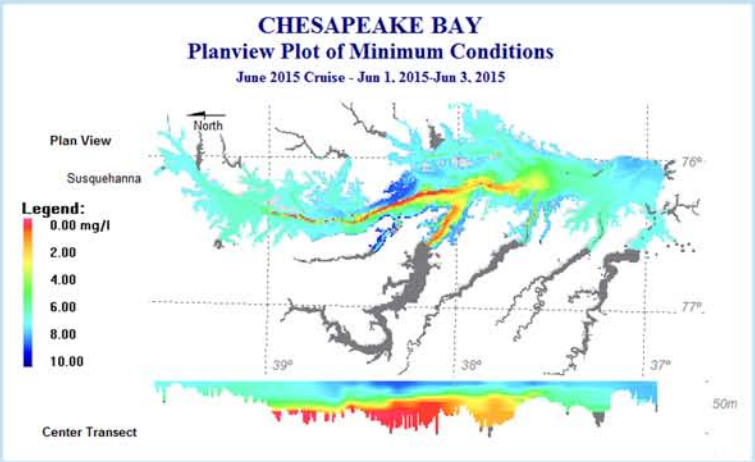
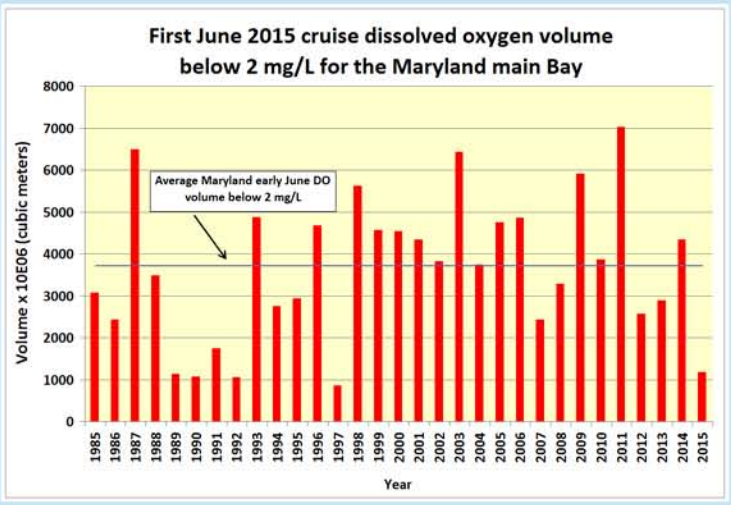
Maryland Department of Natural Resources 2015 Chesapeake Bay Hypoxia Report - Early June Update

Crabs, fish, oysters and other creatures in the Chesapeake Bay need oxygen to survive. Scientists and natural resource managers study the volume and duration of Bay hypoxia (less than 2 mg/l oxygen) to determine possible impacts to Bay life. This area of hypoxia is often termed "The Dead Zone" in media reports.

Each year from June through September, Maryland DNR computes these volumes from data collected by Maryland and Virginia. Data collection is funded by these states and their partner, the EPA Chesapeake Bay Program.



The 'plan view' in the above map shows the lowest oxygen value that occurs in the water column at that point, which is usually towards the bottom waters. The 'center transect' shows the vertical variation in oxygen along the main channel of the Bay. The oranges and reds are indicative of hypoxic zones.



This year, the early June 2015 sampling shows that dissolved oxygen volume below 2 mg/l in Maryland's portion of the Bay is the fifth smallest (.28 cubic miles) since monitoring began in 1985. These better than average results are likely because of lower than average Susquehanna River Spring flows and thus a estimated 10% less than average nutrient delivery (as predicted by the NOAA, USGS, UMCES & U of Mich. dissolved oxygen forecast), below normal Spring water temperatures, and windy conditions during the early June sampling cruises. Lower temperature waters are able to hold more oxygen and winds help to mix oxygen into the deeper areas of the water column. Due to high winds, some lateral Chesapeake Bay stations were not sampled in Maryland, which may also impact results.

Through numerous best management practices, Maryland is diligently working to reduce nutrient and sediment pollution. Maryland has defined goals for reducing this pollution, as set forth in the US EPA's Total Maximum Daily Load (TMDL) process. Projected total nitrogen and phosphorus reductions are currently on track to achieve the 2017 reduction goals and will be driven largely by reductions occurring at our waste-water treatment plants and from our agricultural lands.

For more information:

- *Eyes on the Bay* (www.eyesonthebay.net) - Chesapeake and Coastal Bays water quality results, and past hypoxia reports
- *Baystat* (http://baystat.maryland.gov) Maryland's action and progress towards Chesapeake restoration
- *University of MD Center for Environmental Science* Chesapeake dead zone forecast history (http://bit.ly/1Cr1hB6)

Posted: June 23, 2015