

Water Resources Program

(Fiscal Years 2019 - 2021; June 2020 Update)

The Water Resources Program presents the priority water resources needs of the basin over the next three fiscal years and the key projects proposed to satisfy those needs, per the Susquehanna River Basin Compact requirements and based upon the Comprehensive Plan.

Comprehensive Plan - Priority Management Areas

A. Sustainable Water Development

B. Water Quality

C. Flooding

D. Ecosystems

E. Chesapeake Bay

F. Coordination and Cooperation

Water Resources Program - Priority Water Resources Needs

	Enhance Assessment of Water Use and Availability	Update Regulatory Processes	Develop Additional Consumptive Use Mitigation	Remediate Abandoned Mine Drainage Impacts	Improve Community Flood Preparedness	Restore Impaired Waterways and the Chesapeake Bay
Lead	Jeremy Hoffman jmhoffman@srbc.net	Todd Eaby teaby@srbc.net	John Balay jbalay@srbc.net	Jamie Shallenberger jshallenberger@srbc.net	Ben Pratt bpratt@srbc.net	Andy Gavin agavin@srbc.net
Rationale	<i>A comprehensive accounting of water use and availability in the basin facilitates sustainable water resources planning.</i>	<i>Efficient and focused regulatory oversight ensures effective and appropriate water resources management.</i>	<i>Expansion of consumptive use mitigation measures will help offset reductions in water availability during droughts.</i>	<i>Abandoned mine drainage (AMD) is a major cause of basin stream impairment and targeted restoration projects produce tangible results.</i>	<i>The persistent challenge of flooding in basin communities requires appropriate mitigation planning to minimize ongoing risks to life and property.</i>	<i>Chesapeake Bay states must have strategies in place by 2025 to meet pollutant reduction goals necessary to restore Bay water quality.</i>
Key SRBC Projects	<ul style="list-style-type: none"> Improve State Water Use Data Sharing Protocols (Dec. 2020) Complete Grandfathered Projects Registration (Jun. 2022) Update Basinwide Water Use and Availability Analysis (Dec. 2022) 	<ul style="list-style-type: none"> Explore Updates to Groundwater Regulations and Policies (Jun. 2021) Update Administrative Agreement with PA (Dec. 2020) Expand Assistance to Drinking Water Suppliers (Jun. 2021) Develop General Permits (Jun. 2021) 	<ul style="list-style-type: none"> Implement Billmeyer Quarry Mitigation Project (Dec. 2020) Undertake Tioga-Hammond Lakes Feasibility Study (Mar. 2021) Initiate Alternative Consumptive Use Mitigation Pilot (Sept. 2020) 	<ul style="list-style-type: none"> Complete Woodley Draft Abandoned Mine Lands Reclamation Project (Oct. 2020) Develop Construction Plans for Select Priority AML/AMD Remediation Projects (Jun. 2021) Complete Tioga Active Treatment Plant Design (Jun. 2021) 	<ul style="list-style-type: none"> Develop Chemung River Flood Inundation Mapping (Sept. 2020) Pilot Real-time Flood Inundation Mapping Using National Water Model (Dec. 2020) Update/Enhance Susquehanna River Flood Warning and Response System (Mar. 2021) 	<ul style="list-style-type: none"> Assist PADEP/stakeholders with development of Phase III Watershed Implementation Plans (Dec. 2020) Assist EPA and stakeholders with the Conowingo WIP (Jun. 2021) Support Chiques Creek Alternative Restoration Plan (Jun. 2021) Support Conowingo FERC Relicensing/MD Water Quality Certification (Jun. 2021)
Key Partner Projects	<ul style="list-style-type: none"> Update PA State Water Plan (PADEP) Update PA StreamStats (USGS) Archive Reported Water Use Data (NYSDEC, PADEP, MDE) 	<ul style="list-style-type: none"> Adopt Administrative Agreement with SRBC (PADEP) Draft MOU with SRBC (MDE) Convene Annual Technical Coordination Meetings with agency staff (PA, NY, MD) Collaborate with Training for Public Water Suppliers (PA, NY) 	<ul style="list-style-type: none"> Revise Conowingo Dam Conservation Release (MDE) Conduct Environmental Flow Study for PADCNR lakes (PADCNR) Conduct Environmental Flows Assessment for USACE Reservoirs (USACE) 	<ul style="list-style-type: none"> Construct treatments plants in the Tioga and Catawissa watersheds (PADEP BAMR) Enhance AMDTreat software (USGS, OSMRE) 	<ul style="list-style-type: none"> Complete Frankstown Branch Juniata River Flood Study (USACE) Update PA peak flow regression equations (USGS, FEMA) Complete Dauphin County Flood Study (USACE) 	<ul style="list-style-type: none"> Implement Priority WIP BMPs (NYSDEC, PADEP, MDE) Manage Conowingo WIP Allocation (MDE, PADEP) Implement Projects within Chesapeake Bay Comprehensive Plan (USACE)
Measures	<ul style="list-style-type: none"> States sharing water use data (#) Grandfathered projects registered and reporting (#) Watersheds with updated water use and availability estimates (#) 	<ul style="list-style-type: none"> Revised regulations/policies (#) General permits issued (#) Agencies with MOUs (#) Public suppliers assisted (#) 	<ul style="list-style-type: none"> Consumptive use mitigation projects (#) Consumptive use offsets (mgd) 	<ul style="list-style-type: none"> AMD treated (mgd) Restored or delisted streams (miles) 	<ul style="list-style-type: none"> Flood inundation mapping (miles) River forecast points with flood inundation mapping (#) 	<ul style="list-style-type: none"> Phase III WIPs completed (#) BMP projects implemented (#) Pollutant load reductions (lbs)

Water Resources Program (Fiscal Years 2019-2021)

Priority Water Resources Need: Enhance Assessment of Water Use and Availability

Key Project: Improve State Water Use Data Sharing Protocols

Project Location: Basinwide

Project Lead: Brydon Lidle (SRBC)



Project Description: SRBC and member state agencies maintain databases that archive approved (permitted) and reported (actual) water use data for regulated and/or registered projects. Due to differences in regulatory standards and database platforms, each water use dataset reflects unique data fields, timeframes, and units. Currently, this data is shared between agencies via a largely manual process in which database queries are exported to spreadsheets and furnished via email. Pertinent data is then extracted and used to supplement in-house water use records to comprehensively assess water use across the Susquehanna River Basin.

This project aims to create a data sharing interface that can be used by SRBC and member state agencies to share, query, and download water use data for a variety of purposes. Doing so will help leverage partner resources, avoid duplication of efforts, and reduce regulatory burden.

Challenges: Merging information from existing non-compatible databases
 Rectifying inconsistencies in water use data across three states

Key Milestones:	Identify Essential Data Fields	July 2019
	Complete Programming of Data Sharing Interface	December 2019
	Prepare Data Sharing Protocol Documentation	July 2020
	Implement Data Sharing Interface	December 2020

Water Resources Program

(Fiscal Years 2019 - 2020)

Priority Water Resources Need: Enhance Assessment of Water Use and Availability

Key Project: Complete Grandfathered Projects Registration

Project Location: Basinwide

Project Lead: Jeremy Hoffman (SRBC)



Project Description:

There are more than 700 older, unpermitted (Grandfathered) facilities with a total estimated water use of nearly one billion gallons per day located in the basin. This volume of water use is roughly equal to the total amount currently accounted for, and managed by, the Commission.

This program is designed to close this significant knowledge gap of existing water use and demands to ensure the Commission’s ability to effectively manage the water resources of the basin. Grandfathered projects will register their maximum 30-day average water uses with the Commission and report use data quarterly.

Challenges: Rectifying variability in data quality and accuracy from project to project
 Determining number of grandfathered projects needing registration

Key Milestones:	Begin registration process	January 2018
	Close registration process	December 2019
	Complete confirmation of all submitted grandfathered claims	June 2022

Water Resources Program (Fiscal Year 2019)

Priority Water Resources Need: Update Regulatory Processes

Key Project: Explore Updates to Groundwater Regulations and Policies

Project Location: Basinwide

Project Lead: Todd Eaby (SRBC)



Project Description: Current regulations and policies provide little significant differentiation of the requirements for new versus renewing groundwater withdrawal projects. Some projects can provide significant historic monitoring and aquifer test data that can be used to evaluate the project without requiring additional aquifer testing. Also, not all groundwater withdrawal projects (new and renewing) present the same level of risk with respect to sustainability and the potential for adverse impact or interference with other water users. Risk is dependent on factors such as: size of withdrawal; location; sensitivity of nearby resources; cumulative water use; and proximity to other users. The Commission will

explore possible updates to groundwater regulations and policies to consider appropriate review standards.

Challenges: Formulating a basinwide approach given the range of hydrogeologic settings and water use

Key Milestones:	Commissioner and Stakeholder Outreach	December 2018
	Develop Recommendations for Regulatory/Policy Updates	December 2020
	Implement Adopted Recommendations	June 2021

Water Resources Program (Fiscal Years 2019 - 2021)

Priority Water Resources Need: Update Regulatory Processes

Key Project: Update Administrative Agreement with Pennsylvania

Project Location: Pennsylvania portion of the basin

Project Lead: Andrew Gavin (SRBC)



Project Description: The Commission greatly values the working relationships it has developed with its member jurisdictions, and as such is working to update its nearly 20-year old Memorandum of Understanding with the Pennsylvania Department of Environmental Protection (PADEP), which will take the form of a new Administrative Agreement to meet contemporary standards for coordinating between the two agencies.

Coordination for development of a new Administrative Agreement with PADEP began in 2018. In addition to providing an outline for coordination, the administrative agreement will dictate the development and maintenance of policies and procedures, and other related documents, to define each agency's role and the coordination that needs to occur for each specific program area.

Commission staff plan to present a final or near-final draft to SRBC's Commissioners at their business meeting scheduled in September 2019. Following feedback from the Commissioners, SRBC will work with DEP to finalize the agreement and then present it to the SRBC Commissioners and DEP administration for final adoption and implementation.

Challenges: Balancing regulatory roles with respect to different, yet complementary, water resource management objectives

Key Milestones:	Complete program meetings with PADEP	June 2019
	Complete draft agreement	September 2019
	Adopt agreement	December 2020

Water Resources Program (Fiscal Years 2019 - 2021)

Priority Water Resources Need: Update Regulatory Processes

Key Project: Expand Assistance to Drinking Water Suppliers

Project Location: Basinwide

Project Lead: Mike Appleby (SRBC)



Project Description: The Commission recognizes the challenges facing small drinking water systems in keeping up to date and meeting ever-changing regulatory requirements. Through a partnership with the Pennsylvania Department of Environmental Protection (PADEP), the Commission initiated the Public Water Supply Assistance Program (PWSAP) in 2012 to assist small municipal systems in meeting the Commission’s regulatory requirements. Since then, the Commission has provided services including: targeted system-specific assistance; Pre-Drill Well Site Review (PDWSR) assistance, general outreach and

education on regulatory requirements; training on the preparation and implementation of aquifer testing plans and groundwater withdrawal applications; application review fee relief and educational programs on topics of interest to the public water supply industry. Recently, the PWSAP has been expanded to offer training opportunities developed by outside organizations that regulate or provide services to the public water supply community, technical assistance to resolve docket conditions involving post-approval monitoring, and training directed towards public water supply system managers.

The Commission will continue to expand the PWSAP with a focus on the development of additional training opportunities, PDWSR assistance, and post-approval condition resolution. Additionally, the Commission will continue to provide application review fee relief as funding allows.

Challenges: Securing additional funding from partners

Key Milestones:	Secure Additional Grant Funding from PADEP	August 2018
	Conduct Biannual Management Training Workshops	Through June 2021
	Conduct Annual Consultant Training Sessions	Through June 2021
	Provide Targeted System Assistance	Through June 2021

Water Resources Program (Fiscal Years 2019 - 2021)

Priority Water Resources Need: Update Regulatory Processes

Key Project: Develop General Permits

Project Location: Basinwide

Project Lead: Todd Eaby (SRBC)



Project Description: The Commission added the process for development and issuance of general permits in regulation effective December 11, 2015. The Commission recognizes that there are categories of projects that: involve similar types of operations or activities; require the same limitations or operations; require the same or similar monitoring and reporting; and will result in minimal adverse impacts. For those identified project categories, development of general permits will eliminate the need for

projects to apply for individual permits and will reduce the level of effort for both the Commission and the project sponsors. Development of general permits will increase efficiency, while maintaining an appropriate level of regulatory oversight and management of the resources for these types of projects. The Commission has been compiling a list of project categories that could be managed with general permits. Development of the first general permit is under way with several others to follow.

Challenges: Characterizing the project categories and establishing appropriate management controls for each individual category

Key Milestones:	Publish first draft general permit for public comment	March 2019
	Issuance of first general permit	June 2019
	Development of additional general permits	Through June 2021
	Publication of additional draft general permits	Through June 2021
	Issuance of additional general permits	Through June 2021

Water Resources Program

(Fiscal Years 2019 - 2021)

Priority Water Resources Need: Develop Additional Consumptive Use Mitigation

Key Project: Implement Billmeyer Quarry Mitigation Project

Project Location: Lancaster County, Pennsylvania

Project Lead: Pierre MaCoy (SRBC)



Project Description: SRBC and Lancaster County Solid Waste Management Authority (LCSWMA) staff has partnered to assess the feasibility of using the flooded Billmeyer Quarry as a source of consumptive use mitigation. This phase of the project involves finalizing a report that documents the findings of a quarry pumping test completed in late 2017. An operations plan will also be developed outlining how the stored water will be used to provide low flow augmentation during drought conditions. Lastly, a water supply agreement between SRBC and LCSWMA will be drafted specifying the terms and conditions for utilizing water storage in Billmeyer Quarry for consumptive use mitigation. SRBC approved the project and water supply agreement in December 2018. The approval calls for a project operations plan to be

finalized by June 2019. Afterwards, project design, permitting, and construction of pumping and discharge infrastructure needs to be completed. Future work may entail seeking permits for using the Susquehanna River as a source for refilling the quarry during non-low flow periods.

Challenges:

- Eradicating of invasive quagga mussel population
- Managing effects of a rock barrier separating quarry into two basins
- Enhancing refill rate for the quarry after pumping

Key Milestones:	Finalize Hydrogeologic Characterization Report	July 2018
	Develop Consumptive Use Mitigation Operations Plan	September 2018
	Draft SRBC-LCSWMA Water Supply Agreement	December 2018
	Execute Final Water Supply Agreement	March 2019
	Finalize Consumptive Use Mitigation Operations Plan	July 2019
	Design, Permit, and Construct Project Infrastructure	December 2020

Water Resources Program

(Fiscal Years 2019 - 2021)

Priority Water Resources Need: Develop Additional Consumptive Use Mitigation

Key Project: Undertake Tioga-Hammond Lakes Feasibility Study

Project Location: Tioga County, Pennsylvania

Project Lead: John Balay (SRBC)



Project Description: Tioga-Hammond Lakes is a United States Army Corps of Engineers (USACE) project providing flood damage reduction, water quality control, and recreation benefits. SRBC is interested in partnering with USACE on a study to determine if reservoir operations can be modified to provide low flow augmentation during droughts. Since project construction in 1978, abandoned mine drainage impacts in the watershed have been reduced significantly as a result of focused remediation efforts. Improved mine drainage conditions may lessen the need for water quality driven project operations and present opportunities for increased low flow management benefits.

Challenges: Identifying appropriate study authority and securing federal funding
 Developing streamlined scope of work, schedule, and cost estimate.
 Avoiding impacts to flood control, water quality, and recreation
 Public opposition to study and changes to current project operations

Key Milestones:	Identify Study Authority	September 2018
	Issue Study Application Letter	December 2018
	Develop Project Management Plan	March 2020
	Execute Cost Sharing Agreement	December 2020
	Initiate Feasibility Study	March 2021

Water Resources Program (Fiscal Years 2019 – 2021)

Priority Water Resources Need: Develop Additional Consumptive Use Mitigation

Key Project: Initiate Alternative Consumptive Use Mitigation Pilot

Project Location: Lower Susquehanna Subbasin, Pennsylvania

Project Lead: John Balay (SRBC)



Project Description: The Commission strives to encourage and undertake consumptive use mitigation projects through administration of its regulatory program and its own activities funded by consumptive use mitigation fee payments. This includes pursuit of traditional water storage and low flow augmentation projects, as well as alternative methods including water conservation and reuse, groundwater recharge, and water quality improvements. This pilot effort aims to identify a partnership opportunity to implement an alternative consumptive use mitigation project in a priority watershed within the Lower Susquehanna Subbasin. The project will attempt to demonstrate how demand modification or environmental/water quality alternatives can be employed to meet the Commission’s consumptive use mitigation objectives.

Challenges:

- Identifying project partner in priority watershed
- Identifying suitable pilot project
- Project design, permitting, and construction
- Demonstrating offset reductions in water availability during droughts

Key Milestones:	Identify Priority Watersheds	September 2019
	Contact Potential Partners	December 2019
	Scope Pilot Project	June 2020
	Initiate Pilot Project	September 2020

Water Resources Program (Fiscal Years 2019 - 2020)

Priority Water Resources Need: Address Legacy Coal Mine Impacts

Key Project: Complete Woodley Draft Abandoned Mine Lands (AML) Reclamation Project

Project Locations: Bituminous Coal Field Region, Clinton County, Pennsylvania

Project Lead: Jamie Shallenberger (SRBC)



Project Description: Prior to adoption of the Surface Mining Control and Reclamation Act in the mid-1970s, coal mining practices throughout Pennsylvania commonly left landscapes physically altered in ways that were potential human health hazards and that continue to compromise the integrity of forests and watersheds. Numerous watersheds in the West Branch Susquehanna River region remain afflicted by coal mining’s legacy. Drury Run is a typical example in that it contains a blend of stream reaches impaired by AMD, others impacted by AML, and some with viable and even thriving wild trout populations. In 2017, SRBC and partners built a passive AMD

treatment facility in the watershed. Woodley Draft, a subwatershed, is impacted by diffuse flow through coal-mined barrens. SRBC and partners propose to re-grade a 60⁺-acre setting; neutralize acidic soils and increase organic matter content using residue from paper processing; and, plant the restored area with native forest species including a blight-resistant stand of American chestnut trees.

Challenges: Fluctuations in market price of pulp-quality timber, the availability of soil amendment material, and transportation costs to acquire soil amendments.

Key Milestones:	Coordinate existing timber removal and soil amendment source	May 2018
	Implement restoration plan	October 2018
	Complete restoration work	October 2020

Water Resources Program (Fiscal Years 2019 - 2020)

Priority Water Resources Need: Address Legacy Coal Mine Impacts

Key Project: Develop construction plans for select AML/AMD remediation projects

Project Location: Pennsylvania’s bituminous and anthracite coal fields

Project Lead: Tom Clark (SRBC)



Project Description: Dollar-for-dollar, the remediation of legacy coal mining impacts has consistently demonstrated tangible and positive investments in terms of natural resources service and function uplift. Over the last several years, tightening federal and state budgets have given funding priority to “shovel-ready” abandoned mine land and abandoned mine drainage (AML and AMD) projects. One outcome of recent funding priority focus is difficulty obtaining support for the multi-year, upfront process of investigation, feasibility study, design, and permitting work needed to implement such projects. The Commission will support, from its Sustainable Water Resources Fund, a suite of “front-end” activities to ensure a steady progression of “shovel-ready” AML/AMD projects are available within the Basin.

Candidate settings include: Wildwood, Loop Run, Hartshorn Run, Mahantango Creek, Hans Yost Creek, and several subwatersheds of Anderson Creek and Nescopeck Creek.

Challenges: Legacy coal mining impacts profoundly affect the natural resource integrity across a broad geographic extent of the Susquehanna River Basin; however, a diverse and wide array of partnership possibilities are available to foster collaborations among diverse stakeholders.

Key Milestones:	Finalize construction package for Wildwood AMD project	Jun 2019
	Compile data and develop concept alternatives for Loop, Hartshorn, and Hans Yost creeks	Jun 2019
	Collect data for Dillinger and Black Creek	Oct 2019
	Replant Woodley/Kitko projects; Finalize design for Bilger Run	Jun 2021

Water Resources Program (Fiscal Year 2019 - 2020)

Priority Water Resources Need: Address Legacy Coal Mine Impacts

Key Project: Complete Tioga Active Treatment Plant Design

Project Location: Tioga County, Pennsylvania

Project Lead: Tom Clark (SRBC)



Project Description: SRBC, in partnership with the Pennsylvania Department of Environmental Protection Bureau of Abandoned Mine Reclamation (BAMR) will complete design work for the construction of an active treatment plant to address the most critical pollutant discharges remaining in the Tioga River Watershed from legacy coal mining. Treatment of these last significant discharges in the watershed is expected to restore the main stem of the Tioga river and produce recreation, environmental and economic benefits.

Challenges: Determining optimal discharge capture, conveyance and control process

Key Milestones:	Complete background work with BAMR	August 2020
	Complete initial plant design work	June 2021

<https://www.srbc.net/our-work/programs/planning-operations/water-resources-program.html>

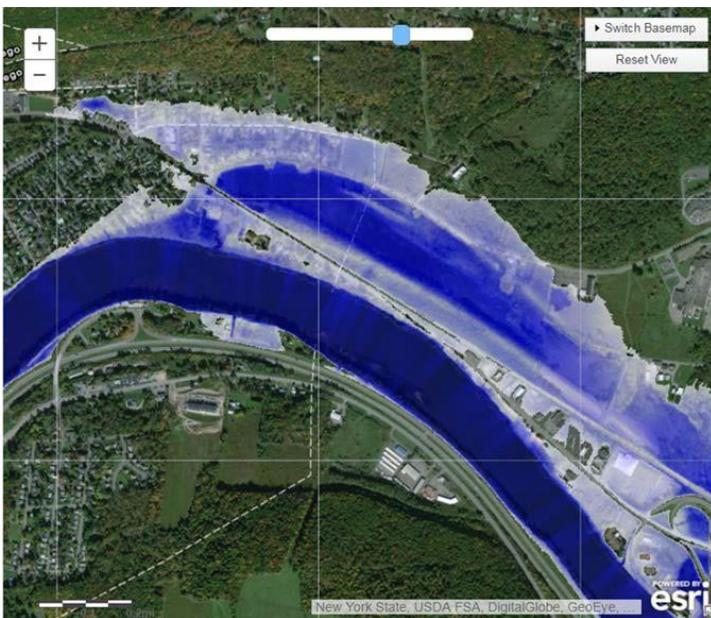
Water Resources Program (Fiscal Years 2019 - 2020)

Priority Water Resources Need: Improve Community Flood Preparedness

Key Project: Develop Chemung River Flood Inundation Mapping

Project Location: Chemung and Steuben County, New York

Project Lead: Ben Pratt (SRBC)



Project Description: The southern tier of New York has experienced significant flooding in recent years, most notably in 2006 and 2011. The New York Silver Jackets team will be developing a flood inundation mapping tool for the Chemung River watershed, from the Susquehanna River confluence in Athens, Pennsylvania upstream to Corning, New York, including 40 miles of the Chemung River. The maps will show an expected area and depth of flooding based on observed and forecasted river stages for the Chemung River at Chemung, Elmira, and Corning stream gages. The maps will be available on the National Oceanic Atmospheric Administration Advanced Hydrologic Prediction System (AHPS) website and serve as a valuable flood preparedness tool for emergency managers and the public. SRBC, in collaboration with agency partners,

will provide technical assistance on model development, report preparation, and public outreach.

Challenges:

- Ensuring continuity of flood mapping between multiple river forecast points
- Communicating flood risk in levee protected areas
- Communicating flood risk below flood control reservoirs
- Convincing stakeholders to use mapping for flood preparedness

Key Milestones:	Complete Hydraulic Modeling	September 2018
	Develop Depth Grids and Inundation Layers	December 2018
	Deploy Maps on AHPS Website	March 2020
	Complete Project Outreach	September 2020

Water Resources Program

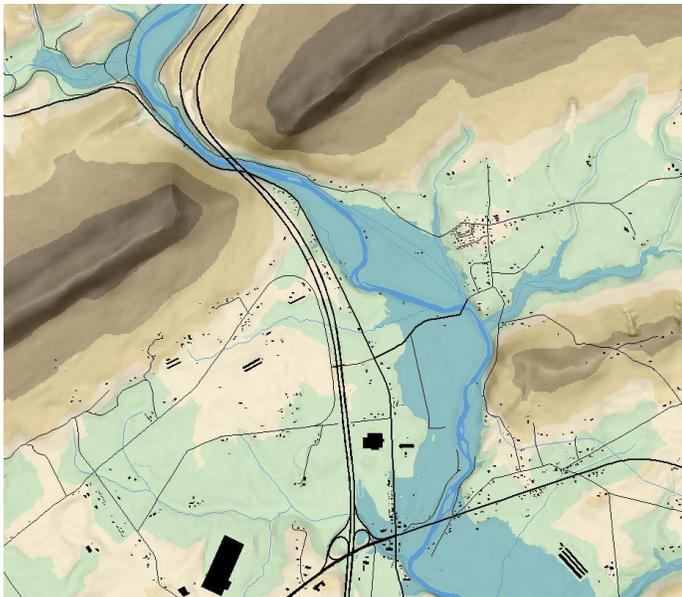
(Fiscal Years 2019 - 2021)

Priority Water Resources Need: Improve Community Flood Preparedness

Key Project: Pilot Real-time Flood Inundation Mapping Using National Water Model

Project Location: Location TBD, targeting West Branch Susquehanna Subbasin

Project Lead: Ben Pratt (SRBC)



Project Description: Building on the long history of developing static inundation map libraries for National Oceanic and Atmospheric Administration’s (NOAA) National Weather Service forecast points across the basin, this project will seek to utilize recently developed Geographic Information System methodologies in concert with output from NOAA’s National Water Model to produce “on the fly” mapping readily disseminated to emergency managers and the general public in near real-time. This product differs from a traditional static inundation map library in that the map product does not require a NWS Forecast point to provide a frame of reference and will display inundation based on forecast discharge related to a specific rainfall forecast. Additionally the map product is adaptable to changing forecasts over time.

Challenges: Providing accurate representation of expected flooding
 Model calibration and on the ground verification of model results
 Processing forecast data to produce mapping in real-time

Key Milestones:	Mapping SOW/Stakeholder Engagement	December 2019
	Conditioned Digital Elevation Model	June 2020
	Map Prototype	December 2020

Water Resources Program (Fiscal Years 2019 - 2021)

Priority Water Resources Need: Improve Community Flood Preparedness

- Key Project:** Update/Enhance Susquehanna River Flood Warning and Response System
- Project Location:** Luzerne, Columbia, Montour, Snyder, and Northumberland Counties, Pennsylvania
- Project Lead:** Ben Pratt (SRBC)



Project Description: The Susquehanna River Flood Warning and Response System was originally designed to facilitate risk assessment, flood response, and recovery for emergency managers and local officials in the Middle Susquehanna Subbasin. As the System was designed and developed nearly 20 years ago, time has rendered the system antiquated and virtually unusable. With recently updated mapping as the backbone, an effort will be undertaken to update the supporting database as well as move the system from the current GIS platform to a web based platform, allowing for greater access and efficient use. Additionally, the project will seek to provide a preliminary damage assessment report to be submitted upon realization of flood conditions in an impacted community. River forecast points at Wilkes-Barre, Danville, Bloomsburg, and Sunbury will

be used as relative points of interest.

- Challenges:** Extensive data collection effort to update backbone database
 Developing adequate IT infrastructure for System sustainability
 Extending platform to other basin communities with current inundation map libraries

- Key Milestones:**
- | | |
|--|----------------|
| Complete Data Collection | March 2020 |
| Develop System prototype | September 2020 |
| Complete System Testing and Refinement | March 2021 |

Water Resources Program

(Fiscal Years 2019 - 2020)

Priority Water Resources Need: Restore Impaired Waterways & the Chesapeake Bay

Key Project: Assist PADEP/stakeholders with development of Phase III Watershed Implementation Plans

Project Location: Lower Susquehanna Region, Pennsylvania

Project Lead: Andrew Gavin (SRBC)



Project Description: SRBC is assisting PADEP with development of a Phase III Watershed Implementation Plan (WIP) that will outline the actions needed to meet PA’s nutrient and sediment goals under the Chesapeake Bay TMDL. Specific tasks include providing technical support for: 1) analyzing and interpreting pollutant monitoring data, 2) developing recommended pollutant reduction strategies, and 3) assisting PA’s stakeholder workgroups with integrating all the information for the development of county-based implementation strategies to meet the Bay TMDL 2025 goals.

Challenges: Securing resources for the amount of work needed to implement “on-the-ground” measures needed to achieve reductions.

Key Milestones:	Complete data toolbox for developing pollutant reduction strategies	July 2018
	Complete draft WIP III planning template for Lancaster, York, Adams, and Franklin counties	February 2019
	Complete PA’s WIP III Plans for all counties	December 2020

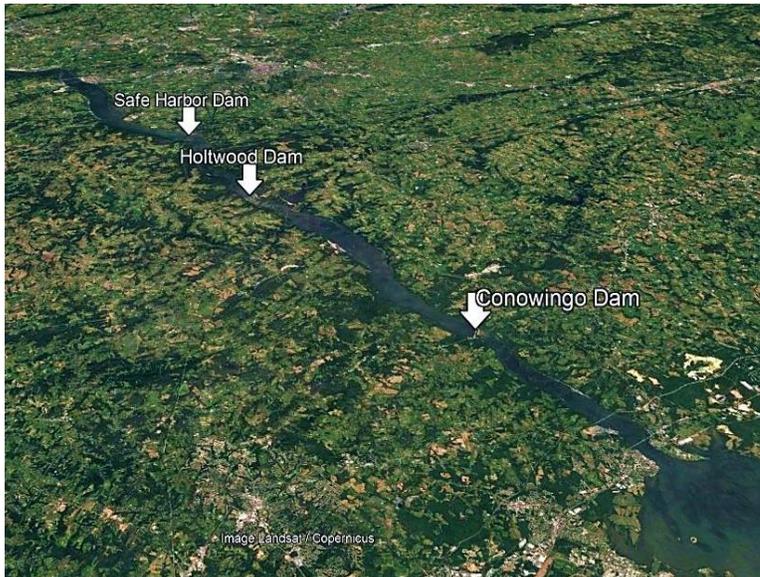
Water Resources Program (Fiscal Year 2019 - 2021)

Priority Water Resources Need: Restore the Chesapeake Bay

Key Project: Assist EPA and stakeholders with the Conowingo Watershed Implementation Plan

Project Location: Lower Susquehanna Region

Project Lead: Andrew Gavin (SRBC)



Project Description: SRBC is assisting the Chesapeake Bay Program Partnership with development and implementation of a Watershed Implementation Plan (WIP) that will reduce pollutant loads delivered to the Bay because of lost trapping capacity in reservoirs of the Lower Susquehanna River. The Conowingo WIP is a supplemental action, triggered mainly due to sediment infill behind the Conowingo Dam, that is needed to meet the overall nutrient and sediment goals under the Chesapeake Bay TMDL and the 2014 Chesapeake Bay Watershed Agreement.

Specific tasks include: 1) furnish technical assistance to the Partnership's Conowingo WIP Steering Committee, 2) help coordinate stakeholder engagement sessions, 3) provide technical assistance to the WIP Project Team with respect to operation of the Chesapeake Assessment Scenario Tool (CAST) model, and 4) synthesize SRBC's relevant water quality and aquatic biological monitoring datasets.

Challenges: Identifying, securing commitments, and obtaining resources for practices and projects in the Lower Susquehanna Region, or within other states within the immediate vicinity of the Bay, that further reduce nitrogen and phosphorus loadings to the Bay beyond those practices identified in state WIPs.

Key Milestones:	Assist with outreach and technical assistance	December 2020
	Assist with Conowingo WIP implementation	June 2021

Water Resources Program

(Fiscal Year 2019 - 2021)

Priority Water Resources Need: Restore Impaired Waterways & the Chesapeake Bay

Key Project: Support Chiques Creek Alternative Restoration Plan

Project Location: Chiques Creek Watershed, Lancaster County, Pennsylvania

Project Lead: Jamie Shallenberger (SRBC)



Project Description: The Chiques Creek Watershed is in the midst of Pennsylvania’s richest and most productive agricultural region and includes several historic, yet burgeoning population centers. In partnership with Pennsylvania Department of Environmental Protection (PADEP), Penn State University Agriculture and Environment Center, and other technical assistance resources, SRBC is part of a team committed to empowering local stakeholders to reduce sediment and nutrient pollution in manners that foster stream recovery. The partnership is finalizing an **Alternative Restoration Plan (ARP)**; that is, a flexible blueprint with multiple pathways to reduce sediment and nutrient loads to levels consistent with healthy waters, both locally and downstream. Critical to the ARP is a dynamic database with more than 550 specific Best Management Practices and Projects

identified and vetted so far in the watershed that, following implementation, are expected to dramatically improve waterway integrity. SRBC and our partners also are committed to a long-term aquatic resource monitoring program to track the progression of recovery.

Challenges: Securing resources for the amount of work needed to implement “on-the-ground” measures needed to achieve reductions.
 Securing vested partnerships with local stakeholders for implementation.

Key Milestones:	Complete watershed model development	July 2018
	Complete watershed implementation strategy	September 2018
	Select and begin a large-scale pilot implementation project	Dec 2020
	Support ongoing local stakeholder project implementation	June 2021

Water Resources Program

(Fiscal Year 2019 - 2021)

Priority Water Resources Need: Restore Impaired Waterways and the Chesapeake Bay

Key Project: Support Conowingo FERC Relicensing / MD Water Quality Certification

Project Location: Cecil and Harford Counties, Maryland

Project Lead: John Balay (SRBC)



Project Description: Exelon’s Federal Energy Regulatory Commission (FERC) license for Conowingo Hydroelectric Generating Station was issued in 1980 and expired in September 2014. FERC authorized Exelon to continue operations until a new license is acted on. The Commission has been actively engaged in the FERC relicensing process since its inception in 2009. In August 2012, Exelon submitted a final license application to FERC. FERC issued its Final Environmental Impact Statement in March 2015. Maryland Department of the Environment (MDE) issued its Clean Water Act Section 401 Certification for Conowingo in April 2018. Priority resource issues include sediment and nutrient reductions, fish passage improvements, and instream flow enhancements.

Exelon has filed multiple legal challenges regarding MDE’s certification. The Commission will continue to support MDE and other partner agencies through the remainder of the Conowingo FERC relicensing and water quality certification process.

Challenges: Legal challenges by Exelon regarding Maryland Water Quality Certification.
Implementing fish passage improvement measures.
Developing and implementing nutrient and sediment reduction practices.
Implementing an enhanced instream flow regime.

Key Milestones:	Resolve Legal Challenges	November 2020
	Finalize Water Quality Certification	January 2021
	Issue New FERC License	June 2021