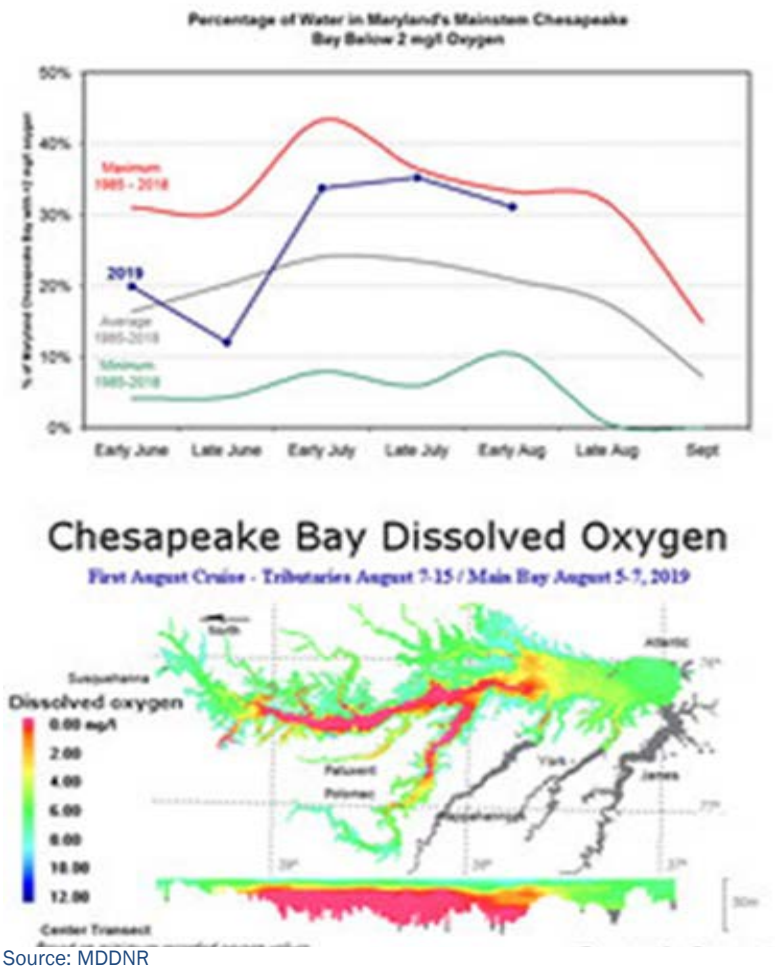
Metropolitan Washington Council of Governments

WATER RESOURCES UPDATES
September 2019

High Flows Lead to Higher Anoxic Volumes in Tidal Waters

Maryland Department of Natural Resources monitoring data show that dissolved oxygen conditions in the Maryland portion of the Chesapeake Bay mainstem were larger than average in early August. The hypoxic water volume (areas with less than 2 mg/l oxygen) was 1.77 cubic miles in early August, down from the 2.01 cubic miles seen in late July, but significantly higher than the 1985-2018 early August average of 1.19 cubic miles. The hypoxic volumes ranked third-largest since 1985 for the early August time period.

The data is in line with what scientists have been predicting based on the high flows from last summer through this spring. Other weather factors, such as lower sustained wind levels and high surface water temperatures, also have contributed to the anoxia. To read more: https://news.maryland.gov/dnr/2019/08/26/early-august-2019-hypoxia-report/

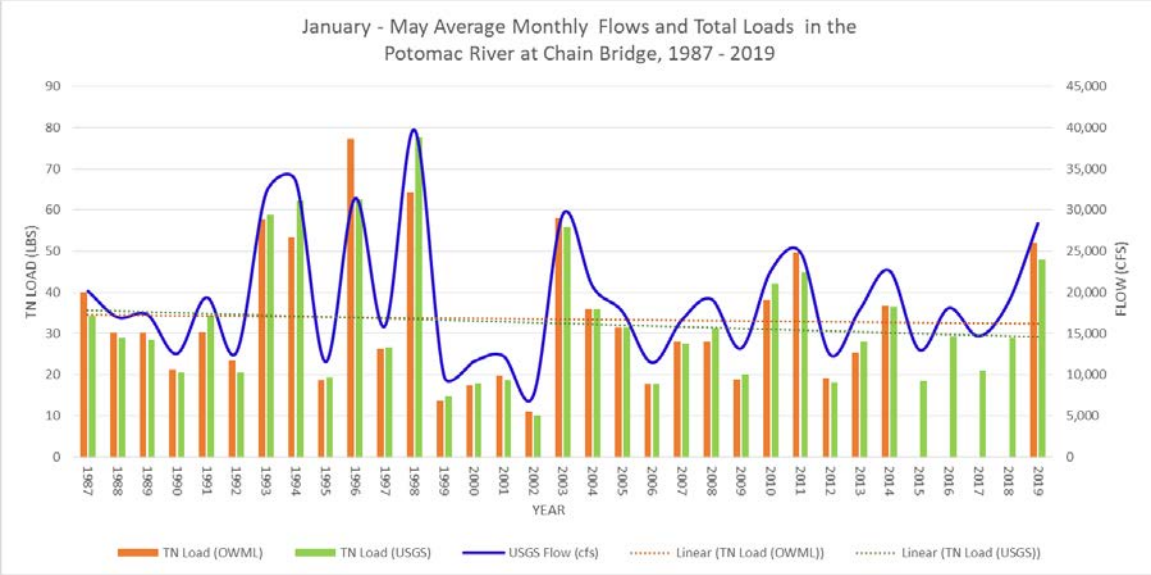


Source: MDDNR

Data from both the USGS and OWML fall-line monitoring programs at Chain Bridge on the Potomac River show that flows and total nitrogen loads from January through May 2019 were higher than all but 5 years in the period from 1985- 2019 and the highest since 2003.

The chart below depicts average monthly flows and total loads from the period January – May (which has the greatest impact on summer algal growth) from 1987 - 2019. It also compares the separate load estimates provided by the USGS monitoring program and the monitoring program conducted by Virginia Tech's Occoquan Watershed Monitoring Laboratory and sponsored by COG. Although the estimates

vary somewhat, they agree that loads from the spring of 2019 are the sixth highest during this time interval.



Source: COG, OWML and USGS