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## **Chesapeake Bay Program**

- Formed in 1983 due to rapid loss of aquatic life and wildlife
  - Excess nitrogen and phosphorus main pollution sources
- Regional partnership guiding restoration and protection efforts
  - Ex: Fisheries, habitat, water quality, land conservation, stewardship
- Authorized through Clean Water Act (CWA) Section 117
- Multiple agreements
  - 2014 Chesapeake Bay Watershed Agreement
- Chesapeake Bay total maximum daily load (TMDL)
  - Sets targets and allocations for nitrogen, phosphorus and sediment
  - Jurisdictions developed plans to reduce specific sources (i.e. wastewater treatment plants, urban stormwater, agriculture)

## **Chesapeake Bay Program Partnership**

- EPA (represents U.S. Government)
- Jurisdictions (VA, MD, D.C., PA, DE, WV, NY)
- Chesapeake Bay Commission
- Federal agencies
- Academic institutions
- Non-governmental organizations
  - Chesapeake Bay Foundation, Nature Conservancy
- Advisory Committees
  - Scientific, Local Government, Citizen



## Chesapeake Bay Program Partnership

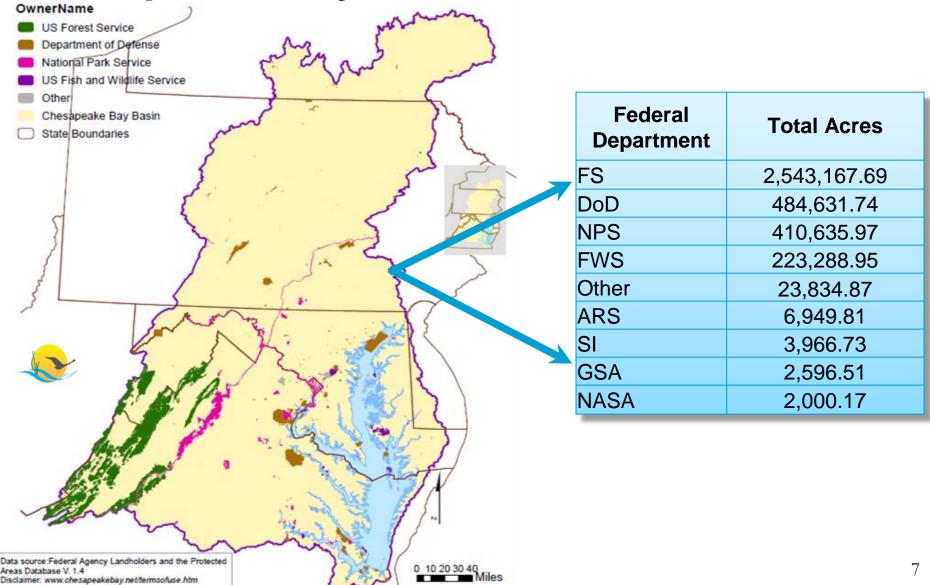


# Other Goal Teams and Workgroups Applicable to the FFWG

- Water Quality Goal Implementation Team
- Watershed Technical Workgroup
- Milestones Workgroup
- Urban Stormwater Workgroup
- Wastewater Workgroup



# Federal Lands and Facilities in the Chesapeake Bay Watershed



#### CWA Section 117: "Chesapeake Bay"

- 117 (f)(1): Federal agencies that own or operate a facility within the Ches. Bay watershed "shall participate in regional and sub-watershed planning and restoration programs"
- 117 (f)(2): Requires that federal agencies that own property in the Ches. Bay watershed comply with the Ches. Bay agreement and any subsequent agreements and plans
  - 2014 Chesapeake Bay Watershed Agreement signed June 2014
- 117 (g): EPA is empowered ("shall ensure") that management plans "are developed and implementation is begun by signatories of the Ches. Bay agreement to achieve broad nutrient goals, water quality requirements, and habitat restoration"

#### 2014 Chesapeake Watershed Agreement

- Re-affirms protection/restoration goals since Chesapeake 2000 Agreement
- Signatories include EPA (for US govt.), VA, MD, D.C., PA, DE, WV, NY, CBC
- Clear and concise goals (10) and outcomes (31)
- Science and ecosystem management approaches
- Integrates Chesapeake Bay Program and Executive Order 13508 goals
- Increased accountability
  - Management strategies and two-year work plans
- Participation
  - Federal Facility Workgroup contributes to the Water Quality: 2017 and 2025
     Outcomes

#### **Executive Order 13508**

- "Recognizes the Chesapeake Bay as a national treasure"
- Federal government "should lead the effort"
  - DoD, DHS, DOT, DOI (FWS/NPS/USGS), DOC (NOAA), USDA (NRCS/FS)
- Renews federal commitment to control pollution for all sources as well as protecting and restoring habitat and living resources, conserving lands and improving water quality and ecosystem health
- Establishes Federal Leadership Committee (FLC)
- The FLC developed a strategy for the restoration of the Chesapeake Bay
- Requires reports on key challenges to protecting and restoring the Chesapeake Bay
- Agencies must implement land best practices "as expeditiously as possible and to the extent permitted by law"

#### **Executive Order 13508 Strategy**

- Restore Clean Water Goal and Strategy Actions
  - Federal agencies will contribute to Watershed Implementation Plans (WIPs)
    - Estimate nutrient and sediment loads: providing property boundaries, land use, land cover, and implementation of best management practices
    - Identify pollution reductions from point and non-point sources
    - Commit to actions, programs, policies and resources
  - States develop targets or Feds develop implementation plans
    - Consider all source sectors: agriculture; forest; urban; onsite
  - Implementation and Accountability
    - Submit two-year water quality milestones (i.e. planned implementation)
    - Report annual implementation

#### **Chesapeake Bay Total Maximum Daily Load (TMDL)**

- "Pollution diet" sets limits on nitrogen, phosphorus and sediment
  - Largest EPA TMDL
  - Max allowed to meet water quality standards (i.e. dissolved oxygen, chlorophyll)
  - Assigned limits are based on modeled data
  - Each state developed plan
  - Implementation via permits
  - EPA/VA/MD issued federal pollution targets in 2015
- Goals and 2017 Mid-point Assessment
  - 60% reductions by 2017 for all sources (i.e. wastewater, agriculture, stormwater)
  - 100% BMPs in place by 2025
- Challenges
  - Reviewing/commenting on changing state requirements
  - Funding implementation and maintenance of BMPs
  - Reporting/tracking progress

#### **Watershed Implementation Plans (WIPs)**

- WIPs formulate jurisdictional strategies to meet the CB TMDL goals of 60% reductions by 2017 and 100% practices in place by 2025
- Phases I & II complete
  - County level/federal agency loads assigned in MD for all sources
  - Federal agency loads assigned in DC
  - County level implementation targets attempted in VA and PA
- Calibration of model in 2017 will inform Phase III WIPs due June 2019
  - EPA expects jurisdictions to develop local area planning goals
  - Federal facility targets revised

National Pollutant Discharge Elimination System (NPDES) Permit Compliance

- NPDES Phase II municipal separate storm sewer system (MS4) and industrial stormwater (ISW) permits
  - Current NPDES stormwater permits with CB TMDL requirements
    - VA MS4 and ISW Permits
    - MD MS4 and ISW Permits
    - PA MS4 Permit
    - DC ISW Permits (EPA issued)
- DOEE holds MS4 permit for the district / federal land holders pay stormwater fees
- WV Compliance with stormwater management regulations associated with development/construction

## NPDES Chesapeake Bay Jurisdictions Stormwater Program Links

VA MS4

www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/MS4Permits.aspx

VA ISW

www.deq.virginia.gov/Programs/Water/PermittingCompliance/PollutionDischargeElimination/Stormwater.aspx

MD MS4

http://mde.maryland.gov/programs/Water/StormwaterManagementProgram/Pages/storm\_gen\_permit.aspx

MD ISW

http://mde.maryland.gov/programs/Permits/WaterManagementPermits/Pages/stormwater.aspx

• DC

https://doee.dc.gov/service/separate-storm-sewer-system-ms4-permit

PA

http://www.dep.pa.gov/Business/Water/CleanWater/StormwaterMgmt/Stormwater/Pages/default.aspx

NY

https://www.dec.ny.gov/chemical/43150.html

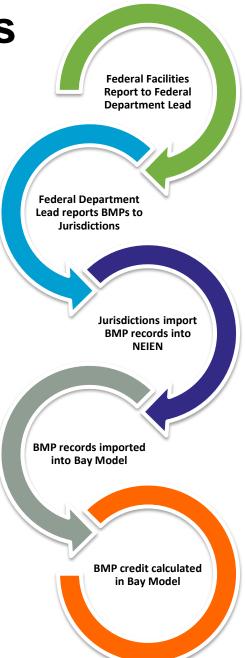
WV

https://dep.wv.gov/WWE/Programs/stormwater

## Roles and Responsibilities

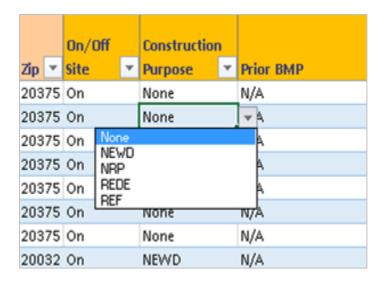
- Federal Facility Workgroup (FFWG): consists of federal and state representatives.
  - Federal reps may be members of the FOD
  - Have a direct relationship to respective facilities within the watershed
  - Responsible for annual BMP implementation progress reporting and two-year milestone development/tracking
- Federal Office Directors (FOD): consists of federal representatives identified in EO 13508
  - Not all agencies on the FFWG are on the FOD
  - Responsible for the implementation of programmatic actions related to Chesapeake Bay protection and restoration
  - Provide annual reports for CBARA and developing updates on two-year programmatic milestones
- Interactions between the FFWG and FOD: TBD
  - 2 August discussion between the FOD and FFWG federal members

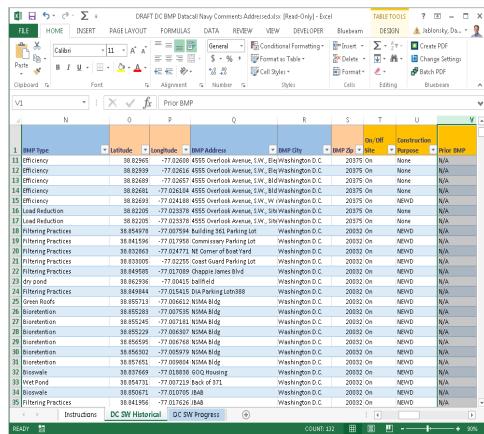
**Reporting Process** 



## Federal Agency and Facilities Reporting Process

- EPA sends request in August to Federal Office Directors and FFWG members
- Requests BMP data be submitted to Jurisdictions
- Unique templates are provided by each Jurisdiction to report Progress
- CAST is used to report planned BMPs





### Defining BMPs and Milestones

#### Historical BMPs

- Practices installed in the past and already reported
- Revisions and updates based on new information
- Verification of inspection and maintenance required to maintain credit
- Federal data submitted to Jurisdictions for update in NEIEN

#### Progress BMPs

- Constructed, installed and functioning
- Jurisdiction specific reporting templates used
- Federal data submitted to Jurisdictions
- Reported in STATE fiscal year 07/01 through 6/30
- Jurisdictions enter data into NEIEN

#### Planned BMPs

- To be installed using best available info in STATE fiscal year
- Two year cycle requested every ODD year
- Facility level information submitted using CAST. Scenarios shared with Jurisdictions
- Federal data is consolidated with Jurisdiction submittal to EPA

## Programmatic Milestones

- Agency level actions to support Water Quality
- Two-year cycle, requested every ODD year
- Reported in CALENDAR YEARS
- Submitted to EPA

## BMP Reporting DueDates to Jurisdictions

#### Historical BMPs

• OCT 1 every year with updates

### Progress BMPs

OCT 1 every year

#### Planned BMPs

NOV1 every odd year

## Programmatic Milestones

NOV1 every odd year

## 2017 BMP Reporting Example

#### Historical BMPs

- Updates to BMPs installed from 1984 to 6/30/2016
- Need to convert records to Phase 6

#### Progress BMPs

 BMPs installed from 07/01/2016 through 6/30/2017

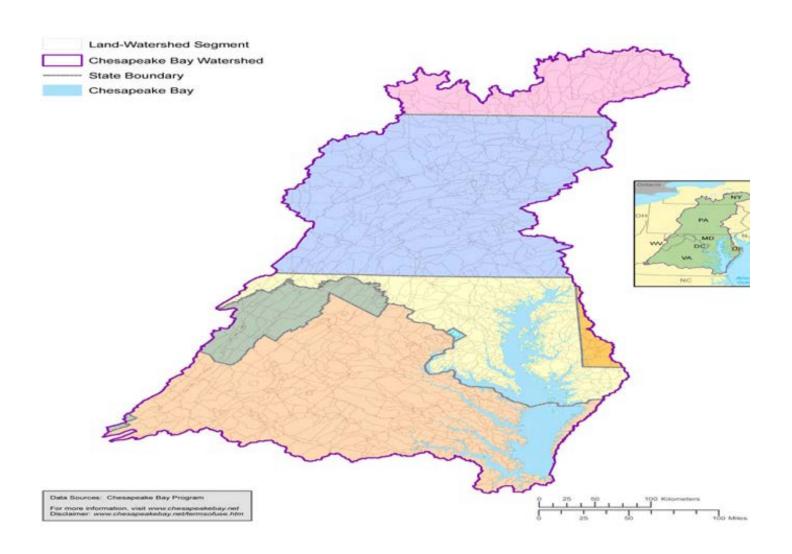
#### Planned BMPs

• BMPs to be installed between 7/1/2017 through 6/30/2019

## Programmatic Milestones

 Agency level actions to be completed in calendar years 2018 and 2019

## Jurisdiction Specific Reporting Slides



## Jurisdiction Specific Slides: Virginia

#### Jurisdiction POC

Bill Keeling

Non-point Source Analyst

#### EMAIL and Phone

William.keeling@deq.virginia.gov

804-698-4342

#### Template Used

Excel Spreadsheet or Online: Virginia BMP Warehouse

### **Specific Coordination**

Uses VAWarehouse online database for reporting progress

## **Jurisdiction Specific Slides: Maryland**

#### Jurisdiction POC

Gregorio Sandi

Natural Resources Planner

#### EMAIL and Phone

Gregorio.sandi@maryland.gov

410-537-3742

### Template Used

Excel Spreadsheet

### **Specific Coordination**

Multiple sheets require duplicate info for various MDE departments

## Jurisdiction Specific Slides: Pennsylvania

#### Jurisdiction POC

Ted Tesler

#### EMAIL and Phone

thtesler@pa.gov

### Template Used

Excel Spreadsheet

### **Specific Coordination**

Limited staff—ensure follow-up

#### Jurisdiction Specific Slides: District of Columbia

#### Jurisdiction POC

Luke Cole

Tree Policy Coordinator

#### EMAIL and Phone

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(desk) 202-724-5348 (cell) 202-281-7634

### Reporting Template Used

Excel Spreadsheet

### **Specific Coordination**

DDOE emails Federal Facility leads to verify stormwater practices extracted from database to minimize duplicative reporting.

## Jurisdiction Specific Slides: West Virginia

#### Jurisdiction POC

Alana Hartman

**Basin Coordinator** 

#### **EMAIL** and Phone

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304-822-7266 x 3623

### Template Used

Excel Spreadsheet

### **Specific Coordination**

## **Jurisdiction Specific Slides: New York**

#### Jurisdiction POC

Lauren Townley

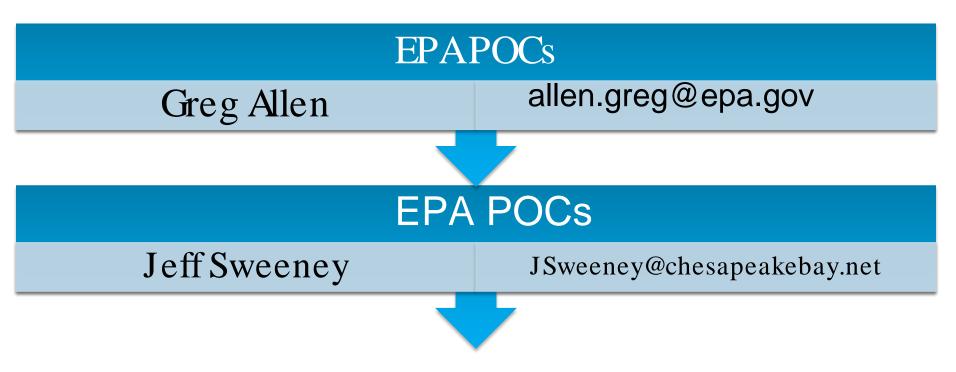
#### **EMAIL** and Phone

Lauren.townley@dec.ny.gov

### Template Used

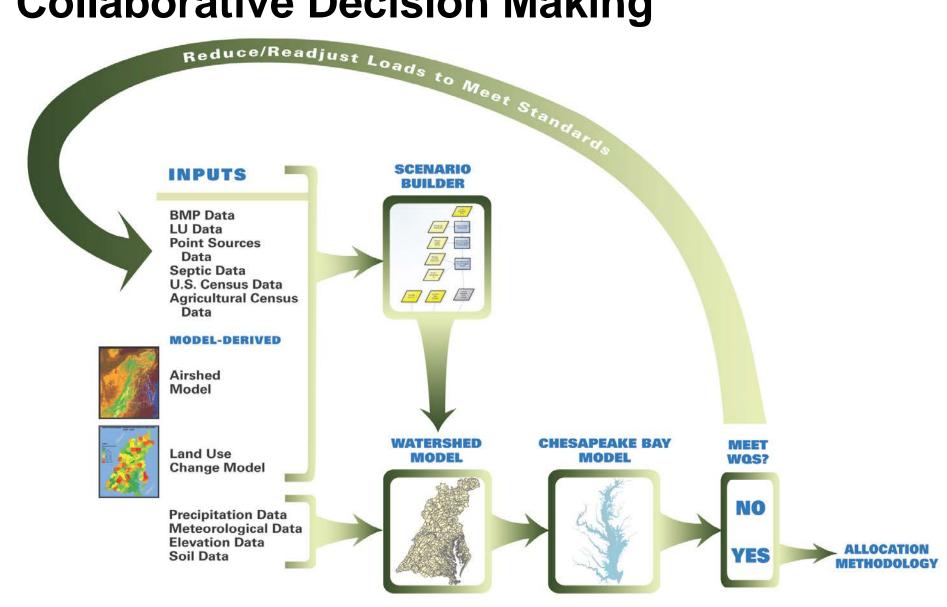
Excel Spreadsheet

### **Specific Coordination**

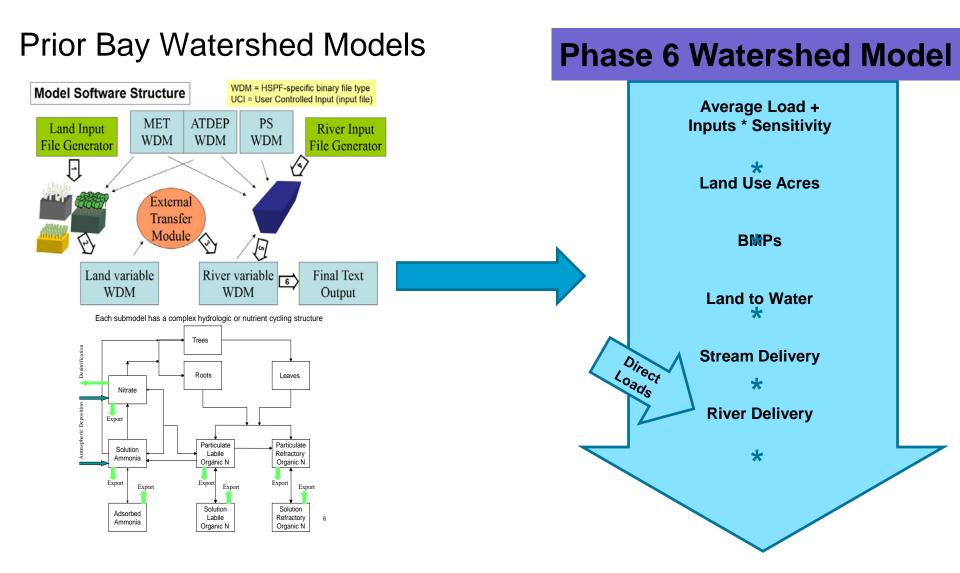


## **Copy EPA for All Jurisdictional Submittals**

# Suite of Partnership Models Used in Collaborative Decision Making

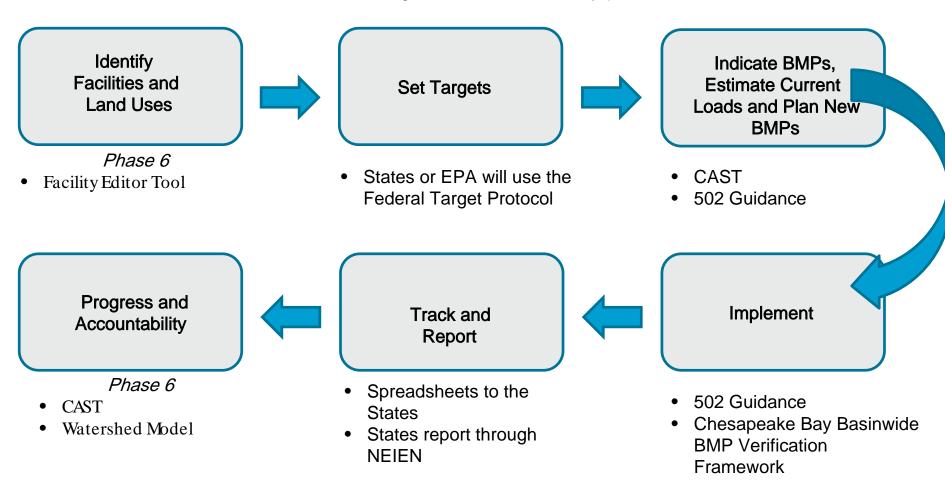


# Suite of Partnership Models Used in Collaborative Decision Making



## **Modeling Tools**

Tools and resources available to federal agencies, broken out by process.



## **Chesapeake Bay Program Key Years**

- 1985 The Chesapeake Bay Program Partnership est. 1983; 985 provides representative "baseline" to measure progress made to date
- 2010 The Chesapeake Bay TMDL was published on December 29, 2010. This
  year provides a second "baseline" to measure TMDL progress made to date
  - Forms the basis of two key scenarios that place boundaries on possible pollution efforts.
    - No Action: 2010 if no BMPs had been implemented and no wastewater treatment plant upgrades had been made
    - E3: 2010 if all the theoretically possible treatment plant upgrades and BMPs had been completed
  - Both are used to determine State 2025 Planning Targets
  - States must account for growth in nutrient sources out to 2025
- 2017 This year represents the mid-point of the TMDL process by which all actions planned by jurisdictions were to have been completed to reduce N,P and S by 60%
  - This year also represents the most recent estimates of progress made to date
- 2025 This is the year that ALL practices must be in place to meet water quality standards in the Chesapeake Bay and its tidal tributaries.
  - States with support from local partners will be asked to develop Phase III WIPs that can achieve their pollution reduction goals by this year

#### **Common Terms and Definitions**

- Chesapeake Bay Program Glossary includes terms used to describe the Chesapeake Bay, its ecosystem and restoration efforts: <a href="https://www.chesapeakebay.net/discover/glossary#">https://www.chesapeakebay.net/discover/glossary#</a>
- Federal data layer: Federal lands and facilities ownership, boundary, acreage information located in an ArcGIS Online map viewer for the Chesapeake Bay watershed. http://gis.chesapeakebay.net/fedfacs/
- High-resolution data: One-meter resolution land cover dataset for the Chesapeake Bay watershed. Prior data was at the 30-meter resolution. Gives more accurate look at what's really on the landscape. http://chesapeakeconservancy.org/conservation-innovationcenter/high-resolution-data/land-cover-data-project/
- Federal Land Use: Most federal land use data is captured within the high-resolution dataset. Land uses assigned to federal lands include: forest, natural, turf, developed,. Agricultural land uses were extracted from federal lands due to data gaps and uncertainty.
- Allocation Air: Portion of nitrogen, phosphorus and sediment load under the oversight of EPA. Load reductions are accounted for through the CAA.
- Hydrologic Unit Code (HUC): A hierarchal sequence of numbers or letters that identify a hydrologic feature like a river, river reach, lake or watershed. Longer the number sequence the smaller the average size or scale.
- Scenario: Forecasted condition for planning purposes to compare against target or goal.
- <u>Calibrated model</u>: Phase 6 model uses monitoring data to ensure model outputs mimic conditions from observed monitoring stations.
- Construction General Permit Database: States have electronic reporting systems for construction permit applications. Some may use this database to bring data into their NEIEN submittal.
- Regulated versus unregulated lands: Permitted versus non-permitted. Most of the implementation necessary to meet the CB TMDL will come from lands are not permitted/non-regulated.

## Phase III WIP Expectations for Federal Lands and Facilities

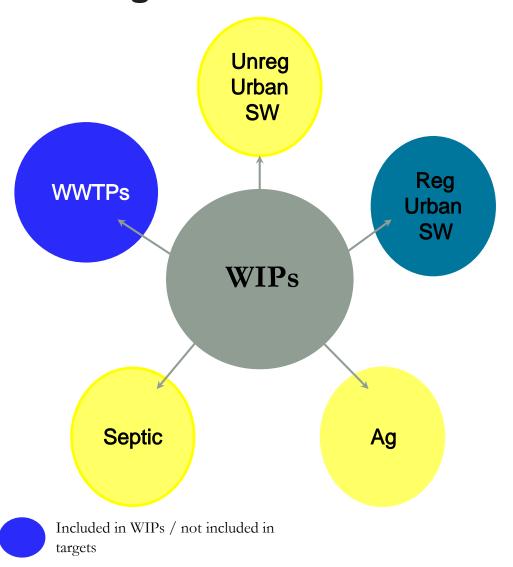
- Location and description of federal land or facility
- Description and estimate of current TN, TP, and TSS
- Estimate of anticipated growth through 2025
- Verified records of existing BMPs through 2017
- Description of existing programs, policies, and strategies used to drive BMP implementation
- Inventory of NPDES permits
- Description of facility's stormwater management program (such as MS4 permit requirements) Planned reductions from point and nonpoint sources including addressing anticipated growth
- BMP implementation scenarios to reduce TN, TP, and TSS to reach the new facility specific targets
- Planned actions, programs, policies, and resources necessary through 2025
- Plans to address gaps in achieving reductions
- Procedure for tracking and annually reporting BMPs to the jurisdiction in a manner that is consistent with the jurisdiction's procedures (and copy to EPA)
- Process for assessing implementation progress

## Phase III WIP Expectations for Federal Lands and Facilities

- Other information specified by permit conditions or as requested by jurisdictions
- EPA expects federal agencies to take the following steps:
  - Assess properties to determine the feasibility of installing urban retrofit practices and nonstructural measures to meet planning targets
  - Reduce, prevent, or control erosion from unpaved roads, trails, and ditches
  - Provide support in source sectors where EPA is applying enhanced oversight or other actions
- Encouraged to consider multi-benefit BMPs
  - Climate resiliency, fish habitat, forest buffers, healthy watersheds, protected lands, public access, stream health, toxics, tree canopy, wetland, brook trout
- EPA's Role and Support to Federal Agencies
  - Coordinate with federal agencies to provide input in Phase III WIPs and federal water quality milestones
  - Assist in the resolution of any disagreement between a federal agency and jurisdiction
- Provide technical advice and assistance to ensure that federal actions are cost effective, timely, and in compliance with applicable standards

Connecting WIPs and Federal Facility/Agency

**Planning Goals** 







## **Local Area Planning Goals**

- MD: Final LAPGS in the fall. Will use the same methodology from Phase II WIPs, using 20% retrofit calculations.
- DC: Will only be developing federal facility planning goals
- NY: Will be implemented on the HUC 10 Watershed scale. HUC 10 watersheds with comparatively higher loading for agriculture, point source, or developed loads will be given a percent load reduction goal based on 2017 Phase 6 load data available from CAST. The local area planning goals are still being reviewed and are subject to change. Will not be developing federal facility planning goals.
- PA: Final LAPGs in the fall; have preliminary planning goals and will conduct a pilot process with Lancaster, York and Franklin counties. Federal facilities will be separated from counties/localities and given their own goals.
- VA: LAPG split between WLA and LA, and federal and non-federal. Local engagement process for Agriculture and Forestry sectors led by Soil and Water Conservation Districts. Developed, Septic and Urban Forestry sectors led by Planning District Commissions. SWCDs started meeting in May, PDCs anticipated to start meeting in July. Federal Facilities are encouraged to join the PDC meetings, though each federal department (as in the model) will be given their own LAPG.
- WV: Developing LAPG July through September.

# CB TMDL N, P, and S Federal Facility Targets (2015)

- EPA/Jurisdictions defined approach to establish federal 2017/2025 targets for nitrogen, phosphorus and sediment
  - Federal Facilities Targets Action Team (FFTAT) lead by EPA with VA (cochair), PA, MD, GSA, DHS, NPS, USDA, and DoD
- 'Protocol for Setting Targets, Planning BMPs, and Reporting Progress'
  - Process document for setting federal targets / outlines methodologies to develop loads and pollutant reductions
  - Promotes the use of CAST for EPA to assess federal agency progress toward CB TMDL

# CB TMDL N, P, and S Federal Facility Targets (2015)

- 2017/2025 Target encompass permitted and non-permitted facilities and regulated and unregulated sources
- Targets consistent with WIP strategies and NPDES permits
- 2010 baseline condition (i.e. "no-action")
- Targets posted on BayFAST
- Supported Efforts
  - Comprehensive list of properties
  - Updated land use
    - VA set targets for agriculture and urban land use classes
    - MD set targets based on 20% retrofit of any untreated impervious acreage
    - EPA set targets for DC/PA/WV/NY/DE urban based on 60% equivalent reduction
  - Historical BMPs
  - Panned implementation for 18/19 two-year water quality milestones

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#### Resources

- FFWG Page: https://www.chesapeakebay.net/who/group/federal\_facilities
- Forestry Phase III WIP Guide: https://www.chesapeakebay.net/documents/WIP\_Forestry\_BMP\_Packet\_December\_2017.pdf
- EPA Phase III WIP Expectations for Federal Lands & Facilities: https://www.epa.gov/sites/production/files/2018-06/documents/epa-phase-iii-wip-expectations-6-19-18.pdf
- **2015 Protocol:**https://www.chesapeakebay.net/documents/CBP\_BMP\_Expert\_Panel\_Protocol\_WQGIT\_approved\_7.13.15.pdf
- BMP Field Guide:
  - Now: https://goo.gl/5Tr7uj
  - Later: https://www.chesapeakebay.net/bmpguide
- CAST:
  - Webinars/Trainings: https://cast.chesapeakebay.net/Documentation/Webinars
  - Source Data: https://cast.chesapeakebay.net/Home/SourceData

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James Davis-Martin – Virginia Department of Environmental
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