

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

**BUDGET  
RECONCILIATION  
FY-2020**

**March 15, 2019**

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**SUSQUEHANNA RIVER BASIN COMMISSION**  
**BUDGET FOR FISCAL YEAR 2020**

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.

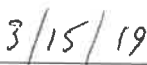
Attached are schedules presenting this budget reconciliation in detail for Fiscal Year 2020, which covers the twelve month period beginning July 1, 2019. Comparative amounts for the budget reconciliation for Fiscal Year 2019 and the adopted budget for Fiscal Year 2020 are also included. All statements 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

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Andrew D. Dehoff  
Executive Director

  
\_\_\_\_\_  
Date

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**BUDGET RECONCILIATION FOR FISCAL YEAR 2020**  
( July 1, 2019 - June 30, 2020)

	General Fund	Water Management Fund (1)	Total
<b>Revenues:</b>			
Member Jurisdictions	\$ 842,000		\$ 842,000
Grants & Contractual	1,995,000		1,995,000
Regulatory Program Fees	4,224,000	\$ 3,500,000	7,724,000
Other Income	342,000	1,230,000	1,572,000
<b>TOTAL REVENUES</b>	<b>\$ 7,403,000</b>	<b>\$ 4,730,000</b>	<b>\$12,133,000</b>
<b>Expenditures:</b>			
Personnel Services	\$ 5,000,000		\$ 5,000,000
Employee Benefits	2,765,000		2,765,000
Special Contractual Services	690,000		690,000
Travel & Subsistence	100,000		100,000
Commission Meetings & Public Hearings	27,000		27,000
Communications, Postage	86,000		86,000
Rent – Equipment, Land & Buildings	40,000		40,000
Printing, Reproduction & Advertising	40,000		40,000
Software - License, Purchase & Maintenance	150,000		150,000
Repairs & Maintenance	162,000		162,000
Other Contractual Services	170,000		170,000
Utilities, Janitorial	115,000		115,000
Supplies & Materials	265,500		265,500
O&M – Cowanesque/Curwensville		830,000	830,000
Billmeyer Quarry Water Storage Agreement		470,000	470,000
Depreciation – Water Storage Rights		1,131,000	1,131,000
Capital Expenditures	440,000		440,000
<b>TOTAL EXPENDITURES</b>	<b>\$ 10,050,500</b>	<b>\$ 2,431,000</b>	<b>\$12,481,500</b>
<b>EXCESS (DEFICIT) OF REVENUE OVER EXPENDITURES</b>	<b>\$ (2,647,500)</b>	<b>\$ 2,299,000</b>	<b>\$ (348,500)</b>
Transfer from Water Management Fund	\$ 1,148,500 (2)	(1,148,500)	-
Transfer from Fiscal Stabilization Fund	\$ 780,000 (3)		\$ 780,000
Transfer from Sustainable Water Resources Fund	\$ 719,000 (4)		\$ 719,000
<b>TRANSFERS IN (OUT)</b>	<b>\$ 2,647,500</b>	<b>\$ (1,148,500)</b>	<b>\$ 1,499,000</b>
<b>EXCESS (DEFICIT) AFTER FUND TRANSFERS</b>	<b>\$ -</b>	<b>\$ 1,150,500</b>	<b>\$ 1,150,500</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-20 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. Implementation costs in excess of the registration fee will be covered by a transfer from the Commission's Fiscal Stabilization Fund. In FY-2020, as a result of funding shortfalls from signatory parties, the Commission will also cover coordination activities, including flood and drought coordination, with Fiscal Stabilization funds.

(4) In FY-20 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 2019</b>	<b>Current Expense Budget FY 2020</b>	<b>Budget Reconciliation FY 2020</b>
Member Jurisdictions: (5)			
New York	\$ 259,000	\$ 281,750	\$ 259,000
Pennsylvania	473,000	\$ 845,250	\$ 237,000
Maryland	346,000	\$ 563,500	\$ 346,000
United States	-	\$ 563,500	\$ -
<b>Subtotal - Member Jurisdictions</b>	<b>\$ 1,078,000</b>	<b>\$ 2,254,000</b>	<b>\$ 842,000</b>
Other Income: (6)			
Grants & Contractual	\$ 2,523,500	\$ 2,390,000	\$ 1,995,000
Regulatory Program Fees	\$ 4,217,575	\$ 3,966,500	\$ 4,224,000
Interest Income, Building Rental & Other	\$ 548,500	\$ 343,500	\$ 342,000
<b>Subtotal - Other Income</b>	<b>\$ 7,289,575</b>	<b>\$ 6,700,000</b>	<b>\$ 6,561,000</b>
<b>TOTAL ALL SOURCES</b>	<b>\$ 8,367,575</b>	<b>\$ 8,954,000</b>	<b>\$ 7,403,000</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**

Class Titles	Budget Reconciliation FY 2019	Current Expense Budget FY 2020	Budget Reconciliation FY 2020
Personnel Services	\$ 5,050,000	\$ 5,375,000	\$ 5,000,000
Employee Benefits	2,740,000	2,885,000	2,765,000
<b>Subtotal – Personnel &amp; Benefits</b>	<b>\$ 7,790,000</b>	<b>\$ 8,260,000</b>	<b>\$ 7,765,000</b>
Special Contractual Services	\$ 813,000	\$ 800,000	\$ 690,000
Travel & Subsistence	100,000	100,000	100,000
Commission Mtgs. & Public Hearings	35,000	40,000	27,000
Communications, Postage	110,000	110,000	86,000
Rent-Equip., Land & Bldgs.	30,000	31,000	40,000
Printing, Reproduction & Advertising	65,000	55,000	40,000
Software Licenses, Purchases & Maintenance	190,000	190,000	150,000
Repairs & Maintenance	161,500	171,500	162,000
Other Contractual Services	140,000	140,000	170,000
Utilities, Janitorial	115,000	115,000	115,000
<b>Subtotal – Contractual Services</b>	<b>\$ 1,759,500</b>	<b>\$ 1,752,500</b>	<b>\$ 1,580,000</b>
Supplies/Other	\$ 329,075	\$ 332,500	\$ 265,500
Capital Expenditures	\$ 495,000	\$ 567,000	\$ 440,000
<b>Total</b>	<b><u>\$ 10,373,575</u></b>	<b><u>\$ 10,912,000</u></b>	<b><u>\$10,050,500</u></b>

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

<b>Appropriation Class</b>	<b>Budget Reconciliation FY2019</b>	<b>Current Expense Budget FY 2020</b>	<b>Budget Reconciliation FY 2020 <sup>(7)</sup></b>
Salaries	\$ 5,050,000	\$ 5,375,000	\$ 5,000,000

**COMPARISON OF STAFFING  
FOR FISCAL YEAR 2020**

<b>Departments</b>	<b>Current Expense Budget FY 2020</b>			<b>Budget Reconciliation FY 2020</b>			<b>Change ( + Or - )</b>		
	Prof.	Cler.	Total	Prof.	Cler.	Total	Prof.	Cler.	Total
Executive	4	1	5	3	1	4	-1	0	-1
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	2	16	0	-1	-1
Planning & Operations	6	0	6	6	0	6	0	0	0
Compliance	9	1	10	10	2	12	1	1	2
Grant Programs	18	1	19	16	1	17	-2	0	-2
<b>Total</b>	<b>61</b>	<b>8</b>	<b>69</b>	<b>59</b>	<b>8</b>	<b>67</b>	<b>-2</b>	<b>0</b>	<b>-2</b>

(7) The FY-2020 budget includes 2% for performance-based increases and bonuses, and 3% for cost of living increases.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
EMPLOYEE BENEFITS**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2019</b>	<b>Current Expense Budget FY 2020</b>	<b>Budget Reconciliation FY 2020</b>
Medical Insurance	\$ 750,000	\$ 800,000	\$ 800,000
Social Security-Commission Share	375,000	385,000	370,000
Workmen's Compensation	30,000	30,000	25,000
Employee Life Insurance	40,000	40,000	40,000
Unemployment Compensation	5,000	5,000	5,000
Recognition & Rewards (8)			25,000
Retirement Plan - Commission Share (9)	1,540,000	1,625,000	1,500,000
<b>Total</b>	<b>\$ 2,740,000</b>	<b>\$ 2,885,000</b>	<b>\$ 2,765,000</b>

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(8) Budget for employee rewards & recognition programs budgeted separately beginning with FY-2020 budget reconciliation at .5% of salaries.

(9) Retirement employer contribution rate budgeted for FY-2020 is 30.1%.



**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
CONTRACTUAL SERVICES**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2019</b>	<b>Current Expense Budget FY 2020</b>	<b>Budget Reconciliation FY 2020</b>
Fees, Financial Services	\$ 45,000	\$ 50,000	\$ 40,000
Fees, Legal & Investigative Services	25,000	25,000	25,000
Fees, Cooperative Programs	86,000	50,000	50,000
Fees, Research & Laboratory Services	150,000	180,000	160,000
Fees, Computer Services Other	10,000	15,000	15,000
Other Services - Professional <sup>(10)</sup>	497,000	480,000	400,000
Travel & Subsistence	100,000	100,000	100,000
Commission Meetings	30,000	35,000	22,000
Public Hearing Expenses	5,000	5,000	5,000
Communications Expenses	95,000	95,000	71,000
Postage	15,000	15,000	15,000
Rent - Land, Buildings & Equipment	30,000	31,000	40,000
Printing & Reproduction	60,000	50,000	35,000
Advertising	5,000	5,000	5,000
Software Purchase, License & Maint. <sup>(11)</sup>	190,000	190,000	150,000
Repairs & Maint.-Bldg. & Grounds	35,000	35,000	40,000
Repairs & Maint.-Office Equip.	1,500	1,500	2,000
Repairs & Maint.-Auto. Equip.	30,000	30,000	25,000
Repairs & Maint.-Lab. Equip.	95,000	105,000	95,000
Insurance	120,000	120,000	140,000
Dues & Memberships	20,000	20,000	30,000
Electric, Heat, Water & Sewage	80,000	80,000	80,000
Janitorial Service	35,000	35,000	35,000
<b>Total</b>	<b>\$ 1,759,500</b>	<b>\$ 1,752,500</b>	<b>\$ 1,580,000</b>

(10) The FY-2020 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.

(11) The FY-2019 budget includes \$60,000 to upgrade the Commission's computer servers.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
SUPPLIES and OTHER**

Appropriation Class	Budget Reconciliation FY 2019	Current Expense Budget FY 2020	Budget Reconciliation FY 2020
Office Supplies	\$ 25,000	\$ 25,000	\$ 30,000
Automotive Supplies (12)	40,000	40,000	40,000
Janitorial Supplies	5,000	5,000	5,000
Computer Supplies	45,000	45,000	20,000
Laboratory Supplies (13)	86,575	90,000	100,000
Miscellaneous Supplies (14)	50,000	50,000	3,000
Subscriptions & Publications	2,500	2,500	2,500
Moving & Recruiting Expenses	5,000	5,000	5,000
Staff Training & Seminars	50,000	50,000	50,000
Miscellaneous	20,000	20,000	10,000
<b>Total</b>	<b>\$ 329,075</b>	<b>\$ 332,500</b>	<b>\$ 265,500</b>

(12) Also includes fuel costs

(13) Includes replacement parts for sondes

(14) Previous budgets included costs to support the installation of metering systems for small projects registering grandfathered sources. Due to lack of demand, this expense was eliminated.

## SUSQUEHANNA RIVER BASIN COMMISSION

### MAJOR OBJECT CLASSIFICATION CAPITAL EXPENDITURES

Appropriation Class	Budget Reconciliation FY 2019	Current Expense Budget FY 2020	Budget Reconciliation FY 2020
Computer Equipment (14)	\$ 10,000	\$ 25,000	\$ 70,000
Automotive Equipment (15)	75,000	75,000	40,000
Office Furniture & Fixtures	60,000	10,000	5,000
Scientific & Laboratory (16)	350,000	457,000	325,000
<b>Total</b>	<b>\$ 495,000</b>	<b>\$ 567,000</b>	<b>\$ 440,000</b>

(14) The Commission will upgrade its operating system to Windows 10 in FY-2020 at a cost of \$40,000.

(15) One Commission vehicle will be replaced in FY-2020.

(16) In FY-2020 the Commission will upgrade a portion of its Remote Water Quality Monitoring Network. The cost of the new units (\$325,000) will be covered by the Commission's Sustainable Water Resources Fund. The FY-2020 budget also includes the purchase of water sampling equipment thru a grant with Pennsylvania Department of Environmental Protection.

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**ALLOCATION BY PRIORITY MANAGEMENT AREA**  
**FOR FISCAL YEAR 2020**

The total expense budget request for Fiscal Year 2020 is \$12,481,500. The budget will support the Commission's programs as follows:

Percent of Total Budget

I.	Sustainable Water Development	61%
II.	Water Quality	13%
III.	Flooding	2%
IV.	Ecosystems	3%
V.	Chesapeake Bay	7%
VI.	Coordination, Cooperation, Public Information and Admin.	14%
	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: Sustainable Water Development**

Regulation of Water Users - Permits.....	\$ 1,666,500
Regulation of Water Users - ABR.....	250,000
Compliance and Enforcement .....	1,452,500
Registration of Grandfathered Projects .....	550,000
Drought Planning & Coordination .....	25,000
Hydrologic Conditions Monitoring Tool.....	75,000
General Hydrologic Studies .....	60,000
Cumulative Water Use and Availability Study.....	140,000
Cowanesque/Curwensville Reservoir Operations .....	2,000,000
Consumptive Use Mitigation Planning .....	350,000
Hydrologic Model Updates .....	50,000
Low Flow Augmentation Operations .....	35,000
Public Water System Assistance Initiative .....	105,000
Mocanaqua Tunnel Feasibility Study.....	55,000
Billmeyer Quarry Consumptive Use Mitigation Project.....	530,000
Tioga-Hammond Lakes Feasibility Study.....	50,000
USACE Environmental Flows Study.....	100,000
Pinchot Lake Water Quality and Low Flow Study.....	42,000
Hydroelectric Project Regulation & Relicensing .....	45,000
<b>Total</b>	<b>\$ 7,581,000</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-2020, 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.

**Hydrologic Conditions Monitoring Tool** - Staff will work to develop a basin-wide Hydrologic Conditions & Project Operations Tracking Tool to (1) monitor existing hydrologic conditions consistent with indices outlined in the Commission’s Drought Coordination Plan, Draft Low Flow Operations Protocol, and Low Flow Protection Policy and (2) track quantitative trigger thresholds linked to drought status, consumptive use mitigation and low flow augmentation releases, and passby flow and conservation release requirements.

**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-2020, staff will maintain and update the water use database, evaluate additional refinements to the tool, and conduct more detailed analyses in priority watersheds.

**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 (\$830,000). 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 Feasibility Study** – 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. Subcontract costs paid to EPCAMR and AES will not exceed \$20,000.

**Billmeyer Quarry Consumptive Use Mitigation Project** – Staff partnered with Lancaster County Solid Waste Management Authority (LCSWMA) to assess the feasibility of using Billmeyer Quarry as a source of consumptive use mitigation for the lower Susquehanna River during low flow periods. Numerous studies were conducted including rare, threatened and endangered species surveys, eradication of invasive quagga mussels, and a pumping test to evaluate quarry storage, impacts to other water users, and quarry recharge. In December 2018, the Commission entered into a water storage agreement with LCSWMA for the use of up to 425 million gallons of stored water in Billmeyer Quarry for consumptive use mitigation. During FY-2020 staff will develop an operations plan for using the water storage asset for consumptive use mitigation during low flow periods. Costs also include \$470,000 for payments due to LCSWMA under the Water Storage Agreement.

**Tioga-Hammond Lakes Feasibility Study** – Staff are interested in partnering with the U.S. Army Corps of Engineers (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.

**USACE Environmental Flows Study** – Under the Planning Assistance to States (PAS) Program, staff will partner with the USACE on a study to assess environmental flows at federal reservoirs in the basin. Significant changes have occurred in the 6 major subbasins since the initial construction of the 15 USACE operated projects. Furthermore, despite recent advances in environmental flow science, no specific study has been conducted to evaluate opportunities for improving environmental flows at each USACE reservoir in the basin. The study will culminate in the development of a scoping plan for updating water control plans at each reservoir.

**Pinchot Lake Water Quality and Low Flow Study** – Staff are partnering with Pennsylvania Department of Conservation and Natural Resources (DCNR), Penn State Cooperative Extension, and local volunteers to monitor

water quality and streamflow at sites upstream and downstream of Pinchot Lake. Staff will also be evaluating options for improving low flow releases at Pinchot Lake during drought conditions.

**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 .....	\$	95,000
Large Waters Assessment .....		55,000
National Aquatic Resource Surveys.....		40,000
Total Maximum Daily Loads for Impaired Stream Reaches .....		315,000
Source Water Protection and Interstate Water Security Activities .....		85,000
Water Quality Restoration & Protection.....		85,000
Water Quality Data Analytics.....		50,000
Remote Water Quality Monitoring Network .....		850,000
<b>Total</b>	<b>\$</b>	<b>1,575,000</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-2020 we will conduct broad, regional survey activities in the Chemung and Upper Susquehanna subbasins 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-2020 will be the major rivers in the Upper, Middle, and West Branch subbasins, including monitoring invasive species such as snakehead, blue catfish, flathead catfish, and gizzard shad; vulnerable species such as the Chesapeake Logperch; and migratory species targeted for restoration such as American eel and American shad.

**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 FY20, 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 Conestoga and Octoraro watersheds in south-central 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-2020, 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.

**Water Quality Restoration & Protection** - The Commission has long collaborated on inter-agency and other stakeholder organization partnerships to restore water quality and related ecosystem functions as the result of legacy mining impacts. Commission staff will continue to pursue and coordinate mine drainage restoration projects and related issues, as well as strengthen existing and develop new partnerships aimed at restoring/protecting water resources that are challenged by agricultural land use, stormwater management, and other development activities. And Commission staff will continue

As warranted, Commission staff will furnish technical support related to site and watershed-scale restoration and protection in the form(s) of:

- collecting habitat and water quality data,
- completing biological community surveys,
- compiling historic data inventories,
- designing site and watershed monitoring approaches,
- partnering for stakeholder outreach/education workshops, and/or,
- preparing concept-level site remediation plans.

Staff also will assist by coordinating among agencies and stakeholder groups to advance specific projects and/or initiatives aimed at elevating awareness or promoting support for restoration and protection activities.

**Water Quality Data Analytics** – The Commission has spent decades collecting chemical, physical, and biological data in the Basin as part of numerous monitoring projects that were sponsored by Section 106, member state funding, and/or internal resources. In addition, other state and federal agencies have been collecting data within the Basin as part of separate monitoring projects while striving to reach their own goals. In the past few years, the Commission

built and expanded a framework allowing staff to pursue data analytics on temporal and spatial scales beyond the purposes of the original study designs under which the data were collected.

Over the last two years, staff have: 1) consolidated 10 years of biological data with drainage area characteristics to allow statistical analysis of biological signals basinwide; 2) analyzed continuous dissolved oxygen, pH, and temperature data collected by the Commission throughout the Basin for indicators of nutrient pollution stress; and, 3) developed a Water Quality Index to provide framework to compare water quality and biologic conditions between watersheds and through time. In 2020, staff will continue these efforts, and will complete analysis for a basinwide flow-ecology relationship study, and delve into other specialized initiatives.

**Continuous In-stream 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 ~70-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 its initial generation of monitoring equipment with upgraded continuous instream monitoring (CIM) equipment. In FY-2020 we will complete the replacement of equipment at a cost of \$325,000. Funding is being provided by the Sustainable Water Resources Fund.

Staff perform routine maintenance checks on the monitoring equipment as well as collect 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-2020, 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 CIM stations that are located on State-owned lands.

## 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: Flooding

Flood Coordination.....	\$	115,000
Tri-County Flood Warning System.....		25,000
USACE Flood Studies .....		55,000
Chiques Creek Flood Resiliency Project.....		50,000
Silver Jackets.....		30,000
<b>Total</b>	<b>\$</b>	<b>275,000</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 Federal Emergency Management Agency (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-2020, costs for the project include maintenance of the cameras and data portal.

**USACE Flood Studies** – The persistent challenge of flooding in basin communities requires appropriate mitigation planning to minimize ongoing risks to life and property. The Commission often partners with the to support FEMA flood studies as well as general flood mitigation studies. In FY-2020, efforts will include Swatara Creek flood inundation mapping, a revised flood study and floodplain mapping for the Frankstown Branch Juniata River, and a revised flood study and floodplain mapping for Duncansville Borough.

**Chiques Creek Flood Resiliency Project** – Building upon project opportunities identified in the Chiques Creek Flood Resiliency Study, completed by the Commission and USACE in 2018, Commission staff will continue to seek partnerships among local stakeholders and sources of funding to design and implement a project that combines flood mitigation with water quality/habitat improvement benefits in the Chiques Creek watershed.

**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 .....	40,000
Water Resources Studies.....	100,000
AMD Restoration Projects.....	75,000
Legacy Mining Feasibility Studies .....	145,000
<b>Total</b>	<b>\$ 400,000</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-2020 the Commission, through funding provided by its Sustainable Water Resources Fund, will continue to support such studies, including: (i) development of an environmental education outreach program for secondary schools in the basin called "Eels in the Classroom"; (ii) environmental eDNA surveillance of invasive fishes in the lower basin; and (iii) development of "water supply forecast maps" depicting current and projected water supply and demand scenarios for Lancaster County, Pennsylvania.

**AMD Restoration Projects** – In FY-2020, the Commission will continue to work on several projects aimed at restoring impaired waters impacted by coal mine drainage, including efforts in Rausch Creek, Tioga River, Catawissa Creek, Bilger Run, and Hans Yost Creek watersheds in Pennsylvania.

**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, and several headwaters streams of Nescopeck Creek. Engineering services not to exceed \$30,000 will be provided by an independent contractor.

## 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 Data Analysis .....	\$	600,000
Chesapeake Bay Midpoint Assessment .....	\$	270,000
<b>Total</b>	<b>\$</b>	<b>870,000</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.

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 for each Pennsylvania county in the Bay watershed. The Commission will engage an independent contractor to serve as a liaison between Counties, the Commission and PADEP during the WIP3 pilot process. He will also further develop the pilot process for implementation for remaining countywide action plans. These services will be provided at a cost not to exceed \$55,000.

## 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, Public Information and Education.....	\$ 565,000
Comprehensive Plan and Water Resources Program .....	240,000
General Program Administration .....	755,500
Information Technology and Geographic Information Systems (GIS) .....	220,000
	\$ 1,780,500

#### **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. Commission staff are also active participants in agency-sponsored programs, coalitions, and working groups including, yet not limited to: Susquehanna River Anadromous Fish Restoration Cooperative (SRAFRFC), the Mid-Atlantic Panel on Aquatic Invasive Species (MAPAIS), and the Pennsylvania Wildlife Action Plan Advisory Committee.

**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.

**Comprehensive Plan and Water Resources Program** - The Compact states that the Commission shall develop and adopt, and may from time to time review and revise, a Comprehensive Plan for the immediate and long range development and use of the water resources of the basin. It also asserts 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. In FY-2020 the Commission will engage a strategic planning contractor, at a cost not to exceed \$50,000, to assist with a substantial update to the Comprehensive Plan by 2021 to coincide with the halfway mark of the 100 year duration of the Compact. Staff will also prepare an annual update to the Water Resources Program for FY-2021.

**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. In FY-2020,



the Commission will engage a contractor to perform a salary survey aimed to measuring the competitiveness of the Commission's salaries to the market, at an estimated cost of \$25,000.

**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-2020 the Commission will upgrade its operating system to Windows 10 at a cost of approximately \$40,000.