Chesapeake Bay TMDL Phase III Watershed Implementation Plan (WIP)

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Topics for Today

- Your Role – Purpose and Timing
- Chesapeake Bay TMDL background
- Current status of Bay TMDL activities and progress
- Local water quality improvement success stories
- State implementation initiatives
- What's next?

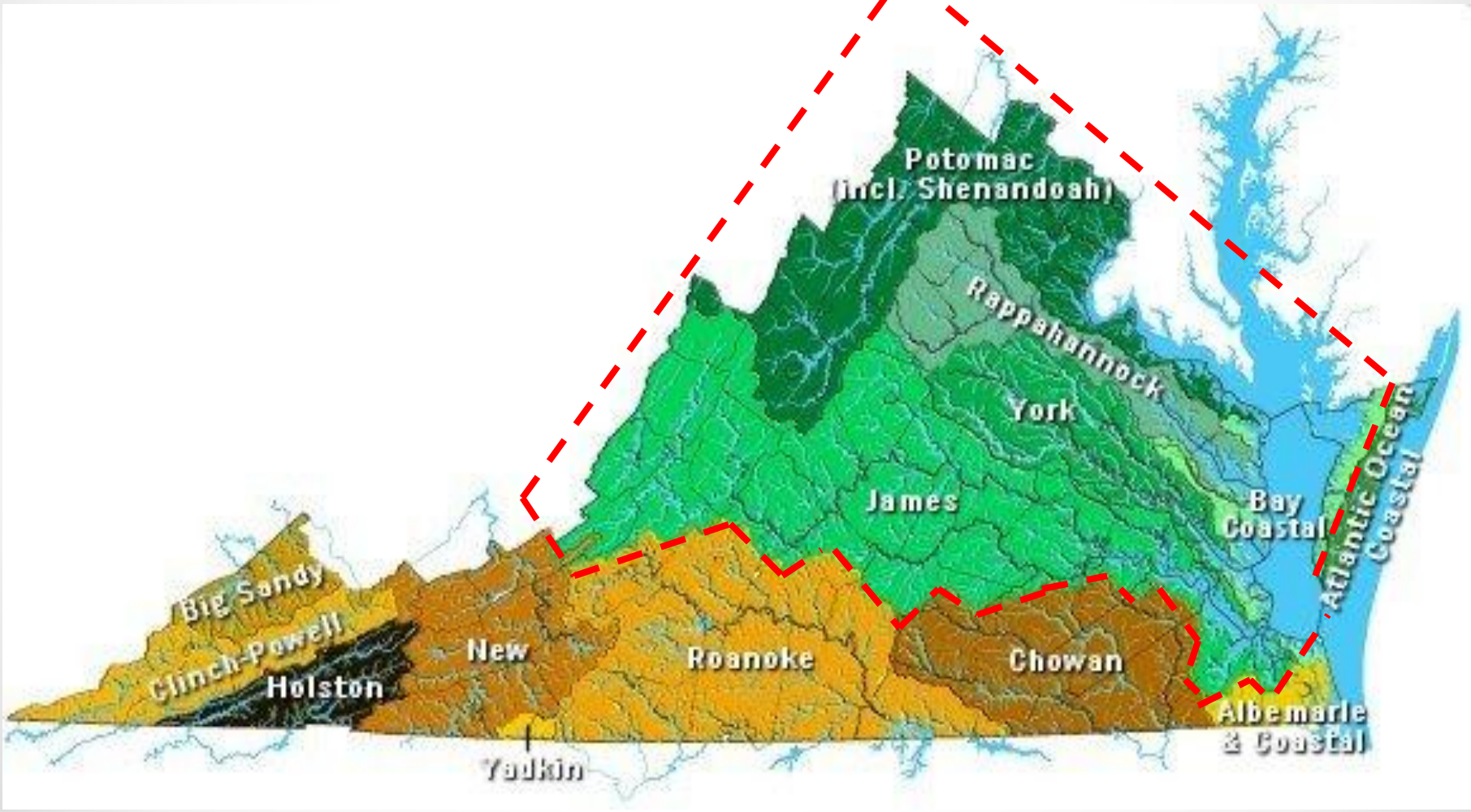
Chesapeake Bay Background & Status

Chesapeake Bay by the Numbers

- Largest U.S. estuary
- Six-state, 64,000 square mile watershed
- 10,000 miles of shoreline (longer then entire U.S. west coast)
- Over 3,600 species of plants, fish and other animals
- Average depth: 21 feet
- $750 million contributed annually to local economies
- Home to 17 million people (and counting)
- 77,000 principally family farms
- Declared a "national treasure"

Source: www.chesapeakebay.net

Virginia's Bay Watershed



Virginia's Chesapeake Bay Watershed

- 55% of the State's land area drains to the Bay
- 34% of the total Bay watershed land area
- > 50% of Virginia's streams and rivers flow to the Bay
- 75% of the state's 8 million residents live within the watershed
- Overall summary of land cover:
  - Forest ~ 66%
  - Agriculture ~ 20%
  - Developed ~ 13%
  - Non-tidal water ~ 1%

Chesapeake Bay Model

- Simulates how various changes in land cover and uses could affect the Bay
- Projects the effect of pollution-reduction actions on the Bay
- Provides an estimate of the nutrient and sediment reductions that may occur when management practices are implemented within the watershed
- Model is the only tool used to forecast and track the effects of practices and strategies on water quality conditions in the Chesapeake Bay
- Currently being updated (Phase 6)

What is the Chesapeake Bay TMDL?

- Establishes a pollution "diet" of the amount of a pollutant that a water body can accept and meet water quality standards
- Identifies pollution reductions from sources of nitrogen, phosphorus and sediment across the Bay jurisdictions
- In Virginia, the TMDL is further subdivided into TMDLs for each of the three pollutants for 39 segmentsheds (sub watersheds)
- Ensures that all pollution control measures needed to fully restore the Bay are in place by 2025

Watershed Implementation Plan (WIP) Timeline

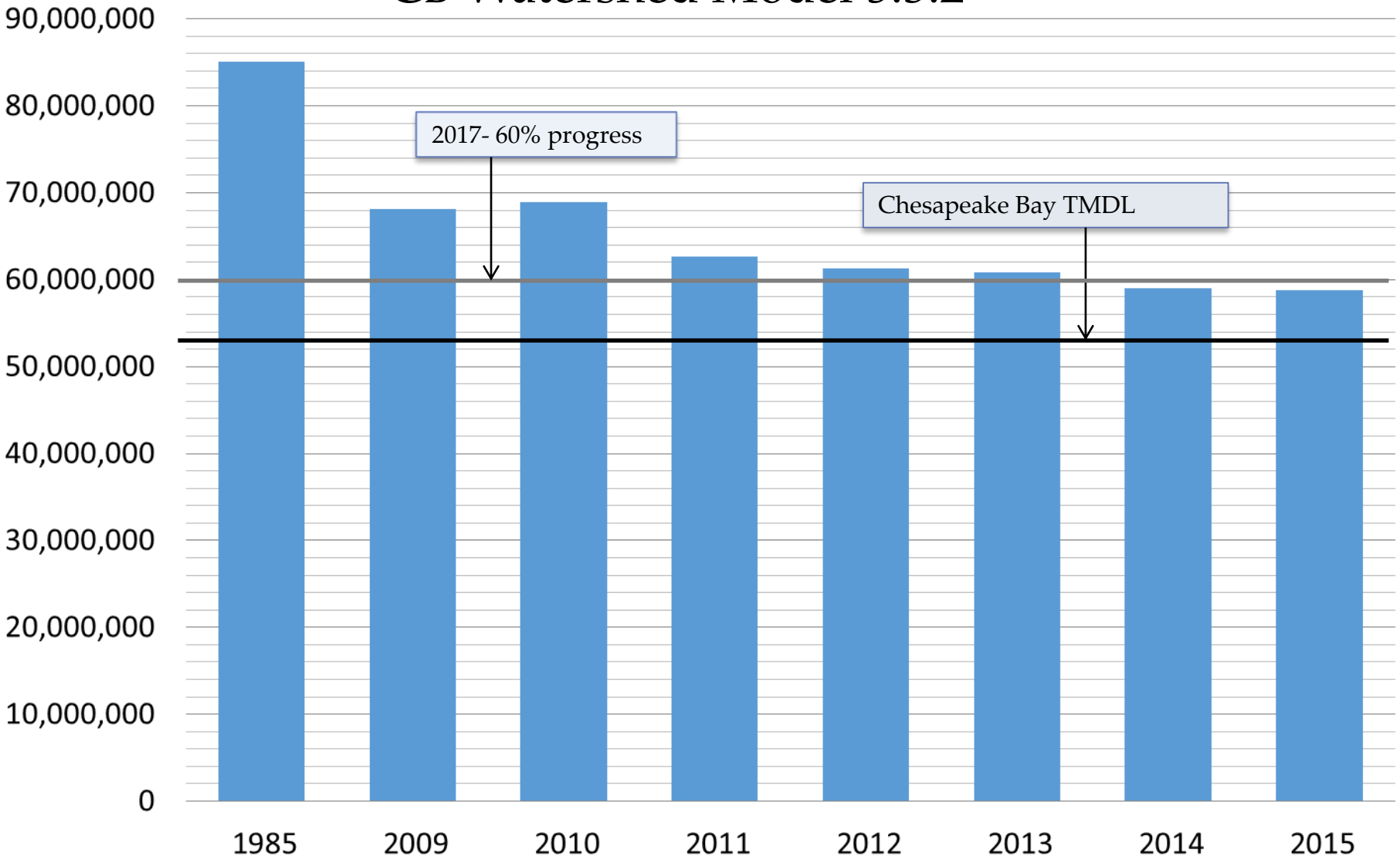
- Phase I WIP – submitted to EPA November 2010
  - enhancements to existing state level programs and initiatives
- Phase II WIP – submitted to EPA March 2012
  - Updates to statewide strategies
  - Subdivided Bay TMDL planning targets for the state's 39 segment sheds into local area goals,
  - Significant engagement of local governments and receipt of local strategies
- Phase III WIP – Due August 2018
  - Further updates to statewide strategies
  - More focused engagement of local entities (localities and Soil & Water Conservation Districts) and stakeholders

We *Are* Making Progress

- Blue crab population
- Bay grasses
- Dead zone forecast
- Reducing pollution

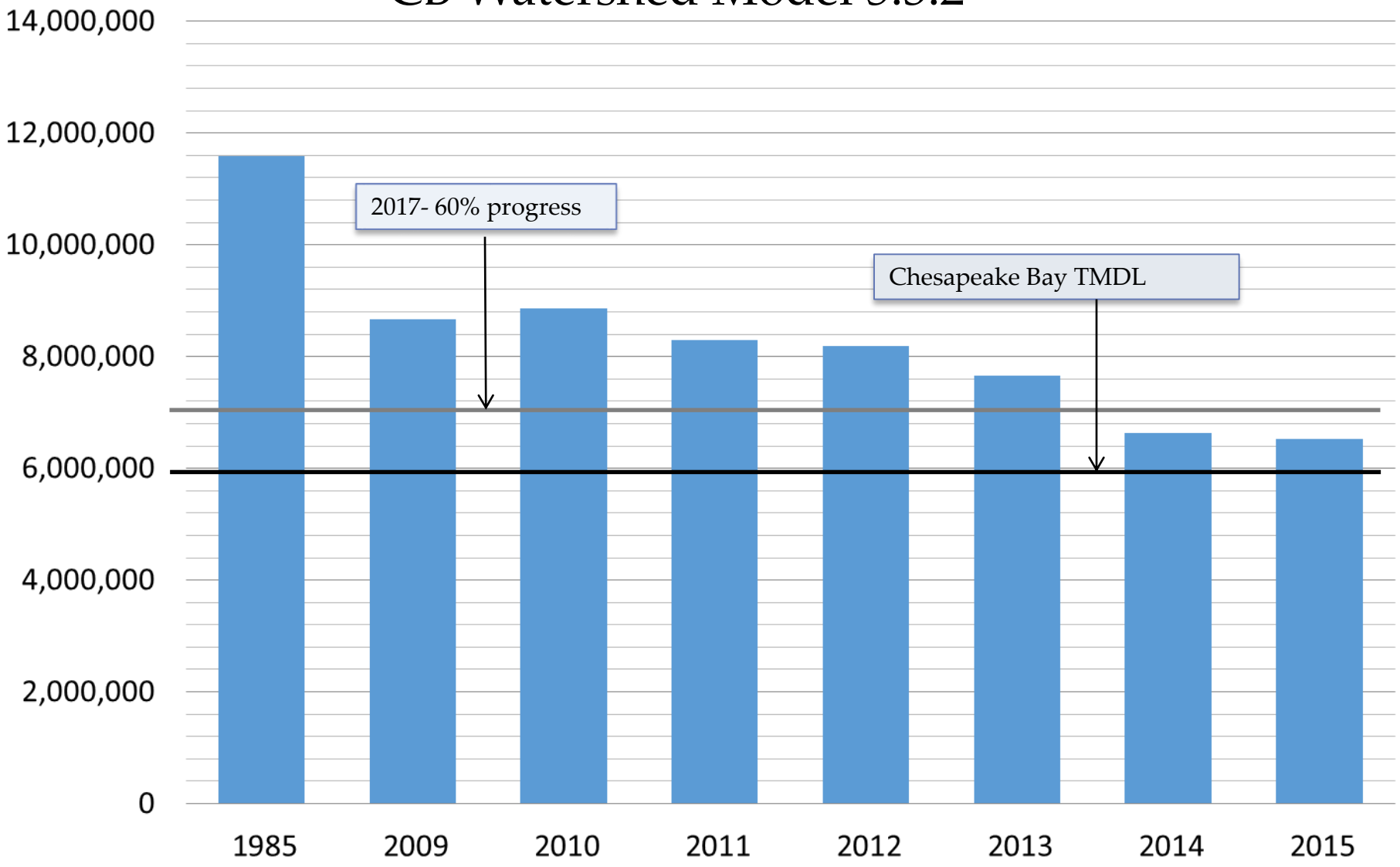
Virginia Nitrogen Loads (lbs/year)

CB Watershed Model 5.3.2



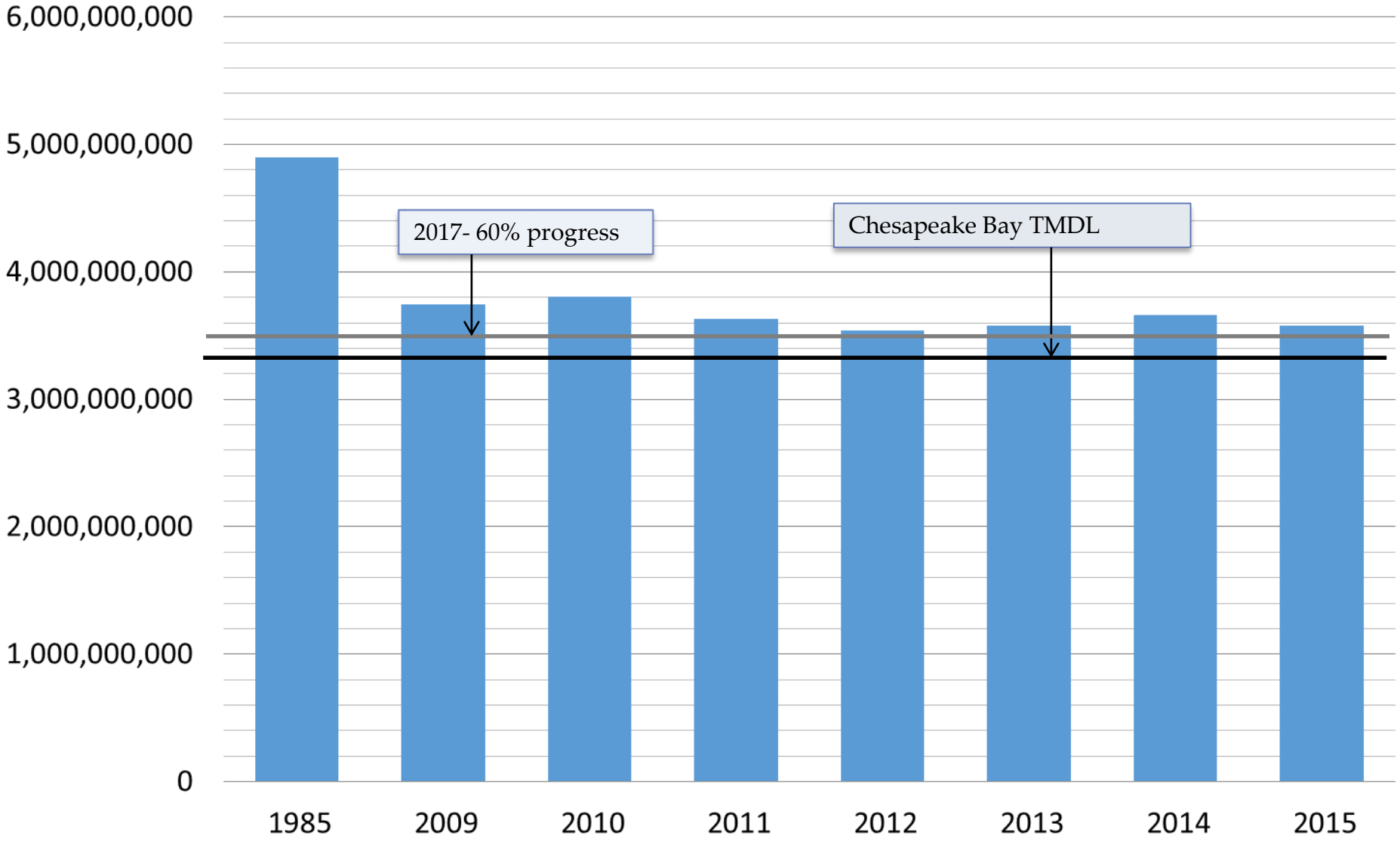
Virginia Phosphorus Loads (lbs/year)

CB Watershed Model 5.3.2



Virginia Sediment Loads (lbs/year)

CB Watershed Model 5.3.2



State Implementation Initiatives

State Initiatives

AGRICULTURE

- Increased implementation livestock exclusion cost share program
- Development of agricultural Resource Management Plans (RMPs)
- Development of fertilizer sales data tracking system

STORMWATER

- Reissued 6 Hampton Roads Phase I Municipal Separate Storm Sewer Systems (MS4) permits
- Begin regulatory development for reissuance of Phase II MS4 General Permit
- Implementation of revised stormwater management technical criteria across the State

FORESTRY

- Healthy watersheds forest project – local tools to retain forest lands

LAND USE

- Implementation of Chesapeake Bay Preservation Act environmental site design criteria: Minimize land disturbance; Maintain indigenous vegetation; Minimize impervious cover

Data and Funding Initiatives

DATA CLEANUP

- Completed historical data cleanup to improve accuracy of BMP information
- Developed BMP warehouse to facilitate submittal of BMP information
- Completed land cover project to improve land use information across Virginia

FUNDING

- Water Quality Improvement Fund
- Livestock exclusion cost-share program
- Stormwater Local Assistance Fund projects
- Living Shorelines projects

What's Next?

Key Issues Moving Forward

- **Conowingo Dam "dynamic equilibrium"**
- **Factoring Climate Change into the TMDL**
- **Expert Panels (16 now at work)**
- **The Phase 6 Model**
- **Verification**
- **Funding and innovations in financing**
- **Planning Targets and WIP III development including local planning goals**

Phase III WIP Timeline

- Rolling local review of the Phase 6 model land use data → **October-Nov 2016**
- EPA releases final expectations for Phase III WIPs → **April 2017**
- Release of final Phase 6 model → **June 2017**
- EPA releases draft Phase III WIP Planning Targets → **June 2017**
- EPA releases final Phase III WIP Planning Targets → **December 2017**
- Draft Phase III WIPs due to EPA → **August 2018**
- EPA feedback and public comment on draft Phase III WIPs → **October 2018**
- Final Phase III WIPs due to EPA → **December 2018**

Phase 6 Model Update

- Land use categories and data have been updated, based on more recent data
- Finer resolution of land cover categories (now at 10 meter resolution)
- Model is the only tool used by EPA to forecast the effects of practices and strategies on the Chesapeake Bay
- Works best at a larger scale (e.g. river basin)
- Will be used for the Phase III WIP

Expectations and Opportunities for Local Engagement in Phase III WIP

- Feedback to EPA through Local Government Advisory Committee
- Continue to provide BMP information not reported elsewhere through BMP warehouse
- Review local programs and initiatives to identify gaps and optimize existing programs and projects
- Identify what pollutant reductions are already being achieved/planned for in various programs
- Identify any gaps in existing strategies

Expectations and Opportunities for Local Engagement in Phase III WIP

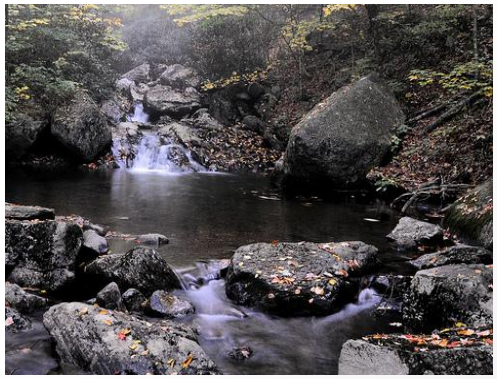
- Develop workable strategies to fill gaps
- Identify strategies that yield multiple benefits
- Explore and pursue peer-to-peer exchanges of ideas, tools, and best practices
- Participate in organized meetings & training opportunities
- Take advantage of funding opportunities



Local Opportunities for Water Quality Protection

Meet multiple program goals and requirements:

- Stream protection and restoration;
- Quality of life; recreation; economics
- Virginia Stormwater Management; Erosion & Sediment Control; MS4; Chesapeake Bay Preservation Act; TMDLs;
- Local ordinances; comprehensive plan; watershed plans;
- …



Water Quality Measures that Yield Multiple Benefits

Water Quality Practice

- Expanded Tree Canopy
- Green infrastructure & environmental site design
- Stormwater quantity control
- Stream restoration

Additional Benefits

- Shade and community attractiveness
- Reduced stormwater costs
- Reduce future stream restoration costs
- Reduce loss of property

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