

**SUSQUEHANNA RIVER BASIN COMMISSION  
4423 N. FRONT STREET  
HARRISBURG, PA 17110**

**BUDGET  
RECONCILIATION  
FY-2019**

**March 8, 2018**

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# SUSQUEHANNA RIVER BASIN COMMISSION

## BUDGET FOR FISCAL YEAR 2019

### LEGAL CITATION:

New York:	Laws of 1967, Chapter 785
Pennsylvania:	Session of 1968, Act No. 181
Maryland:	Acts of 1967, Chapter 391
United States:	Public Law 91-575

This budget anticipates the receipt of both appropriations from the Commission's member jurisdictions and other revenues needed to support the continuing operations of the Commission. This includes short-term programs deemed necessary to achieve the purposes of the Susquehanna River Basin Compact (Compact) and the objectives and goals set forth in the SRBC Comprehensive Plan.

The Compact provides that the Commission may receive and accept such payments, appropriations, grants, gifts, etc., (Article 15, Section 15.1(a) 2) as may be made available to it by the member jurisdictions, or any other public or private corporation or individual, for use in furthering the purposes of the Compact.

Attached are schedules presenting this budget reconciliation in detail for Fiscal Year 2019, which covers the twelve month period beginning July 1, 2018. Comparative amounts for the budget reconciliation for Fiscal Year 2018 and the adopted budget for Fiscal Year 2019 are also included. All statements and explanations submitted herewith are true and correct to the best of our knowledge.

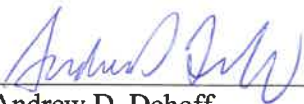
HEREBY APPROVED AND SUBMITTED BY:



Marcia E. Hutchinson  
Director, Administration & Finance

3/8/2019

Date



Andrew D. Dehoff  
Executive Director

3/8/2018

Date

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**BUDGET RECONCILIATION FOR FISCAL YEAR 2019**  
( July 1, 2018 - June 30, 2019 )

	<b>General Fund</b>	<b>Water Management Fund (1)</b>	<b>Total</b>
<b>Revenues:</b>			
Member Jurisdictions	\$ 1,078,000		\$ 1,078,000
Grants & Contractual	2,523,500		2,523,500
Regulatory Program Fees	4,217,575	\$ 3,500,000	7,717,575
Other Income	548,500	1,230,000	1,778,500
<b>TOTAL REVENUES</b>	<b>\$ 8,367,575</b>	<b>\$ 4,730,000</b>	<b>\$13,097,575</b>
<b>Expenditures:</b>			
Personnel Services	\$ 5,050,000		\$ 5,050,000
Employee Benefits	2,740,000		2,740,000
Special Contractual Services	813,000		813,000
Travel & Subsistence	100,000		100,000
Comm. Mtgs. & Public Hearings	35,000		35,000
Communications, Postage	110,000		110,000
Rent – Equip., Land & Bldgs.	30,000		30,000
Printing, Reprod. & Advertising	65,000		65,000
Software - License, Purchase & Maint.	190,000		190,000
Repairs & Maintenance	161,500		161,500
Other Contractual Services	140,000		140,000
Utilities, Janitorial	115,000		115,000
Supplies & Materials	329,075		329,075
O&M – Cowanesque/Curwensville		830,000	830,000
Depr. – Water Storage Rights		1,131,000	1,131,000
Capital Expenditures	495,000		495,000
<b>TOTAL EXPENDITURES</b>	<b>\$ 10,373,575</b>	<b>\$ 1,961,000</b>	<b>\$12,334,575</b>
<b>EXCESS (DEFICIT) OF REVENUE OVER EXPENDITURES</b>	<b>\$ (2,006,000)</b>	<b>\$ 2,769,000</b>	<b>\$ 763,000</b>
Transfer from Water Management Fund	\$ 895,000 (2)	(895,000)	-
Transfer from Fiscal Stabilization Fund	\$ 375,000 (3)		\$ 375,000
Transfer from Sustainable Water Resources Fund	\$ 736,000 (4)		\$ 736,000
<b>TRANSFERS IN (OUT)</b>	<b>\$ 2,006,000</b>	<b>\$ (895,000)</b>	<b>\$ 1,111,000</b>
<b>EXCESS (DEFICIT) AFTER FUND TRANSFERS</b>	<b>\$ -</b>	<b>\$ 1,874,000</b>	<b>\$ 1,874,000</b>

(1) The Water Management Fund is designated for the financing of water supply related projects, including costs associated with the planning, engineering, design, and construction phases of new projects or the reformulation of existing projects, or any other project or study initiated by the Commission to address the cumulative impact of consumptive water use or otherwise to support low flow management in the Susquehanna River Basin. Revenue generated in excess of expenses is used to build the balance in the fund.

(2) Costs for employees who are working on Water Management Fund projects are paid through the General Fund and reimbursed from the Water Management Fund.

(3) The Commission's regulations provide that certain withdrawals and consumptive uses that are in excess of the Commission's regulatory thresholds do not require Commission approval if they predated regulations and certain other conditions are met. In FY-19 the Commission will continue to implement new regulations which require the registration of these projects. See page 11 "Registration of Grandfathered Projects" for a complete description of the anticipated activities. A portion of the implementation costs will be covered by a transfer from the Commission's Fiscal Stabilization Fund.

(4) In FY-19 the Commission will upgrade a portion of its Remote Water Quality Monitoring Network and support several studies designed to further its regulatory and environmental protection programs. The Commission will also continue to provide assistance to small public water suppliers (PWS). The cost of these upgrades and studies, and continued assistance to PWS will be covered by the Commission's Sustainable Water Resources Fund.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**GENERAL FUND  
COMPARATIVE STATEMENT OF REVENUES  
BY MAJOR SOURCES**

<b>SOURCES</b>	<b>Budget Reconciliation FY 2018</b>	<b>Adopted Budget FY 2019</b>	<b>Budget Reconciliation FY 2019</b>
Member Jurisdictions: (5)			
New York	\$ 259,000	\$ 259,000	\$ 259,000
Pennsylvania	473,000	741,000	473,000
Maryland	346,000	500,000	346,000
United States	-	875,000	-
<b>Subtotal - Member Jurisdictions</b>	<b>\$ 1,078,000</b>	<b>\$ 2,375,000</b>	<b>\$ 1,078,000</b>
Other Income: (6)			
Grants & Contractual	\$ 2,147,200	\$ 2,177,000	\$ 2,523,500
Regulatory Program Fees	4,364,600	\$ 4,269,775	\$ 4,217,575
Interest Income, Building Rental & Other	348,500	\$ 358,500	\$ 548,500
<b>Subtotal - Other Income</b>	<b>\$ 6,860,300</b>	<b>\$ 6,805,275</b>	<b>\$ 7,289,575</b>
 <b>TOTAL ALL SOURCES</b>	 <b>\$ 7,938,300</b>	 <b>\$ 9,180,275</b>	 <b>\$ 8,367,575</b>

(5) In accordance with the Susquehanna River Basin Compact, Section 14.3( c), the respective member jurisdictions are requested to include the apportioned amounts set forth above in their respective budgets next to be adopted, subject to such review and approval as may be required by their respective budgetary processes.

(6) Income from other sources is estimated on the basis of past experience and authorized programs. Program activities are designed in recognition of the tentative and/or short-term nature of such funds and can be adjusted accordingly.

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**COMPARATIVE STATEMENT OF EXPENDITURES**  
**BY OBJECT**

<b>Class Titles</b>	<b>Budget Reconciliation FY 2018</b>	<b>Adopted Budget FY 2019</b>	<b>Budget Reconciliation FY 2019</b>
Personnel Services	\$ 4,927,000	\$ 5,065,000	\$ 5,050,000
Employee Benefits	2,480,000	2,717,000	2,740,000
<b>Subtotal – Personnel &amp; Benefits</b>	<b>\$ 7,407,000</b>	<b>\$ 7,782,000</b>	<b>\$ 7,790,000</b>
Special Contractual Services	\$ 662,100	\$ 526,850	\$ 813,000
Travel & Subsistence	106,425	100,000	100,000
Commission Mtgs. & Public Hearings	33,000	38,000	35,000
Communications, Postage	100,000	105,000	110,000
Rent-Equip., Land & Bldgs.	26,000	27,500	30,000
Printing, Reproduction & Advertising	65,000	65,000	65,000
Software Licenses, Purchases & Maintenance	132,000	136,000	190,000
Repairs & Maintenance	136,500	141,500	161,500
Other Contractual Services	140,500	140,000	140,000
Utilities, Janitorial	120,025	115,000	115,000
<b>Subtotal – Contractual Services</b>	<b>\$ 1,521,550</b>	<b>\$ 1,394,850</b>	<b>\$ 1,759,500</b>
Supplies/Other	\$ 247,000	\$ 309,500	\$ 329,075
Capital Expenditures	\$ 446,000	\$ 485,000	\$ 495,000
<b>Total</b>	<b>\$ 9,621,550</b>	<b>\$ 9,971,350</b>	<b>\$ 10,373,575</b>

**SUSQUEHANNA RIVER BASIN COMMISSION  
MAJOR OBJECT CLASSIFICATION  
PERSONNEL SERVICES**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2018</b>	<b>Adopted Budget FY 2019</b>	<b>Budget Reconciliation FY 2019 <sup>(7)</sup></b>
Salaries	\$ 4,927,000	\$ 5,065,000	\$ 5,050,000

**COMPARISON OF STAFFING  
FOR FISCAL YEAR 2019**

<b>Departments</b>	<b>Adopted Budget 2019</b>			<b>Budget Reconcil. 2019</b>			<b>Change ( + Or - )</b>		
	<b>Prof.</b>	<b>Cler.</b>	<b>Total</b>	<b>Prof.</b>	<b>Cler.</b>	<b>Total</b>	<b>Prof.</b>	<b>Cler.</b>	<b>Total</b>
Executive	3	1	4	3	1	4	0	0	0
Administrative & Staff Services	7	2	9	7	2	9	0	0	0
Gov't/Public Affairs	1	0	1	1	0	1	0	0	0
Technical Programs	2	0	2	2	0	2	0	0	0
Project Review	14	3	17	14	3	17	0	0	0
Planning & Operations	6	0	6	5	0	5	-1	0	-1
Compliance	9	1	10	9	2	11	0	1	1
Grant Programs	17	1	18	17	1	18	0	0	0
<b>Total</b>	<b>59</b>	<b>8</b>	<b>67</b>	<b>58</b>	<b>9</b>	<b>67</b>	<b>-1</b>	<b>1</b>	<b>0</b>

(7) The FY-2019 budget includes 3% for performance-based and 3% for cost of living increases.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
EMPLOYEE BENEFITS**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2018</b>	<b>Adopted Budget FY 2019</b>	<b>Budget Reconciliation FY 2019</b>
Medical Insurance	\$ 710,000	\$ 715,000	\$ 750,000
Social Security-Commission Share	385,000	385,000	375,000
Workmen's Compensation	30,000	30,000	30,000
Employee Life Insurance	40,000	40,000	40,000
Unemployment Compensation	10,000	10,000	5,000
Retirement Plan - Commission Share (8)	1,305,000	1,537,000	1,540,000
<b>Total</b>	<b>\$ 2,480,000</b>	<b>\$ 2,717,000</b>	<b>\$ 2,740,000</b>

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(8) Retirement employer contribution rate budgeted for FY-2019 is 30.5%.



## SUSQUEHANNA RIVER BASIN COMMISSION

### MAJOR OBJECT CLASSIFICATION CONTRACTUAL SERVICES

Appropriation Class	Budget Reconciliation FY 2018	Adopted Budget FY 2019	Budget Reconciliation FY 2019
Fees, Financial Services	\$ 40,000	\$ 40,000	\$ 45,000
Fees, Legal & Investigative Services	25,000	25,000	25,000
Fees, Cooperative Programs	50,000	50,000	86,000
Fees, Research & Laboratory Services	151,600	160,350	150,000
Fees, Computer Services Other	7,500	10,000	10,000
Other Services - Professional (9)	388,000	241,500	497,000
Travel & Subsistence	106,425	100,000	100,000
Commission Meetings	25,000	30,000	30,000
Public Hearing Expenses	8,000	8,000	5,000
Communications Expenses	85,000	90,000	95,000
Postage	15,000	15,000	15,000
Rent - Land, Buildings & Equipment	26,000	27,500	30,000
Printing & Reproduction	60,000	60,000	60,000
Advertising	5,000	5,000	5,000
Software Purchase, License & Maint.	132,000	136,000	190,000
Repairs & Maint.-Bldg. & Grounds	35,000	35,000	35,000
Repairs & Maint.-Office Equip.	1,500	1,500	1,500
Repairs & Maint.-Auto. Equip.	25,000	30,000	30,000
Repairs & Maint.-Lab. Equip.	75,000	75,000	95,000
Insurance	120,500	120,000	120,000
Dues & Memberships	20,000	20,000	20,000
Electric, Heat, Water & Sewage	80,000	80,000	80,000
Janitorial Service	40,025	35,000	35,000
<b>Total</b>	<b>\$ 1,521,550</b>	<b>\$ 1,394,850</b>	<b>\$ 1,759,500</b>

(9) The FY-2019 budget includes agreements with independent contractors. The Executive Director is authorized by the resolution adopting this budget to execute any and all agreements up to the total amount budgeted for contractors for the fiscal year.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
SUPPLIES and OTHER**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2018</b>	<b>Adopted Budget FY 2019</b>	<b>Budget Reconciliation FY 2019</b>
Office Supplies	\$ 20,000	\$ 25,000	\$ 25,000
Automotive Supplies (10)	50,000	50,000	40,000
Janitorial Supplies	5,000	5,000	5,000
Computer Supplies	40,000	50,000	45,000
Laboratory Supplies (11)	57,000	75,000	86,575
Miscellaneous Supplies (12)	2,500	5,000	50,000
Subscriptions & Publications	2,500	2,500	2,500
Moving & Recruiting Expenses	10,000	10,000	5,000
Staff Training & Seminars	50,000	75,000	50,000
Miscellaneous	10,000	12,000	20,000
<b>Total</b>	<b>\$ 247,000</b>	<b>\$ 309,500</b>	<b>\$ 329,075</b>

(10) Also includes fuel costs

(11) Includes replacement parts for sondes

(12) Funding from the fiscal stabilization fund will provide assistance with metering to small water users who register grandfathered sources.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
CAPITAL EXPENDITURES**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2018</b>	<b>Adopted Budget FY 2019</b>	<b>Budget Reconciliation FY 2019</b>
Computer Equipment	\$ 20,000	\$ 25,000	\$ 10,000
Automotive Equipment (13)	70,000	100,000	75,000
Office Furniture & Fixtures	10,000	10,000	60,000
Scientific & Laboratory (14)	346,000	350,000	350,000
<b>Total</b>	<b>\$ 446,000</b>	<b>\$ 485,000</b>	<b>\$ 495,000</b>

(13) One Sayre-based and two Harrisburg-based Commission vehicles will be replaced in FY-2019.

(14) In FY-2019 the Commission will upgrade a portion of its Remote Water Quality Monitoring Network. The cost of the new units will be covered by the Commission's Sustainable Water Resources Fund.

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**ALLOCATION BY PRIORITY MANAGEMENT AREA**  
**FOR FISCAL YEAR 2019**

The total expense budget request for Fiscal Year 2019 is \$12,334,575. The budget will support the Commission's programs as follows:

Percent of Total Budget

I.	Water Supply	58%
II.	Water Quality	15%
III.	Flooding	1%
IV.	Ecosystems	7%
V.	Chesapeake Bay	7%
VI.	Coordination, Cooperation, Public Information and Admin.	12%
	Total	100%

## PRIORITY MANAGEMENT AREA A: WATER SUPPLY

### Desired Result

To meet immediate and future water needs of the people of the basin for domestic, municipal, commercial, agricultural and industrial water supply and recreational activities, in order to maintain sustainable economic viability, protect instream uses, and ensure ecological diversity through regulation and planning.

### Programs

#### **AREA A: Water Supply**

Regulation of Water Users - Permits.....	\$ 1,961,225
Regulation of Water Users - ABR.....	345,000
Compliance and Enforcement .....	1,407,000
Registration of Grandfathered Projects .....	377,000
Drought Planning & Coordination .....	115,000
General Hydrologic Studies .....	100,000
Cumulative Water Use and Availability Study.....	60,000
F.J. Sayers Section 1135 Study .....	100,000
Cowanessque/Curwensville Reservoir Operations .....	1,985,000
Consumptive Use Mitigation Planning .....	305,000
Hydrologic Model Updates .....	50,000
Low Flow Augmentation Operations .....	44,000
Public Water System Assistance Initiative .....	75,000
Mocanaqua Tunnel .....	80,000
LCSWMA Billmeyer Quarry .....	80,000
Hydroelectric Project Regulation & Relicensing .....	85,000
<b>Total</b>	<b>\$ 7,169,225</b>

### **Activities which will be conducted under Priority Management Area A: Water Supply**

**Regulation of Water Users – Permits** – Commission staff will review and make recommendations on appropriate actions to take on applications, modifications and renewals for water withdrawal and consumptive uses.

**Regulation of Water Users - ABR**– This expedited Approval-by-Rule process is used by companies interested in using a source of water that has already been approved for use (e.g., a public water supply) or a source that is of lesser quality (e.g., wastewater discharge, mine water).

**Compliance and Enforcement** - The Commission requires metering at all withdrawal sites to document daily quantities of water which have been withdrawn or used. Metering data are reported quarterly by project sponsors online. Staff use the data to monitor approval conditions such as protective passby flows. The Commission’s compliance program also includes field inspection of approved projects both during construction and periodically during the term of the approval, and enforcement actions against companies that fail to gain SRBC approval or violate the terms and conditions of approvals. These costs also include the cost of maintaining the Sayre, Pennsylvania office.

**Registration of Grandfathered Projects** – The Commission’s regulations provide that certain withdrawals and consumptive uses that are in excess of the Commission’s regulatory thresholds do not require Commission approval if they predated regulations and certain other conditions are met. This exemption is referred to as “grandfathering”. Grandfathered projects have not reported withdrawal or consumptive use data to the Commission,

which hampers its ability to effectively manage the water resources of the Basin. The process for grandfathered projects and the Commission to determine the grandfathered amount is an expensive, inefficient and time consuming process that very often leads to inconclusive results given the scarcity of historical data. In FY-19, the Commission will continue to implement new regulations which require grandfathered projects to register with the Commission, receive a definitive determination of a grandfathered quantity, and to report water withdrawal and consumptive use data. Funding for the program is provided by the Commission's Fiscal Stabilization Fund.

**Drought Planning & Coordination** - The Commission established a basin-wide Drought Coordination Plan with its member jurisdictions to promote consistency when determining, responding to and informing the public of droughts, and convenes the Drought Coordinating Committee as drought conditions emerge to share information and identify possible response actions. Staff will continue to consult with the Drought Coordinating Committee during drought conditions and will revise the Drought Coordination Plan and related implementation tools as needed.

**General Hydrologic Studies** - Commission staff are continually monitoring basin hydrologic conditions and improving hydrologic datasets and tools to guide regulatory and planning decision making. Specific efforts include monitoring flood/drought conditions and associated mitigation operations, maintaining a comprehensive stream gage database containing basin characteristic and streamflow statistic data, improving passby flow determination datasets and spreadsheet tools, preparing low flow forecasts for annual Conowingo Pond Management Workgroup meetings, enhancing ecosystem flow recommendations compliance tool, etc.

**Cumulative Water Use and Availability Study** - This study, which was initially completed in 2016, compiled a comprehensive, basin-wide water use data library and refined procedures for computing existing and projected cumulative consumptive water use at the project and watershed scales. Staff determined sustainable water availability limits for watersheds throughout the basin, and developed a GIS-based tool for automating the cumulative water use and availability analysis and illustrating results to inform regulatory and planning activities. In FY-2019, staff will maintain and update the water use database, evaluate additional refinements to the tool, and conduct more detailed analyses in priority watersheds.

**F.J. Sayers Section 1135 Study** - Foster Joseph Sayers Dam and Reservoir, owned and operated by the U.S. Army Corps of Engineers (USACE), is a multiple purpose project providing flood control, recreation, and water quality control in Centre County, Pennsylvania. Currently, the reservoir is drawn down a total of 20 feet in late fall and winter and returned to normal pool level by late spring. Commission staff believe the in-lake ecosystem would benefit from some potential environmental modifications and that low flow augmentation from the reservoir during critical low flow periods would benefit the downstream ecosystem. A feasibility study will be conducted to determine if alternative measures exist that may provide environmental benefits and also be consistent and not conflict with project purposes.

**Cowanesque/Curwensville Reservoir Operations** - The Commission owns water supply storage at Cowanesque and Curwensville Lakes. Costs include depreciation of water storage rights (\$1,131,000), and operating and maintenance costs for Cowanesque and Curwensville Lakes (\$854,000). The Commission's share of the operating and maintenance costs for Cowanesque are passed through to Exelon and Talon.

**Consumptive Use Mitigation Planning** – Staff will continue to implement recommendations in the Consumptive Use Mitigation Plan related to the evaluation of water storage and low flow augmentation release potential within the basin including USACE reservoirs, state/private lakes, abandoned mine pools, and other feasible sources. Staff will also continue to develop a Consumptive Use Mitigation Policy to provide guidance regarding the determination of an acceptable manner of mitigation to be provided by project sponsors whose consumptive use is subject to review and approval and to memorialize contemporary consumptive use mitigation criteria utilized by the Commission in formulating and implementing consumptive use mitigation projects.

**Hydrologic Model Updates** – Commission staff, with technical support from contractors at a cost not to exceed \$25,000, will continue to make necessary updates and refinements to its existing basin-wide OASIS hydrologic model. Improvements will include updated software, hydrologic records, demand data, and project operations as well as model documentation, training, and support.

**Low Flow Augmentation Operations** – The Commission continues to monitor hydrologic conditions throughout the basin and coordinate closely with partner agencies, particularly with respect to low flow events and operational triggers at consumptive use mitigation and environmental restoration projects. These projects currently include Curwensville Lake, Whitney Point Lake, Lancashire 15 Abandoned Mine Drainage Treatment Plant, and Cresson Abandoned Mine Drainage Treatment Plant.

**Public Water System Assistance Initiative** – Through a PADEP grant, staff provided both global and focused education and system-specific guidance to small public water systems that met eligibility requirements, lacked financial and technical capabilities, and were subject to Commission groundwater withdrawal regulations. Staff also provided technical assistance related to the groundwater withdrawal application process and aquifer testing requirements, and hydrogeologic guidance to assist in the development, management and protection of groundwater sources. In FY-2017 funding provided by the grant was exhausted. However, the benefits of the program were significant and the Commission has elected to continue the program. Assistance has been expanded to also include requirements related to satisfying post-approval conditions, including technical assistance, loaning equipment, and initial review of short-term data collection activities. Funding is provided by the Commission’s Sustainable Water Resources Fund.

**Mocanaqua Tunnel** – This project provides a phased approach to identifying and treating isolated stored groundwater in the area associated with the Mocanaqua AMD Mine Tunnel, located in Luzerne County, PA, that could be used to augment surface water during pre-defined low flow events. The Commission, working with the Eastern Pennsylvania Coalition for Abandoned Mine Reclamation (EPCAMR) and American Energy Solutions (AES), is targeting stored “mine pool” water that is not actively discharging to local streams with sufficient storage and yield to produce a minimum of 1.8 million gallons per day (mgd) for a 90-day period or 3.6 mgd for a 45-day period. Subcontract costs paid to EPCAMR and AES will not exceed \$40,000.

**LCSWMA Billmeyer Quarry** - In December, 2015 Commission staff completed a desktop review, water quality sampling, and bathymetric survey (Phase I Study) of the Lancaster County Solid Waste Management Authority (LCSWMA), Billmeyer Quarry located near Bainbridge, Lancaster County, Pennsylvania. The Phase I Study indicated that approximately 200-400 million gallons (Mgal) of water storage could be available for consumptive use mitigation during low flow conditions. In FY-2017 staff began a study (Phase II Study) to assess the feasibility of pumping and releasing stored water from the quarry for mitigation, which included a detailed site characterization and operational testing. The Phase II Study will be completed in FY-2018. During FY-2019 staff will develop an operational plan for using the water storage asset for mitigation during low flow periods.

**Hydroelectric Project Regulation and Relicensing**- Over the past several years, the Commission has been actively engaged with partner agencies and stakeholders in the relicensing of the Colliersville, York Haven, Muddy Run, Colliersville and Conowingo Hydroelectric Projects on the lower Susquehanna River. Key resource issues of focus have included environmental flows, fish passage, water quality, sediment/nutrient management, etc. Staff have and will continue to coordinate with partner agencies and stakeholders on study requests, study plan/report reviews, comment letters, National Environmental Policy Act document reviews, Section 401 Water Quality Certificate conditions, etc. throughout the relicensing processes.

## PRIORITY MANAGEMENT AREA B: WATER QUALITY

### Desired Result

To support the existing and designated uses of all water bodies by achieving water quality that meets or exceeds standards.

### Programs

#### AREA B: Water Quality

Subbasin Surveys .....	\$	105,000
Large Waters Assessment .....		60,000
National Aquatic Resource Surveys .....		96,000
Total Maximum Daily Loads for Impaired Stream Reaches .....		395,000
Source Water Protection and Interstate Water Security Activities .....		130,000
Stream Assessment Support .....		50,000
Remote Water Quality Monitoring Network .....		980,000
Local Watershed Stormwater Support .....		25,000
<b>Total</b>	<b>\$</b>	<b>1,841,000</b>

#### Activities which will be conducted under Priority Management Area B: Water Quality

**Subbasin Surveys** - The Commission has been conducting water quality and biological surveys of streams in each of the six major subbasins on a rotating basis. Local, state and federal coordination are considered in the sampling design to ensure that the data collected are not duplicative, and provide justification and support for future protection, enhancement and restoration efforts. Data are provided to the member states and local groups to support TMDL efforts, as well as watershed restoration and protection projects. The Commission's subbasin surveys include regional, probabilistic-design sampling during typical (summer) base flow conditions, followed by a year of more intensive sampling efforts focused on specific objectives such as acid mine drainage, stormwater Best Management Practice (BMP), or watershed improvement projects. In FY-2019 we will conduct broad, regional survey activities in the Chemung subbasin and more focused sampling within the Lower subbasin.

**Large Waters Assessment** – In 2002, the Commission conducted a pilot study to determine appropriate methods to assess the biological conditions of large rivers in the Susquehanna River Basin. In subsequent years, the large river assessment program was expanded to include biological and water quality monitoring at approximately 25 stations on the mainstem Susquehanna River and along sections of the West Branch Susquehanna River, the Juniata River, the Chemung River, as well as the series of reservoirs on the Lower Susquehanna River. The Commission also continues to coordinate with the states and USEPA to refine the overall large waters monitoring program, as well as integrate source water protection monitoring activities to enhance protection of public drinking water supplies utilizing the main stem Susquehanna River and its major tributaries. Ongoing focus for FY-2019 will be the major rivers in the Upper, Middle, and West Branch subbasins including emphasis on smallmouth bass fish health and community composition.

**National Aquatic Resource Surveys** – The EPA National Aquatic Resource Survey Program is a nation-wide initiative to sample aquatic resources in a statistically-relevant and categorical process. The Commission participates in the National Lakes and National Rivers and Streams Assessment components (NLA, NRSA, respectively) according to their schedules of rotation. Since inception of the National Aquatic Resource Survey Program, the Commission has participated in NLA and NRSA sampling in the Basin as well as within one or more of the state jurisdictions of the Basin. In FY19, the Commission will survey ~20-30 river and stream sites throughout Pennsylvania and possibly additional sites in New York State.



**Total Maximum Daily Loads for Impaired Stream Reaches** - The federal Clean Water Act requires that certain impaired waters be included on a Section 303(d) list for each state. After USEPA approves the state lists, TMDLs must be prepared for the listed waters. The Commission will coordinate with its member jurisdictions regarding TMDL and Section 303(d) issues, including the TMDL issues associated with the Chesapeake Bay restoration effort. The Commission also will assist the states in developing TMDLs. TMDL work in each member jurisdiction will be performed in accordance with the jurisdiction's development plan; with the Commission developing TMDLs on streams affected by urban runoff, agriculture, and other causes of impairment. The Commission will coordinate closely with the appropriate agencies on the Commission's TMDL activities. Underway since FY-2015, the Commission will continue its close coordination with PADEP in FY-2019 on a pilot project for TMDL alternatives in the Chiques Creek watershed. Our primary focus continues to be development of an Alternative Restoration Plan and providing assistance for coordination of overall watershed stewardship. Our role also includes the implementation of various watershed monitoring activities, including operation and maintenance (O&M) of two real-time continuous in-stream monitoring (CIM) stations. The Commission also will continue support of on-going, traditional TMDL activities in the Octoraro and select other watersheds in Pennsylvania.

**Source Water Protection and Interstate Water Security Activities** - Staff will continue to support implementation of regional source water protection management measures for the majority of large public water supply systems within the Lower Susquehanna River Basin. Staff will also continue to operate, maintain, and expand the Early Warning System for public water suppliers, which was established by the Commission in 2003, and in 2018, is being expanded with addition of four new stations. Launched in FY-2016, staff also will continue to provide 24/7 support to members of PADEP's Spill Response unit to furnish, real-time condition modeled estimates of travel time between suspected contaminant plumes and water supply intake features. In FY-2019, the Commission will continue to organize and formalize aspects of the Lower Susquehanna Source Water Protection Partnership through increased data and information sharing, development of technical and issue steering committees, and promotion of awareness among members/affiliates about topical issues.

**Stream Assessment Support** - Commission staff will provide support to PADEP designed to improve the accuracy of impaired waters listings. Staff will screen various data sets, query partners and collaborators with intimate knowledge of AML/AMD activities in the Susquehanna River Basin, in some cases collect additional environmental data, compile our findings, and convey relevant summary information to PADEP. Support also includes identification of AMD-impairments that are predominated by just a few discrete discharge points; dominated by water types or pollutant loadings that facilitate treatment by cost-effective approaches; as well as settings for which AMD remediation also contributes to improvements in water quality and/or quantity for water-stressed source areas, ecologically significant areas, and/or potentially climate-resilient (e.g., impaired cold water fishery) aquatic habitat.

Our support also will include systematic processing of the Commission's internal data sets specifically in efforts to cross-reference our biologic data with PADEP's designated use classifications with the objective of identifying stream segments that might warrant special protection upgrades. Commission staff initiated an on-going inventory of potential AML/AMD restoration opportunities that can be prioritized according to multiple stakeholder interests as well as facilitate application of appropriate and more stringent watershed protection frameworks.

**Remote Water Quality Monitoring Network** – In early 2010, in the Marcellus Shale Gas Play portion of the Susquehanna River Basin, the Commission launched what has grown to be a 60<sup>+</sup>-station remote water quality monitoring network (RWQMN) that transmits water quality indicator data in real-time through the Commission's web interface. In FY-2017, the Commission began a four-year program to replace all it's the initial generation of monitoring equipment with upgraded CIM equipment. Also in 2017, following an internal assessment of data quality, the Commission began to expand RWQMN stations beyond the Marcellus region by re-positioning ~12 select stations that were demonstrated to be ineffective and/or redundant. Staff performs routine maintenance checks on the monitoring equipment as well as collects aqueous chemistry, instantaneous discharge, biologic community, and habitat information. Data developed through the RWQMN program support a growing myriad of aquatic science applications by members of the Commission as well as analysts in numerous other organizations – the Commission's RWQMN program is nationally and internationally recognized for its unparalleled scientific value.

In FY-2019, we will also support the Pennsylvania Department of Conservation and Natural Resources (DCNR) through our continuation of O&M, data analytics, and documentation for 10 (of the RWQMN's 60<sup>+</sup>) CIM stations that are located on State-owned lands.

**Local Watershed Water Quality Monitoring Support** – As a regional leader in water quality monitoring science applications, the Commission is a sought-after partner by various entities who solicit grant funding to implement watershed improvement projects/programs. In order to leverage and amplify the benefits of grant-funded activities, the Commission provides in-kind technical assistance (often as donated/unreimbursable “matching” support) to select organizations based on Commission staff and other resource availability. In FY-2019, the Commission will support activities that are being led by Lancaster County Conservation District, Luzerne County Conservation District, and Penn State University.

## PRIORITY MANAGEMENT AREA 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.

### Programs

#### **AREA C: Flood Coordination**

Flood Coordination.....	\$	95,000
Tri-County Flood Warning System.....		28,000
Silver Jackets.....		42,500
<b>Total</b>	<b>\$</b>	<b>165,500</b>

### **Activities which will be conducted under Priority Management Area C: Flooding**

**Flood Coordination** – Since the mid-1980s, the Commission has coordinated an interagency committee to improve basin-wide flood forecast and warning and dissemination of public information related to flood hazards and events. The Commission will continue to coordinate the interagency committee, with the involved federal, state, and county agencies, local stakeholders, and legislative and municipal officials. Staff will serve as the liaison between the public and partner agencies to aid in the development of useful flood forecast and preparedness products and reliable dissemination techniques.

**Tri-County Flood Warning System** – Commission staff, under a FEMA grant, conducted a pilot project in partnership with Huntingdon, Lancaster, and Dauphin Counties focused on developing camera-based flood warning systems. The project will enhance situational awareness through a variety of pathways including existing mobile technologies, cellular based camera imagery, and a web-based data portal. In FY-2019, costs for the project include maintenance of the cameras and data portal.

**Silver Jackets** – Commission staff will continue to seek leveraged solutions for flood mitigation projects through coordination with Silver Jackets teams in the basin. The Silver Jackets effort is spearheaded by the USACE and involves multiple federal and state agencies with a common mission of protecting life and property during flood events. Statewide teams typically compete for pilot projects that match team member funds to USACE funds to complete mitigation projects.

## PRIORITY MANAGEMENT AREA 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.

### Programs

#### **AREA D: Ecosystems**

American Eel Restoration.....	40,000
Aquatic Resource Surveys .....	48,000
Water Resources Studies.....	100,000
Bilger Run AMD Restoration Project.....	42,500
Rausch Creek AMD Restoration Project.....	140,000
Woodley Run AMD Restoration Project .....	86,000
Wildwood AMD Restoration Project .....	47,000
AMD Feasibility Studies .....	150,000
Flow Ecology Study .....	146,000
Octoraro Watershed Agricultural BMPs.....	40,000
<b>Total</b>	<b>\$ 839,500</b>

### **Activities which will be conducted under Priority Management Area D: Ecosystems**

**American Eel Restoration** - Migration of historically-abundant American eels to and from the basin has been restricted by the presence of dams and hydroelectric projects on the Lower Susquehanna River since the early 1900s. Additionally, populations of the basin’s formerly most prevalent freshwater mussel species, which relies on American eel as a host species for part of its life cycle. In 2008, the US Fish and Wildlife Service began a limited, but successful, eel reintroduction program. Begun in FY-16, the Commission embarked on a long-term study aimed at discerning changes to freshwater ecosystem traits following reintroduction of American eels in specific sub-watersheds, including evaluations of shifts in fish and macroinvertebrate community composition, re-establishment of mussel populations, and water quality improvements.

**Aquatic Resource Surveys** – As part of our surface water withdrawal application process, staff perform aquatic resource surveys. The surveys include fish and macroinvertebrate sampling, invasive species survey, habitat assessment, water quality testing and hydrologic parameter testing. ARS findings support the Commission’s Project Review Program. Moreover, ARS data and related research efforts enhance the Commission’s understanding of potential impacts due to water withdrawal activities and such data are used to verify the effectiveness of passby flow requirements.

**Water Resources Studies** – On an annual basis the Commission seeks proposals from its staff for studies/projects that further the mission and work of the organization. In FY-2019 the Commission, through funding provided by its Sustainable Water Resources Fund, will continue to support such studies, including: (i) ongoing study of trout movement and ecological dynamics in a watershed that will undergo AMD remediation; (ii) continuation of research regarding low-level methane screening and source “fingerprinting” of surface water samples collected from streams subject to Marcellus Shale gas production activities; (iii) restoration of ~65 acres of Acid Mine Land, including re-introduction of a stand of American chestnut trees; and, (iv) desk-top analysis of ARS data sets.

**Bilger Run AMD Restoration Project** – The Commission, under a subcontract with the Clearfield County Conservation District (CCCD), will support an AMD remediation project in Bilger Run. Commission support includes slight modification of existing design plans for a passive treatment system as well as construction inspection visits.

**Rausch Creek Mine Pool Evaluation and Discharge Transport Project** – The Rausch Creek AMD Treatment Plant was built in 1973 and was designed to intercept and treat the entire flow of Rausch Creek prior to mixing with Pine Creek. During periods of heavy rainfall, AMD and combined Rausch Creek water flow exceeds treatment plant capacity; as a result, untreated AMD continues to preclude biologic recovery of the Rausch/Pine Creek watershed. In addition to improving the treatment plant functionality, the Commission, through mine pool mapping work completed by the Eastern PA Coalition for Abandoned Mine Reclamation (EPCAMR), also became interested in the potential to use the setting's Brookside Mine Pool as a source of consumptive use mitigation/low flow augmentation water.

In FY-2019, engineering design, permitting, and solicitation/finalization of a construction funding source and contractor bid package will be completed. Construction costs of the Rausch Creek modifications will not exceed than \$100,000.

**Woodley Draft Abandoned Mine Lands (AML) Reclamation Project** – Sandy Run was an AMD restoration project that was restored by the Commission in 2017. Woodley Draft is a mining impaired tributary in the same watershed downstream from Sandy Run. Woodley Draft was compromised by past coal and clay mining operations. This project will reduce the impacts to surface water quality and forest habitat damaged by legacy AML impacts through a ~65-acre forest reclamation approach project that involves regrading, the incorporation of soil amendments to neutralize acids and enhance moisture retention, and the installation of thousands of native tree seedlings, including ~2,000 American chestnut trees.

**Wildwood AMD Remediation Project** – Remediation of the Wildwood discharge will continue to restore cold water fishery habitat in western portions of the Susquehanna River Basin that remain damaged by past coal mining practices. PADEP solicited a proposal from a partnership that includes the Commission, Trout Unlimited, and the Clearfield County Conservation District for design and construction to remedy the Wildwood discharge through construction of a passive treatment system.

**Legacy Mining Feasibility Studies** – Dollar-for-dollar, the remediation of legacy coal mine 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, which has made it increasingly difficult to obtain funding to support the investigation, feasibility, design and permitting work necessary to implement such projects. Therefore, in FY-2019, the Commission will provide funding from its Sustainable Water Resources Fund to support investigation, design and/or permitting work to ensure a steady progression of shovel-ready AML/AMD projects exists. Candidate settings include Loop Run, Hartshorn Run, Mahantango Creek, Hans Yost Creek, and several headwaters streams of Nescopeck Creek. Engineering services not to exceed \$35,000 will be provided by an independent contractor.

**Flow Ecology Study** - Monitoring of water quantity, water quality, biological community, and in-stream habitat provide data necessary to assess the integrity of aquatic systems and also to support planning activities for the protection and restoration of aquatic resources. For years, the Commission has proactively sought to elevate the understanding of interactions between flow and aquatic ecology, especially with respect to the Commission's role in managing water withdrawals and consumptive uses. To augment the existing database of low-flow observations, as warranted by actual conditions within the Susquehanna River Basin, staff will implement low flow data collection protocols, in accordance with the quality assurance project plan (QAPP).

**Octoraro Watershed Agricultural BMPs** - The Alliance for the Chesapeake Bay (ACB), in partnership with the Octoraro Watershed Association (OWA) and the Environmental Finance Center (EFC), received a grant from the National Fish and Wildlife Foundation (NFWF) to implement agricultural BMPs on Plain Sect farms in the Octoraro Watershed. The project's main objectives are to install agricultural BMPs with a focus on source water protection, and to build the capacity of OWA and partners to continue the work after the grant is completed.

The Commission will participate in the project as a subcontractor to ACB. Commission staff will install two monitoring stations in streams adjacent to/downstream of farms that receive agricultural BMP coordinated by ACB. The stations will continuously monitor water quality indicators before and after BMP construction. Staff will also collect periodic grab samples to monitor nutrients. Data collected prior to and following construction will be compared to quantify the impact of the installed BMPs.

## PRIORITY MANAGEMENT AREA 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.

### Programs

#### AREA E: Chesapeake Bay

Chesapeake Bay Monitoring and Water Quality Trends Analysis .....	\$	562,350
Chesapeake Bay Data Analysis & Reporting .....	\$	102,000
Chesapeake Bay Midpoint Assessment .....	\$	185,000
<b>Total</b>	<b>\$</b>	<b>849,350</b>

#### Activities which will be conducted under Priority Management Area E: Chesapeake Bay

**Chesapeake Bay Program Monitoring and Water Quality Trends Analysis** - This program was initiated in FY-1985, and provides data that are critical for calibration of the Chesapeake Bay watershed model and evaluation of tributary strategy activities. Monthly samples, baseflow samples and daily or more frequent samples during a minimum of five storms will be collected from the six (6) long-term monitoring sites on the Susquehanna River at Towanda, Danville, and Marietta, the Juniata River at Newport, the West Branch Susquehanna River at Lewisburg and the Conestoga River at Conestoga. Monthly and storm samples also will be collected at the 21 additional sites in Pennsylvania, New York, and Maryland that were established in FY-2004, FY-2005, and FY-2012. The Commission will continue to work with its member states, USEPA, and other partners to expand the monitoring network to support state tributary strategies and the overall Chesapeake Bay cleanup effort.

**Chesapeake Bay Data Analysis and Reporting** - The Commission will use the data to analyze and update information from the long-term water quality monitoring program for the non-tidal tributaries in the Susquehanna River Basin. Data from newly established monitoring sites in Pennsylvania and New York will also be summarized for future trends analysis. The data and analysis will help demonstrate progress in meeting cap loads for the Susquehanna River Basin.

**Chesapeake Bay Midpoint Assessment** – Staff will provide assistance to PADEP in fulfilling Mid-Point Assessment tasks pursuant to the Bay Agreement between USEPA and the member jurisdictions. The Mid-Point Assessment was designed into the Bay TMDL process to provide the Partnership (e.g., CBPO and member jurisdiction agencies) an opportunity to pause, assess Bay TMDL and Watershed Implementation Plan version 3 (WIP3) progress, and make adjustments as necessary to achieve the overall goals for Bay restoration. The scope of the Commission’s activities includes, but is not limited to: recommendations for Local Area Targets; fatal flaw review of the Phase 6 Watershed Model; development of draft Phase 3 Watershed Implementation Plan (WIP); modeling forecasts for 2025 conditions; and, technical advisory participation as a supporting resource to each of the Bay-related WIP3 work groups, expert panels, as well as policy/program stakeholder outreach activities.

## PRIORITY MANAGEMENT AREA F: COORDINATION, COOPERATION, PUBLIC INFORMATION AND ADMINISTRATION

### 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 decision making procedures.

### Programs

#### **Area F: Coordination, Cooperation, Public Information and Administration**

Watershed Coordination Functions and Activities .....	\$ 274,000
Public Information and Education .....	137,000
Planning (Comprehensive, Strategic, and Water Resources) .....	228,000
General Program Administration .....	523,000
Information Technology and Geographic Information Systems (GIS) .....	308,000

**Total** **\$ 1,470,000**

#### **Activities which will be conducted under Priority Management Area F: Coordination, Cooperation, Public Information and Administration**

**Watershed Coordination Functions and Activities** - Coordination is an essential and mandated responsibility of the Commission. The purpose of the program is to minimize duplication of efforts, maximize limited resources and reduce conflicts among federal, state and local governments sharing responsibility for management of the basin's water resources. Specific coordination activities include management of the Water Quality Advisory Committee (WQAC) and the Water Resources Management Advisory Committee (WRMAC), and coordination with state and federal agencies such as the USACE, USEPA, USGS and the NWS.

**Public Information and Education** - Commission staff will continue to provide public information activities, work to enhance media relations, and increase the Commission's outreach in various regions of the basin. Staff also will continue established public information activities and efforts, such as periodic news releases, the Commission's web site, and the electronic annual report.

**Planning (Comprehensive, Strategic and Water Resources)** - The Commission maintains and, as necessary, updates both a Comprehensive Plan for managing the basin's water resources and program area strategic plans to guide the Commission's work programs and establish program priorities. Implementing the recommended actions of the Comprehensive Plan serves as the foundation for the Commission's annual Water Resources Program. In FY2019 the Commission will continue development of and adopt a new strategic plan.

**General Program Administration** - Internal and external meetings occur that do not relate directly to specific Commission programs. In addition, time is spent on program development, budgeting, periodic program summaries, annual reports, and responses to our signatory members. This budget category also includes costs for the Commission's administrative personnel and programs, such as executive, finance, and human resources.

**Information Technology and Geographic Information Systems (GIS)** - The importance of the Commission's information technology systems continues to grow. The Commission will continue to enhance our proprietary systems and Internet-based databases, and will strive to make increasing amounts of data available electronically via our website, including both water quality and water quantity data. We will also work to develop new systems and processes to share data internally and externally. In FY-2019 the Commission will update its servers at a cost not to exceed \$50,000.