



COMMONWEALTH of VIRGINIA

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A Lean Year for Chesapeake Bay Blue Crabs

~Bay Managers Concerned About Juvenile Recruitment~

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HAMPTON, VA. – The Virginia Marine Resources Commission (VMRC) has announced the results from the 2022 Baywide Blue Crab Winter Dredge Survey which indicates a continued downturn in juvenile recruitment and a record low year of total blue crab abundance.

Total abundance of blue crabs in Chesapeake Bay declined in 2022 to 227 million crabs - the lowest abundance estimate in the 33-year history of the winter dredge survey. This decline is driven primarily by a third consecutive year of below average recruitment of juvenile crabs, even though the number of juveniles increased 18% from 2021 to 101 million crabs. The low numbers of juvenile crabs, and this year's decline in the adult female crabs (which will spawn this spring and summer) will factor into decisions VMRC, the Maryland Department of Natural Resources (MD DNR), and the Potomac River Fisheries Commission (PRFC) make in regards to management measures for the 2022 blue crab season.

These three Chesapeake Bay jurisdictions, which are responsible for baywide management of blue crabs, have successfully managed harvest of blue crabs to prevent overfishing since 2008. Adult female crabs are the key to conservation, as each female can spawn an average of three million eggs per brood, averaging up to three broods per year. These adult females observed in the Winter Dredge Survey are likely to spawn from late May to mid-summer of this year, contributing to next year's juvenile population. The number of adult female crabs (97 million) declined in 2022 and is below the target abundance of 196 million, but remains higher than in the period before 2008 when the Chesapeake Bay blue crab resource was declared a fishery disaster.

While the Chesapeake Bay jurisdictions have maintained fishing mortality of blue crab at safe levels, crabs still face many other challenges in the bay. Although Chesapeake Bay water quality and submerged aquatic vegetation continue to improve, blue crabs are still vulnerable to low oxygen levels from nutrient runoff and a lack of sea grasses which can leave vulnerable juveniles and soft crabs without habitat for refuge. Recruitment can be hindered by storms and currents

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which can wash crab larvae out of bay circulation, and growing abundances of predators, such as red drum and blue catfish, can increase natural mortality of blue crabs.

Virginia's 2021 commercial crabbing season saw harvest of 18 million pounds of blue crabs, one of the lowest harvest levels in the last ten years, but baywide harvest remained well under the threshold fishing removal rate that would indicate overfishing. The 2011 benchmark blue crab stock assessment and subsequent updates establishes a threshold removal rate of 37%. This threshold is the maximum percentage of females that can be harvested annually without overfishing the population. The removal rate in 2021 of 26% by commercial and recreational fisheries indicates overfishing is not occurring. Juveniles observed by the winter survey contribute heavily to the next fall's crab harvest, which could mean another year of low harvest for Virginia's commercial crabbers in 2022. Although Virginia's 2021 harvest fell 15%, high prices lead the total dockside value of crabs to increase 14% to \$35 million.

The winter dredge survey is conducted annually by the Virginia Institute of Marine Science (VIMS) and MD DNR. Since 1990, the survey has utilized traditional crab dredges to sample blue crabs at 1,500 sites throughout the Chesapeake Bay from December through March. By sampling during winter when blue crabs are buried in the mud and sedentary, scientists can develop precise estimates of the number of crabs in the Bay.

The Chesapeake Bay Stock Assessment Committee (CBSAC), an advisory group under the Chesapeake Bay Program's Sustainable Fisheries Goal Implementation Team (Fish GIT) which brings together state managers and technical experts to address blue crab issues, will hold a working meeting next week to discuss the results from the 2021-22 Winter Dredge Survey. The results will be published in the full CBSAC Annual Report this June, and provide science based recommendations for management. The Fish GIT and CBSAC are also planning a fall blue crab science workshop to identify which environmental factors are likely driving the low abundances and evaluate the need for a new blue crab benchmark stock assessment.

“We are concerned with the two consecutive years of poor recruitment,” said Pat Geer, Chief of Fisheries Management for VMRC and Chair of CBSAC. Geer continued, “However, fishing pressure on our spawning stock is still at acceptable levels and the spawning stock remains relatively healthy. We are hopeful a workshop planned for September will help explain these concerns with recruitment and lead to a new benchmark stock assessment that will address blue crab abundance in the Bay.”

VMRC's Crab Management Advisory Committee will hold a public meeting on May 23rd at 4 PM at the VMRC Main Office to discuss these results and potential management measures for the coming fishing year. These results and data on the 2021 blue crab fishery will also be presented at the monthly meeting of the Virginia Marine Resources Commission on May 24th at the VMRC Main Office. See [MRC.Virginia.Gov](https://www.mrc.virginia.gov) for more information about these meetings.