

Executive Order 13508

Combined FY 2014 Action Plan and FY 2013 Progress Report

Strategy for Protecting and Restoring the Chesapeake Bay Watershed

May 14, 2014



Developed by the Federal Leadership Committee for the Chesapeake Bay



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Executive Order 13508, signed by President Obama in May 2009, set the stage for a renewed and reinvigorated federal effort to protect and restore the Chesapeake Bay watershed, as described in the *Strategy for Protecting and Restoring the Chesapeake Bay*, released in May 2010. Federal agencies are collaborating with state and local governments; nongovernmental organizations; academic institutions; and community groups, as well as individual citizens across the Chesapeake Bay watershed, to implement the Strategy to protect and restore our “national treasure.”

Federal-state collaboration is the hallmark of the Chesapeake Bay Program (CBP) since its inception in 1983. The dedicated people working through the CBP partnership live and work around the Chesapeake Bay watershed—64,000 square miles of varied landscapes and 17 million dynamic people reaching across parts of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and Washington, D.C. The partners and stakeholders are all committed to work with citizens to protect and restore the Chesapeake Bay’s vibrant ecosystem for future generations.

We understand the importance of protecting and restoring the Bay and its watershed for a spectrum of reasons: providing clean water that is fishable and swimmable; restoring critical habitats needed for abundant wildlife; sustaining healthy populations of fish and wildlife; and connecting people to the Bay and the lands around it so they understand and appreciate its richness and value.

We also realize, while many well-intentioned projects can make some forward progress, a well-coordinated, collaborative effort is needed to achieve the goal of a restored Chesapeake Bay and watershed. To ensure the substantial resources being committed to this effort are used effectively and efficiently, federal agencies worked closely with the Chesapeake Bay states to align federal investments with the key priorities and needs of regional jurisdictions and stakeholders.

This Action Plan for 2014 and Progress Report for 2013 represents a collaborative effort across the federal government, in consultation with states and other partners, fulfilling the direction of the Executive Order “to ensure that federal actions to protect and restore the Chesapeake Bay are closely coordinated with actions by state and local agencies in the watershed and that the resources, authorities, and expertise of federal, state, and local agencies are used as efficiently as possible for the benefit of the Chesapeake Bay’s water quality and ecosystem and habitat health and viability.” We look forward to implementing the fiscal year 2014 Action Plan in the spirit of this direction.

Sincerely,
Federal Leadership Committee for the Chesapeake Bay
Senior Designees

Nancy Stoner, Acting Assistant Administrator for Office of Water, U.S. Environmental Protection Agency

Ann Mills, Deputy Under Secretary, Natural Resources and Environment, U.S. Department of Agriculture

Mark Schaefer, Assistant Secretary for Conservation and Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

Donald Schregardus, Deputy Assistant Secretary of the Navy, Environment, U.S. Department of Defense

Jo-Ellen Darcy, Assistant Secretary to the Army (Civil Works), U.S. Army Corps of Engineers, U.S. Department of Defense

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Executive Summary

The Executive Order signed by President Obama in May 2009 reinvigorated federal agencies' efforts to collaborate on protection and restoration of the Chesapeake Bay. To track progress, the federal agencies are required to release annual action plans and progress reports; these are released by the Federal Leadership Committee, which includes representatives from each of the federal agencies participating in this effort. It is chaired by the U.S. Environmental Protection Agency and includes senior representatives from the Departments of Agriculture, Commerce, Defense, Homeland Security, Interior, and Transportation.

In Fiscal Year 2013, significant progress was made toward achieving the goals and outcomes set forth in the 2013 Action Plan. In Fiscal Year 2014, substantial work will continue toward goals set forth in the *Strategy for Protecting and Restoring the Chesapeake Bay* via well-established, multi-year projects as well as new initiatives. The vast majority of these projects are carried out between federal and state agencies working through, and benefiting, the Chesapeake Bay Program partnership. Selected 2013 progress highlights as well as planned actions for 2014 for each of the goals and supporting strategies are noted here; full details are included in the relevant sections in this report.

FY 2014 funding for projects and activities described in this report are based on agency appropriations and outlays. In FY 2014, the amount that agencies utilized for Chesapeake Bay restoration and protection was over \$398 million. A more detailed breakdown by goal is included in Section 4 of this report.

Restore Clean Water:

2013 Progress

- Results for 2010-2012 indicated 29 percent of the Chesapeake Bay was attaining water quality standards for dissolved oxygen, water clarity/underwater bay grasses and chlorophyll-*a*, with a goal to reach 60 percent by 2025. In addition, when measuring the reductions in nitrogen, phosphorus, and sediment pollution expected from management actions taken during a particular time period, in 2013 reductions were measured at 25 percent for nitrogen; 27 percent for phosphorus; 32 percent for sediment.
- The Environmental Protection Agency (EPA) provided interim assessments to the seven Chesapeake Bay jurisdictions on their progress toward meeting their 2012-2013 Milestones and Watershed Implementation Plan (WIP) goals. These goals and milestones outline steps the Bay jurisdictions and federal agencies are taking toward having all the pollution control measures in place by 2025.

- Technical memoranda were issued that set forth EPA's expectations for jurisdictions' trading and offset programs. The memoranda elaborate on EPA's expectations, set out in the Chesapeake Bay Total Maximum Daily Load (TMDL) document.
- In Fiscal Year 2013, conservation practices were established on more than 271,000 unique acres of high priority working lands in the Bay, bringing the total to approximately 1.3 million acres or 32 percent of the four million acre goal.

2014 Planned Actions

- EPA will evaluate 2012/2013 jurisdiction and federal milestones related to TMDL and WIP implementation and will announce new jurisdictional and federal 2014-2015 two-year milestones.
- Management strategies will be developed to address outcomes on federal agency toxic contaminant reduction and research. Federal agencies will work with interested state partners and other stakeholders to develop a strategic plan that specifies the actions to reduce selected contaminants. The U.S. Geological Survey will expand research to understand the occurrence and effects of endocrine-disrupting compounds on fish and wildlife so additional strategies can be considered in the future.

Recover Habitat:

2013 Progress

- In 2012, 2,231 acres of wetlands were established or re-established on agricultural lands in the Bay watershed.
- The Habitat Goal Implementation Team (GIT), under the leadership of the U.S. Fish and Wildlife Service (FWS), facilitated wetland-specific meetings with partners in Maryland, Delaware, Virginia, and Pennsylvania. These discussions formed the basis for a successful grant proposal submitted by The Nature Conservancy and Ducks Unlimited to the National Fish and Wildlife

Foundation's Chesapeake Stewardship fund. Awarded funds will result in accelerated wetland restoration and protection across four states, targeting habitat valuable to wetland dependent species, including wintering black ducks, which are a priority resource in the Chesapeake Executive Order strategy.

- FWS, National Oceanic and Atmospheric Administration (NOAA), and state and nongovernmental organization partners in the Fish Passage Workgroup opened 205.5 miles of fish passage to benefit migratory and resident fish species. Calculated using the new Fish Passage Tool, this mileage includes the functional network of habitat re-opened to the fish and will be modified based on additional information provided by State of Pennsylvania.
- Only 202 miles of riparian forest buffers were restored in 2013. Combined with 284 miles restored in 2012, 27 percent of the 2-year milestone of 1,800 miles was achieved.

2014 Planned Actions

- FWS will work to develop a pilot prioritization of brook trout projects for Maryland in 2014; the Habitat GIT will then explore options to work with the U.S. Geological Survey (USGS), the Eastern Brook Trout Joint Venture, and Downstream Strategies to expand their prioritization methodology to other states in the watershed.
- FWS and USGS, in partnership with the American Black Duck and Atlantic Coast Joint Ventures, will complete the black duck energetics model to estimate carrying capacity of habitat by late FY 2014, and partners will continue development of a decision support tool to identify priority parcels for conservation and restoration of black duck habitat along the Atlantic Coast, including wintering grounds in the Chesapeake.
- USDA and EPA will hold a Leadership Summit on how partners can work to accelerate riparian forest buffer restoration.

Sustain Fish and Wildlife:**2013 Progress**

- Working with partners, NOAA funding supported the placement of 200 reef balls and the creation of a new oyster reef in the Lafayette River in Virginia. NOAA and the U.S. Army Corps of Engineers (USACE) worked with the Maryland Department of Natural Resources to construct new oyster reef and plant baby oysters on additional acres of reef in Harris Creek, where work is now more 50 percent of the way toward achieving 377 acres of restored oyster reef.
- A conservation threshold for male crabs was developed by the Chesapeake Bay Stock Assessment Committee and implemented by the Chesapeake Bay Program's Sustainable Fisheries Goal Implementation Team. Adult female blue crab abundance in 2013 was estimated to be 147 million crabs, above the overfished threshold (70 million) but below the 215 million crab target.

2014 Planned Actions

- Federal and other partners will continue reef construction and planting in Harris Creek, develop oyster restoration plans for the Little Choptank and Tred Avon Rivers in Maryland, and start the planning process for restoring oysters in the Lafayette and Piankatank Rivers in Virginia. USACE will begin construction of new reef habitat in Tred Avon River.
- NOAA will initiate coordinated studies of the ecosystem services provided by restored oyster reefs. NOAA and NOAA-funded research will focus on finfish utilization of reefs and nitrogen removal by oysters in Harris Creek, Tred Avon River, Great Wicomico River, Lafayette River, and Lynnhaven River; preliminary results will be shared in 2015.

Conserve Land and Increase Public Access:**2013 Progress**

- As of the end of 2011, 8,013,132 acres of land have been permanently protected throughout the Chesapeake Bay watershed. This constitutes permanent protection of approximately 20 percent of the land in the Chesapeake Bay watershed.
- The Chesapeake Large Landscapes Conservation Partnership, including representatives from nonprofit organizations and local, state, and federal agencies, continued to discuss large landscape conservation practices and innovations in the Chesapeake watershed. This collaboration helps to achieve mutual conservation goals, by identifying and addressing multijurisdictional public access priorities and targeting focus areas in which to concentrate conservation efforts.
- The Chesapeake Bay Watershed Public Access Plan's action team of federal and state partners developed a process for updating the list of potential new public access sites and considered how to advance other high-priority plan topics including boat-in campsites, universal accessibility, and urban access. The number of sites added in 2013 was 36.

2014 Planned Actions

- The National Park Service (NPS) will hold a workshop to consider the analysis and options outlined in the Business Planning Initiative consultants' large landscape conservation "partnership analysis," and identify focal areas representing large landscapes within the watershed that are iconic in their own right and are the focus of active collaborative conservation efforts.
- Federal, state, local, nongovernmental and community partners will implement the Chesapeake Bay Public Access Plan (released in 2012). NPS financial assistance will prioritize creation of new public access sites in the

Chesapeake region, specifically along the Captain John Smith Trail, Star-Spangled Banner Trail, and the Potomac Heritage National Scenic Trail. NPS will continue to explore boat-in camp sites along the trail and advance universal accessibility at public access sites.

Supporting Strategies

2013 Progress

- **Climate Change:** Federal agencies worked to improve climate change information for the Bay and its watershed. NOAA worked with partners to finalize a cooperative implementation plan for establishing a sentinel site network for better assessing sea-level rise in the Bay. USGS prepared a summary of long-term sea-level rise on the Chesapeake ecosystem to help support the network. The USACE began a study of vulnerability of coastal areas to sea-level rise and climate change and developing a web-based GIS interface tool – referred to as CESL.
- **Citizen Stewardship:** The Chesapeake Bay Program’s Education Workgroup conducted and released a report highlighting best practices in K-12 environmental education based on current research and evaluation. The report summarized a workshop that brought together members of the academic community and regional environmental education professionals.
- **Environmental Markets:** The Inter-Agency Chesapeake Bay Environmental Markets Team (EMT) facilitated collaboration among 12 federal agencies in the development of infrastructure needed for enabling environmental markets to function effectively in the Chesapeake Bay watershed.
- **Strengthen Science:** Federal agencies provided support for all goals including: a new report on the extent and severity of toxic contaminants in the Bay and its watershed (EPA, USGS, FWS); seafloor mapping to support oyster restoration (NOAA); developing and evaluating options to address adverse impacts to the Lower

Susquehanna River Watershed (USACE, USGS); and enhancing the amount of data supporting and improving the protected lands data for Chesapeake Landscape, a decision tool to help identify priority areas for land conservation (NPS, NatureServe, USGS).

2014 Planned Actions

- **Climate Change:** Federal agencies will collaborate with partners implementing projects through the Hurricane Sandy Coastal Recovery efforts to achieve goals to restore coastal wetlands, conserve lands, and address the potential effects of, and resiliency to, climate change.
- **Citizen Stewardship:** NOAA will collaborate with its partners to develop baseline metrics to establish and measure outcomes related to student participation in teacher-supported meaningful watershed educational experiences and related activities, and NOAA and its partners will highlight models of sustainable schools and local education agencies that use system-wide approaches for environmental education.
- **Environmental Markets:** The EMT will release issue papers that address how differences in water quality trading tools and rules may impact trading efforts, identify mechanisms to reduce the complexity and administrative burden of operating trading programs, and will support a study to enhance the capacity to characterize economic implications of nutrient delivery lag time on nutrient credit trading in the Chesapeake Bay watershed.
- **Strengthen Science:** Federal agencies will work with partners through the CBP Scientific, Technical Assessment, and Reporting (STAR) team, in coordination with STAC, to assess monitoring needs for outcomes in the new Bay agreement. The partners will develop a strategy to meet those needs during 2015.

The total federal investment for work that supports the Chesapeake restoration and protection has been tracked since the first Chesapeake Executive Order Action Plan in 2011 and is summarized below. The following table summarizes the operating levels by agency for FY 2012 through FY 2014. The table also includes the FY 2011 President's budget request. In FY 2014, the total funded amount across all agencies totaled \$398,330,695.

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
USDA Total	\$153,578,000	\$121,488,000	\$135,449,000	\$86,714,000
Farm Service Agency		(\$37,081,000)	\$34,304,000	\$34,304,000
NRCS	\$149,740,000	\$119,828,000	\$98,000,000	\$51,000,000 ³
Office of Chief Economist	\$150,000	\$350,000	\$350,000	\$350,000
USFS	\$3,688,000	\$1,310,000	\$2,795,000	\$1,060,000
U.S. Department of Commerce / NOAA	\$19,346,250	\$9,208,425	\$10,119,000	\$8,436,442
DoD Total	\$17,434,075	\$121,254,616	\$89,106,945	\$82,444,222
Services	\$11,423,062	\$101,169,616 ⁵	\$71,146,945	\$57,404,222 ⁴
USACE	\$6,011,013	\$20,085,000 ⁵	\$17,960,000	\$25,040,000
DOI Total	\$42,817,218	\$23,906,000	\$21,227,233	\$23,227,269
FWS	\$15,161,27	\$10,146,000	\$10,294,000	\$10,654,289
NPS	\$19,169,640	\$6,411,000	\$3,876,233	\$4,515,980
USGS	\$8,486,304	\$7,349,000	\$7,057,000	\$8,057,000
EPA	\$248,873,881	\$184,010,730	\$174,821,744	\$197,508,762
Total	\$490,550,424	\$459,867,771	\$430,723,922	\$398,330,695

¹ Fiscal Year 2011 Action Plan

² Fiscal Year 2013 Action Plan

³ NRCS numbers may change due to applicable percentage of RCPP for water quality improvement in the enacted Farm Bill.

⁴ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall.

⁵ USACE and DoD FY 2012 and FY 2013 Operating Levels were adjusted based on actual allocations.

Introduction

The Executive Order directs the Federal Leadership Committee (FLC) to release an Action Plan and Progress Report to promote transparency in the planning, tracking, reporting, evaluating and adapting of restoration activities. The Annual Action Plan identifies the protection and restoration activities FLC agencies will undertake in the following year to carry out actions and move toward the goals outlined in this strategy. The Annual Progress Report assesses the success of the federal agencies' efforts in implementing the actions identified in the preceding year's action plan.

This year for the first time, the Action Plan and Progress Report have been developed and released together as one combined report. In developing this report, the lead agency for each goal area or supporting strategy took responsibility for carrying out overall consultation with Bay jurisdictions and other key stakeholders during the development of this joint Action Plan and Progress Report.

In addition, the Federal Leadership Committee provided a draft of the report for public comment prior to its final release. The FLC was particularly interested in comments that would help improve the development of this Action Plan, including the level of detail needed, format, quantity of information included, timing of Action Plans, as well as how to involve the Bay watershed community in development of this and future plans.

This combined FY 2013 Progress Report and FY 2014 Action Plan describes each of the four Executive Order Goals (Restore Clean Water; Recover Habitat; Sustain Fish and Wildlife; and Conserve Land and Increase Public Access) and component Outcomes, and features bulleted descriptions of key areas of past progress and forthcoming action. Updates are also included for the supporting strategies: Expand Citizen Stewardship; Develop Environmental Markets; Respond to Climate Change, and Strengthen Science.



Goal Summaries

Restore Clean Water Goal Summary

Goal: Reduce nitrogen, phosphorus, sediment and other pollutants to meet Bay water quality goals for dissolved oxygen, clarity, chlorophyll-a and toxic contaminants.

WATER QUALITY OUTCOME

Outcome:

Meet water quality standards for dissolved oxygen, clarity/underwater grasses and chlorophyll-a in the Bay and tidal tributaries by implementing 100 percent of pollution reduction actions for nitrogen, phosphorus and sediment no later than 2025, with 60 percent of segments attaining water quality standards by 2025.

Baseline:

The baseline for 2009-2011 is 30 percent of the Bay was attaining water quality standards. For pollution reduction actions, the FY 2010 baseline is 0 percent. The universe is 100 percent goal achievement by December 31, 2025 (FY 2026).

2013 Status:

There are three components that are measured annually to show progress toward meeting this outcome. The first is the measure for reductions in nitrogen, phosphorus, and sediment pollution expected from management actions taken during a particular time period. Those reductions are measured through the phase 5.3 Chesapeake Bay watershed model with the expected outcome of 100 percent of the pollution reduction actions taken by 2025. **The 2013 target is 22.5 percent** of goal achieved for implementing nitrogen, phosphorus and sediment pollution reduction actions to achieve final TMDL allocations (cumulative from FY 2010 baseline). The 2013 results for these measures are: **25 percent for nitrogen; 27 percent for phosphorus; 32 percent for sediment.** The 2012-2013 milestone discussion below contains the actions that were taken by the federal government in collaboration with the Bay jurisdictions to achieve this progress. The 2014-2015 milestone discussion is the actions the federal government plans to take to stay on a trajectory to meet this outcome by 2025.

The second component is the measure for EPA's portion of the nitrogen reductions from air deposition. While EPA is responsible for overseeing the jurisdictional implementation of the WIPs to achieve the TMDL pollutant load allocations, EPA is directly responsible for ensuring a portion of the nitrogen reductions from air deposition. **The 2013 target** is to reduce EPA's portion of air deposition load to tidal surface waters by an estimated 350,000 pounds during the 2012-2013 milestone period for a total of approximately **2.5 million pounds of nitrogen reductions between 2009 and 2013**. **The 2013 result** for this measure is **2.5 million pounds reduced between 2009 and 2013**.

In time, the reduction of these three pollutants (nitrogen, phosphorus, and sediment pollution) are expected to achieve water quality standards in the tidal portions of the Chesapeake Bay for **dissolved oxygen, water clarity and chlorophyll-a**. Therefore, **the third component measures the environmental conditions** expected from the management actions. While recognizing lag times and weather-related impacts, EPA remains committed to the outcome goal that 60 percent of the segments in the tidal waters of the Chesapeake Bay will attain water quality standards by 2025. Preliminary results for **2010-2012 indicated 31 percent of the Bay was attaining water quality standards**. These results are similar to those of the previous assessment period (2009-2011) in which 30 percent of the Bay was attaining water quality standards.

FY 2014/2015 Milestone:

This is a long term measure and contains only long term targets. The FY 2018 target for this measure contained in EPA's draft FY 2014-2018 Strategic Plan is as follows: "By 2018, achieve 45 percent attainment of water quality standards for dissolved oxygen, water clarity/underwater grasses, and chlorophyll-a in Chesapeake Bay and tidal tributaries. (2011 Baseline: 40 percent). FY 2015 targets are 37.5 percent for nitrogen, phosphorus and sediment. (FY 2015 results will be based on 2014 progress scenario).



WATER QUALITY OUTCOME

2012 – 2013 Milestones Progress

TMDL/WIPs

- **In 2012, EPA announced federal and jurisdictional 2012-2013 two-year milestones and evaluated draft and final Phase 2 Watershed Implementation Plans (WIP).** Assessed progress made to implement the May 2009-December 2011 two year milestones.
- **Provide mid-term evaluation of 2012 milestones progress to jurisdictions.** On May 30, EPA provided its interim assessments to the seven Chesapeake Bay jurisdictions' on their progress toward meeting their 2012-2013 milestones and WIP goals. These goals and milestones outline steps the Bay jurisdictions are taking toward having all the pollution control measures in place by 2025 to fully restore the Bay. The two-year milestones
- are a key component of the accountability framework laid out in the Chesapeake Bay TMDL and Executive Order Strategy.
- **The U.S. Department of Defense (DoD) completed the Water Quality Programmatic Two-Year Milestone** during the FY 2012/2013 milestone period to support the Bay jurisdictions' Phase II WIP development. DoD provided contact and installation-specific information such as land use data, permits, acreages and Best Management Practice inventories.
- **Technical Amendments to TMDL.** No technical amendments were made in 2012 and will instead be addressed during the 2017 mid-point assessment if necessary.

2012 - 2013 Milestones Progress (cont.)

Atmospheric Deposition

- **Significantly reduce nitrogen deposition to the Bay and watershed by 2020.** Air modeling in 2013 was directed toward development of an efficient, equitable air-water nitrogen exchange approach that the CBP partners could use to credit air emission reductions above and beyond the Allocation Air Scenario used in the TMDL. In addition, refinements were made to the Air Model (CMAQ) in order to better simulate ammonia deposition loads of nitrogen in the Chesapeake watershed.
- **NOxSOx Secondary National Ambient Air Quality Standards.** Finalized in 2012.
- **New air deposition modeling** for the Chesapeake Bay watershed incorporating the most recent finalized rules with significant NOx reductions. Developed in 2012.
- **EPA/DOT 2017-2025 Model Year Light-Duty Vehicle GHG Emissions and CAFÉ Standards rule.** Finalized in 2012.

Stormwater

- **Evaluate revisions to the national stormwater rule.** EPA plans to propose actions to strengthen the national stormwater program in 2014/2015.

Onsite (Septics)

- **Develop a model program for states with voluntary general recommendations for activities to reduce pollution from onsite (septic) systems.** In June 2013, EPA released a model program for onsite wastewater treatment systems in the Chesapeake Bay watershed to help states more effectively prevent nutrients from entering the Bay from onsite or septic systems, which will improve water quality. The model is part of EPA's effort to collaborate with state and local partners in promoting nitrogen reductions from onsite systems through treatment technologies and improved design, installation, and management practices. The

model program will help implement the 2009 Executive Order on Chesapeake Bay Protection and Restoration.

Oversight and Enforcement

- **Review Chesapeake Bay states' agricultural technical standards for nutrient management to ensure they meet CAFO regulations. (EPA)** In response to the EPA reviews, documentation was submitted by the states and a checklist of the elements that needed to be addressed in a state's standard to meet the requirements of the EPA CAFO regulations was completed. These reviews and responses are summarized at: <http://cfpub1.epa.gov/npdes/afo/techstandards.cfm>. Because the Natural Resources Conservation Service (NRCS) recently revised its national standard for nutrient management (the 590 Standard), an additional review of the portions of the state technical standards that related to the 590 Standard revisions was also performed for certain states in the Chesapeake Bay watershed.
- **NPDES Permit Reviews – Report annually on number of permits reviewed. (EPA)** EPA monitored the jurisdictions progress in implementation of the Chesapeake Bay TMDL in accordance with the accountability framework described in Section 7 of the TMDL. Part of EPA's oversight includes reviewing all significant permits and other permits, as necessary, to ensure compliance with the Waste Load Allocations (WLAs) established in the TMDL. For FY 2013, EPA reviewed permits for 54 significant wastewater facilities, 2 stormwater related General Permits, and 3 MS4s and objected to 2 Wastewater Permits, both General Permits, and all 3 MS4s.
- **Inspections and Case Development – Report annually on results and/or status. (EPA)** EPA continued to implement the Chesapeake Bay Enforcement Strategy that was developed in 2010. EPA inspected wastewater treatment plants, combined sewer overflows, municipal separate storm sewer systems and

2012 - 2013 Milestones Progress (cont.)

concentrated animal feeding operations. In addition, EPA conducted evaluations of nitrogen oxide-emitting sources in the Bay airshed and pursued enforcement, as appropriate. For FY 2013, EPA conducted 21 CAFO inspections, 7 MS4 inspections, 12 construction stormwater inspections and 23 industrial stormwater inspections. In addition, in FY 2013, under the Clean Air Act, EPA entered into 5 judicial settlements, and issued 3 administrative orders in the Chesapeake Bay airshed that will result in nitrogen oxide emission reductions. Six inspections were done in the Region 3 portion of the airshed under the Chesapeake Bay Enforcement Strategy.

Monitoring and Science Support

- **Implement year two expansion (20 sites) of the non-tidal monitoring network to support TMDL.** EPA worked with USGS, state jurisdictions and DC to install additional monitoring sites in the nontidal network. The network at the end of 2012 contained 126 sites. However, the sequestration in 2013 resulted in a \$300,000 funding reduction for the network. The EPA, USGS, and jurisdictions formulated interim measures that minimized the loss of 4 sites in the network. The partners are taking a more strategic

approach (BASIN) to assess how to sustain the water-quality networks in the face of declining federal funding. (EPA/USGS)

- **Update of nutrient and sediment concentration trends and develop new technique for assessing loads.** USGS issued an update of nutrient and sediment concentration trends in the watershed through 2012. USGS wrote a report on a new technique to assess trends in loads and is working with EPA and partners to apply the new load technique as part of the suite of CBP indicators.
- **EPA updated trends in estuary monitoring data to assess progress toward water quality standards.** The CBP monitoring team (led by EPA, UMCES, USGS) developed a revised the technical approach and associated indicator to assess attainment of water-quality standards in the Bay and tidal waters. This indicator measures progress towards the achievement of water quality standards for dissolved oxygen, water clarity/underwater bay grasses and chlorophyll-*a* for each 3-year assessment period beginning in 1985. For the 2012 update, the indicator showed that 29 percent of the Bay's waters were meeting water-quality standards.

Other 2013 Key Accomplishments

- **Science to support sediment and associated nutrient reductions in Lower Susquehanna River Watershed.** During 2012-2013 USACE and USGS completed modeling scenarios to look at baseline and future conditions of sediment transport and deposition and associated effects on nutrients, hydrology and water quality in the lower Susquehanna River and Chesapeake Bay. Reports will be provided in 2014.
- In FY 2013, **DoD participated in and supported Chesapeake Bay jurisdictions' Phase II MS4 regulation development**

through established programs in order to ensure installations are prepared to incorporate the permit requirements of the Chesapeake Bay TMDL. DoD also continues to work with the Bay jurisdictions' agencies as they revise and implement revisions to their NPDES and MS4 permits. For example, Defense Logistics Agency **awarded a \$60,000 contract to complete a Chesapeake Bay Pollution Reduction Plan.**

- **DoD continued to complete stormwater assessments** in FY 2013 at many installations in the Bay watershed. These assessments provide

Other 2013 Key Accomplishments (cont.)

facility information to strengthen stormwater management by identifying opportunities for structural and non-structural BMPs, erosion control measures, and infrastructure maintenance and repair efforts. These assessments enable installations to identify appropriate stormwater management controls to reduce pollutant loadings and develop pollution reduction plans required by MS4 permits.

- In FY 2013, **the Department of Army provided oversight and completed the National Defense Center of Energy and Environment (NDCEE) ‘Chesapeake Bay TMDL Watershed Best Management Practices’ project** at 12 installations throughout the Bay watershed. Four Army installations had BMP concepts developed to a pre-design phase, along with estimates of their implementation costs and load reduction potential to assist them in planning for TMDL compliance. Eight Air Force, Navy, Marine Corps and other DoD installations total nitrogen, phosphorus, and suspended solids baseline and current condition load calculations; BMP inventories development; and general BMP opportunity evaluations. The total cost for executing this project was \$877,000.
- **The Department of Navy completed Best Management Practice (BMP) Opportunities Assessments at four installations** throughout the Bay watershed. The Navy initiated stormwater BMP Opportunities Assessments at five additional installations in the Bay watershed in FY 2013. The BMP Opportunities Assessments include: 1) an inventory of existing stormwater BMPs; 2) an assessment of opportunities to implement stormwater BMPs; 3) ranking of these BMPs based on factors such as impacts associated with the discharges; 4) benefits of the BMPs; 5) constraints associated with BMP construction; and 6) relative costs with conceptual designs provided for a subset of high priority sites to facilitate

implementation. The Navy investment for these assessments was nearly \$1.3 million.

- **The Navy completed Stormwater Improvement Plan projects at 10 installations.** The overall objectives of the Stormwater Improvement Projects include: 1) determining amount of treated and untreated impervious and regulated pervious surfaces at each installation to verify and/or update the land use data presently used in the EPA’s Chesapeake Bay Model; 2) inventorying existing stormwater BMPs; 3) estimating pollutant reductions provided by existing BMPs; 4) calculating the remaining nutrient reductions needed to meet 20 percent retrofit requirements for untreated impervious areas (Maryland MS4 permit holders) and Chesapeake Bay TMDLs and 5) identifying opportunities for future BMP placement to help meet required pollutant reductions including: structural BMPs to meet 20 percent retrofit requirements (Maryland MS4 permit holders) or combinations of structural and alternative BMPs to meet Chesapeake Bay TMDL requirements. Total cost for all Stormwater Improvement Plans was \$1.06 million.
- Federal agencies signed an MOU in coordination with the District of Columbia to address federal stormwater management and assist the District in meeting its water quality objectives.
- **USDA completed stream restoration at the Beltsville Agricultural Research Center (BARC).** Restoration was achieved by the construction of three biofiltration areas on BARC near its dairy and swine facilities. The construction of these structures is treating a drainage area of approximately 185 acres. Two major streams that cross the BARC have also been improved. The Indian Creek project has restored approximately 1,900 linear feet of stream. The Little Paint Branch project has restored approximately 1,200 linear feet of stream. Stream restoration efforts included bank

Other 2013 Key Accomplishments (cont.)

stabilization, floodplain creation, fish blockage removal, and riparian buffer enhancement. Both creeks are major tributaries of the Anacostia River. Two water impoundments cells built on Little Paint Branch and Paint Branch were substantially completed in late FY 2013, and will be finished in early FY 2014. Over the life of these structures, they are expected to store approximately 11,000,000 pounds (5600 tons) of sediment from the suspended load. BARC scientists are using the crop production fields on BARC to study the uptake of nutrients by winter cover crops and farm managers at BARC routinely plant winter cover crops on production fields to reduce nutrient loss. In FY 2013, BARC scientists used satellite images to translate ground measurements of biomass and plant nutrient content into field estimates of nutrient uptake.

■ **Energy Independence and Security Act (EISA).** Federal agencies throughout the watershed continue to implement EISA 438 stormwater retention requirements. Example projects and procedural controls include:

- **National Park Service** – Two projects in Baltimore County, Maryland achieved the EISA 438 retention requirement and several other projects that have not yet been funded are considering the EISA 438 requirement during development and review of environmental assessments and environmental impact statements.
 - **U.S. Fish and Wildlife Service** – The EISA 438 stormwater retention standard was considered at six construction projects in Maryland's portion of the watershed.
 - **National Aeronautics and Space Administration** – The EISA 438 standard was incorporated during one construction activity at a facility in Maryland and four construction activities at a facility in Virginia.
 - **U.S. Department of Agriculture** – Although there were no construction activities at USDA facilities in the watershed during 2013 requiring the EISA 438 standards, the USDA continues to use procedural controls to ensure implementation. The Facilities Division, Facilities Engineering Branch, has included all requirements related to EISA Section 438 related to stormwater management in two documents for all construction: a Policy and Procedures document for Energy, Water, and Sustainability; and a Facilities Design Standards directive. The stormwater requirements in these documents provide the framework for all new construction and considerations for all renovation projects.
- **Department of Defense – DoD** considered EISA 438 for new development and redevelopment projects at two facilities in the District of Columbia, fifty-one facilities in Maryland, five facilities in Pennsylvania, seventy-six facilities in Virginia, and one facility in West Virginia. This level of effort demonstrates DoD's internal policy implementation related to achieving EISA 438 accepted and reasonable stormwater retention and reuse technologies to the maximum extent technically feasible.
 - **National Institute of Standards and Technology** – The EISA 438 stormwater retention standard was considered at six construction projects in Maryland's portion of the watershed.
 - **General Services Administration (GSA)** – Continues its implementation of EISA 438 with approximately twenty different construction activities in the watershed where the standard was considered in the design. To help ensure this, GSA has the following procedural controls in place:
 - The GSA Facilities Standards, which apply to all GSA construction and alterations projects, require EISA 438 requirements are followed.
 - For Mid-Atlantic Region federal construction and alterations projects, the GSA regional Environment Section

Other 2013 Key Accomplishments (cont.)

- provides the EISA 438 requirements to Project Managers for incorporation into their projects as applicable.
- In GSA's National Capital Region (NCR) (Washington, DC, portions of Virginia and Maryland), all projects undergo a National Environmental Policy Act (NEPA) review that includes determining if EISA compliance applies. If it applies, the NEPA documents must demonstrate how EISA compliance will be attained, or the determination that compliance is met to the maximum extent technically feasible.
- For NCR, design projects undergo design review by the Office of Planning and Design Quality, which reviews projects for compliance with the GSA Facilities Standards and other codes. All projects from mid-2013 on have undergone review for compliance with EISA.
- For projects in Washington, DC, reviews are also made by the National Capital Planning Commission and the District Department of the Environment (DDOE). This includes review of a stormwater master plan that complies with EISA and DDOE's stormwater regulations.

WATER QUALITY OUTCOME

2014 – 2015 Milestones

TMDL/WIPs

■ **Develop, Implement and Evaluate**

Two-Year Milestones: The two-year milestones outline steps the Chesapeake Bay jurisdictions and federal partners will take in the 2014-2015 timeframe to reduce nitrogen, phosphorus, and sediment pollution to the Chesapeake Bay, and what reductions those measures will achieve. The Chesapeake Bay jurisdictions provide progress updates for programmatic milestones at the midpoint and at the end of the milestones period. The two-year milestones are an integral part of the TMDL accountability framework to ensure WIP and TMDL commitments are being met on the state and federal level. EPA will take the following actions in 2014/2015 related to two-year milestones for water quality:

- Assess progress made to implement the 2012-2013 two-year milestones.
- Evaluate and announce federal and jurisdictional 2014-2015 two-year milestones.
- Provide mid-term evaluation of 2014 milestone progress to jurisdictions.

- **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.** Federal agencies and other stakeholders identified a need for a tool to assist with planning cost-effective BMPs at the facility level to achieve needed pollutant reductions. EPA developed a tool that will allow users to estimate reductions over current loads and evaluate costs for BMPs leading to more informed decisions at the facility level.
- **Deliver the working draft Phase 6 Chesapeake Bay Watershed Model and accompanying Scenario Builder to the CBP Partnership.** During FY 2014 and 2015, the CBPO modeling team will be developing the draft Phase 6 Chesapeake Bay Watershed Model and Scenario Builder according to priorities set by the Partnership. The Phase 6 watershed model and scenario builder are being developed specifically for the 2017 Mid-Point Assessment.

- **Secure CBP Partnership approval of the Basinwide BMP Verification Framework.** EPA will work through the CBP Partnership and will seek systematic review, buy-in and approval from the partners on all the elements contained within the verification framework. The development of the framework, including pollutant source sector specific verification protocols.
- **Secure CBP Partnership approval of the seven jurisdictions' enhanced BMP tracking, verification, and reporting programs.** Upon their review of each of the seven jurisdictions' proposed BMP verification programs, the CBP's BMP Verification Review Panel will make its recommendations to the Principals' Staff Committee which will have the final responsibility for approval of each jurisdiction's BMP verification program.
- **Agriculture Conduct animal feeding operation (AFO) reviews in two jurisdictions.** EPA committed to conduct AFO reviews in four Bay sub-watersheds (i.e., one subwatershed per year). EPA agreed to assess at least four AFOs in each subwatershed to determine whether they are in compliance with applicable requirements and whether any assessed AFOs should be designated as CAFOs. EPA will conduct one AFO watershed review in 2014 and one AFO watershed review in 2015.
- **Conduct six AFO/CAFO Program Assessments.** EPA will assess Bay jurisdictions' AFO and CAFO programs to determine whether they are consistent with CWA NPDES requirements and are implemented effectively to achieve the jurisdiction's WIP commitments. EPA will complete at least three assessments by the end of 2014 and to complete all six assessments by June 2015.
- **Conduct two assessments of CAFO permits and associated NMP.** EPA will also review four CAFO permits and their associated NMPs within each jurisdiction to ensure that those permits and NMPs are enforceable and consistent with applicable legal requirements. These reviews are part of EPA's normal state oversight activities. EPA will review at least two permits and NMPs per jurisdiction by June 2015.
- **DOD will continue to participate in and support Chesapeake Bay jurisdictions' MS4 regulation development** in order to ensure installations are prepared to incorporate the permit requirements of the Chesapeake Bay TMDL.
- **DOD will 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.
- Federal permitting agencies to work with resource agencies to develop and implement permit streamlining measures under Clean Water Act Section 404, which would cover TMDL implementation activities proposed in waters of the U.S. that are designed to reduce nutrient and sediment pollution that promote innovation and are consistent with sound science, ecosystem principles, applicable laws and regulations, and habitat restoration goals of the Chesapeake Bay Executive Order. Such measures may include the use of Categorical Exclusions, Regional General Permits (RGPs), and other mechanisms available under Section 404 of the CWA.

Atmospheric

- **Significantly reduce nitrogen deposition to the Bay and watershed by 2020.** For the 2017 Midpoint Assessment new air deposition modeling for the Chesapeake Bay watershed and tidal waters will be done which will incorporate recent finalized rules which contribute to NOx reductions. In addition, a new airshed model will be applied that will significantly improve the simulation of ammonia deposition. The new airshed model runs will include the Tier 3 Light-Duty Vehicle Emission and Fuel Standards final rule that will be implemented nationwide in 2017. Also, new updated inventories of air emissions used in the airshed model will include

new State Implementation Plan (SIP) revisions to reduce NO_x emissions for nonattainment areas for the 2008 ozone standard due in FY 2014/2015. To the extent possible, the emission inventories will also include reductions in emissions to address nonattainment areas for the 2012 PM_{2.5} standard. (Final designations Q1 FY 2015). (EPA)

- **Work with states to develop State Implementation Plan (SIP) revisions to reduce NO_x emissions.** (EPA)
 - Assist states in developing SIP revisions for nonattainment areas for the 2008 ozone standard.
 - Work with states to designate nonattainment areas for the 2012 PM_{2.5} standard. (EPA)
 - Oversee state implementation of Clean Air Act 129 rules. Once fully implemented, these rules will reduce emissions of NO_x, as well as air toxics. (EPA)

Stormwater

- **Develop joint workplans with jurisdictions to address stormwater assessment recommendations.** From 2011-2013 EPA conducted an assessment of the NPDES Stormwater program for each of the states in our Region. All aspects of the construction, industrial and municipal stormwater programs were evaluated. Since significant decrease in non-point source pollution accounts for a percentage of the overall reductions sought by jurisdictions in their WIPs, this milestone is intended to encourage states to develop a workplan with EPA to address any areas of concern that may have been identified in the Assessment Reports and to consider the recommendations contained within those reports. (EPA)
- **Propose actions to strengthen the national stormwater program.** EPA is considering regulatory and non-regulatory actions to help strengthen the national stormwater program. (EPA)
- **Conduct oversight review and comment, per NPDES Memorandum of Agreement, on draft state MS4 permits:** to ensure

consistency with the Bay TMDL allocations and the level of pollution reduction called for in state WIPs; and to provide enforceable performance measures. (EPA)

- **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 WLAs. (EPA)
- **Develop and implement a Stormwater Best Management Practices Operation and Maintenance Policy** to meet permit and water quality requirements. (DOD)

Onsite (Septic) Systems

- **Outreach and technical assistance to Chesapeake Bay States on Model On-Site Program.** In June 2013, EPA released a model program for onsite wastewater treatment systems in the Chesapeake Bay watershed to help states more effectively prevent nutrients from entering the Bay from onsite or septic systems, which will improve water quality. The model is part of EPA's effort to collaborate with state and local partners in promoting nitrogen reductions from onsite systems through treatment technologies and improved design, installation, and management practices. The model program will help implement the 2009 Executive Order on Chesapeake Bay Protection and Restoration. EPA plans to conduct outreach and provide technical assistance to those Bay jurisdictions interested in adopting the model program.

Trading/Offsets

- **Issue final technical memoranda setting forth EPA expectations on jurisdictions' trading programs.** The memoranda are designed to elaborate on EPA's expectations, set out in Appendix S and Section 10 of the Chesapeake Bay Total Maximum Daily Load (Bay TMDL), for the Bay jurisdictions' offset and trading programs. (EPA)
- **Work with other federal agencies to build capacity that will support an efficient and robust trading market.** The Executive Order

2014 – 2015 Milestones (cont.)

Strategy identified environmental markets (for carbon sequestration, water quality, wetlands, and wildlife habitat) as an emerging, innovative tool for accelerating restoration of the Chesapeake Bay and its watershed. USDA will work with other federal agencies to help develop the infrastructure for environmental markets in the Chesapeake Bay Watershed.

Oversight and Enforcement

- **Permit and Enforcement Oversight – Stormwater, Wastewater, Agriculture, Trading/Offsets, Air**
 - **NPDES Permit Reviews – Report annually on number of permits reviewed and objections.** EPA will continue to monitor the jurisdictions progress in implementation of the Chesapeake Bay Total Maximum Daily Load (TMDL) in accordance with the accountability framework described in Section 7 of the TMDL. Part of EPA's oversight includes in reviewing all significant permits and other permits, as necessary, to ensure compliance with the Waste Load Allocations (WLAs) established in the TMDL.
 - **Inspections and Case Development – Report annually on results and/or status.** In 2014/2015, EPA will continue to implement the Chesapeake Bay Enforcement Strategy that was developed in 2010. EPA will continue to inspect wastewater treatment plants, combined sewer overflows, municipal separate storm sewer systems and concentrated animal feeding operations. In addition, EPA will conduct evaluations of nitrogen oxide-emitting sources in the Bay watershed and pursue enforcement, as appropriate.

Monitoring and Science Support

- The STAR team, working with STAC, will lead efforts to **develop a 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). The strategy will provide

options for sustaining networks in the face of funding reductions. The results will be used by the CBP partnership to consider approaches to fund the water-quality networks through 2025 (by Dec. 2015). (EPA, USGS)

- **Provide updates of water-quality monitoring trends.** Federal agencies will work with state and academic partners to update water-quality trends in the Bay and its watershed. EPA will work MD and VA to update progress toward meeting water-quality standards in the Bay and tidal waters. EPA will work with NOAA to utilize information from the Chesapeake Bay Interpretive Buoy System (CBIBS) data to enhance tidal results. USGS will work with jurisdictions to update nutrient and sediment trends in the Bay watershed to help assess effectiveness of water-quality practices for the TMDL.
- **Enhance explanation of water-quality trends in support of the Mid-Point Assessment (MPA) of the TMDL.** The TMDL called for an assessment in 2017 to review progress toward meeting the nutrient and sediment pollutant load reductions identified in the 2010 TMDL, Phase I and Phase II WIPs and milestones. This project will provide an integrated assessment and explanation of changes in watershed and estuary water-quality monitoring information to support the Midpoint Assessment of the Bay TMDL. The results from the project will be used to enhance CBP models and by CBP partners to consider mid-point adjustments needed to meet the TMDL and associated water-quality standards in the Bay. Products in 2014 include a lessons learned report of BMPs and a report on trends on the Eastern Shore. (EPA, USGS working with state and academic partners)
- **During FY 2014 and 2015, the Modeling Workgroup will oversee the development of the draft revised Chesapeake Bay Water Quality/Sediment Transport Model,** which incorporates the filter feeders and the enhanced shallow-water submodels. During that period, the Modeling Workgroup will work with the



developers of EPA's CMAQ model to deliver the enhanced Chesapeake Bay Atmospheric Deposition Model to the CBP Partnership for the scheduled six-month review and evaluation. The atmospheric model will have enhanced ammonia transport and assessments of the effects of climate change

- **Deliver methods and tools for use by the CBP Partnership in evaluating and understanding the effects of climate change on the Chesapeake Bay ecosystem and surrounding watershed.**
 - Working on improvements to the CBP airshed, watershed, and estuarine models to incorporate estimated changes by 2050 in temperature, precipitation, sea level rise, wetland inundation, land use change, and other factors that influence Bay water quality. Scientific collaborations are

also underway with Penn State, University of Maryland, USGS, Johns Hopkins, University of Virginia, and EPA's Global Change Research Program to better understand aspects of climate change in the Chesapeake region.

EPA Grant Support

- **EPA to provide financial support to jurisdictions** by maintaining funding as authorized through EPA's assistance programs including CWA Section 319, State Revolving Fund, Chesapeake Bay Implementation Grants, and Chesapeake Bay Regulatory and Accountability Program Grants.
- **Provide financial support to localities** and other entities through the Innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants.

Other Key 2014 Actions

- **Ensure required changes to CBP Grants Guidance, CBP NEIEN system, jurisdictions' quality assurance plans, and system for CBPO review of annual BMP implementation progress submissions are in place, consistent with approved BMP Verification Framework.** To maximize opportunities for incorporation of BMP verification into the jurisdictions' existing BMP tracking and reporting programs, enhancements will be made to a suite of partnership guidance, shared decision making protocols and procedures, and the data exchange networks used by each of the jurisdictions to transfer annual progress data to the Chesapeake Bay Program Office for crediting. (EPA)
- **Convene a forum for exploring issues and case studies related to federal agency involvement in trading and offsets.** Numerous federal facilities are located in the Chesapeake Bay watershed offering opportunities to participate in trading and offset transactions. The workshop(s) will inform federal agencies of these opportunities

- and provide basic information on trading practices within the CB jurisdictions. (EPA)
- **DoD will utilize the information collected from BMP Opportunities Assessments conducted at installations throughout the watershed with current MS4 permits to complete pollution reduction plans.** These plans provide jurisdictions with the planned implementation BMPs to reduce nutrient and sediment loads.
- **DoD will continue to work with key partners to update installation land use information** and improve available tools for installations to determine/plan for future load allocations. These updates will support model revisions and the 2017 Mid-Point Assessment.
- **In FY 2014/2015 DoD will convene a collaborative working group** to assist in the development of a draft BMP O&M policy.
- Federal agencies will continue to coordinate the implementation of the District of Columbia stormwater MOU.

AGRICULTURAL CONSERVATION OUTCOME

Outcome:

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.

Baseline:

No baseline established.

2013 Status:

In Fiscal Year 2013, conservation practices were established on more than 271,000 unique acres of high priority working lands in the Bay, bringing the total to approximately 1.3 million acres or 32 percent of the four million acre goal.

FY 2014/2015 Milestone:

Implement conservation practices that protect the watershed's soil and water resources while maintaining productive working lands.



AGRICULTURAL CONSERVATION OUTCOME

2012 – 2013 Milestones Progress

- **Publish follow up Chesapeake Bay Conservation Effects Assessment Project (CEAP) cropland report;** In 2013, NRCS released the CEAP report showing that voluntary conservation efforts on cultivated croplands is working in the Chesapeake Bay watershed because it traps sediment and nutrients from entering natural waterways that flow into the bay. **The CEAP** report, a follow-up to a previous study evaluating the effectiveness of voluntary conservation practices, scientifically and statistically matched farmers' actions with soil, landscape and climate to simulate agricultural impacts to water quality. The report, using 2011 data compared with a 2006 baseline, demonstrates that farmers have made significant progress in reducing sediment, nutrient, and pesticide losses from farm fields through conservation practice and system adoption throughout the Chesapeake Bay region
- **Assess progress made in the showcase watersheds.** In 2010, USDA announced three showcase watersheds in Pennsylvania, Maryland and Virginia to test and monitor the benefits of a focused, highly partnered, voluntary approach to conservation. In 2013, NRCS continued to support these projects with financial and technical assistance, and will do so again in FY 2014. States with showcase watershed are currently evaluating progress towards meeting the resource concerns in the Watershed.
- **Create a network among Bay watershed Conservation Innovation Grant awardees to help stimulate environmental markets and direct up to \$5 million to stimulate innovative conservation approaches, including the development of ecosystem markets in the watershed.** USDA established a network of Chesapeake Bay Water Quality Trading Conservation

2012 - 2013 Milestones Progress (cont.)

Innovation Grant awardees. Network participants include representatives from state and local government, non-governmental organizations, EPA and USDA. The Network is focused on developing robust water quality trading programs in the Chesapeake Bay and with removing barriers to market development and reducing uncertainty in water quality trading programs.

- **Evaluate and publish a report on the Chesapeake Bay Watershed Initiative (CBWI) program contained in the Food, Conservation, and Energy Act of 2008 (110-246).** The authority for CBWI was extended through 2013, analysis and the report will be completed in 2014.
- **Continue to pursue the development of agricultural certainty programs in Bay watershed states.** Agricultural certainty is an approach for providing assurances and predictability to farmers that their conservation efforts will be recognized by state water quality programs developed by states. USDA sees certainty as a valuable tool for accelerating voluntary private land conservation. Two states have legislative authority for certainty programs and one State is exploring a certainty program. USDA awarded a CIG grant to the Maryland Department of Agriculture to create a
- certainty program for producers which is scheduled to be available to producers in 2014.
- **Continue to fund construction of treatment and distribution facilities, replacing or improving existing systems that are impacting the Bay.** NRCS installed about 300 waste Storage Facilities in 2013.
- **Pilot the Conservation Delivery Streamlining Initiative's Conservation Desktop for national use; integrate resource concerns, selected inventory and analysis tools, electronic signature, and geospatial information into conservation planning tools.** Partially completed in 2012, the Financial Assistance Pilot and the Client Gateway Pilot demonstrated that the field office administrative burden could be reduced by standardizing and centralizing contract management practices. NRCS will continue to implement component parts of CDSI.
- **In FY 2012, developed and implemented tracking, reporting and verification mechanisms** for voluntary conservation practices and other BMPs installed on agricultural lands. Through formal agreement, USDA and USGS collected all conservation practice data, aggregated the data, and verified that the data was not duplicative. (USDA/EPA)

Other 2013 Key Accomplishments

- **NRCS continues helping people help the land.** Farmers have achieved historic levels of conservation implementation over the last few years in the Chesapeake Bay watershed, voluntarily installing conservation practices to help support rural economies protect wildlife habitat and improve water quality in the Chesapeake Bay watershed. In FY 2013, NRCS assisted farmers in getting conservation on the ground providing more than \$98 million in assistance to further conservation efforts. As of September 30, 2013, the 2008 Farm Bill extension expired, which means NRCS can no longer make new commitments under expired programs. These programs include the Chesapeake Bay Watershed Initiative (CBWI), Wetlands Reserve Program (WRP), Grasslands Reserve Program (GRP), and the Healthy Forest Reserve Program (HFRP). The 2008 Farm Bill extension contained \$188 million in mandatory spending over four years for CBWI. This program was designed to reduce nitrogen, phosphorus, and sediment loads from private lands using a targeted approach of existing NRCS programs. Since

Other 2013 Key Accomplishments (cont.)

implementation, NRCS and its partners have helped landowners implement conservation practices that protect the watershed's soil and water resources while maintaining productive working lands.

■ **NRCS maintains a focus on partnering for conservation success.**

- In FY 2013, NRCS continued to **support the Strategic Watershed Action Teams (SWAT) and the Conservation Cooperative Partnership Initiative (CCPI) agreements.** These agreements help leverage resources and capabilities of non-federal partners as well as NRCS technical and financial resources to implement conservation on working lands. For FY 2014, NRCS will continue these partnerships.
- In FY 2013, **NRCS announced the National Water Quality Initiative (NQWI) to help producers in priority watersheds** improve water quality and aquatic habitat in impaired streams.
- **NRCS offered financial assistance through EQIP to qualified landowners for the implementation of conservation and management practices** through a systems approach to control and trap nutrient and manure runoff. NRCS worked with partners to identify the priority watersheds and will continue to coordinate with local and state agencies, conservation districts, nongovernmental organizations and others to implement this initiative in FY 2014. This strategic approach will help leverage funds and provide streamlined assistance to support individual agricultural producers take needed actions to reduce the flow of sediment, nutrients, and other runoff into impaired waterways in the Chesapeake Bay watershed.
- **Farm Service Agency.** The Conservation Reserve Program (CRP) is a voluntary land conservation program that helps agricultural producers protect environmentally sensitive land, decrease erosion, restore wildlife

habitat, and safeguard ground and surface water. The program is administered by USDA's Farm Service Agency (FSA) with technical assistance provided by NRCS, and enrolls land under long-term (10- to 15-year) contracts. The participants receive financial assistance including annual rental payments for the term of the contracts. In the Chesapeake Bay watershed, 276,000 acres are currently under contract, including 62,000 acres (approximately 4,000 miles) of riparian forest buffers (see Forest Buffer discussion in Habitat Section), 40,000 acres of grass filter strips, and 149,000 acres of grass plantings. These practices are helping restore the Bay by reducing the amount of nitrogen, phosphorus and sediment in agricultural runoff that reaches the Bay's waters. Most of the enrollment in the Chesapeake Bay basin has been through the Conservation Reserve Enhancement Program (CREP), a component of CRP. Under CREP agreements, USDA partners with states and tribal governments to target specific environmental resource concerns. The partners contribute at least 20 percent of the overall cost, with USDA providing the remainder. **USDA has entered into CREP agreements directed at restoring the Bay with each of the six states with land in the Chesapeake Bay watershed. Under these agreements, specific practices and lands are targeted for enrollment to provide maximum water quality benefits. In these six CREP projects, a total of 228,000 acres are currently under contract (as of September 2013).** Enrollment authority ended on September 30, 2014, and will not be resumed until a new Farm Bill or extension is enacted. FSA will continue to make payments for acres enrolled under existing contracts.

- **Rural Development Agency.** In FY 2013, the Rural Development Agency funded **\$113 million worth of projects in the Chesapeake Bay region** and will continue

these investments to protect the watershed and increase economic opportunity for rural areas in FY 2014. The agency will fund construction of treatment and distribution facilities, replacing or improving existing systems that are impacting the Bay. In addition, the agency will partner with EPA, state agencies and other funds to advance infrastructure projects critical to the protection of the Bay.

- **Improved reporting of conservation practices.** USGS worked with all seven

jurisdictions to improve reporting of agricultural conservation practices. USGS provided approaches on how to avoid double counting of conservation practices by using data from NRCS and FSA and comparing to information reported directly by jurisdictions.

- **Assessing improvements in showcase watersheds.** The USGS continued monitoring in the showcase watersheds to assess water-quality changes as conservation practices are implemented through NRCS programs.

2014
Action

AGRICULTURAL CONSERVATION OUTCOME

2014 – 2015 Milestones

- Pilot the Conservation Delivery Streamlining Initiative's Conservation Desktop for national use; integrate resource concerns, selected inventory and analysis tools, electronic signature, and geospatial information into conservation planning tools. (USDA)
- Assess progress made in the showcase watersheds including information on water-quality conditions and changes. (USGS)
- Evaluate and publish a report on the CBWI program contained in the Food, Conservation, and Energy Act of 2008 (110-246). (USDA)
- Continue to pursue the development of agricultural certainty programs in Bay watershed states. (USDA)
- Conduct animal feeding operation (AFO) reviews in two jurisdictions. (EPA)
- Conduct six AFO/CAFO Program Assessments. (EPA)
- Conduct two assessments of CAFO permits and associated Nutrient Management Plans. (EPA)

Other Key 2014 Actions

- **For FY 2014, 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.
- **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. The results will be published and could serve as a model for other multi state estuaries.
- **Continue to pursue the development of agricultural certainty programs** in Bay watershed states. (USDA)
- **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.
- All Bay jurisdictions are facing similar challenges in initiating water quality trading programs. The 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)
 - **USDA and EPA will update the June 28, 2011 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 and EPA will convene a meeting with the Agriculture Workgroup to discuss the update to the CEAP Chesapeake Bay report** and its implications for State priorities and approaches in the Watershed Implementation Plans and the Agriculture Workgroup's efforts to improve data tracking and reporting, refine model data inputs, and develop/update BMP effectiveness estimates.
- **EPA and USDA will continue to support USGS's work through its data sharing agreement with USDA** to compile and aggregate conservation practice data funded by the Farm Bill to use in State reporting and tracking for the Chesapeake Bay TMDL. This work has allowed States to ensure a full accounting of Farm Bill-funded activities in the Chesapeake Bay watershed.
- **USDA will explore with EPA and the States opportunities for incorporating limited CEAP conservation practice data into the CBP partnership's Watershed Model** in a meaningful, statistically reliable way that protects producers' privacy and meets data privacy standards.

TOXIC CONTAMINANTS OUTCOME

Outcome:

Work with state and local governments and stakeholders to significantly expand understanding of toxic pollutant contamination in the Bay and its watershed and to develop contaminant reduction outcomes by 2013 and strategies by 2015.



TOXIC CONTAMINANTS OUTCOME

2012 – 2013 Milestones Progress

- **Issue a report summarizing the extent and severity of toxic contaminants in the Bay and its watershed that will include an assessment of progress on the Chesapeake Bay Basinwide Toxins Reduction and Prevention Strategy. (USGS, FWS, EPA co-lead)** The responsible agencies issued “*Technical Report – Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Effects*” on the target date. The report, prepared in cooperation with the Bay jurisdictions, examined existing monitoring information and drew conclusions on the extent and severity of impacts of toxic contaminants on fish and wildlife in the Bay and watershed.
- **Work with DOI (FWS, USGS), the Bay states, the District of Columbia and stakeholders to consider toxic contaminant reduction goals. (EPA)** Following multiple briefings for Bay Program partners on the results of the contaminants technical report, representatives of the federal agencies worked with the Bay states, and

the District of Columbia to formulate two proposed outcomes. EPA, DOI and other federal agencies will work with partners in 2014-2015 to develop strategies to address these outcomes as described in the milestones below. Early drafts were presented to Bay Program teams and leadership for comment and revision. The most recent draft (below) were considered but not included in the Jan, 2014 draft version of the new Bay Agreement:

- **Toxic Contaminants Reduction Outcome:** By 2015, identify existing practices and propose an implementation schedule for new practices, if necessary, to reduce loadings of PCBs and mercury to the Chesapeake Bay and its watershed.
- **Toxic Contaminants Research Outcome:** By 2015, assess ongoing research and develop an agenda for new research, if needed, to improve knowledge of the effects of contaminants of emerging concern on the health of fish and wildlife so future strategies can be considered.



TOXIC CONTAMINANTS OUTCOME

2014 – 2015 Milestones

- **Facilitate consideration by the Chesapeake Bay Program partnership to have toxic contaminant outcomes in the new Bay Agreement.** Toxic contaminants impact fish and wildlife in the Bay watershed and present risk to human health through consumption of contaminated fish. Two draft outcomes were developed in 2013 (see above). The partnership will decide whether to include a toxic contaminant reduction outcome in the scope of the agreement with assistance provided by federal agencies.
- **Develop management strategies for addressing toxic contaminant reduction and research outcomes developed in 2013.** Federal agencies will work with interested state partners and other stakeholders to develop a strategic plan that specifies the actions, outputs, and resources that will achieve stated outcomes.
- **Conduct research on occurrence and effects of toxic contaminants on fish and wildlife with an emphasis on chemicals of emerging concern.** USGS will expand research on the effect of endocrine-disrupting compounds (EDCs) on fish and wildlife and work with FWS and other partners to conduct studies. Products in 2014 will include a report about contaminants in fish and fish-eating birds (USGS) and a summary of toxic contaminant information associated with degraded fish health in the Bay watershed (USGS).

2014 Operating Budget Summary Table

Restore Clean Water	
<i>DoD (Services) ¹</i>	\$45,560,316
<i>DOI (FWS)</i>	\$167,567
<i>DOI (USGS)</i>	\$4,217,000
<i>EPA</i>	\$183,833,562
<i>NOAA</i>	\$800,000
<i>USDA (FSA)</i>	\$34,304,000
<i>USDA (NRCS) ²</i>	\$43,200,000
<i>USDA (USFS)</i>	\$235,000
Total	\$312,317,445

¹ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall.

² NRCS numbers may change due to applicable percentage of RCPP for water quality improvement in the enacted Farm Bill.

Recover Habitat

Goal: Restore a network of land and water habitats to support priority species and to afford other public benefits, including water quality, recreational uses and scenic value across the watershed.

WETLANDS OUTCOME

Outcome:

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.

Baseline:

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.

2013 Status:

In 2012, 2,231 acres of wetlands were established or re-established on agricultural lands in the Bay watershed.

FY 2014/2015 Milestone:

Restore 4,000 acres of wetlands every two years. (FWS) Enhance 20,000 acres of degraded wetlands every two years. (FWS)



WETLANDS OUTCOME

2012 – 2013 Milestones Progress

- In 2012, 2,231 acres of wetland were established or re-established on agricultural lands in the Bay watershed. These wetlands are considered functional

gains of benefit to wildlife since they provide increased wetland habitat, among other services.

Other Key 2013 Accomplishments

- As part of the Chesapeake Bay TMDL, **states identified more than 160,000 acres of wetland restoration in their Phase II Watershed Implementation Plans (WIPs), with a large portion of those acres on agricultural land.** In 2013, the Habitat Goal Implementation Team facilitated wetland-specific conversations with state partners in Maryland, Delaware, Virginia, and Pennsylvania, focusing on barriers to effective wetland restoration design and delivery, and ways to overcome such barriers in order to accelerate progress toward goals. State partners overwhelmingly identified

the need for wetland projects to be targeted in a way that maximizes wildlife habitat and water quality benefits. Facilitated by FWS, these discussions formed the basis for a successful grant proposal submitted by The Nature Conservancy and Ducks Unlimited to NFWF's Chesapeake Stewardship fund. Awarded funds will result in accelerated wetland restoration and protection across four states by targeting specific rivers and watersheds that provide critical habitat for the Eastern brook trout and river herring, both of which are priority resources in the Chesapeake EO Strategy.

2014
Action

WETLANDS OUTCOME

2014 – 2015 Milestones

- **Restore 4,000 acres of wetlands every two years**, targeting these acreage gains in a way that maximizes both habitat values and water quality improvements. Restoration design (how much of what type and where) for tidal and non-tidal wetlands will be guided by recommendations in STAC Publication 14-002 “Designing Sustainable Coastal Habitats” and the implementation plan for TNC’s grant from NFWF to fund a four-state wetland initiative.
- **Enhance function of 20,000 acres of degraded wetlands every two years.** Habitat GIT has requested formation of a Wetland Expert panel, whose scope of work will include quantifying a potential model credit for wetland acreage enhanced, thereby incentivizing these projects.
- **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.
- **Complete design for 38 acres of tidal salt marsh** within the Lynnhaven River Basin.
- **At Poplar Island**, USACE will install tidal inlet structures for two wetland cells to allow natural tidal flow into the wetlands a few months prior to the wetlands being planted. USACE will also begin design for additional wetland cells, which will have a four-acre vegetated habitat island constructed to provide additional valuable habitat for various bird species. In spring 2015, more wetlands will be planted adding another 55 acres of tidal marsh of completed habitat to the project. The total a 231 acres of tidal wetlands will be restored by summer of 2015.

Other Key 2014 Actions

- **Work collaboratively with the Atlantic Coast Joint Venture, the Black Duck Joint Venture, and the North American Landscape Conservation Cooperative** to incorporate the latest science into a black duck foraging energetics model for the Chesapeake Bay watershed by late FY 2014. (FWS and USGS)
- Through the Wildlife Habitat Incentive Program (WHIP), NRCS works collaboratively with conservation-minded landowners in a voluntary program to develop and improve wildlife habitat on agricultural land, nonindustrial private forest land, and Indian land. In 2014, WHIP will promote the restoration of declining or important native fish and wildlife habitats, reduce the impacts of invasive species on habitats; and protect, restore, develop or enhance important migration and other movement corridors for wildlife.
- USACE will begin the Chesapeake Bay Comprehensive plan in coordination with the Bay states and interested groups and agencies. The first phase will be the reconnaissance study to determine federal interest in continuing the cost-shared feasibility studies and to identify willing non-federal cost sharing partners.
- Continue feasibility studies with Montgomery and Prince George's counties to analyze areas identified in the Anacostia Restoration Plan that may be of potential interest for federal construction. The studies will address the issues of stream restoration, fish passage, wetland restoration and other habitat restoration. (USACE)

FOREST BUFFER OUTCOME

Outcome:

Restore riparian forest buffers to 63 percent, or 181,440 miles, of the total riparian miles (stream bank and shoreline miles) in the Bay watershed by 2025.

Baseline:

58 percent of the 288,000 total riparian miles in the Bay watershed have forest buffers in place.

2013 Status:

Only 202 miles were restored in 2013. Combined with 284 miles restored in 2012, 27 percent of the 2-year milestone of 1,800 miles was achieved.

FY 2014/2015 Milestone:

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 percent) by 2025.



FOREST BUFFER OUTCOME

2012 – 2013 Milestones Progress

- **Partners across the watershed restored 202 miles of riparian forest buffers in 2013, which is only 22 percent of the annual target of 900 miles restored per year.** A recent analysis of state Watershed Implementation Plans revealed that forest buffers are the second most important BMP needed to meet the Chesapeake TMDL, with targets greater than eight times the current rate of implementation. The primary program used to restore forest buffers is the Conservation Reserve Enhancement Program (CREP), administered by the USDA Farm Services Agency in partnership with NRCS, state agencies, and other partners. A significant hurdle in 2013 was the closure of the CREP program from October to May due to expired program authority under the 2008 Farm Bill.
 - **In 2013, USFS worked with partners to compile data and produce a Chesapeake Riparian Forest Buffer Status Report.** The report highlights trends in CREP forest buffer implementation from 1998-2012 and examines the growing implementation gap with state forest buffer targets established to meet the Chesapeake Bay TMDL.
 - **A key emerging concern is that over 35,000 thousand acres of CREP forest buffers**
- will reach the end of their 10- or 15-year contracts in the next five years. There is a critical window of opportunity to re-enroll as many of these CREP forest buffers contracts as possible, to ensure that the many acres restored in the last decade will be sustained into the future. In 2013, **USFS and FSA worked together to provide state USDA offices with data on 2013-2017 expiring contracts to assist outreach and technical assistance efforts.** In Pennsylvania, NRCS worked with CREP partners on a targeted postcard mailing and provided technical assistance to landowners with expiring contracts to support reenrollment.
- **Despite program challenges, there are examples of partners working creatively to promote forest buffers as a priority practice for meeting water quality and habitat goals. Through NFWF 2013 grants, funding from USFS, EPA, NRCS and other partners supported a number of innovative partner projects to promote forest buffers.** These partners include Chesapeake Bay Foundation (PA), Stroud Water Resources Center, Clearwater Conservancy, Trout Unlimited, The Nature Conservancy, Potomac Conservancy, and Alliance for the Chesapeake Bay, among others.

2014
Action**FOREST BUFFER OUTCOME****2014 – 2015 Milestones**

- In 2014, **USDA and partners will continue to provide outreach and technical assistance to restore new miles of forest buffers** through CREP and reenroll as many forest buffer contracts as possible. Partners have noted that reauthorization of the CREP program through a new Farm Bill will be essential to making progress on forest buffers. The Chesapeake Forest Buffer Status Report completed in 2013 highlights several key concerns that will be the focus of expanded USDA-state partnership efforts in 2014 and beyond. **In 2014, USDA and EPA will hold a Leadership Summit on how partners can work to accelerate riparian forest buffer restoration. A Task Force will be created and charged with further developing innovative solutions to these challenges, bringing together expertise from federal, state, local and NGO partners in each Bay state.**
- USFS and USGS collaborated to pilot test the Land Image Analyst software, a new tool that helps quantify riparian forest buffers on the landscape. The tool is an open-source software designed to facilitate land use classification using high resolution imagery, such as NAIP. It can be used to classify tree canopy, grass, impervious surface, water, and other land use categories. **In 2014, the Land Image Analyst software will be refined based on beta test feedback, and webinar trainings will be offered to make the tool accessible to local governments, watershed groups, and other users.**

FISH PASSAGE OUTCOME**Outcome:**

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.

Baseline:

2,041 stream miles in the Chesapeake Bay watershed have been opened and are accessible for fish migration.

2013 Status:

Between 2010 and 2012, 181.3 miles were reopened.

FY 2014/2015 Milestone:

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 percent of the completed fish passage projects. (FWS, NOAA)



FISH PASSAGE OUTCOME

2012 – 2013 Milestones Progress

- In 2013, **205.5 miles of fish passage were opened to benefit anadromous and resident fish species.** This mileage was calculated using the Fish Passage Tool and will be modified based on additional information provided by State of PA. Since it was calculated using the tool, the mileage includes all miles opened to the next upstream barrier(s) on the system. This differs from past reports where miles opened was calculated by hand using USGS topographic maps where only the order stream plus the next lowest order were used in the calculation.
 - VA: Mossy Creek 5.5 miles (Brook trout/ American eel)
 - PA: Great Trough Creek 192 miles (Brook trout)
 - PA: Wetmore Run 7 miles (Brook trout)
 - PA: Big Run 1 mile (Brook trout)
- In addition, NOAA awarded \$3.4 million to American Rivers for the Bloede Dam Removal Project. Removing Bloede Dam, the lowermost dam on the Patapsco River, will open up more than 44 miles of spawning habitat for blueback herring, alewife and American shad, and more than 180 miles of habitat for American eel. Herring and shad are critical to the web of life in the Patapsco River and the Chesapeake Bay, and are a key food source for other recreational and commercial fish species like striped bass. Preliminary design plans for the removal are in development and removal is slated for 2015.

Other Key 2013 Accomplishments

- **A brook trout layer was added to the fish passage prioritization tool.** Presentations on the tool and how to use it were given at the Chesapeake Bay Program's Habitat Goal Implementation Spring 2013 meeting, State of Maryland Dam Safety Division, and Maryland Dam Removal Workshop (Hosted by AR). The tool has also been highlighted on MD, VA, and PA Fish Passage Websites such as: <http://www.dgif.virginia.gov/fishing/tnc-chesapeake-bay-fish-passage/>.

2014
Action**FISH PASSAGE OUTCOME****2014 – 2015 Milestones**

- **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 percent of the completed fish passage projects.

Other Key 2013 Accomplishments

- **Use the fish passage prioritization tool to calculate functional miles opened with each fish passage project.** Currently, the fish passage coordinators calculate stream miles opened by measuring the upstream mainstem miles of the stream on a map. The tool calculates functional network length (The functional network is defined by those sections of river a fish could theoretically access from any other point within that functional network. Its terminal ends are

barriers, headwaters, and/or the river mouth.); justified by American eel and Brook trout (priority species) using the functional network of the streams. This would be a more accurate and consistent method of calculating stream miles and a more consistent tool for record keeping. Past stream miles would need to be recalculated using functional mileage calculations via the prioritization tool.

STREAM RESTORATION OUTCOME**Outcome:**

Improve the health of streams so 70 percent of sampled streams throughout the Chesapeake watershed rate fair, good or excellent, as measured by the Basin-wide Index of Biotic Integrity (BIBI), by 2025.

Baseline:

45 percent of sampled stream sites are rated fair, good or excellent.

2013 Status:

Between 2000 and 2010, 43 percent of sampled stream sites were in fair, good or excellent condition and 57 percent were in very poor or poor condition.

FY 2014/2015 Milestone:

(1) Host workshop to create agreement on common language and assessment methods for designing sustainable stream restoration projects; (2) Use workshop recommendations to guide drafting of the stream health management strategy document under the new Chesapeake Bay Watershed Agreement; (3) Incorporate Federal, state and local monitoring data on stream macro-invertebrates, habitat and water quality into the partnership's database structure, from which common metrics and progress can be measured.

2013
Progress**STREAM RESTORATION OUTCOME****2012 – 2013 Milestones Progress**

- Between 2000 and 2010, 43 percent of sampled stream sites were in fair, good or excellent condition and 57 percent were in very poor or poor condition.
- Convened restoration practitioners at the Mid-Atlantic Stream Restoration Conference in Baltimore; identified priority work for Stream Health Workgroup.

2014
Action**STREAM RESTORATION OUTCOME****2014 – 2015 Milestones**

- Host STAC Workshop, “Designing Sustainable Stream Restoration Projects within the Chesapeake Bay Watershed” (Chaired by CBPO Stream and Sediment Coordinator and FWS). The objective of the workshop is to create agreement among practitioners, regulators and scientists on a common language and assessment methods for designing sustainable stream restoration projects that improve the functional elements of stream health to address water quality, climatological impacts, physical and biological components with the stream and adjacent riparian zone. Workshop attendees and the Habitat GIT will develop recommendations, based on workshop outcomes, to recommend how the science (data standards, pre/post-monitoring requirements, design objects, site selection) can be used adaptively to promote innovation and expedite the regulatory permitting process in the pre-application phase.
- Engage Stream Health Workgroup in the process of developing the stream health management strategy document that will accompany the new Chesapeake Bay Watershed Agreement.
- Incorporate Federal, state and local stream macro-invertebrate, habitat and water quality data into the partnership’s database structure, from which common metrics and progress can be measured.
- Update status of stream health through 2012 and develop process to provide future updates. The STAR will update the indicator through 2012 through the CBP monitoring team. The STAR will work with the stream health workgroup to consider enhancements to the indicator determine frequency of updates based on data available from the states (FWS, EPA, ICPRB)
- Federal permitting agencies to deliver timely feedback under the Clean Water Act Section 404 and the Fish and Wildlife Coordination Act during pre-application consultation regarding: site selection, design, and construction criteria for innovative restoration projects, including function-based assessment and monitoring requirements, responsibility in event of a failure, etc.
- Federal resource and permitting agencies to collaborate on an expedited permit review track, based on science recommendations from the STAC workshop above, for restoration projects that utilize common practices (such as ditch plugs, stormwater outfalls, flood plain reconnects, stream restoration), and are implemented by resource agencies working in degraded landscapes.

Other Key 2014 Actions

- Stream health work group to identify tools and funding needs and make recommendations to the Partnership.
- Contribute to the update of the Chesapeake Basin-wide index of biotic integrity for stream macro invertebrates (Chessie Benthic Index of Biotic Integrity (BIBI)) and expand the Stream Health indicator to include parameters such as flood plain connectivity and bank stability.
- Federal permitting and resource agencies to recognize innovative local stream and wetland

restoration efforts that reduce nutrient and sediment pollution consistent with sound science, ecosystem principles, applicable laws and regulations, and the habitat restoration goal of the Chesapeake Bay Executive Order as significant contributions to pursuit of jurisdictional targets in the TMDL WIPs.

- Provide financial support to localities and other entities through the Innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants.

Other Habitat 2014 Actions

- Complete the Lower Susquehanna River Watershed Assessment (LSRWA) study, led by USACE, which identifies suitable best management practices to manage sediment and estimates the associated costs and benefits from implementing those practices over a

period of time. Practices include different kinds of dredging, sediment bypassing, altering reservoir operations, innovative re-use and evaluating placement site options for sediments. The study team conducted quarterly meetings over the past two years.

2014 Operating Budget Summary Table

Recover Habitat	
<i>DoD (Services) ¹</i>	\$2,945,856
<i>DoD (USACE)</i>	\$20,040,000
<i>DOI (FWS)</i>	\$5,375,724
<i>DOI (USGS)</i>	\$185,000
<i>NOAA</i>	\$80,000
<i>USDA (NRCS) ²</i>	\$800,000
<i>USDA (USFS)</i>	\$600,000
Total	\$30,026,580

¹ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall.

² NRCS numbers may change due to applicable percentage of RCPP for water quality improvement in the enacted Farm Bill.

Sustain Fish and Wildlife Goal Summary

Goal: Sustain healthy populations of fish and wildlife, which contribute to a resilient ecosystem and vibrant economy.

OYSTER OUTCOME

Outcome:

Restore native oyster habitat and populations in 20 tributaries out of 35 to 40 candidate tributaries by 2025.

Baseline:

There are several tributaries with ongoing restoration of oyster reef habitat; zero tributaries have been evaluated per the recently established oyster restoration performance metrics.

2013 Status:

- During 2012-2013, NOAA funding supported more than 205 acres of oyster reef restoration work in the targeted tributaries, including the placement of 200 reef balls and the creation of a new oyster reef in the Lafayette River in Virginia.
- During 2012-2013, NOAA, USACE and partners have constructed 56 new acres of oyster reef and planted spat on shell on an additional 60 acres in Harris Creek. Reef construction and seed planting in Harris Creek is now over 50 percent complete.
- A draft tributary restoration plan for the Tred Avon was completed.
- NCBO convened a workshop of experts in January, 2013 to reach consensus about what we know about denitrification rates in oyster restoration and aquaculture. Two technical reports resulted.

FY 2014/2015 Milestone:

Complete reef construction and planting in 1 to 2 tributaries by 2015.

2013
Progress

OYSTER OUTCOME

2012 – 2013 Milestones Progress

- During 2012-2013, **NOAA funding supported more than 205 acres of oyster reef restoration work in the targeted tributaries**, including the placement of 200 reef balls and the creation of a new oyster reef in the Lafayette River in Virginia.
- **NOAA and partners have constructed 56 new acres of oyster reef in Harris Creek. USACE will construct 23 more acres in the winter 2013-2014 using FY 2013 funds.** This brings the total to 79 acres. Reef construction and seed planting in Harris Creek is now over 50 percent complete.
- **The Maryland Department of Natural Resources, NOAA, and USACE completed a draft tributary restoration plan for the Tred Avon and Little Choptank Rivers to rebuild oyster populations and help the**



2012 – 2013 Milestones Progress (cont.)

species that depend on oyster reefs by restoring up to 200 acres of oyster reefs. The science based plan includes planting oysters on existing reefs and building and seeding new reefs on historic oyster bed footprint, using observation buoys to monitor water quality, and researching how fish use oyster reefs as habitat.

- During 2012-2013, **USACE conducted monitoring of the constructed sanctuary**

reefs in the Great Wicomico and Lynnhaven tributaries in Virginia. This monitoring showed the majority of constructed sanctuary reefs in both the Lynnhaven and Great Wicomico are meeting the success criteria and both tributaries have more than 50 percent of the acres needed to be a “restored” tributary.

Other Key 2013 Accomplishments

- **In January 2013, the NOAA Chesapeake Bay Office sponsored a workshop that brought scientists together to discuss their research on nitrogen removal by oysters.** Participants agreed while much is known about how oysters remove nitrogen from the water, more specific information about how much nitrogen oysters (both on

reefs and in aquaculture) can remove from the water, is needed. While several studies of denitrification rates of restored oyster reefs are under way or funded, there are major data gaps on potential nitrogen removal by aquaculture. Even less is known about nitrogen removal by natural oyster reefs, especially in the Chesapeake Bay.



OYSTER OUTCOME

2014 – 2015 Milestones

- **Update the baseline oyster population estimate** for the bay through completion of the bay-wide oyster population assessment.
- **Complete tributary restoration plans** for Little Choptank and Tred Avon Rivers in Maryland and initiate tributary restoration planning process for the Lafayette and Piankatank Rivers in Virginia.
- **USACE will construct 80 acres of sanctuary oyster reefs** in the Tred Avon River and Harris Creek.
- **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.
- **USACE will construct 25 acres of sanctuary oyster reefs** in the Piankatank River and construct 20 acres of sanctuary oyster reefs in the Lafayette River.

Other Key 2014 Actions

- Conduct pre- and post- restoration habitat characterization surveys to support and evaluate restoration projects in Maryland and Virginia tributaries.
- Initiate NOAA Oyster Reef Ecosystem Services pilot project to investigate the effects of oyster restoration on habitat complexity and fish assemblages in Harris Creek and Tred Avon River.
- Develop a performance/health indicator to track and communicate progress on the oyster restoration goal to the public.

BLUE CRAB OUTCOME

Outcome:

Maintain sustainable blue crab interim rebuilding target of 200 million adults (1+ years old) in 2011 and develop a new population target for 2012 through 2025.

Baseline:

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.

2013 Status:

A conservation threshold was developed by the Chesapeake Bay Stock Assessment Committee and implemented by the Sustainable Fisheries Goal Implementation Team (SFGIT). Adult female blue crab abundance in 2013 was estimated to be 147 million crabs, above the overfished threshold (70 million) but below the 215 million crab target.

FY 2014/2015 Milestone:

Maintain 215 million female target.



BLUE CRAB OUTCOME

2012 – 2013 Milestones Progress

- A conservation threshold was developed by the Chesapeake Bay Stock Assessment Committee and implemented by the Sustainable Fisheries Goal Implementation Team (SFGIT).
- Adult female blue crab abundance in 2013 was estimated to be 147 million crabs, above the overfished threshold (70 million) but below the 215 million crab target.

2014
Action**BLUE CRAB OUTCOME****2014 – 2015 Milestones**

- **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.

Other Key 2014 Actions

- **Complete CBSAC 2014 Blue Crab Advisory Report** for use by Bay managers and begin planning next benchmark blue crab stock assessment.
- **Complete blue crab Winter Dredge Survey (WDS)** gear comparison and use to improve the 2014 WDS analysis.
- **Initiate James River Mid Atlantic Acoustic Tag Observing System (MATOS)**. MATOS will provide data management support for NCBO-funded James River sturgeon tracking

pilot project and for the new striped bass / blue catfish tracking efforts. Support will consist of registering all parties to the collaborative research projects, allowing them to provide acoustic tag and receiver data to MATOS, archiving all provided data, and making available tabular and visual web-based analysis tools.

- **Work with scientists to begin striped bass acoustic tagging** to improve understanding of migrations and habitat use and expand Chesapeake Bay telemetry network.

BROOK TROUT OUTCOME**Outcome:**

Restore naturally reproducing brook trout populations in headwater streams with an 8 percent increase in occupied habitat by 2025.

Baseline:

Catchment-level data collected via the Eastern Brook Trout Joint Venture's 2011 reassessment is currently being analyzed and will be used to refine this outcome to a more meaningful scale.

2013 Status:

National Fish Habitat Partnership (NFHAP) funded projects resulted in connecting a total of 9.83 miles of brook trout stream habitat and remediate brook trout habitat degradation and address habitat fragmentation through stream bank stabilization in Pennsylvania, as well as buffer 12 miles of degraded stream due to anthropogenic induced acid deposition in Virginia using limestone sand to restore the pH in streams to a level in which brook trout can thrive.

FY 2014/2015 Milestone:

Will be based on EBTJV decisions on priority projects in Chesapeake Bay drainage.

2013
Progress**BROOK TROUT OUTCOME****2012 – 2013 Milestones Progress**

- Outcome was revised with input from State fisheries experts and based on the latest science conducted at the catchment scale to read: “Restore naturally reproducing brook trout populations in Chesapeake headwater streams with an 8 percent increase in occupied habitat by 2025.” (FWS and USGS)
- National Fish Habitat Action Plan-funded projects connected 9.83 miles of brook trout stream habitat, remediated brook trout habitat degradation and addressed habitat fragmentation through stream bank stabilization in Pennsylvania, and buffered 12 miles of degraded stream due to anthropogenic induced acid deposition in Virginia.
- Hosted joint science session with Eastern Brook Trout Joint Venture (EBTJV) in November 2012; States are using results to identify priority targets for habitat restoration (FWS/USGS).

Other Key 2013 Accomplishments

- Along with the Eastern Brook Trout Joint Venture, the Habitat Goal Implementation Team continues to facilitate a coordinated strategy for brook trout restoration in the watershed.
- With support from NFWF, more than \$3 million in direct grants, combined with more than \$4 million in partner match, was committed to on-the-ground brook trout projects in Chesapeake headwaters this past year.
- Gaining a better understanding of stream temperature changes on Brook Trout. The USGS worked with NPS in the Shenandoah National Park to assess the effects of stream temperature changes on brook trout populations.

2014
Action**BROOK TROUT OUTCOME****2014 – 2015 Milestones**

- Compile deliverables of NFWF and NFHAP funded brook trout projects in the watershed in recent years, and use those to inform a realistic interim milestone for increased habitat occupancy.
- Work with Eastern Brook Trout Joint Venture, the North Atlantic Landscape Conservation Cooperative, and local partners to develop and pilot test a Brook Trout Prioritization Tool for the Chesapeake Bay watershed. Preliminary models will be available for testing in summer 2014 and an online decision support tool for field application by practitioners by winter 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.

Other Key 2014 Actions

- **Begin new study of effects of non-native species on Brook Trout.** The USGS will assess the effects of brown trout (a non-native species) on brook trout populations.

The information will be used to help assess potential for restoring brook trout in streams that have non-native species competing for habitat.

BLACK DUCK OUTCOME

Outcome:

Restore a three-year average wintering black duck population in the Chesapeake Bay watershed of 100,000 birds by 2025.

Baseline:

Recent mid-winter aerial surveys estimated the 2007-2009 rolling three year average at 37,158 black ducks in the Chesapeake Bay.

2013 Status:

Created a habitat layer for Marshlands Complex and Patuxent Wildlife Research Center (PWRC) for wintering black ducks which was used along with stratified random sampling to determine locations for biomass sampling. Samples are currently being analyzed while standardizing methodologies. Foraging trials have also been initiated and will conclude in FY 2014.

FY 2014/2015 Milestone:

Revise outcome to reflect habitat carrying capacity of the watershed for black ducks. The energetics model is expected to be completed late FY 2014.



BLACK DUCK OUTCOME

2012 – 2013 Milestones Progress

- **A habitat layer was created for wintering black ducks** and used along with stratified random sampling to determine locations for biomass sampling.
- **Foraging trials have been initiated to understand better black duck restoration options.** The USGS began foraging trials to assess the amount of energy the black ducks expend on different food sources. The results

will be used to improve models that will simulate different restoration scenarios on FWS refuges.

- Managers at Chesapeake Marshlands Wildlife Refuge Complex, in partnership with Ducks Unlimited and other partners, **completed impoundment work resulting in approximately 50 acres of improved moist soil units on the refuge.**

Other Key 2013 Accomplishments

- In April 2013, the Habitat Goal Implementation Team co-hosted a workshop with STAC titled “Designing Sustainable Coastal Habitats” to **assess the current status and trending condition of**

coastal ecosystems and identify habitat components, including habitat to support wintering black ducks, that will be sustainable under increasing human impacts and a changing climate.

2014 Action **BLACK DUCK OUTCOME**

2014 – 2015 Milestones

- **The BDJV and 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 non-breeding range along the Atlantic Coast. Build the black duck energetics model by late FY 2014.
- **Complete sampling and improve models of black duck feeding requirements.** The USGS will work to prepare finer resolution

- models that complement the regional energetics model, for several FWS refuges. (USGS)
- **Complete foraging trials, determine food habits, and determine energetic costs associated with foraging and resting.** The information is being collected by USGS and FWS and will be used to enhance models that will simulate different restoration scenarios on FWS refuges (see milestone above).

Other Fish and Wildlife Accomplishments

- The Navy initiated a 2-year study to track Atlantic sturgeon, a federally endangered species, and other species of concern in the lower Chesapeake Bay through the use of an acoustic array. This effort will enable the Navy to close data gaps in the species’ habitat use and movement patterns and facilitate better planning for training exercises and operations in the area. The Atlantic sturgeon tracking study supports the EO 13508 goal of sustaining fish and wildlife and implements responsibilities under the Endangered Species Act.

2014 Operating Budget Summary Table

Sustain Fish and Wildlife	
DoD (Services) ¹	\$781,422
DoD (USACE)	\$5,000,000
DOI (FWS)	\$763,642
DOI (USGS)	\$2,050,000
NOAA	\$3,537,447
USDA (USFS)	\$30,000
Total	\$12,162,511

¹ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall.

Conserve Land and Increase Public Access Goal Summary

Goal: Conserve landscapes to maintain water quality, habitat, sustainable working forests, farms and maritime communities; and cultural, community and indigenous values. It will also expand public access to the Bay and its tributaries through existing and new federal, state, and local parks, refuges, reserves, trails and partner sites.

LAND CONSERVATION OUTCOME

Outcome:

Protect an additional two 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.

Baseline:

7.8 million acres protected watershed-wide.

2013 Status:

As of the end of 2011, 8,013,132 acres of land have been permanently protected throughout the Chesapeake Bay watershed. This constitutes permanent protection of approximately 20 percent of the land in the Chesapeake Bay watershed.

FY 2014/2015 Milestone:

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. (NPS)



LAND CONSERVATION OUTCOME

2012 – 2013 Milestones Progress

- **LandScope Chesapeake**, a watershed-wide land conservation geographic information and priority system designed to support sound conservation planning, **launched a user-friendly reporting tool to track the status of land protection.** This tool allows users to select the entire watershed, states or counties and can generate reports showing protected versus unprotected lands, protected lands by ownership, or protected lands by land cover type. It now includes more than 150 data layers, covering conservation priorities, protected lands, recreation and more. (NPS, USGS)
- In order to advance important conservation goals, focusing on the great rivers of the Chesapeake Bay, declared “a national treasure” by the President in Executive Order 13508, the National Park Service, U.S. Fish and Wildlife Service, Bureau

of Land Management and USDA Forest Service, in collaboration with the Chesapeake Conservancy and other regional partners, developed the Rivers of the Chesapeake Collaborative. This partnership conservation effort seeks to conserve vital resources along five focus areas: James/Chickahominy/York river corridor in Virginia, Nanticoke River in Maryland and Delaware, Middle Potomac River in Virginia and Maryland, Rappahannock River in Virginia, and Lower Susquehanna River in Pennsylvania.

- **The Chesapeake Large Landscapes Conservation Partners, representing non-profit organizations and local, state, and federal agencies continued to discuss large landscape conservation practices and innovations** in the Chesapeake watershed. In the four years since the establishment of the Chesapeake Large Landscape Conservation Partnership, partners have accomplished much in terms of reflecting on the value of collaboration to achieve mutual conservation goals, identifying and addressing multi-jurisdictional public access priorities, and targeting focus areas to concentrate conservation efforts.
- **The Chesapeake Large Landscape Conservation Partners accepted an offer from National Park Service to provide Consultants from the NPS Business Plan Initiative to explore options for strengthening the partnership. This report was prepared in response to the commitment made by the National Park Service at the LLC Partnership meeting in 2012** to support an analysis of the current progress of the LLC Partnership, and a set of researched options and recommendations

for moving the collaborative forward. This report provides recommendations for how the Chesapeake LLC can more effectively organize to accomplish joint goals within the watershed.

- USFS and NRCS worked with partners across the Bay jurisdictions to develop a **Draft Chesapeake Working Lands Conservation Strategy**. State-level meetings were held in each Bay state to get input on the Strategy, involving more than 60 representatives from state, local, federal, and nongovernmental partners.
- **USFS awarded \$1.5 million in Forest Legacy funding to the Pennsylvania DCNR Bureau of Forestry's Eagle Rock project**, which will permanently conserve 1,100 acres adjacent to the Michaux State Forest. [The property is the last remaining block of private forestland of its size within the region and features high-value habitat for state listed plants and animals and many game species.]
- **DoD, working through the Readiness and Environmental Protection Integration (REPI) Program, report that nine installations in the Chesapeake Bay watershed including Aberdeen Proving Ground, Atlantic Test Range, Fort A.P. Hill, MCB Quantico, NAS Oceana, NAS Patuxent River, NSA Hampton Roads, NSF Indian Head, and NSF Dahlgren currently maintain active Readiness and Environmental Protection Integration (REPI) Program partnerships.**
- DoD conserved and protected 178 acres at the Atlantic Test Range in FY 2013. The total number of acres conserved/protected at these installations through FY 2013 is 14,193 acres.

Other Key 2013 Accomplishments

- The National Park Service, University of Maryland, American Indian Tribes, State of Maryland, and Commonwealth of Pennsylvania have worked to **advance identification of landscapes evocative of the natural and cultural resources supporting American Indian lifeways and settlement patterns in the early 17th century**. Efforts include developing a thorough review of existing research and pilot mapping along the lower Susquehanna and Nanticoke Rivers.
- NPS, in collaboration with the Chesapeake Conservancy, consulted closely and regularly with the Captain John Smith Water Trail Advisory Council in **developing a Conservation Strategy for the Captain John Smith Chesapeake National Historic Trail**. The Advisory Council, whose members are appointed by the Secretary of the Interior, represents a wide range of state and federal agencies, non-governmental organizations, and citizens. The Conservation Strategy sets out a long-term strategy for conserving lands important to the visitor experience of the John Smith Trail.
- The Department of Transportation awarded funding to two port projects in the Chesapeake Bay watershed area as part of the Transportation Investment Generating Economic Recovery (TIGER) 2013 discretionary grant program. TIGER funds will be used to expand the handling capacity at the Fairfield Marine Terminal at the Port of Baltimore in Maryland. The construction of a rail intermodal facility will help reduce emissions and energy use. The dredge spoils from the nearby Sea Girt navigation channel will be innovatively reused in a less environmentally damaging manner. TIGER funds will also be used to rehabilitate a dilapidated wharf serving two berths at the Port of Wilmington in Delaware. Repairing deficient or missing piles and reinforcing deteriorated piles will extend the life of the original wharf and allow the port to be more efficient as a major east coast import and export destination.

2014
Action

LAND CONSERVATION OUTCOME

2014 – 2015 Milestones

- NPS and USGS, in partnership with NatureServe's Landscape America, will continue to enhance and promote Landscape Chesapeake. This year, partners will expand LandScope Chesapeake content watershed-wide, making targeted improvements to the mapping tools, and completing a redesign and re-architecture of the website's GIS platform. (NPS/USGS)
- NPS will build upon previous years collaborative efforts and continue to **convene partners engaged in land conservation throughout the watershed, the Chesapeake Large Landscape Conservation Partners**. A workshop will be held in fall of 2013 in order to consider the analysis and options outlined in the Business Planning Initiative consultants' large landscape conservation "partnership analysis," as well as identify focal areas representing large landscapes within the watershed that are iconic in their own right and are the focus of active collaborative conservation efforts.
- **NPS will continue to work with federal, state and local partners to further develop the methodology for identifying indigenous**

- cultural landscapes (ICLs) through initial pilot mapping efforts.** This year, NPS will continue coordinating research on ICL identification, mapping, and methodology through work in the Nanticoke River watershed in Maryland and along the Lower Susquehanna River in Pennsylvania and Maryland. The project involves: conducting a review of literature relevant to ICLs; listing and mapping existing identified ICLs in the Chesapeake Bay watershed; pilot ICL identification and mapping projects along the John Smith Trail; and providing recommendations on ICL criteria and methodology. NPS is also completing a conservation strategy for the Captain John Smith Chesapeake National Historic Trail that will identify focus areas along the major tributaries.
- **Direct land conservation efforts will continue to be carried out by a wide range of private landowners, local and regional land trusts, and local, state and federal agencies.** While most land conservation action in the Chesapeake region is carried out at the state and local level, some federal support for land conservation or direct federal land protection is anticipated this year. NRCS, FWS, NPS and USFS all contribute to this. In particular, this year several federal agencies including NPS, FWS and the Bureau of Land Management along with states, local governments, land trusts and river groups are partnering in a large-scale conservation effort to identify potential sites for protection and funding in FY 2014 and beyond. In addition, FWS and NPS are participating in efforts to determine how land conservation can be credited in the Chesapeake Bay model that has been used to identify management practice levels to be implemented in order to comply with the Bay TMDL.
 - **USFS and NRCS will work with partners to incorporate additional input on the Draft Chesapeake Working Lands Strategy and finalize the report.** The findings will help support the Chesapeake Bay partnership's development of management strategies to meet the Land Conservation Outcome.
 - **USDA-NRCS will work in coordination with State, tribal or local governments and non-governmental organizations to acquire conservation easements in the estuary.** These programs establish perpetual and 30 year easements. The major programs are the Wetlands Reserve Program and the Farm and Ranch Lands Reserve program.
 - The Department of Transportation will continue to work with partners to encourage initiation of integrated plans in one or more communities in the watershed. DOT will also provide continued technical assistance to further promote environmentally sustainable transportation and development as part of integrated regional planning. In 2014, Congress appropriated funds for another round of awards under the Transportation Investment Generating Economic Recovery, or TIGER, Discretionary Grant program which provides a unique opportunity for DOT to invest in road, rail, transit and port projects that have a significant impact on the nation, a region or a metropolitan area. Since 2009, five rounds of awards have gone to investing in transportation projects that have revitalized communities across America. The 2014 appropriation includes funds for planning activities.

PUBLIC ACCESS OUTCOME

Outcome:

Increase public access to the Bay and its tributaries by adding 300 new public access sites by 2025.

Baseline:

1,129 public access sites providing access to the Bay and its tributaries exist in the watershed.

2013 Status:

36 sites were added in 2013.

FY 2014/2015 Milestone:

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. (NPS)



PUBLIC ACCESS OUTCOME

2012 – 2013 Milestones Progress

- To advance the implementation of the Chesapeake Bay Watershed Public Access Plan, the plan's action team of federal and state partners convened to assess progress made in 2012 and develop a process for updating the list of potential new public access sites. The team also considered how to advance other high priority plan topics including boat-in campsites, universal accessibility, and urban access.
- NPS continued to lead the process to track potential and existing public access sites in the watershed. In 2012, 18 new public access sites were created in the watershed by various partners. In addition, NPS funded ten projects in the watershed totaling \$520,049 when combined with a nonfederal match of \$650,589 total \$1,170,638, that will address public access and trail development.

2014 – 2015 Milestones

- Federal, state, local, nongovernmental and community partners will implement the Chesapeake Bay Public Access Plan that was released in 2012; this plan will inform and guide expansion of Chesapeake Bay watershed public access sites. In particular, NPS financial assistance will prioritize creation of new public access sites in the Chesapeake region, specifically along the Captain John Smith Trail, Star-Spangled Banner Trail and the Potomac Heritage National Scenic Trail. Additionally, NPS will continue to explore boat-in camp sites along the trail as well as advance universal accessibility at public access sites.
- **NPS will continue to lead the process to track potential and existing public access sites in the watershed.**

2014 Operating Budget Summary Table

Conserve Land and Increase Public Access	
<i>DoD (Services)¹</i>	\$6,500,000
<i>DOI (FWS)</i>	\$1,728,784
<i>DOI (NPS)</i>	\$3,386,985
<i>DOI (USGS)</i>	\$150,000
<i>USDA (NRCS)²</i>	\$7,000,000
<i>USDA (USFS)</i>	\$90,000
Total	\$18,855,769

¹ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall.

² NRCS numbers may change due to applicable percentage of RCPP for water quality improvement in the enacted Farm Bill.



Goal Summaries

Citizen Stewardship Supporting Strategy Summary

Objective: Foster a dramatic increase in the number of citizen stewards of every age who support and carryout local conservation and restoration.



CITIZEN STEWARDSHIP SUPPORTING STRATEGY

2012 – 2013 Milestones Progress

- The Chesapeake Bay Program’s Education Workgroup conducted and released a report summarizing a workshop that brought together members of the academic community with regional environmental education professionals to identify best practices in K-12 environmental education based on current research and evaluation. This workshop also supported ongoing efforts to improve the Meaningful Watershed Educational Experience indicator.
- The Chesapeake Youth Corps (CYC) Intern Team Program awarded funds to four youth corps organizations for CYC summer youth crews to develop

public access and other projects along the Captain John Smith Chesapeake Trail and Star-Spangled Banner National Historic Trail and Byway. NPS coordinated this partnership of state, local, and non-profit organizations providing youths with employment skills and outdoor experiences. In 2013, three year-round NPS interns and one NPS summer intern completed their first year of service with partners James River Association (Richmond, VA), Parks & People Foundation (Baltimore, MD), the Maryland Department of Natural Resources (Annapolis, MD), and Anne Arundel County Department of Recreation and Parks (Annapolis, MD).

2012 – 2013 Milestones Progress (cont.)

- Forestry for the Bay, a partnership program sponsored by USFS, provides education and outreach to landowners to promote sustainable forest management. In 2013, **Forestry for the Bay partners reached an additional 1,000 woodland owners** by enhancing existing

partnerships and engaging new, non-traditional partners like real estate professionals, estate planners, land trusts and educators. A new Real Forestry for Real Estate course was successfully piloted in Maryland.

Other Key 2013 Accomplishments

- **NPS worked with partners to publish print and electronic media guides to recreation, cultural heritage, and natural area opportunities** throughout the watershed including national trails, national and state parks, national wildlife refuges, and historic areas, including developing a travelling exhibit and travelling trunk for libraries, schools and community spaces in Southern Maryland and the quarterly publication **Bay Journeys**. (NPS)
- NPS launched “**Chesapeake Explorer**,” the official NPS mobile application designed to help visitors discover and enjoy fun and inspiring places and activities in the Chesapeake region. Chesapeake Explorer aggregates information about national parks, state parks, Chesapeake Bay Gateways and Watertrails Network sites, and sites along CAJO, STSP, and Potomac Heritage National Scenic Trail (POHE). It also provides information about the locations, hours, activities and fees of these places.
- **NPS designed and fabricated 75 additional interpretive waysides and completed marking the land route in Maryland** along the Star-Spangled Banner National Historic Trail. The entire route in Maryland is now marked and more than 100 interpretive and orientation signs are completed. (NPS and DOT’s Federal Highway Administration)
- NPS continued updates to the **War of 1812 Virtual Resource Center**. The Resource Center is an easy to use, online tool that provides teachers, students and families’ one place to go to find lesson plans, video clips, primary source documents and trip planning ideas. The project was completed in partnership with Fort McHenry National Monument and Historic Shrine and Maryland Public Television.
- NPS successfully completed a **Trail Stewards pilot project** at Patterson Park School in Baltimore, MD, which graduated a 4th grade classroom of trail stewards. The program will be replicated in 11 schools in 2014.
- NPS worked with Maryland DNR and Charles County to complete **site plans to increase public access and recreation opportunities** at two sites of national significance to the events of the War of 1812. (NPS and partners)
- FWS, in partnership with the National Fish and Wildlife Foundation, the Living Classrooms Foundation, and the Chesapeake Bay Trust, designated Masonville Cove in Baltimore as the Nation’s first Urban Wildlife Refuge Partnership.



CITIZEN STEWARDSHIP SUPPORTING STRATEGY

2014 – 2015 Milestones

- The NPS Chesapeake Bay Office Youth Program has two main areas of focus:
 - **Chesapeake Youth Corps (CYC):** Youth crews working on conservation projects within the watershed and along the National Historic Trails. In 2014 NPS will also support Chesapeake Youth Corps crews to coordinate citizen stewardship actions and NPS projects along the Captain John Smith Chesapeake NHT and Chesapeake Bay Gateways sites.
 - **CYC, Intern Team:** A group of interns hosted by partner organizations that provide college graduates service-learning opportunities and utilizes them in identifying and implementing CYC. In 2014, NPS funding will be used to support Chesapeake Youth Corps Intern Team to advance the objectives of the CYC Strategy for Expansion. The CYC Intern Team Program will begin with five interns who will be placed at James River Association, NPS Chesapeake Bay Office, Maryland Department of Natural Resources, Parks and People Foundation and the Anacostia Watershed Society.
- Fostering systemic change in schools to support student environmental education is critical to grow the next generation of Bay stewards. In 2014, **NOAA will collaborate with its partners to develop baseline metrics to establish and measure outcomes related to student participation in teacher supported meaningful watershed educational experiences and related activities.** In addition, NOAA and partners will highlight models of sustainable schools and local education agencies that use system-wide approaches for environmental education.
- In 2014, **Forestry for the Bay will continue to engage new woodland owners through workshops in targeted areas and new webinar options.** The program website will be integrated with online tools such as LandServer and Bay Bank that connect woodland owners with conservation data, cost-share programs, and emerging environmental markets opportunities. The program will partner with Extension professionals in Pennsylvania, Maryland, and Virginia to update and enhance the popular Woods in Your Backyard Program for landowners.

Other Key 2014 Actions

- In order to enhance visitor experiences and stewardship, **NPS will continue to build long-term local partnerships for engaging communities and citizens along national trails.** NPS will continue to work with state and local partners to develop orientation and interpretive media along the Captain John Smith Chesapeake National Historic Trail and Star-Spangled Banner National Historic Trail.

2014 Operating Budget Summary Table

Expand Citizen Stewardship	
<i>DoD (Services) ¹</i>	\$682,290
<i>DOI (FWS)</i>	\$2,568,892
<i>DOI (NPS)</i>	\$1,128,995
<i>EPA</i>	\$5,000,000
<i>NOAA</i>	\$2,700,000
<i>USDA (USFS)</i>	\$105,000
Total	\$12,185,177

¹ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall.

Develop Environmental Markets Supporting Strategy Summary

Objective: Working collaboratively, USDA, EPA, Bay states and other federal partners will develop environmental markets for the Chesapeake Bay, including the management infrastructure for measuring, reporting and verifying environmental performance for a suite of ecosystem services.



DEVELOP ENVIRONMENTAL MARKETS SUPPORTING STRATEGY

2012 – 2013 Milestones Progress

- Working collaboratively, the U.S. Department of Agriculture (USDA), Environmental Protection Agency (EPA), bay states and other federal partners will develop environmental markets for the Chesapeake Bay, including the management infrastructure for measuring, reporting and verifying environmental performance for a suite of ecosystem services. In 2012, EPA completed the review of the Bay States Phase II Watershed Implementation Plans (WIP). Each of the States committed to establishing effective trading and offset programs. Currently, Virginia, Maryland, Pennsylvania, and West Virginia have established policies to support nutrient trading programs; Pennsylvania has engaged in non-point source credits used in trading, and Virginia has had trades between point sources. In response to State requests, EPA will provide additional support for information on trading program implementation through a series of Technical Memoranda scheduled for release in 2014.
- The Inter-Agency Chesapeake Bay Environmental Markets Team (EMT) facilitated collaboration among 12 federal agencies in the development of infrastructure needed for enabling environmental markets to function effectively in the Chesapeake Bay Watershed. The EMT promoted increased participation in environmental markets, and released issue papers on trading ratios, additionally, the role of government, and other mechanisms to support establishment of a sustainable nutrient trading market. The EMT supported a soon to be released Pennsylvania State University study to analyze the economic impacts of nutrient trading and other policy approaches for reducing agriculture's nutrient discharge into the Chesapeake Bay watershed. In addition, several EMT members sponsored a conservation banking training organized by the U.S. Fish and Wildlife Service.
- USDA, EPA and the U.S. Department of Transportation collaborated to promote the development of state level programs to purchase verified water quality offset credits for transportation infrastructure projects in the Chesapeake Bay Region. In September 2013, the Virginia Department of Transportation issued a tender to purchase phosphorus credits for road expansion activities in the Potomac and James River Basins.
- USACE approved four additional private commercial mitigation banks, a single-user mitigation bank, and an in-lieu fee program site in the Chesapeake Bay watershed. Collectively, the sites total 1183 acres. The sites are located in PA, VA, and WV. An additional 32 bank sites and 11 in-lieu fee project sites are currently proposed.

- **USDA established a network of Chesapeake Bay Water Quality Trading Conservation Innovation Grant awardees.** Network participants include representatives from state and local government, non-governmental organizations, EPA and USDA. The Network is focused on developing robust water quality trading programs in the

Chesapeake Bay and removing barriers to market development and reducing uncertainty in water quality trading programs. Initial efforts have focused on highlighting the tools and resources available, examples of working markets, the role that Federal agencies play, and discussion of the policies that impact water quality trading.



DEVELOP ENVIRONMENTAL MARKETS SUPPORTING STRATEGY

2014 – 2015 Milestones

- **The EMT will continue developing the infrastructure to support the establishment of environmental markets in the Chesapeake Bay.** The EMT will release issue papers that address how differences in water quality trading tools and rules may impact trading efforts, identify mechanisms to reduce the complexity and administrative burden of operating trading programs, and support a study to enhance the capacity to characterize economic implications of nutrient delivery lag time on nutrient credit trading in the Chesapeake Bay watershed. The EMT will continue to facilitate collaboration between the federal and state agencies to inform development of markets and market infrastructure and host workshops with stakeholders to advance development and implementation of environmental market mechanisms in the Chesapeake Bay.

2014 Operating Budget Summary Table

Develop Environmental Markets	
<i>EPA</i>	<i>\$75,000</i>
<i>USDA (OCE)</i>	<i>\$350,000</i>
<i>Total</i>	<i>\$425,000</i>

Respond to Climate Change Supporting Strategy Summary

Objective: Minimize the vulnerability of the Chesapeake Bay watershed, including its habitats, public infrastructure and human communities, to adverse impacts from climate change.



RESPOND TO CLIMATE CHANGE SUPPORTING STRATEGY

2012 – 2013 Milestones Progress

- **NOAA working with partners continued to develop a Chesapeake Bay Watershed Regional Drought Early warning system.** A workshop was held in 2013 that brought partners together to discuss the status of drought networks.
- **NOAA finalized a cooperative implementation plan for a establishing a sentinel site network for better assessing sea-level rise in the Bay.**
- **USGS continued making improvements to its land-change model** to improve forecasts of the combined impacts of land and climate change in the Bay watershed.
- **USGS helped improve the understanding of the effects of climate change** by preparing a summary of sea-level rise on the Chesapeake ecosystem.
- **USACE began a study of vulnerability of coastal areas to sea-level rise and climate change and developing a web-based GIS interface tool – referred to as CESL** (Comprehensive Evaluation of Projects with Respect to Sea Level Change). CESL allows users to visualize the SLC curves and associated extreme water level values for each project, perform related data entry and screening, and provide links to SLC related information. CESL includes a map interface, search/query tools, simple data entry, and summary/roll-up reporting capabilities.

Other Key 2013 Accomplishments

- **Hurricane Sandy Funds for Chesapeake:** Nearly \$13 million in funds from the Disaster Relief Fund will rebuild and strength habitats critical to species and communities along the coastal Chesapeake landscape, including Ferry Point (Nanticoke River/Pocomoke Sound), Aquatic Connectivity and Flood Resilience at Centreville and Bloede Dams in Maryland, Oyster Reef construction at Chincoteague National Wildlife Refuge, Living shoreline restoration at Hail Cove (Eastern Neck National Wildlife Refuge), and Living shoreline restoration at Fog Point (Martin National Wildlife Refuge), benefiting communities at Ewell, Tylerton, and Rhodes Point on Smith Island, Maryland.



RESPOND TO CLIMATE CHANGE SUPPORTING STRATEGY

2014 – 2015 Milestones

- **Work with partners implementing projects through the Hurricane Sandy Coastal Recovery efforts to achieve associated CBP goals to restore coastal wetlands, conserve lands, and address the potential effects of changing environmental conditions (DOI, NOAA, USACE).** The DOI (FWS, NPS and USGS), NOAA, USACE and other federal agencies will work with partners on Hurricane Sandy supplemental restoration projects that are slated to be completed in 2014 through 2016 in the Bay watershed. The federal-state-NGO partners will determine how they can jointly achieve CBP fisheries, habitat, and land conservation outcomes. The federal partners will be sharing environmental, social and economic data and also interacting with National Fish and Wildlife Foundation (NFWF) grantees to coordinate on similar projects that will be carried out through the Hurricane Sandy Coastal Resiliency Competitive Grant Program.
- **Implement the Sentinel Site Network for assessing Sea-Level Rise (NOAA)** The Chesapeake Bay Sentinel Site Cooperative plans to complete a pilot project in partnership with a local community projected to experience adverse impacts of local sea level rise. The project will synthesize existing data and/or collect new data, and communicate the results in a meaningful way so it meets the community's needs for future planning decisions.
- **Improve the data and understanding of the potential effects of land and climate change on the Bay, its watershed and the residents (DOI, NOAA, USACE and EPA).** Federal agencies will conduct science and release reports to help managers develop and refine plans to adapt to climate variability and land change. The USGS will release reports on sea-level rise and land subsidence in the Hampton roads area, as well as on how stream temperatures are changing throughout the watershed. The USGS will also continue enhancement of the Chesapeake Land Change model and use the results to help assess changes in stream flow. The findings will be used by EPA to help evaluate potential changes in water quality and implications for the Bay TMDL. NOAA and USGS are working together to increase high-resolution elevation data collected with the Light Detection and Ranging (LiDAR) equipment in coastal areas to upgrade land-cover and change information for the Bay watershed. The federal partners will continue to interact with the Landscape Conservation Cooperatives, DOI science centers, Emergency Response Centers and NOAA regional centers to apply regional study results to Chesapeake Bay issues.

Other Key 2014 Actions

- **NOAA and USGS will continue monitoring of sea-level rise at key areas in the Bay region.** For example, NOAA is monitoring sites in the National Estuarine Research Reserve and USGS and FWS will continue monitoring of sea-level rise at key areas in the Bay region such as Blackwater National Wildlife Refuge.
- **NOAA will continue to support tools and training to assist with restoration adaptation planning.**

2014 Operating Budget Summary Table

Respond to Climate Change	
<i>DOI (USGS)</i>	\$605,000
<i>EPA</i>	\$948,635
<i>NOAA</i>	\$785,000
Total	\$2,338,635

Strengthen Science Supporting Strategy Summary

Objective: Strengthen science to support ecosystem-based adaptive management to more effectively prioritize, implement, monitor and evaluate the actions and policies needed, and to identify new threats to the health of the Chesapeake Bay and its watershed.



STRENGTHEN SCIENCE SUPPORTING STRATEGY

2012 – 2013 Milestones Progress

- Federal agencies worked with state and academic partners to provide critical science to support the needs of the Goal Teams and the Executive Order (EO) outcomes, and enhance management of the growing amount of environmental information. The science activities were coordinated through the CBP Scientific Technical Assessment and Reporting (STAR) Team to ensure efficient efforts to support the CBP Goal Teams.
 - Water Quality: Science accomplishments included: releasing a report on the extent and severity of toxic contaminants in the Bay and its watershed (EPA, USGS, and FWS), applying a new technical approach to assess nutrient and sediment loads to the Bay (USGS), forecasting summer dissolved oxygen conditions (NOAA, UMCES, USGS), enhancing approaches to verify BMP implementation (EPA, states, USGS, and NRCS), and providing new insights on the effect of groundwater in delaying water-quality improvements (USGS).
 - Sustain Fish and Wildlife: Science accomplishments included applying results from seafloor mapping and analysis to support Harris Creek oyster reef restoration (NOAA, USACE, MDE), using enhanced spatial data to revise the brook trout outcome (FWS, USGS, Eastern Brook Trout Joint Venture), discovering low reproduction of yellow perch in several tributaries (FWS, USGS, MD), continuing studies of the causes of fish kills and intersex conditions in the Bay watershed (USGS, FWS, MD, PA), enhancing models of the habitat and food requirements of black ducks and other waterfowl (USGS, FWS, Ducks Unlimited).
 - Recover Habitat: Science accomplishments included: developing and evaluating options to address impacts to aquatic habitat in the Lower Susquehanna River Watershed. (USACE, EPA and USGS); and developing an enhanced approach to assess changes in stream conditions (ICPRB).
 - Land Conservation: Science accomplishments included enhancing the amount of data supporting and improving the protected lands data for Chesapeake Landscape, a decision tool to help identify priority areas for land conservation (NPS, NatureServe, USGS).



STRENGTHEN SCIENCE SUPPORTING STRATEGY

2014 – 2015 Milestones

- The science actions to support each goal are listed below with more information in the respective chapters. The two “cross-cutting” programmatic milestones for strengthening science are:
 - **Assess needs and develop a strategy to enhance monitoring related to the new Bay Agreement.** Federal agencies will work through STAR and in coordination with STAC to assess monitoring needs for outcomes in the new Bay agreement (Dec, 2014). The partners will develop a strategy to meet those needs during 2015.
 - **Enhance management and delivery of Chesapeake Bay information.** The federal agencies will work with state partners to fully implement DUET data management tool to provide data from the nontidal water-quality network to the CBP (EPA, USGS, States) and continue to improve access to tidal water-quality data (2014). The CBP GIS team (EPA, USGS) will revise the information management structure being used for spatial data to provide enhanced access to data supporting the CBP indicators (2015).
- Programmatic milestones and activities to strengthen science for CBP Goal are listed and more information can be found in their respective chapters.
 - **Water Quality:** develop a 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 (EPA, USGS, states); conduct project 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 Scientific, Technical Assessment, and Report (STAR) team.
 - **Habitat:** The FWS will work with partners in the Habitat team to improve reporting of number of wetland acres that are restored in the watershed. The SAV workgroup will initiate the Technical Synthesis III to research needs for SAV restoration success.
 - **Fish and Wildlife:** NOAA will work through the fisheries goal team to complete a Bay-wide oyster population assessment and begin coordinated studies of ecosystem services provided by oyster reefs. FWS will work through the Habitat goal team to develop a pilot prioritization method for brook trout restoration, USGS will build a foraging energetics model (March, 2015) for black ducks and work with FWS to provide results to refuges and BDJV (Dec. 2015).
 - **Land Conservation:** USGS will work with partners to develop a watershed-wide methodology and metrics for measuring the rate of land conversion of agricultural and forest land, and for measuring the extent and rate of change in impervious surface coverage (Dec. 2015).

2014 Operating Budget Summary Table

Strengthen Science	
<i>DOI (FWS)</i>	<i>\$49,680</i>
<i>DOI (USGS)</i>	<i>\$850,000</i>
<i>EPA</i>	<i>\$948,635</i>
<i>NOAA</i>	<i>\$533,995</i>
Total	\$2,382,310

Implementation and Accountability Supporting Strategy Summary

Objective: The Executive Order recognizes the federal government alone cannot achieve the goals and outcomes needed to restore and protect the Chesapeake Bay and its watershed without significant collaboration with state and local government, nongovernmental organizations and citizens.



IMPLEMENTATION AND ACCOUNTABILITY SUPPORTING STRATEGY

Key Accomplishments

- The process of aligning the goals and outcomes of the Executive Order with the goals and commitments of the Chesapeake Bay Program partnership led to a commitment of the partnership to develop a new Chesapeake Bay Watershed Agreement. The last Agreement the CBP signed was in 2000, and goals and outcomes need to be updated and revised, as well as aligned with EO 13508. The CBP's Principals' Staff Committee agreed at their winter meeting to develop a simpler Agreement with goals and outcomes signed by all six Bay jurisdictions, the Chesapeake Bay Commission, and EPA representing the Federal Government and the Federal Leadership Committee. An early draft of this Agreement has benefitted from public review and stakeholder and partner input through Goal Implementation Teams. The Program's Executive Council discussed the Agreement at their December 12, 2013 meeting, and the draft is scheduled to be reviewed by the public in February, 2014 and signed by the Chesapeake Executive Council in late spring 2014. Most of the goals and outcomes from the Executive Order are contained in the draft Agreement, aligning the federal actions and commitments well with that of the Chesapeake Bay Program partnership. Management strategies will be developed by the Goal Implementation Teams (with membership from both federal and state partners), furthering the alignment of the two efforts.
- While the CBP is developing the new Agreement that will contain the new goals and outcomes of the partnership, **ChesapeakeStat is undergoing a revision to track progress towards the new goals and outcomes.** In 2013, the addition of significant new information to the TMDL tracker on ChesapeakeStat continued, enabling users to track TMDL and Phase II WIP allocations and simulated pollutant load reductions by watershed, state, basin, segment, and permitted facilities (http://stat.chesapeakebay.net/?q=node/130&quicktabs_10=2). The Water quality section of ChesapeakeStat also allows a user to track progress toward meeting the water quality milestones and progress of Best Management Practice review panels. In addition, a new tracker for state-identified healthy waters has been added, allowing users to find where these waters are located by state.
- **The Chesapeake Bay Program Goal Implementation Teams have been developing decision frameworks for their goals,** which will allow for the Teams and Program to practice adaptive management on the new goals and outcomes once finalized through the Chesapeake Bay Watershed Agreement. These frameworks have already been used in helping to refine the goals and outcomes being considered by the CBP for addition in the new Agreement.



IMPLEMENTATION AND ACCOUNTABILITY SUPPORTING STRATEGY

2014 – 2015 Milestones

- The CBP will redesign *ChesapeakeStat* website to track progress toward meeting the goals and outcomes of the new Agreement and implementation of management strategies. CBP will use the discovery research process to test assumptions of targeted audience information needs. The CBP will evaluate presentation of indicators across Chesapeake Bay Program websites and benchmark against other complementary websites and develop, test, and implement a new design. Existing content will be migrated where appropriate and new content will be developed as needed (EPA). The CBP will finalize the new **Chesapeake Bay Watershed Agreement** that aligns, to the greatest extent possible, the CBP goals and outcomes to those in the EO strategy, as called for in the Strategy. This Agreement will be released for a 45 day public review in the winter of 2014 and signed by the Chesapeake Executive Council in the summer of 2014. EPA will sign for the Federal Government on behalf of the FLC (EPA).
- The CBP will develop **Management Strategies** covering all outcomes in the Chesapeake Watershed Agreement within a year of signing the Agreement. These strategies will outline the means for accomplishing the outcome, monitoring, assessing and reporting progress and coordinating actions among partners and stakeholders, as necessary.
- **In 2014**, the CBP will negotiate changes to **Chesapeake Bay Program governance document** with the partnership, including needed changes to the structure, the decision-making process, and the membership. This process will continue to help align the traditional CBP and the EO Strategy. (EPA)

2014 Operating Budget Summary Table

Implementation and Accountability	
<i>DoD (Services) ¹</i>	\$934,338
<i>EPA</i>	\$6,702,930
Total	\$7,637,268

¹ DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program

Funding Summaries

The table below provides actual agency appropriations or outlays for FY 2014 by agency and goal area.

Table 1: FY 2014 Operating Budget Summary (\$)

Department/ Agency	Water Quality	Habitat	Fish and Wildlife	Land Conservation and Public Access	Citizen Stewardship	Environmental Markets	Climate Change	Science	Implementation and Accountability	Total
USDA Total	77,739,000	1,400,000	30,000	7,090,000	105,000	350,000				86,714,000
FSA	34,304,000									34,304,000
NRCS ¹	43,200,000	800,000		7,000,000						51,000,000
OCE						350,000				350,000
USFS	235,000	600,000	30,000	90,000	105,000					1,060,000
U.S. Dept of Commerce/ NOAA	800,000	80,000	3,537,447		2,700,000		785,000	533,995		8,436,442
DoD Total	45,560,316	22,985,856	5,781,422	6,500,000	682,290				934,338	82,444,222
Services ²	45,560,316	2,945,856	781,422	6,500,000	682,290				934,338	57,404,222
USACE		20,040,000	5,000,000							25,040,000
DOI Total	4,218,000	5,560,724	2,813,642	5,265,769	3,697,887		605,000	899,680		23,227,269
FWS	167,567	5,375,724	763,642	1,728,784	2,568,892			49,680		10,654,289
NPS				3,386,985	1,128,995					4,515,980
USGS	4,217,000	185,000	2,050,000	150,000			605,000	850,000		8,057,000
EPA	183,833,562				5,000,000	75,000	948,635	948,635	6,702,930	197,508,762
Total	312,317,445	30,026,580	12,162,511	18,855,769	12,185,177	425,000	2,338,635	2,382,310	7,637,268	398,330,695

¹ NRCS numbers do not include new programs from the 2014 Farm Bill; a potential exists for a percentage of the financial assistance funds from the Regional Conservation Partnership Program to be obligated in the Chesapeake Bay estuary.

² DoD Services used budget appropriations by planned FY 2014 projects as described in their FY 2013 DoD Chesapeake Bay Program Annual Datacall

Table 2 provides actual agency appropriations for outlays for FY 2013 by agency.

Table 2: FY 2013 Agency Operating Levels

<i>Department/Agency</i>	<i>FY 2013</i>
USDA Total	\$135,449,000
<i>Farm Service Agency</i>	\$34,304,000
<i>NRCS</i>	\$98,000,000
<i>Office of Chief Economist</i>	\$350,000
<i>USFS</i>	\$2,795,000
U.S. Department of Commerce / NOAA	\$10,119,000
DoD Total	\$89,106,945
<i>Services</i>	\$71,146,945
<i>USACE</i>	\$17,960,000
DOI Total	\$21,227,233
<i>FWS</i>	\$10,294,000
<i>NPS</i>	\$3,876,233
<i>USGS</i>	\$7,057,000
EPA	\$174,821,744
Total	\$430,723,922

Appendix

Table A: FY 2012/2013 Programmatic Milestones - Progress

Target Date	Programmatic Milestone	2012 Progress
Restore Water Quality		
TMDL/WIPs		
2013	Develop and implement a Best Management Practices Operation and Maintenance Policy to meet permit and water quality requirements for each Service. (DoD)	In progress.
May 2013	Provide mid-term evaluation of 2012 milestones progress to jurisdictions. (EPA)	Complete. Issued in May 2013
January 2012 – February 2012	Evaluate and announce federal and jurisdictional 2012-2013 two-year milestones. (EPA)	Complete.
January 2012 – June 2012	Evaluate draft and final Phase 2 WIPs. (EPA)	Complete.
June 2012	Assess progress made to implement the May 2009 – December 2011 two-year milestones. (EPA)	Complete.
2012	Participate in jurisdictions' Phase 2 WIP processes: provide DoD installation information to jurisdictions and disseminate jurisdiction information throughout DoD to support the most effective implementation of future WIP requirements on DoD installations. (DoD)	Complete.

Target Date	Programmatic Milestone	2012 Progress
AGRICULTURE		
2013	Publish follow up Chesapeake Bay CEAP cropland report. (USDA)	In progress. This report was drafted in 2013 and will be published in 2014.
2013	Assess progress made in the showcase watersheds. (USDA)	In progress. States with Showcase watershed are currently evaluating progress towards meeting the resource concerns in the Watershed.
2013	Create a network among Bay watershed Conservation Innovation Grant awardees to help stimulate environmental markets. (USDA)	Complete. The USDA established a network of Chesapeake Bay Water Quality Trading Conservation Innovation Grant awardees. Network participants include representatives from state and local government, non-governmental organizations, EPA and USDA. The Network is focused on developing robust water quality trading programs in the Chesapeake Bay and with removing barriers to market development and reducing uncertainty in water quality trading programs.
2013	Evaluate and publish a report on the CBWI program contained in the Food, Conservation, and Energy Act of 2008 (110-246). (USDA)	Delayed. The authority for CBWI was extended thru 2013, analysis and the report will be completed in 2014.
2013	Continue to pursue the development of agricultural certainty programs in Bay watershed states.(USDA)	In progress. Two states have legislative authority for certainty programs and one State is exploring a certainty program.
2013	Continue to fund construction of treatment and distribution facilities, replacing or improving existing systems that are impacting the Bay. (USDA)	In progress. NRCS installed about 300 waste Storage Facilities in 2013.
2013	Evaluate revisions to the national CAFO rule. (EPA)	Modified. Conducting AFO and CAFO Program Assessments and permit reviews in Bay jurisdictions.
July 2012	Develop and implement tracking, reporting and verification mechanisms for voluntary conservation practices and other BMPs installed on agricultural lands. (EPA, USDA co-lead)	Complete.

Target Date	Programmatic Milestone	2012 Progress
2012	Update the CEAP Cropland Report for the Bay region; increase the spatial resolution of model results and account for changes in conservation adoption since 2006. (USDA)	Complete.
2012	Direct up to \$5 million to stimulate innovative conservation approaches, including the development of ecosystem markets in the watershed. (USDA)	Complete.
2012	Pilot the Conservation Delivery Streamlining Initiative's Conservation Desktop for national use; integrate resource concerns, selected inventory and analysis tools, electronic signature, and geospatial information into conservation planning tools. (USDA)	Complete.
ATMOSPHERIC - RULES, DEPOSITION, ALLOCATIONS		
2013	Significantly reduce nitrogen deposition to the Bay and watershed by 2020. (EPA) <ul style="list-style-type: none"> • Tier 3 Light-Duty Vehicle Emission and Fuel Standards final rule (criteria and toxic pollutants). (EPA) 	Ongoing.
2012	Significantly reduce nitrogen deposition to the Bay and watershed by 2020. (EPA) <ul style="list-style-type: none"> • NOxSOx Secondary National Ambient Air Quality Standards finalized. (EPA) 	Complete.
2012	<ul style="list-style-type: none"> • New air deposition modeling for the Chesapeake Bay watershed incorporating the most recent finalized rules with significant NOx reductions. (EPA) 	Complete.
2012	<ul style="list-style-type: none"> • EPA/DOT 2017–2025 Model Year Light-Duty Vehicle GHG Emissions and CAFÉ Standards final rule. (EPA) 	Complete.
STORMWATER		
2013	Evaluate revisions to the national stormwater rule. (EPA)	Ongoing.
ONSITE (SEPTIC) SYSTEMS		
June 2013	Develop a model program for states with voluntary general recommendations for activities to reduce pollution from onsite (septic) systems. (EPA)	Complete.

Target Date	Programmatic Milestone	2012 Progress
TOXIC CONTAMINANTS		
January 2013	Issue a report summarizing the extent and severity of toxic contaminants in the Bay and its watershed that will include an assessment of progress on the Chesapeake Bay Basinwide Toxins Reduction and Prevention Strategy. (USGS, FWS, EPA co-lead)	Complete.
December 2013	Work with DOI (FWS, USGS), the Bay states, the District of Columbia and stakeholders to consider toxic contaminant reduction goals. (EPA)	In progress. Draft reduction outcome developed and being considered by partnership for new Bay Agreement
OVERSIGHT AND ENFORCEMENT		
December 2012	Permit and Enforcement Oversight – Stormwater, Wastewater, Agriculture, Trading/Offsets, Air. <ul style="list-style-type: none"> Review Chesapeake Bay states' technical standards for nutrient management to ensure they meet CAFO regulations. (EPA) 	Complete.
December 2012 and 2013	<ul style="list-style-type: none"> NPDES Permit Reviews – Report annually on number of permits reviewed. (EPA) 	Ongoing
December 2013	<ul style="list-style-type: none"> Inspections and Case Development – Report annually on results and/or status. (EPA) 	Ongoing.
MONITORING AND SCIENCE SUPPORT		
December 2012	Implemented year two expansion (20 sites) of the non-tidal monitoring network to support TMDL. (EPA/USGS co-lead) Evaluate water quality changes and progress to adjust management actions in support of the TMDL/WIPs and milestone progress evaluation. (EPA/USGS/NOAA co-lead)	Modified. Several sites discontinued due to budget sequestration.
December 2012	<ul style="list-style-type: none"> USGS will issue an annual update of nutrient and sediment concentration trends based on the CBP non-tidal monitoring network and release a new supplemental technique looking at trends in nutrient and sediment loads. 	Complete.
December 2012	<ul style="list-style-type: none"> EPA will provide annual updates of trends in estuary monitoring data to assess progress toward water quality standards. 	Complete.
December 2013	<ul style="list-style-type: none"> EPA will work with USGS and jurisdictions to apply the new technique for trends in loads to assess progress toward reductions. 	Ongoing.
EPA GRANT SUPPORT TO STATES AND THE DISTRICT OF COLUMBIA		
2013	Provide financial support to jurisdictions by maintaining funding, as authorized, through EPA's assistance programs including CWA Section 319, SRF, CBIG and CBRAP. (EPA)	Complete

Target Date	Programmatic Milestone	2012 Progress
Recover Habitat		
WETLANDS OUTCOME		
Spring 2013	Develop initial estimates of restored and enhanced coastal wetlands needed to support energetic carrying capacity metric for revised black duck goal, with spatial specificity. Circulate for review, critique and revision by appropriate scientists and subject matter experts. (FWS)	In progress. Biomass sample collection was completed and foraging trials were initiated. Analysis of samples and completion of foraging trials expected for FY 2014 along with building the foraging energetics model by late FY 2014.
December 2013	Engage wildlife and natural resource agencies in strategic wetland action teams in interested Bay states during 2013. (FWS)	Complete. Resulted in successful multi-state proposal submitted by TNC and DU for a NFWF grant to accelerate wetland restoration.
December 2013	Continue Chesapeake Bay island and wetlands restoration construction management, monitoring, stakeholder coordination and design of wetland cells at Poplar Island. (USACE)	In progress. To date, more than 176 acres of tidal wetlands have been restored.
FISH PASSAGE OUTCOME		
December 2013	Conduct outreach on use of the Bay-wide fish passage prioritization tool in Maryland, Virginia and Pennsylvania. (FWS, NOAA)	Complete. Presentations were given at the Chesapeake Bay Program's Habitat Goal Implementation Spring 2013 meeting, State of Maryland Dam Safety Division, and Maryland Dam Removal Workshop (Hosted by AR). The tool has also been highlighted on MD, VA, and PA Fish Passage Websites such as: http://www.dgif.virginia.gov/fishing/tnc-chesapeake-bay-fish-passage/ .

Target Date	Programmatic Milestone	2012 Progress
RIPARIAN FOREST OUTCOME		
December 2012	Complete a strategy to accelerate forest restoration in priority areas. (USFS)	Complete.
March 2013	Produce a White Paper on Riparian Forest Restoration in the Chesapeake Bay. (USFS)	Complete.
June 2013	Complete pilot of Land Image Analyst, a tool for improved monitoring of riparian forest buffers. (USFS, USGS)	Complete.
December 2013	Conduct outreach using completed strategy to accelerate forest restoration in priority areas. (USFS)	In progress. Will be continued in 2014.
STREAM RESTORATION OUTCOME		
October 2013	Convene Stream Workgroup meeting at the Mid-Atlantic Stream Restoration Conference in Baltimore, MD. (FWS)	Complete.
ADDITIONAL MILESTONES		
December 2013	Initiate feasibility studies focused on the Anacostia River watershed immediately with Montgomery and Prince George's counties in Maryland. (USACE)	In progress. Cost sharing Agreement was executed in October 2013.
December 2013	Continue to work closely with the City of Virginia Beach at Lynnhaven River Basin, Virginia, to complete design for restoration of wetlands, submerged aquatic vegetation, Bay scallops and essential fish habitat. (USACE)	In progress.
December 2013	Continue to work closely with the Commonwealth of Virginia and localities in the Rappahannock watershed to identify water resource issues and develop a study that will come up with innovative restoration solutions. (USACE)	In progress.
December 2013	Prepare reconnaissance report and begin scoping follow on efforts with non-federal partners in preparation for the Chesapeake Bay Comprehensive Plan (USACE).	No funding in FY 2013.
December 2013	CBP partners are developing a methodology to calculate trends in stream health over time using the Stream Health Index. This methodology will be used to track progress toward achieving the Stream Health Outcome. (EPA, CBP Monitoring Team)	In progress.

Target Date	Programmatic Milestone	2012 Progress
Sustain Fish and Wildlife		
OYSTER OUTCOME		
March 2013	Complete and release Native Oyster Restoration Master Plan. (USACE)	Complete.
December 2014	Complete Bay-wide Oyster Population Assessment. (NOAA)	In progress.
December 2014	Conduct a study of existing and potential future oyster restoration activities. (USACE)	In progress. Construction of 56 acres of alternative substrate (granite and/or mixed shell) reefs funded by USACE and planting of 300 million spat on shell funded by NOAA completed. 209 acres completed overall. The Oyster Recovery Partnership has seeded a total of 131 acres so far.
2013	Conduct monitoring of the constructed sanctuary reefs in the Great Wicomico and Lynnhaven tributaries (USACE).	Complete.
BLUE CRAB OUTCOME		
June 2013	Establish and adopt new Bay-wide management targets for adult male crabs through the Chesapeake Bay Stock Assessment Committee and the Fisheries GIT. (NOAA)	Complete.
June 2013	Assess the extent to which the population is sustainable (i.e., between the abundance and exploitation targets and thresholds) by preparing and delivering the Chesapeake Bay Blue Crab Advisory Report annually (2012 and 2013) and convening the Sustainable Fisheries GIT to approve the report and adapt management approaches when necessary. (NOAA)	Complete.

Target Date	Programmatic Milestone	2012 Progress
BROOK TROUT OUTCOME		
May 2013	Host working session of Eastern Brook Trout Joint Venture to prioritize patches in Va., Md., N.Y., Pa. and W.Va. for brook trout habitat restoration and protection. (FWS, USGS)	In progress. Hosted working session with EBTJV in November 2012. Prioritization ongoing.
June 2013	Work with CBP's STAR and Eastern Brook Trout Joint Venture to adapt the brook trout outcome based on latest science. (USGS, FWS)	Complete. The metric and outcome were revised with input from EBTJV and based on latest science. Revised Outcome: "Restore naturally reproducing brook trout populations in Chesapeake headwater streams with an 8 percent increase in occupied habitat by 2025."
BLACK DUCK OUTCOME		
March 2013	Work with STAC and the Habitat GIT to host workshop on Targeting Restoration of Coastal Habitat Complexes, resulting in management guidelines for local governments on how to minimize impacts to waterfowl wintering habitat. (FWS, USGS)	Complete. April 2013- STAC workshop titled "Designing Sustainable Coastal Habitats" to assess the current status and trending condition of coastal ecosystems and identify habitat components that will be sustainable under increasing human impacts and a changing climate.
June 2013	Work with Joint Ventures and North Atlantic Landscape Conservation Cooperative to apply results of research on energetic carrying capacity of Bay habitats to articulate two-year milestones in terms of black duck habitat. (FWS, USGS)	In progress. Created a habitat layer for Marshlands Complex and PWRC for wintering black ducks which was used along with stratified random sampling to determine locations for biomass sampling. Samples are currently being analyzed while standardizing methodologies. Foraging trials have also been initiated and will conclude in FY 2014.

Target Date	Programmatic Milestone	2012 Progress
Conserve Land and Increase Public Access		
December 2012	Complete initial build-out of the Land Conservation Priority Mapping Tool. (NPS, USGS)	Complete.
December 2012	Finalize public access plan. (NPS)	Complete.
December 2012	Complete strategy to reduce the loss of working lands. (USFS)	In progress. Draft Strategy completed in 2013, will be finalized in 2014
Expand Citizen Stewardship Supporting Strategy		
December 2012	Chesapeake Conservation Corps strategy will be finalized. (NPS)	Complete.
July 2013	Complete a set of research-based best practices in support of the meaningful watershed educational experience and develop metrics to monitor implementation of these practices by signatory states and the Chesapeake Bay Program. (NOAA)	In progress. In final review
October 2013	Serve on the Leadership Team for the Maryland Partnership for Children in Nature to ensure federal priorities are included in the nation's first effort to define a high school graduation requirement for environmental literacy. (NOAA)	Ongoing.
November 2011	NOAA will convene a Mid-Atlantic Environmental Literacy Summit to focus on the intersection of science education and environmental literacy priorities, and to solicit state input on the draft federal K-12 Environmental Literacy Strategy. (NOAA)	Complete.
November 2012	Work with the Chesapeake Bay Trust to build capacity for environmental education in the region, including supporting a workshop focused on incorporating best practices into metrics and self-assessment tools to support environmental education. (EPA)	Complete.

Target Date	Programmatic Milestone	2012 Progress
Climate Change		
September 2013	Hold a workshop to conduct knowledge assessments on drought and the Chesapeake Bay watershed (NOAA and USGS). These assessments will serve as the basis for establishing a Chesapeake Bay Watershed Regional Drought Early Warning Information System.	Complete.
September 2013	Draft a Chesapeake Bay sentinel site cooperative implementation plan, focused on sea level rise in collaboration with federal, state, local, university and nonprofit partners. (NOAA)	Complete.
December 2013	Complete improvements to Chesapeake Land Change Model (version 3) to enhance assessments of the combined impact of climate and land change on the Bay and its watershed. Results from the model will also be used to assess vulnerability of conserved lands to future development. (USGS)	In progress.
Strengthen Science Supporting Strategy		
December 2012	Implement the CBP decision framework through interaction with all GITs. Summarize the information in ChesapeakeStat (EPA) and provide the science and monitoring needed to help support this adaptive management process. (USGS, NOAA, EPA)	Complete. For selected goal teams.
July 2013	As part of the Monitoring Alliance, engage local jurisdictions and NGOs on partnerships to expand the use of their water quality monitoring to assess conditions in the Bay and its watershed. (EPA) Integrate federal and state dissolved oxygen data across tidal, non-tidal and main stem monitoring data through the Data Enterprise to advance understanding of hypoxia and progress toward water quality standards. (EPA, USGS, NOAA)	In progress. Interacting with local partners and NGOs is ongoing. Nontidal data integration into Data Enterprise is complete.
December 2013	Implement the Chesapeake Monitoring Alliance by producing more recent land cover (2011 data) for the Bay watershed that can be used to support the implementation of EO goals. (USGS)	In progress. USGS processing 2011 data for watershed. NOAA has completed coastal land cover data.

Table B: Numeric Milestones: FY 2013 Progress and New FY 2014/2015 Milestones

2025 Outcome	Baseline	2012-2013 Milestone	2013 Progress	2014 – 2015 Milestone
<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 percent of pollution reduction actions for nitrogen, phosphorus and sediment no later than 2025, with 60 percent 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 2009-2011 is 30 percent of the Bay was attaining water quality standards</p>	<p>Update: The methodology used for the calculation of the indicator considers the achievement or non-achievement of the dissolved oxygen, water clarity/underwater bay grasses, and chlorophyll-a water quality standards applicable to a designated use within a segment. Rather than reporting progress only when all designated uses are met within a segment, this methodology reports when a water quality standard is met for each of the designated uses in that segment; therefore, rather than reporting on the 92 Chesapeake Bay segments used for the establishment and management of the Chesapeake Bay Total Maximum Daily Load (TMDL), this methodology reports on 291 designated-use segments contained within.</p>	<p>Results for 2010-2012 indicated that 31 percent of the Chesapeake Bay was attaining water quality standards for dissolved oxygen, water clarity/underwater bay grasses and chlorophyll-a.</p>	<p>This is a long term measure and contains only long term targets. The FY 2018 target for this measure contained in EPA's draft FY 2014-2018 Strategic Plan is as follows: "By 2018, achieve 45 percent attainment of water quality standards for dissolved oxygen, water clarity/underwater grasses, and chlorophyll-a in Chesapeake Bay and tidal tributaries. (2011 Baseline: 40 percent)*"</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>For pollution reduction actions, the FY 2010 baseline is 0 percent. The universe is 100 percent goal achievement by December 31, 2025 (FY 2026).</p>	<p>FY 2013 target is 22.5 percent of goal achieved for implementing nitrogen, phosphorus and sediment pollution reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model. (cumulative from FY 2010 baseline)</p>	<p>The FY 2013 EOY results for these measures (based on 2012 progress run scenario) are: 25 percent for N; 27 percent for P; 32 percent for S.</p>	<p>FY 2015 targets are 37.5 percent for N, P and S. (FY 2015 results will be based on 2014 progress scenario).</p>
		<p>Reduce EPA's portion of air deposition load to tidal surface waters by an estimated 350,000 pounds during the 2012-2013 milestone period for a total of approximately 2.5 million pounds of nitrogen reductions between 2009 and 2013.</p>	<p>The FY 2013 EOY result for this measure is 2.5 million pounds reduced between 2009 and 2013 (based on 2012 progress run scenario).</p>	

2025 Outcome	Baseline	2012-2013 Milestone	2013 Progress	2014 – 2015 Milestone
<p>Stream Condition: Improve the health of streams so 70 percent of sampled streams throughout the Chesapeake watershed rate fair, good or excellent, as measured by the Index of Biotic Integrity, by 2025.</p>	<p>45 percent of sampled stream sites are rated fair, good or excellent.</p>	<p>50 percent of sampled stream sites rate fair, good or excellent as measured by the Index of Biotic Integrity.</p>	<p>Between 2000 and 2010, 43 percent of sampled stream sites were in fair, good or excellent condition and 57 percent were in very poor or poor condition.</p>	<p>Pending input from newly formed stream health workgroup and non-tidal workgroup. Revised stream health indicator anticipated in spring 2015.</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>In Fiscal Year 2013, conservation practices were established on more than 271,000 unique acres of high priority working lands in the Bay, bringing the total to approximately 1.3 million acres or 32 percent of the 4 million acre goal</p>	<p>Implement conservation practices that protect the watershed’s soil and water resources while maintaining productive working lands.</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. (FWS) Enhance 20,000 acres of degraded wetlands every two years. (FWS)</p>	<p>In 2012, 2,231 acres of wetlands were established or re-established on agricultural lands in the Bay watershed.</p>	<p>Restore 4,000 acres of wetlands every two years. (FWS) Enhance 20,000 acres of degraded wetlands every two years. (FWS)</p>

2025 Outcome	Baseline	2012-2013 Milestone	2013 Progress	2014 – 2015 Milestone
<p>Riparian Forest Buffer: Restore riparian forest buffers to 63 percent, or 181,440 miles, of the total riparian miles (stream bank and shoreline miles) in the Bay watershed by 2025.</p>	<p>58 percent 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 percent) by 2025.</p>	<p>Only 202 miles were restored in 2013. Combined with 284 miles restored in 2012, 55 percent of the 2-year milestone was achieved. Every year the 900 mile target is missed, is more miles to make up in future years.</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 percent) by 2025.</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 percent of the completed fish passage projects. (FWS, NOAA)</p>	<p>Between 2010 and 2012, 181.3 miles were reopened.</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 percent of the completed fish passage projects. (FWS, NOAA)</p>
<p>Blue Crabs: Maintain sustainable blue crab interim rebuilding target of 200 million adults (1+ years 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>Establish and adopt new Bay-wide management targets for adult male crabs through the Chesapeake Bay Stock Assessment Committee and the Fisheries GIT. (NOAA)</p>	<p>A conservation threshold was developed by the Chesapeake Bay Stock Assessment Committee and implemented by the Sustainable Fisheries Goal Implementation Team (SFGIT). Adult female blue crab abundance in 2013 was estimated to be 147 million crabs, above the overfished threshold (70 million) but below the 215 million crab target.</p>	<p>Maintain 215 million female target</p>

2025 Outcome	Baseline	2012-2013 Milestone	2013 Progress	2014 – 2015 Milestone
<p>Oysters: Restore native oyster habitat and populations in 20 tributaries out of 35 to 40 candidate tributaries by 2025.</p>	<p>There are several tributaries with ongoing restoration of oyster reef habitat; zero tributaries have been evaluated per the recently established oyster restoration performance metrics.</p>	<p>NOAA, USACE, Maryland and Virginia, with input from stakeholders, will develop tributary restoration plans (blueprints) for 1 to 2 priority tributaries (Elizabeth, Lafayette, Lynnhaven and Little Choptank rivers) in 2013.</p> <p>NOAA, USACE and Maryland DNR will continue reef construction (30 acres), spat on shell planting, and restoration monitoring and evaluation in Harris Creek, Maryland, as a blueprint for large-scale sanctuary restoration. However, we note the first several years are focusing more heavily on establishing standardized assessment protocols and developing tributary restoration plans with accelerated implementation of in-water restoration expected in the out years.</p>	<p>During 2012-2013, NOAA funding supported more than 205 acres of oyster reef restoration work in the targeted tributaries, including the placement of 200 reef balls and the creation of a new oyster reef in the Lafayette River in Virginia.</p> <p>During 2012-2013, NOAA, USACE and partners have constructed 56 new acres of oyster reef and planted spat on shell on an additional 60 acres in Harris Creek. Reef construction and seed planting in Harris Creek is now more than 50 percent complete.</p> <p>A draft tributary restoration plan for the Tred Avon River was completed. NCBO convened a workshop of experts in January, 2013 to reach consensus about what we know about denitrification rates in oyster restoration and aquaculture. Two technical reports resulted.</p>	<p>Complete reef construction and planting in 1 to 2 tributaries by 2015.</p>
<p>Brook Trout: Restore naturally reproducing brook trout populations in headwater streams with an 8 percent increase in occupied habitat by 2025.</p>	<p>Catchment-level data collected via the Eastern Brook Trout Joint Venture's 2011 reassessment is currently being analyzed and will be used to refine this outcome to a more meaningful scale.</p>	<p>Work with state and NGO partners to populate unoccupied suitable habitats, improve in-stream habitat in regions with occupied but 'less than intact' populations, and sustain integrity of headwater habitats where intact populations persist. (FWS, USGS)</p>	<p>National Fish Habitat Partnership (NFHAP) funded projects resulted in connecting a total of 9.83 miles of brook trout stream habitat and remediate brook trout habitat degradation and address habitat fragmentation through stream bank stabilization in Pennsylvania, as well as buffer 12 miles of degraded stream due to anthropogenic induced acid deposition in Virginia using limestone sand to restore the pH in streams to a level in which brook trout can thrive.</p>	<p>Will be based on EBTJV decisions on priority projects in Chesapeake Bay drainage.</p>

2025 Outcome	Baseline	2012-2013 Milestone	2013 Progress	2014 – 2015 Milestone
<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 rolling three year average at 37,158 black ducks in the Chesapeake Bay.</p>	<p>Work with state, NGO and federal partners to establish an energetic capacity goal based on estimates of current energetic capacity and demand; anticipated goal will estimate number of acres by wetland type needed to support a desired number of black ducks during the non-breeding period. (FWS)</p>	<p>Created a habitat layer for Marshlands Complex and PWRC for wintering black ducks which was used along with stratified random sampling to determine locations for biomass sampling. Samples are currently being analyzed while standardizing methodologies. Foraging trials have also been initiated and will conclude in FY 2014.</p>	<p>Revise outcome to reflect habitat carrying capacity of the watershed for black ducks. The energetics model is expected to be completed late FY 2014.</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 2009-2011 rolling three-year average at 47,269 black ducks in the Chesapeake Bay.</p>	<p>Create 3 percent 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. (FWS, USGS)</p>	<p>Blackwater finished the impoundment work with DU and a number of other partners that resulted in approximately 50 acres of improved moist soil units on the refuge.</p>	<p>Create 3 percent 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. (FWS, USGS)</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>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. (NPS)</p>	<p>As of the end of 2011, 8,013,132 acres of land have been permanently protected throughout the Chesapeake Bay watershed. This constitutes permanent protection of approximately 20 percent of the land in the Chesapeake Bay watershed. (Most recent data available.)</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. (NPS)</p>

2025 Outcome	Baseline	2012-2013 Milestone	2013 Progress	2014 – 2015 Milestone
<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. (NPS)</p>	<p>36 sites were added in 2013.</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. (NPS)</p>

Table C. New FY 2014/2015 Programmatic Milestones By Goal

Target Date	Programmatic Milestone
Restore Water Quality	
TMDL/WIPs	
June 2014	Assess progress made to implement the 2012-2013 two-year milestones. (EPA)
January 2014 – February 2014	Evaluate and announce federal and jurisdictional 2014-2015 two-year milestones. (EPA)
May 2015	Provide mid-term evaluation of 2014 milestones progress to jurisdictions. (EPA)
June 2015	Assess progress made to implement the 2012-2013 two-year milestones. (EPA)
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)
2015	Deliver the working draft Phase 6 Chesapeake Bay Watershed Model and accompanying Scenario Builder to the CBP Partnership evaluation, and refinement. (EPA)
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 Atmospheric Deposition Model to the CBP Partnership evaluation, and refinement. (EPA)
2015	Deliver methods and tools for use by the CBP Partnership in evaluating and better understanding the effects of climate change on water-quality in the Chesapeake Bay ecosystem and surrounding watershed. (EPA)
October 2014	Secure CBP Partnership approval of the Basinwide BMP Verification Framework. (EPA)
December 2015	Secure CBP Partnership approval of the seven jurisdictions' enhanced BMP tracking, verification, and reporting programs. (EPA)
2014/2015	Continue to participate in and support Chesapeake Bay jurisdictions' MS4 regulation development in order to ensure installations are prepared to incorporate the permit requirements of the Chesapeake Bay TMDL. (DoD)
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)
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)
2014	Deliver expedited permit review track for restoration projects. (USACE, EPA, FWS)
AGRICULTURE	
2014	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)

Target Date	Programmatic Milestone
2015	Pilot the Conservation Delivery Streamlining Initiative's Conservation Desktop for national use; integrate resource concerns, selected inventory and analysis tools, electronic signature, and geospatial information into conservation planning tools. (USDA)
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. The 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)
2014/2015	Continue to pursue the development of agricultural certainty programs in Bay watershed states. (USDA)
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)
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)
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)
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)
December 2014 and 2015	Conduct animal feeding operation (AFO) reviews in two jurisdictions. (EPA)
December 2014 and 2015	Conduct six AFO/CAFO Program Assessments. (EPA)
June 2015	Conduct two assessments of CAFO permits and associated Nutrient Management Plans. (EPA)
ATMOSPHERIC - RULES, DEPOSITION, ALLOCATIONS	
2014/2015	Significantly reduce nitrogen deposition to the Bay and watershed by 2020. (EPA) <ul style="list-style-type: none"> • Develop new air deposition modeling for the Chesapeake Bay watershed incorporating the most recent finalized rules with significant NOx reductions. (EPA)
2014	<ul style="list-style-type: none"> • Issue tier 3 Light-Duty Vehicle Emission and Fuel Standards final rule (criteria and toxics pollutants). (EPA)
2014	Work with states to develop State Implementation Plan (SIP) revisions to reduce NOx emissions. (EPA) <ul style="list-style-type: none"> • Assist states in developing SIP revisions for nonattainment areas for the 2008 ozone standard. (EPA) • Work with states to designate nonattainment areas for the 2012 PM2.5 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)

Target Date	Programmatic Milestone
STORMWATER	
2014/2015	Develop joint workplans with jurisdictions to address stormwater assessment recommendations. (EPA)
2014/2015	Propose actions to strengthen the national stormwater program. (EPA)
2014/2015	Conduct oversight review and comment, per NPDES Memorandum of Agreement, on draft state MS4 permits: to ensure consistency with the Bay TMDL allocations and the level of pollution reduction called for in state WIPs; and to provide enforceable performance measures. (EPA)
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 WLAs. (EPA)
2014/2015	Develop and implement a Stormwater Best Management Practices Operation and Maintenance Policy to meet permit and water quality requirements. (DoD)
ONSITE (SEPTIC) SYSTEMS	
2014/2015	<p>Outreach and technical assistance to Chesapeake Bay States on Model On-Site Program</p> <ul style="list-style-type: none"> • Outreach and support via webinar(s) and/or conference call(s) to the states on topics related to the contents of the document. (EPA) • Explore/research options for sharing data among states on evaluations of advanced onsite technologies. (EPA)
TRADING/OFFSETS	
2014	Issue final technical memoranda setting forth EPA expectations on jurisdictions' offset and trading programs. (EPA)
2014	Work with other Federal agencies to build capacity that will support an efficient and robust trading market. (USDA)
TOXIC CONTAMINANTS	
2014	Facilitate consideration by the Chesapeake Bay Program partnership of the toxic reduction and research outcomes developed in 2013 in the Bay Agreement. (EPA, FWS, USGS)
2014/2015	Develop strategies for addressing toxic contaminant reduction and research outcomes developed in 2013. (EPA, FWS, USGS)
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).
OVERSIGHT AND ENFORCEMENT	
December 2014 and 2015	<p>Permit and Enforcement Oversight – Stormwater, Wastewater, Agriculture, Trading/Offsets, Air.</p> <ul style="list-style-type: none"> • NPDES Permit Reviews – Report annually on number of permits reviewed and objections. (EPA)
December 2014 and 2015	<ul style="list-style-type: none"> • Inspections and Case Development – Report annually on results and/or status. (EPA)

Target Date	Programmatic Milestone
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)
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/DC)
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 Scientific, Technical Assessment, and Report (STAR) team.)
EPA GRANT SUPPORT TO STATES AND THE DISTRICT OF COLUMBIA	
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)
2014/2015	Provide financial support to localities and other entities through the Innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants, as authorized. (EPA)
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 (Ag vs. urban) • Address reporting issues with wetland restoration acreage
2014-2015	Work with TNC and DE, 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)
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)
2015	For Poplar Island, USACE will complete wetland planting efforts which will bring the total amount of restored tidal marsh on Poplar Island to 231 acres. Also in 2015, USACE will begin new grading efforts for the next wetland cell which is 83 acres in size. (USACE)
December 2015	Complete design for 38 acres of tidal salt marsh within the Lynnhaven River Basin. (USACE)

Target Date	Programmatic Milestone
FISH PASSAGE	
2014	Work to open 67 miles for fish passage to benefit anadromous and resident fish species
RIPARIAN FOREST	
2014	Convene Task Force of USDA, state, and other partners to recommend strategic actions to address increasing gap in achieving riparian forest buffer outcome. (USFS/NRCS/FSA)
2015	Convene a federal-state leadership summit to advance recommendations developed by the Task Force. (USFS/NRCS/FSA)
STREAM RESTORATION	
Spring 2014	Host STAC Workshop on Designing Sustainable Stream Restoration Projects. (USGS, FWS, EPA)
2015	Consider options to expand the Stream Health indicator beyond the BIBI to include parameters such as flood plain connectivity and bank stability. (FWS)
2014	Deliver specified criteria to provide timely and collaborative decisions triggered by the Clean Water Act and the Fish and Wildlife Coordination Act. (USACE, USEPA, FWS)
2015	Deliver expedited permit review track for restoration projects. (USACE, USEPA, FWS)
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)
2014-2015	Engage partners in carrying out collaborative actions set forth in the Chesapeake Forest Restoration Strategy, including development of online resources and webinars to promote forest restoration in priority areas. (USFS)
2014	Initiate Technical Synthesis III to research needs for SAV restoration success. (USGS, SERC, NOAA, EPA)
2014	USACE will begin the Chesapeake Bay Comprehensive plan in coordination with the Bay states and interested groups and agencies. The first phase will be the reconnaissance study to determine federal interest in continuing the cost-shared feasibility studies and to identify willing non-federal cost sharing partners. (USACE)
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)

Target Date	Programmatic Milestone
Sustain Fish and Wildlife	
OYSTERS	
March 2015	Update the baseline oyster population estimate for the bay through completion of the oyster population assessment. (NOAA)
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)
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)
2014	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, restore 24 acres in the Tred Avon River and 61 acres in Harris Creek (USACE).
2015	Finalize tributary restoration plans for Little Choptank and Tred Avon Rivers in MD and initiate tributary restoration planning process for the Lafayette River in VA. (NOAA,USACE)
2014/2015	Construct 25 acres of sanctuary oyster reefs in the Piankatank River. Construct 20 acres of sanctuary oyster reefs in the Lafayette River. (USACE)
BLUE CRABS	
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)
BROOK TROUT	
2014	Compile deliverables of NFWF and 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)
2014	Work with FWS field office staff to develop a pilot prioritization of brook trout projects for MD in 2014; consider working with Downstream Strategies to expand their prioritization methodology to other States in the watershed. (FWS, USGS)
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)
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 non-breeding range along the Atlantic Coast. (FWS, USGS)
Fall/Winter 2014	Build the foraging energetics model by late FY 2014, (FWS, USGS) Complete collection of biomass sampling (Virginia Rivers Complex) and analysis of biomass samples. <ul style="list-style-type: none"> • Complete foraging trials, determine food habits, and determine energetic costs associated with foraging and resting.

Target Date	Programmatic Milestone
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)
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)
2015	Implement ongoing conservation programs (NPS, LWCF, REPI, NAWCA, etc.). (NPS/FWS) Identify culturally significant landscapes
2015	<ul style="list-style-type: none"> • NPS will continue coordinating research on ICL identification, mapping, and methodology through work in the Nanticoke River watershed in Maryland and along the Lower Susquehanna River in Pennsylvania and Maryland.(NPS)
2015	<ul style="list-style-type: none"> • NOAA will identify culturally significant landscapes for conservation, including maritime heritage resources. (NOAA)
2014	Identify ecologically significant landscapes for conservation. (FWS)
2014	Complete final Chesapeake Working Lands Conservation Strategy. (USFS/NRCS)
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)
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)

Target Date	Programmatic Milestone
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)
2014	Develop baseline metrics to establish and measure outcomes related to student participation in teacher supported meaningful watershed educational experiences and related activities. (NOAA)
2015	Support the development and implementation of place-based programs that provide access and provide meaningful experiences through education and interpretation. (NOAA)
2015	Work with partners to conduct and immersive leadership development workshop for local government officials that include exposure to Chesapeake Bay issues. (NOAA)
2015	Work with partners to support a comprehensive strategy for Eastern Shore conservation that include strong community outreach. (NOAA)
2014	Host multi-agency training to support integration of mitigation banking, nutrient trading, and offsets in the Chesapeake Bay Watershed. (EMT / EPA, USDA, FWS, USACE)
Environmental Markets	
2014	Create a network among Bay watershed Conservation Innovation Grant awardees to help stimulate environmental markets. (USDA)
2014	Host multi-agency training to support integration of mitigation banking, nutrient trading, and offsets in the Chesapeake Bay Watershed. (EMT / EPA, USDA, FWS, USACE)
2014/2015	Support research, education, outreach, and policy development that promote credit trading and environmental market development in the Chesapeake Bay. (EMT)
2014/2015	Enhance capacity to characterize economic implications of nutrient credit trading in the Chesapeake Bay Watershed. (EMT / USDA)
Climate Change	
2014-2015	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 and NOAA)
2015	Implement the Sentinel Site Network for assessing Sea-Level Rise. (NOAA)
2014-15	Improve the data and understanding of the potential effects of land and climate on the Bay and its watershed. (NOAA, USGS, USACE, EPA)
2014-2015	Improve the data and understanding of the potential effects of land and climate on the Bay and its watershed. (NOAA, USGS, USACE, EPA)

Target Date	Programmatic Milestone
Strengthen Science	
2015	Work through STAR to assess monitoring needs associated with goals and outcomes in the New Bay Agreement (2014). (Federal agencies EPA, USGS, NOAA, FWS, working through STAR)
2015	Enhance management and delivery of Chesapeake Bay information. (Federal agencies EPA, USGS, NOAA, FWS, working through STAR)
Implementation and Accountability	
Chesapeake Bay Watershed Agreement	
January 2014	Release draft Chesapeake Watershed Agreement for public review. (EPA)
June 2014	Chesapeake Watershed Agreement signed by the Executive Council. (EPA)
June 2015	Management Strategies completed for all outcomes in the Chesapeake Watershed Agreement. (EPA)
2014	Negotiate changes to Chesapeake Bay Program governance document with the partnership, including needed changes to the structure, the decision-making process, and the membership. (EPA)
ChesapeakeStat	
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)
2015	Phase II: Complete a discovery process for expanding and enhancing ChesapeakeStat to support collaborative decision-making between Chesapeake Bay Program Goal Implementation Teams and workgroups. (EPA)
Annual Action Plan and Progress Report	
2014	Include Federal milestones for all goals and outcomes for 2014-2015 in the Annual Action Plan and Progress Report. (EPA)
2014	Develop joint 2015 Annual Action Plan and 2014 Annual Progress Report for this Executive Order. Include interim progress on meeting the 2015 Federal milestones. (EPA)

