EPA INTERIM EVALUATION OF FEDERAL AGENCY 2016-2017 WATER QUALITY MILESTONES PROGRESS

The U.S. Environmental Protection Agency (EPA) is providing an evaluation of federal agency progress toward meeting 2016-2017 programmatic milestones and pollutant reduction targets in support of the Chesapeake Bay nutrient and sediment Total Maximum Daily Load (Bay TMDL).

During 2016, federal agencies continued to implement best management practices (BMPs) to make progress toward the federal facility pollutant reduction targets that were established for federal facilities and lands in the Chesapeake Bay watershed. The extent to which federal agencies reported 2016 progress and historical BMPs is reflected in Appendices A and B. Other listed programmatic milestones, for which there was progress in 2016, provide additional support to the jurisdictions in achieving the outcomes described in the jurisdictions' watershed implementation plans (WIPs). For a complete list of all federal programmatic 2016-2017 two-year milestones, please see the report available at the Chesapeake Bay Executive Order website.

Load Reduction Review

When evaluating annually whether progress is on track watershed-wide, EPA is comparing reported progress to expected pollutant reduction targets to assess whether jurisdictions and federal agencies are on track to have practices in place by 2017 that will achieve 60 percent of necessary reductions compared to 2009. Loads in this evaluation are simulated using version 5.3.2 of the Chesapeake Bay Program (CBP) partnership Watershed Model and wastewater discharge data reported by the Bay jurisdictions and federal agencies. The load reduction outcomes listed in this section resulted from the activities of the CBP partnership, which includes stakeholder actions coordinated by jurisdictions and federal agencies.

In order to be on track to achieve the 2017 reduction goals, watershed-wide nutrient and sediment loads would be reduced by 52.5 percent compared to 2009. Based on the data submitted, phosphorus and sediment are on track to achieve the 2017 goals. The 2016 progress assessment watershed-wide shows phosphorus reduced by 81 percent and sediment reduced by 57 percent. Nitrogen is not on track with 33 percent reduced. EPA's annual target of the air deposition load reduction to tidal surface waters was achieved with 0.173 million pounds reduced.

In addition, during 2016 federal agencies continued to demonstrate substantial activity and investment in implementing management practices to meet the nearly 800 individual facility targets issued in 2015 (Appendix C). More effective systems are needed for reporting implementation and using that information for estimating progress toward reaching facility pollution reduction targets.

Through the CBP partnership's Chesapeake Bay Watershed Water Quality Monitoring Network, supported by U.S. Geological Survey (USGS), the Susquehanna River Basin Commission, and the Bay jurisdictions, the non-tidal monitoring trends indicate that an estimated 37 percent of the Chesapeake Bay and its tidal tributaries met applicable water quality standards. This marks an almost 10 percent increase from the previous assessment period. Loading trends for the entire watershed based on River Input Monitoring stations indicate that over 50 percent of sites are

improving for nitrogen and close to 70 percent are improving for phosphorus (for the 2005-2014 trend period).

Agriculture

2016-2017 Milestone Achievements

- U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) coordinated lessons learned with CBP partners on the Conservation Effects Assessment Project Chesapeake Bay cropland studies to discuss their utility for learning about the effectiveness of nutrient management on Chesapeake Bay cropland and opportunities to fine-tune nutrient management to achieve the greatest water quality benefits.
- EPA completed seven animal feeding operations reviews in the Rattlesnake Run watershed.
- USDA NRCS is developing a National Instruction to provide further guidance that will clarify options for entering into and/or strengthening data sharing with the Chesapeake Bay jurisdictions.
- USDA NRCS in Pennsylvania recently completed the "Pennsylvania Remote Sensing Pilot Project" which has been accepted as a concept option for verifying BMPs by the CBP partnership's Agriculture Workgroup. NRCS and Pennsylvania collaborated to implement this project. The CBP partnership has accepted several relevant BMPs identified through this remote sensing technique; as a result, jurisdictions received credit for those BMPs in the recent 2016 progress assessment with the CBP partnership's Watershed Model.

Key Areas to Address to meet 2016-2017 Milestones

- The 2016 annual target to apply 236,000 acres of conservation practices in conjunction with USDA High Priority Performance Goals was not met**.** In 2016**,** 146,746 acres of conservation practices were applied.

Urban/Suburban Stormwater

2016-2017 Milestone Achievements

- EPA published a draft Municipal Separate Storm Sewer System (MS4) permit for the District of Columbia for public notice and comment.
- EPA conducted an update of 2012 stormwater assessments for Pennsylvania and Virginia.
- EPA revised the national Phase II MS4 regulations to address the Ninth Circuit remand with the final rule signed November 17, 2016 and published in the Federal Register on December 9, 2016.
- EPA reissued its National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities. It is applicable, within the Chesapeake Bay watershed, to operators in the District of Columbia and Federal operators in Delaware.
- EPA conducted oversight review, per the federal regulations, of draft state MS4 permits to ensure consistency with the Bay TMDL allocations and the level of pollutant reductions called for in jurisdictions' WIPs and to ensure permits contain enforceable performance measures. Permits reviewed include the Phase II MS4 general permit for Pennsylvania (PAG-13), the Phase II MS4 general permit for Maryland, and multiple permits in Virginia (6 Tidewater Phase I MS4 permits and the Virginia Department of Transportation (VDOT) MS4 permit).

Key Areas to Address to meet 2016-2017 Milestones

- Continue to review and comment on draft state MS4 permits to ensure consistency with the Bay TMDL allocations and the level of pollutant reductions called for in jurisdictions' WIPs; and to ensure permits contain enforceable performance measures.
- Continue to provide technical assistance to communities to help better implement stormwater programs.

Wastewater Treatment Plants and Onsite Systems

2016-2017 Milestone Achievements

- Nutrient loads from significant federally-operated wastewater treatment plants (WWTPs) continued to decrease in 2016 with total nitrogen loads decreasing by 6,845 pounds (Appendix D) and phosphorus decreasing by 301 pounds (Appendix E).

Key Areas to Address to meet 2016-2017 Milestones

- Continue the level of effort to reduce or maintain existing loadings.

Offsets and Trading

2016-2017 Milestone Achievements

- USDA Office of Environmental Markets (OEM) worked with EPA Region 3 to develop credit estimates for manure technologies in the Chesapeake Bay using the Chesapeake Bay Nutrient Tracking Tool. Credit estimates were meant to estimate potential reductions from manure technologies from avoided manure applications within the watershed. OEM met with the CBP partnership, EPA Region 3 and state administrators from Pennsylvania, Maryland, Virginia and Delaware to discuss how manure technologies could be credited in the Chesapeake Bay watershed. It was decided to credit these technologies for 1) avoided ammonia emissions and 2) avoided manure applications on the landscape.
- EPA updated the 2012 trading and offset assessments for all Bay jurisdictions.
- EPA issued a final "baseline demonstration" technical memorandum setting forth expectations for the Bay jurisdictions' offset and trading programs.

Key Areas to Address to meet 2016-2017 Milestones

- EPA expects federal facilities to continue to work to understand where growth is occurring and, where loads need to be offset, to offset these new loads within the appropriate timeframe, and to continue to track and account for new or increased loads.

Federal Facilities and Lands Implementation Activities

2016-2017 Milestone Achievements

- The federal agencies owning most federal land in the Bay watershed and EPA maintained a joint jurisdictional and federal workgroup under the CBP partnership's Water Quality Goal Implementation Team to coordinate advancement of federal involvement in implementing actions to meet the Bay TMDL allocations. The Department of Defense (DoD) continued to co-chair the workgroup along with the Commonwealth of Virginia.
- DoD developed an in-depth process to collect, review and report implementation of stormwater management practices. Staff from DoD and Bay jurisdictions worked

cooperatively to review and validate the data for submission to EPA and maximize the credit of DoD BMP implementation in the Chesapeake Bay Watershed Model.

- Federal agencies made progress in achieving more complete communication with the Bay jurisdictions regarding 2016 BMP implementation progress information (Appendix A) and historical BMP information (Appendix B) for use in calibration of the CBP partnership's Phase 6 Watershed Model.
- DoD installations continue to utilize the information collected from BMP opportunity assessments to identify and prioritize retrofits to develop stormwater conceptual designs and construction documents.
- DoD facilitated routine internal Chesapeake Bay Action Team meetings to educate and exchange information with installation environmental directors, water program managers, and natural resource managers. The Fall 2016 DoD Chesapeake Bay Program Journal provided an editorial focus on Phase III WIPs. The Journal is distributed to DoD leadership and installations.
- In Fiscal Year 2016, DoD implemented more than 184 acres of impervious surface treatment across the Chesapeake Bay watershed.
- Federal agencies and USGS identified and mapped all federal landholdings in the Chesapeake Bay watershed for which data is available using a new online Federal Facilities Editor Tool in order to inform the CBP partnership's Phase 6 Watershed Model.
- EPA invested over one million dollars to acquire high resolution land cover data, which was processed by USGS in coordination with the Chesapeake Conservancy to provide the jurisdictions and federal agencies with more accurate data for use in BMP targeting. Enhanced land cover classifications completed by USGS will be used in the CBP partnership's Phase 6 modeling tools and the Bay TMDL's midpoint assessment.
- U.S. Army Corps of Engineers (USACE) assessed existing and future BMPs at their properties in the watershed.

Key Areas to Address to meet 2016-2017 Milestones

- Federal agencies and the jurisdictions should continue to improve the process related to reporting federal BMP progress data.
- Federal agencies should improve the completeness of reported annual progress data.
- Jurisdictions should work with the EPA Chesapeake Bay Program Office (CBPO) and federal agencies to ensure that reported data is entered into the National Environmental Information Exchange Network (NEIEN) so that the CBP partnership's Phase 6 Watershed Model reflects a more complete representation of implementation at the federal level.
- In coordination with EPA, federal agencies should identify mechanisms to assess numerical progress in meeting 2017 reduction targets and develop plans to meet 2025 reduction targets.
- Several jurisdictions within the Chesapeake Bay watershed have MS4 permits under development. Regulatory requirements drive the funding necessary for implementing stormwater controls that reduce nutrients and sediment. DoD and other federal agencies should continue to participate in development of MS4 permits.
- Based on available funding, DoD may pursue a project in coordination with EPA that identifies mechanisms to assess numerical progress in meeting 2017 goals and develop plans to meet 2025 reduction goals.

- DoD funded $14 million in Fiscal Year 2016 BMP implementation, which is 33 percent of the 2016 and 2017 $42 million goal. DoD should focus on additional implementation to reach the remaining 77 percent.

Programmatic Support to Bay TMDL/WIPs

2016-2017 Milestone Achievements

- EPA provided financial support to jurisdictions by maintaining funding, as authorized, through EPA's assistance programs including Clean Water Act (CWA) Section 319, State Revolving Fund (SRF), Chesapeake Bay Implementation Grants (CBIG) and Chesapeake Bay Regulatory and Accountability Program (CBRAP). In 2016, EPA distributed $23.7 million in CBIG and CBRAP grant funds to the Bay jurisdictions. EPA also provided an allocation of local government funding of $5 million to state and local governments in 2016.
- EPA provided financial support to localities and other entities through the Innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants. In 2016, each program received $6 million.
- EPA delivered the final Phase III WIP Stakeholder Assessment Action Plan to the CBP partnership to help inform the Phase III WIP expectations development process.

Key Areas to Address to meet 2016-2017 Milestones

- Potential reductions in federal budgets may require re-allocating federal funds in such a way as to maintain an adequate level of support for Bay TMDL/WIP support.

Monitoring and Science Support

2016-2017 Milestone Achievements

- EPA and USGS, working with the University of Maryland Center for Environmental Science, issued a report summarizing patterns in water-quality criteria attainment in tidal waters during 1985-2014.
- USGS completed the initial step to implement recommendations from the Building Environmental Intelligence report by establishing the Chesapeake Monitoring Cooperative to survey citizen science efforts.
- USGS updated nutrient and sediment load trends in the Chesapeake Bay watershed to help assess progress toward implementing the Bay TMDL.
- USGS issued an explanatory report on Conowingo dam and implications are being discussed for the Bay TMDL's midpoint assessment.
- USGS, EPA, and USACE refined the Chesapeake Bay Watershed model with a new framework for simulating nutrients and sediment. New land use data and other information are being included for the Phase 6 suite of modeling tools in 2017.
- EPA completed ChesapeakeProgress, which is one of a suite of ChesapeakeStat tools that will provide progress to stakeholders on all 2014 Chesapeake Bay Watershed Agreement goals and outcomes.

Key Areas to Address to meet 2016-2017 Milestones

- Potential reductions in federal budgets may require re-allocating federal funds in such a way as to maintain an adequate level of support for monitoring and science support.

Atmospheric Reductions

2016-2017 Milestone Achievements

- EPA updated the 2017 air deposition modeling scenario for the Chesapeake Bay watershed incorporating the federal plan to address interstate transport for the 2008 national ambient air quality standards and other recent finalized rules with significant nitrogen oxide reductions.
- EPA finalized a federal plan to implement the Emission Guidelines for Sewage Sludge Incinerators.
- EPA finalized a federal plan to address interstate transport for the 2008 ozone national ambient air quality standards.

Key Areas to Address to meet 2016-2017 Milestones

- Apply the atmospheric deposition estimates from the new Community Multi-Scale Air Quality Model (CMAQ) air-shed scenarios of 2017, 2025 and 2030 to the Bay TMDL's midpoint assessment decisions involving development of the Phase III WIPs.

Suggested Considerations for Development of the Phase III WIP and 2018-2019 Milestones

- EPA and the Federal Facilities Workgroup including jurisdiction members should continue efforts to improve the completeness and efficiency of reporting BMPs on federal land including possible modification of the Chesapeake Bay Facility Assessment Tool (BayFAST) and improved assurance that the jurisdictions have the information needed to properly code federal data when entering it into NEIEN.
- EPA should continue to plan how the CBP partnership's Phase 6 Watershed Model will be used to evaluate federal agencies' progress toward facility-specific 2017 targets.
- EPA should issue a Phase III WIP federal facilities guide to set expectations regarding federal facility implementation of BMPs to meet the federal facility targets with substantial involvement and input from the Federal Facilities Workgroup.

Appendix A
Federal Agency BMP Progress Reporting to the Bay Jurisdictions in 2016

Federal agencies that own property in the Chesapeake Bay drainage basin are asked to report to the Bay jurisdictions (i.e., the Chesapeake Bay states and the District of Columbia) annually on the pollution reduction practices that they have installed on their properties during the preceding year. In 2016, the federal agencies reported to the jurisdictions with 81 percent completeness. In 19 percent of the instances where data was reported by a federal agency, the jurisdictions did not report the data for evaluation of progress toward the overall pollution reduction goal. In both instances, this is a modest improvement over the previous year. The federal agencies and the jurisdictions will continue to work toward the goal of 100 percent complete reporting by the federal agencies and 100 percent inclusion of the data by the jurisdictions in 2017.

Appendix B
Federal Agency Historical BMPs Provided to Jurisdictions in 2016

Federal agencies that own property in the Chesapeake Bay drainage basin were asked in 2016 to report to the Bay jurisdictions (i.e., the Chesapeake Bay states and the District of Columbia) a complete historical record of the pollution reduction practices that they have installed on their properties. The federal agencies reported the information to the jurisdictions with 79 percent completeness. In 21 percent of the instances where the information was reported by a federal agency, the jurisdictions did not to report the data to the Chesapeake Bay Program partnership. This was a one-time reporting request that was not in effect during the previous year and will not be repeated in future years.

Appendix C

Number of Federal Facilities by Agency and State Receiving Nitrogen, Phosphorus and Sediment Reduction Targets in 2015 (total facilities = 706)

Agency*	District of Columbia	Maryland	New York	Pennsylvania	Virginia	West Virginia
AOC	3	N/A	N/A	N/A	N/A	N/A
CIA	N/A	N/A	N/A	N/A	1	N/A
DHS	N/A	6	N/A	N/A	2	N/A
DOC - NOAA	N/A	N/A	N/A	N/A	1	N/A
DOI - BLM	N/A	1	N/A	N/A	1	N/A
DOI - FWS	N/A	10	N/A	1	13	3
DOI – NPS	115	17	N/A	7	16	3
DoD (DLA, etc.)	N/A	1	N/A	2	1	N/A
DoD – Air Force	N/A	4	N/A	N/A	3	N/A
DoD - Army	3	61	2	20	20	2
DoD - USACE	2	N/A	4	6	N/A	N/A
DoD - Marines	1	N/A	N/A	N/A	3	N/A
DoD - Navy	6	19	N/A	1	21	1
DOV	2	3	N/A	N/A	N/A	N/A
General Federal	N/A	22	N/A	N/A	N/A	N/A
GSA	112	27	1	7	15	3
Misc.	6	3	N/A	2	9	1
NASA	N/A	2	N/A	N/A	N/A	N/A
Smithsonian	2	2	N/A	N/A	1	N/A
USDA	1	2	1	N/A	N/A	N/A
USDA - FS	N/A	N/A	N/A	N/A	94	7
USPS	1	N/A	N/A	N/A	N/A	N/A
Total	254	178	8	46	200	20

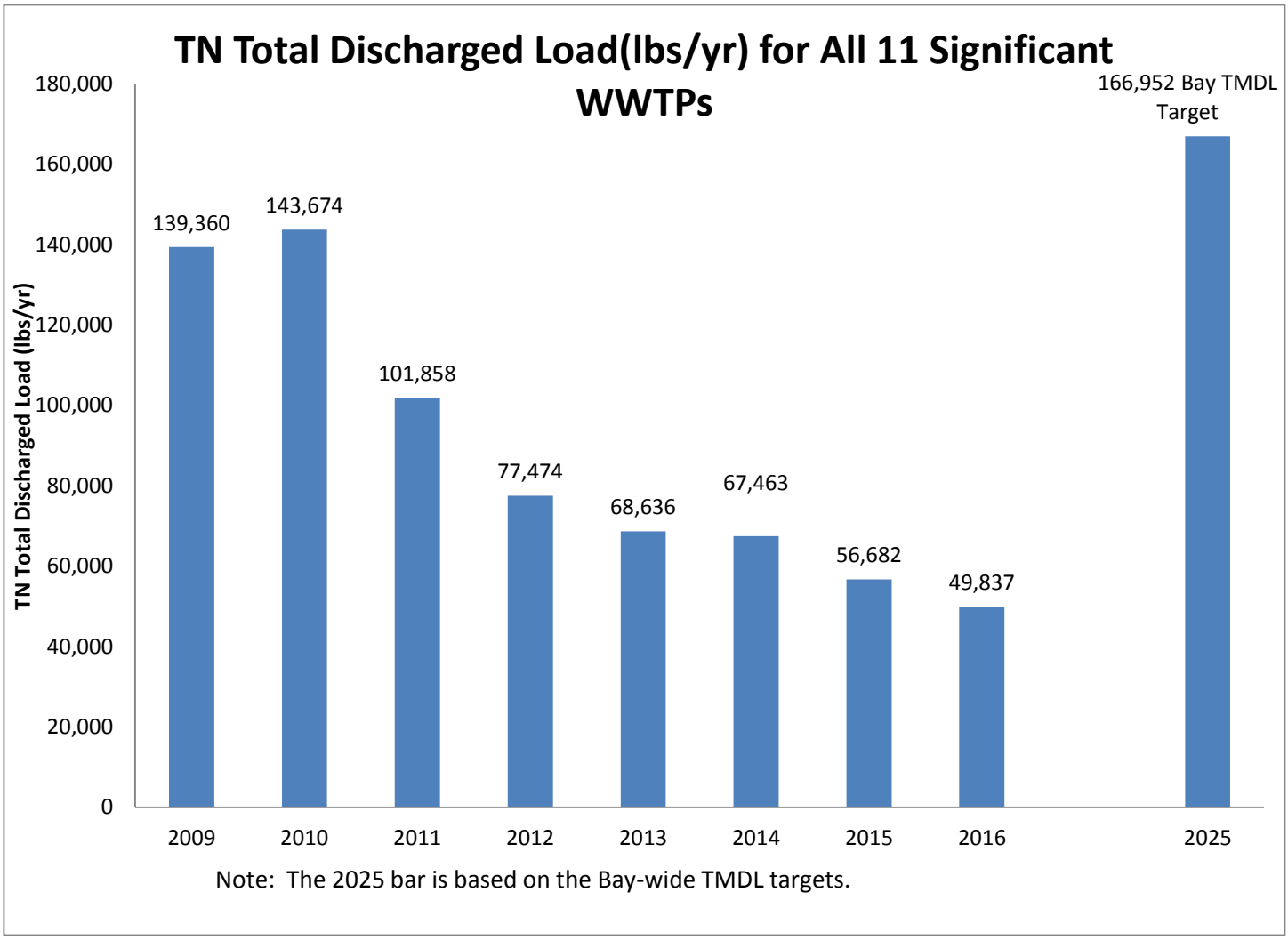
Delaware does not have federal facilities within the Chesapeake Bay Watershed.
*See the list of acronyms to define each of the federal agencies on the following page.

Acronym List

AOC - Architect of the Capitol
CIA – Central Intelligence Agency
DHS – Department of Homeland Security
DOC – NOAA – Department of Commerce, National Oceanic and Atmospheric Administration
DOC – USGS – Department of Commerce, US Geological Survey
DOI – BLM – Department of Interior, Bureau of Land management
DOI – FWS - Department of Interior, Fish and Wildlife Service
DOI – NPS - Department of Interior, National Park Service
DoD (DLA, etc.) Department of Defense, Defense Logistics Agency
DoD – USACE - Department of Defense, US Army Corps of Engineers
DOV – Department of Veterans Affairs
EPA – Environmental Protection Agency
GSA – NCR - General Services Administration, National Capital Region
Misc. – Miscellaneous
NASA – National Aeronautics and Space Administration
USDA - US Department of Agriculture
USDA – FS - US Department of Agriculture, Forest Service
USPS – US Postal Service

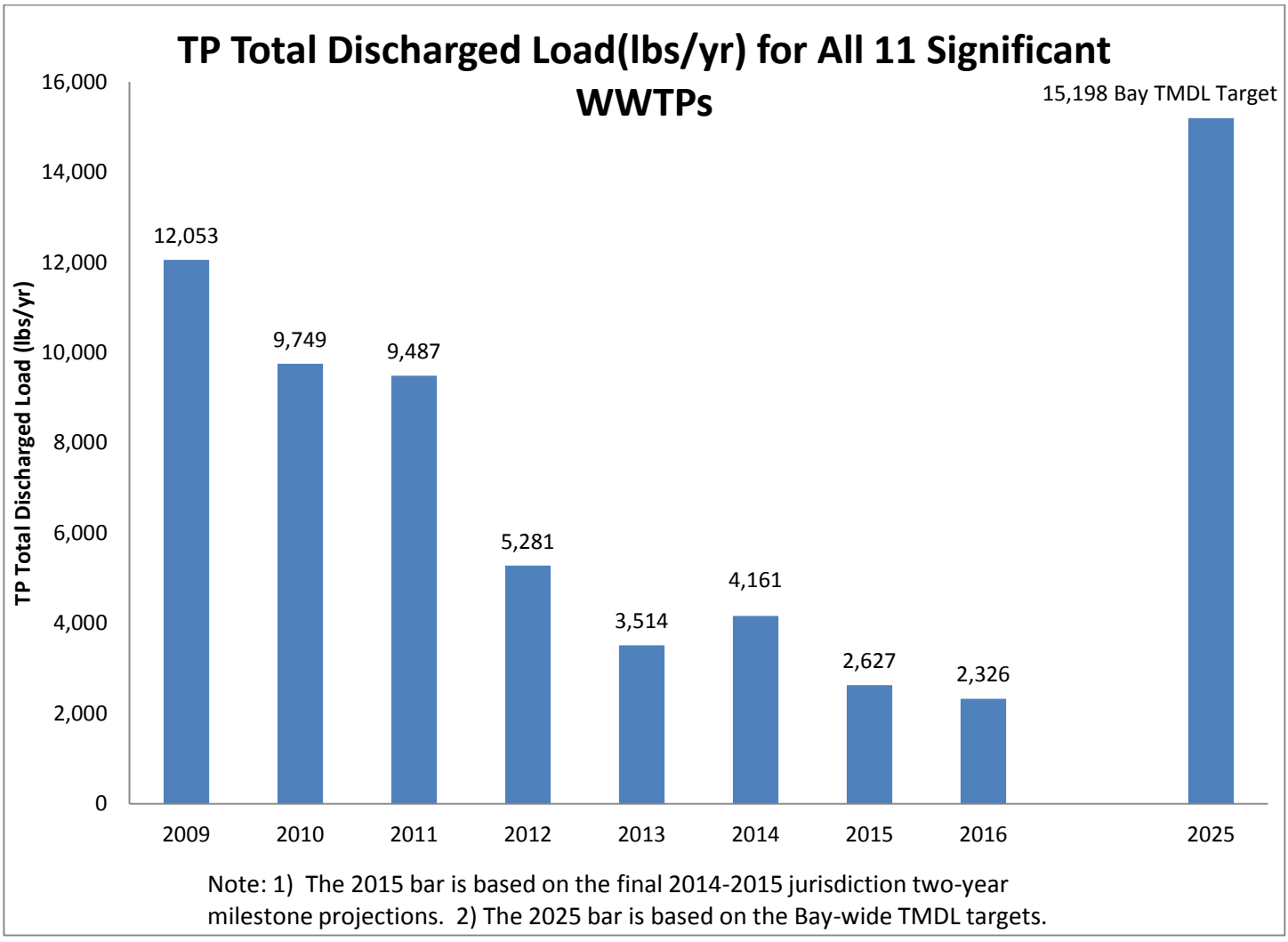
Appendix D

Total Nitrogen (TN) Loads from Federally-Operated Significant Wastewater Treatment Plants



Appendix E

Total Phosphorus (TP) Loads from Federally-Operated Significant Wastewater Treatment Plants



Note: 1) The 2015 bar is based on the final 2014-2015 jurisdiction two-year milestone projections. 2) The 2025 bar is based on the Bay-wide TMDL targets.