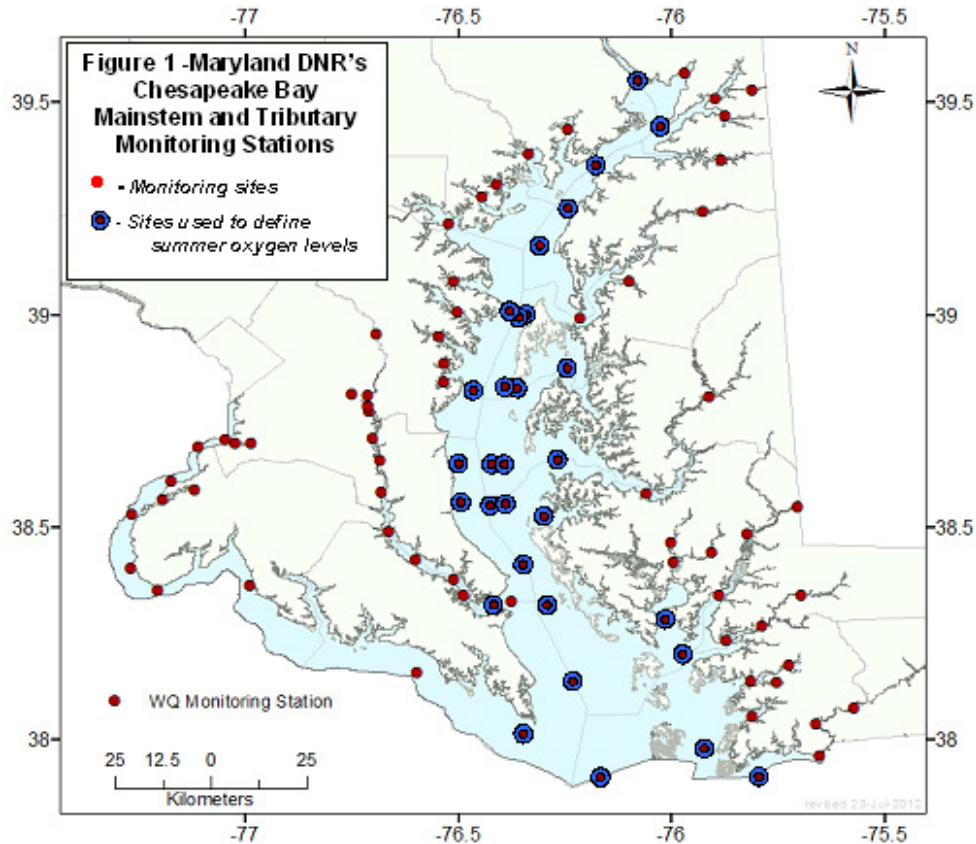


Tracking status of Chesapeake Bay’s summer “DEAD ZONE”

Early June 2013 report

Over three-days beginning on June 3, 2013, biologists from the Maryland Department of Natural Resources recorded environmental conditions and collected samples for analysis from the mainstem of Chesapeake Bay as part of the State’s Chesapeake Bay Monitoring Program.

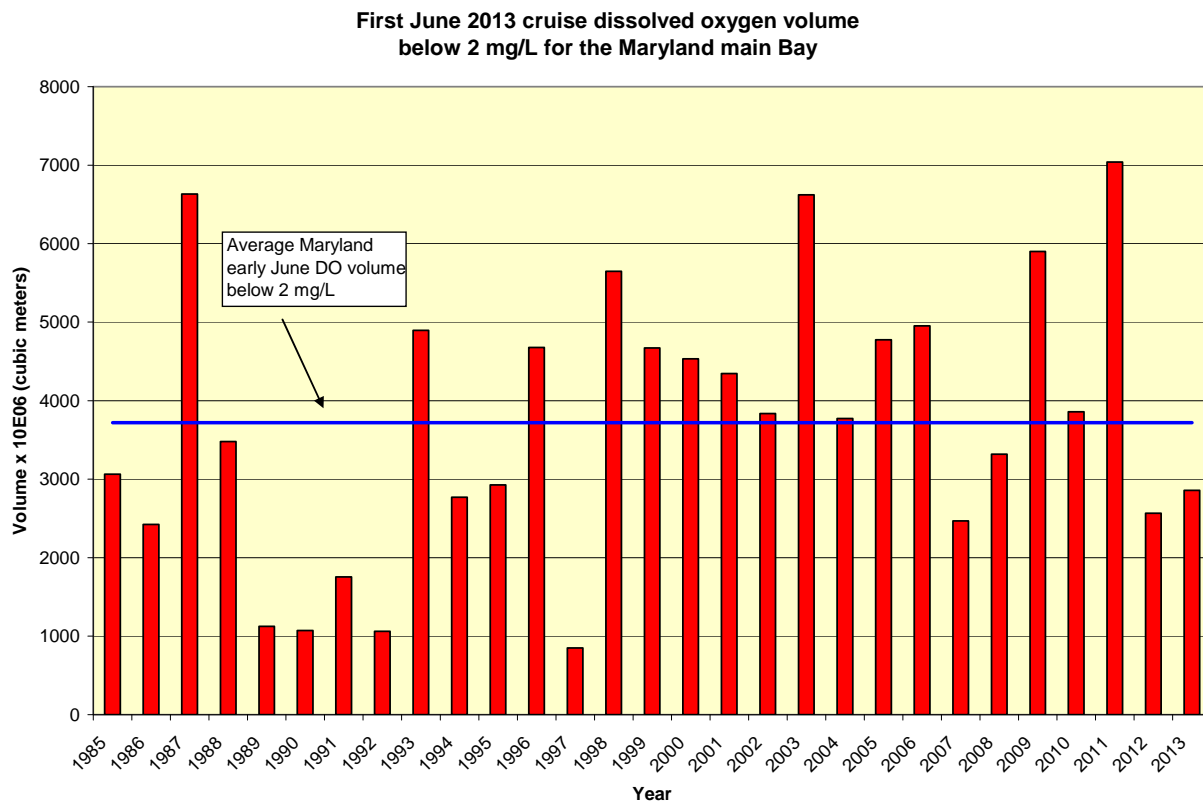


One assessment that can be quickly defined with these data is a measure of habitat quality by determining the volume of water with critically low oxygen levels. When oxygen concentrations in the water are less than 2 milligrams per liter (mg/L), fish, crabs and oysters cannot live and thrive. Based on water quality data collected during this early June 2013 monitoring cruise, the volume of the Maryland mainstem Bay water with low oxygen levels (2.0 to 0.2 mg/L - hypoxic and 0.2 to 0 mg/L - anoxic) was estimated to be 0.69 cubic miles. Of the total of 5.11 cubic miles of water in the Maryland portion of the mainstem Bay, this amounts to 13.4% of the total mainstem volume. This volume is greater than the low oxygen volume observed last year at this time (0.62 cubic miles or 12.1% of the Maryland mainstem Bay volume), but is much better than the nearly 30-year (1985-2013) average of 0.89 cubic miles (17.5%) of the Maryland mainstem Bay.

Low oxygen volume / % of MD mainstem Chesapeake Bay volume - Early June summary

Maryland mainstem Chesapeake Bay	5.11 cu. mi. / (100%)
Low oxygen (<2 mg/L) volume - (1985-2013 average)	0.89 cu. mi. / (17.5%)
Low oxygen volume - 2012	0.62 cu. mi. / (12.1%)
Low oxygen volume - 2013	0.69 cu. mi. / (13.4%)

A comparison of low oxygen volumes in early June in the Maryland mainstem Chesapeake Bay each year between 1985 and 2013 shows extreme interannual variability. The 2012 and 2013 assessments are seen as the two right hand bars along with the calculated long-term (1985-2013) average (*please see Computation note below*).



Computation note: Data for this period may not match that published last year. Computation of water volumes in Maryland portion of Chesapeake Bay requires data from some monitoring sites in the Virginia portion of the Bay. Virginia data from the upper Bay were not available for early June 2013. So that annual results during this period could be evenly compared, all VA data from previous years were excluded and MD Bay volumes were recalculated. It is expected that VA data will be available for calculation of other summer Bay volume datasets and will be included.

Volume conversion: Volumes shown are in millions of cubic meters. There are 4,168,181,843.06 (4.17 billion) cubic meters in a cubic mile

NOAA distributed a Press Release on June 18 entitled ‘NOAA, partners predict possible record-setting dead zone for Gulf of Mexico Also anticipating smaller hypoxia levels than in past in Chesapeake Bay’. The first June Chesapeake Bay monitoring results initially confirm the model predictions for the Chesapeake Bay but this could change as the summer progresses. The integration of monitoring and modeling results help managers effectively target and assess nutrient reduction strategies developed by State, federal and local agencies to protect and restore the Bay. The PR can be found at the following link:

http://www.noaanews.noaa.gov/stories2013/20130618_deadzone.html

The Chesapeake Bay summer hypoxia forecast in collaboration with researchers from the University of Maryland and the University of Michigan calls for a smaller than average Dead Zone in the Bay. The forecast is based on nitrogen loading from the Susquehanna River during January-May 2013 provided by

U.S. Geological Survey (USGS). The Susquehanna River loadings data are funded with a cooperative agreement between USGS and the Maryland Department of Natural Resources.

DNR will continue to monitor the oxygen conditions of the Bay and its tributaries and will provide updates through the summer. Implementation of the Baywide TMDL commits Maryland and the other Bay watershed States to accelerate their nutrient and sediment reduction strategies which should reduce the size and duration of the Bay's 'dead zone'.

What you can do:

Responsible Marylanders know that reducing polluted runoff is the key to a healthier Chesapeake Bay. Here's how you can do your part now and make a difference:

- Limit your use of lawn fertilizers
- Maintain your septic system
- Drive less
- Plant a tree

For more information:

- Real-time Maryland Tidal Water Quality Conditions: www.eyesonthebay.net
- Restoring the Chesapeake Bay: Maryland's Actions & Progress: www.baystat.maryland.gov/
- What You Can Do to Help the Bay: www.baystat.maryland.gov/what_you_can_do.html