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Virginia Marine Resource Bulletin

Virginia Sea Grant

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5-28-1970

## Marine Resource Information Bulletin Vol. 2, No. 5

Virginia Sea Grant

Virginia Institute of Marine Science

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Vol. 2 No. 5

May 28, 1970

## RECENT RAINS LOWER SALINITIES AT RIVER MOUTHS

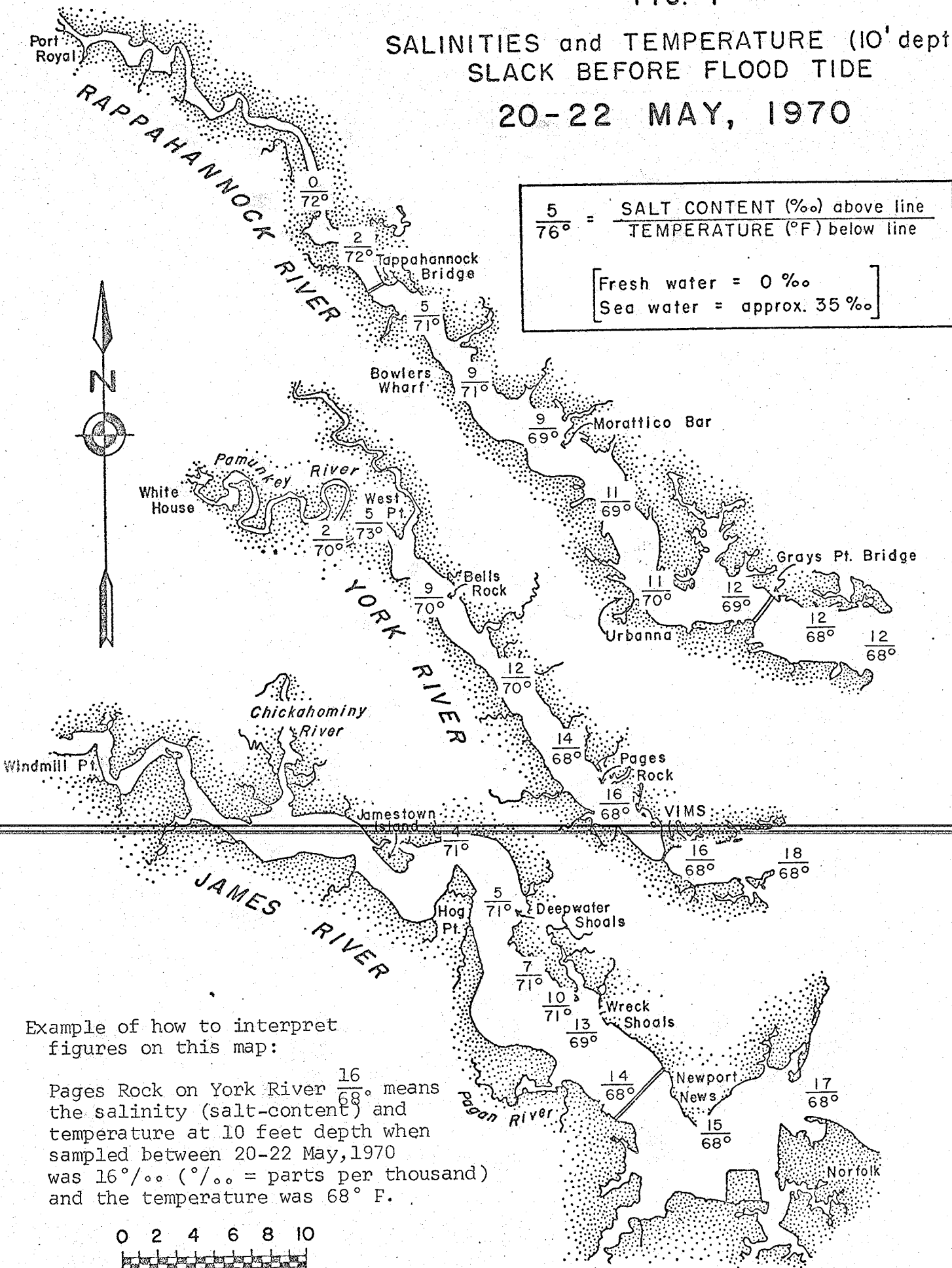
By Dr. Morris L. Brehmer, Head  
Division of Applied Marine Science and Oceanographic Engineering

Salinities at the mouths of Rappahannock, York and James rivers were from 3 to 6 o/oo (parts salt per thousand) lower in May 1970 than in May 1969. This has resulted from heavy rainfalls occurring in the northern part of the Chesapeake Bay drainage system (New York and Pennsylvania) recently. The salinity values farther up the rivers are more comparable to 1969 except for the Rappahannock River where, for example, the salinity was 9 o/oo at Morattico Bar this year as compared to 16 o/oo in 1969. Upstream above Tappahannock Bridge the difference was only 2 o/oo between the 1969 and 1970 values.

Vessels from the Ecology-Pollution, Ichthyology and Malacology Department made a simultaneous run up the Rappahannock, York and James rivers on May 20-22, 1970, to determine the salinity and the temperature structure of the three systems. These data were collected at 5-mile intervals from the mouth to the low-salinity area (see Fig. 1). Fig. 2 shows the similar distribution for May 1969.

Water temperatures are slightly lower this year than in 1969. Differences at the mouths of the rivers are insignificant; however, they were found to be 3° to 4° below the 1969 values in the upstream portion. These differences are not thought to have biological significance but they do reflect the cooler weather this year.

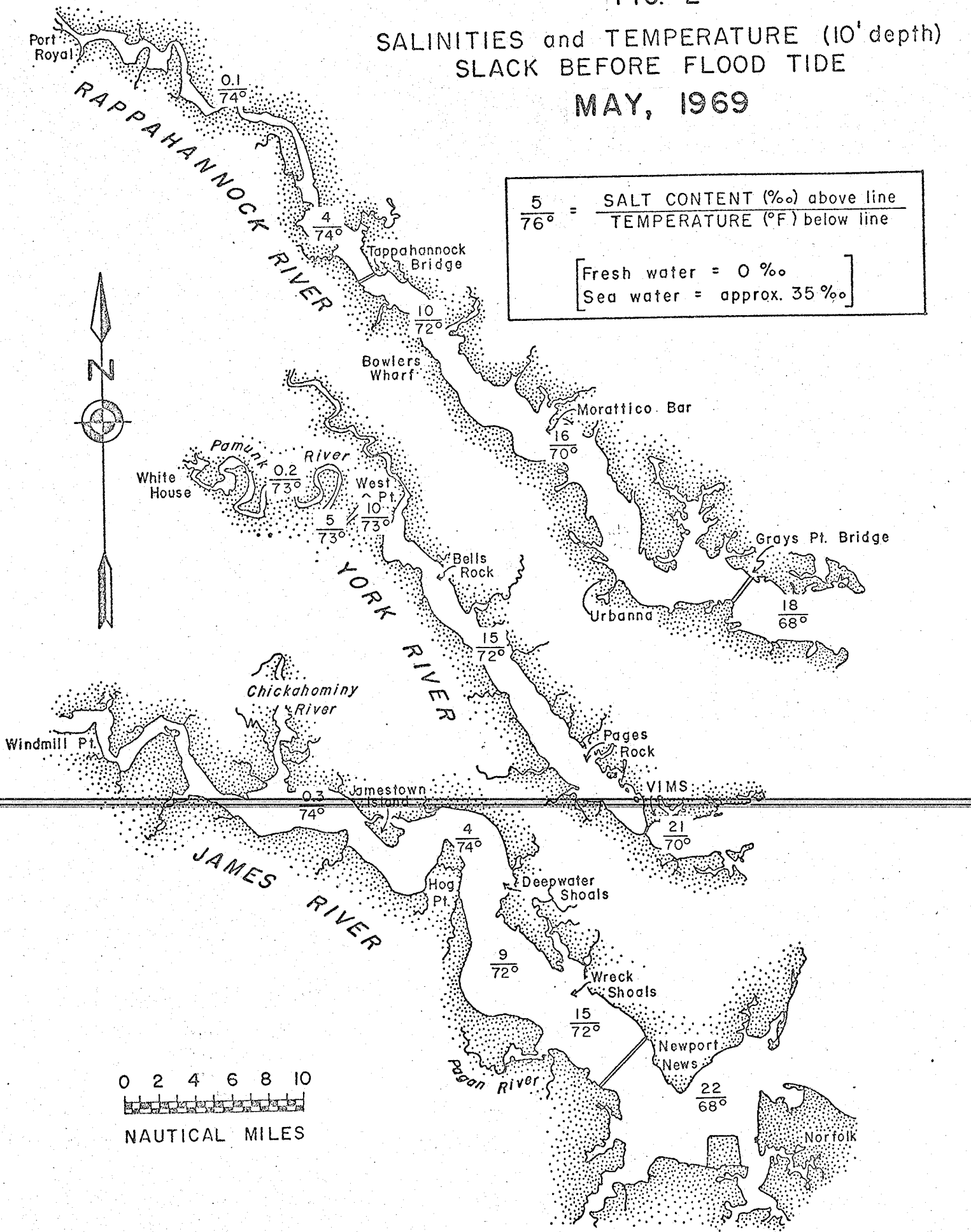
# SALINITIES and TEMPERATURE (10' depth) SLACK BEFORE FLOOD TIDE 20-22 MAY, 1970



# SALINITIES and TEMPERATURE (10' depth) SLACK BEFORE FLOOD TIDE MAY, 1969

$\frac{5}{76} = \frac{\text{SALT CONTENT (\%)} \text{ above line}}{\text{TEMPERATURE (}^\circ\text{F)} \text{ below line}}$

[ Fresh water = 0 ‰  
Sea water = approx. 35 ‰ ]



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1970 CRAB CATCH PREDICTIONS LOWERED

By W. A. Van Engel

The Chesapeake Bay blue crab catch for the twelve months ending August, 1970 is not expected to reach the predicted 100 million pound mark.

The prediction for 100 million pounds was made in 1969 from estimates of numbers of young crabs. Crabs hatched in the summer of 1968 first appeared on Virginia and Maryland nursery grounds in October 1968. They were subsequently found during 1969 in greater numbers than had ever before been observed by research personnel.

VIMS scientists believe that unusual weather conditions which occurred last summer and during the winter caused the reduction in blue crab stocks.

Crabs have been scarce in the rivers during routine winter and spring surveys, confirming our fears that the freshwater runoff in early August and following Hurricane Camille in late August 1969 and the recent hard cold winter brought about salinity and temperature conditions that many crabs could not tolerate.

Crabs in the James and York rivers were hardest hit by Camille, therefore, crab pot fishermen are likely to find a smaller supply this summer in these rivers than in other years, including 1968 and 1969. Adult female crabs (sooks) will be very scarce. Most of the available crabs will be large and fat jimmies (males).

Less damage to crab stocks should have occurred in other Virginia rivers and farther up the bay.

The market for crab meat appears good and crab fishermen are

anxious to work, but production of fresh crab meat has been slowed because of an apparent scarcity of crab meat pickers in some houses.

The longer outlook spells further problems for the blue crab industry. Crab supplies in Virginia from September 1970 through August 1971 are expected to be lower than the average for the last ten years. The 1969 hatch of crabs appears from present surveys to have been light and is expected to produce a small crab catch similar to the below-average landings of 1968 and of the first two-thirds of 1969.

\* \* \* \* \*

Hard blue crab catch, Chesapeake Bay states, thousands of pounds

Compiled by W. A. Van Engel  
 Virginia Institute of Marine Science, Gloucester Point, Virginia  
 June 1968

(Source: U. S. Bur. Fish. and U. S. Fish and Wildl. Serv.)

<u>Year</u>	<u>Virginia</u>	<u>Maryland</u>	<u>Total</u>
1949	40,653	22,132	62,785
1950	46,396	27,522	73,918
1951	37,581	27,176	64,757
1952	33,537	27,499	61,036
1953	32,329	26,368	58,697
1954	32,470	19,073	51,543
1955	26,887	15,232	42,119
1956	25,745	21,208	46,953
1957	24,880	28,369	53,249
1958	17,754	27,095	44,849
1959	21,148	21,187	42,335
1960	39,270	27,068	66,338
1961	43,976	26,658	70,634
1962	53,671	27,661	81,332
1963	46,023	16,934	62,957
1964	51,572	22,540	74,112
1965	50,563	31,998	82,561
1966	63,731	30,373	94,104
1967 *	54,823	24,588	79,411
1968 *	44,740	9,345	54,085
1969 *	34,306	21,916	56,222

\* Provisional

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Survey of Oyster and Clam Work Boats  
in Virginia and the Potomac

19 May 1970

by  
Dexter Haven and Paul Kendall  
Department of Applied Biology  
Division of Applied Marine Science and Ocean Engineering

On 19 May an aerial survey of most of the oyster-producing areas of Virginia was conducted. The locations surveyed along with the results are contained on the attached sheets.

The results can be summarized by river system as follows:

River System	Total Number Boats
Potomac River	
Maryland Waters	0
Virginia Waters	0
Rappahannock River	19
York and Poquoson rivers	10
James and Back rivers and Hampton Roads	134

The total number of boats working in the Virginia waters surveyed was 163.

The day was sunny, clear and warm. There was very little wind and the water was smooth. In addition to the oyster and clam boats, many crabbers were out on the water.

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Report of Boat Count, 5/19/70

Location	hand tonger	patent tonger	dredger	
Chesapeake Bay, Fort Wool to Cape Henry	0	0	0	
Hampton Roads				
Hampton Flats	0	4	0	
Newport News Bar	0	7	0	
James River				
between NNSB&DD Co. & NN Pt at James River bridge	0	15	0	2 buy boats
Blunt Pt rocks	0	0	0	
Jail Island rock	2	0	0	
Wreck Shoal rock	1	0	0	
Rock Wharf Shoals	19	0	0	
Pt of Shoals	4	0	0	
Long Shoal	21	0	0	
Marshy Island rock	23	0	0	
Horsehead	6	0	0	
Deep Water Shoal	18	0	0	
Total for James River	8	0	0	2 buy boats
	102	15	0	
Nansemond River, below Town Pt (above Town Pt not observed)	0	0	0	
Chesapeake Bay, below mouth of Back R.	0	4	0	
Poquoson River, mouth	0	1	0	
York River				
off Carter Cr	0	0	1	
off Skimino Cr	0	0	1	
Allmond's Wharf	0	0	1	
Purtan Bay, mouth	0	0	3	
Poropotank Bay, mouth	0	0	1	
above Mt Folly	0	0	1	
off Weir Cr	0	0	1	
Total for York River (above Bell rock not observed)	0	0	9	
Mobjack Bay	0	0	0	
Milford Haven	0	0	0	
Piankatank River, below Stove Pt (above Stove Pt not observed)	0	0	0	



Location	hand tonger	patent tonger	dredger	
Rappahannock River				
at Grey's Pt bridge	0	0	0	2 buy boats
Morattico	1	0	0	
between Curletts & Tarpley Pts.	0	0	2	
below Farnham Cr	0	0	1	
opposite Farnham Cr	1	0	1	
opposite Suggetts Pt	3	0	1	
Neals Pt	0	0	2	
opposite Neals Pt	4	0	0	
Accaceek Pt	0	0	1	
Total for Rappahannock River	9	0	8	2 buy boats
Corrotoman River below Bar Pt (above Bar Pt not observed)	0	0	0	
Great Wicomico River, below Haynie Pt (above Haynie Pt not observed)	0	0	0	
Little Wicomico River	0	0	0	
Potomac River, below Nomini Virginia waters	0	0	0	
Maryland waters (above Nomini not observed)	0	0	0	
Eastern Shore, Bayside, below Nandua Cr (above Nandua Cr not observed)	0	0	0	
(Eastern Shore, Seaside, not observed)				

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