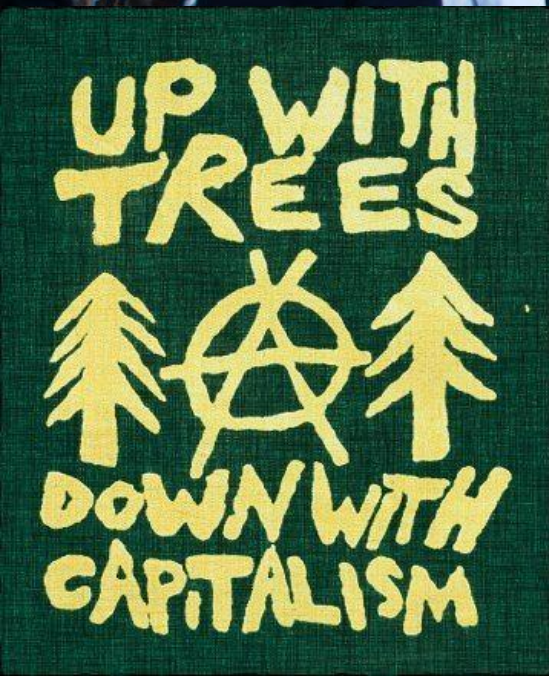


# How Market Capitalism (and Innovative Procurements) Can Help Save the Bay

Anne Arundel County Department of Public Works  
Chesapeake Bay Program Finance & Investment Forum, March 11, 2020











Beavers were functionally extinct from much of New England and the east coast by the early 1700s



The beaver population in North America in precolonial time is estimated to have been between 60 and 400 million individuals.



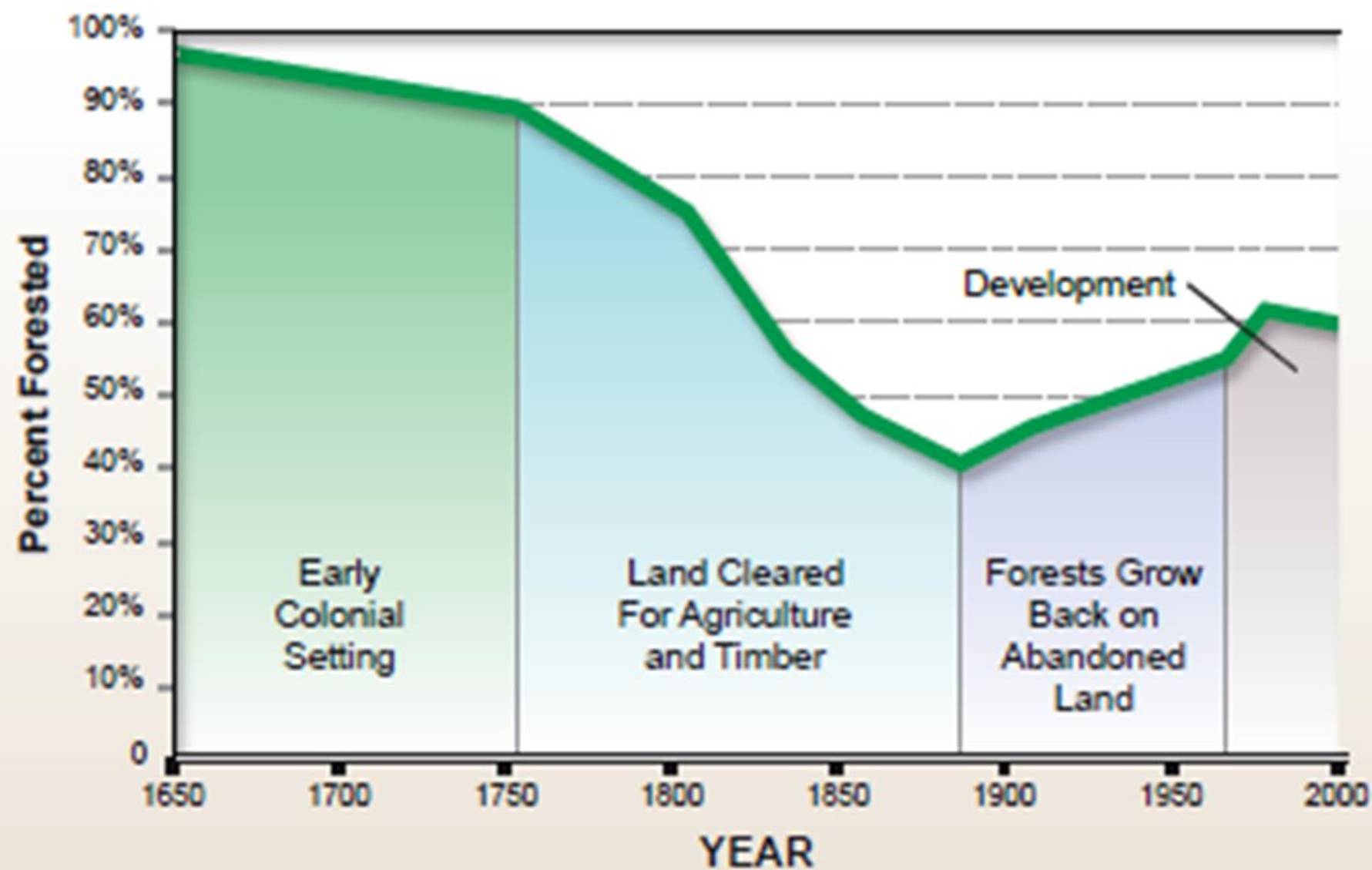


“This is not a land of prospects. There is too much wood.” – Early settler



White Oak, West Virginia, 1913

## Forest Cover in the Chesapeake Bay Watershed: 1650 - 2000



Source: Todd and Mountford 1994













*Image via usda.gov*













*Image via thehensloft.com*

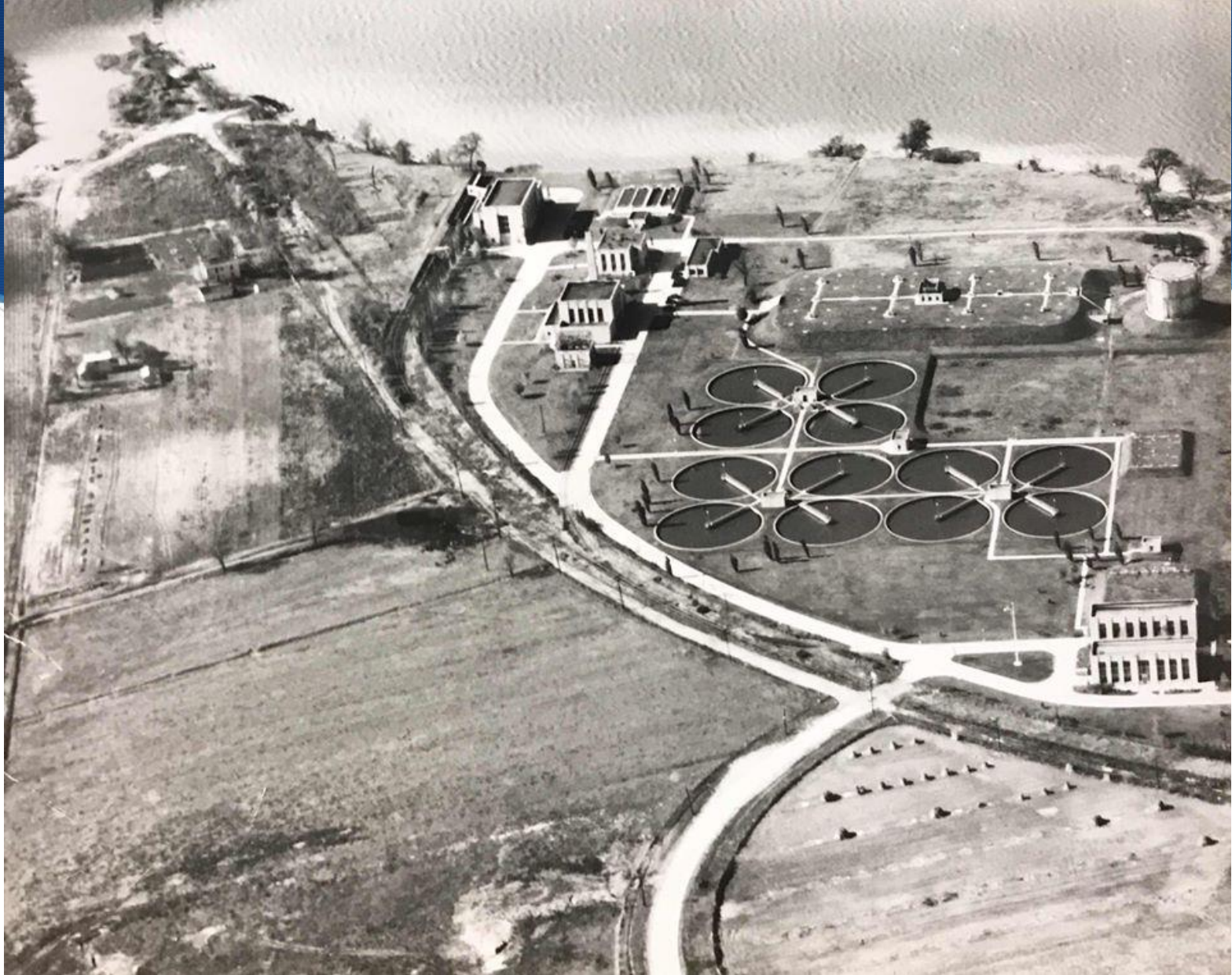










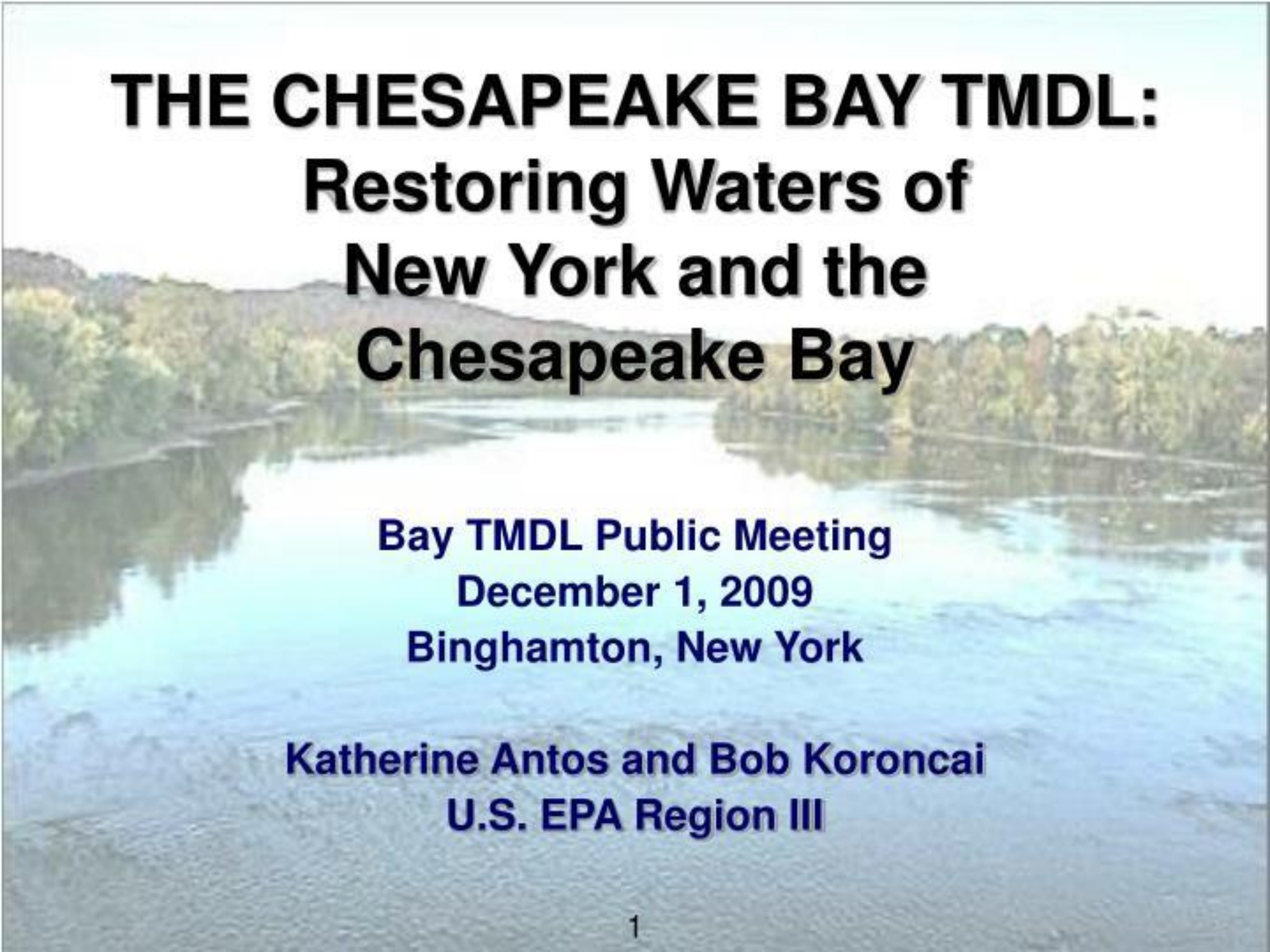


In 1943, only 9% of the Potomac basin was served by secondary sewage treatment plants (particle removal and purification), 80% was served by primary sewage treatment plants (just particle removal), and 11% had no treatment facility at all. (ICPRB)









# **THE CHESAPEAKE BAY TMDL: Restoring Waters of New York and the Chesapeake Bay**

**Bay TMDL Public Meeting  
December 1, 2009  
Binghamton, New York**

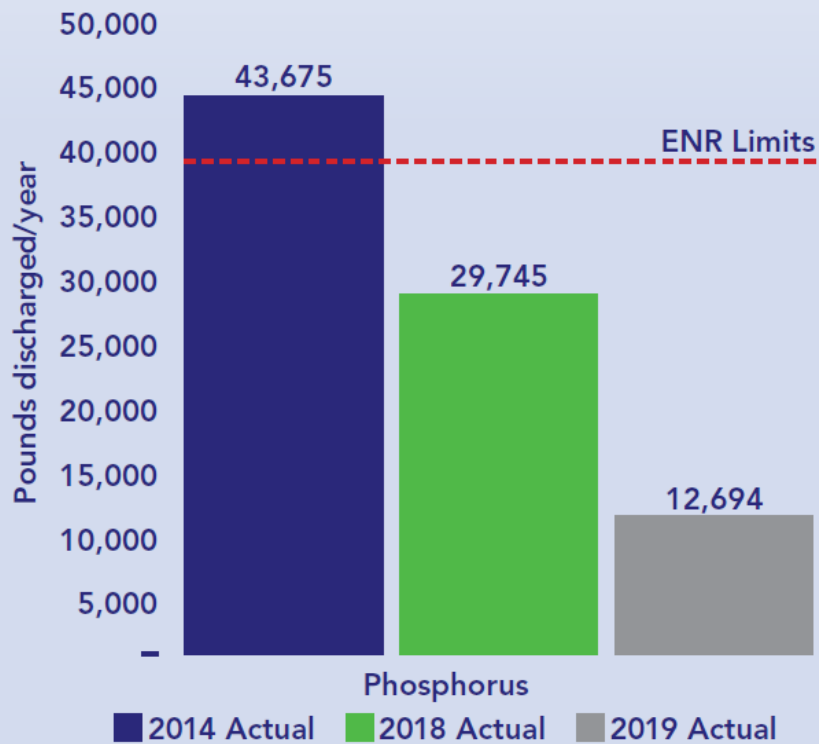
**Katherine Antos and Bob Koroncai  
U.S. EPA Region III**



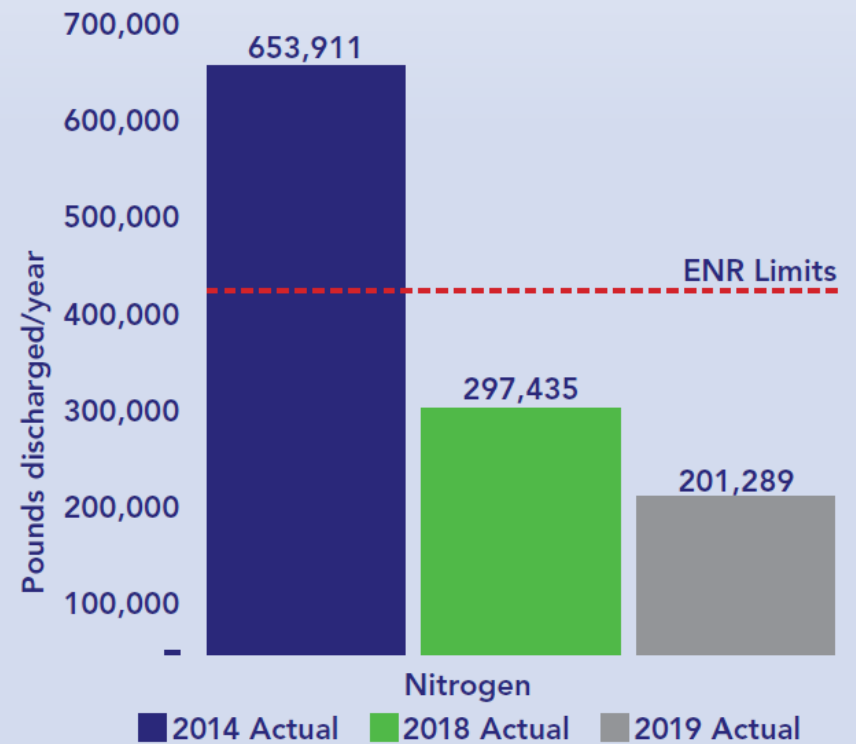




## Anne Arundel County Permitted Phosphorus Discharge Limits



## Anne Arundel County Permitted Nitrogen Discharge Limits































*Image via Delaware Sea Grant*



# Crediting Shapes Action

**What's**  
*it*  
**Worth?**













*Image via [globalsweeper.com](http://globalsweeper.com)*





**St. Anne's School of Annapolis Rain Garden**  
 Awardee: South River Federation



**Empowering Believers Church Rain Garden**  
 Awardee: Alliance for the Chesapeake Bay



**Broad Creek Stream Restoration**  
 Awardee: South River Federation



**Coventry Court Dry Channel RSC**  
 Awardee: Chesapeake Rivers Association



**Tri-State Marine Stormwater Retrofit**  
 Awardee: South River Federation



Anne Arundel County  
 Watershed Restoration Grant  
 Program Projects – FY16



**Killarney House—Beards Creek Community BMP**  
 Awardee: South River Federation



**Winchester on the Severn Dry Channel RSC**  
 Awardee: Chesapeake Rivers Association





# The dead can rest in peace again at Broadneck church after stormwater project addresses flooding cemetery



By RACHAEL PACELLA

STAFF WRITER | JUN 27, 2019 | 5:00 AM



## Asbury UMC stream and graveyard protection

Children and adults crowd a new bridge over a new stream bed as they celebrate the completion of a stormwater project at Broadneck Methodist Church. Prior to the project, a

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### NATION AND WORLD NEWS

Which members of Congress back



# Reef balls find new role as part of Edgewater living shoreline



By RACHAEL PACELLA

CAPITAL GAZETTE | AUG 15, 2019 | 5:15 AM



Workers from the Resource Restoration Group place reef balls along the shore of Glebe Bay in Edgewater on August 14. (Rachael Pacella/Capital Gazette)

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# To restore a degraded stream, a Maryland project took a creative, low-carbon approach

The project revitalized a stream and forest near the Chesapeake that had been damaged by hogs.

01 : 30  
MIN SEC



A low-carbon approach to natural restoration: The project revitalized a stream and forest near the Chesapeake that had been damaged by hogs.

00:00:00

libsyn



Monday, June 17, 2019

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[Species & Ecosystems](#)

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- [An iconic New England clam shack is lost to erosion, sea-level rise, and storms](#)
- [Hockey players are planning a game at the North Pole](#)
- [Electric buses charge up](#)



Damaged stream prior to restoration. (Photo: Courtesy of Biohabitats)



Bloomberg

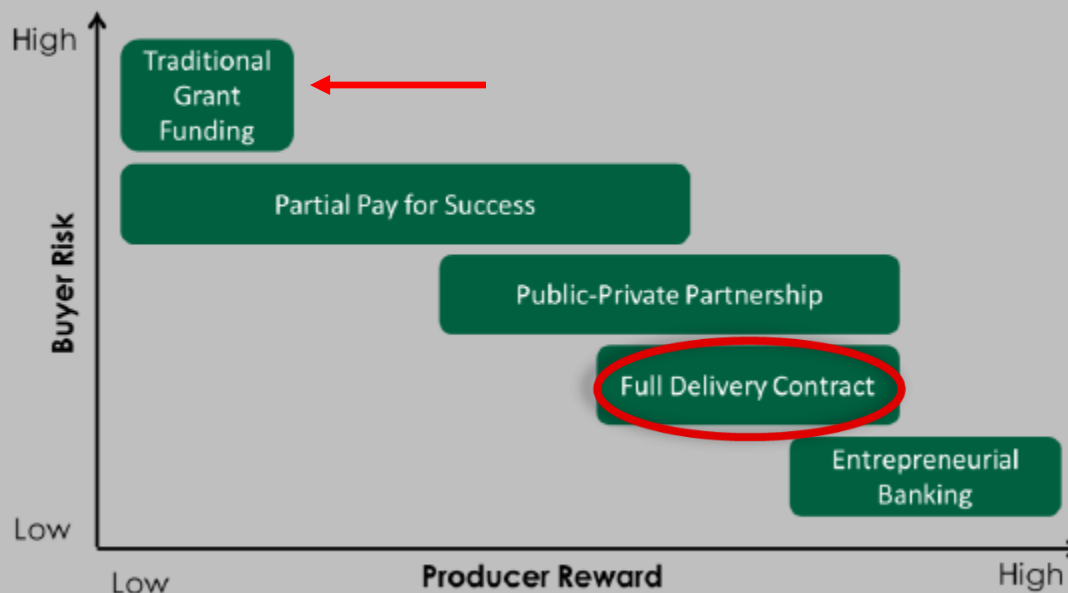
Bloomberg

MCKINNEY: MARKETS HAVE BECOME COMPLACENT

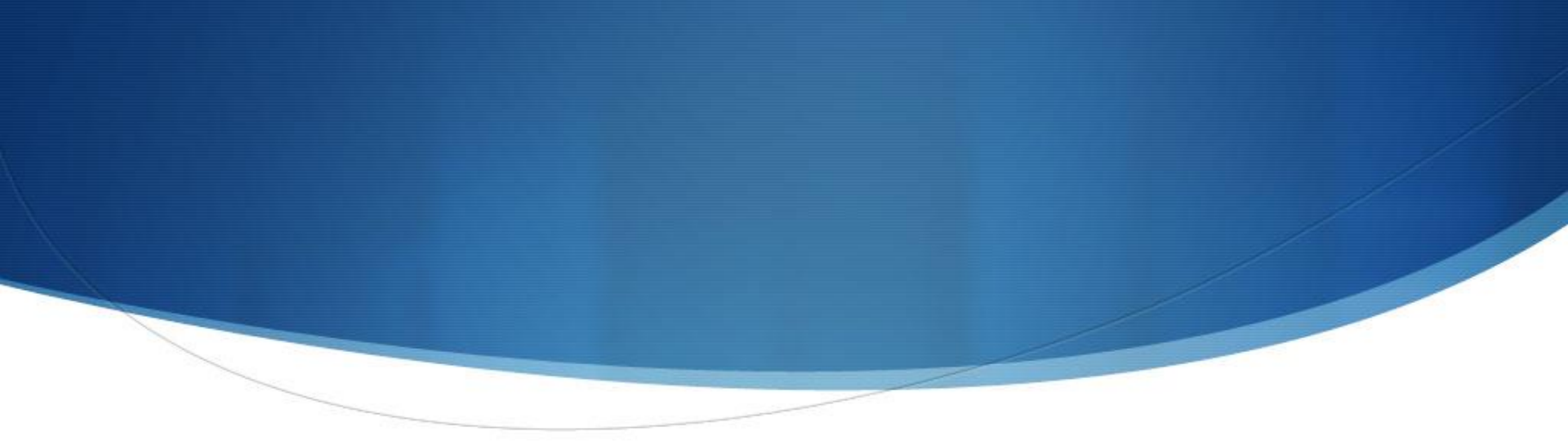


# PAY FOR PERFORMANCE CONTRACT MECHANISMS FOR STORMWATER MANAGEMENT

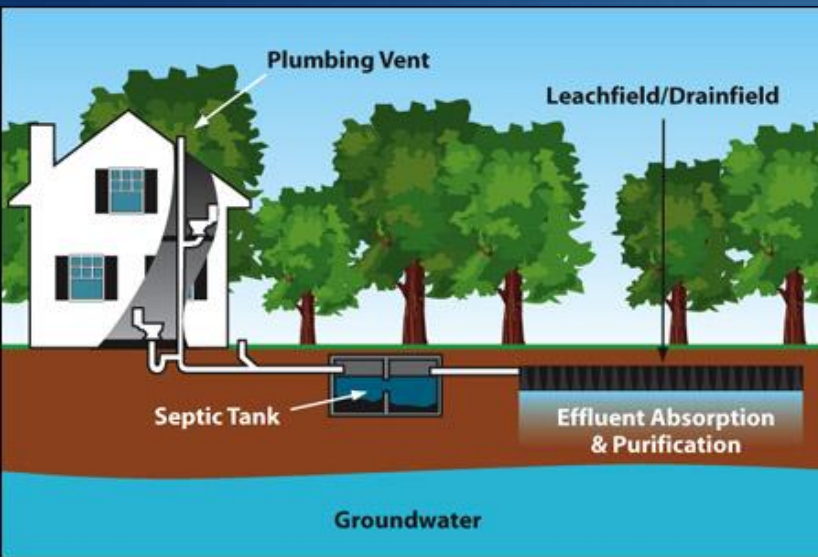
## PAY FOR SUCCESS STRATEGY RISK-REWARD SPECTRUM





















# Questions?

Erik Michelsen

Administrator

Anne Arundel County Watershed  
Protection & Restoration Program

[pwmich20@aacounty.org](mailto:pwmich20@aacounty.org)

[aarivers.org](http://aarivers.org)