



COMMONWEALTH of VIRGINIA

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Scientific Survey Shows Modest Blue Crab Stock Improvement

~ Overall crab abundance is up. Juvenile crabs are more numerous. Spawning-age females increase but remain at low levels. ~

NEWPORT NEWS, VA. -- The Virginia Marine Resources Commission today released the 2015 blue crab winter dredge survey, which showed moderate improvement in the health of the stock, despite a very cold winter that killed an inordinately large number of crabs.

“This is a step in the right direction but we are not out of the woods,” said Virginia Marine Resources Commissioner John M.R. Bull. “Responsible management dictates a cautious approach as we continue to work to build a healthy crab stock and to maintain a sustainable fishery. More work needs to be done to boost us above modest abundance levels.”

While juvenile and spawning age female crab numbers increased a bit and last year’s harvest remained at a safe level (under the target fishing removal rate) for the seventh consecutive year, the total abundance of crabs was only the 11th highest in the past 25 years.

The long, abnormally cold winter appears to have resulted in one of the worst overwinter mortality events since the start of the winter dredge survey in 1990, causing the death of 29 percent of all adult crabs in Maryland. The winter mortality rate was well above the average.

Despite that severe setback, the crab stock improved.

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A bay-wide 10 percent crab harvest reduction enacted last year by VMRC, Maryland, and the Potomac River Fisheries Commission to combat low overall crab abundance and to boost a dangerously depleted female spawning stock apparently was effective and just in time.

“It’s likely the collective management actions since 2008 enhanced the population’s resilience despite a severe environmental disruption,” said Rom Lipcius of the Virginia Institute of Marine Science. “Without that, the winter’s impact on the crab stock could have been much worse.”

This year’s overall bay-wide crab abundance increased from 297 million crabs to 411 million crabs, a 38 percent increase. Juvenile crabs jumped from 199 million to 269 million, a 35 percent increase, and now comprise the bulk of the crab stock.

Spawning-age female crab levels emerged from depleted status, increasing from 69 million to 101 million, a 46 percent increase, but remained well below the healthy-stock target of 215 million. Spawning-age females are the cornerstone of stock rebuilding. Spawning-age males increased from last year but their abundance of nearly 44 million remains the third lowest in the past 25 years.

Although the overall number of crabs in the bay improved, the stock remains just above pre-2008 levels, when a coordinated bay-wide stock rebuilding program kicked off.

“The increase in blue crab numbers is a positive sign toward the commitment of the 2014 Chesapeake Bay Watershed Agreement to rebuild long term sustainability of blue crab populations,” said Peyton Robertson, chair of the Chesapeake Bay Program’s Sustainable Fisheries Goal Implementation Team.

Commercial crabbers can expect to see more crabs in their crab pots this year than last year and to more often catch their daily bushel limits, but this year’s abundance levels would seem to preclude the possibility of reopening the winter crab dredge fishery, which has been closed annually since 2008.

Crab spawning naturally fluctuates and can be affected by wind, tide, weather, cannibalism and increased predation on crabs by other species. Over the past two years, unexpected predation events and abnormally harsh winters have negatively impacted the crab stock and have highlighted the need for fishery managers to enhance resilience of the stock through adaptive management to compensate for unusual or extreme environmental stresses.

The annual Winter Dredge Survey is the primary assessment of the Bay’s blue crab population, and has been done annually by the Virginia Institute of Marine Science and Maryland’s Department of Natural Resources since 1990. The survey employs crab dredges to sample blue crabs at 1,500 sites throughout the Chesapeake Bay from December through March. Sampling during winter when blue crabs are usually buried in the mud and stationary, allows scientists to develop, with good precision, estimates of the number of crabs present in the Bay.

The Chesapeake Bay Stock Assessment Committee is reviewing the new survey results and will release their full analysis of the results in the 2015 Blue Crab Advisory Report this summer. The advisory report is used by managers as they review and update fishery regulations.

“The survey results show an increase in overall blue crab abundance but female abundance is still below the 215 million target. This suggests maintaining a precautionary approach to managing the population” said Joe Grist, Chair of the Chesapeake Bay Stock Assessment Committee.

VMRC will begin discussions with its crab management advisory committee today, April 27, and the Commission’s board will be briefed on the survey results tomorrow.

Here is the history of the Bay-Wide Winter Dredge Survey results (1990 through 2015). All surveys begin in December and ended in March of the next year.

Survey Year (Year Survey Ended)	Total Number of Crabs in Millions (All Ages and Both Sexes)	Number of Juvenile Crabs in Millions (both sexes)	Number of spawning age Female crabs in Millions	Bay-wide Commercial Harvest (Millions of Pounds)	Percentage of Female Crabs Harvested (female exploitation fraction)
1990	791	463	117	96	44
1991	828	356	227	90	34
1992	367	105	167	53	60
1993	852	503	177	107	35
1994	487	295	102	77	28
1995	487	300	80	72	32
1996	661	476	108	69	20
1997	680	512	93	77	22
1998	353	166	106	56	40
1999	308	223	53	62	37
2000	281	135	93	49	43
2001	254	156	61	47	42
2002	315	194	55	50	34
2003	334	172	84	47	33
2004	270	143	82	48	42
2005	400	243	110	54	24
2006	313	197	85	49	29
2007	251	112	89	43	35
2008	293	166	91	49	24
2009	396	171	162	54	23
2010	663	340	246	85	18

2011	452	204	191	67	24
2012	765	581	95	56	10
2013	300	111	147	37	23
2014	297	199	69	35*	17*
2015	411	269	101	TBD	TBD

* 2014 Bay-wide commercial harvest and percentage of the female crab removal rate are preliminary.

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