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MARINE RESOURCE INFORMATION

VIRGINIA INSTITUTE of MARINE SCIENCE BULLETIN

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EXTENSIVE OYSTER KILL IN UPPER JAMES UNLIKELY

Recent increase in the salt content of the James River in the vicinity of Deep Water Shoals has apparently eliminated the danger of a freshwater oyster kill in that area, according to VIMS scientists who have surveyed the oyster bars.

Deep Water Shoals is located further upriver than other oyster beds in the James and has been subject to intermittent freshwater kill every four or five years. Heavy rains in watershed areas which ran off in the river during the first week in April caused the salt content to drop this year.

Prolonged exposure to water with low salt content causes oysters to close their shells and stop feeding. Studies made by VIMS on April 13 showed salt content at Deep Water Shoals had dropped to such a low level that oysters were then beginning to die. Additional studies two days later showed salinities were slowly rising, but shells were still blackened and oysters were still weak. Dead oysters again were observed in the samples.

According to Dexter Haven, head of the Applied Biology Department in the Division of Applied Marine Science and Oceanic Engineering, salt content was high enough for survival by the end of April, but by then at least 20% of the larger oysters had died or were dying. Spat counts dropped, and studies showed that about half of the spat present at Deep Water Shoals in January were dead or dying after exposure to low salinities. A small area just down river from Deep Water Shoals off Mulberry Point also experienced mortalities. Deaths in this region may have been associated with low salinity, but siltation also may have contributed to the stress, Haven said.

The scientist believes the critical period has passed, however. A check on May 10 showed salinities were well above lethal limits and unless unusual rainfall occurs in watershed areas, additional mortalities due to low salinity are not expected.

Haven said 15 other locations in the upper James River were checked. No unusual mortality of larger oysters or spat was observed. Spat set in 1970 at these upriver bars have shown a winter mortality of from 10 to 28 percent, but Haven said these death rates were normal and not associated with freshwater kill.

OYSTER MEATS QUALITY INDEX

Oysters do not feed during the winter months and there is generally a gradual decrease in meat quality which ends when feeding begins in early spring. This typical pattern has been observed during the past winter in the York, James and Rappahannock rivers.

In the James River, meat quality for May is below that recorded for April at all stations except White Shoals which showed a slight increase in quality. This pattern is probably the seasonal low which began in January. Despite the decline in index, oysters in the James were rated below average only at Wreck Shoals. Oyster meats at Deep Water Shoals and Point of Shoals are rated above average; meats in the lower river are of average quality this month.

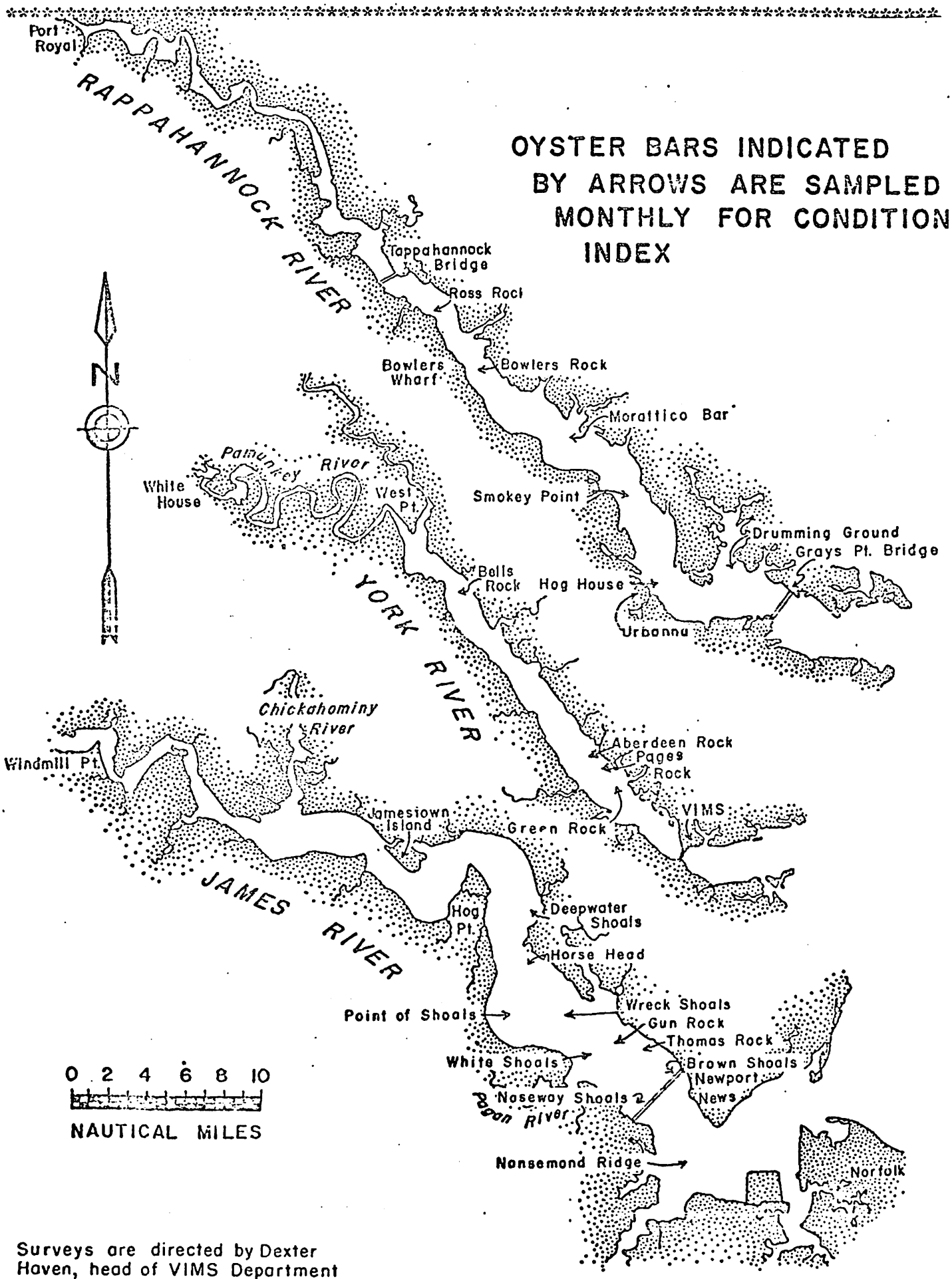
Indices for May 1971 are above those for the same month in 1970 in the upper James, and, on the average, slightly below for stations in the lower river.

Oysters in the York River during May 1971 increased in quality over those sampled in April. Meats were average at all stations. Quality is expected to increase still further in June. Indices for May 1971 were almost identical to those observed during 1970.

In the Rappahannock, indices had begun their usual spring increase in index at all stations. Quality was rated as above average, and is expected to increase in June. Indices are considerably higher than they were a year ago at all stations except Urbanna.

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

	April		May	
	1970	1971	1970	1971
JAMES RIVER				
Brown Shoals	5.6	5.1	5.9	---
White Shoals	6.3	6.2	---	6.4
Wreck Shoals				
shallow	6.8	6.8	6.2	6.1
deep	6.3	6.2	6.6	5.7
Point of Shoals	6.8	8.7	4.7	8.4
Horsehead	4.7	6.8	5.5	6.7
Deep Water Shoals	---	8.6	5.8	8.1
YORK RIVER				
Green Rock	6.9	6.0	7.1	6.6
Pages Rock	6.0	6.3	6.4	6.6
Aberdeen Rock	6.0	6.5	6.7	6.7
Bells Rock				
deep	7.4	5.5	7.2	---
RAPPAHANNOCK RIVER				
Urbanna	11.7	11.1	12.0	11.2
Smokey Point				
shallow	10.9	11.3	10.7	11.4
deep	9.1	9.7	---	10.1
Morattico Bar				
deep	9.0	10.0	8.9	10.5
Bowlers Rock				
shallow	10.1	11.3	10.7	11.3
deep	9.6	11.0	---	11.4
Ross Rock	8.2	---	---	10.1



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

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CERTIFIED CRAB MEAT PLANTS IN MARYLAND*

Maryland crab meat plants are certified by the Maryland Department of Health. Certificates expire February 28, 1972, unless revoked prior to that date.

NAME	ADDRESS	PLANT NO.
Bay Food Products Co., Inc.	Baltimore	12P
Byrd's, Inc.	Crisfield	195CP
I. F. Cannon & Son	Crapo	126CP
L. R. Carson, Inc.	Crisfield	243C
Chesapeake Shellfish Co.	Sherwood	273C
J. M. Clayton Co.	Cambridge	113CP
Crisfield Packing Co.	Crisfield	199C
Dorchester Crab Co.	Wingate	117C
Goose Creek Seafood	Toddville	112C
Harrison & Jarboe Seafood Co.	St. Michael's	272C
Charles W. Howeth & Brothers	Crisfield	193C
Island Seafood Co.	Deal Island	254C
Maryland Crabmeat Co.	Crisfield	206CP
Meredith & Meredith	Toddville	124C
Milbourne Oyster Co.	Crisfield	203CP
Milbourne Oyster Co.	Stockton	458C
Charles H. Parks & Co.	Fishing Creek	120C
A. E. Phillips & Son	Fishing Creek	129C
Powley, Inc.	Wingate	108C
Rippons Brothers	Hoopersville	105C
W. T. Ruark Co.	Fishing Creek	111C
Ruark & Ashton	Hoopersville	119C
Herbert E. Sadler	Annapolis	79C
Seacrafters of Crisfield	Crisfield	205C
J. C. W. Tawes & Son	Crisfield	198CP
Todd Seafoods, Inc.	Cambridge	128C
W. A. Turner & Sons, Inc.	Bellevue	268C

*Prepared by members of the Tri-State Seafood Committee as an aid to Seafood buyers in locating certified crab meat suppliers. Other plants will be listed as they are certified.

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NORTH CAROLINA PLANT ADDED

Luther Lewis and Son, Plant No. 39, Davis, N.C., has been added to the list of crustacea meat plants certified by the North Carolina Board of Health for the calendar year 1971. All certificates expire December 31, 1971, unless revoked prior to that date.

Other plants will be listed as they are certified. For a complete list of North Carolina plants, write in care of Information and Education Department, VIMS.

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1971 CRAB CATCH PREDICTION

By W. A. Van Engel and Mark E. Chittenden

(EDITORS NOTE: Mr. Van Engel, head of VIMS Crustaceology Department, and Dr. Chittenden, associate marine scientist in the department, conduct regular crab surveys for VIMS, supported in part by funds provided through Sea Grant Program under P.L. 89-688.)

Hard crabs will be scarce in the Chesapeake Bay until August. We predict the crab pot and trotline catch this summer will be from 8 to 10 million pounds--near the lowest since 1960.

The average catch from June through August over the past 11 years is 16 million pounds. This average was exceeded in seven of the 11 years, but the catch was below average in four years. The largest landings, totaling almost 22 million pounds, were made in 1967; the smallest was 8.5 million pounds in 1969.

The crop of commercial-sized crabs now on hand was hatched in 1969. The scarcity of this hatch was first noted in the fall of 1969 [see MRI Bulletin Vol. 1, No. 4] when the crabs were only 1/3 to 1 1/2 inches wide; again in the spring when the crabs were 1 to 2 1/2 inches wide [see MRI Bulletin Vol. 2, No. 5]; and again last fall [see MRI Bulletin Vol. 2, No. 12] when the crabs were 5 inches wide and larger. These estimates of low supplies were the results of routine surveys of some Virginia rivers using push nets and trawls.

The low abundance is believed to have been due to a crop failure in 1969, perhaps from the heavy rains of August that year. Few small-sized crabs were seen that fall.

There should be a great quantity of soft crabs and peelers this summer, however, possibly more than has been seen at any time in the last ten years. These crabs, hatched in 1970, will produce the bulk of the commercial hard crab catch from September 1971 through August 1972.

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