

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

**BUDGET RECONCILIATION  
FY-2025**

**June 13, 2024**

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**SUSQUEHANNA RIVER BASIN COMMISSION**  
**BUDGET FOR FISCAL YEAR 2025**

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 request in detail for Fiscal Year 2025, which covers the twelve month period beginning July 1, 2024. Comparative amounts for the budget reconciliation for Fiscal Year 2024 and the adopted budget for 2025 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

\_\_\_\_\_  
June 13, 2024  
Date

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

\_\_\_\_\_  
June 13, 2024  
Date

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**BUDGET FOR FISCAL YEAR 2025**  
**IN SUPPORT OF APPROVED PROGRAMMATIC ACTIVITIES**

The total expense budget request for Fiscal Year 2025 is \$28,982,500. The budget will support implementation of the Comprehensive Plan for the Water Resources of the Susquehanna River Basin and is allocated to the Plan's Priority Management Areas and administration as follows:

<u>Percent of Total Budget</u>	
I. PMA A. Water Supply	37%
II. PMA B. Water Quality	12%
III. PMA C. Flooding and Drought	16%
IV. PMA D. Watershed Management	28%
V. Administration, Coordination & Outreach	7%
 Total	 100%

Details of the proposed activities in each PMA and for Administration, Coordination & Outreach are presented starting on page 11, following detailed statements of Revenue Sources and Expenditures.

**SUSQUEHANNA RIVER BASIN COMMISSION**  
**BUDGET SUMMARY FOR FISCAL YEAR 2025**  
**(July 1, 2024 – June 30, 2025)**

	<b>General Fund</b>	<b>Water Management Fund (1)</b>	<b>Total</b>
Revenues:			
Member Jurisdictions	\$ 1,345,000		\$ 1,345,000
Grants & Other Contractual Agreements	3,205,000		3,205,000
Regulatory Program Fees	4,577,500	\$ 4,700,000	9,277,500
Other Income	910,000	2,640,000	3,550,000
<b>TOTAL REVENUES</b>	<b>\$ 10,037,500</b>	<b>\$ 7,340,000</b>	<b>\$17,377,500</b>
Expenditures:			
Personnel Services	\$ 6,125,000		\$ 6,125,000
Employee Benefits	3,367,000		3,367,000
Special Contractual Services	1,847,000	850,000	2,697,000
Travel & Subsistence	65,000		65,000
Commission Meetings & Public Hearings	30,000		30,000
Communications, Postage	85,000		85,000
Rent – Equipment Land & Buildings	40,000		40,000
Printing, Reproduction & Advertising	26,500		26,500
Software – License, Purchase & Maintenance	240,000		240,000
Repairs & Maintenance	121,500		121,500
Other Contractual Services	195,000	125,000	320,000
Utilities, Janitorial	113,000		113,000
Supplies & Materials	325,500		325,500
Grant Awards	325,000	12,310,000	12,635,000
Cowanesque/Curwensville Water Storage		1,155,000	1,155,000
Billmeyer Quarry Water Storage		35,000	35,000
Depreciation – Water Storage Rights		1,207,000	1,207,000
Capital Expenditures	395,000		395,000
<b>TOTAL EXPENDITURES</b>	<b>\$ 13,300,500</b>	<b>\$ 15,682,000</b>	<b>\$28,982,500</b>
<b>EXCESS (DEFICIT) OF REVENUE OVER EXPENDITURES</b>	<b>\$ (3,263,000)</b>	<b>\$ (8,342,000)</b>	<b>\$ (11,605,000)</b>
Transfer from Water Management Fund	\$ 2,130,000 (2)	(2,130,000)	\$ -
Transfer from Sustainable Water Resources Fund	\$ 1,133,000 (3)		\$ 1,133,000
<b>TRANSFERS IN (OUT)</b>	<b>\$ 3,263,000</b>	<b>\$ (2,130,000)</b>	<b>\$ 1,133,000</b>
<b>EXCESS (DEFICIT) AFTER FUND TRANSFERS</b>	<b>\$ -</b>	<b>\$ (10,472,000)</b>	<b>\$ (10,472,500)</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. In FY-2022 the Commission launched a new grant program designed to support its Consumptive Use Mitigation Policy and is using accumulated reserves to fund the grant program. Grants and other projects and activities funded by the Water Management Fund are identified in the budget narrative starting on page 11.

(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) Pursuant to Resolution 2016-06, monies in the Sustainable Water Resources Fund may be used to support projects and activities that the Commission finds necessary to support its mission as authorized under the Susquehanna River Basin Compact which do not have funding available through other sources. Specific projects and activities funded by the Sustainable Water Resources Fund are identified in the budget narrative starting on page 11.

**SUSQUEHANNA RIVER BASIN COMMISSION**

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

<b>SOURCES</b>	<b>Budget Reconciliation FY 2024</b>	<b>Current Expense Budget FY2025</b>	<b>Budget Reconciliation FY2025</b>
Member Jurisdictions: (4)			
New York	\$ 259,000	\$ 248,000	\$ 259,000
Pennsylvania	739,750	740,000	740,000
Maryland	346,000	493,000	346,000
United States	-	493,000	-
<b>Subtotal – Member Jurisdictions</b>	<b>\$ 1,344,750</b>	<b>\$1,974,000</b>	<b>\$1,345,000</b>
Other Income: (5)			
Grants & Other Contractual Agreements	\$ 2,980,000	\$ 2,685,000	\$ 3,205,000
Regulatory Program Fees	4,553,750	4,460,000	4,577,500
Interest Income, Building Rental & Other	368,000	795,000	910,000
<b>Subtotal – Other Income</b>	<b>\$ 7,901,750</b>	<b>\$ 7,940,000</b>	<b>\$ 8,692,500</b>
 <b>TOTAL ALL SOURCES</b>	<b>\$ 9,246,500</b>	<b>\$ 9,914,000</b>	<b>\$ 10,037,500</b>

(4) In accordance with the Susquehanna River Basin Compact, Section 14.3(c), member jurisdictions are requested to include the apportioned amounts set forth in the current expense budget in their respective budgets next to be adopted, subject to such review and approval as may be required by their respective budgetary processes. Amounts included in the budget reconciliation reflect appropriations included in final approved budgets.

(5) Income from other sources is estimated on the basis of past experience and authorized programs.

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

Class Titles	Budget Reconciliation FY 2024	Current Expense Budget 2025	Budget Reconciliation 2025
Personnel Services	\$ 6,025,000	\$ 6,275,000	\$ 6,125,000
Employee Benefits	3,335,000	3,535,000	3,367,000
<b>Subtotal – Personnel &amp; Benefits</b>	<b>\$ 9,360,000</b>	<b>\$ 9,810,000</b>	<b>\$ 9,492,000</b>
Special Contractual Services	\$ 1,698,500	\$ 2,591,000	\$ 1,847,000
Travel & Subsistence	55,000	60,000	65,000
Commission Mtgs. & Public Hearings	30,000	35,000	30,000
Communications, Postage	80,000	85,000	85,000
Rent-Equip., Land & Buildings	40,000	40,000	40,000
Printing, Reproduction & Advertising	26,500	31,500	26,500
Software Licenses, Purchases & Maintenance	180,000	190,000	240,000
Repairs & Maintenance	121,500	121,500	121,500
Other Contractual Services	180,000	185,000	195,000
Utilities, Janitorial	105,000	105,000	113,000
<b>Subtotal – Contractual Services</b>	<b>\$ 2,516,500</b>	<b>\$ 3,444,000</b>	<b>\$ 2,763,000</b>
Supplies/Other	\$ 555,000	\$ 520,000	\$ 650,500
Capital Expenditures	\$ 360,000	\$ 231,000	\$ 395,000
<b>TOTAL</b>	<b>\$12,791,500</b>	<b>\$14,005,000</b>	<b>\$13,300,500</b>

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
PERSONNEL SERVICES**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2024</b>	<b>Current Expense Budget FY 2025</b>	<b>Budget Reconciliation FY 2025 <sup>(6)</sup></b>
Salaries	\$ 6,025,000	\$ 6,275,000	\$ 6,125,000

**COMPARISON OF STAFFING  
FOR FISCAL YEAR 2024**

<b>Departments</b>	<b>Budget Reconciliation FY 2024</b>			<b>Budget Reconciliation FY 2025</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	5	1	6	4	1	5	-1	0	-1
Administrative & Staff Services	9	1	10	8	1	9	-1	0	-1
Gov't/Public Affairs	2	0	2	2	0	2	0	0	0
Project Review	13	2	15	13	3	16	0	1	1
Planning & Operations	7	0	7	6	0	6	-1	0	-1
Compliance	9	1	10	9	1	10	0	0	0
Grant Programs	16	1	17	15	1	16	-1	0	-1
<b>TOTAL</b>	<b>61</b>	<b>6</b>	<b>67</b>	<b>57</b>	<b>7</b>	<b>64</b>	<b>-4</b>	<b>1</b>	<b>-3</b>

(6) The FY-2025 budget includes 7.0% for salary increases and bonuses.



**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
EMPLOYEE BENEFITS**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2024</b>	<b>Current Expense Budget FY 2025</b>	<b>Budget Reconciliation FY 2025</b>
Medical Insurance	\$ 900,000	\$ 1,000,000	\$ 850,000
Social Security - Commission Share	450,000	450,000	450,000
Worker's Compensation	25,000	25,000	15,000
Employee Life Insurance	25,000	25,000	22,000
Unemployment Compensation	10,000	10,000	5,000
Recognition & Rewards	25,000	25,000	25,000
Retirement Plan – Commission Share (7)	1,900,000	2,000,000	2,000,000
<b>TOTAL</b>	<b>\$ 3,335,000</b>	<b>\$ 3,535,000</b>	<b>\$ 3,367,000</b>

(7) Retirement plan employer contribution rate budgeted for FY-2025 is 33.0% of payroll.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
CONTRACTUAL SERVICES**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2024</b>	<b>Current Expense Budget FY 2025</b>	<b>Budget Reconciliation FY 2025</b>
Fees, Financial Services	\$ 53,500	\$ 60,000	\$ 50,000
Fees, Legal & Investigative Services	20,000	20,000	20,000
Fees, Research & Laboratory Services	170,000	145,000	145,000
Fees, Computer Services Other	20,000	30,000	25,000
Other Services – Professional (8)	1,435,000	2,336,000	1,607,000
Travel & Subsistence	55,000	60,000	65,000
Commission Meetings	20,000	25,000	20,000
Public Hearing Expenses	10,000	10,000	10,000
Communications Expenses	65,000	70,000	70,000
Postage	15,000	15,000	15,000
Rent – Land, Buildings & Equipment	40,000	40,000	40,000
Printing & Reproduction	25,000	30,000	25,000
Advertising	1,500	1,500	1,500
Software Purchase, License & Maint.	180,000	190,000	240,000
Repairs & Maint. – Building & Grounds	60,000	60,000	60,000
Repairs & Maint. – Office Equipment	1,500	1,500	1,500
Repairs & Maint. – Auto Equipment	20,000	20,000	20,000
Repairs & Maint. – Lab Equipment	40,000	40,000	40,000
Insurance	155,000	155,000	165,000
Dues & Memberships	25,000	30,000	30,000
Electric, Heat, Water & Sewage	75,000	75,000	75,000
Janitorial Service	30,000	30,000	38,000
<b>TOTAL</b>	<b>\$ 2,516,500</b>	<b>\$ 3,444,000</b>	<b>\$ 2,763,000</b>

(8) The FY-2025 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

Appropriation Class	Budget Reconciliation FY 2024	Current Expense Budget FY 2025	Budget Reconciliation FY 2025
Office Supplies	\$ 20,000	\$ 20,000	\$ 15,000
Automotive Supplies (9)	40,000	50,000	50,000
Janitorial Supplies	2,500	2,500	3,000
Computer Supplies	40,000	40,000	15,000
Laboratory Supplies	100,000	125,000	135,000
Subscriptions & Publications	10,000	10,000	10,000
Moving & Recruiting Expenses	2,500	2,500	2,500
Staff Training & Seminars	50,000	50,000	50,000
Grant Awards (10)	270,000	150,000	325,000
Miscellaneous (11)	20,000	70,000	45,000
<b>TOTAL</b>	<b>\$ 555,000</b>	<b>\$ 520,000</b>	<b>\$ 650,500</b>

(9) Also includes fuel costs

(10) Grant awards include the Commission's Stream and Watershed Enhancement Grant Program. The Commission will also provide assistance to project sponsors for the purchase, installation or maintenance of water level monitoring equipment through its project sponsor assistance program. Payments made to awardees of the Conowingo WIP – Financing Authority MOU with the State of Maryland are also included (see page 23 for more details on both of the programs).

(11) The Commission will provide assistance to project sponsors for the purchase, installation or maintenance of water level monitoring equipment through its project sponsor assistance program.

**SUSQUEHANNA RIVER BASIN COMMISSION**

**MAJOR OBJECT CLASSIFICATION  
CAPITAL EXPENDITURES**

<b>Appropriation Class</b>	<b>Budget Reconciliation FY 2024</b>	<b>Current Expense Budget FY 2025</b>	<b>Budget Reconciliation FY 2025</b>
Computer Equipment	\$ 55,000	\$ 40,000	\$ 55,000
Automotive Equipment (12)	80,000	100,000	100,000
Office Furniture & Fixtures	5,000	5,000	5,000
Scientific & Laboratory (13)	220,000	86,000	235,000
<b>TOTAL</b>	<b>\$ 360,000</b>	<b>\$ 231,000</b>	<b>\$ 395,000</b>

(12) Two Commission vehicles will be replaced in FY-2025.

(13) In FY-2024 the Commission replaced data loggers, which are a component of its Continuous In-stream Monitoring Network. In FY-25 the Commission will replace continuous in-stream monitoring hardware components (sondes and data loggers) that are approaching end-of-life.

## PRIORITY MANAGEMENT AREA A: WATER SUPPLY

**Goal:** Water supply is sufficient to meet diverse demands.

**Vision:** All users of the Basin’s water resources have reliable, conflict-free, and sustainable water supply for current and future generations, even as demographic, economic, and climate conditions evolve.

### Programs

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

Regulation of Water Users – Permits .....	\$ 1,635,000
Regulation of Water Users – ABR .....	392,000
Regulation & Policy Updates .....	160,000
Compliance and Enforcement .....	1,550,000
Hydroelectric Project Regulation and Relicensing .....	<u>100,000</u>
<b>Subtotal – General Fund</b>	<b>\$ 3,837,000</b>
Public Water Supply Assistance Initiative .....	125,000
Project Sponsor Assistance Initiative .....	<u>175,000</u>
<b>Subtotal – Sustainable Water Resources Fund</b>	<b>\$ 300,000</b>
Cumulative Water Use & Availability Study .....	155,000
Hydrologic Model Updates .....	35,000
Public Water Supply Water Loss Reduction Projects .....	55,000
Integrated Water Resources Management Pilot Projects .....	285,000
Susquehanna Water Use Network .....	75,000
Project Review Fee Discounts and Exemptions .....	110,000
Consumptive Use Mitigation Grant Program Administration .....	235,000
Consumptive Use Mitigation Grants – Demand Modification Projects .....	5,455,000
Consumptive Use Mitigation Grants – Water Supply Projects .....	<u>145,000</u>
<b>Subtotal – Water Management Fund</b>	<b>\$ 6,550,000</b>
<b>TOTAL PMA A: WATER SUPPLY</b>	<b>\$ 10,687,000</b>

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

##### **Funding Provided by the General Fund:**

**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).

**Regulation & Policy Updates** - The Commission continuously reviews and periodically proposes updates to its regulations and policies which are designed to provide clarity to project sponsors, target only the most appropriate activities, and improve efficiency and effectiveness of regulatory reviews.

**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 approval, and enforcement actions against companies that fail to gain Commission approval or violate the terms and conditions of approvals. The Commission also manages and inspects projects registered as grandfathered projects. These costs also include the cost of maintaining the Sayre, Pennsylvania office.

**Hydroelectric Project Regulation and Relicensing** - The Commission will continue to be actively engaged with partner agencies and stakeholders in the relicensing of hydroelectric projects located in the Susquehanna River Basin. Key resource issues of focus typically include 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, National Environmental Policy Act document reviews, Section 401 Water Quality Certificate conditions, license requirement implementation, etc. throughout the relicensing processes.

#### **Funding Provided by the Sustainable Water Resources Fund:**

**Public Water Supply Assistance Initiative** – Through this initiative Commission staff provide both general and focused education and system-specific guidance to small municipal water supply project sponsors that meet eligibility requirements, lack financial and technical capabilities, and are subject to Commission groundwater withdrawal regulations. Staff also provide technical assistance related to groundwater withdrawal application process and aquifer testing requirements, and hydrogeologic guidance to assist in the development, management and protection of groundwater sources. Assistance also includes requirements related to satisfying post-approval conditions, including technical assistance, loaning or purchasing equipment, and initial review of short-term data collection activities.

**Project Sponsor Assistance Initiative** – This effort is an extension of the Public Water Supply Assistance Initiative described above. Staff will provide technical assistance, including meeting prior to water withdrawal applications being submitted, to small financially-challenged project sponsors to facilitate the completion of the Commission's aquifer testing and application requirements. Costs include assistance with purchasing, installing or maintaining water level monitoring equipment, with a facility cap of \$7,500 per year per project, to qualifying facilities.

#### **Funding provided by the Water Management Fund:**

**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-2025, staff will maintain and update the water use database, develop future water use and availability projections, identify potentially stressed areas, and conduct more detailed analyses in priority watersheds.

**Hydrologic Model Updates** – Commission staff will continue to make necessary updates and refinements to our 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.

**Public Water Supply Water Loss Reduction Projects** - Commission regulations contain water conservation standards, which require public water supply projects to reduce distribution system losses to levels not exceeding 20% of the gross withdrawal. Leveraging reported water use and related monitoring data, staff have compiled a list of public water supply systems with losses near or exceeding this threshold. This effort is aimed at providing technical assistance and/or grant funding support to these systems to help implement water loss reduction projects that decrease their unaccounted for water loss.

**Integrated Water Resources Management Pilot Projects** - The Commission will conduct an assessment of sustainable water availability and use for the Wiconisco, Mahantango, Pine and Deep watersheds with special focus on the region's importance with respect to agricultural potato production. The assessment will characterize the hydrologic and aquatic ecosystem conditions within the watershed, in order to assess for any potential impacts due to irrigation and other uses

during low flow conditions. The work will also provide assistance to the several agricultural operations that may need to seek Commission approval for withdrawals in the watershed, and costs may also include direct assistance to those operations for monitoring water withdrawals and irrigation practices. Contractor costs of \$30,000 are included.

The Commission will also conduct an assessment of sustainable water availability and use for the Little Conestoga watershed, with a sub-focus on the Swarr Run tributary. The watershed overall faces challenges associated with agriculture and urbanization with past/ongoing water quality and quantity impacts, while also experiencing increased water demands. Contractor costs of \$30,000 are included.

**Susquehanna Water Use Network** – The Commission will develop a website that will provide Commission and member state agency water use permit information already available to the Commission in a dashboard format. This application will allow review of all known, reported water use data regardless of the permitting or registering agency, and will display reported water use trends for selected facilities and sources in graphical format. The website will facilitate improved water management of the Basin by allowing for better aligned water use data in terms of project locations, attribute information, reported water use tracking and compliance, and identification of data gaps.

**Project Review Fee Discounts and Exemptions** – Projects that propose the use of abandoned mine drainage or treated wastewater, and those that change their method of mitigation from paying the consumptive use fee to using discontinuance, on-site storage, other Commission approved alternative mitigation methods, or any combination of these, are eligible for discounted fees. Agricultural projects that use water primarily to raise food, fiber or forage crops, trees, flowers, shrubs, turf products, livestock and poultry are exempt from fees. These fee discounts and exemptions are funded by the Commission’s Water Management Fund.

**Consumptive Use Mitigation Grant Program Administration** – The Commission’s Consumptive Use Mitigation Grant Program was established to accelerate implementation of on-the-ground projects to mitigate for consumptive use, especially during critical low flow periods and droughts. The grant program focuses on soliciting and funding consumptive use mitigation projects within priority watersheds in the basin. Costs for administration of the grant program, grant management software implementation, and the Commission’s annual solicitation for proposals and review and selection of projects it will fund are included.

**Consumptive Use Mitigation Grants - Demand Modification Projects** –A focus of the grant program is identification and funding for demand modification projects that result in increased water conservation, recycling, and reuse. Grant payments for demand modification projects are estimated at \$5,485,000.

**Consumptive Use Mitigation Grants - Water Supply Projects** – Another focus of the grant program is identification and funding for water supply projects that can enhance supply and reliability/resiliency during drought. Grant payments for water supply projects are estimated at \$125,000.

## PRIORITY MANAGEMENT AREA B: WATER QUALITY

**Goal:** Waters throughout the Basin exhibit good quality.

**Vision:** The waters of the Basin meet or exceed water quality standards and are able to support desired water supply, aquatic life, and recreational uses.

### Programs

#### AREA B: Water Quality

Subbasin Surveys .....	\$ 90,000
Large Waters Assessment .....	75,000
National Aquatic Resource Surveys .....	100,000
Total Maximum Daily Loads and Advanced Restoration Support .....	160,000
Total Maximum Daily Load Development .....	50,000
Monitoring and Assessment of Lakes, Recreation and Public Water Supply .....	105,000
Surface Water Quality Monitoring at Continuous Instream Monitoring Stations .....	100,000
Lower Susquehanna Source Water Protection Program .....	70,000
Water Quality Restoration and Protection .....	50,000
Chesapeake Bay Non-Tidal Network Monitoring .....	390,000
New York Water Quality Monitoring Collaborative .....	135,000
Harmful Algal Bloom Monitoring and Assessment .....	30,000
Morris Run Abandoned Mine Drainage Treatment Plant .....	1,150,000
Moshannon Creek AMD Development Project .....	50,000
Continuous In-stream Monitoring Network .....	<u>605,000</u>
<b>Subtotal – General Fund</b>	<b>\$ 3,160,000</b>
Legacy Mining Feasibility Studies .....	200,000
Continuous In-stream Monitoring Network Sonde Replacement.....	<u>210,000</u>
<b>Subtotal – Sustainable Water Resources Fund</b>	<b>\$ 410,000</b>
Harmful Algal Blooms in the Tioga Watershed .....	<u>30,000</u>
<b>Subtotal – Water Management Fund</b>	<b>\$ 30,000</b>
 <b>TOTAL PMA B: WATER QUALITY</b>	 <b>\$ 3,600,000</b>

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

##### **Funding Provided by the General Fund:**

**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. Subbasin Surveys involve collection of chemical, biological, and physical data. Subbasin-scale watershed assessments provide valuable macroinvertebrate, water quality, physical habitat, and discharge information to interested federal, state, and local parties located within the targeted subbasins. The Commission will analyze probabilistic data that were collected in FY-2023 in the Middle Susquehanna Subbasin. A probabilistic sample design will be applied in the West Branch Susquehanna Subbasin in FY-2025. The data and findings collected as part of this program will provide information to PADEP for use in the 305(b) portion of their Integrated Reports.

**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 main stem 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, as well as integrate source water protection monitoring activities to enhance protection of public drinking water supplies that rely on the main stem Susquehanna River and its major tributaries. Focus for FY-2025 will be the non-wadable rivers throughout the entire Basin. A probabilistic sample design will be used that captures 8-10 locations and includes: water chemistry parameters, instantaneous water quality indicators, macroinvertebrates, fish, and eDNA measurements.

**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 EPA’s schedule 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 FY-2025, the Commission will survey up to 10 NRSA sites in Pennsylvania and New York.

**Total Maximum Daily Loads and Advanced Restoration Plan Support** – Partnerships forged over many decades between the Commission and stakeholders in the Chiques Creek and Octoraro Creek watersheds, including flood resiliency and agricultural outreach efforts, uniquely qualify the Commission to serve in both leadership and liaison roles with stakeholder groups comprised of representatives from local government, citizen-based watershed groups, industry, and academia in these two watersheds.

The Commission will continue to closely coordinate with PADEP’s Central Office and Southcentral Regional Office in support of Advanced Restoration Plan development and implementation activities in some of the most extensively-impaired watersheds in Lower Susquehanna counties that cover all or parts of Dauphin, Lebanon, Lancaster, and Chester. These efforts involve participation and leadership on multiple work groups and steering committees associated with the Lower Susquehanna Regional Partnership, led by Penn State University Agriculture & Environment Center, the Chiques Creek Advanced Restoration Plan, and the Upper Octoraro Creek Source Water Collaborative and Total Maximum Daily Load implementation activities. Each of these locally-focused initiatives complement and exist within Pennsylvania’s overall Chesapeake Bay TMDL Watershed Improvement Plan Phase 3. Commission support also includes pre- and post- BMP implementation monitoring, modeling of pollutant loading sources and their impacts, nutrient pollutant-reduction scenario models, periodic updates to the inventory of pollutant-reduction opportunities, and operation and maintenance of four real-time continuous in-stream monitoring stations – two in Chiques Creek watershed and two in Octoraro Creek watershed. The Commission will also continue to collect data with regard to the proposed Roller Mill Dam removal project on Chiques Creek pursuant to a long-term case study to assess the effects of low-head dam removal on sediment and nutrient pollution loads, habitat conditions, and the aquatic life community.

**Total Maximum Daily Load Development** – The Commission will support PADEP’s efforts to satisfy Clean Water Action (CWA) Section 303(d) and Section 305(b) requirements through development of up to four TMDLs. Development will include assimilation and evaluation of existing data according to CWA/PADEP, assessment protocols, watershed reconnaissance and source characterization, reference watershed selection, model development for both reference and impaired watersheds, and recommended next steps to achieve TMDL targets.

**Monitoring and Assessment of Lakes, Recreation and Public Water Supply** – The Commission will also support PADEP by completing monitoring and assessment of five lakes. Activities include implementation of monitoring protocols, quality assurance audits, compilation of data and analyses pursuant to assessment methods, and development of final assessment reports.

The Commission will also complete surface water quality monitoring and potable water supply use assessment of two watersheds selected for recreation use assessment and one watershed selected for PWS use assessment. Assessments will include implementation of monitoring protocols, quality assurance audits, data management and evaluation pursuant to assessment methods, and development of final assessment reports.

**Surface Water Quality Monitoring at Continuous Instream Monitoring Stations** – The Commission will implement PADEP’s chemical, physical and biological data collection protocols and quality assurance project plan at nine of the Commission’s continuous instream monitoring stations. PADEP staff will utilize data from the Commission’s nine CIM

stations to calibrate and refine the next phase of Pennsylvania's Eutrophication Cause Determination assessment protocol for streams.

**Lower Susquehanna Source Water Protection Program** - Staff will continue to support implementation of regional source water protection management measures that benefit public and private water supply systems within the Lower Susquehanna River Basin. Staff also will continue to operate, maintain, and provide data for the Early Warning System used by public water suppliers with intakes on main stem rivers in the Basin that was established by the Commission in 2003, and expanded in 2018. 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-2025, the Commission will continue to organize and formalize aspects of the Lower Susquehanna Source Water Protection Partnership through promotion of awareness among members/affiliates about topical issues, as well as participation in regional and national source water protection collaborative efforts and activities.

**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.

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

- collecting habitat, aquatic life, and water quality data,
- completing biological community surveys,
- compiling historic data inventories,
- analyzing long-term water quality monitoring data for pollutant trends & loads,
- evaluating CIM data according to PADEP Eutrophication Cause Determination protocol that defines nutrients as a cause of stream impairment,
- 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.

**Chesapeake Bay Non-Tidal Network Monitoring** - This program was initiated in FY-1985, and provides data that are critical for calibration of the Chesapeake Bay watershed model, estimating pollutant loads and trends, and evaluation of Bay-tributary strategy activities. Monthly samples and samples from a target of two storm/high flow events per season will be collected from the five (5) long-term monitoring sites on the Susquehanna River at Towanda and Danville, 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 22 additional sites in Pennsylvania, New York, and Maryland. The Commission will continue to work with its member states, USEPA, USGS, and other partners to maintain and optimize information obtained from the monitoring network to support state tributary strategies and the overall Chesapeake Bay cleanup effort. The Commission will also continue to analyze flow-normalized concentrations, loads, and trends annually and update a web-enabled story map.

**New York Water Quality Monitoring Collaborative** - The Commission will lead the Southern Tier New York Susquehanna Basin Monitoring Collaborative (Collaborative). The main goal of the Collaborative is to build a regional surface water quality monitoring coordinating body. Other members of the Collaborative include the Southern Tier Central and Southern Tier 8 regional planning boards, the Upper Susquehanna Coalition, the Alliance for Aquatic Resource Monitoring, and New York State Department of Environmental Conservation, Division of Water.

The presence of a regional collaborative that regularly communicates and keeps tabs on water quality conditions in a comprehensive manner through shared resources will provide an enhanced model for continuing to ensure resources are deployed in an efficient and effective manner, and will ensure that no certain area suffers from a lack of attention and as a

result has degraded water quality conditions. The project will provide a strong, extensive baseline dataset from which to make trend determinations, which can be used to inform needed management decisions regarding changing climate conditions and any associated impact to the availability of water resources.

**Harmful Algal Bloom Monitoring and Assessment** – Populations of certain algae and bacteria can grow explosively and cascade into various environmental, ecological, and even human health problems. The Commission is partnering with an interagency work group in Pennsylvania to exchange information and cultivate more thorough understanding of measures to protect, preempt, predict, and mitigate impacts that arise from HABs. Additionally, Commission staff are working with a research team at Harrisburg University on a pilot project to pair satellite-based multispectral sensor measurements with in-lake chlorophyll and turbidity data to explore relationships that may predict precursor conditions that ultimately trigger HAB events. Commission staff also will continue in-lake monitoring, along with on-going tributary monitoring, of Octoraro Reservoir in effort to better understand/forecast HABs event precursor conditions in order to mitigate their effects. The Octoraro Reservoir is the main water source for Chester Water Authority, a PWS that serves nearly a million users. Owing mostly to nutrient enrichment in the watershed and reservoir, Chester Water Authority frequently, and at substantial cost to the utility, must blend raw water from a secondary source (Lower Susquehanna River).

**Morris Run Abandoned Mine Drainage Treatment Plant** – Begun in FY-2022, the Commission continues to assist Pennsylvania’s Department of Environmental Protection, Bureau of Abandoned Mine Reclamation (BAMR) to build an advanced treatment plant to remediate principle mine drainage sources in the Tioga River watershed. In FY-2025 the Commission will issue multiple Request for Proposals, evaluate and rank bid packages, and in conjunction with the project’s Design Team (comprised of BAMR, federal Office of Surface Mining and Environmental Restoration, and Commission representatives), will award contracts to hire contractors for three separate project elements: (i) build the advanced treatment plant; (ii) build the conveyance apparatuses; and, provide oversight of the project construction contractor’s activities. A total of \$990,000 of contractor costs are included.

**Moshannon Creek AMD Development Project** – Moshannon Creek’s abandoned mine drainage restoration has always been considered unattainable due to extensive and widespread sources of legacy mining pollution dispersed throughout nearly half of the watershed area. The pessimistic view regarding recovery of Moshannon Creek began to change in 2020 when the Commission and Moshannon Creek Watershed Association completed a watershed assessment that considered the entire Moshannon Creek Watershed. The 2020 comprehensive assessment identified three primary AMD sources in the watershed that if all are treated, will improve water/habitat quality and substantially recover aquatic life communities across most of the watershed. In FY-2024, the Commission received funding by a grant through PADEP to characterize AMD conditions in one of the three primary source areas; i.e., the Osceola Mills source area. The Commission’s characterization activities will culminate in development of technically-feasible treatment options to treat the main AMD pollution discharges in the Osceola Mills area.

**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 real-time continuous in-stream monitoring (CIM) project formerly known as the Remote Water Quality Monitoring Network (RWQMN) that makes water quality indicator data publicly accessible in real-time through the Commission’s web interface. In addition to the real-time CIM stations, the Commission operates additional CIM stations throughout the Basin to support various Commission projects, partner initiatives, and data needs. The Commission’s CIM program is supported by a blend of revenue sources that include internal resources as well as contracts with member jurisdiction agencies such as the Pennsylvania Department of Conservation and Natural Resources (DCNR) and PADEP, USEPA Clean Water Act and other grant-funded projects and private industry. DCNR funding supports O&M and data analytics at 9 CIM stations that are located on state-owned lands.

In addition to the core water quality indicators, select stations are equipped with sensors that measure water level, chlorophyll, and/or nitrogen. Staff perform scheduled and trouble-shoot maintenance actions on CIM equipment as well as collect supplemental data/information such as aqueous chemistry, stream discharge, biologic community (benthic macroinvertebrate, fish, periphyton community), and habitat information. Data developed through the Commission’s CIM projects support a growing myriad of aquatic science applications by members of the Commission as well as analysts in numerous other organizations – the Commission’s CIM program is nationally and internationally recognized for its unparalleled scientific value.

### **Funding Provided by the Sustainable Water Resources Fund:**

**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 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, permitting, and even certain types of implementation (e.g. soil decompaction & amendment, land-clearing, etc.) activities necessary to complete such projects. In FY-2025, funding will support investigation, design, permitting, and certain related activities to ensure a steady progression of shovel-ready AML/AMD projects exists.

**Continuous In-stream Monitoring Network Sonde Replacement** - To ensure the continuity and integrity of data collected by the Network, the Commission will replace continuous in-stream monitoring hardware components (sondes and data loggers) that are approaching end-of-life.

### **Funding Provided by the Water Management Fund:**

**Harmful Algal Blooms in the Tioga Watershed** – Harmful algal blooms (HABs) are largely fueled by excess nutrients, like nitrogen and phosphorus, which stimulate rapid algae growth in aquatic ecosystems. The Tioga River watershed is severely impacted by legacy mining activities and is a current focal point of joint efforts led by the Commission for extensive AMD remediation and restoration. With AMD treatment slated to begin in the next 18 months, this study aims to gain a better understanding of the nutrient cycling in the Tioga River and the Tioga Reservoir prior to AMD treatment in the Tioga River watershed, with a goal of evaluating and mitigating the potential for harmful algal blooms in the reservoir after treatment.

## PRIORITY MANAGEMENT AREA C: FLOODING AND DROUGHT

**Goal:** Communities are more resilient to flooding and drought.

**Vision:** Basin communities will be prepared for and equipped to mitigate the effects of flooding and drought in a changing climate, minimizing loss of life and property, economic disruption, and adverse environmental impacts.

### Programs

#### **AREA C: Flooding and Drought**

Flood Coordination.....	\$ 110,000
Tri-County Flood Warning System .....	20,000
Flood Studies .....	50,000
Susquehanna Flood Warning & Response System .....	85,000
Middle Susquehanna Flood Mitigation .....	60,000
Silver Jackets .....	165,000
General Hydrologic Studies .....	<u>60,000</u>
<b>Subtotal – General Fund</b>	<b>\$ 550,000</b>
Climate Change Studies and Research .....	<u>100,000</u>
<b>Subtotal – Sustainable Water Resources Fund</b>	<b>\$ 100,000</b>
Cowanesque/Curwensville Reservoir Operations .....	2,334,000
Consumptive Use Mitigation Planning .....	185,000
Low Flow Augmentation Operations .....	35,000
Drought Monitoring .....	70,000
Drought Management Strategy Update .....	145,000
Consumptive Use Mitigation Grants – Project Operations .....	955,000
Billmeyer Quarry Consumptive Use Mitigation Project .....	<u>173,000</u>
<b>Subtotal – Water Management Fund.</b>	<b>\$ 3,897,000</b>
<b>TOTAL PMA C: FLOODING AND DROUGHT</b>	<b>\$ 4,547,000</b>

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

##### **Funding Provided by the General Fund:**

**Flood Coordination** – Commission staff will facilitate existing partnerships and work to develop new partnerships at the federal, state and community level that leverage available resources to provide flood risk reduction techniques and technology to impacted communities across the basin. Focusing on community based needs, partnerships will plan, design, and implement solutions to facilitate understanding and response to flood events. Additionally, staff will be responsive to media, legislative, and general request for flood related information and products.

**Tri-County Flood Warning System** – Commission staff, under a Federal Emergency Management Agency (FEMA) grant, conducted a pilot project in 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-2025, costs for the project include maintenance of the cameras and data portal.

**Flood Studies** – The persistent challenge of flooding in basin communities requires appropriate mitigation planning to minimize ongoing risks to life and property. The Commission will be responsive to partner requests for assistance relative to hydraulic and hydrologic studies that seek to characterize the nature and extent of flood risk within the basin. Efforts typically include river bathymetry surveys, hydraulic structure surveys, stormwater facility surveys, hydrologic analyses

and modeling, flood mapping quality assurance reviews, technical report preparation, etc. Staff will assist the United States Army Corps of Engineers (USACE) with data acquisition in support of various FEMA flood studies. In addition, the Commission will continue to leverage a long standing partnership with NOAA National Weather Service by continuing work to operationalize recent advancements to the National Water Model and related flood inundation map projects.

**Susquehanna Flood Warning & Response System** – Originally developed to serve riverine communities protected by the Wyoming Valley Levee System, SRBC, in partnership with USACE and others, completed Version 1.0 of the Susquehanna Flood Warning and Response System. The online tool provides expected damages associated with various levels of flooding as well as response actions related to forecast stage. This project will expand the functionality and accessibility of Version 1.0 by developing additional reporting features and incorporating additional communities with available inundation map libraries. Providing a tool such as this, to community officials and stakeholder agencies, facilitates hazard mitigation planning, flood event response, and recovery after an event.

**Middle Susquehanna Flood Mitigation** - The Commission will assist the Pennsylvania Emergency Management Agency (PEMA) with hazard mitigation outreach and planning in the Susquehanna River Basin. Through funds administered by PEMA from the Federal Emergency Management Agency’s Flood Mitigation Assistance Program, PEMA and the Commission will provide outreach and technical services to Communities with demonstrated flood risk, have been designated as FEMA “Community Disaster Resilience Zone”, or are otherwise socially vulnerable with available inundation mapping. Commission staff, through contracted services, will continue development of the Susquehanna Flood Warning and Response System by collecting flood risk data and integrating with existing inundation mapping providing risk assessment and understanding critical to the hazard mitigation planning process. Flood data collection costs will not exceed \$40,000. Additionally, Commission staff will coordinate outreach to promote the use of Federal Hazard Mitigation grant funding for projects which build resiliency at both community and watershed scales.

**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. In FY25, Commission staff will continue with design and development of the Montour County Flood Warning System, a Silver Jackets effort awarded in Federal FY24. Additionally, Commission staff is anticipating award in Federal FY25 of a project to verify National Water Model map products. The project will involve collecting flood event driven data before, during, and after a flood event in real time and utilizing the data to calibrate the National Water Model for more accurate inundation map product. Under this project, the Commission will enter into a Joint Funding Agreement with USGS, including \$75,000 of Commission funding, to provide rapid deployment stream gaging and indirect flow measurements.

**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 tools, preparing low flow forecasts for key stream gages that drive project operations, enhancing ecosystem flow recommendations compliance tool, etc.

#### **Funding Provided by the Sustainable Water Resources Fund:**

**Climate Change Studies and Research** - The Commission’s new Comprehensive Plan outlines climate change as a cross-cutting challenge that will need to be addressed throughout the Susquehanna River Basin. Staff will continue to assess regional climate projections and their implications to future hydrologic conditions in both surface water and groundwater settings. Staff will also continue to participate in the HyperFacets climate research project funded by the Department of Energy, run by leading climate science experts across the country. All of this work will provide valuable climate science insight and data for informing the Commission’s water resources planning and management efforts.

## **Funding Provided by the Water Management Fund:**

**Cowanesque/Curwensville Reservoir Operations** - The Commission owns water supply storage at Cowanesque and Curwensville Lakes. Costs include depreciation of water storage rights (\$1,169,000), and operating and maintenance costs for Cowanesque and Curwensville Lakes (\$1,155,000). The Commission's share of the operating and maintenance costs for Cowanesque Lake are passed through to Constellation Generation, LLC and Talon Generation, LLC.

**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 implement the Consumptive Use Mitigation Policy which provides 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 memorializes contemporary consumptive use mitigation criteria utilized by the Commission in formulating and implementing consumptive use mitigation projects. Engineering support will be provided by the Commission's professional engineering contractor at a cost not to exceed \$100,000.

**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, Cresson Abandoned Mine Drainage Treatment Plant, and Billmeyer Quarry.

**Drought Monitoring** – 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.

**Drought Management Strategy Update** – The Commission's Drought Coordination Plan describes the Commission's drought management authority, drought watch, warning, and emergency stages, monitoring data and criteria for determining drought stage, and drought response actions by the Commission and partner agencies. Since adoption of the plan in 2000, monitoring networks have changed, data portals have improved, new drought indicators have emerged, and climate science research has provided new insights. Accordingly, there is a need to update the Commission's drought monitoring, early warning, and management procedures and tools to increase drought preparedness in the Basin.

**Consumptive Use Mitigation Grants – Project Operations** - The Commission's Consumptive Use Mitigation Grant Program was established to accelerate implementation of on-the-ground projects to mitigate for consumptive use, especially during critical low flow periods and droughts. This includes project operations that result in improved reservoir, conjunctive use, and drought operations. Grant payments for project operations projects funded by the grant program are estimated at \$935,000 for FY-25.

**Billmeyer Quarry Consumptive Use Mitigation Project** – 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-2025, staff will continue to implement the project operations plan (pending low flow conditions) and conduct ongoing monitoring related to aquatic invasive species, harmful algal blooms, and groundwater levels. Costs include \$35,000 of interest for payments due to LCSWMA under the Water Storage Agreement, and depreciation of water storage rights of \$38,000. In FY-25 the Commission will also pay a \$50,000 annual standby fee to a pumping contractor. Should low flow conditions require activation of pumping, the Executive Director is authorized to initiate pumping operations and pay the pumping contractor according to the price per day schedule included in the contract approved by the Commissioners in September, 2022.

## PRIORITY MANAGEMENT AREA D: WATERSHED MANAGEMENT

**Goal:** – Watersheds exhibit a healthy and sustainable balance between land and water management.

**Vision:** - Integrated land use and water management practices allow watersheds to function in a natural and sustainable manner to protect and improve the quantity and quality of water resources in the Basin.

### Programs

#### **AREA D: Watershed Management**

American Eel Restoration .....	\$ 50,000
Dam Removal Study .....	17,000
Chesapeake Bay WIP Support .....	150,000
Conowingo Watershed Implementation Plan – Financing Authority .....	<u>350,000</u>
<b>Subtotal – General Fund</b>	<b>\$ 567,000</b>
Eels in the Classroom.....	55,000
eDNA/Aquatic Invasive Species Monitoring .....	45,000
Stream and Watershed Enhancement Grant Program .....	200,000
Water Resource Studies.....	<u>23,000</u>
<b>Subtotal – Sustainable Water Resources Fund</b>	<b>\$ 323,000</b>
DCNR Reservoir Environmental Flow Enhancements .....	60,000
Kehm Run Dam Removal & Restoration Project .....	900,000
Critical Aquifer Recharge Area Projects .....	75,000
Octoraro Consumptive Use Mitigation Study .....	310,000
Consumptive Use Mitigation Grants – Environmental & Water Quality Projects.....	<u>5,865,000</u>
<b>Subtotal - Water Management Fund</b>	<b>\$ 7,210,000</b>
<b>TOTAL PMA D: WATERSHED MANAGEMENT</b>	<b>\$ 8,100,000</b>

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

##### **Funding Provided by the General Fund:**

**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, have plummeted. In 2008, the US Fish and Wildlife Service began a limited, but successful, eel reintroduction program. Begun in FY-2016, 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.

**Dam Removal Study** – The Chiques Creek watershed in Lebanon and Lancaster counties, Pennsylvania, contains numerous mill dams. This watershed has been heavily studied by the Commission over the past several years and was the focus of a comprehensive effort to isolate nutrient and sediment sources within the watershed, determine and implement methods to reduce these inputs, and monitor effectiveness. The Commission installed water quality monitoring sondes in this watershed in 2015 and is currently supplementing that data with additional data collection efforts.

One of these sondes is located a couple hundred feet downstream from the Roller Mill Dam on Chiques Creek, which is scheduled to be removed in the near future. The Commission has developed a study to collect stream channel measurements at several fixed transects above and below the dam, combined with water quality and biological sampling events. Collection



of baseline measurements along Chiques Creek started in Fall 2020 and will continue until dam removal occurs, when post-removal measurements will be collected. Comparable measurements are being collected along Little Chiques Creek, where the Cove Park Mill Dam was removed in 2019.

**Chesapeake Bay Watershed Implementation Plan Support** – Staff will provide technical, logistical, and administrative support for the PADEP Chesapeake Bay Office and serve in a lead role in terms of modeling pollutant reductions using the Chesapeake Assessment Scenario Tool (CAST) on behalf of County Action Plan coordinators and their PADEP counterparts. Staff also will provide technical and GIS assistance to PADEP to support information exchange and messaging between PADEP, EPA and stakeholder groups engaged toward pollution reduction activities. Staff will serve in the chairmanship role for a committee aimed at broadening and enhancing a Chesapeake Bay regional Freshwater Mussel Partnership.

**Conowingo Watershed Implementation Plan – Financing Authority** – The Conowingo Watershed Implementation Plan (CWIP) is a road map toward achieving a “pollution diet” like those in place for the entire Chesapeake Bay watershed. One of the keys to the CWIP was establishing a financing authority to manage restoration activity and funding associated with the CWIP effort, a role that was designated to the Commission. In FY-2023 the Commission negotiated a Memorandum of Understanding with the Maryland Department of the Environment to develop processes and procedures to serve as the financing authority for funds the State of Maryland allocated to implement its requirements under the CWIP. In FY-2025 the Commission anticipates that it will continue to receive and review proposals and oversee funded projects on behalf of the State of Maryland. Award payments of \$175,000 have been included in this budget.

#### **Funding Provided by the Sustainable Water Resources Fund:**

**Eels in the Classroom** – This project leverages Commission expertise and broader efforts to restore eel populations. Commission staff currently work with more than 25 school districts and have a growing wait list of schools willing to join this unique program. Preference is given to school districts located in environmental justice areas. Participant schools are allotted a nominal number of juvenile American eels (~8 to 10), and students raise them in the classroom from fall through spring, then release the fish to local streams. Through this project students are taught eel ecology, the value and importance of aquatic connectivity, ecosystem function and migratory fish restoration. Commission staff will furnish instructional material to teachers and participate in eel release activities for a subset of classrooms.

**eDNA/Aquatic Invasive Species (AIS) Monitoring** – Commission staff have been at the forefront in the use of environmental DNA as a cost-effective survey and surveillance tool for characterizing the spread and distribution of AIS into and within the Basin. Commission staff have filled AIS surveillance gaps for particular target species including round goby and northern snakehead in New York; blue catfish and northern snakehead in Maryland and Pennsylvania; and Quagga mussel in Pennsylvania. Commission staff will continue to survey portions of the Basin that are sensitive to AIS incursion/expansion by AIS and staff will coordinate with partner agencies.

**Stream and Watershed Enhancement Grant Program** – In FY-2024 the Commission launched a small grant opportunity to support the work of non-profit watershed groups throughout the basin of up to \$5,000 per grant award. Eligible projects may include signage and educational materials, in-stream and stream-side cleanup of trash and debris, stream side plantings and rain/community gardens. Total funding available for these grant awards is \$150,000.

**Water Resource 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-25 staff will complete the final steps towards establishing a freshwater salinization monitoring network.

#### **Funding Provided by the Water Management Fund:**

**DCNR Reservoir Environmental Flow Enhancements** – The purpose of this project is to assess opportunities for enhancing environmental flows at Pennsylvania Department of Conservation and Natural Resources (DCNR) lakes in the Susquehanna River Basin and addressing related goals and objectives cited in DCNR’s Climate Change Adaption and Mitigation Plan. Specifically, the Plan expresses a desire to 1) evaluate the operation of each dam and determine impacts downstream when water levels are reduced; 2) examine measures to compensate for low flows such as releasing

compensation flow downstream to address conservation or recreation impacts; 3) develop and/or retrofit state park lakeshore infrastructure to be adaptable to changing pool depths; and 4) conduct water releases that mimic historical and natural variability. Additionally, the Plan summarizes strategies focused on improving conditions within watersheds upstream of DCNR lakes. These efforts entail restoration of riparian buffers, increasing stream thermal cover, management of invasive species, erosion and sediment control, and increasing overland flow retention leading to increased groundwater infiltration.

**Kehm Run Dam Removal and Restoration Project** – In 2020, SRBC and American Rivers partnered to remove a high hazard dam on Kehm Run in York County, Pennsylvania. The full project consists of removing the dam structure and appurtenances, restoring the associated stream channel, floodplain, and wetlands and addressing adjacent stormwater issue to decrease sedimentation and enhance groundwater recharge. The project is being completed in three phases: 1) dewatering and initial dam breach, 2) removal of remaining dam and pipe, and 3) restoring stream channel, floodplain, wetlands, and stormwater features. In FY-24 a design engineer completed the post-dam removal environmental restoration design and permitting for the project site. In FY-25, the environmental restoration components will be constructed, and conservation easements will be pursued. The cost of the conservation easement is estimated at \$600,000. Construction costs of \$200,000 are projected to be incurred in FY-25.

**Critical Aquifer Recharge Area Projects** – Groundwater recharge is the primary means of ensuring water is available to refill aquifers and support base flow to streams. Different geologic materials, structures, or surficial land use impact these conditions. This project aims to identify areas of the basin that provide greater recharge and baseflow support and are critical to maintaining adequate water supply to restore/improve hydrologic resiliency. Upon identification, Commission staff, in partnership with organizations such as the Upper Susquehanna Coalition, the Upper Susquehanna Conservation Alliance, North Central PA Conservancy and similar partners, will develop and implement preservation, restoration, or enhancement projects at preferred locations. Protecting and enhancing critical aquifer recharge areas will help sustain groundwater supplies, maintain stream baseflow, and increase drought resiliency throughout the basin.

**Octoraro Consumptive Use Mitigation Study** – Chester Water Authority’s (Authority) right to divert up to 30 million gallons per day (mgd) from the Octoraro Reservoir and 30 mgd from the Susquehanna River is recognized in the Commission’s Comprehensive Plan as an authorized pre-Compact diversion. Recent service area expansions are not covered by the pre-Compact authorization and have been subject to Commission review, approval, and mitigation requirements. The Commission’s work will identify project operation and water quality improvement alternatives that would adequately mitigate the Authority’s diversion and consumptive use.

In addition, \$200,000 in funding will be made available to support the development of water quality best management practice (BMP) projects in identified priority locations within the Octoraro Creek watershed. The Commission will also provide \$20,000 for an Amish Liaison program that will be administered by Alliance for Chesapeake Bay. The Amish Liaison program coordinates members of the local Plain Sect community who will work with technical service providers to promote, solicit, and deliver agriculture conservation practices and BMPs in the Upper Octoraro watershed. Total funding to be provided for BMP implementation and the Amish liaison program is \$220,000.

**Consumptive Use Mitigation Grants - Environmental & Water Quality Projects** – The Commission’s Consumptive Use Mitigation Grant Program was established to accelerate implementation of on-the-ground projects to mitigate for consumptive use, especially during critical low flow periods and droughts. This includes environmental and water quality improvements that result in increased groundwater recharge, wetland and stream restoration, mine drainage treatment, stormwater management, and floodplain restoration. Grant payments for environmental and water quality projects funded by this grant program are estimated at \$5,825,000 for FY-25.

## ADMINISTRATION, COORDINATION AND OUTREACH

The Commission's 2021 Comprehensive Plan focuses on the four Priority Management Areas (PMAs) presented in this budget: Water Supply, Water Quality, Flooding and Drought, and Watershed Management. The 2021 Comprehensive Plan also includes two cross-cutting themes that enable and support achievement of PMA goals: coordination and outreach to partners and the public, which plays an important role through all four PMAs, and technology and data analytics, which will expand water resources management capabilities in all areas. The Commission is also cognizant of the overarching influence of climate change and the importance of environmental justice, and will look to address these challenges to improve management as conditions change and support more equitable treatment of Basin communities.

### Programs

#### **Administration, Coordination and Outreach**

Watershed Coordination and Outreach Functions and Activities .....	\$ 510,000
Comprehensive Plan and Water Resources Program .....	40,000
Environmental Justice Efforts .....	50,000
General Program Administration .....	853,500
Technology and Data Analytics .....	<u>595,000</u>
<b>Total</b>	<b>\$ 2,048,500</b>

#### **Activities which will be conducted under Administration, Coordination and Outreach**

**Watershed Coordination and Outreach** - Coordination and outreach to partners and the public are essential and mandated responsibilities of the Commission. The purpose of coordination 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. Outreach efforts will focus on communication and education to river basin communities and stakeholders of the challenges and opportunities in water resources management, and will be enhanced to ensure disadvantaged and underserved communities have the opportunity and ability to provide feedback on the Commission's activities.

**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-2025, the Commission will continue to implement the updated 2021 Comprehensive Plan. Staff will also prepare an annual update to the Water Resources Program.

**Environmental Justice (EJ) Efforts** – In FY-25, the Commission will continue its efforts in implementing Resolution 2021-05 (related to Environmental Justice) and the 2021 Comprehensive Plan. The Commission's focus will include, among others, establishing goals for outreach and the award of grants to further the aims of environmental justice, collaborating with its member agencies and others in their EJ efforts and partnerships, and ensuring that its regulatory activities foster access and accountability to EJ communities.

**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 and elected officials. This budget category also includes costs for the Commission's administrative personnel and programs, such as executive, finance, human resources and government relations. In FY-25 the Commission will replace its accounting system at a cost of \$55,000.

**Technology and Data Analytics** - 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. Costs for FY-25 also technology upgrades to the Commission's data center and conference center.