



# Watershed Implementation Plan Phase III Meeting

Meeting Informational Packet

August 29, 2018





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7. Montgomery County WIP II Progress and Gap Information (**Red numbers** indicates where additional progress is needed)
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10. Flyer for Agricultural Conservation Leasing Workshops



Agricultural Phase III - Watershed Implementation Plan Meeting  
Total Maximum Daily Loads, Agriculture, and the Chesapeake Bay  
Montgomery Soil Conservation District

August 29, 2018

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Montgomery SCD: Multipurpose Room

18410 Muncaster Road

Derwood, MD 20855

**Agenda**

1:30 – 1:40	Introductions/Welcome	Montgomery SCD Hans Schmidt, MDA
1:40 – 2:00	Background/Process	Jason Keppler, MDA
2:00 – 2:10	Questions	
2:10 – 3:20	Discussion and BMP	Participant Discussion Commitments
3:20 – 3:30	Wrap-Up and Follow-Up	Jason Keppler, MDA

## Background Information

### Watershed Implementation Plan (WIP) Phase III

Public Meeting: August 29, 2018

#### **What is the WIP?**

Maryland's Watershed Implementation Plan is a blueprint for how Maryland will meet its water quality goals under the Chesapeake Bay's "nutrient pollution diet", or Total Maximum Daily Load (TMDL). The WIP, as well as the TMDL, outlines nutrient reduction goals in each of four sectors:

1. Wastewater (Sewage treatment)
2. Stormwater
3. Septic
4. Agriculture

These reduction goals are incorporated into a plan, progress is tracked, and credits are generated for modelling purposes.

The WIP includes 3 phases:

1. Phase I: TMDL Reasonable Assurance of Implementation
2. Phase II: Include specific local actions
3. *Phase III: Roadmap from now to 2025*

*The Phase III WIP* process will address the following questions:

- What pollution reductions have already been made?
- What else can be accomplished in agriculture by 2025, including strategies and funding sources?
- What practices are on the ground, what incentives would encourage additional adoption of BMPs, and who is accountable for implementation/verification?
- What happens after 2025?

#### **What is the purpose of today's meeting?**

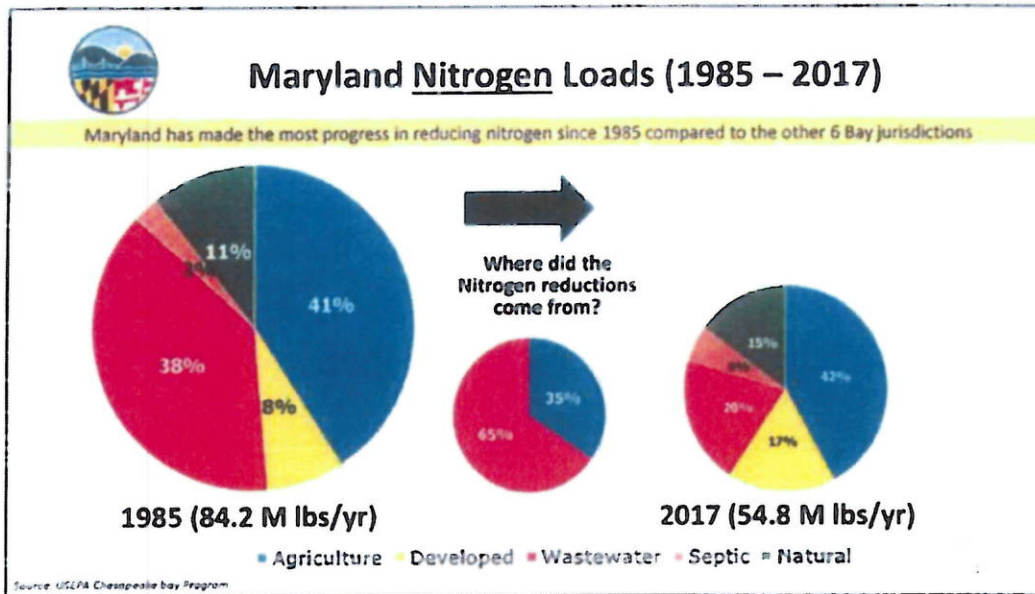
The purpose of today's meeting is to:

1. Evaluate the progress that the agricultural sector has made within Montgomery County under the WIP II,
2. Validate the capacity to meet WIP II goals, and
3. Examine any gaps that exist within the WIP II and develop the strategy to achieve the remaining nutrient reduction goals between now and 2025 (WIP III).

## Progress Toward WIP Goals Through 2017 (Statewide)

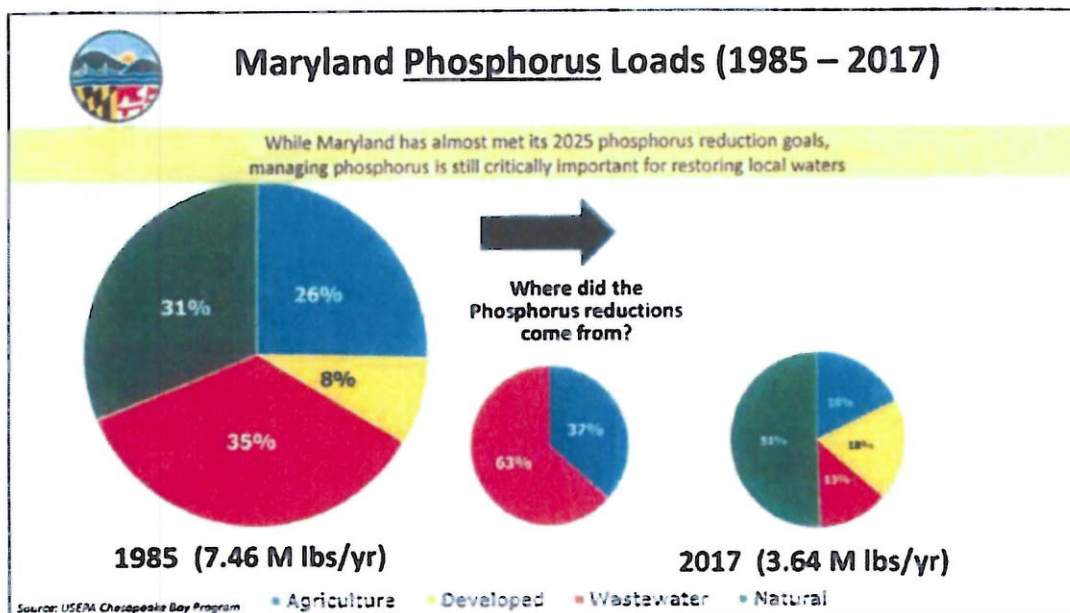
### Nitrogen

Since 1985, 29.4 million lbs of nitrogen per year have been reduced. These reductions can be attributed to accomplishments within the Wastewater and Agricultural Sectors. Maryland has made the most progress in reducing nitrogen since 1985 when compared to the other 6 Bay jurisdictions.

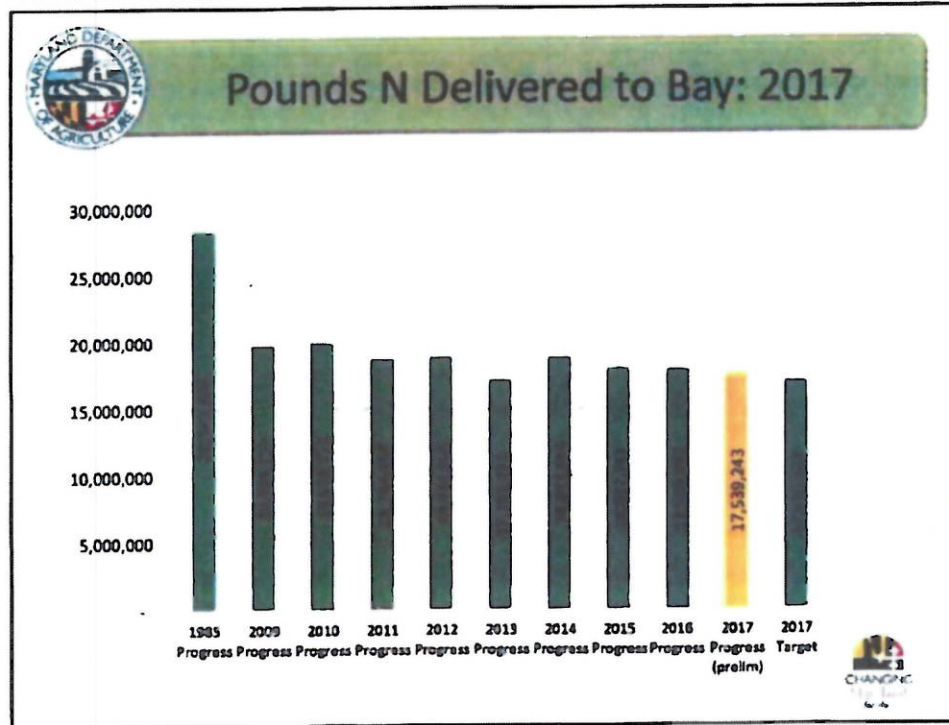


### Phosphorus

Since 1985, 3.82 million lbs of phosphorus per year have been reduced. These reductions can be attributed to accomplishments within the Wastewater and Agricultural Sectors. Maryland has almost met its 2025 reduction goals; however, continued management will still be very important.



## Progress Toward WIP Goals Through 2017 (Statewide), continued 1



At the 2017 Midpoint Assessment, Ag fell short of its Nitrogen Goal by about ½ Million Pounds.

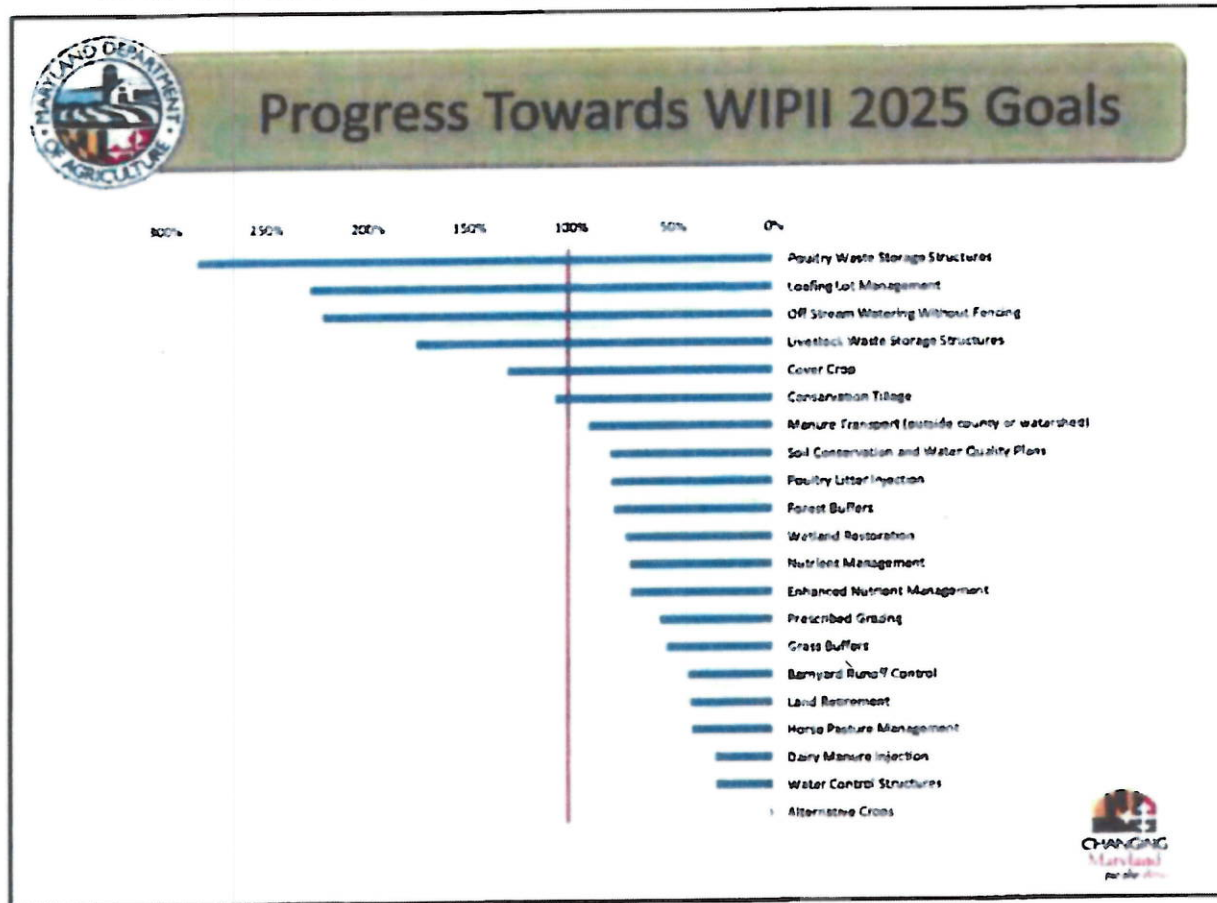
**Question:** How does this compare to the other sectors meeting their Midpoint Goal?

### Progress Toward WIP Goals Through 2017 (Statewide)

Agricultural BMPs currently in our water quality toolbox (use of highlighted BMPs can most easily be expanded in Montgomery County):

- Nutrient Management
- Conservation Tillage
- Cover Crops
- Forest and Grass Buffers
- Wetland Restoration
- Land Retirement
- Tree Planting
- Carbon Sequestration/Alternative Crops
- Pasture Grazing BMPs
  - Fencing
  - Rotational grazing
  - Horse pasture management
- Conservation Plans/SCWQP
- Non-Urban Stream Restoration
- Manure Transport
- Water Control Structures
- Animal Waste Management Systems
- Mortality Composters
- Barnyard Runoff Controls
- Dairy Precision Feed and/or Forage Management

## Progress Toward WIP Goals Through 2017 (Statewide), continued 2



This chart shows statewide progress towards meeting goals by installed BMPs. It details where goals were exceeded and where additional practices are needed to meet goals.

### **BMPS Where Goals Have been Exceeded:**

Poultry Waste Storage Structures > 208%  
 Loafing Lot Management >240%  
 Off Stream Watering w/o fencing >235%  
 Livestock Waste Storage Structures >180%  
 Cover Crop > 140%  
 Conservation Tillage > 100%

### **BMPS Where Goals Have not been met:**

Manure Transport ~ 90% of Goal  
 Soil Conservation Plans ~80% of Goal  
 Poultry Litter Injection ~ 80% of Goal  
 Forest Buffers ~80% of the Goal  
 Wetland Restoration ~75% of the Goal  
 Nutrient Management ~70 % of the Goal  
 Enhanced Nutrient Management ~75% of Goal  
 Prescribed Grazing ~65% of the Goal  
 Grassed Buffers ~60% of the Goal  
 Barnyard Runoff Control ~55% of the Goal  
 Land Retirement ~55% of the Goal  
 Horse Pasture Management ~55% of the Goal  
 Dairy Manure Injection ~45% of the Goal  
 Water Control Structures ~45% of the Goal  
 Alternative Crops ~5% of the Goal

### BMP Nitrogen Reduction Efficiencies (Statewide)

BMP Name	State (lbs per Unit)		Range (N lbs per Unit)	
	N Reduced	P Reduced	Max	Min
Agricultural Stormwater Management	253.6	27.1	456.3	7.1
Forest Buffer-Streamside with Exclusion Fencing	161.7	42.0	278.8	26.2
Grass Buffer-Streamside with Exclusion Fencing	155.0	41.5	272.8	23.4
Barnyard Runoff Control	145.6	9.7	261.8	4.1
Loafing Lot Management	145.6	9.7	261.8	4.1
Forest Buffer	61.4	1.3	108.3	27.8
Grass Buffer	48.3	0.8	84.0	21.9
Wetland Restoration - Floodplain	47.1	1.6	76.5	15.8
Forest Buffer-Narrow with Exclusion Fencing	45.7	12.0	79.7	10.3
Grass Buffer-Narrow with Exclusion Fencing	43.7	11.6	77.7	8.1
Wetland Restoration - Headwater	37.9	1.2	62.9	11.9
Wetland Creation - Floodplain	23.6	0.9	41.1	9.5
Wetland Creation - Headwater	23.6	0.9	41.1	9.5
Alternative Crops	23.2	0.2	35.5	13.2
Forest Buffer - Narrow	21.9	0.7	37.1	9.4
Grass Buffer - Narrow	20.4	0.2	34.9	9.0
Tree Planting	20.2	0.7	35.7	7.9
Land Retirement to Ag Open Space	18.6	0.1	33.5	6.7
Land Retirement to Pasture	16.4	0.2	24.1	5.3
Cover Crop Traditional Wheat Normal Drilled	6.9	0.008	9.9	4.0
Water Control Structures	6.0	-	9.9	2.6
Irrigation Water Capture Reuse	3.7	0.1	9.2	1.6
Wetland Enhancement	3.6	0.4	5.5	-
Wetland Rehabilitation	3.6	0.4	5.5	-
Manure Transport	3.2	0.5	8.6	(1.3)
Cover Crop Commodity Normal	2.3	-	2.9	1.5
Dairy Precision Feeding and/or Forage Management	2.1	0.2	2.7	1.5
Cover Crop Traditional with Fall Nutrients Wheat Late Other	1.9	-	2.7	1.1
Manure Incorporation Low Disturbance Late	1.7	0.1	3.3	0.8

Chesapeake Bay Model, Phase 6.0 (30 July 2018)



## BMP Nitrogen Reduction Efficiencies (cont'd) Statewide

BMP Name	State (lbs per Unit)		Range (N lbs per Unit)	
	N Reduced	P Reduced	Max	Min
Nutrient Management Core N	1.7	0.0	4.5	0.3
Tillage Management-Conservation	1.4	0.2	3.0	0.7
Soil Conservation and Water Quality Plans	1.4	0.1	2.3	0.4
Nutrient Management N Rate	1.3	-	3.2	0.2
Nutrient Management N Timing	1.3	-	2.6	0.4
Cropland Irrigation Management	0.9	-	1.3	0.4
Precision Intensive Rotational/Prescribed Grazing	0.8	0.2	1.3	0.5
Animal Waste Management System	0.8	0.1	2.8	0.1
Nutrient Management N Placement	0.6	-	1.2	0.2
Poultry Litter Amendments (alum. for example)	0.5	0.0	5.9	0.2
Off Stream Watering Without Fencing	0.4	0.1	0.6	0.2
Non Urban Stream Restoration	0.1	0.0	0.1	0.0
Non Urban Shoreline Management	0.0	0.0	0.0	0.0
Horse Pasture Management	-	0.1	-	-
Nutrient Management Core P	-	0.2	-	-
Nutrient Management P Placement	-	0.1	-	-
Nutrient Management P Rate	-	0.0	-	-
Nutrient Management P Timing	-	0.0	-	-
Sorbing Materials in Ag Ditches	-	0.3	-	-

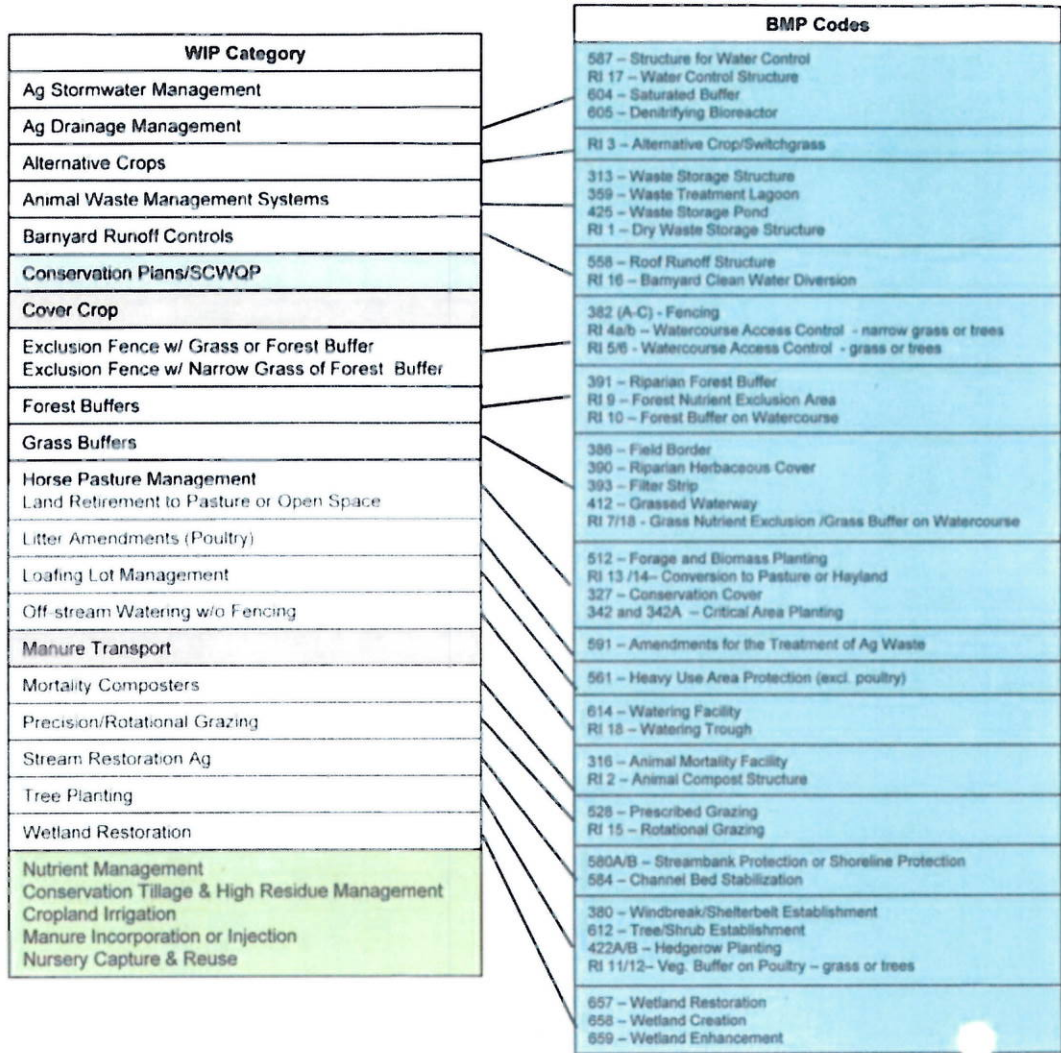


# WIP Tracking & Reporting

Summer 2018  
Phase 6.0 model

### Sources of Data

- Conservation Tracker
- MACS database
- NM Database (AIR)



## Areas of Gaps Under the WIP II Are these WIP II Goals Still Achievable?

### Montgomery WIP III (8/29/2018)

BMP Practice Name (Annual)	2017 Progress w/Verf	WIP II	Unit	Δ Progress - WIP II
Conservation Plans	32,883	38,665	acres	(5,782)
ConserveTill (30-60% residue)	5,163	28,517	acres	(6,146)
Crop Irrigation	0	1,280	acres	(1,280)
Nursery CaptureReuse	0	200	acres	(200)
Barnyard Runoff Control	26	97	acres	(71)
Forest Buffers	426	500	acres	(74)
Grass Buffers	193	234	acres	(41)
Horse Pasture Management	159	268	acres	(110)
Land Retire (open)	684	2,192	acres	(1,508)
Land Retire (pasture)	153	1,200	acres	(1,047)
Loading Lot Management	0	9	acres	(9)
Wetland Restoration	0	42	acres	(42)

### Areas of Opportunities for Increased Conservation

- Cover Crops: Target annual goal of 17,000 acres of Traditional Cover Crop and 3,000 acres of commodity.
- Soil Conservation and Water Quality Plans: Target a total of 39,000 acres of plans. **This would require an average of 765 acres in plans per year over the next 8 years.**
- Barnyard Runoff Control: Target a total of 10 additional structures. **Are we correct to assume the treated acreage is what gets counted versus structural footprint?**
- Provide educational outreach to encourage farmers to report precision ag on AIR.
- Provide educational outreach to encourage farmers to report conservation tillage and discuss tillage practices during conservation planning discussions.
- Grassed Buffers: Target grassed buffers. **If the WIP II goal gap is 41 acres, this would mean an average of 5.1 acres of grassed buffers per year over the next 8 years. Is this potentially achievable?**
- Stream Fencing (Equine): **Target 3 acres of stream fencing per year over the next 8 years.**
- Horse Pasture Management: **Target 110 acres over next 8 years would mean about 8.6 acres per year. This is potentially achievable**

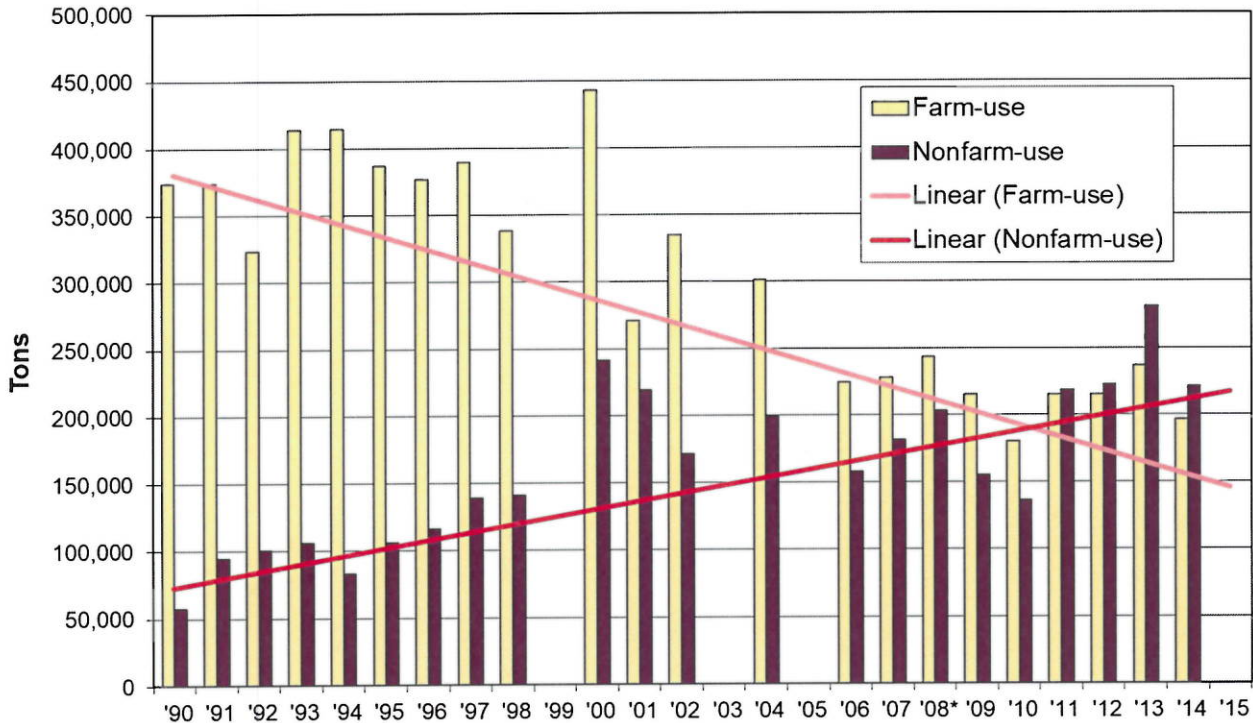
### Additional Questions Concerning WIP II Goals

- **With the decreasing number of production livestock operations, is 9 acres of loafing lot management realistic over the next 8 years?**
- **Are the Goals for Land Retirement established for open and pasture under WIP II too high?**
- **Are the Goals for Wetland Restoration established under WIP II too High?**
- **Are the Goals for Crop Irrigation established under WIP II too High?**
- **Are the Goals for Nursery Capture reuse established under WIP II too High?**

## Items As Points of Discussion

1. How much of the burden of Bay clean-up can agriculture bear without compromising economic viability?
2. Farmed acres have been decreasing in Maryland while precision agricultural technology has been improving. These factors have contributed to a change in the proportion of total fertilizer used by agriculture. For example, from 2011-2014, non-farm use of fertilizer equaled or exceeded agricultural use of fertilizer in the state of Maryland. Does the WIP III take into consideration the apparent shrinking contribution that agriculture is making to this source of Bay nutrients?

**Total Maryland Fertilizer Tonnage  
FY1990 to FY2014, by Use**



3. If agriculture is being asked to do more, what is the approach to mitigate the increased use of non-farm fertilizer to create a more balanced playing field for nutrient reductions?

# Climate change threatens the bay

BY DANA STEIN

**T**here's an old saying about the weather: What would we talk about without it?

These days, there's no shortage of weather-related topics to discuss. Western states have grappled with fierce wildfires, including one that has killed eight people in California and another that closed Yosemite National Park. Several countries in Europe also have battled wildfires, from Greece to Sweden and Latvia.

In the eastern U.S., we have faced threats from another element of nature — water. The month that just ended was the wettest July in Baltimore's history. As The Sun reports, several other rainfall records were also set.

Fortunately, the resulting flooding in Maryland caused no loss of life — this time. Japan, sadly, hasn't fared as well: Torrential rains and mudslides killed more than 200 people this summer.

There is almost no doubt that climate change is making normal weather events worse. Unusually hot temperatures — including ones that are continuing to smash records around the world — have made dry areas in Western states more

susceptible to wildfires. Hotter temperatures have also increased the amount of moisture in the atmosphere, turning downpours into deluges. As the Sacramento Bee stated about the Carr wildfire, "This is climate change, for real and in real time."

In Maryland, one threat posed by climate change is rising sea levels. Our extensive coastline makes low-lying areas vulnerable to the encroachment of higher sea levels and greater storm surges. Fortunately, thanks to legislation that Sen. Paul Pinsky and I sponsored this year, and the governor signed, Maryland will be better prepared for the impact of sea level rise in the future. The bill requires: the state's Coast Smart Council to design standards for state-funded buildings and roads so that they can withstand storm surges; state agencies to help prepare low-lying areas for the impact of saltwater pollution from sea level rise; and areas that are subject to regular flooding to design policies to address such flooding.

Another threat posed by climate change is to the health of the Chesapeake Bay. There has been good news about the condition of the bay recently: We're on track to meet goals for reduced phosphorus and sediment pollution, though we're

behind in meeting bay goals for mitigating pollution from nitrogen.

But late July's storms and flooding caused 45 million gallons of sewage mixed with stormwater to flow into the city's waterways and into the harbor. To state the obvious: This hurts the health of the bay in addition to the city's streams and harbor. There is also concern about increased pollution from the Susquehanna River as the Conowingo Dam is forced to let more water flow downstream.

I hope these events will not significantly undercut our recent successes in cleaning up the bay. But given the inevitability of more storms and flooding as climate change gets more powerful, one thing is clear: Maryland and the federal government cannot relent from our commitment to programs that have yielded strong results in our fight against Chesapeake Bay pollution. These programs are essential to the bay's ecosystem, the livelihood of watermen and everyone who enjoys the beauty of the bay.

Dana Stein is a state delegate from Baltimore County (District II) and is vice chair of the House Environment and Transportation Committee. His email is [dana.stein@house.state.md.us](mailto:dana.stein@house.state.md.us).

## Male bashing: America's favorite pastime

BY FRED MEDINGER

**C**onsider the statement: "Not all women are annoying. Some are dead."

Or this: "Women have only two faults: Everything they say and everything they do."

Or this: "Men must be twice as good as women to be thought half as good. Fortunately this is not difficult."

Sarcasm such as this is obviously sexist, yet these same messages are OK if directed against men. How do I know? I copied these statements from greeting cards and message pads on display at the local supermarket, then reversed the gender to direct them against women.

Nothing else was changed. Imagine the reaction if the following had been printed on a greeting card: "With affirmative action, whites must be twice as good as blacks to be thought half as good."

Everyman.com

7. Progress within the Bay model for ag is largely attributed to what gets reported through tools such as conservation tracker and cost-share programs. Farmers have implemented practices on their own without the benefit of cost-share assistance or by working directly with the districts. How can this information be captured so farmers can get credit for the benefit (i.e., Precision Agriculture)?
8. Some farmers have suggested that capturing this information may require them to hire additional staff to assemble information in a form applicable for modelling purposes. Could funding opportunities be pursued to provide Counties with additional staff assigned specifically to assist farmers with documenting practices that they do on their own and in a format useful for modelling purposes?
9. It has been reported that BMP implementation on rented land is very low (16 to 25%). Should we explore financial incentives to expand cost share on rented lands by providing higher levels of cost share assistance where there are long term leasing agreements, and landowner willingness to allow practices to be installed? This could result in an increased implementation in BMP on rented lands that represent a high percentage of agriculturally worked lands.
10. Since most farmers learn about new technologies and industry advancements from talking to other farmers, would it be advantageous to develop a Peer to Peer WIP Resource team where farmers could lend their expertise by meeting with other farmers to help advance best management practices, such as precision ag or other agricultural management best practices.

**AROUND THE REGION****85 million gallons of sewage overflow in August rainfall**

Intense rain in July and subsequent sewer line breaks in August caused more than 85 million gallons of sewage-tainted water to flow into Baltimore's harbor over two weeks, city officials said Tuesday. The city's water and sewage system releases tainted water when rains are too heavy for the system to hold. City officials say the overflow problem will continue until at least 2020 as they work on \$2 billion in infrastructure upgrades. From July 21 to July 25, 45 million gallons of sewage-tainted water were released. Additionally, on July 27, more than 3 million gallons were released, according to the city.

— Luke Broadwater

4. How are waste water discharges during storm events managed in the Bay Model? What are the implications for Ag and how do these discharges impact Ag WIP III goals?
  - a. For example, if the wastewater discharges are not captured in the model, agriculture may do everything required of it and real-time Bay health will not show the expected improvement because of the additional ~~unaccounted for~~unaccounted-for nutrients. Agriculture would then be expected to do more to see better real-time improvements in Bay health, even though they had no connection whatsoever to the nutrients entering the Bay through wastewater discharges. Is this a correct/realistic understanding, or not?
5. Is all the good work agriculture is doing not being realized in real-time Bay health because of urban unaccountability?
6. Are increased storm events resulting from climate change incorporated into the Bay Model? If not, how will we recognize and mitigate the effects of additional storm-related sewage overflows that impact Bay health and are not associated with agricultural nutrients?

# Bay group says Chesapeake is meeting phosphorus and sediment goals

BY SCOTT DANCE  
Baltimore Sun

Halfway to a 2025 cleanup deadline, the Chesapeake Bay is on track to meet goals for reduced phosphorus and sediment pollution, but has missed a target for nitrogen reduction.

That's according to a Chesapeake Bay program analysis of pollution controls put in place since 2009 in Maryland and six other jurisdictions in the Chesapeake watershed.

Officials at the bay program, an office of the U.S. Environmental Protection Agency based in Annapolis, credited technological upgrades at wastewater treatment plants and efforts to reduce runoff from farmland among factors that contributed to improve-

ments. But Jim Edward, the program's acting director, said governments across the bay watershed will have to accelerate pollution reductions to meet a goal of restoring the bay's health within the next seven years.

"As we move forward to 2025, it is imperative that we all increase our efforts, especially in reducing nitrogen pollution across all sectors," he said in a statement.

The bay program's computer simulations show nitrogen loads in the Chesapeake and its tributaries fell by 11 percent from 2009 to 2017. But the 253 million pounds of nitrogen in the waters was 15 million pounds above a goal established under a multistate and federal bay cleanup pact.

Over the same period, phosphorus pollution fell 21 percent and sediment levels dropped by 40 percent.

The targets come from the Chesapeake

Clean Water Blueprint, put in place in 2010. The blueprint guides Maryland, New York, Pennsylvania, Virginia, West Virginia, Delaware and the District of Columbia toward reducing the loads of pollutants that wash into waterways.

It set a 2017 deadline for those jurisdictions to put into place 60 percent of the practices needed to restore the bay, and a 2025 deadline to complete the restoration.

Beth McGee, director of science and agricultural policy for the Chesapeake Bay Foundation, said the pollution reductions are encouraging. But she added that it will be more difficult to make progress in the years ahead, because much of the gains to date come from big-impact projects such as sewage treatment plant improvements.

"It is no small feat that the region, as a whole, met its phosphorus and sediment

goals," she said. "However, success in upgrading sewage treatment plants masks serious gaps in reducing pollution from agriculture and urban runoff."

"Unless efforts to tackle these sources are accelerated, we will not achieve the 2025 goals," she said.

McGee also warned that President Donald J. Trump's administration threatens to set back progress.

Trump has twice proposed virtually eliminating the bay program office, though Congress has refused to pass the budget cuts. The Trump EPA has also rolled back some regulations restricting air emissions from power plants and vehicles — pollution responsible for about a third of the nitrogen that ends up in the bay.

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