VIRGINIA HOUSE APPROPRIATIONS COMMITTEE

CHAIRMAN LUKE E. TORIAN

Update on Chesapeake Bay Cleanup Progress and Funding

November 16, 2021

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BACKGROUND

Chesapeake Bay Watershed

- Largest estuary in the United States
- 64,000 square miles in parts of six states and the District of Columbia
- Over 3,600 species of plants and animals
- $33 billion a year in economic activity directly related to the Bay
- 18.3 million people living in the watershed

How We Got Here

- Water quality reductions and productivity declines in the Bay first recognized in the 1970s
- 1972 – Clean Water Act requires Total Maximum Daily Loads (TMDLs) for impaired waters
- 1983 and 1987 – Chesapeake Bay Agreements
  - Recognized decline in living resources
  - Chesapeake Bay Program established in EPA Region 3
- Following 1999 lawsuit, EPA consents to bring Bay and tidal tributaries in compliance with water quality criteria by 2010 or develop TMDL
- 2006 to 2008 – outlined implementation strategies to reduce nitrogen, phosphorus and sediment by river basin
- 2010 – EPA issues Chesapeake Bay TMDL

Explanation of TMDL

- States in the Chesapeake Bay Region – including Virginia, Maryland, and Pennsylvania – are under federal mandate to reduce nutrient and sediment discharge into the Chesapeake Bay
- The Bay TMDL reflects EPA mandated targets for nitrogen, phosphorus, and sediment discharges into the Chesapeake Bay
  - In Virginia, this applies to the Potomac River, Eastern Shore, Rappahannock River, York River, and James River watersheds
- TMDL mandates watershed-wide pollution reduction goals between 2010 and 2025 of:
  - 25 percent reduction in nitrogen
  - 24 percent reduction in phosphorus
  - 20 percent reduction in sediment

Watershed Implementation Plan (WIP)

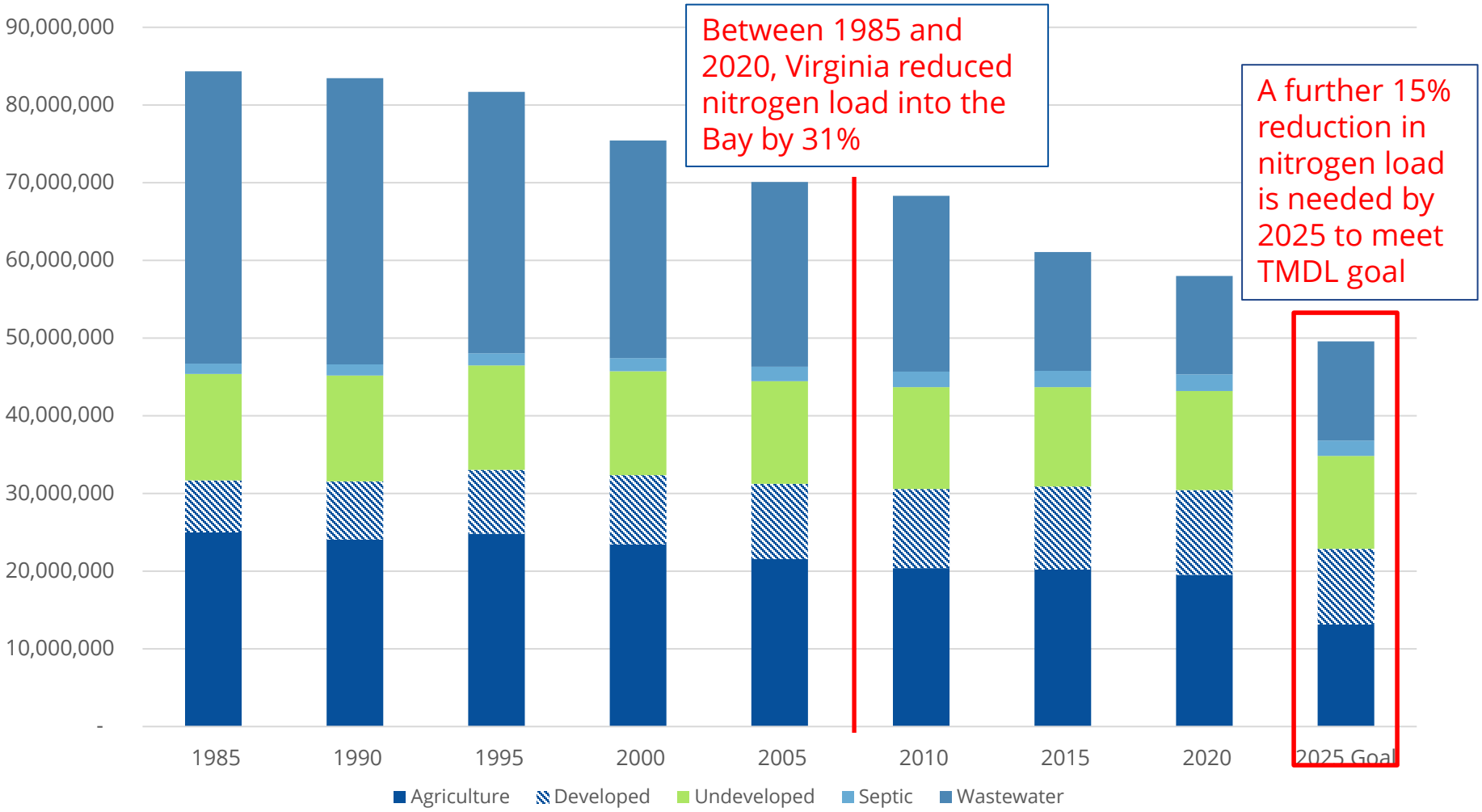
- The Watershed Implementation Plan has been a phased path to achieving TMDL reduction goals
  - Phase I (2010) – statewide plan to meet federal goals
  - Phase II (2012) – locality specific plans
  - Phase III (2019) – update on progress and plans through 2025
- WIP has established sector-specific TMDL goals for major point and non-point pollution sources between 2010 and 2025
  - Wastewater treatment plants
  - Agricultural runoff
  - Developed land stormwater runoff
  - Onsite wastewater and septic systems
- Goals are designed to achieve reductions in most cost-effective manner

Why Does TMDL Matter?

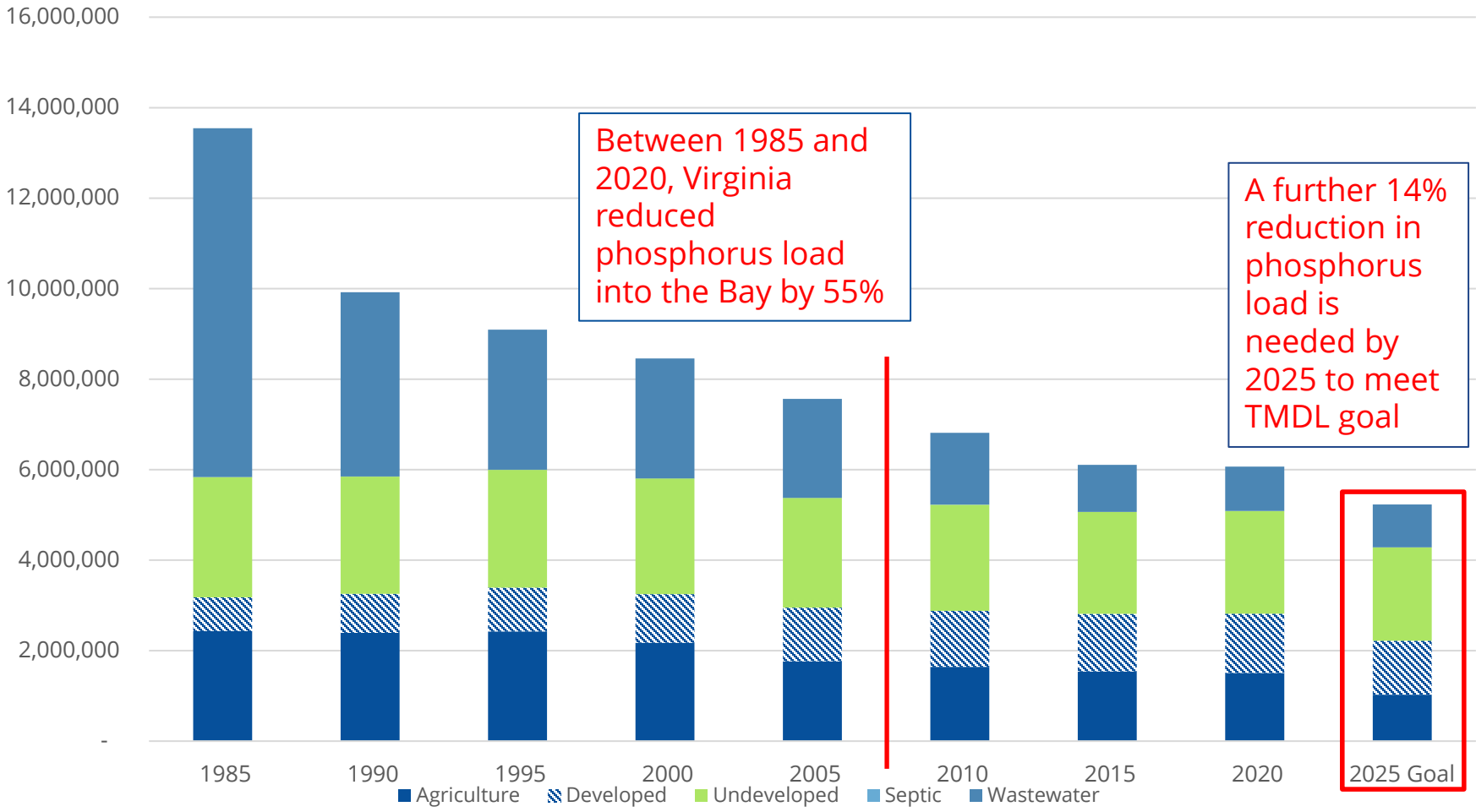
- Nitrogen and phosphorus are naturally occurring substances that are essential for living organisms
  - However, runoff from various point source and non-point sources result in an overabundance of nutrients in the watershed
  - Overabundance of nutrients leads to excess algae growth
  - Excess algae growth depletes oxygen from water column, and along with sedimentation, blocks sunlight for underwater plants
  - Oxygen depletion and decline in underwater plants harms aquatic animal life
- EPA can impose requirements to ensure goals are met
  - EPA has enforcement authority over wastewater, industrial, municipal separate storm sewer systems (MS4s), and combined animal feeding operations permit holders
  - EPA can reduce allowable loads for these permit holders
  - Virginia could lose EPA grant funding

CLEANUP PROGRESS IN VIRGINIA

Progress Toward TMDL Goals - Nitrogen



Progress Toward TMDL Goals - Phosphorus



Where Do the 2025 Reductions Have to Come From?

- The WIP III process established reduction goals for each basin and sector within the watershed
- WIP III identifies the agriculture sector as the primary source of reductions for both nitrogen (76%) and phosphorus (58%)

Sector	Nitrogen Reduction (in pounds)	Phosphorus Reduction (in pounds)
Wastewater	(11,000)	1,300
Agriculture	6,581,000	541,000
MS4 Developed	225,000	15,300
Non-MS4 Developed	925,000	114,200
Undeveloped	772,000	200,100
Federal	87,000	20,200
Total	**8,582,000**	**892,100**

CLEANUP FUNDING AND NEEDS

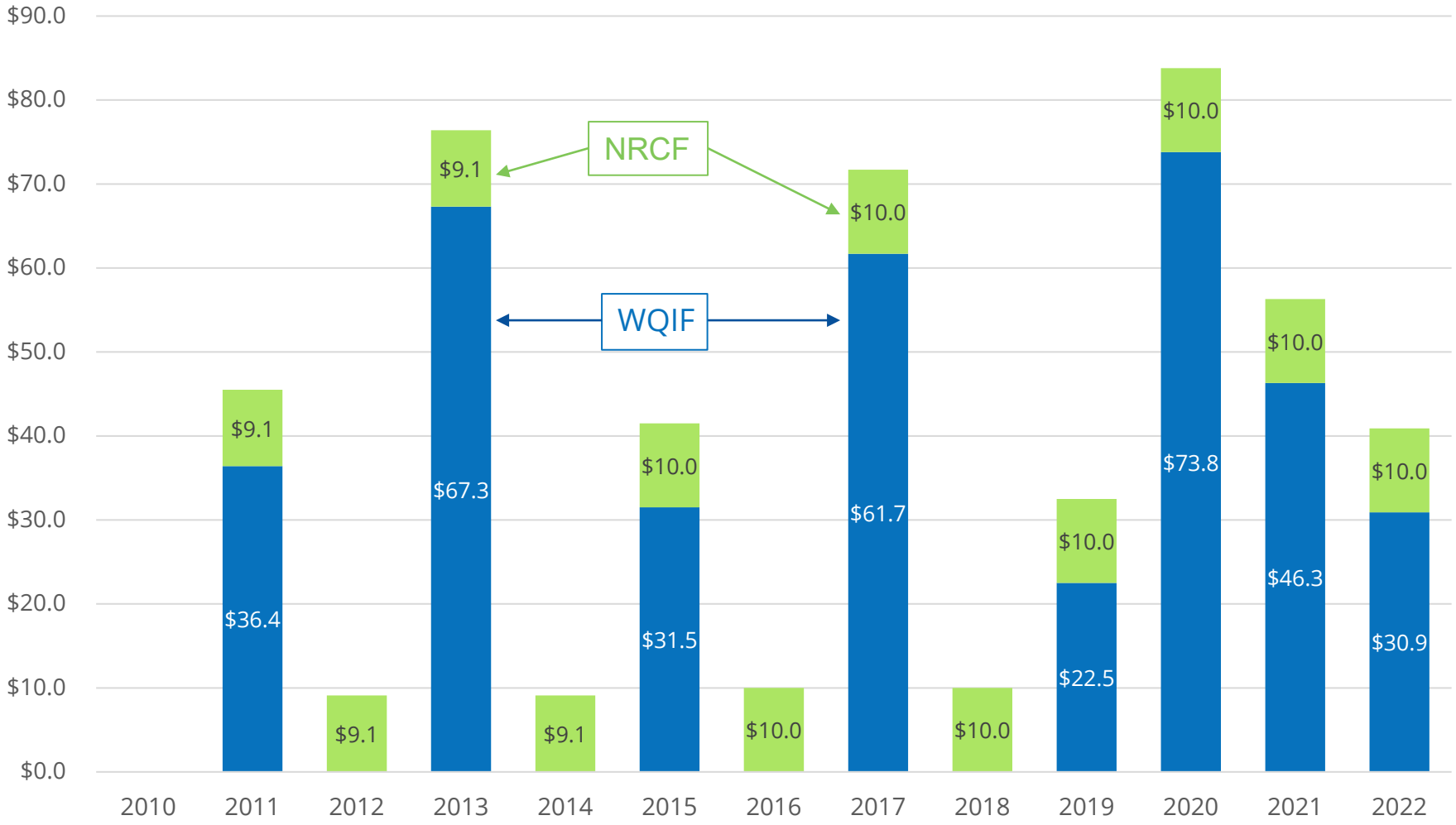
How Cleanup is Funded

- Virginia has two dedicated revenue sources for Bay cleanup: the Water Quality Improvement Fund and the Natural Resources Commitment Fund
- The Water Quality Improvement Fund (WQIF)
  - 10% of any revenue surplus (Part A) and 10% of any agency year-end balances (Part B)
- Natural Resources Commitment Fund established in 2008 by House Bill 643
  - Receives $10 from every deed recorded in Virginia
  - Provides a consistent $10 million each year committed to agricultural best management practices (Ag BMPs)
- Non-dedicated state resources, including general fund appropriations, bond authorizations, and one-time federal resources have been provided when available
  - For example, the 2021 General Assembly authorized $50 million in bonds and $50 million in cash to be deposited for the implementation of wastewater treatment improvements required by the Enhanced Nutrient Removal Certainty Act

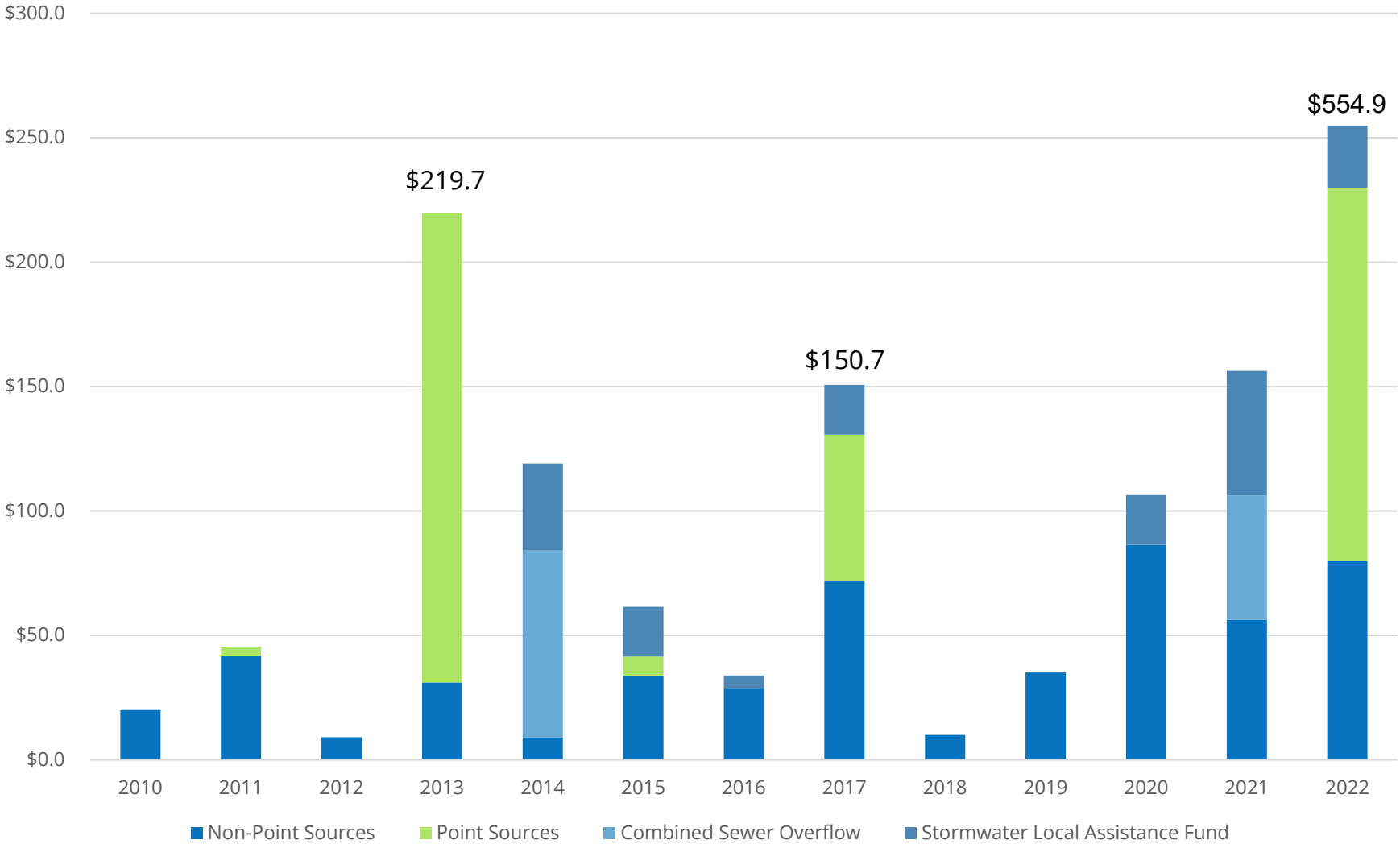
How Cleanup is Funded

- There are also a number of federal programs that provide funding toward water quality projects
- DEQ administers the Virginia Clean Water Revolving Loan Fund (VCWRLF)
  - Provides low interest loans for publicly owned wastewater and stormwater projects, remediation of brownfield properties, land conservation and living shorelines, and agricultural best management practices
  - Fully capitalized each year by EPA, and half of funds used for principal forgiveness
  - Has provided $4 billion in funding since establishment in 1988
- USDA also provides grant funds toward water quality goals
  - Conservation Reserve Enhancement Program (CREP) – federal funds matched with state and non-federal funds to convert cropland and marginal pasture lands to native vegetation or wetlands
  - Natural Resources Conservation Service (NRCS) – works with agricultural producers to implement practices that control nutrient loading for livestock operations and croplands

Dedicated Bay Cleanup Revenues Vary Greatly From Year to Year ($ in millions)



Bay Cleanup-Related Spending Varies Greatly By Year ($ in millions)



Needs Assessment – Agricultural Best Management Practices

- Each year DCR develops estimated funding need for the Virginia Agricultural BMP Cost-Share (VACS) Program
  - Developed annually by DCR in consultation with a stakeholder advisory group comprised of the agricultural and conservation community, and Soil and Water Conservation Districts
- Represents estimated cost of implementing agricultural best management practices needed to meet TMDL targets within each basin
  - After developing estimate for Bay watershed, amounts needed for areas outside of the Chesapeake Bay are calculated based upon 70/30 funding split
  - Assumes 13% be used as technical assistance funding for Soil and Water Conservation Districts
  - Previous need assessment amounts unmet in annual appropriation act roll forward into the subsequent three years in successive needs assessments
- Assumes a cost share between state (40%) and federal (35%) sources, and agricultural producers (25%)
  - Share for individual projects depends upon several factors including location and practices put into place

Needs Assessment – Agricultural Best Management Practices

- The needs assessment process estimates a total need of $980.6 million over the FY 2023 to FY 2030 period
  - Maintenance of effort will be required following the FY 2025 TMDL deadline
- In order to meet 2025 TMDL goals for the agriculture sector, an estimated $441.4 million over the next three years is needed for the state share of BMP implementation and technical assistance funding
  - Of this amount, $285.6 million is the identified need for the 2022-24 Biennium

Area of Need Identified	FY 2023	FY 2024	FY 2025
Chesapeake Bay State Cost Share	$85,474,977	$90,833,876	$96,192,369
Chesapeake Bay Technical Assistance	11,111,747	11,808,377	12,505,008
Outside the Bay State Cost Share	37,072,304	39,368,888	41,664,672
Outside the Bay Technical Assistance	4,819,400	5,117,955	5,416,407
Total	**$138,478,428**	**$147,129,096**	**$155,778,456**

Needs Assessment – Wastewater

- Wastewater sector has been a reliable source of nutrient reductions achieved under Bay TMDL
  - Early investments in cleanup focused on WWTP upgrades due to cost-effectiveness of reductions in sector
- Significant sites regulated directly under Chesapeake Bay Watershed Nutrient Discharge General Permit
  - Required to stay under wasteload allocation of permit or purchase credits to stay in compliance
- "Excess" reductions in wastewater sector drop to "bottom line" for WIP III TMDL goals
- Projects are supported from WQIF appropriations, and reimbursed for eligible costs on a matching basis

Needs Assessment – Wastewater

- DEQ annually works with local governments, wastewater agencies, and conservation organizations to estimate the amount of WQIF grant funding will be needed for eligible projects over a five-year time horizon
- For the FY 22 to FY 26 period, DEQ estimates $281 million in eligible WQIF grants
  - Of this amount, $250 million is estimated to be needed for projects primarily, related to the Enhanced Nutrient Removal Certainty Act

Project Category	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
ENRC	$8,189,250	$95,816,875	$75,741,375	$40,732,500	$30,000,000
Other	$3,035,850	$8,486,225	$9,708,660	$5,304,375	$4,062,500
Total	**$11,225,100**	**$104,303,100**	**$85,450,035**	**$46,036,875**	**$34,062,500**

Needs Assessment – Stormwater

- Municipal separate storm sewer systems (MS4s) are regulated under the Virginia Stormwater Management Act as point source discharges
  - Phase I – large and medium systems required to operate under individual permits
  - Phase II (General Permit) – small systems required to obtain a general permit
- MS4 permittees are permitted up to three full five-year permit cycles to implement reductions required under Chesapeake Bay TMDL and WIPs
  - Plans must reflect *Code*-specified reductions that must be achieved in sector by 2028

Needs Assessment - Stormwater

- Stormwater Local Assistance Fund (SLAF) was established in 2014 to provide matching grants to localities for qualifying stormwater projects
  - Provides 50% matching grant for qualifying project requests
- DEQ surveys localities annually to identify estimated demand for stormwater local assistance fund grants
- Need is estimated over a five-year time horizon to align with local capital plans and MS4 Permit TMDL action plans

Fiscal Year	SLAF Need ($, millions)
2022	$37.4
2023	$33.9
2024	$46.2
2025	$36.8
2026	$34.4

- The 2021 update to the SLAF needs assessment identified $188.8 million in total eligible cost share over the FY 22 to 26 time period in 19 localities
- No unregulated (non-MS4) localities identified need

General Assembly Has Adopted Legislation Mandating Reductions

- By Code and as a condition of their permits, MS4 localities are required to develop plans that will fully-implement practices that meet goals by 2028
- 2021 General Assembly adopted Enhanced Nutrient Removal Certainty Act
  - Set out explicit pathway for wastewater sector to meet 2025 goals by identifying priority improvements
  - $800 million estimated total cost over approximately six years, including a $300 million state share and $500 million from wastewater authorities
  - State has authorized $200 million to the Water Quality Improvement Fund towards these projects
- 2020 General Assembly set target date of December 31, 2025 for the agricultural sector to meet its WIP III TMDL Goals
  - If the Secretaries of Agriculture and Forestry and Secretary of Natural Resources jointly determine the goals have not been met by July 1, 2026, certain producers may be required to implement nutrient management plans or livestock stream exclusion practices

CONSIDERATIONS FOR 2022 SESSION

Required WQIF Deposit Would Fund All But $19.6 million of Estimated Ag BMP Need in Next Biennium

- Anticipating a record WQIF deposit of $313 million in FY 2023 based upon FY 2021 year-end surplus and balances
- Assuming 15% set-aside in WQIF reserve, Virginia will be able to fully-fund the FY 2023 Ag BMP needs assessment and all but $19.6 million in FY 2024 based upon *Code*-mandated deposits

Item ($ in millions)	FY 2023	FY 2024	Biennium
WQIF Deposit	$313.0	-	$313.0
15% Set-Aside for WQIF Reserve	(47.0)	-	(47.0)
Agricultural BMP Needs (VACs)	(138.5)	(147.1)	(285.6)
Net After Fully-Funding Ag BMP Needs	**$127.5**	**($147.1)**	**$ (19.6)**

Balance in SLAF Authorization Covers 56% of Estimated Need for Biennium

- Virginia has $40 million in unobligated balances in the Stormwater Local Assistance Fund
- A total of $71.3 million of grant funding need for MS4 projects has been identified over the FY 22-24 biennium
  - $33.9 million in FY 2023 and $37.4 million FY 2024
- To fully-fund needs assessment in the next biennium, an additional $31.4 million may be needed for SLAF in the second year

Substantial Resources Available for Wastewater Projects, But Estimated Need May Be Greater 2022-24 Biennium

- The current unobligated WQIF balance for wastewater treatment plant upgrades is approximately $200 million
  - Amount includes approximately $50 million share of American Rescue Plan Act funds provided for wastewater treatment upgrades in Chapter 1 (2021 Sp. Sess. II)
- DEQ currently has $120 million in project requests that could be obligated against the $200 million balance
  - This includes $90 million in project requests for the FY 2022-24 biennium
  - This leaves a net of $80 million in WQIF balances not under consideration for obligation
- The needs assessment for wastewater projects totals $189.7 million over the 2022-24 biennium
  - Accounting for $90.0 million in requests currently under consideration, approximately $99.7 million in additional need has been identified
  - Approximately $19.7 million in grant funding potentially needed over next biennium in excess of remaining balances