

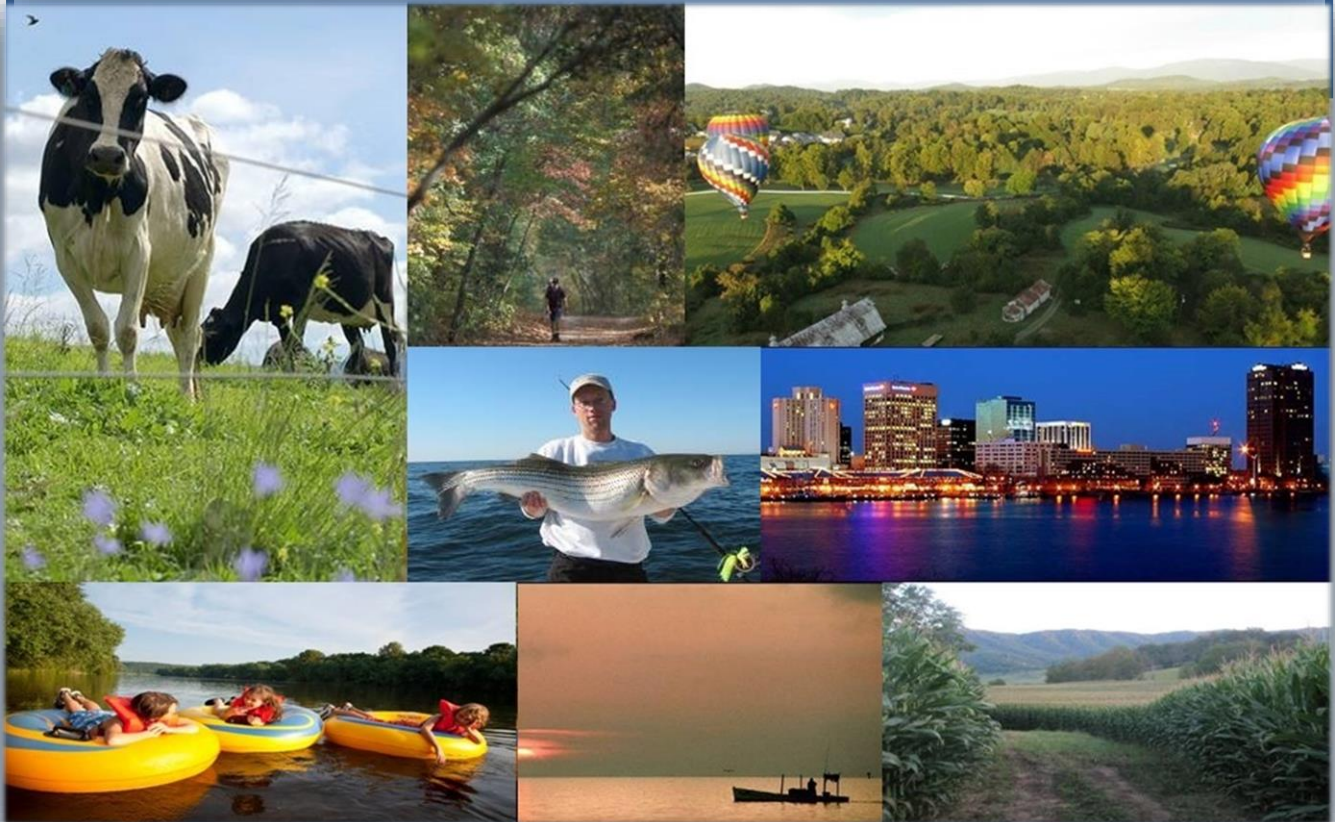
Executive Order 13508

**Strategy for Protecting and Restoring the
Chesapeake Bay Watershed**

2014-15 Milestones Progress Report

2015 UPDATE

May 2016



*Developed by The Federal Leadership Committee for the
Chesapeake Bay*

<http://executiveorder.chesapeakebay.net>

Executive Summary

Signed by President Obama in May 2009, the [Chesapeake Bay Protection and Restoration Executive Order](#) (E.O. 13508) bolstered federal agencies' efforts to collaborate on protection and restoration of the Chesapeake Bay. To track progress, the federal agencies have been required to release an annual progress reports, released through the **Federal Leadership Committee for the Chesapeake Bay** (FLC), comprised of representatives from each federal agency participating in this effort. The FLC is chaired by the U.S. Environmental Protection Agency (EPA) and includes senior representatives from the Departments of Agriculture, Commerce, Defense, Homeland Security, Interior, and Transportation.

As with last year's report, this report examines progress made toward meeting the commitments of the 2014-2015 federal 2-year milestone period – last year covering Fiscal Year 2014 (FY14) progress and this year addresses FY15 progress. However, unlike previous reports, this report does not look at projected actions for the coming fiscal year. However, a FY16 federal agency cross-cut budget will be posted to the [EO 13508 website](#) in Spring, 2016.

This progress report for FY15 will be the final report exclusive to the federal agencies. Annual reporting will now be encapsulated through annual Watershed Agreement Implementation Progress Reports as part of tracking the progress of meeting the goals of the state and federal Chesapeake Bay Program (CBP) partnership's 2014 **Chesapeake Bay Watershed Agreement**, which incorporated the goals set forth in the federal agencies' *Strategy for Protecting and Restoring the Chesapeake Bay*. Development of the new reports will be based on action in the 2016-2017 work plans for each of the Agreement's Management Strategies which were finalized in April 2016. Federal funding and expenditures will be outlined each September as part of the annual reporting requirements of the [Chesapeake Bay Accountability and Recovery Act of 2014](#).

In FY15, significant progress was made toward achieving the goals and outcomes set forth in the 2015 Action Plan. The vast majority of these projects are carried out between federal and state agencies working through, and benefiting, the Chesapeake Bay Program partnership.

Selected 2015 progress highlights for each of the goals and supporting strategies are noted here; full details are included in the relevant sections of this report.

In FY15, the amount federal agencies utilized for Chesapeake Bay restoration and protection was more than \$515 million, with more than \$487 million planned for FY16. A funding breakdown by agency is available in Table A.

Restore Clean Water:

- EPA and the Bay jurisdictions set nutrient and sediment pollution reduction **targets for over 700 federal facilities throughout the watershed** and federal agencies submitted facility-specific milestones for FY2016-2017.
- Department of Defense (DoD) and other federal partners participated in the development of a '**Chesapeake Bay Program Protocol for Setting Targets, Planning BMPs and Reporting Progress for Federal Facilities and Lands**' standard to assist federal agencies with initial planning, programming, budgeting and implementing requirements of the Chesapeake Bay total maximum daily load (Bay TMDL).
- For the specific purpose of setting federal facilities targets **DoD identified and provided a complete inventory of facilities in the watershed**, updated and reported facility land uses, historical BMP implementation and FY15 BMP progress implementation to each Jurisdiction and the EPA Chesapeake Bay Program Office.
- DoD completed a significant number of BMP Opportunity Assessments (e.g. 563 identified within Hampton Roads installations alone) and continues to design BMP concepts, develop construction documentation, and program for BMP retrofits and construction. DoD provided plans for 2016-2017 BMP implementation.

- The U.S. Geological Survey (USGS) released a report about **nutrient trends on the Eastern Shore**, which revealed worsening conditions in some areas. Findings were used by Maryland to finalize new requirements for managing phosphorus and manure. USGS also completed updates of nutrient and sediment trends in the Bay watershed as part of Midpoint Assessment of the Bay TMDL.
- All seven Bay jurisdictions submitted revised **BMP verification program quality assurance plans** to EPA for review and approval in accordance with the first-ever CBP partnership Basinwide BMP Verification Framework.
- EPA issued the new BayFAST tool and completed multiple training webinars in FY14 and FY15. **The BayFAST tool is a scenario assessment tool used by federal agencies** and other stakeholders to plan BMPs to reduce pollutants from lands and facilities, enabling federal agencies to set facility-level 2016-2017 milestones and help jurisdiction partners in meeting their commitments under the Bay TMDL. These targets are available through the CBP [Federal Facilities Workgroup](#) under the Projects & Resources tab.
- The **Lower Susquehanna River Watershed Assessment (LSRWA)** was led by an inter-agency study team authorized to analyze the movement and impacts of sediment and associated nutrient loads from the lower Susquehanna watershed, including behind the Conowingo Dam, to the upper Chesapeake Bay. The report was completed in 2015. The LSRWA results led to a reevaluation of the role of reservoir infill in the Bay TMDL, particularly with respect to the scour and mobilization of particulate nutrients from the Conowingo reservoir. A follow-up multiagency research, monitoring, and modeling program focused on the dynamic infill of the Conowingo reservoir and its influence on Chesapeake hypoxia is now underway and its findings will support management decisions during the 2017 Midpoint Assessment.
- In FY15, the states of Delaware, New York, Virginia, and West Virginia were each approved for an **additional \$1 million under the USDA Conservation Reserve Enhancement Program (CREP)** to increase or maintain acres enrolled in Chesapeake Bay Riparian Forest Buffer conservation. These additional funds will be made available in FY16. USDA challenged the states to craft a proposal during a Chesapeake Bay summit in Washington, D.C. (June 2014). In addition to the increased incentives for landowners in other states, Farm Service Agency offices in Maryland and Pennsylvania will receive support to partner with stakeholders for improved outreach and technical assistance.
- U.S. Fish and Wildlife Service (FWS) and USGS released a report showing **intersex conditions in fish were detected in 20 wildlife refuges** in the Northeast. USGS and FWS worked with Pennsylvania on a study showing intersex conditions are related to several groups on toxic contaminants. The new CBP Toxic Contaminant workgroup is using the results to consider strategies to improve water-quality conditions.

Recover Habitat:

- Removal of Centreville Dam on Gravel Run on Maryland's Eastern Shore **reconnected 13 miles of habitat for alewife and blueback herring, American eel, and yellow and white perch** in an effort to improve their chance of survival and propagation. It also eliminates a blockage that exacerbated upstream flooding during storm events.
- Nine dam removals were completed in the state of Pennsylvania, including the Heistand Sawmill Dam Removal Project. The removal of the Heistand Sawmill Dam will restore fish passage and access to over 3.1-miles of Chiques Creek, 4.5-miles of Donegal Creek, and 4.8-miles of Little Chiques Creek. The dam removal will benefit resident and migratory fish moving between the Susquehanna River and the Chiques Creek watershed.
- In FY15, the U.S. Army Corps of Engineers (USACE) restored 55 acres of tidal emergent wetlands at Poplar Island. USACE plans to restore an additional 57 acres of tidal emergent wetlands in FY16.
- **A habitat prioritization model for Eastern Brook Trout** in the Chesapeake watershed was launched online in October 2015. The effort led by FWS, NOAA and the Fisheries and Habitat Goal Implementation Teams (GITs)

introduced a tool to be used by resource managers in five Chesapeake states to prioritize stream conservation and restoration actions where brook trout populations are most likely to be resilient to a warming climate, and where such actions will be most efficient, beneficial, and lasting in our changing landscape.

Sustain Fish and Wildlife:

- In 2015, NOAA, USACE, Maryland Department of Natural Resources (DNR) and partners **completed the initial in-water reef construction and seeding** of the 350 target acres in Harris Creek with the construction of the final 55.4 acres by USACE and planting of seed only and substrate reefs by NOAA, the Oyster Recovery Partnership and Maryland DNR. This completes the in-water restoration work for the first of the 10-trib goal under the Executive Order and Bay Agreement. These reefs will be monitored for 6 years to determine if they meet the Chesapeake Bay Oyster Metrics success criteria.
- In FY15, implementation of the Tred Avon River, MD restoration plan began with the USACE Oyster Restoration Program constructing 16 acres of oyster habitat, 2.5 of which were seeded with the rest awaiting seed. Plans originally called for constructing 8 acres of oyster reef habitat in the Tred Avon River in FY16. The State of Maryland is undertaking a comprehensive review of oyster restoration strategies that will delay planned FY16 construction until FY17. Partners began reef construction and seeding in the Little Choptank River (63 acres constructed and seeded; another 32 built but awaiting seed).
- In Virginia, tributary planning is ongoing for the Piankatank, Lynnhaven and Lafayette Rivers. Past restoration sites in the Lafayette and Lynnhaven Rivers are being evaluated to determine if they meet the criteria for a restored reef per the Oyster Metrics.
- EPA, Department of Interior (DOI), and partners expanded efforts to **reduce the effects of selected toxic contaminants on fish and wildlife**. Initial actions are focused on reducing the amount of PBCs in the environment, which are also the main cause of fish consumption advisories in the Bay. USGS worked with partners to expand monitoring and research to understand the occurrence and effects of additional contaminants on fish and wildlife so management strategies can be considered in the future.
- USGS, working with partners, expanded efforts to assess the potential **effects of shale-gas drilling on brook trout and freshwater fisheries**. The results will be critical to document water quality and habitat changes to streams and provide implications for protecting brook populations and other freshwater fisheries.
- The Atlantic Coast Joint Venture identified broad geographic focus areas for American Black Duck in the Chesapeake Bay in September 2015. Priority sub-watersheds were mapped in Maryland (Chester, Patuxent, Lower Potomac and Blackwater/Nanticoke Rivers), Virginia (Lower Potomac, Rappahannock, Pamunkey Rivers, Ware Creek, Tangier Sound Bay Islands, and the Delmarva Peninsula) and Delaware (Nanticoke River). The Habitat Goal Implementation Team will work with FWS, USGS and other partners to refine this map to a more localized scale during 2016.
- The Navy maintains a large array of over 75 acoustic telemetry receivers in the lower Chesapeake Bay and its tributaries for tracking Atlantic sturgeon implanted with an acoustic transmitter. In FY15, U.S. Fleet Forces Command provided \$461,000 in funding toward maintaining the telemetry receiver array in the lower Chesapeake Bay and tracking the movements and presence of Atlantic sturgeon. Currently, there are around 1,200 Atlantic sturgeon implanted with acoustic transmitters in the region. The Navy continues to maintain the array and funding is currently available to keep the array in place through December 2016.
- FWS, working with USGS and other partners, are constructing models to help identify priority areas for habitat restoration to support black duck populations.

- USGS began a new study to predict future impacts of sea-level rise on coastal wetlands. Models of potential marsh loss and migration are being prepared to help assess potential effects on black ducks and other waterfowl that depend on marsh habitat.

Conserve Land and Increase Public Access:

- After the first five years of tracking progress towards the goal of 300 new public access sites by 2015, it can now be reported that 108 new sites have now been added within the Bay Watershed. This number could not have been reached without the great public support and the concerted efforts of all the involved partners, led by the National Park Service (NPS). This equates to approximately 36 percent of the goal and is on track to reach the target of 300 new sites by 2025.
- The Chesapeake Conservation Partnership secured greater Land and Water Conservation Fund allocations to the Chesapeake. Through the **Land and Water Conservation Fund Collaborative initiative**, administered by DOI and USDA, the Chesapeake Bay Watershed received \$10.7 million in FY16 for land acquisition beneficial to Bay conservation goals, compared to 6 million in FY15. These funding levels will support acquisition of approximately 2,150 acres of land.

Eight installations in the Chesapeake Bay Watershed including Aberdeen Proving Ground, Atlantic Test Range, Fort A.P. Hill, Fort Indiantown Gap, MCB Quantico, NAS Oceana, NAS Patuxent River, and NSF Indian Head currently maintain active Readiness and Environmental Protection Integration (REPI) Program partnerships. In FY15, the DoD REPI program obligated \$1,645,000 to conserve and protect land throughout the watershed. Through FY15, a total of 19,248 acres have been protected.

- In 2015, DOT continued to support integrated housing, transportation and water infrastructure planning through the Partnership for Sustainable Communities. DOT provided funding assistance to metropolitan transportation planning organizations and state departments of transportation for planning, and assisted transportation agencies in implementing sustainable transportation projects. DOT awarded funding to projects in the Chesapeake Bay Watershed area as part of the Transportation Investment Generating Economic Recovery (TIGER) discretionary grant program.

Supporting Strategies

Strengthen Science:

- Federal agencies, led by USGS, worked with partners through the CBP Scientific, Technical Assessment, and Reporting (STAR) team to identify and prioritize additional monitoring and research needs for the *Chesapeake Bay Watershed Agreement*. **Key priorities include improved monitoring for fisheries, wetland mapping, and enhanced use of citizen science.** Options to address gaps are being developed during 2016.
- In 2015, USACE initiated the Chesapeake Bay Comprehensive Water Resources and Restoration Plan (CBCP), a **two-year watershed assessment that evaluates the problems, needs, and opportunities in the Chesapeake Bay region.** The CBCP focuses on USACE existing and future mission areas informed by the priorities of partnering organizations in cooperation with state and local governments, other federal agencies, non-governmental organizations, and the CBP. The end result will be a comprehensive and integrated restoration plan to guide the implementation of actions affecting the Chesapeake Bay Watershed to avoid duplication of ongoing or planned actions.
- USGS worked with Chesapeake Conservancy on approaches to acquire high-resolution land cover information. The Conservancy is working to supply the updated information in 2016 that will be useful to better focus restoration efforts. USGS also worked with jurisdictions to reclassify land cover information that will be used in the CBP watershed model.

Respond to Climate Change:

- In 2015, federal agencies, including NOAA, USGS, EPA, DOI and USACE actively engaged in development of the **Climate Resiliency Management Strategy** through participation on the CBP Climate Resiliency Workgroup. The Management Strategy details major climate-related federal efforts underway in the Chesapeake Bay Watershed and the planned management approach for addressing climate change. In December, the Climate Resiliency Workgroup released its draft biennial work plan, detailing federal agency actions and commitments to achieve the Chesapeake Bay Agreement Climate Resiliency Goal and associated outcomes. The Chesapeake Bay Program also hired a **Climate Change Coordinator**, working for NOAA, to oversee the CBP partnership’s climate change research, planning and policy efforts.
- USACE delivered the **North Atlantic Coast Comprehensive Study: Resilient Adaptation to Increasing Risk** (NACCS) to Congress in January 2015. The NACCS and its associated data and technical products can be used by states and local communities to identify coastal flood risk, and plan to implement strategies in collaboration with others, to reduce that risk now and into the future. Additional information is available on the study webpage online at www.nad.usace.army.mil/CompStudy.aspx.
- In FY15, DOT’s Federal Transit Administration announced selection of public transportation resilience projects under its Emergency Relief Program for projects that will **reduce the risk of damage from future disasters** in areas impacted by Hurricane Sandy, including Washington Metropolitan Area Transit Authority projects to improve drainage and raise ventilation shafts.

Expand Citizen Stewardship:

- To support the CBP’s Education Workgroup, the NOAA **Bay Watershed Education and Training (B-WET) program** provided \$2.5 million in 36 grants to support place-based meaningful watershed experiences for thousands of students and related professional development for teachers.

Develop Environmental Markets:

- The Inter-Agency Chesapeake Bay Environmental Markets Team (EMT) continued promoting federal coordination of market-based approaches to conservation in the Chesapeake Bay Watershed. EMT released a document in August titled **“Increasing Federal Coordination for Market-Based Approaches in the Chesapeake Bay Watershed.”** The paper served as the basis for updating the EMT Charter, which now runs through 2020.

Implementation and Accountability:

- 25 Management Strategies were completed for all outcomes in the new *Chesapeake Bay Watershed Agreement* in June 2015.



Federal Funding Summary

Table A summarizes the federal investment since 2011 from the eleven federal agencies on the Federal Leadership Committee on implementation of the goals and outcomes of Executive Order 13508, totaling **approximately \$2.84 billion over six years**.

Table A: Executive Order Federal Funding Summary

Department/ Agency	FY 2011 President's Budget Request ¹	FY 2012 Operating Levels ²	FY 2013 Operating Levels	FY 2014 Operating Levels	FY 2015 Operating Levels ⁸	FY 2016 Operating Levels
USDA Total	\$153,578,000	\$121,488,000	\$135,449,000	\$111,014,000	\$127,925,000	\$133,183,000
Farm Service		(\$37,081,000)	\$34,304,000	\$34,304,000	\$30,200,000	\$34,753,000
NRCS	\$149,740,000	\$119,828,000	\$98,000,000	\$75,300,000 ³	\$95,200,000	\$95,000,000
Office of Chief Economist	\$150,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000
USFS	\$3,688,000	\$1,310,000	\$2,795,000	\$1,060,000	\$2,175,000	\$3,080,000
U.S. Dept. of Commerce / NOAA	\$19,346,250	\$9,208,425	\$10,119,000	\$8,436,442	\$9,953,259	\$8,648,615
DoD Total	\$13532,013	\$121,254,616	\$89,106,945	\$118,855,437	\$137,074,615	\$120,766,960
Services	\$7,521,000	\$101,169,616 ⁵	\$71,146,945	\$93,855,437	\$115,285,615 ⁴	\$70,721,960
USACE	\$6,011,013	\$20,085,000 ⁵	\$17,960,000 ⁵	\$25,000,000 ⁷	\$21,789,000	\$50,045,000
DOI Total	\$42,817,218	\$23,450,000	\$20,858,000	\$25,478,000	\$34,020,000	\$33,593,000
BLM						\$2,591,000
FWS	\$15,161,27	\$10,146,000	\$9,583,000	\$9,862,000	\$12,082,000	\$13,443,000
NPS	\$19,169,640	\$5,955,000	\$4,218,000	\$5,927,000	\$9,318,000	\$5,568,000
USGS	\$8,486,304	\$7,349,000	\$7,057,000	\$9,689,000	\$12,620,000	\$11,991,000
EPA	\$248,873,881	\$184,010,730	\$174,821,744	\$197,504,967	\$206,301,507	\$193,806,590
Total	\$486,648,362	\$459,411,771	\$430,354,689	\$461,288,846	\$515,274,381	\$487,041,665

¹Fiscal Year 2011 Action Plan

²Fiscal Year 2013 Action Plan

³ Includes the following programs (EQIP, CStP, ACEP, CTA and CRP, CSecP, CBWP, AMA, AWEP, FRPP, GRP and WRP)

Working lands financial assistance in Chesapeake Bay Watershed HUUS (source: ProTracts)

Technical assistance estimate for working lands programs proportional to total state FA to TA levels (source: FMMI)

Estimate for easement and other programs based on the percent of the state land area within the Chesapeake Bay Watershed (source: FMMI)

Funding on discontinued farm bill programs is technical assistance and/or financial assistance obligations entered into before enactment of the 2014 Agricultural Act. (Around 2/7/14)

Funding is lower because of repeal of the Chesapeake Bay Watershed Initiative in the Agriculture Act of 2014 (the Farm Bill).

⁴DoD Services used budget appropriations for FY15 projects as described in their FY15 DoD Chesapeake Bay Program Annual Datacall.

⁵USACE and DoD FY12 and FY13 Operating Levels were adjusted based on actual allocations.

⁶While DOT does not make direct programmatic or base funding contributions specifically for Chesapeake Bay restoration activities, it is expected that DOT federal surface transportation programs will be used for transportation activities that support Chesapeake Bay restoration. DOT offers funding assistance to states and local transportation agencies for a broad range of surface transportation investments states and transit agencies determine what activities they will finance from formula funds through state and metropolitan transportation planning. DOT offers funding assistance to states and metropolitan areas for transportation planning. DOT also funds discretionary programs, including the transit transit Fixed Guideway Capital Investment Grants ("New Starts") program and TIGER program that can foster better access for people to safe and affordable transportation to jobs and services.

⁷Amounts include additional funding for Special Investigations Chesapeake Bay Program Coordination.

⁸Funding levels in the 2015 Operating Budget Column have changed from the 2014 Report to reflect actual spending by agencies in FY15.

2015 Numeric Milestone Progress

Table B summarizes the progress made in 2015 on the numeric milestones or outcomes.

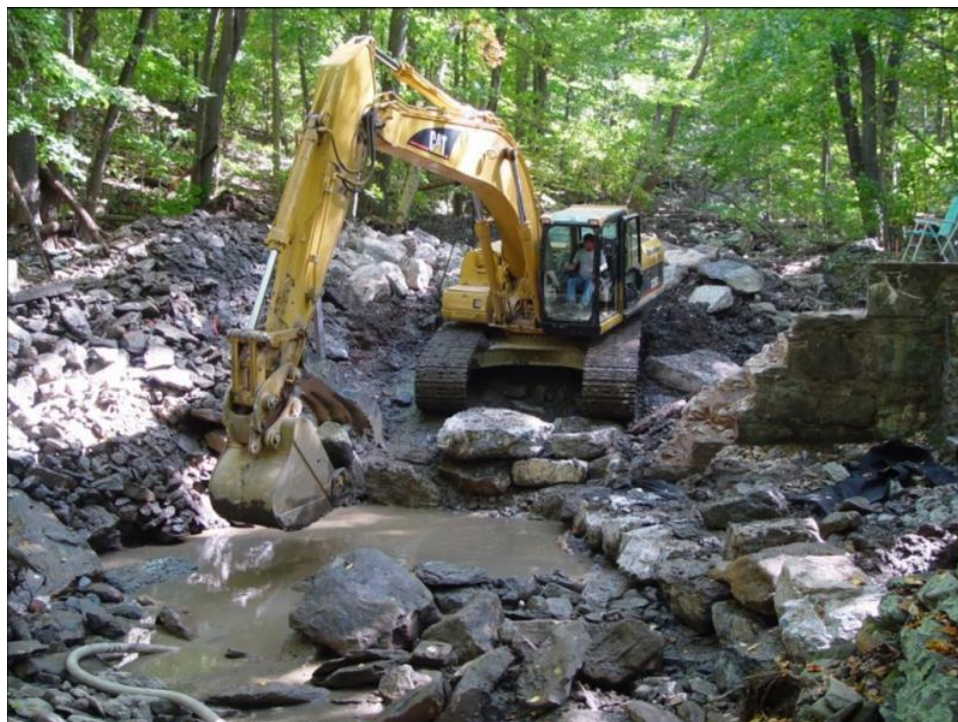
Table B. Numeric Milestones: FY 2015 Progress			
2025 Outcome	Baseline	2014-2015 Milestone	2015 Progress
<p>Water Quality: Meet water quality standards for dissolved oxygen, clarity/underwater grasses and chlorophyll-a in the Bay and tidal tributaries by implementing 100% of pollution reduction actions for nitrogen, phosphorus and sediment no later than 2025, with 60% of segments attaining water quality standards by 2025.</p>	<p>The baseline originally reported for this outcome was an estimate of 89 of the 92 segments of the Bay and its tidal waters are impaired in 2009.</p> <p>Improved methodology described in the next column indicates the baseline for 2011-2013 is 29% of the Bay was attaining water quality standards.</p>	<p>This is a long term measure and contains only long term targets. The FY18 target for this measure contained in EPA’s draft FY14-18 Strategic Plan is as follows: “By 2018, achieve 45% attainment of water quality standards for dissolved oxygen, water clarity/underwater grasses, and chlorophyll-a in Chesapeake Bay and tidal tributaries. (2011 Baseline: 40%)*</p> <p>*Achievement of the 2018 target will be evaluated using monitoring data from 2015, 2016, and 2017 to assess attainment of applicable water quality standards in each of the Bay’s 291 designated-use segments. The 2011 baseline reflects monitoring data from 2008, 2009, and 2010.</p>	<p>2012-2014 progress is 34% of the Bay attaining water quality standards. This increase from the 2011-2013 level of 29% is mainly due to an improvement in dissolved oxygen especially for open water, deep water and deep channel.¹</p> <p>¹2012-2014 progress was evaluated and reported during 2015. Data for 2013-2015 will be available in Summer, 2016.</p>
	<p>For pollution reduction actions, the FY10 baseline is 0%. The universe is 100% of pollution actions in place by December 31, 2025 (FY26).</p>	<p>FY15 targets are 37.5% for N, P and S. (FY15 results will be based on 2014 progress scenario).</p>	<p>FY15 progress (based on 2014 Progress Runs) are nitrogen 21%, phosphorus-71% and sediment 25%.¹</p> <p>¹Updated land use data from the 2012 USDA Census of Agriculture (published in 2014) shows an increase in acreage of planted corn in the Chesapeake Bay watershed, leading to a recalculation of FY15 results for percentage of goal achieved for nutrients and sediment, in particular the missed FY15 targets for N and sediments. Corn is a fertilizer intensive crop and retains sediment less efficiently than hay cover.</p>

<p>Stream Condition: Improve the health of streams so 70% of sampled streams throughout the Chesapeake Bay Watershed rate fair, good or excellent, as measured by the Index of Biotic Integrity, by 2025.</p>	<p>45% of sampled stream sites are rated fair, good or excellent.</p>	<p>Revised stream health indicator anticipated in spring 2015.</p>	<p>In progress. Stream health workgroup partners provided updated data in 2015; Interstate Commission on the Potomac River Basin is conducting analysis necessary to re-assess the baseline; final report to be completed June 2016.</p>
<p>Agricultural Conservation: Work with producers to apply new conservation practices on 4 million acres of agricultural working lands in high priority watersheds by 2025 to improve water quality in the Chesapeake Bay and its tributaries.</p>	<p>Of the approximately 8 million acres of agricultural working lands in high-priority watersheds, approximately 4 million acres are identified as having soils with the highest potential for leaching and runoff, which may affect water quality. The 4 million acre target is to apply to or expand conservation treatment on virtually all of these most vulnerable agricultural lands.</p>	<p>Implement conservation practices that protect the watershed's soil and water resources while maintaining productive working lands.</p>	<p>Ongoing. 173,684 acres of new conservation practices applied on agricultural working lands in high priority watershed for FY15. The total to date is approximately 1.6 million acres or 41% of USDA's 4 million acre goal for new conservation practices applied on agricultural working lands in the region since 2010.</p>
<p>Wetlands: Restore 30,000 acres of tidal and non-tidal wetlands and enhance the function of an additional 150,000 acres of degraded wetlands by 2025.</p>	<p>The National Wetlands Inventory estimates 1 million acres of tidal and non-tidal wetlands are available in the Chesapeake Bay Watershed for restoration or enhancement.</p>	<p>Restore 4,000 acres of wetlands every two years. Enhance 20,000 acres of degraded wetlands every two years.</p>	<p>In progress. 615 acres of wetlands were restored on agricultural lands in 2015.</p>
<p>Riparian Forest Buffer: Restore riparian forest buffers to 63%, or 181,440 miles, of the total riparian miles (stream bank and shoreline miles) in the Bay watershed by 2025.</p>	<p>58% of the 288,000 total riparian miles in the Bay watershed have forest buffers in place.</p>	<p>Restore 1,800 miles of riparian forest every two years (900 miles annually) in order to achieve the goal of restoring an additional 14,440 miles of riparian forest (to get to 181,440 miles, or 63%) by 2025.</p>	<p>For the past year (July 2014-June 2015), approximately 114 new miles of forest buffers were reported.</p>

<p>Fish Passage: Restore historical fish migratory routes by opening 1,000 additional stream miles by 2025, with restoration success indicated by the presence of river herring, American shad and/or American eel.</p>	<p>2,041 stream miles in the Chesapeake Bay Watershed have been opened and are accessible for fish migration.</p>	<p>Reopen 132 additional stream miles with the degree of restoration success measured by the presence of river herring, American shad, hickory shad, brook trout and/or American eel. To determine degree of project success, document the presence/absence of indicator species (river herring, American shad, hickory shad, brook trout and/or American eel) at 50% of the completed fish passage projects. (FWS, NOAA)</p>	<p>Completed. In 2014-2015, partners completed projects that opened more than 250 miles for fish passage.</p>
<p>Blue Crabs: Maintain sustainable blue crab interim rebuilding target of 200 million adults (1+ year old) in 2011 and develop a new population target for 2012 through 2025.</p>	<p>A new 215 million adult female abundance target was adopted in 2012. The 2012 Blue Crab Advisory Report (from CBSAC) indicated the abundance of female blue crabs was 97 million, which is above the overfished threshold of 70 million and below the newly adopted 215 million target.</p>	<p>Maintain 215 million female target.</p>	<p>In 2015, approximately 101 million female adult crabs (age 1+) were estimated to be present in the Bay at the start of the 2015 crabbing season. This is above the threshold of 70 million, but below the target of 215 million.</p> <p>Many factors impact the blue crab population, including fishing pressure, overwintering mortality, predation on juveniles, and natural environmental variability.</p>

<p>Oysters: Restore native oyster habitat and populations in 20 tributaries out of 35 to 40 candidate tributaries by 2025.</p> <p>Note: This outcome has been modified under the 2014 <i>Chesapeake Bay Watershed Agreement</i> to continually increase finfish and shellfish habitat and water quality benefits from restored oyster populations. Restore native oyster habitat and populations in 10 tributaries by 2025 and ensure their protection.</p>	<p>There are several tributaries with ongoing restoration of oyster reef habitat, including Harris Creek and the Tred Avon and Little Choptank Rivers in Maryland and the Lynnhaven, Lafayette, Great Wicomico and Piankatank Rivers in Virginia.</p>	<p>Complete reef construction and planting in 1 to 2 tributaries by 2015.</p>	<p>Completed reef construction in 1 tributary. In 2015, NOAA, USACE, Maryland DNR, the Oyster Recovery Partnership, and partners completed implementation of the Harris Creek Oyster Restoration Tributary Plan. USACE constructed the final 55.4 acres of reef habitat. DNR/ORP/NOAA provided for the planting of spat-on-shell on seed only and substrate reefs in 2015. Implementation of the Tred Avon River Oyster Restoration Tributary Plan began in 2015 with the construction of 16 acres of alternate substrate reef habitat, 2.5 acres of which were seeded with the rest awaiting seed. Plans called for constructing 8 acres of oyster reef habitat in the Tred Avon River in FY16. Maryland is conducting a review of oyster management strategies that will delay planned FY16 construction until FY17.</p> <p>Partners began reef construction and seeding in the Little Choptank River (63 acres completed; another 32 built but awaiting seed).</p> <p>20 acres of reef construction occurred in the Piankatank River in Virginia in 2014. Additional reef construction is planned for the Piankatank and Great Wicomico Rivers for spring 2016.</p> <p>The Oyster Restoration Tributary Plan ('Blueprint')</p>
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			<p>for the Little Choptank River was completed in 2015. The plan for the Tred Avon is in draft form, pending the outcome of a 6-month series of meetings and on-water data collection trips with the watermen community and staff and leadership from NOAA, USACE and Maryland DNR. Draft tributary restoration plans for the Lafayette, Lynnhaven and Piankatank Rivers were initiated in 2014 and the development is ongoing.</p>
<p>Brook Trout: Restore naturally reproducing brook trout populations in headwater streams with an 8% increase in occupied habitat by 2025.</p>	<p>Catchment-level data collected via the Eastern Brook Trout Joint Venture's (EBTJV) 2011 reassessment is currently being analyzed and will be used to refine this outcome to a more meaningful scale.</p>	<p>Will be based on EBTJV decisions on priority projects in Chesapeake Bay drainage. Free, on-line tool will be available February 2015. Specific priorities to be identified in final Management Strategies published in June 2015. Milestone calculations to be included in Biennial Workplan to be completed December 2015.</p>	<p>In progress. Decision support tool made available online in October 2015; Biennial Workplan includes action for states to utilize this tool to identify priority habitat patches for brook trout restoration and conservation in 2016.</p>



<p>Black Ducks: Restore a three-year average wintering black duck population in the Chesapeake Bay Watershed of 100,000 birds by 2025.</p>	<p>Recent mid-winter aerial surveys estimated the 2007-2009 and 2009 – 2011 rolling three year averages at 37,158 and 47,269 black ducks (respectively) in the Chesapeake Bay.</p>	<p>Revise outcome to reflect habitat carrying capacity of the watershed for black ducks.</p> <p>Create 3% more forage on refuge lands every two years in order to restore a three-year average wintering black duck population in the Chesapeake Bay Watershed of 100,000 birds by 2025.</p> <p>During 2014-2015, implement Eastern Neck and Martin NWR projects will directly benefit black duck, focusing on protecting existing habitat. (FWS)</p>	<p>In progress. Rough geographic target areas mapped in September 2015 by ACJV; targets to be refined spatially in 2016 based on the energetics model.</p> <p>In progress. Shoreline protection projects at Eastern Neck and Martin NWR and a third project to enhance 30 acres of marsh at Blackwater National Wildlife Refuge. All on schedule for November 2016 completion.</p>
<p>Land Conservation: Protect an additional 2 million acres of lands throughout the watershed currently identified as high conservation priorities at the federal, state or local level by 2025, including 695,000 acres of forest land of highest value for maintaining water quality.</p>	<p>7.8 million acres protected watershed-wide.</p>	<p>Protect an additional 2 million acres of land by 2025, an average of 133,333 acres annually. This includes total land protected by local, state and federal government, and nonprofit organizations.</p>	<p>As of the end of 2013, 8,371,682 acres of land had been permanently protected from development. This marks an achievement of 29% of the goal. Progress toward the 2 million acre goal is updated biennially; 2015 acreage will be reported by mid-2016.</p>
<p>Public Access: Increase public access to the Bay and its tributaries by adding 300 new public access sites by 2025.</p>	<p>1,129 public access sites providing access to the Bay and its tributaries exist in the watershed.</p>	<p>Add 300 public access sites by 2025 by adding an average of 20 public access sites annually. This includes total sites added by local, state and federal government, and nonprofit organizations.</p>	<p>22 new public access sites were opened in 2015.</p>

2015 Programmatic Milestone Progress

Table C summarizes progress toward Programmatic Milestones in 2015

TABLE C. PROGRESS ON FY 2014-2015 PROGRAMMATIC MILESTONES BY GOAL		
Target Date	Programmatic Milestone	2015 Progress
RESTORE CLEAN WATER		
TMDL/WIPs		
January 2014- February 2014	Evaluate and announce federal and jurisdictional 2014-2015 two-year milestones. (EPA)	Completed announcement of federal milestones January 2014. (http://executiveorder.chesapeakebay.net/post/Federal-Water-Quality-Two-Year-Milestones.aspx) Completed announcement of jurisdictional milestones January 2014. (http://www2.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-milestones) Completed evaluation of jurisdictional and federal milestones June 2014. (http://www2.epa.gov/chesapeake-bay-tmdl/final-epa-evaluation-2012-2013-milestone-progress-and-2014-2015-milestone)
June 2014	Assess progress made to implement the 2012-2013 two-year milestones. (EPA)	Completed June 2014. (http://www2.epa.gov/chesapeake-bay-tmdl/final-epa-evaluation-2012-2013-milestone-progress-and-2014-2015-milestone)
October 2014	Secure CBP approval of the Basinwide BMP Verification Framework. (EPA)	Approved by PSC September 2014. (www.chesapeakebay.net/bmpverification)
2014	Design, implement, and provide training for a scenario assessment tool that will be used by federal agencies and other stakeholders to plan BMPs to reduce pollutants from lands and facilities. (EPA)	Issued new BayFAST tool (BayFAST.org). Completed multiple training webinars in 2014 and 2015. All 7 Bay jurisdictions submitted revised BMP verification program quality assurance plans in accordance with the first-ever CBP Basinwide BMP Verification Framework.
2014	Deliver specified criteria to provide timely and collaborative decisions triggered by the Clean Water Act and the Fish and Wildlife Coordination Act. (USACE, EPA, FWS)	Ongoing. In 2015, USACE developed a regional general permit for this type of restoration work; the restoration/regulatory communities are working through the issues with use of this permit. In July 2015, USACE issued the new Chesapeake Bay Total Maximum Daily Load Regional General Permit (Bay TMDL RGP) authorizing TMDL activities in waters of the U.S., including wetlands, within Maryland, the District of Columbia, and certain military installations of northern Virginia (i.e., Fort Belvoir, Fort Myer, and the Pentagon). The Bay TMDL RGP includes specified criteria for eligibility under this new general permit, when an application requires a

		case-specific review by USACE, and when agency coordination is required.
2014	Develop and implement permit streamlining measures under Clean Water Act Section 404 for restoration projects. (USACE, EPA, FWS)	Ongoing. In July 2015, USACE issued the new Chesapeake Bay Total Maximum Daily Load Regional General Permit (Bay TMDL RGP) authorizing TMDL activities in waters of the U.S., including wetlands, within Maryland, the District of Columbia, and certain military installations of northern Virginia (i.e., Fort Belvoir, Fort Myer, and the Pentagon).
May 2015	Provide mid-term evaluation of 2014 milestones progress to jurisdictions. (EPA)	Completed June 2015. http://www2.epa.gov/chesapeake-bay-tmdl/epa-interim-evaluation-2014-2015-milestone-progress-chesapeake-bay-watershed
December 2015	Secure CBP partnership approval of the seven jurisdictions' enhanced BMP tracking, verification, and reporting programs. (EPA)	Ongoing. All seven Bay jurisdictions submitted revised BMP verification program quality assurance plans to EPA for review and approval in accordance with the first-ever CBP partnership Basinwide BMP Verification Framework. EPA approval is scheduled for before or by April 2016.
2014/2015	Continue to participate in and support Chesapeake Bay jurisdictions' MS4 regulation development in order to ensure installations are prepared to incorporate Bay TMDL permit requirements. (DoD)	Completed (Va./Pa.). Virginia and Pennsylvania installations completed pollution reduction plans for MS4 permits; Ongoing (Md.) Continuing to coordinate on the development of their draft Phase II MS4 General Permit.
2014/2015	Continue to work with key partners to support watershed implementation plans, update installation land use information and improve available tools for installations to determine/plan for future load allocations and expected load reductions. (DoD)	Completed. The DoD Chesapeake Bay Program identified and provided a complete inventory of facilities in the watershed, updated and reported facility land uses, historical BMP implementation and FY15 BMP progress implementation to each Jurisdiction and EPA CBPO. The DoD CBP also submitted 2016-2017 milestones to Bay jurisdictions, approximately \$42M of implementation. While this milestone is noted as completed, the DoD CBP will continue to work with key partners to support WIPs, update information when needed, and assist with improving available tools for installations to determine/plan for future load allocations and expected load reductions.
2015	Deliver the working draft Phase 6 Chesapeake Bay Watershed Model and accompanying Scenario Builder to the CBP partnership evaluation and refinement. (EPA)	Completed. Partnership review to be completed in December 2016. EPA worked with USGS to enhance land cover classifications, enhance sediment information, and represent groundwater effects on nutrients in Phase 6 watershed model.
2015	Deliver the working draft revised Chesapeake Bay Water Quality/Sediment Transport Model (incorporating the filter feeders and the enhanced shallow-water submodels) and Chesapeake Bay	Completed. Undergoing partnership review due in December 2016.

	Atmospheric Deposition Model to CBP for evaluation and refinement. (EPA)	
2015	Deliver methods and tools for use by CBP in evaluating and better understanding the effects of climate change on water-quality in the Chesapeake Bay ecosystem and surrounding watershed. (EPA)	Ongoing. To be completed by December 2016. EPA working with STAR Climate Change Workgroup on approaches to address effects on water quality.
AGRICULTURE		
2014	Natural Resources Conservation Service (NRCS) will continue to support voluntary actions by farmers and landowners to improve water quality by providing financial and technical assistance from the Environmental Quality Incentives Program (EQIP), Agricultural Management Assistance (AMA) Program, Wildlife Habitat Incentive Program (WHIP), Farm and Ranchland Protection Program (FRPP), Conservation Stewardship Program (CSP), and Conservation Technical Assistance (CTA) funds. (USDA)	Ongoing. WHIP and FRPP were repealed in the 2014 Farm Bill. New programs are Agriculture Conservation Easement Program (ACEP) and Regional Resource Conservation Partnership Program (RCPP).
2014	Evaluate and assess the methodology, planning and implementation of the Chesapeake Bay Watershed Initiative contained in the Food, Conservation, and Energy Act of 2008 (110-246). This will include core and supporting conservation practices that address water quality resource concerns. Results will be published and could serve as a model for other multi state estuaries. Continue to pursue the development of regulatory predictability in Bay watershed states. (USDA)	Completed. A consultant to USGS assembled data and gave several presentations regarding this subject to various CBP groups.
2014	USDA will hire a post-doctorate professional who will use the CEAP APEX model to help inform the CBP partnership's BMP expert panels' work on estimating the nutrient and sediment reductions from agricultural conservation practices. (USDA)	Completed. A post doctorate professional was hired in 2014. Nutrient and sediment data base being developed by this individual.
2015	NRCS rolled out the new Regional Conservation Partnership Program in FY14/15. The Regional Conservation Partnership Program (RCPP) promotes coordination between NRCS and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements.	In FY15, eight RCPP project agreements were approved in the Chesapeake Bay watershed. Through those eight agreements, approximately \$45 million in USDA funding will be available to agricultural producers over the next five years. Partner contributions associated with these projects total over \$35 million.
2015	Pilot the Conservation Delivery Streamlining Initiative's Conservation Desktop for	Ongoing.

	national use; integrate resource concerns, selected inventory and analysis tools, electronic signature, and geospatial information into conservation planning tools. (USDA)	
2014/2015	Continue to pursue the development of agricultural certainty programs in Bay watershed states. (USDA)	Ongoing. Virginia program launched 2014. Maryland program launched in 2015. Delaware developed legislation.
2014/2015	EPA will provide funding to support a consortium of land grant universities in running expert BMP panels to develop and/or update effectiveness estimates for agricultural practices. (EPA)	Completed.
2014/2015	All Bay jurisdictions are facing similar challenges in initiating water quality trading programs. The Conservation Innovation Grants (CIG) Network is designed to facilitate interactions between the Chesapeake Bay states and other CIG awardees to help address these challenges and overcome obstacles collectively. (USDA)	Ongoing.
2014	USDA and EPA will update the June 2011 Joint Workplan on Chesapeake Bay Conservation Data Collaboration based on progress made to date and USDA's December 2013 update to the Chesapeake Bay CEAP report. (USDA, EPA)	Completed in December 2015 working with the CBP's Scientific Technical Advisory Committee (STAC).
December 2014 & December 2015	Conduct animal feeding operation (AFO) reviews in two jurisdictions. (EPA)	Completed. (http://www2.epa.gov/chesapeake-bay-tmdl/epa-assessments-subwatershed-animal-feeding-operations-afos-chesapeake-bay)
December 2014 & June 2015	Conduct six AFO/CAFO Program Assessments. (EPA)	Completed. (http://www2.epa.gov/chesapeake-bay-tmdl/epas-assessments-animal-agriculture-programs-chesapeake-bay-watershed).
June 2015	Conduct two assessments of CAFO permits and associated Nutrient Management Plans (NMP). (EPA)	Completed two assessments of CAFO permits and associated NMP reviews per jurisdiction in Delaware, Pennsylvania, Virginia, and West Virginia. Completed assessment of CAFO general permit in Maryland and waiting for New York to submit revised CAFO general permit to review. EPA expects to complete the two NMP reviews per jurisdiction in Md. and N.Y. in the next milestone period, as well as an additional two assessments of CAFO permits and associated NMP reviews for each jurisdiction by the end of 2016.

ATMOSPHERIC – RULES, DEPOSITION, ALLOCATIONS		
2014/2015	<p>Significantly reduce nitrogen deposition to the Bay and watershed by 2020. (EPA)</p> <ul style="list-style-type: none"> Update air deposition modeling for the Chesapeake Bay Watershed incorporating the most recent finalized rules with significant NOx reductions. (EPA) Issue tier 3 Light-Duty Vehicle Emission and Fuel Standards final rule (criteria and toxics pollutants). (EPA) 	<p>Ongoing. Development of updated Airshed Model scenarios that use the bidirectional NH4 simulation are underway. The new scenarios will be of 2017, which includes implementation of the Tier 3 Fuel Rule, and 2025, the year when all CBP implementation for the Chesapeake TMDL is to be completed.</p> <p>Completed. Tier 3 Rule in place for nationwide implementation in 2017.</p>
2014	<p>Work with states to develop State Implementation Plan (SIP) revisions to reduce NOx emissions. (EPA)</p> <ul style="list-style-type: none"> Assist states in developing SIP revisions for nonattainment areas for 2014 based on the 2008 ozone standard. (EPA) Work with states to designate nonattainment areas for the 2012 PM_{2.5} standard. (EPA) Oversee state implementation of Clean Air Act 129 rules (CISWI, SSI, HMIWI). Once fully implemented, these rules will reduce emissions of NOx, as well as air toxics. (EPA) 	<p>Maryland is no longer obligated to submit this SIP. EPA performed a determination of attainment for Maryland in 2015 since the area had attained the 2008 ozone standard. With this determination, planning requirements related to the attainment of the standard, including the obligation to submit an attainment SIP, are suspended for as long as the area attains the NAAQS.</p> <p>Completed. EPA designated 3 areas as nonattainment: Allegheny, Lebanon and Delaware counties in Pennsylvania; effective date is April 15, 2015. The remaining two areas scheduled for designation were determined to be in attainment based on certified data.</p> <p>In April 2015, the EPA proposed a federal plan for existing sewage sludge incineration units (SSI) that do not have an approved state plan in place that implements emissions guidelines. EPA will continue this work in the 2016-2017 milestone period.</p>
STORMWATER		
2014/2015	Develop joint workplans with jurisdictions to address stormwater assessment recommendations. (EPA)	Ongoing. Completed Maryland and Virginia workplans http://epa.gov/chesapeakebaytmdl Working with Pennsylvania, Delaware and West Virginia on developing their workplans.
2014/2015	Propose actions to strengthen the national stormwater program. (EPA)	Completed in November 2014.
2014/2015	Conduct oversight review and comment, per NPDES Memorandum of Agreement, on draft state MS4 permits: to ensure	Ongoing. Conducted permit reviews in Maryland, Virginia, Pennsylvania, Delaware and West Virginia. In 2014-15, 6 Phase II MS4 general

	consistency with the Bay TMDL allocations and the level of pollution reduction called for in state WIPs; and to provide enforceable performance measures. (EPA)	permits (Pa., Del., W.V., N.Y. and 2 Md.) were reviewed. Ten Phase I MS4 permits were reviewed (4 in Md. And 4 in Va.). Two construction general permit (Md. and N.Y.), two industrial permits (Pa. and W.V.) were reviewed. EPA drafted a dewatering General Permit for D.C.
2014/2015	Conduct review and comment on select TMDL implementation plans submitted by MS4 jurisdictions to ensure they have a schedule for implementing the necessary structural and non-structural controls and a final date to achieve the applicable Wasteload Allocations (WLAs). (EPA)	EPA received 15 Chesapeake Bay Pollution Reduction Plans (CBPRPs) from Pennsylvania MS4 entities and reviewed several of these documents. These plans are ultimately approved by the permitting authority, not EPA. EPA is reviewing the D.C. TMDL Implementation Plan for the D.C. MS4 permit. As of October 2015, an EPA contractor assisted the Virginia Department of Environmental Quality (VADEQ) with 29 TMDL plan reviews submitted by Phase 2 MS4 permittees. Contractor resources were made available to VADEQ (which provided the funding) by EPA to support with TMDL plan reviews. The contractor will track the comments and corrective actions of the plan reviews and provide a summary document to EPA.
2014/2015	Develop and implement a Stormwater Best Management Practices Operation and Maintenance Policy to meet permit and water quality requirements. (DoD)	Completed/Bay-wide Integration. DoD supported the CBP partnership development and approval of the Basinwide BMP Verification Framework establishing the protocol through which agency partners ensure practices, treatments and technologies resulting in reductions of nitrogen, phosphorus, and/or sediment pollutant loads are implemented and operating correctly. DoD is and will use the state programs for tracking, verifying and reporting BMPs.
ONSITE (SEPTIC) SYSTEMS		
2014/2015	Outreach and technical assistance to Chesapeake Bay states on Model On-Site Program. Outreach and support via webinar(s) and/or conference call(s) to the states on topics related to the contents of the document. (EPA)	Completed.
2014/2015	Outreach and technical assistance to Chesapeake Bay states on Model On-Site Program. Explore/research options for sharing data among states on evaluations of advanced onsite technologies. (EPA)	Completed. A data-sharing agreement was signed in April 2015. http://executiveorder.chesapeakebay.net/post/Chesapeake-Bay-States-sign-Data-Sharing-Agreement-on-Advanced-Onsite-Wastewater-Treatment.aspx

TRADING/OFFSETS		
2014	Issue final technical memoranda setting forth EPA expectations on jurisdictions' offset and trading programs. (EPA)	Ongoing. Six technical memoranda were issued in 2014. Two of the four scheduled for completion in 2015 are complete with the remaining two in development. http://www2.epa.gov/chesapeake-bay-tmdl/trading-and-offset-technical-memoranda-chesapeake-bay-watershed and http://www.epa.gov/chesapeake-bay-tmdl/trading-and-offsets-chesapeake-bay-watershed)
2014	Work with other federal agencies to build capacity that will support an efficient and robust trading market. (USDA, EPA, DOT)	Ongoing.
TOXIC CONTAMINANTS		
2014	Facilitate consideration by the CBP partnership of the toxic reduction and research outcomes developed in 2013 for the Bay Agreement. (EPA, FWS, USGS)	Completed. New toxic contaminant goal and outcomes included in 2014 <i>Chesapeake Bay Watershed Agreement</i> .
2014/2015	Develop strategies for addressing toxic contaminant reduction and research outcomes developed in 2013. (EPA, FWS, USGS)	Completed. Management strategies completed for both Toxic Contaminant Outcomes. Supporting work plans being developed by Toxic Contaminant Workgroup (formed in 2014).
December 2015	Conduct research on occurrence and effects of toxic contaminants on fish and wildlife with an emphasis on chemicals of emerging concern. (USGS, FWS).	Ongoing. USGS evolved studies in 2015 to focus on effects of contaminants on fish in agricultural area (working in partnership with FWS, Pa., W.V., and Md.). USGS and FWS released a report showing intersex conditions in fish were detected in 20 wildlife refuges in the Northeast. USGS and FWS worked with Pennsylvania, who released results showing intersex conditions are related to several groups on toxic contaminants used in agricultural areas.
OVERSIGHT AND ENFORCEMENT		
December 2014 and 2015	<p>Permit and Enforcement Oversight – Stormwater, Wastewater, Agriculture, Trading/Offsets, Air.</p> <p>NPDES Permit Reviews – Report annually on number of permits reviewed and objections. (EPA)</p> <p>Inspections and Case Development – Report annually on results and/or status. (EPA)</p>	<p>For FY15, within the Chesapeake Bay Watershed, EPA reviewed permits for 72 significant wastewater facilities, 1 West Virginia GP for Domestic Sewage Treatment and Disposal Systems (50,000 GPD or less), and 1 Virginia GP for Domestic Sewage (1000 GPD or less).</p> <p>EPA reviewed 35 NPDES CAFO permits/NMPs in Pennsylvania and eight NPDES CAFO permits/NMPs in Virginia and one general permit in New York. Region III also reviewed Maryland's General Discharge Permit for AFOs and two NMPs from permitted CAFOs in Maryland. EPA</p>

		<p>reviewed Delaware’s General Permit for poultry operations with no land application areas and Virginia’s Individual Permit Template for poultry operations.</p> <p>In 2014-15, 6 Phase II MS4 general permits (Pa., Del., W.V., N.Y. and 2 Md.) were reviewed. Ten Phase I MS4 permits were reviewed (4 in Md. and 4 in Va.). Two construction general permit (Md. and N.Y.), two industrial permits (Pa. and W.V.) were reviewed. EPA drafted a dewatering General Permit for D.C.</p> <p>There were no permit objections during FY15 related to Chesapeake Bay concerns.</p> <p>EPA continued to implement the Chesapeake Bay Enforcement Strategy that was developed in 2010. For FY15, EPA conducted 6 CAFO inspections, 16 MS4 inspections, 14 construction stormwater inspections and 17 industrial stormwater inspections. EPA completed 31 Administrative Compliance orders, 18 administrative penalty actions and 1 judicial conclusion to ensure NPDES compliance in the Chesapeake Bay Watershed in FY15.</p>
MONITORING AND SCIENCE SUPPORT		
December 2014 and 2015	Provide annual updates of water-quality trends in tidal waters (EPA) and watershed (USGS) to assess progress toward nutrient/sediment reductions and water-quality standards. EPA will work with NOAA to utilize information from the Chesapeake Bay Interpretive Buoy System (CBIBS) data to enhance tidal results. (USGS, EPA)	Applied new approaches to assess attainment of standards in tidal waters (EPA) and trends in nutrient and sediment loads in the watershed (USGS). Results will be released in early 2016 and available on CBP WWW site to help inform MPA of TMDL. Ongoing work between EPA and NOAA on using CBSIS.
December 2014	Develop strategy for Building and Sustaining Integrated Networks (BASIN) for estuary and watershed monitoring programs for the Bay TMDL and associated water-quality standards to 2025 (by Dec 2014). Work with CBP partnership to secure funding to implement strategy (by Dec 2015). (EPA with USGS and states/D.C.)	Completed. Report “Building Environmental Intelligence: leading the future of water-quality monitoring.” Recommendations presented to CBP and action being developed to implement in 2016.
December 2015	Conduct project and distribute initial products to assess and explain water-quality changes in support of the Mid-Point Assessment (MPA) of the TMDL. (EPA, USGS, and academic partners working through the STAR team)	Ongoing. Multiple efforts being conducted to explain water quality changes in the watershed and tidal waters. USGS released report on water-quality conditions on the Eastern Shore. http://pubs.usgs.gov/circ/1406/

EPA GRANT SUPPORT TO STATES AND THE DISCTRICT OF COLUMBIA and 2015		
2014/2015	Provide financial support to jurisdictions by maintaining funding, as authorized, through EPA's assistance programs including CWA Section 319, SRF, CBIG and CBRAP. (EPA)	Completed for 2015. 2014 grant funds distributed to states (\$19 million for CBIG and CBRAP). 2015 grant funds for CBIG and 2015 CBRAP totaled \$23.7 million.
2014/2015	Provide financial support to localities and other entities through the Innovative Nutrient and Sediment Reduction (INSR) Grants and the Small Watershed Grants (SWG), as authorized. (EPA)	Completed in 2014 for INSR \$5 million and SWG \$5 million and \$6 million each in 2015. Also a new allocation of local government funding of \$5 million was provided to state and local governments in both 2014 and 2015.

RECOVER HABITAT		
WETLANDS		
Feb/March 2014	<p>Convene Wetlands BMP Expert Panel to review current nutrient and sediment retention BMP efficiencies for Wetland Restoration/Creation BMP, develop BMP efficiencies for a new Wetland Enhancement/Rehabilitation BMP, and provide recommendations for wetland land-use classifications to the Land Use Workgroup for addition to Phase 6 of the TMDL model. (EPA, USGS, FWS)</p> <ul style="list-style-type: none"> • Explore crediting enhancement acreage (agriculture vs. urban) • Address reporting issues with wetland restoration acreage 	Completed. Panel convened November 2014; scope of work and membership approved. Panel met regularly throughout 2015; draft report expected April 2016 in time for recommendations to be included in Phase 6 calibration of the model, pending approval.
2014-2015	Work with The Nature Conservancy (TNC) and Del., Md., Pa., and Va. to implement the Multi-State Wetland Initiative funded through the Chesapeake Stewardship fund to target wetland projects that maximize wildlife habitat and water quality benefits while working to restore 160,000 wetland acres identified by Phase II Watershed Implementation Plans. (FWS, NRCS)	Completed. Results of OpinionWorks survey of agricultural landowners presented February 2016 at Delaware Wetlands Conference.
2014	For Poplar Island, continue grading and development of wetland cells 3A and 3C and install tidal inlet structure for these cells to allow natural tidal flow into the wetlands a few months prior to the cells being planted. Begin design for wetland Cell 5 A/B, which will have a 4 acre vegetated habitat island constructed to provide additional valuable habitat for various bird species. (USACE)	Completed. For Poplar Island, the total number of wetland acres restored is 177 acres.
2015	For Poplar Island, USACE will complete wetland planting efforts in Cell 3A which will bring the total amount of restored tidal marsh on Poplar Island to 243 acres. Grading in Cell 3C is scheduled to be completed	Ongoing. For Poplar Island, the total amount of restored tidal marsh is 232 acres. Grading in Cell 3C was completed during the summer of 2015 and new grading efforts began in Cell 5A/B. (USACE)

	during the summer of 2015 and the USACE will begin new grading efforts in Cell 5A/B which is 83 acres in size. (USACE)	FY15 Restored 55 acres of tidal emergent wetlands at Paul S. Sarbanes Ecosystem Restoration at Poplar Island. USACE proposes to restore an additional 57 acres of tidal emergent wetlands FY16.
December 2015	Complete design for 38 acres of tidal salt marsh within the Lynnhaven River Basin. (USACE)	Ongoing. USACE advanced design for 38 acres of tidal salt marsh within the Lynnhaven River Basin. (USACE)
FISH PASSAGE		
2014	Revise methodology for calculating stream miles opened due to dam removal activities. (FWS)	Completed. In 2016, Fish passage workgroup will update the progress indicator based on the new methodology.
RIPARIAN BUFFERS		
2014	Convene Task Force of USDA, state, and other partners to recommend strategic actions to address increasing gap in achieving riparian forest buffer outcome. (U.S. Forest Service (USFS), NRCS, FSA)	Completed. State Task Forces have been convened and continue to meet. A regional steering committee has been meeting since March 2014. Funding was awarded and implementation has begun.
2015	Convene a federal-state leadership summit to advance recommendations developed by the Task Force. (USFS, NRCS, FSA)	Completed. A Summit was convened in June 2014 by USDA and EPA. Funding of \$4 million was announced by FSA in September 2015.
STREAM RESTORATION		
Spring 2014	Host STAC Workshop on Designing Sustainable Stream Restoration Projects. (USGS, FWS, EPA)	Completed. The workshop was held in 2014 and the STAC workshop report was published in May 2015.
2015	Consider options to expand the Stream Health indicator beyond the BIBI to include parameters such as flood plain connectivity and bank stability. (FWS)	Ongoing. Based on results of STAC workshop report.
2014	Deliver specified criteria to provide timely and collaborative decisions triggered by the Clean Water Act and the Fish and Wildlife Coordination Act. (USACE, EPA, FWS)	Completed. In 2014, USACE developed a checklist for NWP27. In 2015, USACE developed a regional general permit for this type of restoration work; the restoration/regulatory communities are working through issues with use of this permit.
2014	Develop and implement permit streamlining measures under Clean Water Act Section 404 for restoration projects. (USACE, EPA, FWS)	Completed. USACE developed a permit process flowchart in 2014 to provide more information to permit applicants.
ADDITIONAL MILESTONES		
2014	Support states and other partners in developing strategies to achieve urban tree canopy expansion goals and track on-the-ground progress. (USFS)	Ongoing. Building on the 2014 Urban Tree Canopy Summit, USFS coordinated partnership development of the Tree Canopy Management Strategy, which sets forth a suite of new actions to support community canopy goals.
2014-2015	Engage partners in carrying out collaborative actions set forth in the Chesapeake Forest Restoration Strategy, including development	Ongoing. USFS and CBP partners are undertaking Strategy actions. Work on developing online resources has not started.

	of online resources and webinars to promote forest restoration in priority areas. (USFS)	
2014	Initiate Technical Synthesis III to research needs for Submerged Aquatic Vegetation (SAV) restoration success. (Smithsonian Environmental Research Center, USGS, NOAA, EPA)	Ongoing. SAV Technical Synthesis III is 85% complete and scheduled for completion in June 2016.
2014	USACE will begin its Chesapeake Bay Comprehensive Water Resources and Restoration Plan for restoring, preserving, and protecting the Chesapeake Bay ecosystem in coordination state and local governments, other federal agencies, and CBP. This plan will identify additional feasibility and research efforts required to better understand and solve the environmental problems of the Chesapeake Bay. The first phase will be the reconnaissance study to determine federal interest in continuing the cost-shared feasibility studies and identify willing non-federal cost sharing partners. (USACE)	Ongoing. The new name for this plan is Chesapeake Bay Comprehensive Water Resources and Restoration Plan in coordination with the Bay states and interested groups and agencies. The reconnaissance study to determine federal interest in continuing the cost-shared feasibility studies and to identify willing non-federal cost sharing partners was completed and approved in February 2015 and was favorable. USACE will continue its effort to initiate the feasibility phase of the Bay Comprehensive plan in FY16.
2014	Continue feasibility studies with Montgomery and Prince George's counties to analyze areas identified in the Anacostia Restoration Plan as being of potential interest for federal construction. The studies will address the issues of stream restoration, fish passage, wetland restoration and other habitat restoration. (USACE)	Ongoing. Feasibility studies begun with Montgomery and Prince George's counties. Studies have identified stream reaches for restoration and fish passage remediation. Draft reports to be released to the public in 2016. Paint Branch Ecosystem Restoration, Prince George's County, Maryland USACE restored fish passage opening up 6 miles of stream to migratory fish as well as restored just under one acre of wetlands adjacent to the stream.



SUSTAIN FISH AND WILDLIFE		
OYSTERS		
March 2015	Update the baseline oyster population estimate for the bay through completion of the oyster population assessment. (NOAA)	Completed. Provided to NOAA by Virginia Institute of Marine Science.
2015	Complete tributary restoration plans for Little Choptank and Tred Avon Rivers in Maryland and initiate tributary restoration planning process for the Lafayette river in Virginia. (NOAA)	Ongoing. Little Choptank plan is completed; Tred Avon plan is in draft form, pending the outcome of a 6-month series of meetings and on-water data collection trips with the watermen community and staff and leadership from NOAA, USACE, and Maryland DNR. In Progress on the Lafayette.
2015	Initiate coordinated studies of oyster reef ecosystem services on restored reefs, focusing on finfish utilization and nitrogen removal in Harris Creek, Tred Avon River, Great Wicomico River, Lafayette River, and Lynnhaven river, and share preliminary results in 2015. (NOAA)	Ongoing. NOAA is funding seven external research projects and one internal project.
2015	Complete a target of 377 acres of reef construction and seed planting in Harris Creek, the first tributary selected for large-scale restoration toward the oyster outcome. In addition, construct 24 acres in the Tred Avon. (USACE, NOAA) (The acreage target for Harris Creek was modified in 2015 to 372 acres from 377 mentioned above. The difference in 5 acres has been set aside as control sites for measuring fishery and nitrogen removal benefits of the restored reefs) In 2015, the target was reduced to 350 acres because current information showed expected seed only acreage to be unsuitable for planting.	Ongoing. Initial restoration efforts for the target 350 acres in Harris Creek were completed in 2015 with the construction of the final 55.4 acres of oyster habitat by USACE and seeding of seed only and substrate reefs by DNR/ORP/NOAA. Partners began reef construction and seeding in the Little Choptank River (63 acres completed; another 32 built but awaiting seed). Implementation of the Tred Avon River restoration plan began with construction of 16 acres of alternate substrate reefs in the Tred Avon River, Md., 2.5 acres of which were seeded with the rest awaiting seed. Plans called for constructing 8 acres of oyster reef habitat in the Tred Avon River in FY16. Maryland is conducting a review of oyster management strategies that will delay planned FY16 construction until FY17.
2014/2015	Plan and construct 25 acres of sanctuary oyster reefs in the Piankatank River. Plan and construct 20 acres of sanctuary oyster reefs in the Lafayette River. (USACE, NOAA)	Ongoing. Elizabeth River Project and Chesapeake Bay Foundation are restoring reefs in the Lafayette with NOAA funding. In 2014, USACE constructed 20 acres of sanctuary oyster reefs occurred in the Piankatank River. 3.5 acres were constructed in 2015. The plan is to construct approximately 20-40 more acres in 2016. Piankatank River Oyster Restoration Tributary Planning –USACE completed the Phase I, engineering designs for 39 acres of reef habitat. ESA, Section 7 consultation and permitting has been completed for the initial phase of the project. Field work was completed to assess

		success of non-federal sponsor reefs constructed as a cost share component of this project. An Integral Determination Report was submitted to NAD/HQ/ASACW that requests we allow more than \$700K of work that has been completed by the non-federal sponsor to be counted as cost share for the project.
2015	Construct 15 acres of sanctuary oyster reefs in the Great Wicomico River. (USACE)	Ongoing. To be completed in summer 2015.
BLUE CRAB		
2014/2015	Assess the extent to which the population is sustainable (i.e., between the abundance target of 215 million adult females and the minimum threshold of 70 million adult females) by preparing and delivering the Chesapeake Bay Blue Crab Advisory Report annually and convening the Sustainable Fisheries GIT to approve the report and adapt management approaches when necessary. (NOAA)	Ongoing. Populations are assessed annually and evaluated per the 215 million target and 70 million threshold by the Chesapeake Bay Stock Assessment Committee (CBSAC). CBSAC developed and published the 2014 and 2015 Chesapeake Bay Blue Crab Advisory Reports.
BROOK TROUT		
2014	Compile deliverables of National Fish and Wildlife Foundation (NFWF) and National Fish Habitat Partnership (NFHAP) funded brook trout projects in the watershed in recent years, and use those to inform a realistic interim milestone for increased habitat occupancy. (FWS, USGS)	Ongoing. Brook Trout Action Team to recommend in 2016 as part of biennial workplan.
2014	Work with FWS field office staff to develop a pilot prioritization of brook trout projects for Maryland in 2014; consider working with Downstream Strategies to expand their prioritization methodology to other states in the watershed. (FWS, USGS)	Completed. Model presented at RAE summit November 2014 and at STAR IAN seminar December 2015. Ongoing: USGS working with Downstream strategies to get new information about effects of land change (focused on Unconventional Oil and Gas production) into decision tools. New studies on the effects of UOG production and groundwater on stream conditions implemented by USGS in 2015.
2015	Integrate funding mechanisms of NFWF's Chesapeake Stewardship Fund, NFHAP, and EBTJV to align and optimize targeted investments in brook trout habitat restoration and protection in Chesapeake headwater streams. (FWS)	Ongoing. Brook Trout Action team to make recommendations in 2016 based on pilot model outputs.
BLACK DUCKS		
2014	The Black Duck Joint Venture (BDJV) and Atlantic Coast Joint Venture (ACJV) will continue to develop a decision support tool to identify priority parcels for securement (i.e., fee simple purchase or conservation easement) and restoration across black duck	Ongoing. Initial forage maps submitted by ACJV in November 2014; action team analyzing to determine target areas. USGS preparing maps for local FWS Refuges to inform management. USGS preparing habitat maps for local FWS Refuges to inform management. Process used to develop

	non-breeding range along the Atlantic Coast. (FWS, USGS)	maps will inform approaches to prepare regional maps during 2016.
Fall/Winter 2014	Build the foraging energetics model by late FY14, (FWS, USGS) Complete collection of biomass sampling (Virginia Rivers Complex) and analysis of biomass samples. Complete foraging trials, determine food habits, and determine energetic costs associated with foraging and resting.	Ongoing. Field data (collection has been completed) are being used by USGS to finalize models to support decision making at FWS refuges. USGS began a new study to predict future impacts of sea-level rise on coastal wetlands that are important for Black Ducks.



CONSERVE LAND AND PUBLIC ACCESS		
LAND CONSERVATION		
2015	NatureServe will work with NPS, USGS, state agencies, and other partners to advance LandScope Chesapeake over the next year by expanding LandScope Chesapeake content watershed-wide, making targeted improvements to the LandScope Chesapeake mapping tools, and completing a redesign and re-architecture of the website's GIS platform. (NPS, USGS)	Ongoing. USGS updated land change model that can be used to help assess vulnerability of lands to future development. http://www.landscape.org/chesapeake/

2015	Continue to convene Large Landscape Conservation Partnership in order to advance conservation practices and innovations, and regional conservation priorities in the Chesapeake Bay Watershed. (NPS)	Ongoing. Chesapeake Conservation Partnership was established; workgroups are underway. http://www.chesapeakeconservation.org/ 2015 annual meeting was held in October.
2015	Implement ongoing conservation programs (NPS, LWCF, REPI, NAWCA, etc.). (NPS, FWS)	Ongoing. DOI is implementing the Rivers of the Chesapeake program to increase land conservation. The REPI Program continues to maintain active partnerships with several installations within the watershed. FWS Chesapeake Bay Field Office, Rappahannock River Valley National Wildlife Refuge and Virginia Outdoors Foundation secured a National Coastal Wetland Conservation Grant in the Rappahannock watershed. FWS Chesapeake Bay Field Office also got two Coastal grants in the lower Potomac watershed and a NAWCA grant in the Pocomoke watershed, as well as approval to dedicate previously awarded but unused Coastal Grant funds to conservation priorities in the Nanticoke watershed. In total, 990 acres were protected with \$3,400,000 in grants funds, which leveraged an additional \$1,556,167 in matching funds.
2014	DoD will continue, through the Readiness and Environmental Protection Integration (REPI) Program, to identify opportunities to conserve priority landscapes around DoD installations in the Chesapeake Bay Watershed. (DoD)	Ongoing. Since the 2014 REPI Report to Congress, a total of 19,248 acres has been protected at several installations throughout the watershed.
2015	<p>Identify culturally significant landscapes.</p> <p>NPS will continue coordinating research on Indigenous Cultural Landscape identification, mapping, and methodology through work in the Nanticoke River watershed in Maryland and along the Lower Susquehanna River in Pennsylvania and Maryland. (NPS)</p> <p>Identify culturally significant landscapes. NOAA will identify culturally significant landscapes for conservation, including maritime heritage resources. (NOAA)</p>	<p>Ongoing. In 2015 NPS funded probability modelling of ICLs in the tidal Chesapeake, resulting in a listing of 11 additional mapping priorities that combine development and climate change pressures with a strong resource base and local tribal interest. Meanwhile, Nanticoke, Lower Susquehanna and Middle Potomac ICL mapping work is completed; Rappahannock ICL work is underway.</p> <p>Completed. On Oct 6, 2015, NOAA initiated designation of Mallow Bay-Potomac River as a National Marine Sanctuary. Public comment to help define the sanctuary is through Jan 15, 2016. NOAA and partners will consider the comments and develop a draft management plan</p>

		and draft environmental impact statement for public review (anticipated late-2016).
2014	Identify ecologically significant landscapes for conservation. (FWS)	Ongoing. Building from a recently completed synthesis of State Wildlife Action Plans, FWS is leading development of a process among North Atlantic Landscape Conservation Cooperative (LCC) and Northeast state fish and wildlife agency partners to identify and delineate Regional Conservation Opportunity Areas, to be completed by June 2015. Several other conservation planning and design tools are under development by the Appalachian and North Atlantic LCC's.
2014	Complete final Chesapeake Working Lands Conservation Strategy. (USFS, NRCS)	Completed. Final Strategy posted at http://executiveorder.chesapeakebay.net/
PUBLIC ACCESS		
2015	Continue collaborative implementation of public access plan via solicitation of new potential sites, work on priority actions such as universal accessibility and boat in camping along key trail segments, and tracking added access sites. (NPS)	Ongoing. The Public Access Team continues to track new sites as well as implement the strategies outlined in the Public Access Management Strategy / Workplan and Public Access Plan .



EXPAND CITIZEN STEWARDSHIP		
2015	Continue the work with youth partners towards increasing the number of youth stewards that supports and carryout conservation, restoration and access projects; while focusing on finding reliable funding streams for the Chesapeake Youth Corps and Intern Team. (NPS)	<p>Ongoing. The Chesapeake Youth Corp (CYC) engaged 3,423 participants through numerous youth partnerships and programs. Participants worked on restorations projects, creative enrichment activities, professional development activities and many civic engagement/stewardship opportunities. The CYC Network held 75 educational events, received nine grants in addition to matching funds and federal funds, and provided 1530 hours on mentoring to its participants.</p> <p>In partnership with the Chesapeake Bay Trust, NPS employs 4 interns with the Chesapeake Conservation Corps. One intern is in the NPS office and the others are stationed with partner organizations to increase capacity and assist with the implementation of trail development and public access goals. These positions are funding through the DOI 21st Century Youth Conservation Corps.</p>
2014	Develop baseline metrics to establish and measure outcomes related to student participation in teacher supported meaningful watershed educational experiences and related activities. (NOAA)	Completed. NOAA developed a survey instrument with the Chesapeake Bay Trust and an independent evaluator. Baseline data was collected for the 2014-2015 school year and will be used to establish new Environmental Literacy Indicators.
2015	Support the development and implementation of place-based programs that provide access and provide meaningful experiences through education and interpretation. (NOAA)	Completed/Ongoing. In FY15, NOAA B-WET program provided \$2.5 million in 36 grants to support place-based meaningful watershed experiences for thousands of students and teachers.
2015	Work with partners to conduct and immersive leadership development workshop for local government officials that include exposure to Chesapeake Bay issues. (NOAA)	Cancelled.
2015	Work with partners to support a comprehensive strategy for Eastern Shore conservation that include strong community outreach. (NOAA)	Ongoing. To support the NOAA Habitat Focus Area, NOAA is working with local partners to develop a common agenda based on intentional partnerships to improve water quality in the Choptank River complex.



ENVIRONMENTAL MARKETS		
2014/2015	Support a network among Bay watershed Conservation Innovation Grant awardees to help stimulate environmental markets. (USDA)	Network established in 2013 and continues to meet regularly.
2014	Support integration of mitigation banking, nutrient trading, and offsets in the Chesapeake Bay Watershed. (EMT/EPA, USDA, FWS, USACE)	Completed. Workshop entitled “Growing Market-Based Approaches to Conservation in the Chesapeake Bay Watershed” was held in October 2014 in Beltsville, Md. There were approximately 65 attendees from federal and state agencies. A report on the workshop findings titled “Increasing Federal Coordination for Market-Based Approaches in the Chesapeake Bay Watershed” was released in 2015.
2014/2015	Support research, education, outreach, and policy development that promote credit trading and environmental market development in the Chesapeake Bay. (EMT, USDA)	Ongoing. Each year, the Chesapeake Bay Environmental Markets Team (EMT) member agencies sponsor numerous trainings, presentations and outreach activities to promote market development.
2014/2015	Enhance capacity to characterize implications of nutrient credit trading in the Chesapeake Bay Watershed. (EMT, USDA)	In support of the EMT, USDA entered into several cooperative agreements with universities and non-governmental organizations to provide technical analyses to inform environmental market development in the Chesapeake Bay. Specific materials include: <ul style="list-style-type: none"> ○ An evaluation of early action incentives in environmental markets; ○ Developing examples of integrated mitigation across programs and markets; ○ An assessment of the extent to which in-lieu fee programs have facilitated or hindered the use of off-site compliance projects and the emergence of private offset markets. <p>These efforts will be completed in 2016.</p>



CLIMATE CHANGE		
2014-2015	<p>Work with partners implementing projects through the Hurricane Sandy Coastal Recovery efforts to collaborate to achieve associated CBP goals to restore coastal wetlands, conserve lands, and address the potential effects of changing environmental conditions. (DOI, DOT, NOAA)</p>	<p>Federal agencies collaborated on Hurricane Sandy restoration efforts to benefit the Chesapeake with several highlights listed below. NOAA has completed aerial surveys of changing shorelines in the lower Chesapeake Bay. DOT used federal funds for Hurricane Sandy disaster relief in part for competitively selected projects to help public transportation agencies become more resilient. Among selected projects were two projects to protect the existing Washington area subway system by raising ventilation shafts and installing drainage improvements. DOI implemented projects to improve both FWS refuges and NPS lands, with the USGS enhanced flood monitoring led inter-agency working group to develop indicators of climate resilience.</p> <p>NACCS, a study led by the USACE, assessed the impacts of the sea level and climate change on the North Atlantic coastal communities, including much of the Bay proper. The NACCS also produced an Environmental and Cultural Resources Conditions Report, dated October 2014, which is currently available on the study's webpage www.nad.usace.army.mil/compstudy. This report provides a summary, by state, of the existing conditions, habitat and resource impacts as a result of Hurricane Sandy, and the future conditions of those resources, considering sea level and climate change if no action is taken. The NAACS was completed in 2015.</p> <p>In FY15, DOT's Federal Transit Administration announced selection of public transportation resilience projects under its Emergency Relief Program for projects that will reduce the risk of damage from future disasters in areas impacted by Hurricane Sandy, including Washington Metropolitan Area Transit Authority projects to improve drainage and raise ventilation shafts.</p> <p>In 2015, DOT began studying potential costs to transportation agencies of preparing for climate change and severe weather, understanding vulnerability of transportation assets and setting priorities, focusing on the Hampton Roads, Va. area.</p>

<p>2014-2015</p>	<p>Improve the data and understanding of the potential effects of land and climate on the Bay and its watershed. (NOAA, USGS, USACE, EPA)</p>	<p>Ongoing. Under the NACCS, the USACE, has completed numerical modeling efforts which will provide detailed extreme water level information including storm surge, tides, and sea level change associated with future coastal storm events. The data is available online at https://chs.erdcdren.mil.</p> <p>EPA is working with USGS and partners on simulations of climate change impacts for the Bay TMDL Midpoint Assessment.</p> <p>USGS is conducting analysis of climate change on stream flow and potential effects on freshwater fisheries. USGS began new project to predict marsh migration in response to sea-level rise.</p> <p>NOAA concentrated resources to improve and sustain the ecological health of the Delmarva/Choptank River Complex, located on Maryland's Eastern Shore. Climate change and sea level rise, combined with land subsidence, further threaten losses of nearshore marshes and coastal environments. A key objective for the Choptank Habitat Focus area is to improve the decision-making and resilience of coastal communities by improving the delivery of NOAA's habitat and climate science. As part of this effort, NOAA conducted an integrated vulnerability assessment for the Town of Oxford and engaged in research to assess the influence of changes to the shoreline on Chesapeake Bay and Delmarva ecosystems.</p> <p>NOAA worked on the Chesapeake Atlantis Model, a full system ecosystem model designed for identification of the cumulative effects of system changes, including climate.</p> <p>NOAA worked on the Chesapeake Bay Climate Sensitivity Assessment, using weather, water, biological, and climate data from a variety of sources and a state of the art biophysical model (the Chesapeake Bay Ecological Prediction System) to address the needs and goals of the Chesapeake Bay NERRS, CBP, and NOAA's Chesapeake Bay Sentinel Site Cooperative. http://coastalscience.noaa.gov/about/centers/co !</p>
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2015	Implement the Chesapeake Bay Sentinel Site Cooperative (CBSSC) for assessing Sea-Level Rise. (NOAA)	<p>Ongoing. NOAA and partners are coordinating efforts of the Chesapeake Bay Sentinel Site Cooperative (CBSSC) with a focus on collecting data to be used in modeling of ecological effects due to sea level rise. These models will inform natural resource managers and restoration efforts as well as municipal planners and managers.</p> <ul style="list-style-type: none"> • In 2015, the CBSSC, in coordination with Maryland Sea Grant and Maryland DNR, hired a full-time coordinator to facilitate the work of the cooperative. Additionally: NOAA's National Geodetic Survey provided technical and field support to conduct a GPS survey at Blackwater National Wildlife Refuge with FWS staff and at Assateague National Seashore, along with NPS staff. • CBSSC also hosted meetings with key stakeholders in the Hampton Roads area, including representatives from Old Dominion University's Climate Change & Sea Level Rise Initiative, Virginia Sea Grant, and Virginia Chesapeake Bay National Estuarine Research Reserve. • CBSSC continued engagement between partners through monthly conference calls. The calls serve as a forum to share information about projects, products and programs, as well as an effective way to increase collaboration between partners.
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STRENGTHEN SCIENCE		
2015	Work through STAR to assess monitoring needs associated with goals and outcomes in the 2014 <i>Chesapeake Bay Watershed Agreement</i> . (EPA, USGS, NOAA, FWS working through STAR)	Ongoing. STAR worked with the Goal Teams to complete assessment and prioritize monitoring needs identified in management strategies. STAR working with STAC and other federal and state science partners to identify options to expand monitoring. USGS worked with STAR on new approaches to obtain high-resolution land cover data, which is being implemented by the Chesapeake Conservancy.
2015	Enhance management and delivery of Chesapeake Bay information. (EPA, USGS, NOAA, FWS working through STAR)	Ongoing. Federal agencies working through STAR to ensure validity of data from expanded monitoring. EPA is working with agencies on what to manage and deliver data for the <i>Chesapeake Bay Watershed Agreement</i> .

IMPLEMENTATION AND ACCOUNTABILITY		
<u>Chesapeake Bay Watershed Agreement</u>		
January 2014	Release draft <i>Chesapeake Bay Watershed Agreement</i> for public review. (EPA)	Completed March 17, 2015.
June 2014	<i>Chesapeake Bay Watershed Agreement</i> signed by the Executive Council. (EPA)	Completed. Signed in June 2014. (http://www.chesapeakebay.net/chesapeakebaywatershedagreement/page)
June 2015	Management Strategies completed for all outcomes in the <i>Chesapeake Bay Watershed Agreement</i> . (EPA)	Ongoing. All 25 Management Strategies completed June 2015.
2014	Negotiate changes to CBP governance document with the partnership, including needed changes to the structure, decision-making process, and membership. (EPA)	Completed. Issued July 2014. Updated in July 2015. (http://www.chesapeakebay.net/documents/CBP_Governance_Document_7-14-15.pdf)
<u>ChesapeakeStat</u>		
2014	Phase I: Redesign ChesapeakeStat website to track progress toward meeting the goals and outcomes of the new Agreement and implementation of management strategies. (EPA)	Ongoing. Umbrella site for <i>ChesapeakeStat</i> completed January 2015. The second in the suite of Stat web sites, ChesapeakeProgress , is now publicly available as of January 2016.
2015	Phase II: Complete a discovery process for expanding and enhancing <i>ChesapeakeStat</i> to support collaborative decision-making between CBP Goal Implementation Teams and workgroups. (EPA)	Ongoing. Scheduled for December 2016 completion.
<u>Annual Action Plan and Progress Report</u>		
2014	Include Federal Milestones for all goals and outcomes for 2014-2015 in the Annual Action Plan and Progress Report. (EPA)	Completed March 2014.
2015	Develop 2015 Annual Progress Report for this Executive Order. Include progress on meeting the 2014-2015 Federal Milestones. (EPA)	2015 Progress report completed in April 2016. 2016 Actions integrated into <i>Chesapeake Bay Watershed Agreement</i> Management Strategies and work plans. 2016-2017 Water Quality milestones issued in January 2016 and progress evaluation of 2014-2015 Water Quality milestones to be completed in June 2016.