

POTOMAC RIVER WATER QUALITY IN METROPOLITAN WASHINGTON

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COG Board of Directors
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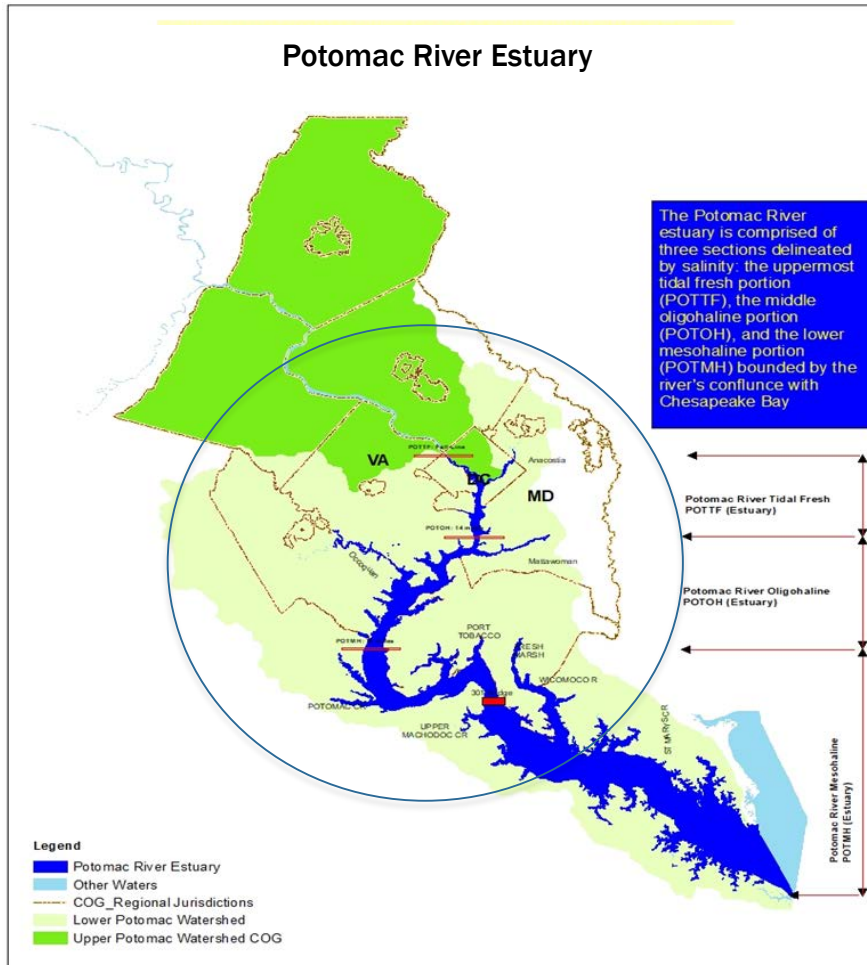
COG Report: Potomac River Water Quality in Metropolitan Washington

- Data drawn mainly from federal and state monitoring programs
- Examines trends: Are we making progress in improving water quality?

Photo: Joseph Gruber/Flickr



The Report



Focuses on water quality in the Potomac River Estuary

Key water quality measures:

- Dissolved oxygen
- Water clarity
- Chlorophyll-a

Same pollutants as the Chesapeake Bay TMDL

- Nitrogen
- Phosphorus
- Sediment

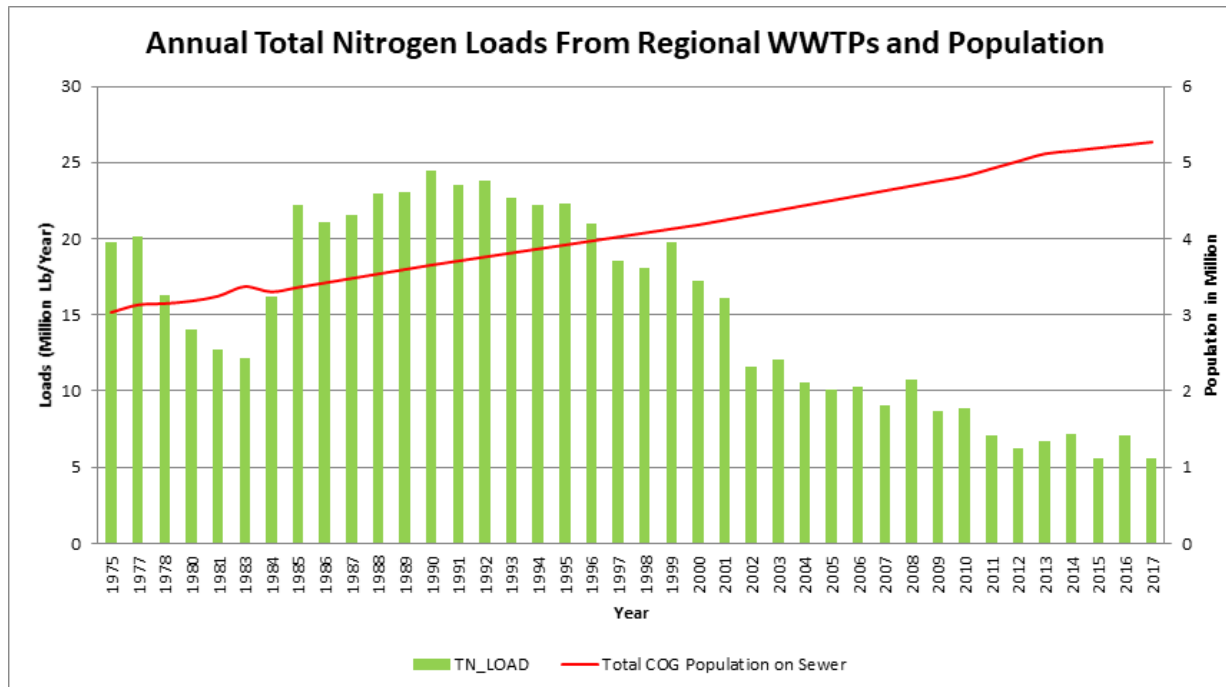
Other Water Quality Report Cards

Organization	Grade	Year	Geography
Chesapeake Bay Foundation	D+	2018	Chesapeake Bay
University of Maryland Center for Environmental Science (UMCES)	C	2017	Chesapeake Bay
Potomac Conservancy	B	2018	Potomac River
UMCES	C-	2017	Potomac River

- Most report cards are based on current conditions and can be impacted by abnormal weather conditions
- COG's report is based on the long-term data record – not a snapshot in time

Progress in Wastewater

Reductions in nitrogen and phosphorus discharges from wastewater plants account for most of the region's total progress in nutrient reduction for the Chesapeake Bay restoration effort



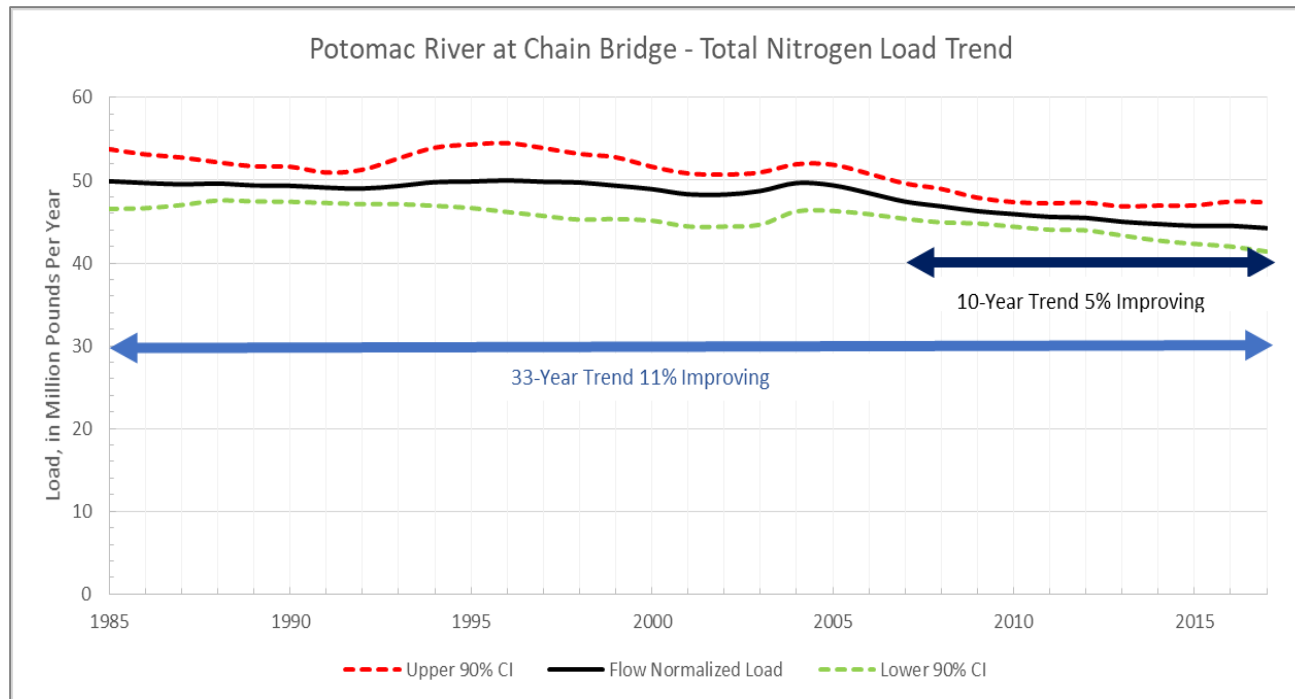
Source: COG

- 86 % of all N reductions since 1985
- 59 % of all P reductions since 1985

Nitrogen Load at Chain Bridge

Water from the Potomac watershed upstream of the fall line has a major impact on water quality in the estuary

- Most long-term trends in nutrient loads show improvement (Total Nitrogen; Few show a lack of progress.

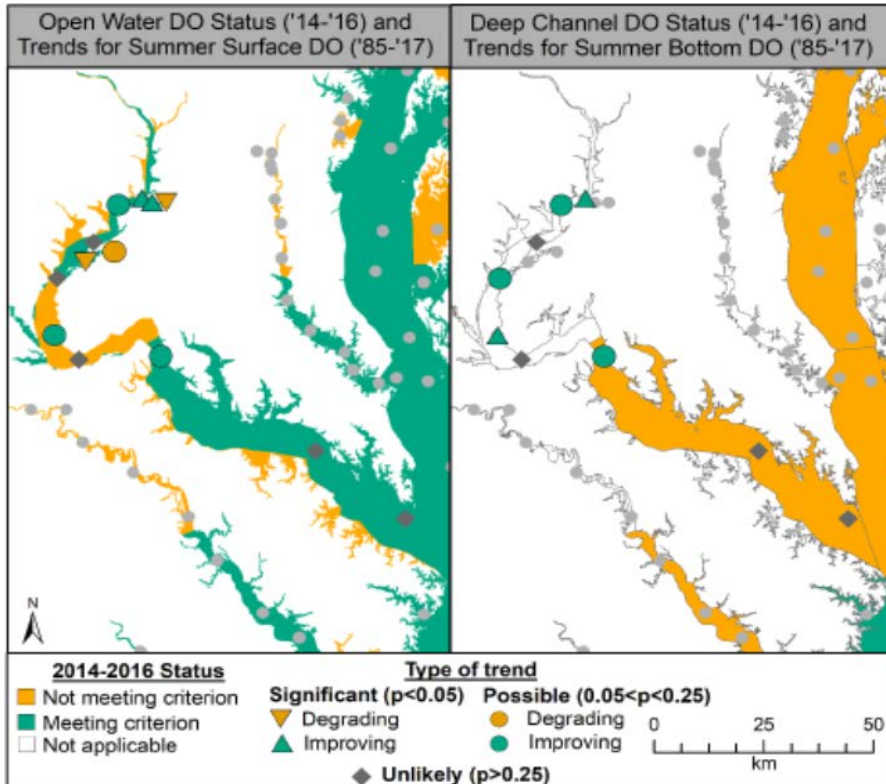


Source: USGS



Water Quality in the Estuary

Dissolved Oxygen Status and Trends



Source: Chesapeake Bay Program

Water quality measures such as dissolved oxygen levels show a mixed picture

- Areas of attainment (shown in green shading) and areas of non-attainment (shown in orange shading)
- Points of improving trends (shown in green dots) and points of degrading trends (shown in orange dots)

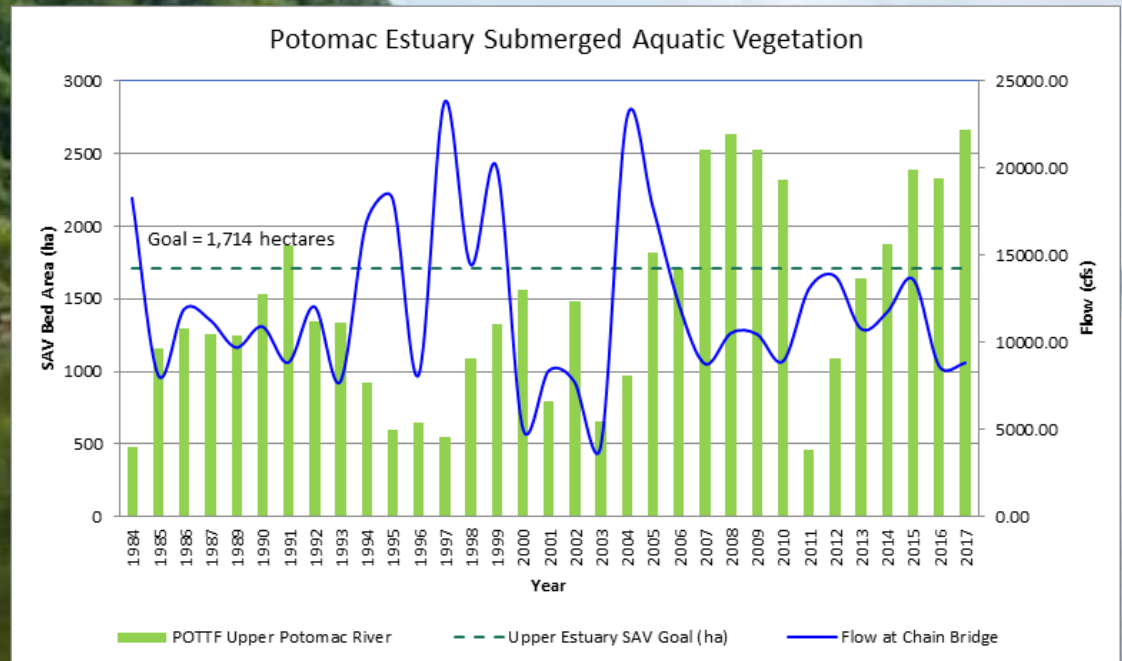
Success Stories

Local government investments in wastewater nutrient reduction have improved water quality.

- Decreases in harmful algal blooms
- Increases in certain fish species
- Increases in underwater grasses

Photo: Dr. Chris Jones/GMU

Source/Graph: VIMS



Conclusions

Progress, but more to be done

- Investments to date have resulted in success stories and long-term improving trends, but estuary water quality does not yet meet State/District water quality standards

Progress to date has come mainly from wastewater sector

- Gunston Cove case study (in report) shows how wastewater reductions improve water quality in more confined settings than estuary as a whole

Progress in future must come from continued investments in urban stormwater, as well as ag and septic sectors, to reduce nutrients (and other pollutants).

Looking Ahead

Draft Phase III Watershed Implementation Plans

- Released in early April - Comment period ends June 7
- Bay Policy Committee to consider comments at May 17 meeting
- Designed to achieve all needed nutrient and sediment reductions by 2025
- MD and VA plans will rely on greater-than-needed wastewater reductions to temporarily offset shortfalls in reductions by other sources

Where do we need to go?

- Progress but more to be done
- Because COG region has reached the limits of what wastewater plants can achieve, further nutrient reduction progress must come from other sources (urban stormwater, ag, septic)

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