



Maryland

Department of
the Environment

Hot Water Topics at MDE

Priority Issues Involving Water

October 4, 2017

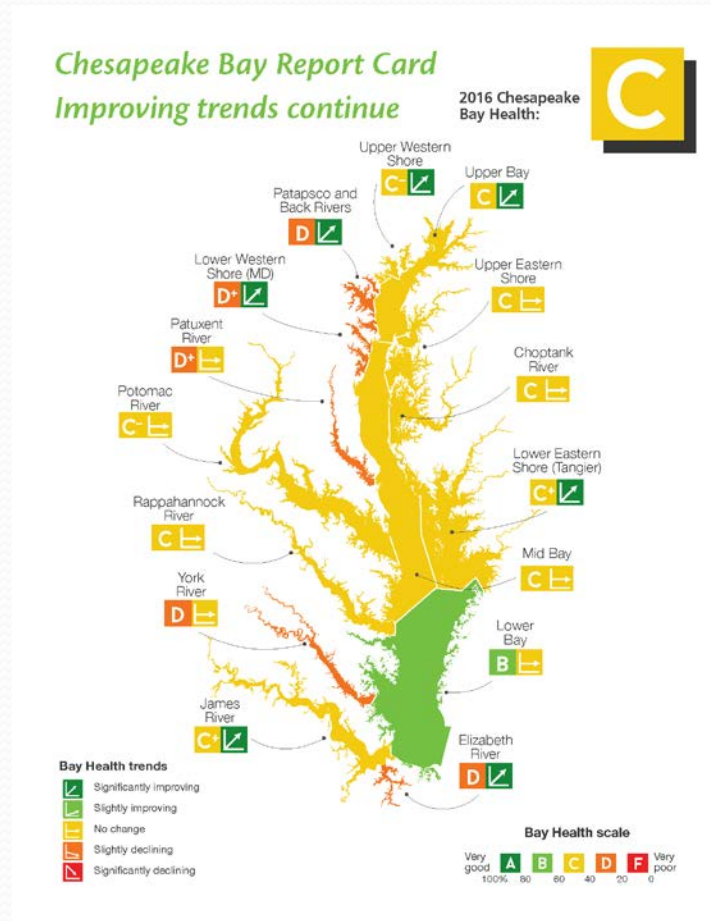
4 Hot Water Topics

- Chesapeake Bay Protection and Cleanup
 - & How the Conowingo fits in
- The Energy/Water Nexus
- Climate Change
- Water Re-Use

“We have our beautiful Chesapeake Bay”.....Governor Larry Hogan 2015



Bay Report Card: Cleanest in 25 Years

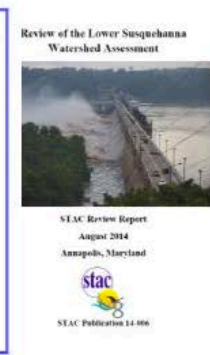
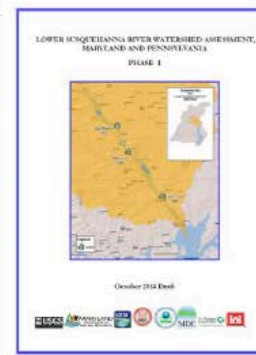
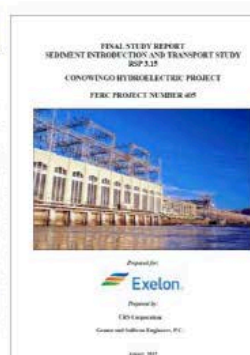


Big Year for the Bay

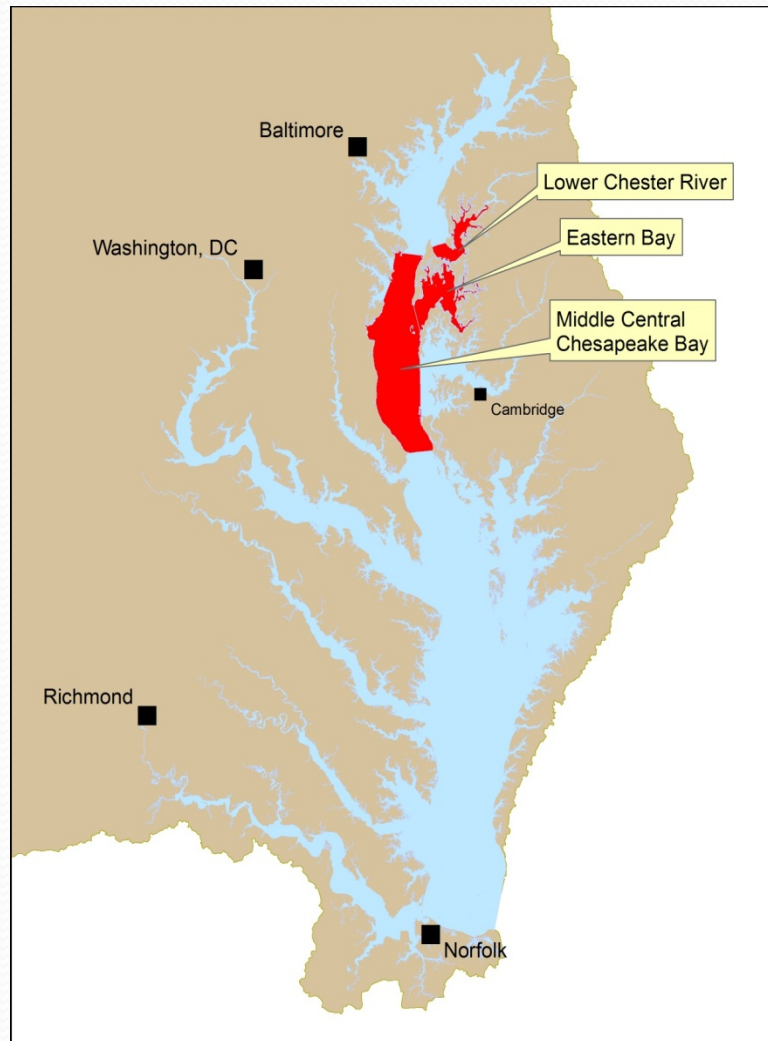
- TMDL Mid point Assessment planned in 2017/2018
 - Taking stock of where we are
 - Figuring out what more still needs to be done to improve the Bay “GPA”
- Conowingo 401 WQC
 - Decision-making on CWA 401 WQC conditions in new FERC license
 - Maryland decision needed by mid-May 2018 on what actions Exelon needs to take to meet Water Quality requirements

New Science Since TMDL Indicate Conditions have Changed at Conowingo

- U.S. Geological Survey (USGS) (2012, 2014, 2015)
- U.S. Army Corps of Engineers (2015)
- Johns Hopkins University (2013, 2015, 2016)
- CBP Scientific and Technical Advisory Committee (2014, 2016)
- Enhanced Monitoring and Modeling funded by Exelon and conducted by Gomez and Sullivan, University of Maryland and USGS (2014-2016)



Impact of Changed Conowingo Reservoir Conditions on Chesapeake bay Water Quality



Chesapeake Bay Water Quality with Watershed Implementation Plans Fully Achieved and Dam in Dynamic Equilibrium

Estimates of about 1 - 3% additional water quality DO standards non-attainment in 3 segments

MDE Bringing Best Science to Bear and Considering Full Range of Options

- Working with EPA, USGS, DNR & others to bring new science into calculations of what additional reductions are needed to meet WQ targets
- Looking at feasibility and cost of restoring trapping capacity at Conowingo
 - August 31, 2017 RFP for dredging and beneficial reuse pilot project at Conowingo
 - 25,000 cubic yards to be removed and put to beneficial reuse



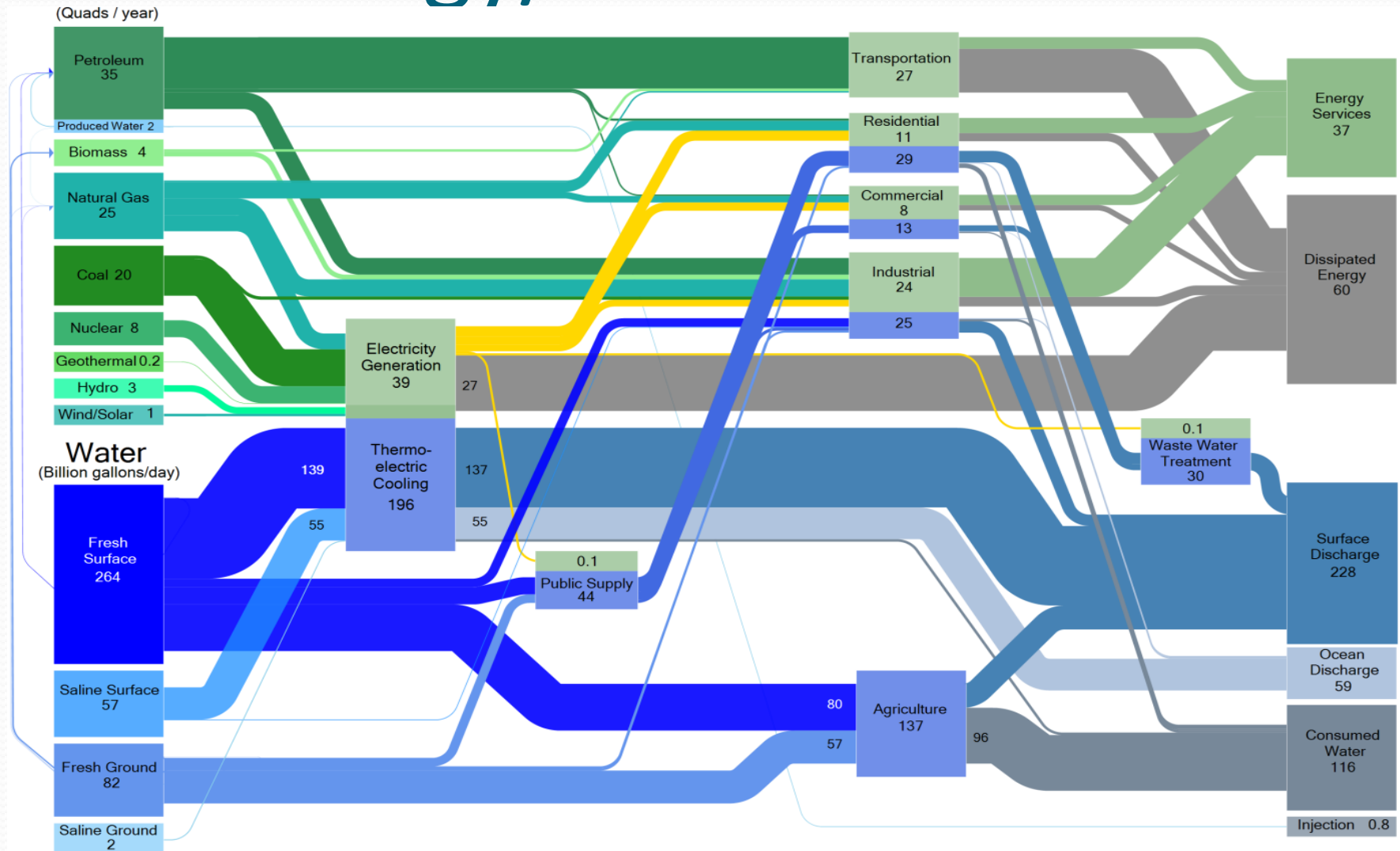
Timeline for 401 WQC

- Initial Comment Period Closed August 23
- Expect Public Hearing in early December
- Schedule has 401 WQC Being Issued in mid May 2018



The Energy/Water Nexus

The Energy/Water Nexus (DOE graphic)



Maryland is Investing in Initiatives that Save Energy and Reduce Pollution

- \$24 million in grants for new energy-water infrastructure program at wastewater treatment plants
 - Easton Utilities Commission: \$3 million grant for solar power system at wastewater treatment plant
 - Anne Arundel County: \$1 million grant for high efficiency presses for solids and sludge dewatering—use of these presses will reduce electricity consumption by 51%
- Tax credits and rebates for cleaner cars and electric car charging infrastructure
- \$7.5 million to create the Maryland Energy Innovation Institute at UM

Why promote bridging energy and water policy?

- Bridging energy and water conservation policy offers at least three potential benefits:
 - Water efficiency programs can yield substantial energy savings and may do so at a lower cost than programs designed for energy efficiency alone;
 - Conservation of water resources can help mitigate potential increases in consumer bills from expected new infrastructure investments; and
 - Even in those parts of the country where water scarcity is not a challenge, integrated resource decisions can help both energy and water consumers.

Plenty of potential opportunities to excel.....

- As Senator Lisa Murkowski put it....
“A focused and well-coordinated public-private approach to the energy-water nexus issues can promote economic growth and lead to new breakthrough technologies in water and energy resiliency. It is truly a “win-win” proposition for the American people.”

Climate Change



Climate Change

“Maryland is committed to finding real bipartisan, common-sense solutions to protect our environment, combat climate change, and improve our air quality”.....Governor Larry Hogan, August 2017

Maryland and the RGGI

- Regional Greenhouse Gas Initiative, Inc. (RGGI, Inc.) is a 501(c)(3) non-profit corporation created to support development and implementation of the Regional Greenhouse Gas Initiative (RGGI).
- RGGI is a cooperative effort among nine states – Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont – to reduce greenhouse gas emissions.

Recent News from the RGGI

- RGGI is the first mandatory market-based regulatory program in the U.S. to reduce Greenhouse gas emissions and MD is proud to be among its leaders
- In late August, the RGGI agreed to reduce the carbon cap by another big increment--30% relative to 2020 emissions by 2030
- New “emissions containment reserve” mechanism created to achieve additional reductions, if it is cost-effective to do so (adaptive management of reduction targets over time driven by increases in cost-effectiveness)

Other MD Climate Change Efforts

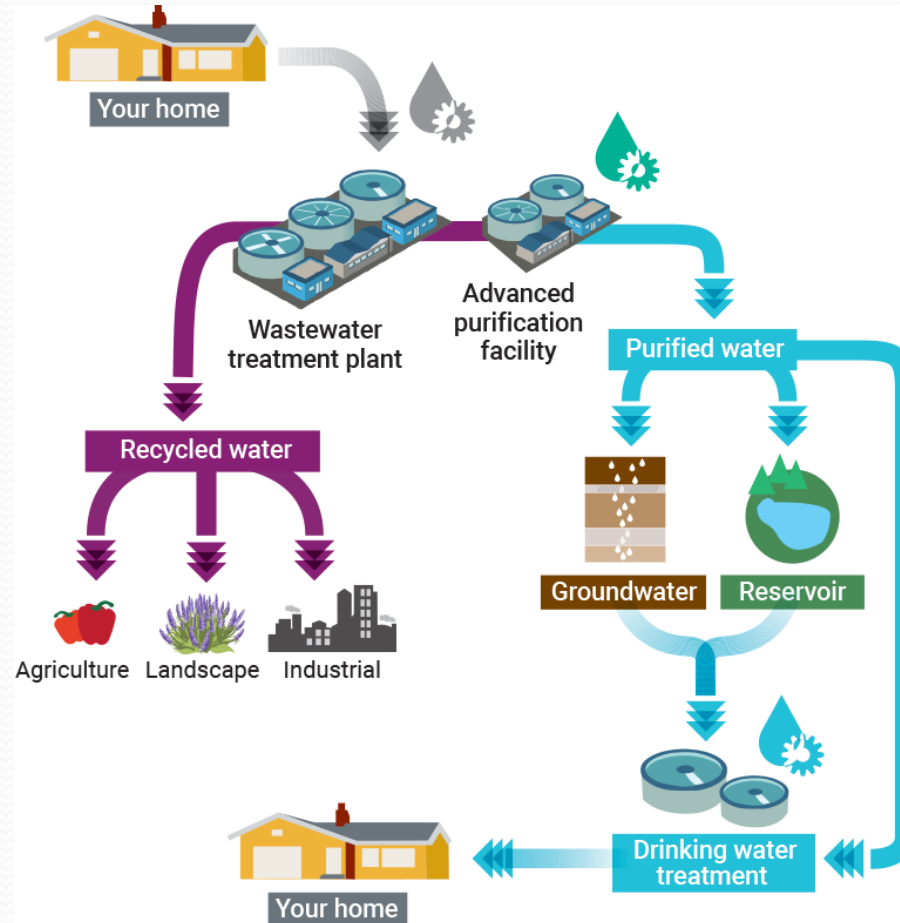
- Legislation to expand and support the Maryland Climate Change Commission in 2015
- Greenhouse Gas Emissions Reduction Act of 2016 signed by Governor Hogan
- Clean Cars Act of 2017 to boost electric vehicles



Water Re-Use/Recycling

Water Re-Use/Recycling: What is it?

(San Diego County Water Authority Graphic)



Water Re-Use: Why do it?

1. Really clean water for uses that do not demand such levels of cleanliness wastes the energy spent to clean the water
2. Localized near term changes in drought patterns can episodically stress water availability; looking at all water in a more integrated way can stretch supplies and help communities be more resilient to drought episodes
3. Population in MD is expected to grow between now and 2040; more people= more demand for water
Maryland's population was forecast to grow by 18.8 percent between 2010 and 2040
4. Over the longer term, climate change could stress regional water availability in more extreme ways and having a more comprehensive, integrated approach in place now will help us to better adapt later
 - Because of more intermittent rainfall and increased evaporation with warmer temperatures in Maryland associated with climate change, droughts lasting several weeks are projected to be more likely during the summer.

Governor Hogan Leading Efforts to Share Best Practices

- On August 8, Governor Hogan and Secretary Grumbles welcomed water policy staff and environment secretaries from 28 states for 2-day conference on “One Water” strategies
 - States helping States and sharing best practices
- Secretary Grumbles seeking more dialogue in Maryland about water re-use
- Question for the utility industry is how you can best contribute to this dialogue?

Maryland is:

- Doing the right things to produce wins for the environment and the economy
- Doing the right things, the right way....
 - Fact-based, nonpartisan collaboration & teamwork
- Leading by example, finding common ground, and taking smart and balanced actions

And is also.....

