

WATER RESOURCES PROGRAM (FISCAL YEARS 2018-2019) JUNE 16, 2017

Introduction

Section 14.2 of the Susquehanna River Basin Compact, P.L. 91-575 states that "the commission shall annually adopt a water resources program, based upon the comprehensive plan, consisting of the projects and facilities which the commission proposes to be undertaken by the commission and by other authorized governmental and private agencies, organizations, and persons during the ensuing six years or such other reasonably foreseeable period as the commission may determine." The Commission presently considers a two-year time frame in developing the Water Resources Program.

In accordance with the Commission's current Comprehensive Plan, adopted in December 2013, the annual Water Resources Program serves as the implementation document for goals and actions identified under the six Priority Management Areas. The Priority Management Areas are listed below and provide a framework for the Commission, federal, state, and local agencies, non-governmental organizations, and private interests to identify projects required to satisfy the water resources needs of the Susquehanna River Basin.

- A. Sustainable Water Development
- B. Water Quality
- C. Flooding
- D. Ecosystems
- E. Chesapeake Bay
- F. Coordination, Cooperation, and Public Information



Susquehanna River at Columbia, Pennsylvania.

Because many of the activities listed in the Water Resources Program are performed in partnership with different agencies and organizations, the Commission uses the Program to avoid duplication of effort, build upon the work of others, and plan future Commission activities. The Commission solicited input, on priority projects proposed by various agencies and organizations, in January 2017 via email distribution and the Commission's website. Eight federal agencies, as well as several state agencies and their departments (see full list on page 20), provided an extensive list of activities they intend to pursue pertinent to the Desired Results and Goals outlined for each Priority Management Area in the Commission's Comprehensive Plan. Considering the complete list of identified projects could be exhaustive, a concerted effort was made to select the most relevant, significant projects planned to be undertaken during the period of July 1, 2017 through June 30, 2019.

A. Sustainable Water Development

Desired Result: To regulate and plan for water resources development in a manner that maintains economic viability, protects instream users, and ensures ecological diversity; and meets immediate and future needs of the people of the basin for domestic, municipal, commercial, agricultural, and industrial water supply and recreational activities.



Goals:

- a. Support and encourage the sustainable use of water for domestic, industrial, municipal, commercial, agricultural, and recreational activities in the basin.
- b. Maintain an equitable system for allocating water for various uses, including the protection of instream flows and receiving waters of the Chesapeake Bay.
- c. Ensure sustainability of water sources by improving systems and managing water resources more efficiently.
- d. Mitigate drought impacts through coordination and use of drought emergency powers.
- e. Manage diversions to avoid impacts to the basin’s water resources.
- f. Manage consumptive water use to mitigate impacts to the basin’s water resources.
- g. Maintain and enhance strong, visible, and effective regulatory compliance measures.

Conowingo Hydroelectric Generating Station near Darlington, Maryland.

Proposed Projects:

Agency	Department	Goal Addressed	Project Name	Project Description	Location	Timeframe
Susquehanna River Basin Commission	Planning and Operations	A, B	Cumulative Water Use and Availability Study	Enhance web tool functionality for informing regulatory program actions, conduct finer scale water availability analyses for priority watersheds, and verify baseflow conditions for low water availability watersheds during drought events.	Susquehanna River Basin (SRB)	July 2017 - June 2019
Susquehanna River Basin Commission	Project Review	A, B, E, F	Baltimore Withdrawal & Diversion, Phase II Application	Complete review of Baltimore’s Phase II application to address the balance of its request to increase withdrawal and diversion limits during low flow events.	Baltimore, MD	July 2017 - June 2018
Susquehanna River Basin Commission	Project Review	A thru G	General Permit Development	Develop and adopt general permits as needed and appropriate to more efficiently manage water resources related to certain categories of water withdrawals and uses currently required to complete the full review process.	SRB	July 2017 - June 2019

Susquehanna River Basin Commission	Planning and Operations	D	Drought Coordination Plan	Update 2000 Drought Coordination Plan to reflect contemporary hydrologic monitoring data/tools and results of NOAA Drought Planning Tool grant.	SRB	September 2017 - June 2019
Susquehanna River Basin Commission	Planning and Operations	F	Consumptive Use Mitigation Policy	Conduct comprehensive evaluation of existing consumptive use mitigation program, formulate set of recommendations for addressing unresolved issues, and propose a revised CU Mitigation Policy.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Planning and Operations	F	Billmeyer Quarry Consumptive Use Mitigation Assessment	Evaluate flooded limestone quarry as potential source of water storage for consumptive use mitigation.	Lancaster Co., PA	July 2017 - June 2018
Susquehanna River Basin Commission	Planning and Operations	F	Curwensville Lake Water Supply Operations	Work with USACE to complete NEPA process and update reservoir regulation manual to implement revised water supply operations involving low flow augmentation releases to mitigate consumptive use in the Basin during low flow periods.	Clearfield, Co., PA	July 2017 - June 2018
Susquehanna River Basin Commission	Planning and Operations	F	Raystown Lake Low Flow Augmentation Study	Work with USACE to assess existing low flow operations and evaluate opportunities for flow augmentation to mitigate consumptive use in the Basin during low flow periods.	Huntingdon Co., PA	July 2017 - June 2019
Susquehanna River Basin Commission	Compliance and Planning and Operations	A, B, C	Grandfathered Projects Registration	Develop and implement pending registration program for grandfathered projects and integrate water use information into CWUAS database.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Planning and Operations	B	Colliersville FERC Relicensing	Work with partner agencies to identify appropriate environmental flow and fish passage requirements as part of FERC relicensing and Water Quality Certificate processes.	Otsego Co., NY	July 2017 - June 2018
Maryland Department of the Environment	Source Protection and Appropriation	A	Annual Water Audits	Require water systems serving 10,000 or more persons to complete annual water audits and prepare water loss reduction plans when audits reveal >10% water loss to ensure non-wasteful use of water in accordance with Maryland law.	Maryland Statewide	Ongoing
National Oceanic and Atmospheric Administration	National Weather Service	C	Extended Streamflow Prediction	Provide long-term (30, 60, 90-day) probability stream flow prediction: http://water.weather.gov/ahps/long_range.php	SRB	June 2019
New York State Department of Environmental Conservation	Division of Water	E	Water Use Registration	Require NYSDEC registration for inter-basin transfers of water greater than 1 million gallons per day, unless they are already approved by Delaware River Basin Commission (DRBC) or the Commission. An evaluation of	New York portion of SRB	July 2017 - June 2019

				the expected impacts is required as part of the registration documentation.		
Pennsylvania Department of Conservation & Natural Resources	Bureau of State Parks	A	Comprehensive Lake Management Plan	To identify sources of lake impairment and outline goals, objectives, and prescriptions for restoring, maintaining, and enhancing state park lakes (including water quality, habitat, and recreational opportunities). http://www.DCNR.state.pa.us/forestry/stateforestmanagement/sfrmp/2016sfrmp/index.htm	Pennsylvania	Ongoing
Pennsylvania Department of Conservation & Natural Resources	Bureau of Topographic and Geologic Survey	C	Groundwater Program	Develop statewide springs database including general educational document for public. Further enhance user interface for Pennsylvania Groundwater Information System (PaGWIS). Improve framework for developing conceptual groundwater flow models and studies in Pennsylvania by physiographic section. http://www.DCNR.state.pa.us/topogeo/groundwater/index.htm	Pennsylvania	July 2017 - June 2019
Pennsylvania Department of Environmental Protection	Bureau of Abandoned Mine Reclamation (BAMR)	F	Pennsylvania Agricultural Consumptive Use Mitigation	Operate Lancashire #15 Mine Drainage Treatment Plant (MDTP) in the headwaters of the West Branch of the Susquehanna River to treat 9.3 MGD of make-up water. Implement Cresson Acid Mine Drainage Treatment Project design in the headwaters to Clearfield Creek to treat 5.7 MGD of make-up water per request of the Commission.	SRB	Ongoing
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	A	Lower Susquehanna River Hydrologic Study	Provide technical expertise for a hydrologic study of the Lower Susquehanna River relating to relicensing activities for the Conowingo hydroelectric project.	Lower SRB	2018 to 2019
U.S. Geological Survey	Pennsylvania Water Science Center	D	Hydrologic Networks	The USGS operates a network of streamgages and groundwater monitoring wells, many of which are part of the Pennsylvania Drought Monitoring network. Drought indicators are based on a 30-day moving average of streamflows and groundwater levels. More information on these networks is available at the following links: http://pa.water.usgs.gov/drought/indicators/gw/ ; http://pa.water.usgs.gov/drought/indicators/sw/	SRB	Ongoing

B. Water Quality

Desired Result: To support the existing and designated uses of all waterbodies by achieving water quality that meets or exceeds standards.



Staff conducting tow boat electrofishing.

Goals:

- a. Support and coordinate the efforts of the Commission's member jurisdictions in managing the basin's water quality.
- b. Monitor and assess the biological, chemical, and physical quality of the basin's waters to support restoration and protection efforts.
- c. Develop, support, and implement plans and projects to remediate and enhance the basin's water quality.
- d. Protect the quality of the basin's biological resources and sources of public drinking water supply.
- e. Organize, maintain, and distribute water quality data to facilitate basinwide water quality improvement and protection activities.

Proposed Projects:

Agency	Department	Goal Addressed	Project Name	Project Description	Location	Timeframe
Susquehanna River Basin Commission	Monitoring and Protection	A, C	TMDL-Related Activities	Collaborate with PADEP and other stakeholders in Chiques Creek, Fishing Creek, and Octoraro Creek watersheds to develop alternatives to traditional TMDL efforts. Activities include coordination, monitoring, data management and analyses, and plan development. See: http://www.srbc.net/programs/chiques/chiques.htm	Lancaster, Lebanon, and Dauphin Co.'s, PA	July 2017 - June 2019
Susquehanna River Basin Commission	Monitoring and Protection	B, E	Remote Water Quality Monitoring Network	SRBC operates ~60 real-time continuous in-stream measurement stations, primarily in the Marcellus Shale region of the SRB, established to better understand and monitor gas production activity for possible impact to water quality conditions. See: http://mdw.srbc.net/remotewaterquality/	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Monitoring and Protection	C	Rausch Creek AMD Treatment Project	Identify best method for routing combined flows from multiple mine pool discharges to an existing treatment plant and evaluate potential for utilizing mine pool storage for consumptive use mitigation.	Schuylkill Co., PA	July 2017 - March 2018

Susquehanna River Basin Commission	Monitoring and Protection	D	Source Water Protection/Early Warning System	SRBC, in conjunction with various water suppliers, monitors water quality indicator parameters using continuous/real-time in-stream sensors in mainstem rivers from Elmira, NY to the PA-MD border and shares the data with network affiliates. This program includes time-of-travel predictions in the event of contaminant event. See: http://www.srbc.net/drinkingwater/index.htm	SRB mainstem rivers	July 2017 - June 2019
Maryland Department of the Environment	Science Services Administration	A, B, C	Conowingo Pool & Lower Susquehanna River PCB TMDL	MDE will develop a TMDL to address PCB listings (fish tissue impairment) in the Conowingo Pool and Lower Susquehanna River.	Cecil & Harford Co., MD	March 2019
Pennsylvania Department of Conservation & Natural Resources	Bureau of State Parks	C	Lake Sediment Removal	Sinnemahoning State Park will remove 67,000 cubic yards of accumulated sediment from its impoundment and improve buffers to reduce future sedimentation. Little Buffalo State Park and Whipple Dam State Park will remove accumulated sediment from its impoundment and improve buffers to reduce future sedimentation.	Cameron, Perry, and Huntingdon, Co., PA	2017
Pennsylvania Department of Conservation & Natural Resources	Bureau of Mining Programs	C	Cherry Run AMD Treatment System	A Growing Greener Project funded for construction of a passive AMD treatment system to treat the "K" discharge to Cherry Run, a tributary to Bennett Branch, will begin in 2016 and will be completed in 2017.	Elk Co., PA	Ongoing
Pennsylvania Department of Environmental Protection	Bureau of Mining Programs	C	L & B Coal Company #5 Site AMD Passive Treatment	The construction of an AMD passive treatment system to treat seep flow SP-10 has been completed. This is an Alternative Bonding System/Primary Bond Forfeiture (ABS/PBF) site where Broad Top Township is responsible for operation and maintenance of the system.	Bedford Co., PA	Ongoing
Pennsylvania Department of Environmental Protection	Bureau of Mining Programs	C	Black Dog Mining Dodson Site Mine Reclamation and AMD Passive Treatment System Construction	Reclaim 40 acres of abandoned mine lands, including 30 acres with tree plantings. The reclamation is an Alternative Bonding System/Primary Bond Forfeiture (ABS/PBF) site where Broad Top Township is responsible for operation and maintenance of the work.	Bedford Co., PA	Ongoing
Pennsylvania Department of Environmental Protection	Bureau of Mining Programs	C	R.J. Coal Company Bloom #2 Reclaim an Abandoned Surface Coal Mining Site	This is a project to reclaim an abandoned surface coal mining site. The reclamation utilizes tannery sludge waste and other soil amendments (i.e., topsoil, spoil material, limestone), per Beneficial Use Permit from the Bureau of Waste Management.	Clearfield Co., PA	Ongoing

Pennsylvania Department of Environmental Protection	Bureau of Mining Programs	C	Antrim Treatment System Rehabilitation	Preliminary plans have been drawn to rebuild the 1990s era active treatment plant that will treat more water more efficiently. A construction contract is expected by summer of 2017. A used lime silo has been secured from the Red Bank Treatment Trust for \$40,000 and will be transported to Antrim for retrofitting.	Tioga Co., PA	Ongoing
Pennsylvania Department of Environmental Protection	Bureau of Mining Programs	C	Sky Haven AMD Active Treatment System	Gongaware Environmental Services has been contracted to rehabilitate a malfunctioning active treatment system that was turned over in 2016 to Sky Haven Trust. Involves clearing channels, as well as installing pipelines, a pump house, a sump and pump, and a caustic delivery system.	Clearfield Co., PA	Ongoing
U.S. Army Corps of Engineers	Planning Division	C, E	Planning Assistance to States - Water Resources Studies	Inventory stormwater systems in support of MS4 permit compliance data to be used to plan water quality improvement projects. Help develop regional stormwater authorities in support of MS4 permit compliance to efficiently identify and implement water quality improvement projects.	Communities of Derry, Lancaster, Carlisle, Wyoming Valley, and York, PA	September 2017 - June 2019
U.S. Geological Survey	Pennsylvania Water Science Center	B, E	Cross border groundwater quality study	Study of groundwater quality in Pennsylvania and New York in the Marcellus shale play. Study area comprises 4 counties in Pennsylvania where unconventional oil and gas is being developed and 2 counties in New York where a ban of hydraulic fracturing is in place. Approximately 35 wells will be sampled in Pennsylvania and 15 wells in New York.	Tioga/Broome Co., in NY, Susquehanna, Wyoming, Bradford, Sullivan Co., in PA	Summer 2017

C. Flooding

Desired Result: To prevent loss of life and significantly reduce future damages from floods within the basin through an integrated system of structural and nonstructural flood damage reduction measures.



June 2006 flooding in Binghamton, New York.

Goals:

- a. Ensure continued operation, maintenance, and enhancement of the Susquehanna Flood Forecast and Warning System (SFFWS).
- b. Promote protective floodplain management practices.
- c. Improve community flood preparedness to ensure adequate and appropriate response by emergency managers before, during, and after a flood event.
- d. Assist the Commission's member jurisdictions, as appropriate, in reducing the introduction of man-made debris into the waters of the Susquehanna River Basin and, ultimately, the Chesapeake Bay.

Proposed Projects:

Agency	Department	Goal Addressed	Project Name	Project Description	Location	Timeframe
Susquehanna River Basin Commission	Planning and Operations	B	Chiques Flood Resiliency Project	Work with USACE and local stakeholders to develop hydrologic and hydraulic models to evaluate alternatives for enhancing flood resiliency in the Chiques Creek watershed.	Lancaster Co., PA	July 2017 - December 2018
Susquehanna River Basin Commission	Planning and Operations	B, C	Hazard Mitigation Grant Program Tri County Flood Warning System	Implement and maintain digital flood warning system that relies on integrated network of digital cameras, staff gages, and web dissemination tool to enhance flood warning at priority locations.	Huntingdon, Dauphin, Lancaster Co.'s, PA	July 2017 - June 2018
Susquehanna River Basin Commission	Planning and Operations	C	Wyoming Valley Flood Inundation Mapping Project	Support USACE Silver Jackets team to develop and disseminate updated flood inundation mapping for Susquehanna River at Wilkes-Barre, Bloomsburg, Danville, and Sunbury river forecast points.	Luzerne, Columbia, Montour, and Northumberland Co.'s, PA	July 2017 - December 2017
Susquehanna River Basin Commission	Planning and Operations	C	Silver Jackets Chemung River Flood Inundation Mapping Project	Support USACE Silver Jackets team to develop and disseminate updated flood inundation mapping for Chemung River at Chemung, Elmira, and Corning river forecast points.	Bradford and Chemung Co.'s, PA and Steuben Co., NY	Oct 2017 - September 2018

National Oceanic and Atmospheric Administration	National Weather Service	A	Pennsylvania IFLOWS Gage Network Assessment	Coordinate with PEMA State Meteorologist to develop a plan to address network issues and longer term gage maintenance solutions; http://water.weather.gov/afws/region.php?wfo=ctp	SRB	December 2018
National Oceanic and Atmospheric Administration	National Weather Service	A	Susquehanna Ice Monitoring Network	Manage the Susquehanna Ice Monitoring Network, a network of 80 ice observers serving data collection and display on the web.	SRB	June 2019
National Oceanic and Atmospheric Administration	National Weather Service	A, C	Hydrologic Ensemble Forecasts	Implement short and long range Hydrologic Ensemble Forecasts to compliment current daily 72-hour stage/flow deterministic forecasts at 59 locations available on AHPS (Advanced Hydrologic Prediction Services); http://water.weather.gov/ahps/region_forecast.php?rfc=marfc ; http://www.weather.gov/erh/mmefs	SRB	July 2018
National Oceanic and Atmospheric Administration	National Weather Service	A, C	Flash Flood Potential Index	Maintain Basin-wide Flash Flood Potential Index (merging terrain slope, soil states, forest density and land use/land cover data sets) providing visual reference tool to support flash flood operations in small Basin watersheds; Provide Basin-wide 4x4 km gridded flash flood guidance at 6-hour intervals; http://www.weather.gov/marfc/Flash_Flood_Headwater_Guidance	SRB	June 2019
National Oceanic and Atmospheric Administration	National Weather Service	B, C	Flood Inundation Mapping	Display graphical representation of flood inundation and water depth for water surface elevations on AHPS (Advanced Hydrologic Prediction Services); http://water.weather.gov/ahps/inundation.php	SRB	June 2019
New York State Department of Environmental Conservation	Division of Water	C	Flood Inundation Mapping	Through the Floodplain Management Section, continue to work closely with the Federal Emergency Management Agency (FEMA) and periodically meet with other agencies, such as USGS, regarding planning for improved flood delineation and depth maps.	New York Statewide	July 2017 - June 2019
U.S. Army Corps of Engineers	Planning Division	B & C	Windsor Borough, PA Flood Study	A federal interest determination to determine if flood risk management improvements can be achieved with federal participation.	Windsor, PA	2018
U.S. Army Corps of Engineers	Planning Division	B & C	Upper Susquehanna Comprehensive Flood Damage Reduction Feasibility Study	A feasibility study to characterize flood risk across the Upper Susquehanna River Basin, and to identify, evaluate, and compare flood risk management alternatives.	New York	Ongoing

U.S. Army Corps of Engineers	Planning Division	B & C	Athens Borough, PA Flood Study	A feasibility study to formulate flood risk management improvements through structural or non-structural alternatives.	Athens, PA	2018
U.S. Army Corps of Engineers	Planning Division	C	Pennsylvania Flood Damage Assessment Process Improvement Plan	Through the Silver Jackets, the team will bring together subject matter experts from local, state, and federal level to develop a Flood Damage Assessment Process Improvement Plan.	Pennsylvania	September 2017
U.S. Department of Agriculture, Forest Service	Planning Division	C	Floodplain Management Study for Greater Muncy Area	Floodplain management study for Greater Muncy Area in support of their Resilience Plan. First phase is to conduct data collection.	Muncy, PA	September 2017
U.S. Department of Agriculture, Natural Resources Conservation Service	Pennsylvania	C	Watershed Rehabilitation Program	Rehabilitation of existing flood control dams constructed under the PL83-566, Watershed Protection and Flood Prevention Act. Flood control dams currently enrolled in the program in PA include Mill Creek and Marsh Creek, both in Tioga County.	Pennsylvania	Ongoing

D. Ecosystems

Desired Result: To achieve healthy ecosystems that provide groundwater and surface water of sufficient quality and in adequate supply to support abundant and diverse populations of aquatic, riparian, and terrestrial organisms, as well as human use.



Staff acquiring length measurement of a brown trout.

Goals:

- a. Perform ecosystem monitoring and assessment to provide data needed for effective watershed management.
- b. Protect and restore biological resources throughout the basin and in each of the major subbasins.
- c. Restore populations of migratory fish throughout the Susquehanna River system.

Proposed Projects:

Agency	Department	Goal Addressed	Project Name	Project Description	Location	Timeframe
Susquehanna River Basin Commission	Monitoring and Protection	A	Ecological Flow Studies	Ongoing characterization of aquatic resources based on structural, functional, and biological similarity; development of biometric indicators of streamflow-related stress using macroinvertebrate taxa.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Planning and Operations	A	Low Flow Management Study	Work with USACE to evaluate reservoir operations, regulatory measures, and other alternatives for addressing ecosystem flow recommendations identified in The Nature Conservancy study report.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Planning and Operations	A, B	F.J. Sayers Environmental Improvements Study	Work with USACE to identify operational alternatives that provide downstream environmental flows and in-lake environmental benefits without impacting project authorized purposes.	Centre Co., PA	July 2017 - June 2018
Susquehanna River Basin Commission	Monitoring and Protection	G	Causal Analysis/Diagnostic Decision Information System (CADDIS).	Coordinate with PFBC, EPA, USGS, PADEP, Lycoming College, and Susquehanna University in the Causal Analysis/Diagnostic Decision Information System (CADDIS) group to obtain and evaluate data related to the health of the Susquehanna River and its tributaries.	SRB	July 2017 - June 2019

Susquehanna River Basin Commission	Monitoring and Protection	C	American Eel Research	Survey water quality, habitat, and biological community attributes in watersheds selected to receive eel stocking as well as un-stocked reference watersheds.	SRB	July 2017 - June 2019
Pennsylvania Fish and Boat Commission	Division of Environmental Services	C	SRAFRFC Programs	PFBC through its membership with Susquehanna River Anadromous Fish Restoration Cooperative (SRAFRFC) and in cooperation with SRBC and other state and federal agencies will continue with efforts to restore migratory fishes throughout the Susquehanna River Basin.	Pennsylvania - SRB	2018-19 and beyond
Pennsylvania Fish and Boat Commission	Division of Environmental Services	C	American Shad Restoration	Continue to stock hatchery marked shad fry annually, continue bio-monitoring studies of adult and juvenile shad and river herring to track restoration efforts; including otolith studies to determine origin of fish (wild vs. hatchery), and assist in rewriting the 2010 SRAFRFC's Migratory Fish Restoration Plan.	Pennsylvania - SRB	2018-19 and beyond
Pennsylvania Fish and Boat Commission	Division of Environmental Services	C	American Eel Restoration	PFBC, through its membership with SRAFRFC, will continue assisting USFWS with the transport and release of American eel elvers at predetermined stocking locations throughout the Susquehanna River Basin.	Pennsylvania - SRB	2018-19 and beyond
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	A	Population Monitoring - Brook Trout	Conduct annual brook trout assessments in ten tributaries to Sinnemahoning Creek to evaluate variation in brook trout populations, provide a description of reference conditions for other brook trout restoration projects, and provide sampling recommendations to the Pennsylvania Fish and Boat Commission.	Elk, Cameron, Potter, and Clinton Co.'s, PA	2018 to 2019
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	A	Basinwide Mussel Survey	Work with the Western Pennsylvania Conservancy and the Pennsylvania Fish and Boat Commission to develop a Basinwide mussel survey.	SRB	2018 to 2019
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	A	Experimental Eel Reintroduction	Survey fish assemblages and mussel populations in Buffalo Creek and Pine Creek to assess changes over a 10-year period that may be associated with recent American eel introductions.	Union & Tioga Counties, PA	2018 to 2019
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	A	Wild Fish Health Survey	Work with the Pennsylvania Fish and Boat Commission to conduct routine surveillance of fish of the Susquehanna River drainage through the USFWS National Wild Fish Health Survey and also conduct disease investigations during fish kill events.	Pennsylvania	2018 to 2019

U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	B	Conewago Creek and Hoffer Creek Restoration	Restore 1,000 feet of stream along Conewago Creek, Lancaster County, using muddills, log vanes, and root wads. Restore over 900 feet of creek in Hoffer Creek using natural stream designs and rock and log structures to benefit aquatic resources.	Lancaster and Dauphin Co.'s, PA	2018 to 2019
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	B	Cross Fork Creek Project	Continued funding for fish passage project - culvert replacement and streambank stabilization.	Potter Co., PA	2018

E. Chesapeake Bay

Desired Result: To manage the water resources of the Susquehanna River Basin to assist in restoring and maintaining the Chesapeake Bay so it meets or exceeds applicable water quality standards and supports healthy populations of living resources, including oysters, crabs, fish, waterfowl, shore birds, and underwater grasses.



Goals:

- a. Identify the minimum freshwater inflows needed from the Susquehanna River to assist in restoring and maintaining the ecological health of the Chesapeake Bay, while also identifying opportunities for enhancement.
- b. Develop and implement plans to address the flow requirements in Goal a. above.
- c. Support the Chesapeake Bay restoration effort, including sediment and nutrient reduction strategies developed by each of the Commission's member states.

Concord Point Lighthouse in Havre de Grace, Maryland

Proposed Projects:

Agency	Department	Goal Addressed	Project Name	Project Description	Location	Timeframe
Susquehanna River Basin Commission	Monitoring and Protection	C	Phase III Watershed Implementation Plan Support	Support PADEP Chesapeake Bay Program with analyses and development of Phase III WIPs by evaluating stakeholder engagement strategies at multiple scales; accounting for changed conditions due to climate, Conowingo Pond, and population growth.	PA Portions of Chesapeake Bay Watershed	July 2017 - June 2018
Susquehanna River Basin Commission	Monitoring and Protection	C	Sediment and Nutrient Assessment Program	Measure and assess actual nutrient and sediment concentration and load reductions based on tributary strategy basins. Purpose is to improve calibration and verification of watershed models and help assess factors affecting nutrient and sediment distributions and trends.	SRB	July 2017 - June 2018
Susquehanna River Basin Commission	Planning and Operations	A, B	Conowingo FERC Relicensing	Work with partner agencies to identify appropriate environmental flow, fish passage, and sediment management requirements as part of FERC relicensing and Water Quality Certificate processes.	Cecil & Harford Co.'s, MD	July 2017 - June 2018
National Oceanic and Atmospheric Administration	National Weather Service	C	Chesapeake Bay Operational Forecast System	NOAA will fund a 12-week summer internship project to continue evaluating the impacts of improved freshwater inflow modeling on the Chesapeake Bay Operational Forecast System (CBOFS) salinity simulations.	Chesapeake Bay Watershed	August 2017

National Oceanic and Atmospheric Administration	National Weather Service	C	Fertilizer Runoff Project	Collaborate with USDA on Fertilizer Runoff Project providing real-time Snow-17 data feeds and historical simulations from distributed hydrologic model for several variables in selected subbasins. Includes sample soil moisture products as potential correlations between interflow and times when fertilizer applications may be prone to more wash-off.	Chesapeake Bay Watershed	June 2019
New York State Department of Environmental Conservation	Division of Water	C	Chesapeake Bay Total Maximum Daily Load	Manage and reduce sediment in New York portion of Basin. Final Chesapeake Bay TMDL specifically addresses sediment as pollutant of concern. New York's Final Phase II Watershed Implementation Plan identifies practices and programs to be implemented to further reduce nitrogen, phosphorus, and sediment entering Susquehanna and Chemung Rivers in New York.	New York portion of SRB	July 2017 - June 2019
New York State Department of Environmental Conservation	Division of Water	C	Permit Modifications	Finalize permit modifications for the 28 Chesapeake Bay significant wastewater treatment plants. These modifications will require pollutant load reductions that will improve both local water quality and aid in Bay restoration efforts.	New York portion of SRB	July 2017 - June 2019
Pennsylvania Department of Conservation & Natural Resources	Agency-wide	C	Riparian Forest Buffer (RFB) program	Current plans to increase buffers - thus reducing nutrients and sediment - include developing a flexible statewide RFB program to increase participation throughout the Bay watershed and the state.	Pennsylvania	Ongoing (Meet Bay goal by 2025)
U.S. Army Corps of Engineers	Planning Division	C	Chesapeake Bay Comprehensive Water Resources and Restoration Plan	A watershed assessment that will result in a single, integrated restoration plan to guide implementation of actions that protect, restore, and preserve the Chesapeake Bay.	Pennsylvania	July 2018
U.S. Geological Survey	Pennsylvania Water Science Center	C	Evaluating Loads and Trends in Chesapeake Bay	Continue project to estimate trends in nutrient and sediment concentrations and to quantify nutrient and sediment loads at River Input Monitoring sites in the Bay Watershed.	SRB	Ongoing
U.S. Geological Survey	Pennsylvania Water Science Center	C	Evaluation of Legacy Sediments	Evaluate legacy sediment removal and the transport of nutrients and sediment in Big Spring watershed.	Cumberland Co., PA	Ongoing
U.S. Geological Survey	Pennsylvania Water Science Center	C	Showcase Watersheds to evaluate Best-Management Practices	Continuing long-term data collection in the Conewago Creek watershed which is part of a larger Bay effort to monitor the effects of agricultural best management practices on water quality in a small scale basin.	Lancaster Co., PA	Ongoing

U.S. Geological Survey	Pennsylvania Water Science Center	C	Storm Sampling on mainstem Susquehanna River	The goal of the project is to conduct coordinated storm sampling of suspended-sediment concentrations, particle-size distributions, and associated nutrients in the lower Susquehanna Reservoir system in order to provide the data necessary to characterize changes across the reservoir system. Sampling will be conducted during medium- to high-flow events (80,000 to 400,000 cubic feet per second (cfs) at Marietta, PA and Holtwood, PA.	Lower mainstem Susquehanna River	Event Driven
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F. Coordination, Cooperation, and Public Information

Desired Result: To maximize available human resources and achieve common and complementary management objectives by the Commission, its member jurisdictions and others; to promote the planning and management of the basin’s water resources in the most efficient manner possible; to inform the public on the Commission’s water management responsibilities; and to enhance the public’s access to Commission information and in commenting on Commission activities.



Goals:

- a. Continue use of interagency committees and ad hoc committee mechanisms to gather input from member jurisdictions and encourage consistent interstate water management policies and actions.
- b. Execute, review, and update memoranda of understanding (MOUs) with member jurisdictions to coordinate regulatory or other programs that overlap.
- c. Support uniform water management policies and standards in areas such as water quality, stream classification, flood plain management, instream flow protection, stream passby requirements, and aquifer protection.
- d. Coordinate major interagency efforts such as flood forecasting and warning, drought emergency management, water conservation, and hydro power license renewal.
- e. Inform legislators and executive branch policy makers on important issues related to the basin’s water resources.
- f. Inform the public on matters affecting the basin’s water resources and utilize current tools, methods, and strategies to effectively reach the public.
- g. Enhance public access to Commission information and encourage public involvement in commenting on Commission activities.

Staff conducting press release at Remote Water Quality Monitoring Network station.

Proposed Projects:

Agency	Department	Goal Addressed	Project Name	Project Description	Location	Timeframe
Susquehanna River Basin Commission	Agency-wide	A	Water Resources Management Advisory Committee	Convene Water Resource Management Advisory Committee regarding development of policies, plans, and procedures for addressing priority water management issues, including future rulemaking and implementation guidance.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Planning and Operations	A	Drought Coordinating Committee	Convene Drought Coordinating Committee during onset of drought conditions and in future development of updated Drought Management Plan. See: http://www.srb.net/hydrologic/drought_center.htm	SRB	July 2017 - June 2019

Susquehanna River Basin Commission	Project Review	B	Maryland Memorandum of Understanding	Develop an MOU or other administrative agreement with Maryland Department of the Environment to improve coordination in project review, compliance, and data sharing.	Maryland	July 2017 - June 2018
Susquehanna River Basin Commission	Project Review, Legal	C	Alternatives Analysis Guidance	Develop guidance for the formal evaluation of alternatives pursuant to 18 C.F.R. § 806.14(b), including information about when an alternative analysis is required or may be required, guidelines for conducting the analysis, and insight on the process and criteria used to evaluate an alternatives.	SRB	July 2017 - June 2018
Susquehanna River Basin Commission	Monitoring and Protection	D	Water Quality Advisory Committee	Convene Water Quality Advisory Committee regarding water quality issues with states, local authorities and citizen groups, and by participating in Chesapeake Bay Program activities and meetings of the Association of Clean Water Administrators.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Information Technology, Public Information	G	Commission Website Update	Enhance the Commission's publically available electronic datasets, regulatory program information, and water quality data via a new website, as well as use social media outlets such as the RSS Feed, Twitter, and YouTube.	SRB	July 2017 - June 2019
Susquehanna River Basin Commission	Project Review	A, B, C	Public Water Supply Assistance Program	Offer workshops for public water suppliers and consultants on topics as follows: improved water resource management approaches, funding, asset management, Commission/DEP application process, source water protection, etc.	SRB	September 2017 - June 2019
National Oceanic and Atmospheric Administration	National Weather Service	D	Impact-based Decision Support Services	Coordinate and conduct flood-preparedness impact-based decision support briefings with the Federal Emergency Management Agency, state, county, and local emergency managers, and cover pre-, during, and post-flood operations.	SRB	June 2019
New York State Department of Environmental Conservation	Division of Water	D	Water Management Advisory Committee	Academics, government, environmental groups, and business and 113 local officials meet twice each year to discuss priority issues, and the members provide the Division with feedback.	New York Statewide	July 2017 - June 2019
Pennsylvania Fish and Boat Commission	Division of Environmental Services	F	PFBC Save Our Susquehanna Program	Program promotes awareness of fish and river health. Donations are matched by PFBC and are used toward projects benefitting water quality.	SRB	July 2017 - June 2019
U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office.	C	Regional Water Supply and Demand Analysis	Promote northeast regional water supply and demand analyses and alternatives to address needs and manage growth.	SRB	July 2017 - June 2019

U.S. Fish & Wildlife Service	Mid-Atlantic Fish & Wildlife Conservation Office	G	Chesapeake Bay Program Fish Passage Workgroup	Work with NOAA, Pennsylvania Fish and Boat Commission, and American Rivers to prioritize dam removal projects by updating the Chesapeake Bay Fish Passage Prioritization Tool: http://maps.tnc.org/EROF_CheseapeakeFPP/	SRB	2018 to 2019
U.S. Nuclear Regulatory Commission	Office of Nuclear Material Safety and Safeguards	A	Nuclear Project Relicensing	Peach Bottom plans to submit an application for a renewed operating license in 2018. All three operating nuclear power plants located within the SRB have no planned licensing activities through July 1, 2017 to June 30, 2019, that may affect surface water or groundwater.	Lancaster Co., PA	2018

The following federal and state agencies provided input regarding priority projects proposed between July 1, 2017 and June 30, 2019 that were used to develop the Commission's Water Resources Program for fiscal years 2018-2019.

Federal

- United States Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service
- United States Department of the Interior, National Park Service
- United States Army, United States Corps of Engineers
- United States Department of the Interior, Fish and Wildlife Service
- United States Department of Energy, Nuclear Regulatory Commission
- United States Department of Agriculture, Forest Service, Northeastern Area State and Private Forestry
- United States Department of Agriculture, Natural Resources Conservation Service
- United States Department of the Interior, United States Geologic Survey, Pennsylvania Water Science Center

New York

- New York State Department of Environmental Conservation, Division of Lands and Forests
- New York State Department of Environmental Conservation, Division of Mineral Resources
- New York State Department of Environmental Conservation, Division of Water

Pennsylvania

- Pennsylvania Department of Environmental Protection, Bureau of Abandoned Mine Reclamation
- Pennsylvania Department of Environmental Protection, Bureau of Mining Programs
- Pennsylvania Department of Environmental Protection, Point & Non-Point Source Management
- Pennsylvania Department of Environmental Protection, Bureau of Safe Drinking Water
- Pennsylvania Department of Environmental Protection, Division of Water Quality Standards
- Pennsylvania Department of Conservation & Natural Resources, Bureau of Forestry
- Pennsylvania Department of Conservation & Natural Resources, Bureau of Recreation and Conservation
- Pennsylvania Department of Conservation & Natural Resources, Bureau of State Parks
- Pennsylvania Department of Conservation & Natural Resources, Bureau of Topographic and Geologic Survey
- Pennsylvania Fish and Boat Commission

Maryland

- Maryland Department of the Environment, Mining Program
- Maryland Department of the Environment, Water Supply Program
- Maryland Department of the Environment, Science Services Administration