CHESAPEAKE BAY IMPLEMENTATION GRANT

July 1, 2014 – June 30, 2019

2015 Work Plan Revision
Revised December 11, 2015

Submitted To
Environmental Protection Agency
Chesapeake Bay Program Office
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Philadelphia, PA 19103-2029

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Objective #1	***Program Management, Evaluation and Planning***	**Budget for this Objective:**	*Total:$3,173,366* *EPA Share: $868,580* *Non Federal Share: $2,304,786*
Narrative Summary of Outputs for this Objective:	Provide administrative support and technical assistance to Chesapeake Bay program activities.		
Description of Objective:	This portion of the grant will be used for budget oversight, reporting requirements for deliverables, data submissions, and tracking of nutrient reductions. Purchases in this objective include monitoring supplies for operation of the Non-tidal Monitoring Network sites. This includes administrative assistance related to BMPs/Special Projects will be provided to the conservation districts; administrative training to new conservation district staff, and technical support/oversight of the BMP Implementation Program which includes Stream Bank Fencing. This includes funding for 12 DEP staff responsible for: communication/coordination of Chesapeake Bay Program activities in Pennsylvania; non-AMD TMDL development in the Chesapeake Bay; local government stormwater grants; and Chesapeake Bay Conservation District Field Representatives responsible for assistance to county conservation district regarding CBIG/CBRAP funded BMPs and staff.		
Tasks Under this Objective:	• Provide oversight and administration of Pennsylvania Chesapeake Bay effort, including grant preparation, progress reporting, grant management and proper allocation of funds to conservation districts. • Coordinate oversight and implementation of Pennsylvania's Chesapeake Bay Watershed Implementation Plan and Milestones. • Non-AMD TMDL development and tracking of nutrient reductions. • Technical and administrative assistance to the conservation districts, including training to new conservation district staff and oversight of funded BMP projects. • Review of conservation districts' administrative procedures and activities to assist in implementation of the Bay program. • Administration and implementation of DEP's Stream Bank Fencing program. • Conduct routine inspections of BMPs for compliance and maintenance in the financial assistance program and conduct failed practice investigations. • Monitor projects funded for BMP implementation (see Objective #4).		
Specific Outputs for this Objective	Programmatic 1. TMDLs completed throughout the Susquehanna and Potomac watersheds by June 30th each year. 2. Technical/administrative assistance to the conservation districts. (on-going) ~~1.~~3.Conduct 20 routine inspections/year of BMPs for financial assistance program		

	compliance/maintenance. Administrative 1. Semi-annual report of accomplishments submitted to EPA by April 1 and October 1 annually. 2. NPS pollution reductions submitted to CBP annually by December 1. 3. Point source monitoring data will be reported by water year (October 1 through Sept. 30). Data will be reported to EPA by December 1. 4. Nonpoint source monitoring data will be reported by state fiscal year (July 1 to June 30). Data will be reported to EPA by December 1. 5. Data will undergo quality assurance and quality control and be reported to the CBPO in accordance with EPA CBPO data submission guidelines. 6. Review of the 38-conservation district's programs, including BMP inspection information. 7. NonPoint BMP QAPP will be updated and submitted as necessary. 8. Point Source QAPP will be updated and submitted as necessary.
Outcomes for this Objective:	Chesapeake 2000 Commitment: 3.1.2 by 2010, correct the nutrient and sediment related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. (Note: Refer to Outcome lists in Attachment 3 for C2K Commitments)
Link to EPA's Strategic Plan ***(all funding issued by EPA CBPO falls under this strategic link) (This is pre-populated info)***	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s)	This Objective addresses administrative activities and, generally, does not address specific priority watersheds, but rather the entire Bay watershed in Pennsylvania. However, the activities under this Objective related to input of BMP data are reflected in Section 5. Nutrient and Sediment Target Loads of the WIP. These activities include: NPS pollution reductions submitted to CBP annually by December 31; Point source monitoring data will be reported by water year (October 1 through Sept. 30). Data will be reported to EPA by December 31; Nonpoint source monitoring data will be reported by state fiscal year (July 1 to June 30). Data will be reported to EPA by December 31; and Non-Point source and Point Source QAPPs will be updated and submitted for review.

Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: This Objective addresses general administrative activities of DEP staff that address Bay Program support activities, including the implementation of Phase 1 and Phase 2 WIP. Priority Practice(s) This Objective addresses general administrative activities of DEP staff that address Bay Program support activities, including the development of Phase 1 and Phase 2 WIP. Priority Watershed This Objective addresses general administrative activities of DEP staff that address Bay Program support activities, including the development of Phase 1 and Phase 2 WIP. Activities under this Objective related to input of BMP data are reflected in ***Section 5. Nutrient and Sediment Target Loads*** (page 22) and the ***Tracking and Reporting Protocols*** (page 106) for various sections of the WIP. These activities include: NPS pollution reductions submitted to CBP annually by December 31; Point source monitoring data will be reported by water year (October 1 through Sept. 30). Data will be reported to EPA by December 31; Nonpoint source monitoring data will be reported by state fiscal year (July 1 to June 30). Data will be reported to EPA by December 31; and Point Source QAPP will be updated and submitted for review.
Progress for this Objective ***(to be completed and submitted to the PO with each progress report)***	*This section will be left blank in the work plan but will be completed for the progress reports.* Please indicate the percentage of the objective completion in this section.

Budget Detail: *See additional pages.*

Summary of Staff Funded: *See additional pages.*

Objective #2	***TMDL and TMDL Alternative Plan***	**Budget for this Objective:**	*Total:$411,000* *EPA Share: $411,000* *Non Federal Share: $0*
Narrative Summary of Outputs for this Objective:	To assist and support the development of a multi-year Adaptive Management Plan for an impaired watershed - Chiques Creek and its tributaries – in Lancaster County. SRBC will also continue work from previous years in Octoraro Creek, South Branch Conewago, Cedar Run and the Conestoga River watersheds. These efforts range from data collection to the final stages of TMDL/TMDL Alternative Plan development.		
Description of Objective:	This Objective supports an annual agreement with the Susquehanna River Basin Commission (SRBC.) In previous years, SRBC developed TMDLs for waterbodies within the Susquehanna River watershed. SRBC will change their focus and support an Adaptive Management Plan for a watershed with a TMDL that needs to be updated. SRBC will work closely with PADEP's Central Office and South-central Regional office in a multi-year approach to show measureable improvement in an impaired watershed (Chiques Creek and its tributaries). This new effort will require coordination of many municipalities and stake holders, pre- and post-monitoring within the watershed, a proper inventory of all activities current and planned in the watershed, more detailed subwatershed-level modeling, development of reduction goals for MS4 communities and support for MS4 permittee management plan development. SRBC will also work closely with staff in the DEP-SCRO and outside agencies to develop and implement a strategic approach to achieve pollutant reductions. The final product from this work will be either a TMDL or TMDL Alternative Plan with water quality targets and reduction goals articulated and implementation possibilities evaluated. DEP's Bureau of Point and Non-Point Source Management oversees the SRBC contract for the development of sediment and nutrient TMDLs within the Susquehanna River Watershed. Also, per EPA's past concerns, this does not support any AMD TMDL activities.		
Tasks Under this Objective:	SRBC & DEP will coordinate selection of stream segments for non-AMD TMDL or TMDL alternative development. SRBC will develop non-AMD TMDLs or work toward water quality goals for TMDL alternatives employing various approved methods. For the development of a multi-year Adaptive Management Plan for Chiques Creek and its tributaries in Lancaster County, the expected tasks are: • Formation of core stakeholder group for Chiques Creek Pilot; • Organize, facilitate and record proceedings from an initial Chiques Creek kickoff meeting; • Initiate Chiques Creek Modeling workgroup formation and identify tasks; • Finalize modeling and identify water quality targets; • Identify load reductions, by source sector, necessary to meet water quality		

	standards; and • Begin working with individual sectors to identify implementation opportunities. • TMDL or TMDL Alternative for Octoraro Creek Watershed • Biological and chemical data for Cedar Run and Conestoga River watersheds
Specific Outputs for this Objective ***The extent that outputs are accomplished will serve as the EPA Evaluative Criteria for this project/program.***	Programmatic For the development of a multi-year Adaptive Management Plan for Chiques Creek and its tributaries in Lancaster County, the expected tasks are: 1. Formation of core stakeholder group for Chiques Creek Pilot (October 2014) Completed December 2014 2. Chiques Creek kickoff meeting (November 2014) Completed January 2015 3. Collect macroinvertebrate samples at 25 sites in Chiques Creek watershed (May 2015) Completed by April 2015 4. Initiate Chiques Creek Modeling workgroup formation and identify tasks ~~(June 2015)~~ On-Going 5. Finalize modeling and identify water quality targets (November 2015) 6. Identify load reductions, by source sector, necessary to meet water quality standards (December 2015) 7. Begin working with individual sectors to identify implementation opportunities (March 2016) 8. Submit official alternative water quality analysis to EPA for inclusion in ATTAINS database and counting toward PA priority commitments (June 2016) SRBC will also finalize work on the Octoraro Creek TMDL along with data collection and planning in South Branch Conewago, Cedar Run and the Conestoga River watersheds. (Note: 2014 work on Octoraro was more extensive than anticipated.) Administrative 1. NPS pollution reductions submitted to CBP. 2. Data will be collected in accordance with QAPP for Total Maximum Daily Loads.
Outcomes for this Objective: **(Refer to Attachment 3)**	Chesapeake 2000 Commitment: 3.1.2 by 2010, correct the nutrient and sediment related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act.
Link to EPA's Strategic Plan ***(all funding issued by EPA CBPO***	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems

falls under this strategic link) (This is pre-populated info)	
Link to Jurisdiction's WIP Commitment(s) (To be filled in by CBIG, Headwater State grants, and CBRAP only. All others list N/A.)	This is an on-going activity in Pennsylvania CBIG. It was not referenced in the Bay WIP, but is critical to address local TMDLs. These activities address specific watersheds for TMDLs prepared by the Susquehanna River Basin Commission and address impaired watersheds in the Susquehanna basin. They are selected based on previous analysis that identified Ag impaired watersheds using historical data generated in developing local TMDLs for Pennsylvania.
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) – Priority Watershed – Chiques Creek (Lancaster County) Which priority strategy(s) will be implemented in this objective? The development of Pennsylvania TMDLs is not specified in the Bay WIP. This is an on-going strategy to develop local TMDLs to identify watershed-specific loads, based on EPA-accepted Pennsylvania TMDL practices.
Progress for this Objective ***(to be completed and submitted to the PO with each progress report)***	*This section will be left blank in the work plan but will be completed for the progress reports.* Please indicate the percentage of the objective completion in this section.

Budget Detail: *See additional pages.*

Summary of Staff Funded: *See additional pages.*

Objective #3	**Chesapeake Bay Education Office**	**Budget for this Objective:**	*Total:$64,400* *EPA Share: $64,400* *Non Federal Share: $*
Narrative Summary of Outputs for this Objective:	Provide education that supports Pennsylvania's Chesapeake Bay program and addresses the elements of Pennsylvania's Watershed Implementation Plan.		
Description of Objective:	Since 1986, the Pennsylvania Association of Conservation Districts, Inc. (PACD) has administered the PA Chesapeake Bay Education Office on behalf of the PA Department of Environmental Protection. County conservation districts play an integral role in the delivery of the products and services provided by the PA Chesapeake Bay Education Office. Conservation districts have established relationships with local governments, the farm community, watershed organizations and schools and utilize these connections to deliver educational programs and information to support Chesapeake Bay education efforts. This grant will deliver products and services that enhance and support conservation district activities related to the Watershed Implementation Plan districts' County Implementation Plans.		
Tasks Under this Objective:	• Workshops and Trainings conducted by PACD to support Chesapeake Bay program activities. This would include the annual "All Bay" program staff meeting. (Note: PACD has been informed of the allowable costs for light refreshment and meals. Workshops supported by this grant abide by these requirements.) • Process to nominate, review select and award the annual "Clean Water Farm Award." This award is presented to several farm families in July at the annual PACD/SCC Joint Annual Conference. • Educational Mini-grants will be awarded to conservation districts to support various activities, including Manure Management Manual training efforts and educational activities that support County Implementation Plans. PACD will maintain a website; provide educational exhibit and print materials; maintain an audio visual loan library; and conduct a variety of activities to promote county conservation district programs and services that help address Chesapeake Bay Program goals. • Provide opportunities for education/outreach to support enhanced nutrient management, as defined to be Tier 3 Nutrient Management consistent with the NRCS Conservation Stewardship Program. • Provide opportunities for education/outreach to support Farmer Self-reporting of Manure Management Plans and other BMPs. Includes mailings by Penn State and advertisements by the PA Farm Bureau and others and an educational webinar for the PACD voluntary BMP survey that was placed online on October 13, 2015.		

Specific Outputs for this Objective ***The extent that outputs are accomplished will serve as the EPA Evaluative Criteria for this project/program.***	Programmatic 1. Annual "All Bay" program staff meeting. The funds from this CBIG grant will be used for the actual event, not staff positions conducting this event. (March 15, 2016) 2. Annual "Clean Water Farm Awards" to recognize the implementation of conservation practices. (July 2016) 3. Manure Management Manual Training Sessions via mini-grants. (On-going) (Note: Mini-grants will be sub-awarded to individual county conservation districts beginning Fall 2014; Actual Manure Management Manual training sessions will be conducted by county conservation districts on an on-going basis through June 2017.) 4. Distribution of fact sheets and other outreach material. (On-going) Administrative 1. Semi-annual report of accomplishments submitted by April 1 and October 1 annually.
Outcomes for this Objective: **(Refer to Attachment 3)**	Chesapeake 2000 Commitment: 3.1.2 by 2010, correct the nutrient and sediment related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. • Improve water quality in the tributaries of the Chesapeake Bay; • Enhance the ability of conservation professionals, citizens and community groups to participate in Bay restoration activities on their property and in their local watershed.
Link to EPA's Strategic Plan ***(all funding issued by EPA CBPO falls under this strategic link) (This is pre-populated info)***	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s) **(To be filled in by CBIG, Headwater State grants, and CBRAP only. All**	Section 8. Agriculture includes multiple references to conservation district activities. Specific reference to the "All Bay meeting" on page 81.

others list N/A.)	
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Pennsylvania's WIP includes multiple references to conservation district activities. This objective provides for education/outreach by the conservation districts. The "All Bay Meeting" funded by this objective is a principle communication and education activity for DEP and Conservation Districts. The "roll out" of many items referenced in the WIP occurs at this "All Bay Meeting", including changes to the Chesapeake Bay Implementation Grant Special Projects Funding and Staff funding (page 82) and the "100 Site Visits" (page 101). Priority Watershed No specified priority watershed. This Objective addresses basin wide activities. Which priority strategy(s) will be implemented in this objective? Pennsylvania's WIP includes multiple references to conservation district activities. This objective provides for education/outreach by the conservation districts. The "All Bay Meeting" funded by this objective is a principle communication and education activity for DEP and Conservation Districts. The "roll out" of many items referenced in the WIP occurs at this "All Bay Meeting", including changes to the Chesapeake Bay Implementation Grant Special Projects Funding and Staff funding (page 82) and the "100 site visits" (page 101).
Progress for this Objective ***(to be completed and submitted to the PO with each progress report)***	*This section will be left blank in the work plan but will be completed for the progress reports.*

Budget Detail: *See additional pages.*

Summary of Staff Funded: *See additional pages.*

Objective #4	***Chesapeake Bay Cost Share Program***	**Budget for this Objective:**	*Total:$6,364,034* *EPA Share: $3,662,420* *Non Federal Share: $2,701,614*
Narrative Summary of Outputs for this Objective:	Provide funding to landowners to encourage adoption of agricultural BMPs to achieve measurable reductions in nutrients and sediments.		
Description of Objective:	The Chesapeake Bay cost share program has been ongoing since Pennsylvania entered the program in 1985. This is the heart of the program--putting BMPs on the ground. Conservation districts work with landowners to develop BMP projects and annually submit these projects to DEP for consideration. DEP regional offices review these submittals and ranks/scores each project. A list of selected projects in compiled by DEP Central Office and submitted to the State Conservation Commission for review. The State Conservation Commission approves the list of projects for use of the Special Projects agreement – a form of contract between the Commonwealth of Pennsylvania and the county conservation district. Conservation districts then contract with landowners and obligate cost share funds to implement BMPs to address the most critical nutrient management problems identified on the farm. This includes soil erosion control, surface water control, animal waste management, and management of various nutrients applied to cropland. Pennsylvania cost share practices focus on the implementation of Pennsylvania's Tributary Strategy. Based on the PA Tributary Strategy, every county in the watershed developed County Implementation Plans to identify the critical areas and BMPs for each county. Pennsylvania's cost-share funding is based on County Implementation Plans, but all projects and best management practices (BMPs) are considered for funding. Projects are solicited via a competitive process and awarded to county conservation districts. When DEP announces the available funding, it specifies priority watersheds and priority conservation practices in the application guidance. All applications for funding are evaluated and funding is awarded to the highest ranked projects. ~~Priority will be given to projects located in EPA designated priority watersheds;~~ Priority conservation practices ~~will also be~~ given ~~to projects that focus on~~higher priority are: • Non-structural BMPs that provide cost-effective solutions for the reduction of nutrient and sediment loads to the Bay. These include no-till/conservation tillage, cover crops, and ag erosion and sedimentation ~~E&S~~ and manure management planning activities. (Example: Lancaster County source water protection project to support ag compliance and		

	development of manure management and ag E&S plans in four municipalities.) • Riparian corridor protection/restoration improvements that provide cost-effective solutions for the reduction of nutrient and sediment loads to the Bay. These include streamside practices, streamside animal fencing, and riparian buffers. (Example: DEP-NERO stream bank fencing project in partnership with USDA, Pheasants Forever, and the Bay Foundation that will establish 10 acres of forest buffer.) • Animal Waste Management Systems and Manure storages that fit within the County Implementation Plan. Due to limited BMP funds, manure storages must be matched with other funding sources. (Example: Susquehanna County manure storage/barnyard project that uses $10,000 CBIG funds to leverage EQIP and private funds on a $150,000 project.) • Projects that support enhanced nutrient management, as defined to be Tier 3 Nutrient Management consistent with NRCS Conservation Stewardship Program.
Tasks Under this Objective:	1. Develop Nutrient Management / manure management plans. (on-going) 2. Develop Ag E&S plans. (on-going) 3. Estimate need for cost share funds. (Annually - February) 4. Execute contracts with landowners. (upon grant award) 5. Develop designs of BMPs, the bidding or procurement documents, and payment of funds to landowners for installation of BMPs. (on-going) 6. Contract with vendor to install BMPs. (upon grant award) 7. Review installation and inspect final project site. (upon grant award) 8. Report program accomplishments and costs incurred on a quarterly basis.
Specific Outputs for this Objective ***The extent that outputs are accomplished will serve as the EPA Evaluative Criteria for this project/program.***	Programmatic By June 30, 2017, complete/install BMPs including: 1. 150 Nutrient Management / manure management plans 2. 150 Ag E&S plans 3. 1,500 acres of no-till 4. 20 Barnyard Practices 5. 7,000 acres of cover crops. 6. 50 acres of rotational grazing 7. 10 miles of stream bank fence installed 8. 5 Tier 3 Nutrient Management Projects Administrative Data will undergo quality assurance and quality control and be reported to the CBPO in accordance with EPA CBPO data submission guidelines. Semi-annual report of accomplishments submitted by April 1 and October 1 annually. NPS pollution reductions submitted to CBP.

Outcomes for this Objective: **(Refer to Attachment 3)**	Chesapeake 2000 Commitment: 3.1.2 by 2010, correct the nutrient and sediment related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. (Note: Refer to Outcome lists in Attachment 3 for C2K Commitments)
Link to EPA's Strategic Plan	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s) **(To be filled in by CBIG, Headwater State grants, and CBRAP only. All others list N/A.)**	Implementation of agricultural Best Management Practices (BMPs). BMPs referenced multiple times in the Phase 1 WIP, specifically including BMP Projections for Chesapeake Bay Implementation Grant (page 81) and Chesapeake Bay Implementation Grant: Special Projects Funding (page 82).
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) Implementation of agricultural Best Management Practices (BMPs) by conservation professionals in each conservation district. Specific reference Chesapeake Bay Implementation Grant: Special Projects Funding (page 82). Priority practices include no-till/conservation tillage, cover crops, conservation and nutrient management plans and riparian corridor protection/restoration, fencing, and manure storages. (page 82) Priority Watershed: Yes. Priority will be given to projects located in EPA designated priority watersheds. Which priority strategy(s) will be implemented in this objective? Implementation of agricultural Best Management Practices (BMPs) by conservation professionals in each conservation district. Specific reference Chesapeake Bay Implementation Grant: Special Projects Funding (page 82). Projects are now being targeted to COAST priority watersheds.

Progress for this Objective ***(to be completed and submitted to the PO with each progress report)***	*This section will be left blank in the work plan but will be completed for the progress reports.*

Budget Detail: *See additional pages.*

Summary of Staff Funded: *See additional pages.*

Objective #5	***Local Stormwater BMP Implementation Funding***	**Budget for this Objective:**	*Total:$4,762,176* *EPA Share: $2,381,088* *Non Federal Share: $2,381,088*
Narrative Summary of Outputs for this Objective:	Provide funding to local governments for implementation of urban stormwater BMPs to achieve measurable reductions in sediment and/or nutrient loading to the Chesapeake Bay.		
Description of Objective:	This is the first year of the Local Stormwater BMP Implementation Funding program for the Chesapeake Bay Implementation Grant. This Objective utilizes new funds to support implementation of BMPs identified in approved Chesapeake Bay Pollutant Reduction Plans (CBPRPs) in MS4 communities. MS4 permittees within the Chesapeake Bay watershed will propose on-the-ground BMPs that are identified in their approved Chesapeake Bay Pollutant Reduction Plans. In order to be eligible for funding, the permittee must demonstrate that the project will produce significant sediment and/or nutrient load reductions, can be completed within the project funding period, and will be maintained following implementation. DEP will review and rank each project, and a list of eligible projects will be identified for funding. DEP will preferentially rank projects that will achieve the highest pollutant load reduction for the least cost. Eligible projects will include those identified in Pennsylvania's Phase 2 WIP such as buffers, impervious surface reduction, infiltration basin retrofits to achieve current Chapter 102 E&S requirements, riparian buffers, green infrastructure projects, urban tree planting, other retrofits such as permeable pavement, and similar BMPs. Conditions of each award will include but not be limited to the submission of semi-annual progress reports, a commitment for long-term maintenance as applicable, and public outreach.		
Tasks Under this Objective:	1. DEP will develop a funding application form with instructions, a ranking system, and a standard funding agreement. (Completed December 2014) 2. DEP will work with appropriate organizations (e.g. PACD, PMAA, PSATS) to announce the funding opportunity. (August 2015) 3. DEP will accept applications from MS4 permittees or others for proposed urban stormwater BMPs. The design of those BMPs, if applicable, may be submitted with the application or may be submitted at a later date. (October 2015) 4. DEP will rank projects and notify awardees. (December 2015) 5. Applicants will construct or implement the urban stormwater BMPs		

	within the agreed upon schedule. (March 2018) 6. MS4 permittees will, as part of MCM #1, announce the completed project to the public and to neighboring municipalities as a demonstration of projects that can be completed to reduce sediment and/or nutrient loads. (March 2018)
Specific Outputs for this Objective ***The extent that outputs are accomplished will serve as the EPA Evaluative Criteria for this project/program.***	DEP will report, on a semi-annual basis, the status of each funded project and other project details including the anticipated pollutant load reductions in terms of lbs/year. These BMPs will be added to the input deck for Chesapeake Bay Model progress runs.
Outcomes for this Objective: **(Refer to Attachment 3)**	3.1.2 by 2010, correct the nutrient and sediment related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. The grant-funded work will help jump-start Chesapeake Bay Pollutant Reduction Plans implementation by installing appropriate urban BMPs and providing local examples and methodologies for other MS4 permittees to follow.
Link to EPA's Strategic Plan ***(all funding issued by EPA CBPO falls under this strategic link) (This is pre-populated info)***	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s) **(To be filled in by CBIG, Headwater State grants, and CBRAP only. All others list N/A.)**	The quantitative goals in the 2012 WIP include implementation activities for Chesapeake Bay Pollutant Reduction Plans. This grant will directly support that work with tangible outcomes.

Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) The Pennsylvania WIP lists recognized BMPs (urban/suburban activities), already referenced above as candidate projects to fund. Each of the listed BMPs will be potential candidates. A rating system will be applied to specific candidates that will assure cost-effective results (primarily sediment pounds/acre/year removed). The focus will be sediment removed because the urban environment generates relatively more sediment (both from overland flow and from stream scour) than nutrient discharge (recognizing of course that nutrients are also controlled to a degree with sediment control). Priority Watershed The WIP does not identify priority watersheds within the Chesapeake Bay drainage area. Projects would receive the same priority from everywhere in the basin, although selections may be impacted by the need to have examples of Chesapeake Bay Pollutant Reduction Plans implementation across a wide area.
Progress for this Objective ***(to be completed and submitted to the PO with each progress report)***	*This section will be left blank in the work plan but will be completed for the progress reports.*

Budget Detail: *See additional pages.*

Summary of Staff Funded: *See additional pages.*

Objective #6	***USGS Project – Smallmouth Bass Thiamine Study***	**Budget for this Objective:**	*Total:$200,000* *EPA Share: $100,000* *Non Federal Share: $100,000*
Narrative Summary of Outputs for this Objective:	Determine the role of thiamine and thiaminase from prey species on smallmouth bass mortality as it relates to aquatic life use. (Note: No Additional funds have been allocated to this Objective in 2015.)		
Description of Objective:	This project will identify potential causes of smallmouth bass young of the year mortality. This project will analyze smallmouth bass thiamine levels in eggs and determine prey sources of thiaminase.		
Tasks Under this Objective:	• Obtain eggs from approximately 150 female smallmouth bass. (July 31, 2014) • Obtain Rusty Crayfish and Mimic Shiners from Susquehanna Basin, total numbers determined by ability to catch species. (September 30, 2014) • Conduct analysis of egg thiamine levels to determine if levels are directly lethal or induce secondary effects. (December 31, 2014) • Conduct analysis of Rusty Crayfish and Mimic Shiner tissues to determine thiaminase activity and if levels are significant to produce thiamine deficiency in predator species, i.e. smallmouth bass. (June 30, 2015)		
Specific Outputs for this Objective ***The extent that outputs are accomplished will serve as the EPA Evaluative Criteria for this project/program.***	Programmatic 1. Provide supporting data for the assessment of the aquatic life use of the Susquehanna River and select tributaries. Data will be used to inform CADDIS workshops on Susquehanna River assessment and cause of Smallmouth Bass disease. (April 30, 2015) 2. Determine if thiamine level in smallmouth bass eggs is sufficient for normal development. (January 31, 2015) 3. Determine if thiaminase activity levels in rusty crayfish, mimic shiner and other non-native prey species is linked to egg thiamine levels. (January 31, 2015) 4. Confirm if thiamine levels and thiaminase activity are linked to the mortality of young-of-the-year smallmouth bass. (April 30, 2015) 5. Results of the project will be reported in the narrative portion of the 2016 Integrated Report and will be used to support listing the Susquehanna River in one of the Categories of the Integrated Report. (April 1, 2016) Administrative • Semi-annual report of project status. .		
Outcomes for this Objective: **(Refer to Attachment 3)**	Chesapeake 2000 Commitment: Related to invasive species concerns found in 1.2.2.1 and 1.2.2.2.		

Link to EPA's Strategic Plan ***(all funding issued by EPA CBPO falls under this strategic link) (This is pre-populated info)***	EPA Strategic Plan Goal Goal 2: Protecting America's Waters EPA Strategic Plan Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems
Link to Jurisdiction's WIP Commitment(s) **(To be filled in by CBIG, Headwater State grants, and CBRAP only. All others list N/A.)**	Pennsylvania's WIP addresses water quality and not the fisheries and habitat issues related to this objective.
Link to Priority Practices and/or Priority Watersheds	Please include the following, as applicable: Priority Practice(s) within the WIP are not applicable. Pennsylvania's WIP addresses water quality and not the fisheries and habitat issues related to this objective. Priority Watershed No specified priority watershed. This Objective addresses basin Susquehanna Basin-wide concerns.
Progress for this Objective ***(to be completed and submitted to the PO with each progress report)***	*This section will be left blank in the work plan but will be completed for the progress reports.*

Budget Detail: *See additional pages.*

Summary of Staff Funded: *See additional pages.*