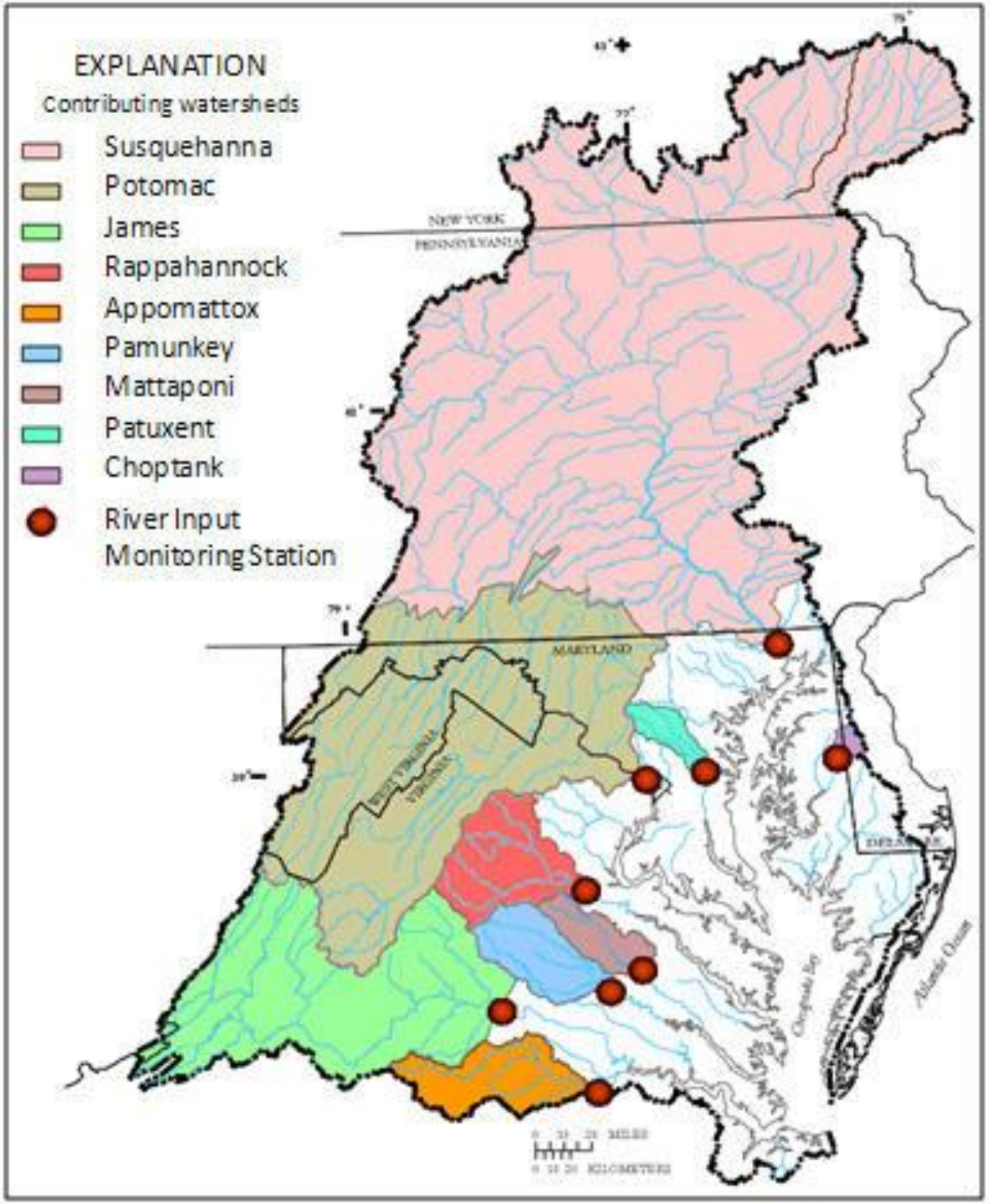
2020 Chesapeake Bay Summer Hypoxia

Data Integrity Work Group

July 30, 2020

Why is Hypoxia (Dead Zone) Forecast Important?

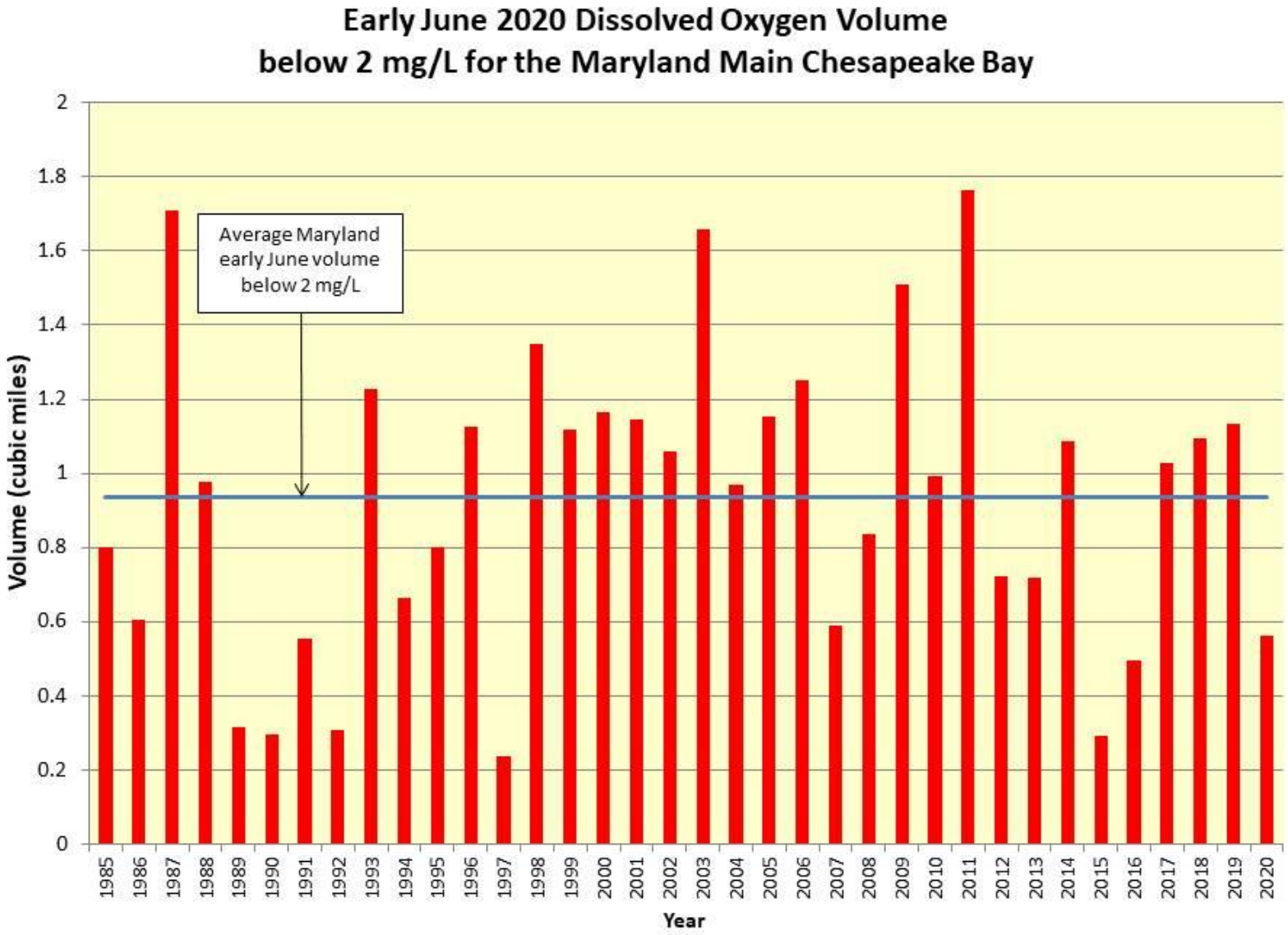
- Hypoxia is key indicator of Bay health
- Directly related to management actions to reduce excess nutrients
- Important relationship to fish habitat: DO/Temperature squeeze
- High media attention
- Tracked over the entire summer: May – Sept.
- What will the 2020 Hypoxia Forecast be – average, less hypoxia, or more hypoxia?


EXPLANATION
Contributing watersheds
Susquehanna
Potomac
James
Rappahannock
Appomattox
Pamunkey
Mattaponi
Patuxent
Choptank
River Input Monitoring Station
NEW YORK
PENNSYLVANIA
MARYLAND
WEST VIRGINIA
VIRGINIA
DELAWARE
Chesapeake Bay
Atlantic Ocean

2020 Hypoxia Forecast

- Slightly less hypoxia than the long-term average (1985-2019)
- 4 out of 5 months (January – May) had less than average N loads for the 9 major River Input Monitoring sites.

- Thanks to USGS, CBP, UMCES, UM and State agencies


Early June 2020 Dissolved Oxygen Volume
below 2 mg/L for the Maryland Main Chesapeake Bay
Average Maryland early June volume below 2 mg/L
Volume (cubic miles)
Year
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
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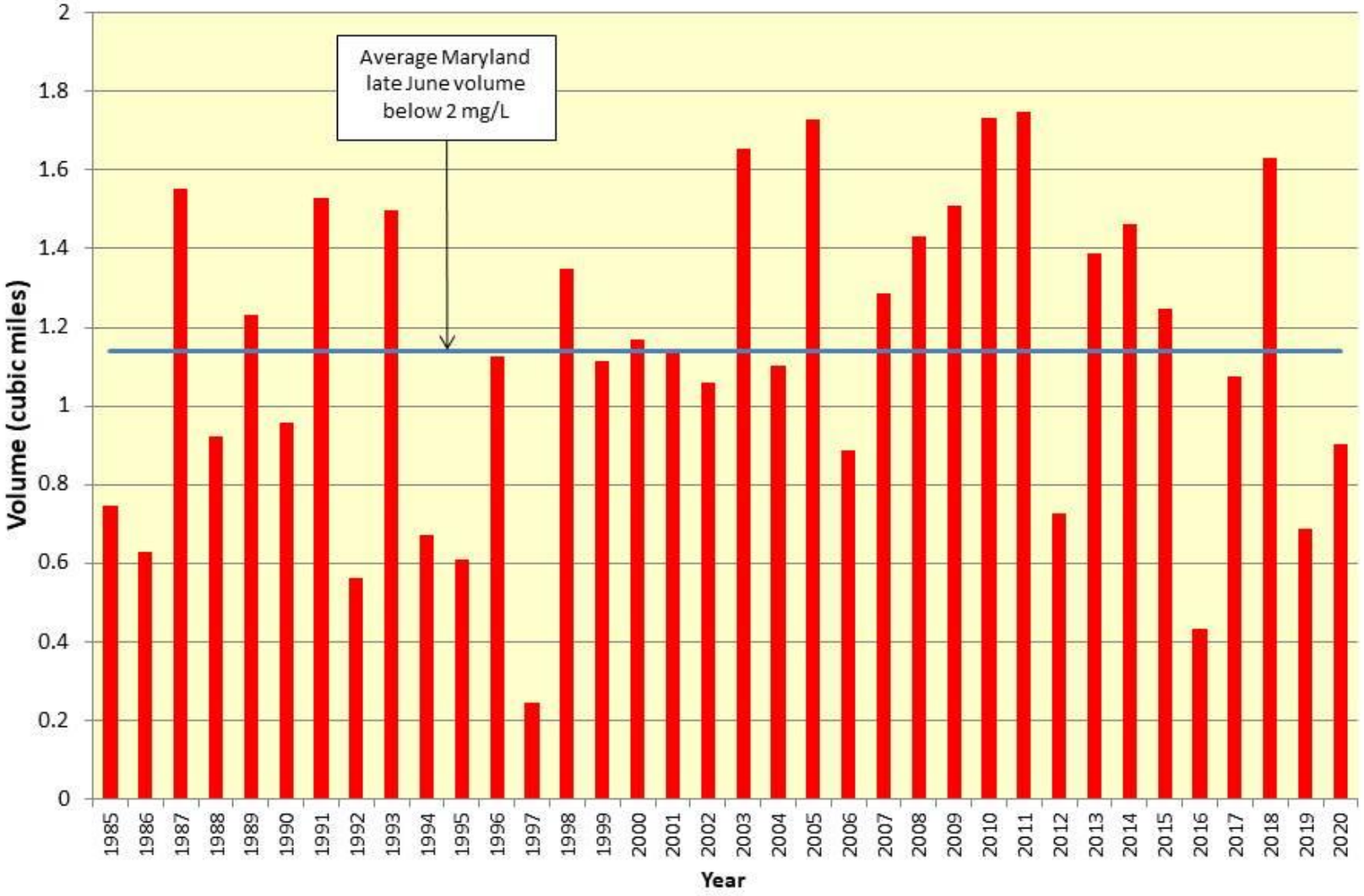
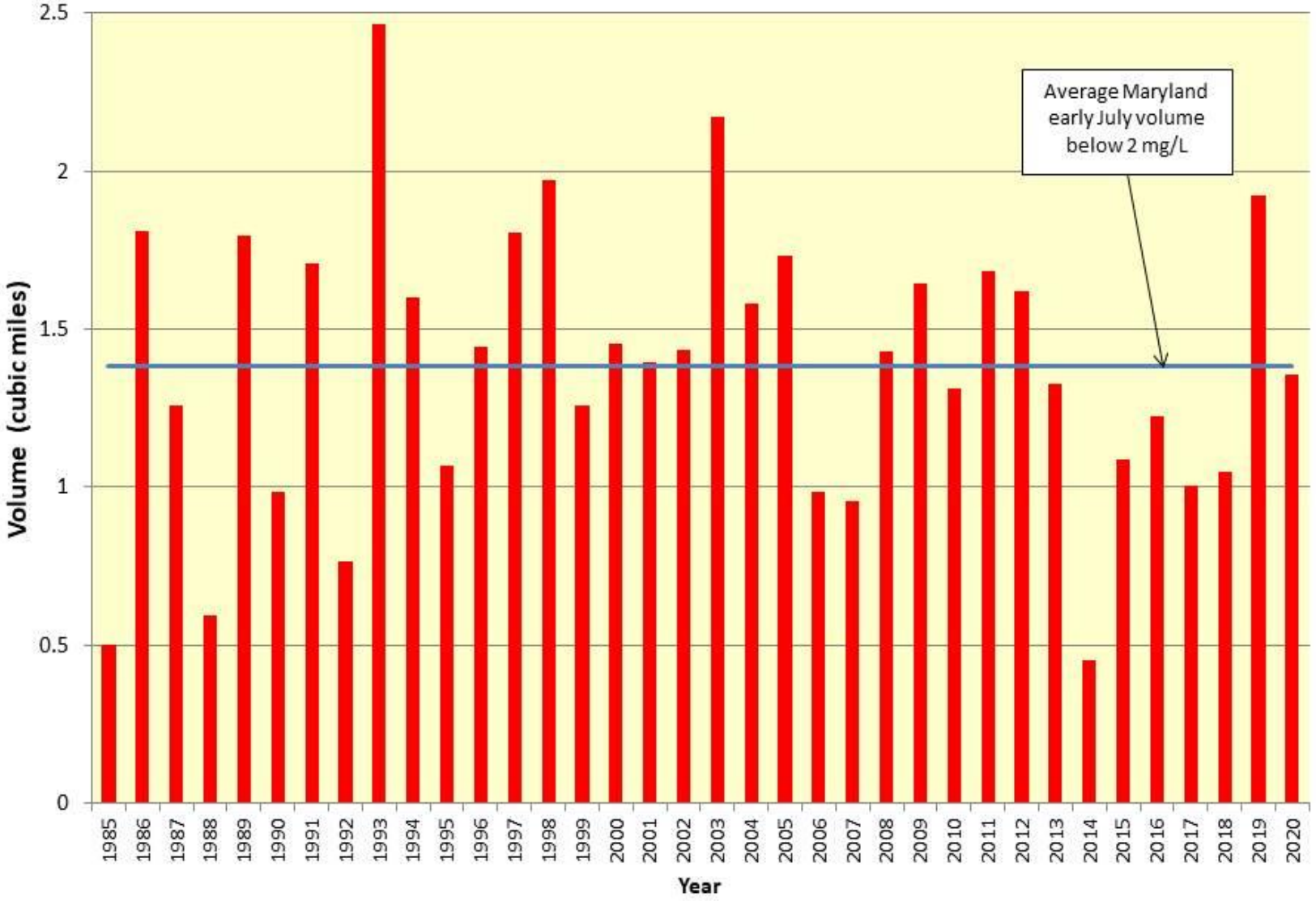
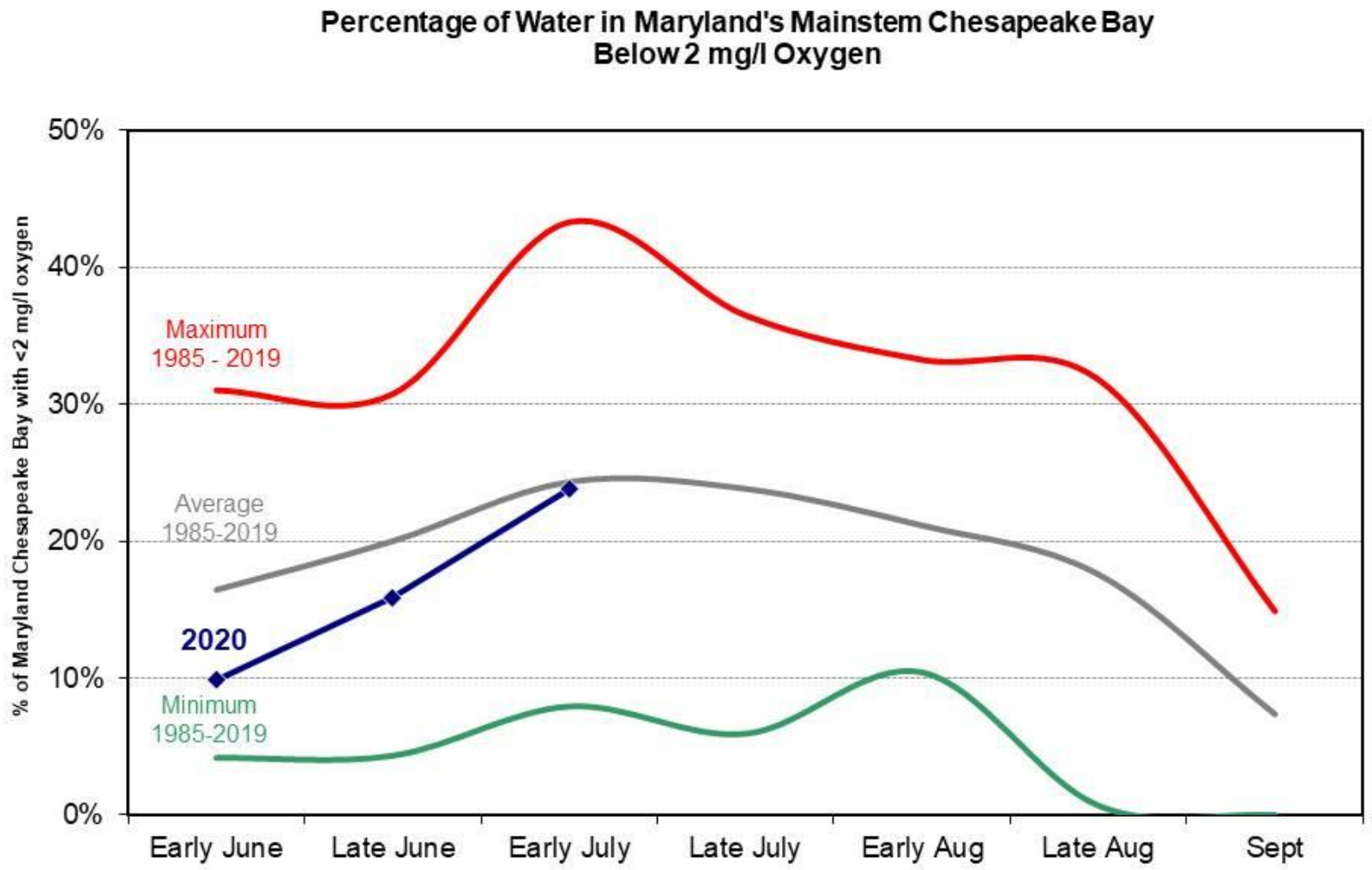
2016
2017
2018
2019
2020

Late June 2020 Dissolved Oxygen Volume below 2 mg/L for the Maryland Main Chesapeake Bay



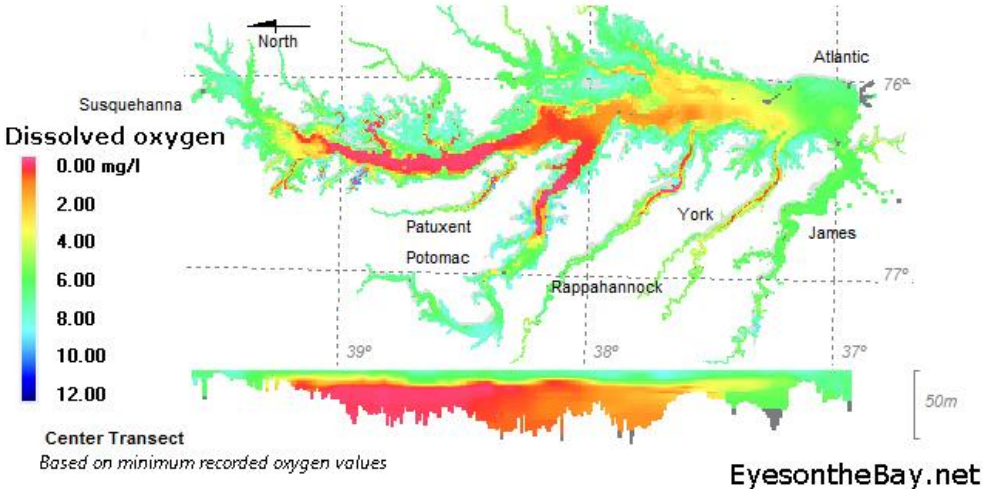
Early July 2020 Dissolved Oxygen Volume Below 2 mg/L for the Maryland Main Chesapeake Bay




Percentage of Water in Maryland's Mainstem Chesapeake Bay
Below 2 mg/l Oxygen
% of Maryland Chesapeake Bay with <2 mg/l oxygen
50%
40%
30%
20%
10%
0%
Maximum
1985 - 2019
Average
1985-2019
2020
Minimum
1985-2019
Early June
Late June
Early July
Late July
Early Aug
Late Aug
Sept

Chesapeake Bay Dissolved Oxygen

First July Cruise - Tributaries July 9-24 / Main Bay July 8-10, 2019



Chesapeake Bay Dissolved Oxygen

Second July Cruise - Tributaries July 9-24 / Main Bay July 22-26, 2019