.2
Oct. 7 - 14	--	--	--	2.2
TOTALS	1.3	0.2	3.8	4.4

Poquoson River

1975 Date Exposed**	Poquoson ● 1975
June 17 - 24	0
June 24 - July 1	1.7
July 1 - 8	0.1
July 8 - 16	0
July 16 - 23	0.2
July 23 - 30	0
July 30 - Oct. 3	3.0
TOTALS	5.0

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Potomac River

1975 Date Exposed**	Cornfield● 1975	Jones Shore▲ 1974	Jones Shore▲ 1975	Great Neck■ 1973	Great Neck■ 1974	Great Neck■ 1975
June 10 - 17	--	--	--	0	0	0
June 17 - 24	--	--	0.1	--	0	0
June 24 - July 2	--	--	0	0	--	0
July 2 - 9	0	--	0	0	0	0
July 9 - 15	--	--	--	0	0	0
July 15 - 21	--	--	0.1	0	0	0
July 21 - 28	} 0	--	} 0	0	0	} 0
July 28 - Aug. 4		--		0	0	
Aug. 4 - 12	0	--	0	0	0	0
Aug. 12 - 18	0	--	0	0	0.3	0
Aug. 18 - 25	0	--	0	0	0.4	0
Aug. 25 - Sept. 2	0.1	--	0	0	1.0	0
Sept. 2 - 9	0	--	0.4	0	0	0.7
Sept. 9 - 16	0.6	1.0	0.8	0	--	1.4
Sept.16 - 22	0	2.4	0	0	0	--
Sept.22 - 29	0	0	0	1.0	0	0
Sept.29 - Oct. 3	--	--	--	--	--	--
Oct. 3 - 14	0	--	0	--	--	0
Oct. 14 - 21	0	--	--	--	--	0
Oct. 21 - 29	--	--	--	--	--	0
TOTALS	0.7	3.4	1.4	1.0	1.7	2.1

1975 Date Exposed**	Hog Island● 1975	Ragged Point 1975	Kingcopsico Point 1975	Thickett Point, Yeocomico, and Gum Bar●
June 10 - 17	0	1972,	0	1972, 0
June 17 - 24	0	1973,	0	1973, 0
June 24 - July 2	0	and	0	and 0
July 2 - 9	0	1974	0	1974 0
July 9 - 15	0	All	0	All 0
July 15 - 21	0.1	Zeros	0	Zeros 0
July 21 - 28	} 0		0	0 Zeros in
July 28 - Aug. 4			0	0
Aug. 4 - 12	0		0	0 1975
Aug. 12 - 18	0		0	0
Aug. 18 - 25	0		0	0
Aug. 25 - Sept. 2	0		0	0 Thickett Point and Yeocomico
Sept. 2 - 9	0		0.3	0
Sept. 9 - 16	0		0	0.2
Sept.16 - 22	--		--	--
Sept.22 - 29	0		0	0
Sept.29 - Oct. 3	--			All
Oct. 3 - 14	0			
Oct. 14 - 21	0			Zeros in 1972,73 & 74
Oct. 21 - 29	0			
TOTALS	0.1		0.3	0.2

Dividing Creek

1975 Date Exposed**	Holland's Pier● 1975
June 10 - 17	0
June 17 - 25	0
June 25 - July 2	0.2
July 2 - 9	0.2
July 9 - 16	0
July 16 - 23	0
July 23 - 30	0
July 30 - Aug. 6	0
Aug. 6 - 13	0
Aug. 13 - Sept. 3	0
Sept. 3 - 18	0
Sept.18 - 24	0
Sept.24 - Oct. 1	0
TOTALS	0.4

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Eastern Shore, Seaside

1975 Date Exposed**	Chincoteague Bay 1972	1973	1974	1975	Burton's Bay 1972	1973	1974	1975
June 16 - 23	--		--	0	--	--	0	0
June 23 - 30	--		0	0	0	--	0	0
June 30 - July 7	--		0	0	--	0	0	--
July 7 - 14	--			0		0.1	0.2	0
July 14 - 21			0.2	0		0	0	0
July 21 - 28	149.0	Not Sampled		0.1	38.3	0		0
July 28 - Aug. 4				0		0	0.5	0.2
Aug. 4 - 11			0	0.5		--		0
Aug. 11 - 18	19.7				46.4	0.4	0.6	--
Aug. 18 - 25	--			4.0	--	--		0
Aug. 25 - Sept. 2	--		0		--	--	1.8	4.4
Sept. 2 - 8	--			--	--	--		0
Sept. 8 - 15	--		0.8	--	--	--	--	0
Sept.15 - 22	--		--	0.4	--	--	0.2	--
Sept.22 - 29	--		--		--	--	--	--
TOTALS	168.7		1.0	5.0	84.7	0.5	3.3	4.6

1975 Date Exposed**	Upshur Bay 1972	1973	1974	1975	Quinby Bridge, Machipongo River▲ 1974	1975	Hog Island Bay, Isaac Tump● 1975
June 16 - 23	--	--	0	0	6.3	--	0
June 23 - 30	0	--	0.4	0	0.1	--	0
June 30 - July 7	--	0		--		--	--
July 7 - 14	0.1	0		0		--	0.3
July 14 - 21		0	1.0	0.1	7.5	0.5	0.1
July 21 - 28	34.3	0		0.1		15.6	0
July 28 - Aug. 4		0.1	4.6	0.3	3.2		0
Aug. 4 - 11		1.1		0		0.2	--
Aug. 11 - 18	37.5	0.9	0	--	2.0	--	--
Aug. 18 - 25	--	9.4	--	--	--	3.4	--
Aug. 25 - Sept. 2	--	--	--	1.0	--	11.2	--
Sept. 2 - 8	--	--	0.6	6.8	3.2		--
Sept. 8 - 15	--	--		0		0.2	--
Sept.15 - 22	--	--	--	--	--		--
Sept.22 - 29	--	--	--	--	--		--
TOTALS	71.9	11.5	6.6	8.3	22.3	31.1	0.4

1975 Date Exposed**	Conjur Channel, Hog Island Bay 1972	1973	1974	1975	Oyster, Mockhorn Channel▲ 1974	1975
June 16 - 23	--	--		0	--	0.1
June 23 - 30	0	--		0	--	0.2
June 30 - July 7	--	0.3		0	--	2.3
July 7 - 14	1.0	0.3		0.4	--	1.8
July 14 - 21		--		0	0	0.2
July 21 - 28	12.8	--	Not Sampled	0.4		0.2
July 28 - Aug. 4		--				0.5
Aug. 4 - 11		--		--	1.4	1.4
Aug. 11 - 18	9.5	49.0		--		17.6
Aug. 18 - 25	--	--		--		
Aug. 25 - Sept. 2	--	20.6		--	0.2	14.2
Sept. 2 - 8	--	0		--		15.6
Sept. 8 - 15	--	--		--		0
Sept.15 - 22	--	--		--	0.2	0
Sept.22 - 29	--	--		--	--	0
TOTALS	23.3	70.2		0.8	1.8	54.1

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
2 to 10 spat per shell = moderate
11 to 100 spat per shell = heavy

Eastern Shore, Bayside

1975 Date Exposed**	Pocomoke Sound, Swash 1972	1973	1974	1975	Onancock Cr.▲ 1974	1975	Pungoteague Cr.▲ 1974	1975
June 16 - 23	--	--	--	0	0	0	0	0
June 23 - 30	--	--	0	0	0	0	0	0
June 30 - July 7	--	0	0	0		--		--
July 7 - 14	0	0		0			--	
July 14 - 21	0	0	0	--	0	0	--	0
July 21 - 28	0	0		0.3			0	0
July 28 - Aug. 4	0	0		0.7		--		--
Aug. 4 - 11	0	--	0.1	0	0	0	1.4	0
Aug. 11 - 18	0	0		--		0	--	0
Aug. 18 - 25	--	0	0	0.4	0	0.1	0	0
Aug. 25 - Sept. 2	--	0		--		0		0.6
Sept. 2 - 8	--	0	0.6	0	0		0	
Sept. 8 - 15	--	--		0		0.2		2.0
Sept.15 - 22	--	--	--	0.2	--	0	--	0
Sept.22 - 29	--	--	--	--	--		--	
TOTALS	0	0	0.7	1.6	0	0.3	1.4	2.6

1975 Date Exposed**	Occohannock Cr.▲ 1974	1975	Nassawadox Cr.● 1975	Cherrystone Inlet▲ 1974	1975
June 16 - 23	0	0	0	--	--
June 23 - 30	0	0	0	0.1	--
June 30 - July 7		0	0	--	--
July 7 - 14	0			--	--
July 14 - 21		0	0	0.3	--
July 21 - 28					--
July 28 - Aug. 4	0	0	0	--	--
Aug. 4 - 11		0	0	--	10.0
Aug. 11 - 18		0.2	2.4	--	
Aug. 18 - 25	0	2.0	1.2	6.0	
Aug. 25 - Sept. 2		0.6	1.8		
Sept. 2 - 8	0.4	2.8	6.4	4.4	15.6
Sept. 8 - 15		--	11.2		
Sept.15 - 22	--	0.6	8.6	--	
Sept.22 - 29	--			--	
TOTALS	0.4	6.2	31.6	10.8	25.6

* Shows spat per shell (smooth side only).
** 1972, 1973, 1974 dates approximately the same.
■ Not sampled in 1972.
● Not sampled in previous years.
▲ Not sampled prior to 1974.

.1 to 1.0 spat per shell = fair
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