

# POTOMAC FACTSHEET AND MONITORING UPDATES

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## DEP – Water Resources

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# COG's 1<sup>st</sup> Potomac Factsheet

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- Original Potomac Factsheet (2014) – main message – “We are making progress, but more needs to be done”
- Highlighted success stories:
  - **Wastewater** - investments in improving wastewater treatment over the past thirty years have yielded significant improvements – major declines in nitrogen and phosphorus loads discharged by WWTPs since the 1980s (graphs)
  - **SAV and Fish** – populations of some plants and animals have increased (American Shad)
  - **Algal blooms** – Decline in occurrence and extent of blooms in upper Estuary



# COG's 1<sup>st</sup> Potomac Factsheet

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- **Water Quality Data – Message of a Mixed Picture**
  - Focused on MDDNR's water quality monitor data (nitrogen, phosphorus, and sediment) in the Potomac River estuary
  - Reviewed habitat requirements for living resources - algal density, water clarity and dissolved oxygen (DO) levels
  - Conveyed a mixed picture - some areas showed improvement/others did not



# Next Step – Update Potomac Factsheet

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- Incorporate updated data and new understandings

## Updated data

- More recent SAV/ American Shad information
- More recent wastewater nutrient discharge data
- More recent water quality data

## New understandings

- Fate and transport of nitrogen from wastewater plants in upper estuary
- New nutrient feedback loop from sediments in lower estuary
- Progress is less than might be expected from strictly linear interpretation

# Updated Potomac Factsheet

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## Altered storyline

- Still focus on nutrient reductions by WWTPs and positive water quality responses
- Still note more needs to be done (by agriculture, urban stormwater and other sources) to achieve water quality standards in the Potomac estuary
- Add idea that progress is not uniform and is not always fully additive
  - Nutrient feedback loop
  - Hysteresis effect
- Once a draft is ready, we will share with WRTC members for comment

# Water Quality Monitoring Update

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- **Invasive Species – Water Chestnut**
  - During COG's WRTC water quality workshop (December 14<sup>th</sup>), we learned from Dr. Nancy Rybicki (USGS) that a new form of **water chestnut** (*Trapa natans*) was recently (in 2014) found in the tidal Potomac River in Pohick Bay - for the first time in decades.
  - Water chestnut is floating aquatic plant
  - It spreads quickly on the surface and potentially could shade out the recently established, diverse populations of SAV
  - It was brought to the U.S. in the 1800s and was reported in the Potomac River in the 1920s.
  - In the 1940s, the Army COE eradicated it from the Potomac River.



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# Water Quality Monitoring Update

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- **Water Chestnut** has been reported in numerous Prince William and Fairfax County waterways and stormwater ponds
- Evidence that it is being spread among ponds by resident geese
- Volunteers are needed to monitor ponds and rivers in your jurisdiction
  - Report its occurrence to the US Geological Survey, Nuisance Aquatic Species Program
    - Contact Ian Pfingsten, [ipfingsten@usgs.gov](mailto:ipfingsten@usgs.gov)
- Question for WRTC members – Are you interested in learning more about this at a future meeting?

