

Chesapeake Bay Oyster Population Estimation

Monitoring Program: BASINS

State: VIRGINIA

Year: 1994

Basins in Virginia

For convenience and ease of data presentation, the Chesapeake Bay tributaries in Virginia waters have been grouped into "Basins". The Basins used for Virginia in this project include: Potomac tributaries (includes Nomini Creek, Coan River, Yeocomico River), Great/Little Wicomico, Rappahannock (includes Corrotoman River), Piankatank, York/Mobjack Bay (includes East, North, Severn, Ware, and Perrin Rivers), Poquoson/Back, James (includes Elizabeth, Lafayette, and Nansemond Rivers), Lynnhaven, and Eastern Shore/Tangier (includes Tangier and Pocomoke Sounds as well as all tributaries on the Bay side of Virginia's Eastern Shore.)

Data Types and Notes

Note that bushels are reported as VIRGINIA bushels. A Virginia bushel is 3003.9 cubic inches and thus differs from a US bushel (2150.4 cubic inches) or a Maryland bushel (2800.7 cubic inches).

A. Fishery Independent data: These data are from the patent tong survey conducted jointly by the Virginia Marine Resources Commission and the Virginia Institute of Marine Science. A hydraulic patent tong deployed from the R/ V *J.B.Baylor* collects a 1 m² sample of oysters and bottom material at each sampling location.

B. Fishery Dependent data

B1. Public/Commercial effort - The total number of bushels of oysters landed within the state of Virginia during 1994 as reported by commercial fishermen is presented. These data were obtained from the Virginia Marine Resources Commission Fisheries Statistics Division. One bushel of oysters was assumed to contain 500 market oysters. A market oyster is 3 inches or 76 mm from its beak to its hinge (shell length).

B2. Private effort - The total number of bushels of oysters landed within the state of Virginia during 1994 as reported by private leaseholders is presented. These data were obtained from the Virginia Marine Resources Commission Fisheries Statistics Division. One bushel of oysters was assumed to contain 500 market oysters. A market oyster is 3 inches or 76 mm from its beak to its hinge (shell length).

C. Restoration Efforts

C1. Reefs - unexploited sanctuaries - Annual dive surveys on constructed oyster reefs by the Virginia Marine Resources Commission began in 1997. Thus, no data are available in this category for 1994.

C2. Replenishment - exploited shell plants and three dimensional structures - These data are from the annual replenishment reports produced by the Virginia Marine Resources Commission Shellfish Replenishment program. Each year, the number of seed oysters per bushel is estimated by using the average number of oysters per bushel at the seed sources as determined by the VMRC annual dredge survey in that year. Seed oysters are assumed to have shell lengths of 40 mm.

D. Oyster Aquaculture

D1. Oyster gardening via CBF - Oyster planting by citizens, agencies, and the Chesapeake Bay Foundation on constructed reefs in Virginia waters began in 1996. Thus, no data are available in this category for 1994.

This summary sheet was assembled at the Virginia Institute of Marine Science by Drs. Roger Mann and Juliana M. Harding using data provided by the agencies and institutions listed above. Created 8/27/2005. Last modified 09/09/2005.

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	Potomac	Great/Little Wicomico	Rappahannock	Piankatank	York/Mobjack Bay	Poquoson/Back	James	Lynnhaven	Eastern Shore/Tangier	Total number of oysters	Total oyster biomass
A. Fishery Independent survey											
Average number of oysters/m2			2.1				56.8				
Average oyster biomass/m2			1.7				20.2				
Number of reefs surveyed			7				23				
Acres surveyed			214				5955.6				
Number of samples			193				800			1.37E +09	4.89E+08
B. Fishery Dependent survey											
B1. Public/Commercial effort											
Public VA landings (bushels x 1000)	18.6									9.29E+06	7.91E+06
B2. Private effort											
Private VA landings (bushels x 1000)	36.8									1.84E+07	1.57E+07
C. Restoration efforts											
C1. Reefs/unexploited sanctuaries											
Average number of oysters/m2	The VMRC Dive survey was started in 1997. No data are available for 1994.										
Average oyster biomass/m2											
Number of reefs surveyed											
Acres surveyed											
C2. Replenishment/exploited ground											
Average number of oysters/m2	55.5		58.9								
Average oyster biomass/m2	14		14.9								
Number of reefs surveyed	1		2								
Acres surveyed	5		20							5.89E+06	1.49E+06
D. Oyster Aquaculture											
D1. Oyster gardening via CBF											
Total number of oysters/m2	The Chesapeake Bay Foundation did not start planting oysters on restored reefs until 1996. No data are available for 1994.										
Total oyster biomass/m2											
Number of reefs surveyed											
Acres surveyed											
Grand total number of oysters										1.40E+09	
Grand total oyster biomass											5.14E+08