Draft CHESAPEAKE BAY TMDL

Restoring Pennsylvania's waterways and Chesapeake Bay

Public Meeting
State College, Pennsylvania
October 19, 2010

www.epa.gov/chesapeakebaytmdl

Today's Agenda

- **EPA presents draft TMDL**
  - Rich Batiuk, Chesapeake Bay Program Associate Director for Science
  - Bob Koroncai, Chesapeake Bay TMDL Manager
- **Pennsylvania presents WIP**
- **Question & Answer**
- **More information**
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First…The Bottom Line

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Lack of progress triggered TMDL

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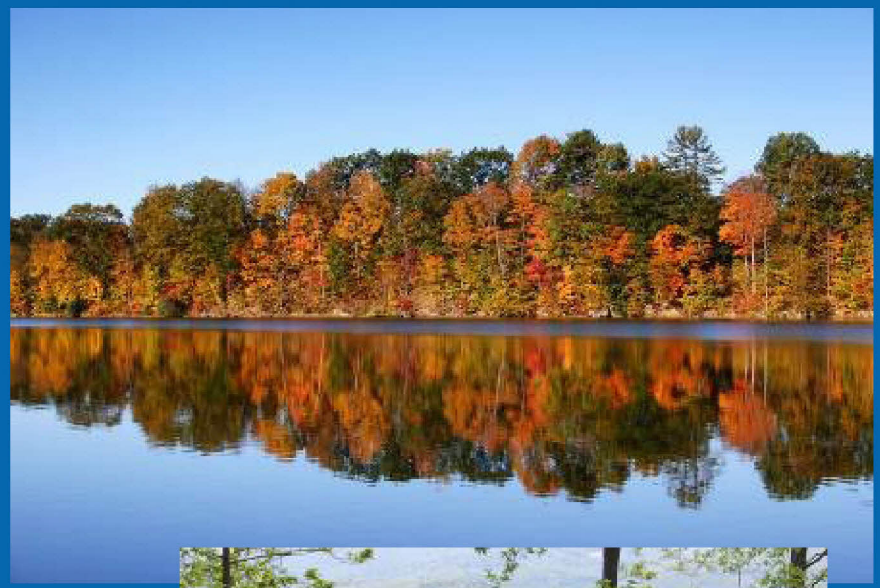
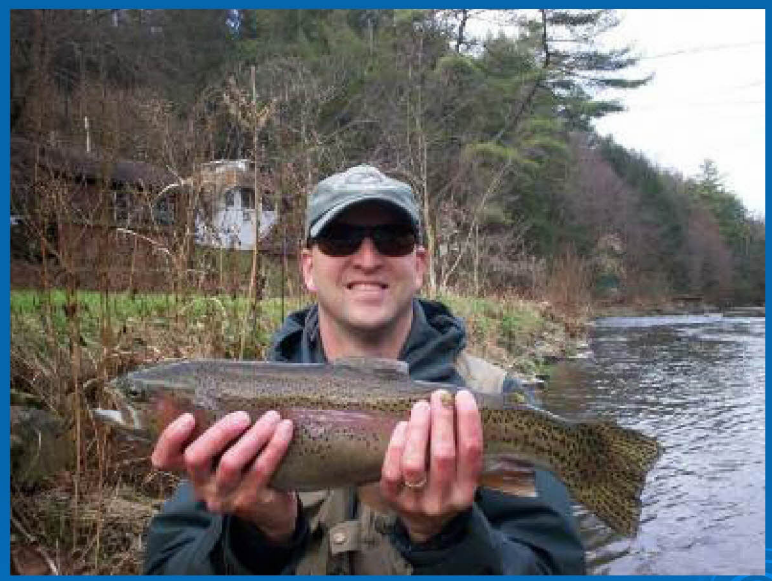
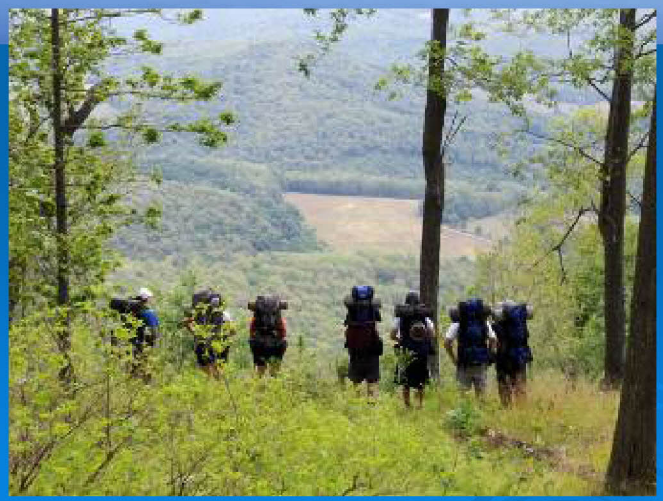
TMDL is a "pollution diet"

For your streams, creeks and rivers







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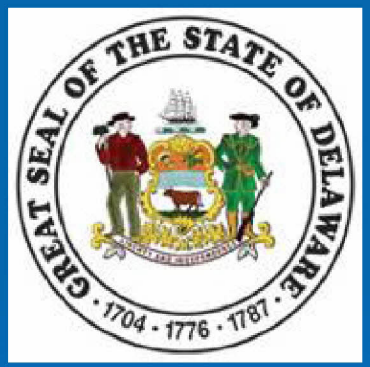
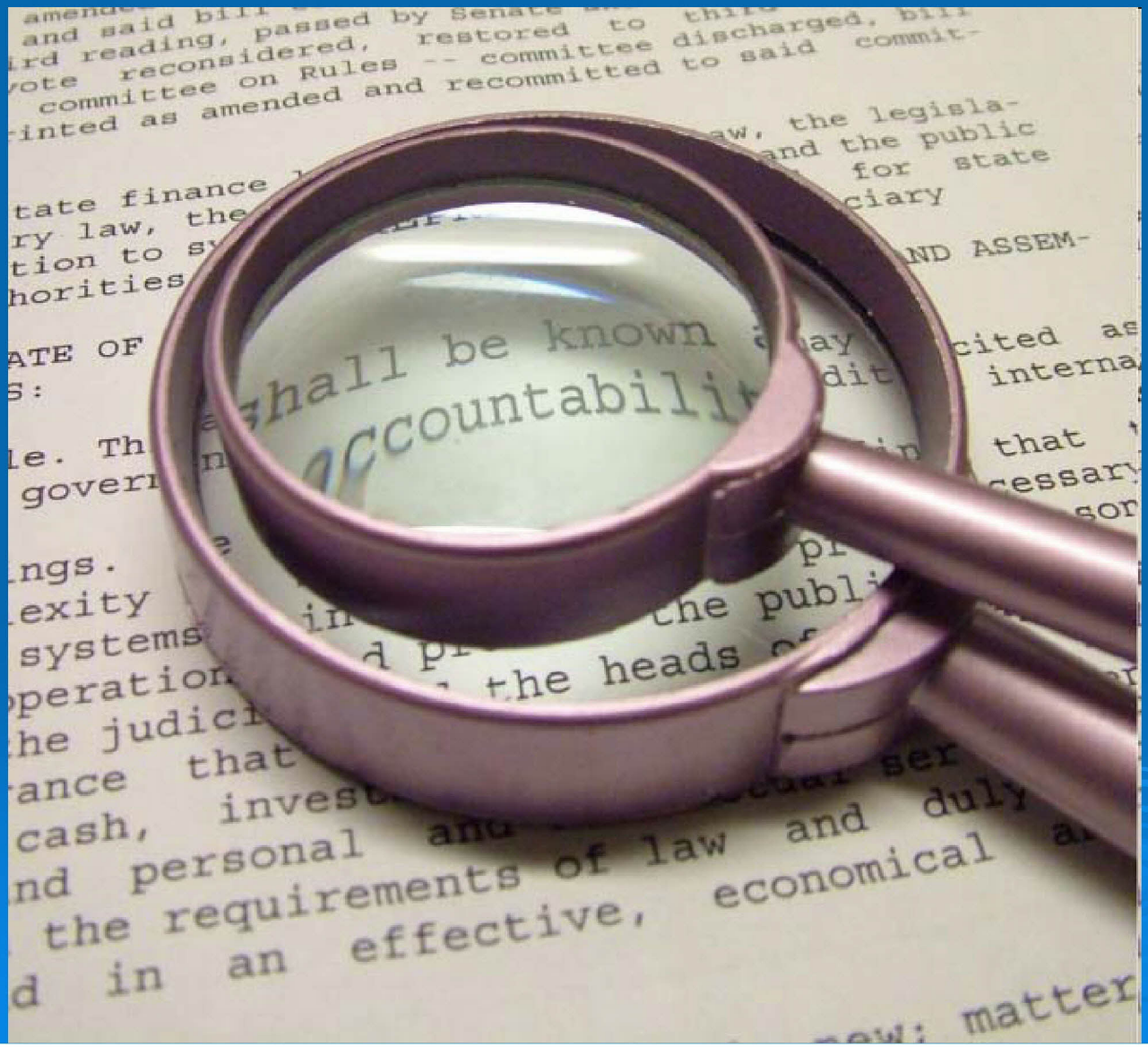
Blend of state actions and federal measures



Accountability for results



Task not easy but essential

What is a TMDL?

And Why Does it Matter?

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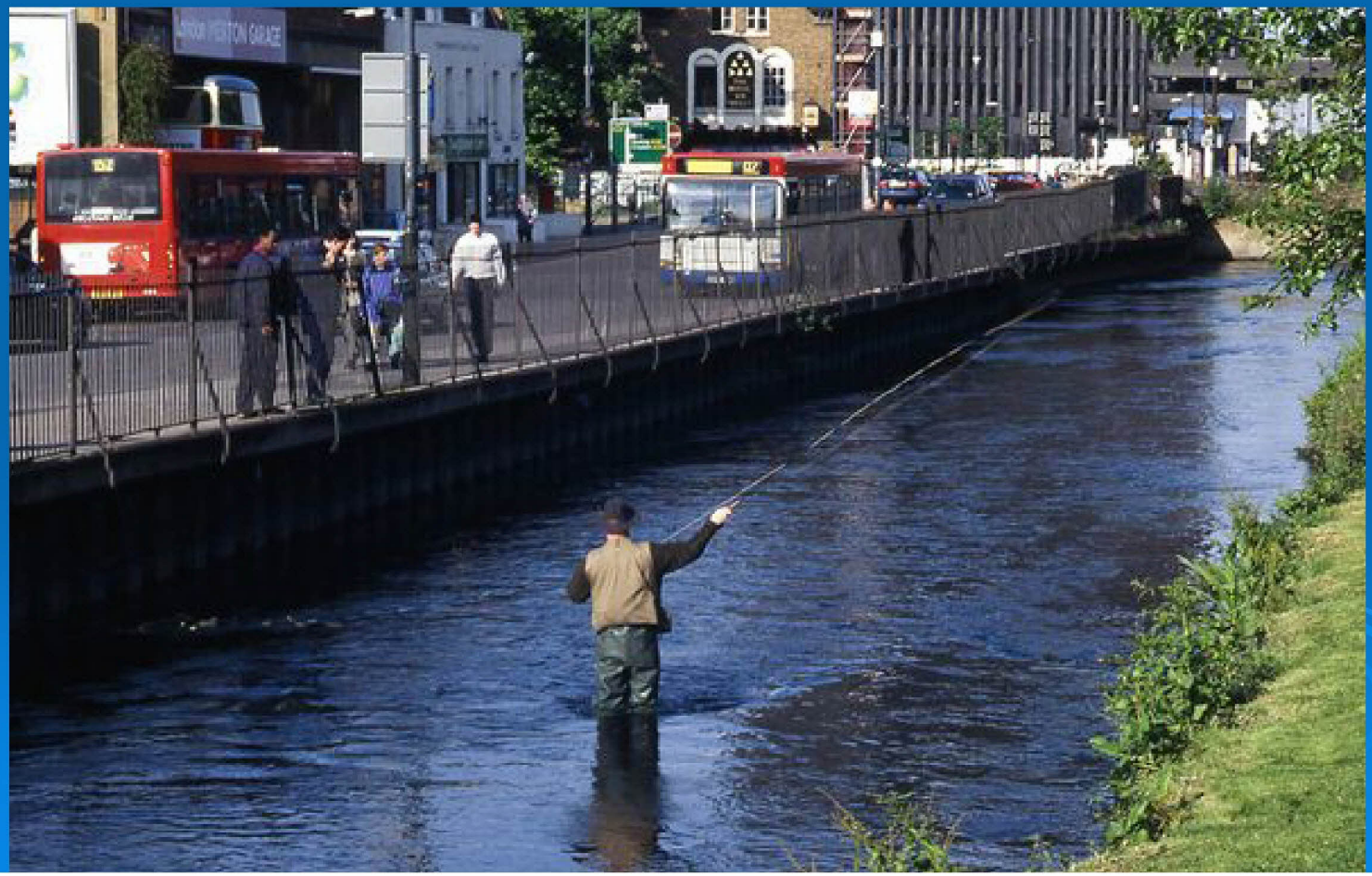
Clean Water Act requires TMDL for waters that don't meet state standards

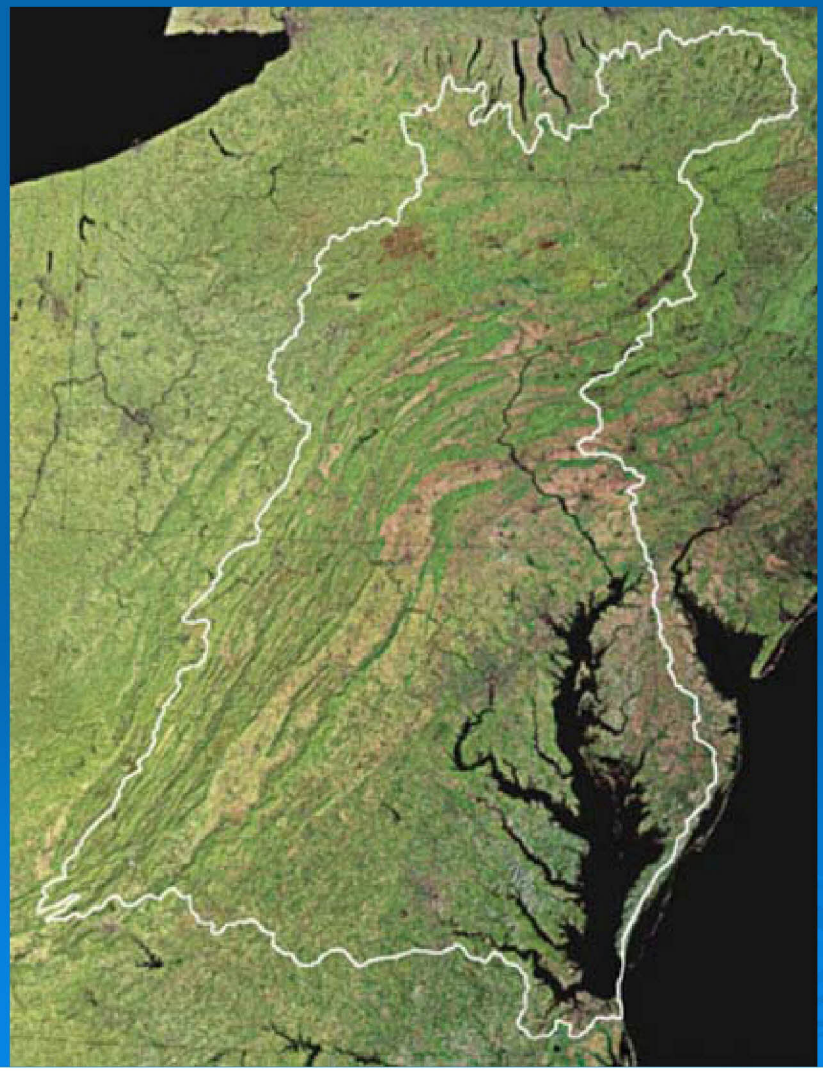
TMDL = Total Maximum Daily Load

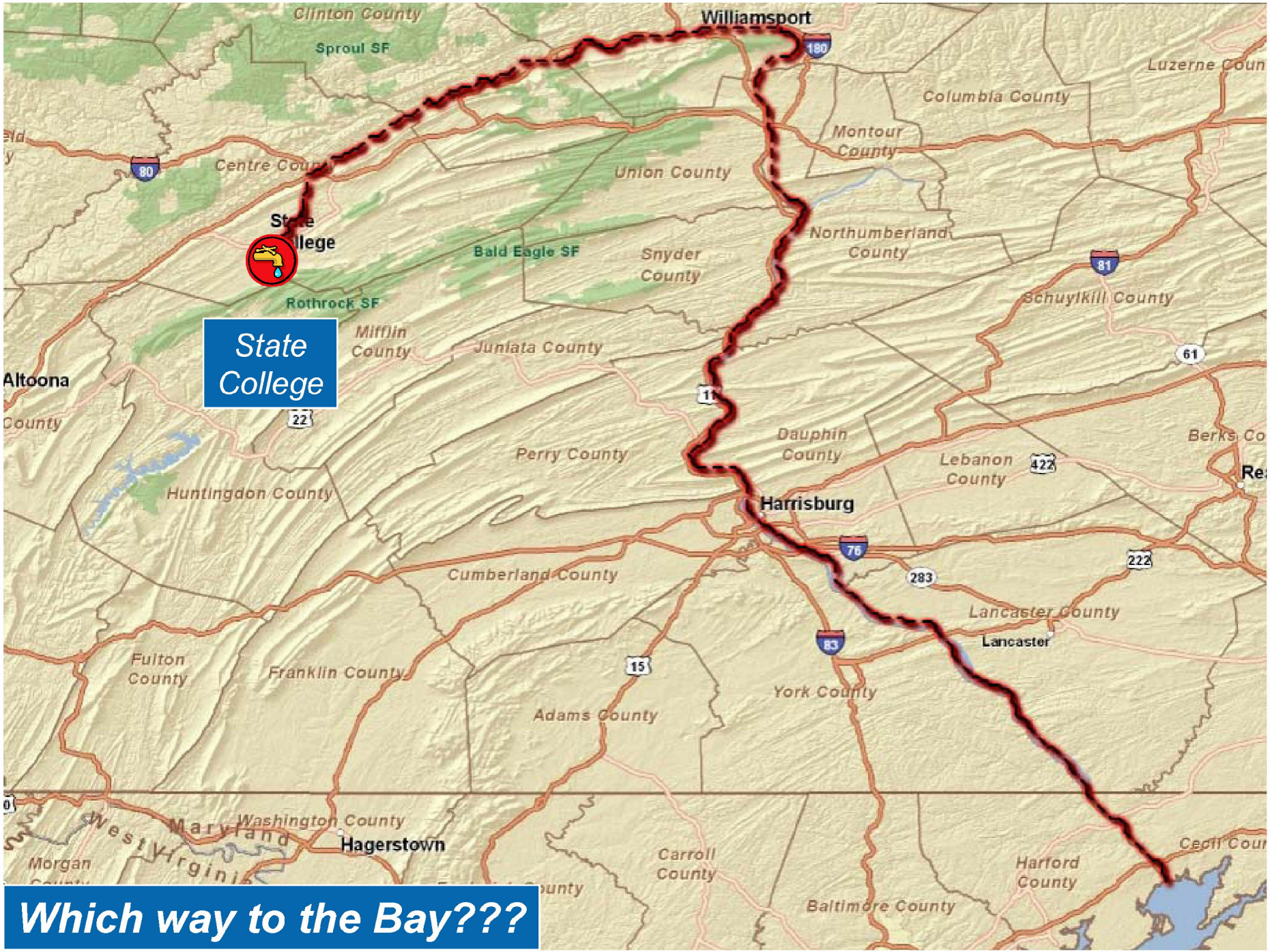
Defines amount of pollution a water body can handle and be healthy



Bay and tributaries are polluted by nitrogen, phosphorus, sediment

Rivers, streams, & creeks contribute to Bay, so included in TMDL



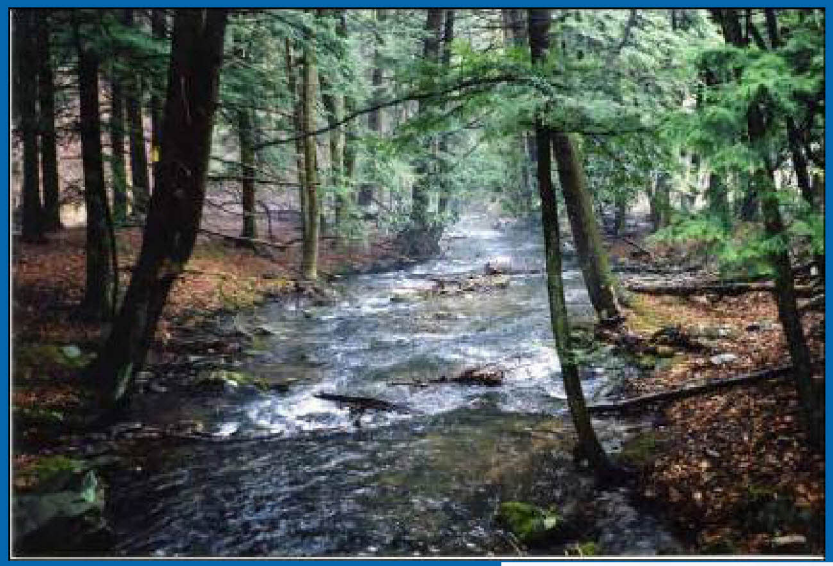


Which way to the Bay???

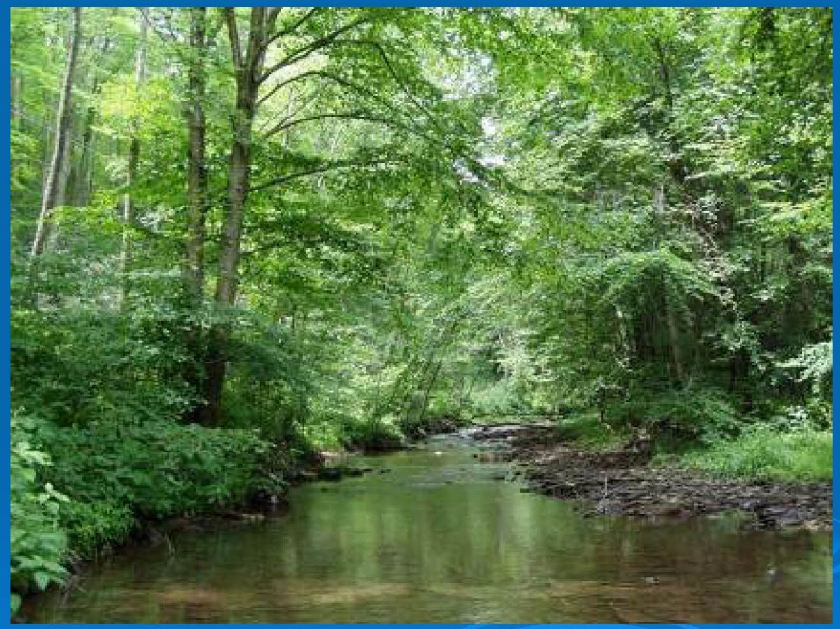
Legal obligation to get it done

Part of strategy to meet a Presidential Executive Order

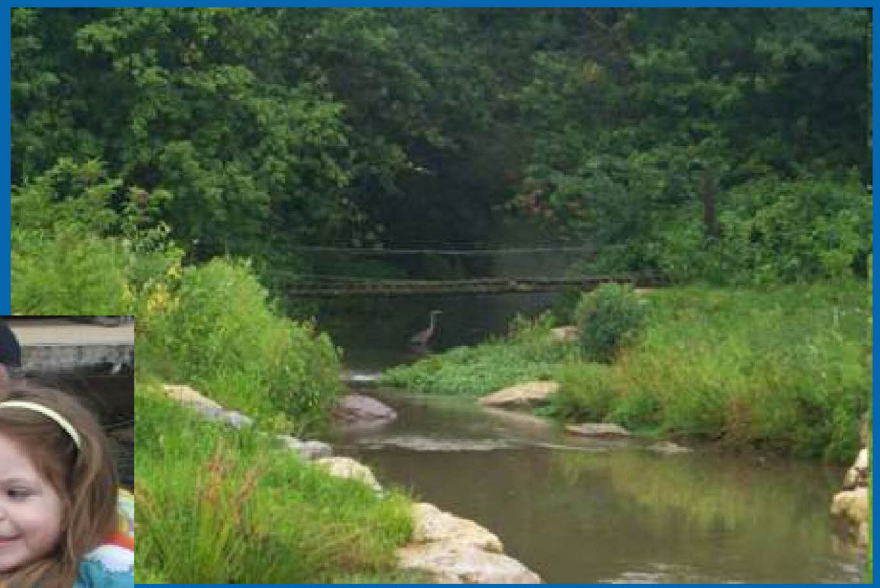
Clean water matters to your community



Clean water matters to your community



Clean water matters to your community



The Economic Impact

- Clean water can increase the value of single-family homes up to 4,000 feet from the water's edge by up to 25 percent.
- Philadelphia estimates that installation of green stormwater infrastructure will raise property values 2 to 5 percent, generating $390 million over the next 40 years.
- For every $1 spent on drinking water protection, an average of $27 is saved in water treatment costs.

The Economic Impact

- Fishing and boating have economic impacts valued at more than $2 billion per year in Pa.
- Flooding in the Susquehanna basin causes about $150 million in economic damage each year.
- Between 1993 and 2009 the number of Bay waterman declined from 14,000 to 1,500.

Setting the Pollution Diet

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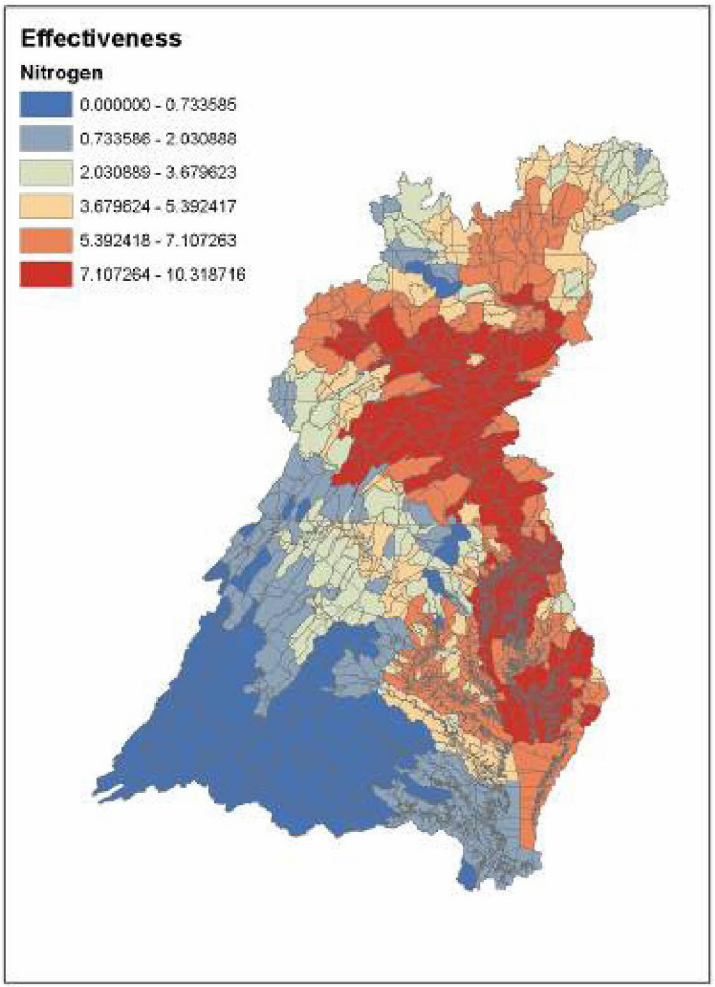
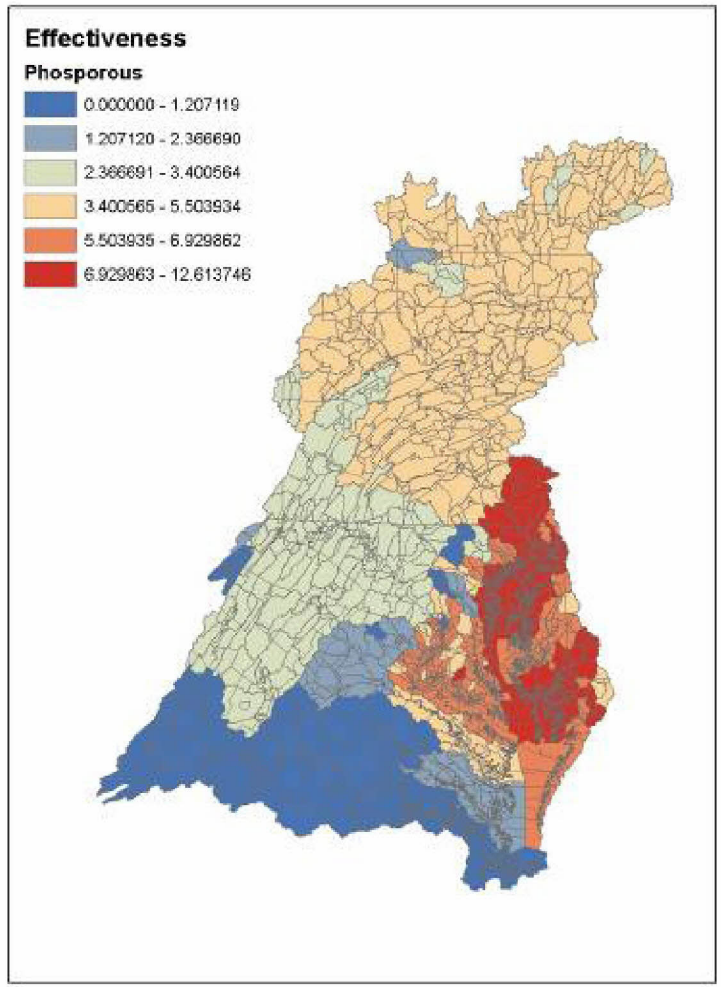
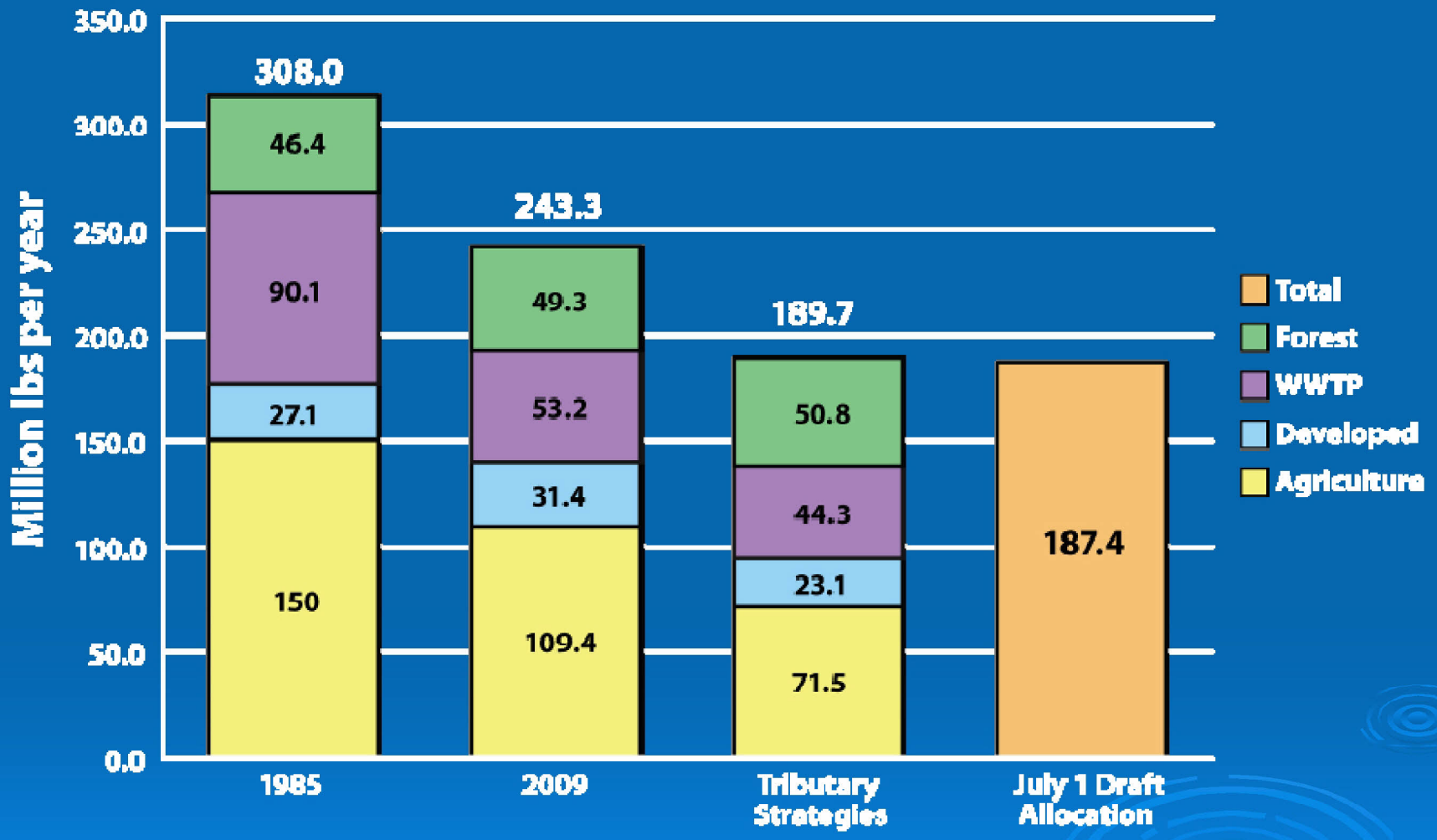
Impact of Pollution





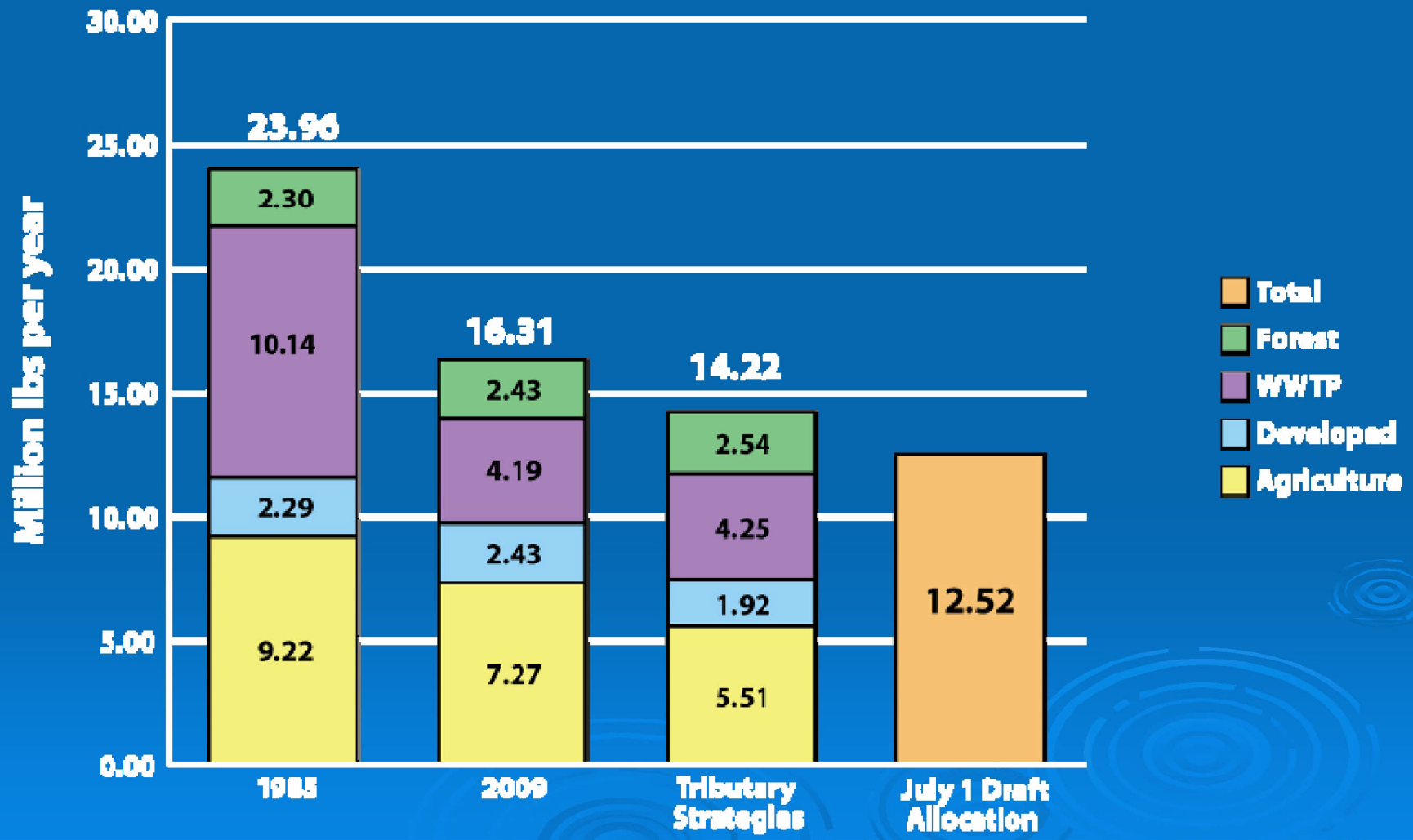
Nitrogen Loads by Sector and Scenario—CBP Watershed Model P5.3

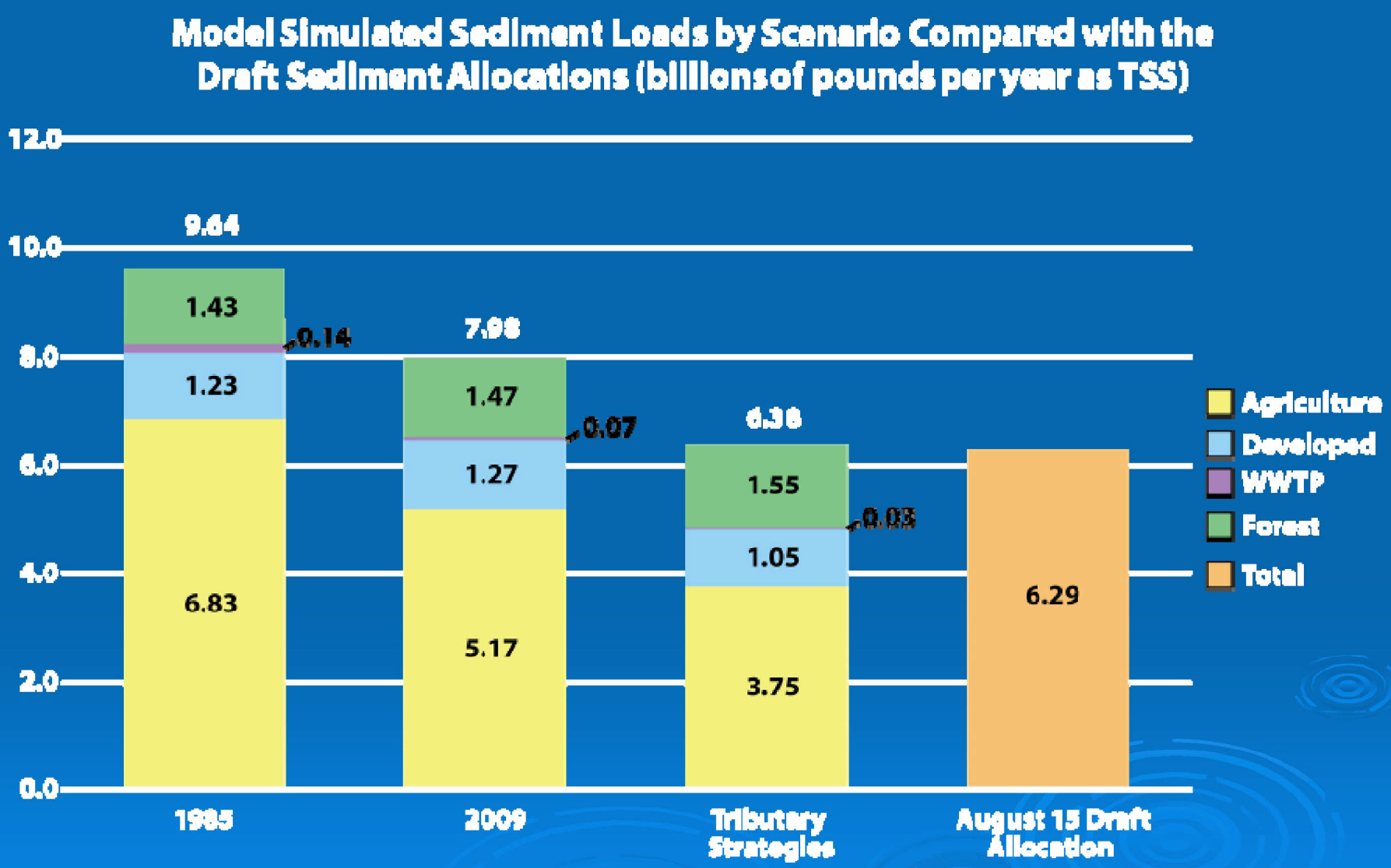


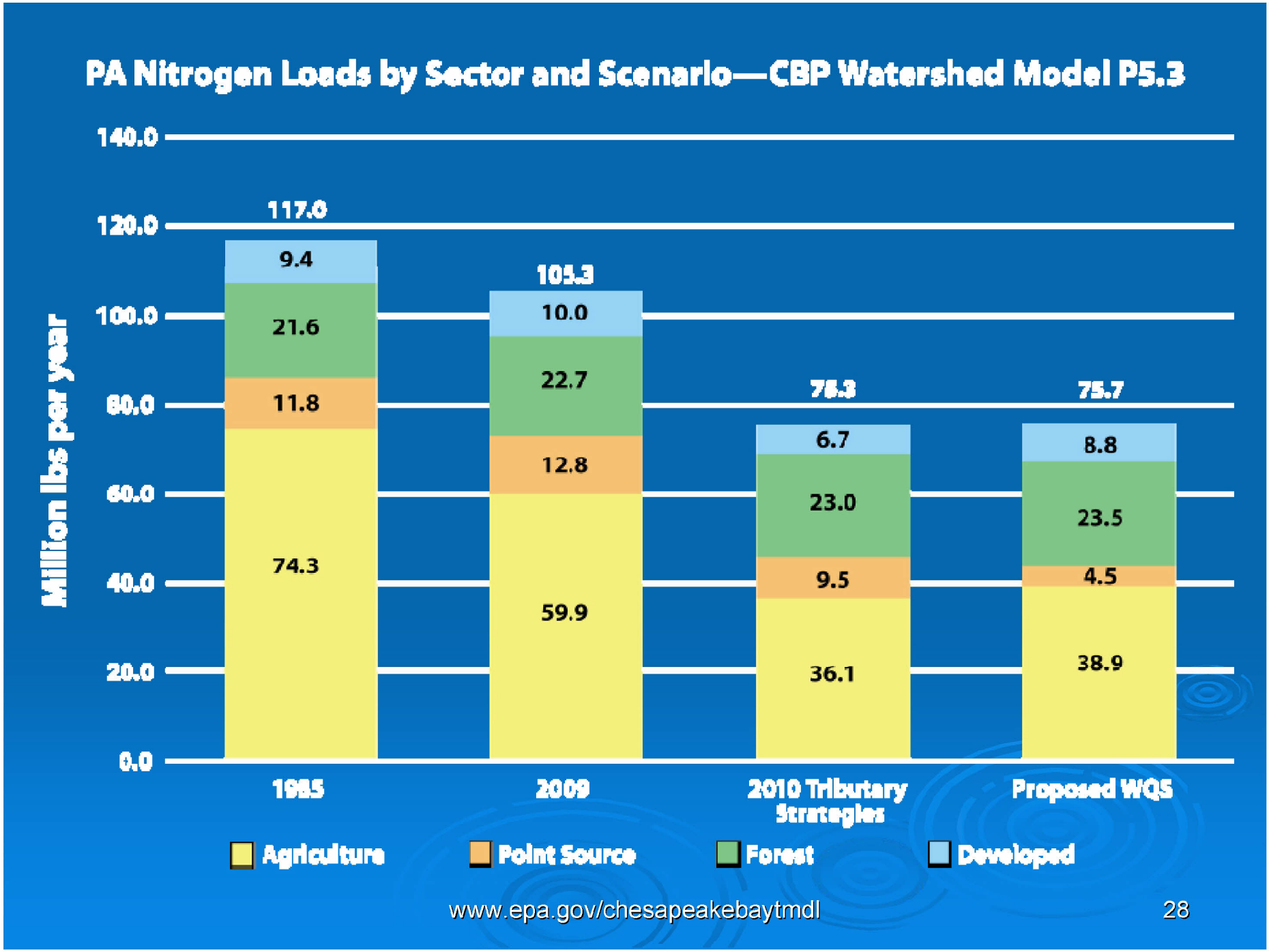
Draft allocation for atmospheric deposition is 15.7 million pounds, which will be achieved by federal air regulations through 2020.

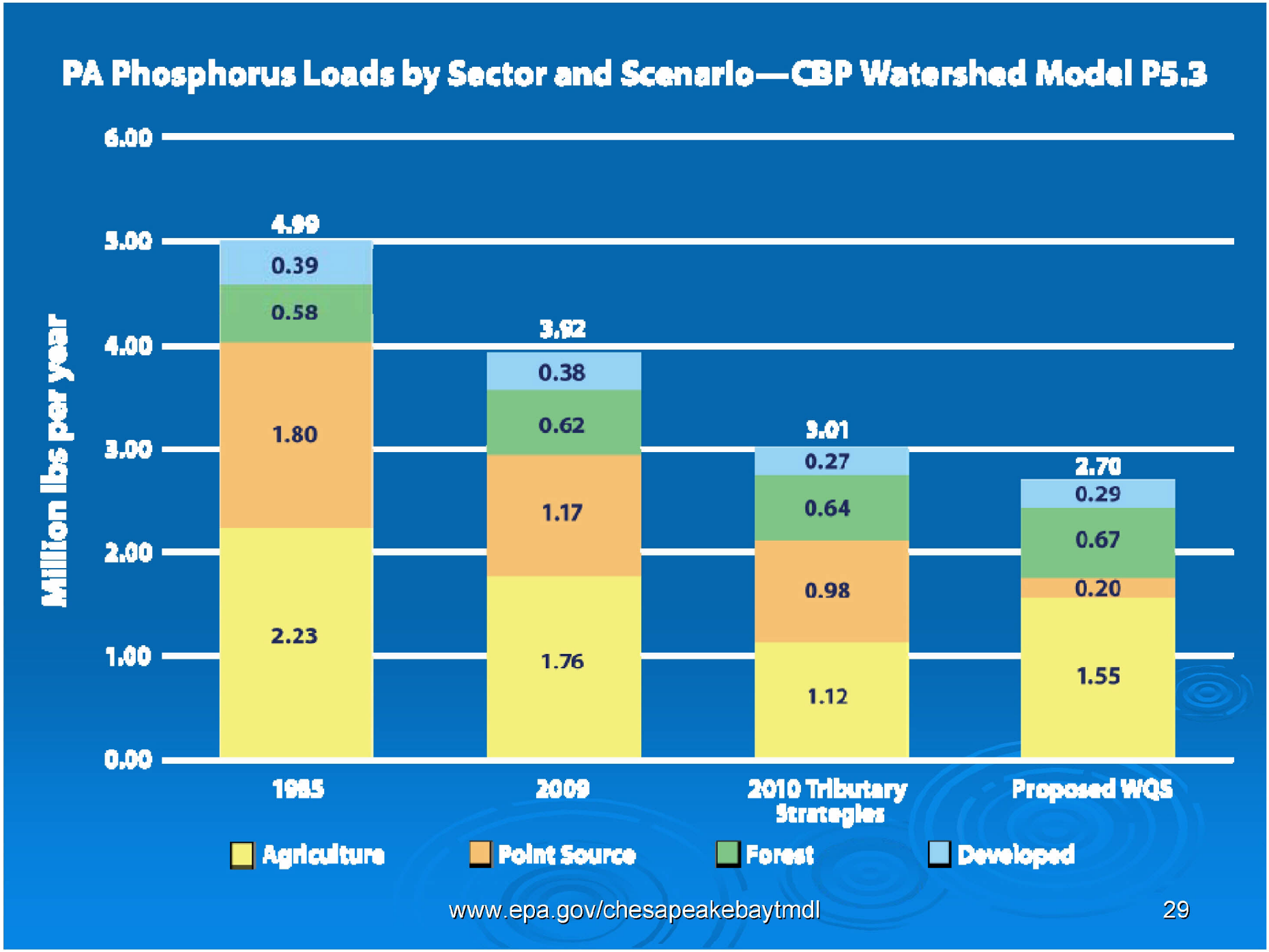
Setting the Diet

Phosphorus Loads by Sector and Scenario—CBP Watershed Model P5.3




Model Simulated Sediment Loads by Scenario Compared with the Draft Sediment Allocations (billions of pounds per year as TSS)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
9.64
1.43
0.14
1.23
6.83
7.98
1.47
0.07
1.27
5.17
6.38
1.55
0.03
1.05
3.75
6.29
1985
2009
Tributary Strategies
August 15 Draft Allocation
Agriculture
Developed
WWTP
Forest
Total


PA Nitrogen Loads by Sector and Scenario—CBP Watershed Model P5.3
Million lbs per year
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
117.0
9.4
21.6
11.8
74.3
105.3
10.0
22.7
12.8
59.9
78.3
6.7
23.0
9.5
36.1
75.7
8.8
23.5
4.5
38.9
1985
2009
2010 Tributary Strategies
Proposed WQS
Agriculture
Point Source
Forest
Developed


PA Phosphorus Loads by Sector and Scenario—CBP Watershed Model P5.3
Million lbs per year
6.00
5.00
4.00
3.00
2.00
1.00
0.00
4.99
0.39
0.58
1.80
2.23
3.92
0.38
0.62
1.17
1.76
3.01
0.27
0.64
0.98
1.12
2.70
0.29
0.67
0.20
1.55
1985
2009
2010 Tributary Strategies
Proposed WQS
Agriculture
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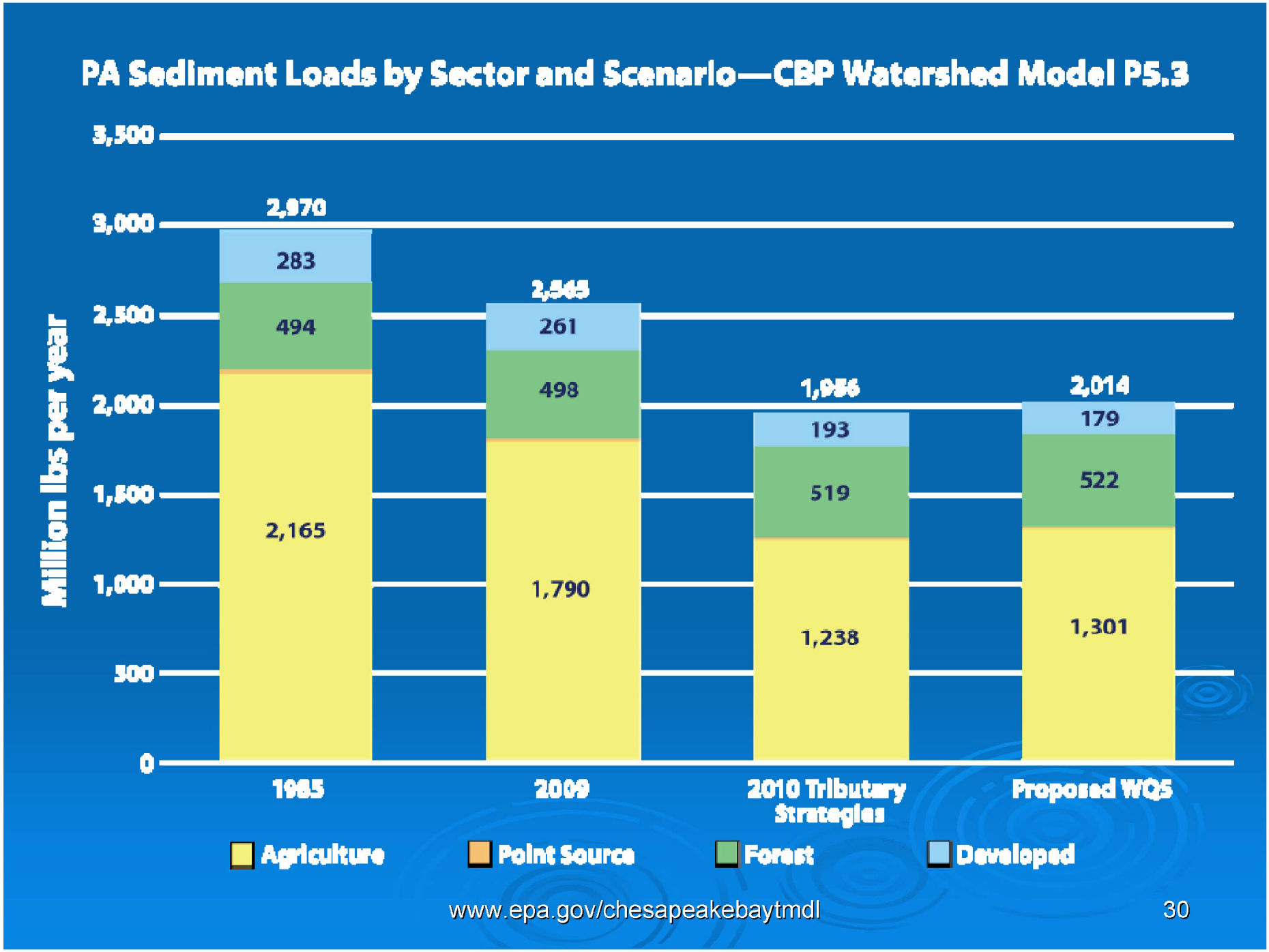
PA Sediment Loads by Sector and Scenario—CBP Watershed Model P5.3
Million lbs per year
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2,970
283
494
2,165
2,545
261
498
1,790
1,956
193
519
1,238
2,014
179
522
1,301
1985
2009
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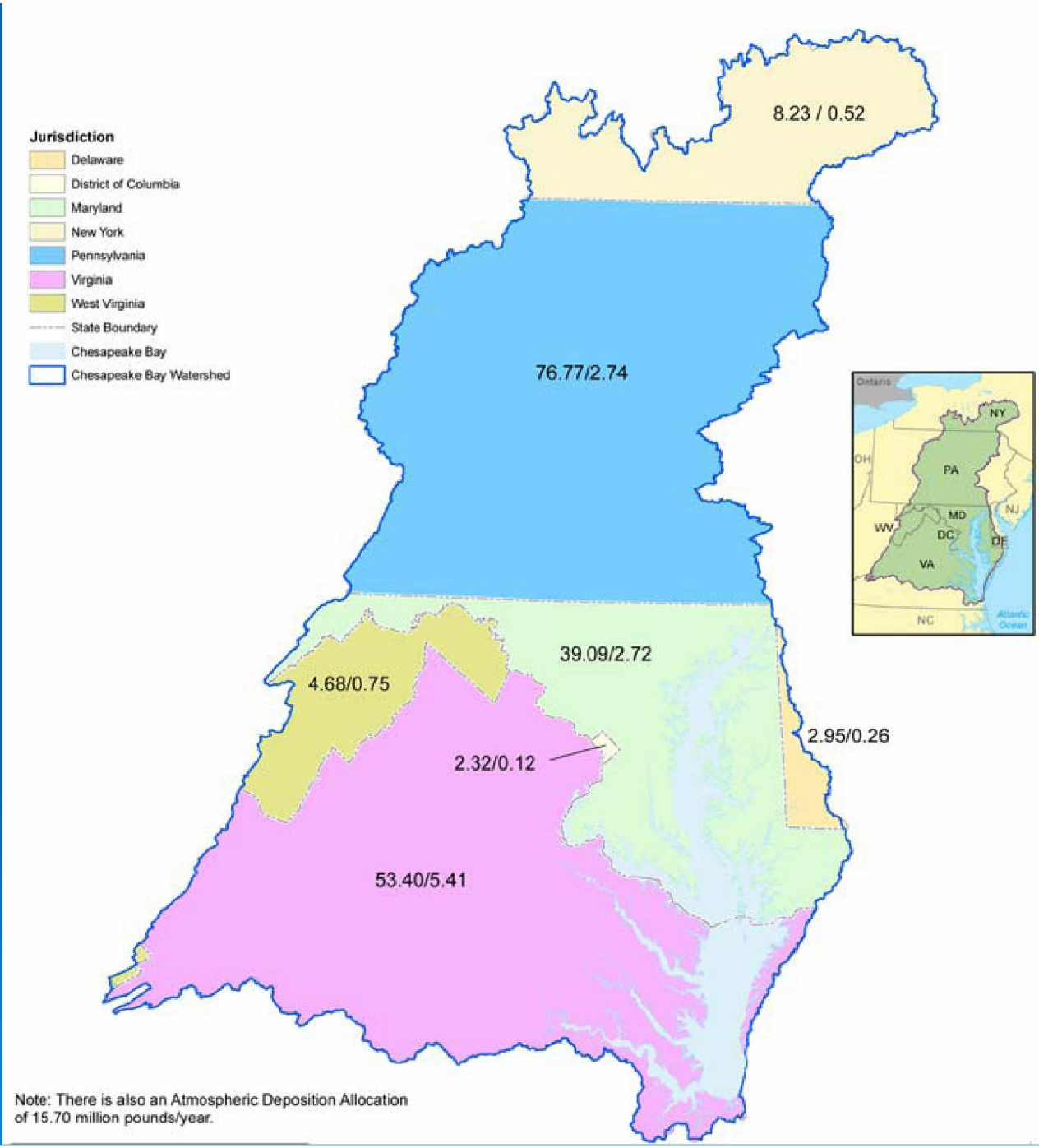
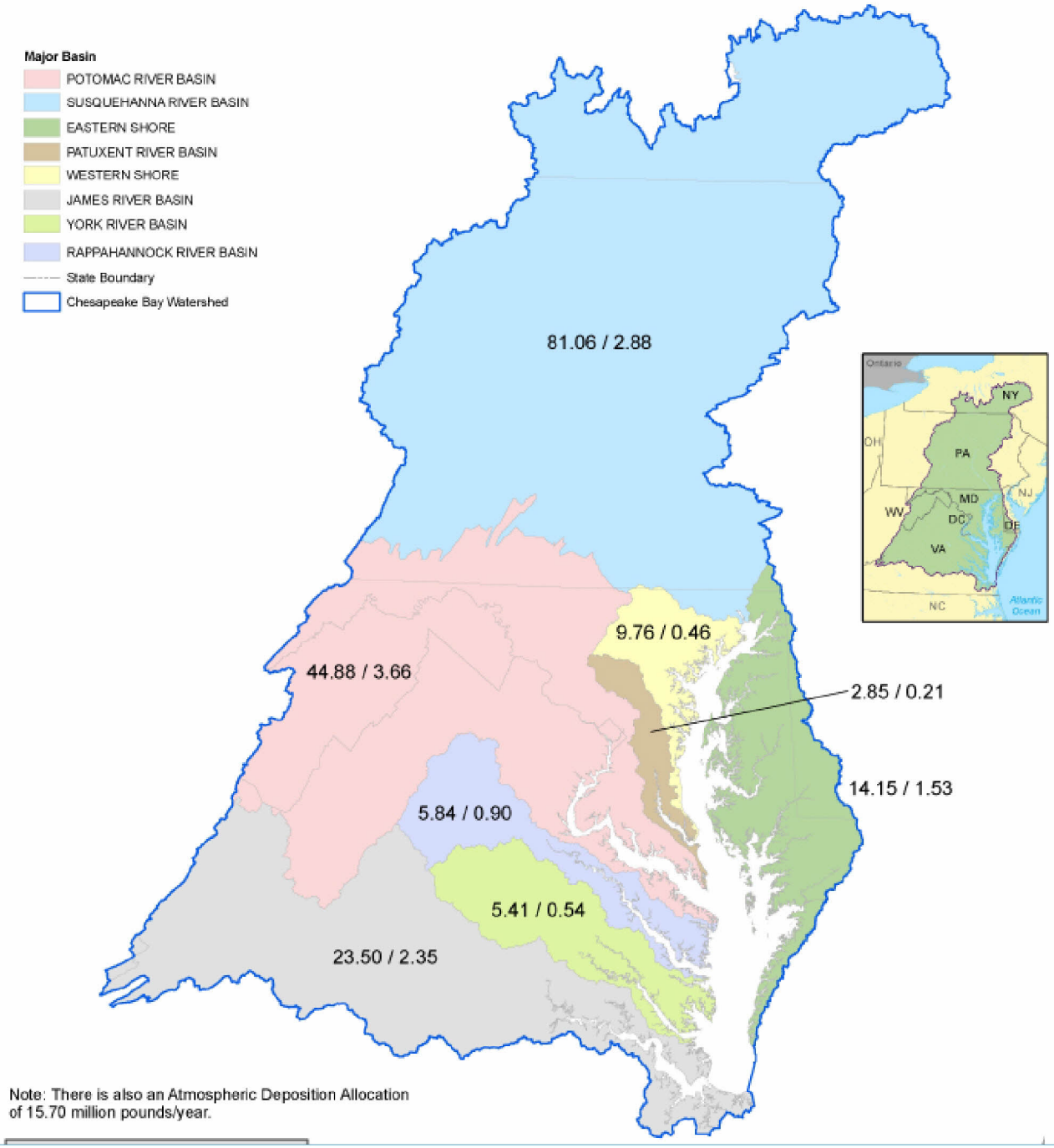
Pollution Diet by State



Note: There is also an Atmospheric Deposition Allocation of 15.70 million pounds/year.

Pollution Diet by River



Note: There is also an Atmospheric Deposition Allocation of 15.70 million pounds/year.

TMDL Goals

2 year milestones

60 percent by 2017

100 percent by 2025

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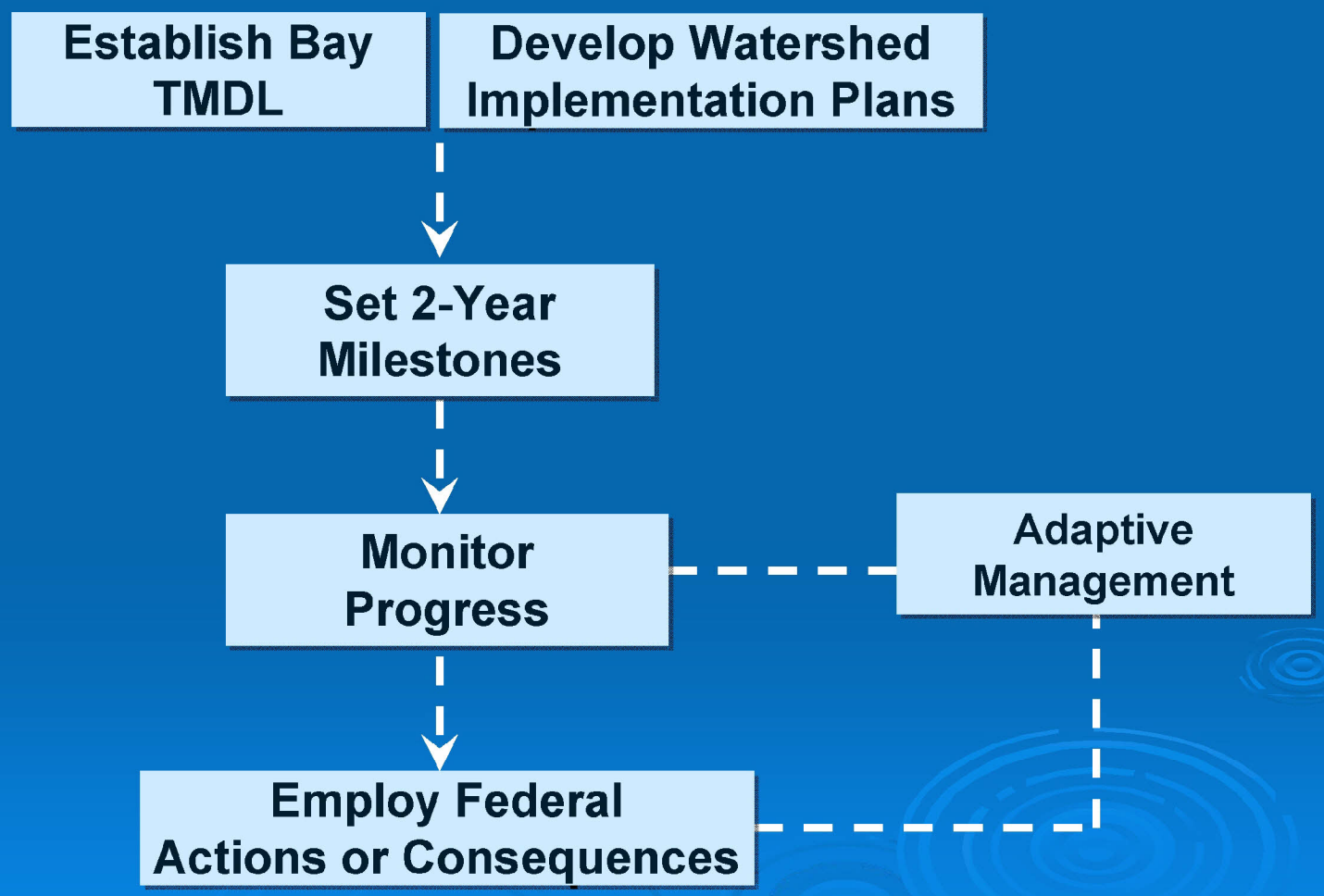
Local in 2011

Accountability for Results



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Meeting the Pollution Diet

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Watershed Implementation Plan

The how, when and where of attaining the TMDL diet

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Overall Draft WIP Evaluation

- 7 jurisdictions provided Draft WIPs in early September
- WIPs must:
  - achieve pollution targets
  - provide reasonable assurance

Do WIPs meet the allocations?

Jurisdiction	Nitrogen	Phosphorus	Sediment
DC	✓	✓	
DE			✓
MD	✓	✓	✓
NY			✓
PA	✓		
VA			✓
WV		✓	

Draft Pennsylvania WIP Evaluation

- Met nitrogen allocation
- Did not meet phosphorus (11 percent over)
- Did not meet sediment (1 percent over)

Overall Draft WIP Evaluation

None of the WIPs provided adequate assurance

- Inadequate strategy for filling program gaps
- Limited enforceability/accountability
- Few dates for key actions

Federal Backstops

- All jurisdictions require some level of backstop to:
  - Meet the pollution allocations
  - Provide a high level of assurance
- Backstop allocations focus on federal authority
  - Additional reductions from regulated point sources (wastewater treatment plants, CAFO, MS4s)
  - Finer scale allocations for headwater states

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Federal Backstops

- **Backstop allocation adjustments**
  - Minor - adjust load allocations to equal targets
  - Moderate -
    - Stronger CAFO/MS4 requirements
    - Significant WWTPs: N @ 4 mg/l, P @ 0.3 mg/l
  - High Backstop –
    - Stronger CAFO/MS4 requirements
    - Significant WWTPs: N @ 3 mg/l, P @ 0.1 mg/l

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Backstops by Jurisdiction

- Maryland, DC – Minor Backstop
- Virginia – Moderate Backstop
- Delaware, Pennsylvania, New York and West Virginia – High Backstop

Draft Pennsylvania WIP Evaluation

For Pennsylvania: high backstop

- Insufficient detail:
  - Quantifying gap-filling strategies
  - MS4 boundary
  - Attributes of offset and trading program
  - Significant reductions for forest and septics

Draft Pennsylvania WIP Evaluation

For Pennsylvania: high backstop

- Wastewater facilities: limit of technology (3 mg/L TN and .1 mg/L TP) and design flow
- MS4s: 50% of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 25% of unregulated land treated as regulated
- CAFO standards apply to AFOs, EXCEPT no feed management on dairies; designation as necessary
- Load from point source reductions redistributed to forest, septic, and agriculture sources

In Summary

- Hybrid TMDL is blend of jurisdiction WIPs and EPA backstop allocations
- Final WIPs need to address deficiencies
- EPA prefers to use jurisdiction WIPs and not backstop in final TMDL

Opportunities for Improvement

- Jurisdictions can enhance their WIP submissions by the November 29 deadline
  - EPA will engage jurisdictions in discussions
  - EPA will evaluate the final WIPs
  - Final TMDL will be informed by final WIPs

Next Steps

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Next Steps

- Hold 18 public meetings in six states, D.C.
- Public comment period until November 8
- States, D.C. submit final WIPs on November 29
- TMDL will be established by December 31

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Submit Your Comments

- Public comment period until November 8
  - Electronically, visit:
    www.regulations.gov
    Docket ID No. EPA-R03-OW-2010-0736
  - In writing, mail to:
    Water Docket, EPA, Mailcode: 2822T
    1200 Pennsylvania Ave., NW.,
    Washington, D.C., 20460.
  - By hand, drop off from 8:30 a.m. - 4:30 p.m.:
    EPA Docket Center Public Reading Room,
    EPA Headquarters West, Room 3340,
    1301 Constitution Ave., NW, Washington, D.C.

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    Water Docket, EPA, Mailcode: 2822T
    1200 Pennsylvania Ave., NW.,
    Washington, D.C., 20460.
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    EPA Headquarters West, Room 3340,
    1301 Constitution Ave., NW, Washington, D.C.

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Chesapeake Bay TMDL

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What's New ... EPA Issues Draft Chesapeake Bay TMDL

View Press Release, Executive Summary EXIT Disclaimer, EPA Evaluation of Draft Watershed Implementation Plans (PDF) and the Federal Register Notice. EXIT Disclaimer

Review and Comment on the Draft TMDL

The PDF links on this page can be viewed with the Adobe PDF reader. About PDF

EPA will establish and oversee achievement of a strict "pollution diet" known as a Total Maximum Daily Load, or TMDL, that will drive actions to clean local waters and the Chesapeake Bay. Read more...

National Information

- Executive Order Website
- Federal Register Notice

What's Happening

The six watershed states and the District of Columbia have submitted draft Phase 1 Watershed Implementation Plans (WIPs).

View Delaware, District of Columbia, Maryland, New York, Pennsylvania, Virginia and West Virginia EXIT Disclaimer