CONTROL PROGRAM DESCRIPTIONS

Agriculture Program

The Agriculture Program, located within the Bureau of Watershed Restoration and Nonpoint Source Management (BWRNSM), is responsible for developing regulations, policies, guidance, outreach, and inspection strategies for compliance assessment, compliance assistance, and enforcement of regulatory programs relating to agriculture. This section conducts activities relating to the compliance with regulatory requirements for agriculture-related erosion and sediment control; manure and nutrient management; and National Pollutant Discharge Elimination System (NPDES) permitted Concentrated Animal Feeding Operations (CAFOs).

The Agriculture Program works closely with the State Conservation Commission (SCC) and the County Conservation Districts (CCDs) to implement the nutrient and manure management program as well as erosion and sediment control requirements. The SCC and DEP may delegate their functions to CCDs authorities to implement nutrient and manure management, erosion and sediment control, and water obstructions and encroachments regulations. CCDs also provide technical, planning, and compliance assistance for agriculture. These are key elements to achieving water quality improvements statewide.

Beginning in 2016, the agricultural inspection program, which included the inspection of plan development and implementation of best management practices (BMPs) on larger and higher density CAFO and Nutrient Management regulated farms was expanded in Pennsylvania's portion of the Chesapeake Bay Watershed to focus on smaller farms.

Through a cooperative effort of CCDs and DEP staff, Phase 1 of the Chesapeake Bay Agricultural Inspection Program (CBAIP) was initiated to inspect all farms to ensure compliance with the manure and erosion and sediment control planning requirements within the Chesapeake Bay watershed in ten years. The plans are required to ensure that proper BMPs are implemented to minimize nutrient runoff and accelerated erosion and sedimentation. Providing compliance assistance for over 27,000 farms covering 3,104,689 agricultural acres within the Chesapeake Bay watershed is no small task (Table 1).

Phase 2 of the CBAIP was launched in 2020 and continues to expand as all Phase 1 inspections are completed within participating counties. The purpose of Phase 2 of the CBAIP is to ensure that the manure and agriculture erosion and sediment control plans that were verified during Phase 1 of the inspection program are implemented and on schedule. In support of this effort, the Phase 2 inspection contains an assessment to assure the BMPs are implemented according to the schedule outlined in the plans, the BMPs are functioning, and the plans address all nutrient runoff and accelerated erosion and sedimentation on the operation.

Table 1. Farms and agriculture acres inspected from July 1, 2023 – June 30, 2024 as compared with total farms and acres in agriculture land use within Pennsylvania's portion of the Chesapeake Bay Watershed.

Description	Number of Farms	Number of Agricultural acres
inspected under the Act 38 Nutrient Management Program (CAFOs and Concentrated Animal Operations)	864	150,004
inspected under the Chesapeake Bay Agricultural Inspection Program	1,700	134,237
total inspected	**2,564**	**284,241**
total in Pennsylvania's portion of the Chesapeake Bay watershed	27,621	3,104,689
% inspected out of the total in Pennsylvania's portion of the Chesapeake Bay watershed	**9.2%**	**9.2%**

The work conducted by the Agriculture Program is not isolated to the Chesapeake Bay Watershed. Regardless of the location of the operation, each of the 459 CAFOs are inspected at least once every 5 years by DEP to assure compliance with permit and planning requirements to protect water quality. Additionally, statewide CAFOs and Concentrated Animal Operations are inspected annually by participating CCDs and SCC under the Act 38 Nutrient Management Program.

In addition to the inspections referenced in Table 1, from October 2023 – September 2024, DEP staff conducted 223 inspections of all types on CAFO operations across Pennsylvania resulting in 110 violations and 44 enforcement actions. Further, from July 1, 2023 – June 30, 2024, the SCC and CCD's conducted 91 inspections on unique operations outside of the Pennsylvania portion of the Chesapeake Bay watershed under the Act 38 Nutrient Management Program. From July 1, 2023 – June 30, 2024, one enforcement actions were taken as part of the Act 38 Nutrient Management Program as a result of inspections conducted across Pennsylvania.

Clean Water Permitting Program

DEP's Clean Water Permitting Program manages and regulates the discharge of pollutants to surface waters and groundwater in Pennsylvania, with the objective of protecting water uses, including human health and aquatic life. The program is administered by DEP's Bureau of Clean Water (BCW) and is implemented by DEP's six regional offices. BCW establishes regulations, guidance and policy that are used by DEP regional offices to carry out program objectives.

The foundation of the program is The Clean Streams Law (35 P.S. Sections 691.1- 691.1001), which requires that any person proposing a discharge of pollutants to waters of the Commonwealth must apply for and obtain a permit from DEP. The Federal Clean Water Act, which established the National Pollutant Discharge Elimination System (NPDES) program, has similar objectives. DEP is delegated by the United States Environmental Protection Agency (EPA) to administer the NPDES program in Pennsylvania. When DEP issues an NPDES permit it authorizes the discharge of pollutants to surface

waters only in amounts that will protect and maintain or restore water uses in those surface waters, and in doing so DEP satisfies the permit requirements of The Clean Streams Law. 25 Pa. Code Chapter 92a of DEP's regulations describes the requirements for obtaining NPDES permits, including applications, fees, public participation, and treatment standards.

The Clean Streams Law also requires a permit from DEP prior to the construction of infrastructure that is used to treat or convey sewage and industrial wastes and for discharges to groundwater through the application of pollutants to the land or to the subsurface environment. 25 Pa. Code Chapter 91 of DEP's regulations establishes the rules relating to these activities, which require a "Water Quality Management" (WQM) permit from DEP.

In general, the following types of facilities and activities need NPDES permit coverage under Chapter 92a: discharges from sewage treatment facilities (including combined sewer overflows); discharges from industrial facilities for process and non-process wastewater; stormwater discharges from certain industrial sites; stormwater discharges from municipal separate storm sewer systems (MS4s); certain pesticide application activities; concentrated animal feeding operations (CAFO); and discharges from Concentrated Aquatic Animal Production (CAAP) facilities. Discharges from mining activities and stormwater associated with construction activities are regulated under Chapter 92a and additional chapters. The NPDES Permitting Division within BCW has administration responsibilities for all NPDES permits issued by DEP, except for mining activities which are handled by the Bureau of District Mining Operations.

Following permit issuance, DEP or delegated conservation districts (for stormwater associated with construction activities only) conduct inspections of permitted facilities to assure compliance, and where necessary, pursue enforcement to compel compliance. These activities are performed by DEP regional offices and conservation districts with oversight by BCW.

Under Chapter 91, WQM permits are required for the construction and operation of wastewater pumping stations, treatment facilities, certain sewer extensions and collection systems, discharges to groundwater, proposals relating to wastewater reuse, and the application of herbicides and fish control chemicals to surface waters. The Municipal Facilities Division within BCW oversees most WQM permit activities for the statewide Clean Water Program. The Municipal Facilities Division also oversees permitting activities relating to the beneficial use of biosolids and septage in Pennsylvania.

The number of NPDES permits issued in Pennsylvania is amongst the highest of any state in the nation, with over 15,000 permitted facilities. NPDES permits are issued for 5-year terms. Table 2 shows the NPDES permits issued between October 1, 2023 and March 31, 2025.

Table 2. Overview of NPDES permit statistics (10/01/2023 – 3/31/2025)

NPDES Individual Permits Issued:	
New	230
Renewals	1,231
Amendments	81
Transfers	118
Total	1,660
NPDES Individual Permits Issued:	
Industrial Waste	251
Sewage, Minor Facilities	988
Sewage, Major Facilities	80
Industrial Stormwater	164
CAFO	50
CAAP	0
MS4s	122
Pesticides	5
Total	1,660
NPDES General Permit Coverages Approved (includes New, Renewals, Amendments, and Transfers):	
PAG-03 Discharges of Stormwater Associated with Industrial Activities (including No Exposure Certifications)	1,717
PAG-04 Discharges from Small Flow Sewage Treatment Facilities	457
PAG-05 Discharges from Petroleum Contaminated Groundwater Systems	19
PAG-06 Discharges from Combined Sewer Systems	416
PAG-10 Discharges from Hydrostatic Testing	7
PAG-11 Discharges from Aquatic Animal Production facilities	0
PAG-12 Concentrated Animal Feeding Operations	330
PAG-13 Discharges from small municipal Sewer Systems (MS4s)	0
PAG-15 Discharges from Application of Pesticides	11
Total	2,557

Not included in Table 2 are sites covered by NPDES permits under 25 Pa. Code Chapter 102 for stormwater discharges associated with construction activities and permits issued under the mining operations program (see separate program description for mining). DEP and delegated conservation districts issue approximately 2,000 NPDES permits per year under Chapter 102. Most earth disturbance activities require an NPDES permit when the disturbance will be at least one acre under Chapter 102.

Table 3 shows the number and type of WQM permits issued between October 1, 2023 and March 31, 2025. WQM permits are generally not renewed except for permits for the use of herbicides and fish control chemicals (a joint permit approved by DEP and the Pennsylvania Fish and Boat Commission) and permits for the land application of wastewater.

Table 3. Overview of WQM permit statistics (10/01/2021 – 3/31/2023)

WQM Permits, Number Issued:	
New	783
Renewals	181
Amendments	373
Transfers	377
Total	1,663
WQM Permits Issued:	
WQM General, Small Flow Treatment Facilities	259
WQM General, Sewer Extensions and Pumping Stations	73
WQM Industrial Waste, Land Application	5
WQM Industrial Wastewater Facility	51
WQM Manure Storage Facility	24
WQM Sewage Facility	502
WQM Sewer Extensions and Pumping Stations	220
WQM Sewage Treatment Plant Land Application	50
Joint Chapter 91.38 Pesticides Permit	530
Total	1,714

For NPDES permits issued under Chapter 92a, DEP's Clean Water Program conducts an average of approximately 6,000 facility inspections per year. BCW develops an annual plan called the NPDES Compliance Monitoring Strategy (CMS) to determine the frequency of inspections for permitted facilities. BCW also prepares annual inspection goals for DEP regional offices to implement the CMS. Where it is determined that a facility or activity is not in compliance with its permit, DEP may pursue enforcement action. Enforcement actions take different forms, depending on the nature and severity of the violation. Additional inspections and enforcement actions are taken when necessary for facilities with WQM permits or for pollution incidents where a permit is not in place (e.g., spills into surface waters). Table 4 summarizes inspections, enforcement actions and penalties between October 1, 2023 and March 31, 2025.

Table 4. Overview of NPDES Inspections, Enforcement Actions and Penalties (10/01/2023 – 3/31/2025)

Inspections	8,619
Enforcement Actions	1,999
Penalties Collected	$1,973,528

Penalties, NPDES permit application fees, and most WQM permit application fees are deposited into the Clean Water Fund, which is used to cover the costs of the Clean Water Program. In fiscal year 2023-2025, DEP spent approximately $24 million on administering and implementing the Clean Water Program under Chapters 91 and 92a. Approximately thirty-five percent (35%) of these expenses are paid for by NPDES and WQM permit application and annual fees, approximately 25% is paid for by an EPA grant, and the remainder is paid for through DEP's general fund allocation.

DEP's significant permitting workload coupled with staff reductions over the past decade have prompted

BCW to pursue measures to increase permitting efficiency. BCW has developed Standard Operating Procedures (SOPs) for every type of permit issued by the Clean Water Program to ensure that the application review process is clear to staff and the regulated community.

Conservation District Support Program

The Conservation District Support Section, located in the Bureau of Watershed Restoration and Nonpoint Source Management (BWRNSM),, provides operational and liaison support to the 66 Conservation Districts throughout Pennsylvania.

The Conservation District Support Section manages more than $9.5 million in annual funding for Pennsylvania's County Conservation Districts. These funds are distributed through the State Conservation Commission's (SCC) Conservation District Fund Allocation Program. These funds are used to support County Conservation District Managers, Erosion and Sediment Control Technicians, Administrative Staff and to implement best management practices.

In addition, the Section oversees regional DEP Conservation District Field Representatives in delivering administrative and technical assistance to County Conservation Districts. Conservation District Field Representatives are DEP employees who attend district board meetings and act as a liaison between DEP, the SCC, and the Conservation Districts.

Through a Memorandum of Understanding between DEP, the Pennsylvania Department of Agriculture, and the SCC, the Conservation District Support Section provides a wide variety of support, coordination, and evaluation services to Pennsylvania conservation districts which are organized statewide in accordance with the Conservation District Law (Act 217 of 1945). The Conservation District Support Section provides assistance and training for conservation district directors and staff in understanding programs delegated and contracted by DEP, as well as policies and laws applicable to conservation districts. Section staff serve on technical and advisory committees including: Leadership Development Committee; Dirt, Gravel, and Low Volume Roads workgroups; Conservation District Advisory Committee; and the Pennsylvania Envirothon Board.

Coastal Resources Management Program

DEP's Coastal Resources Management Program (CRMP) is located within the Interstate Water Resources Division in the Bureau of Safe Drinking Water. The CRMP receives annual funding from the National Oceanic and Atmospheric Administration to protect and enhance natural resources using a comprehensive approach in Pennsylvania's two coastal zones: 112 miles of coastline along the tidal Delaware River in Bucks, Philadelphia, and Delaware counties (the Delaware Estuary Coastal Zone, DECZ); and 77 miles of shoreline along Lake Erie in Erie County (the Lake Erie Coastal Zone, LECZ). The CRMP works to address 11 federally approved policy areas through direct program activities and annual competitive pass-through coastal zone grants. Of these 11 policies, categories that address water quality are described in more detail below:

- Coastal Hazards – In addition to administering the Bluff Recession Setback Act along Lake Erie, the CRMP seeks to assist communities to address increased flooding that can threaten coastal

water quality and minimize stormwater that delivers nonpoint source pollutants to tidal waters of the Delaware Estuary and our Great Lakes.

- Dredging and Spoil Disposal – The CRMP works to ensure that dredging related activities are regulated to protect coastal water quality, minimizing harmful impacts to fish and wildlife habitats.

- Fisheries Management – The CRMP supports activities that ensure coastal waters do not contain pollutants, attributable to point or nonpoint discharges, in concentrations harmful to the water uses, including protection of human health and aquatic life. CRMP is currently conducting side scan sonar surveys of the tidal Delaware River to identify and protect native mussel beds, which improve water quality through filtering pollutants. Annual coastal zone funding also supports the work of a Great Lakes Biologist to conduct water quality monitoring on Lake Erie.

- Wetlands – The CRMP seeks to preserve, enhance, and restore the remaining wetlands in the coastal zones to ensure their water filtration functions and values are protected. Since the 1980s, federally funded coastal zone grants have been dedicated to new wetland creation, preservation, monitoring, and research. CRMP staff provide local technical expertise, specific to the unique wetlands of the coastal areas, to help ensure more successful project planning and wetland protection, rehabilitation, restoration, and creation.

- Energy Facility Siting – The CRMP seeks to ensure the siting of new facilities, including refineries, generating stations, and gas drilling, and the operation of existing energy production minimize disturbances to fragile coastal ecosystems. Pennsylvania's federal consistency program allows the CRMP to review the placement of energy facilities requiring Federal Energy Regulatory Commission licenses and US Army Corps of Engineers permits.

The CRMP's remaining six policy areas address water quality to a lesser extent and include: public access for recreation, historic sites and structures, port activities, intergovernmental coordination, public involvement, and ocean and great lakes resources (related to aquatic nuisance species).

CRMP leverages federal funds through established local partnerships to make significant progress on the ground that addresses and advances CRMP priorities. From 2013 to 2023, CRMP has passed through $5.7 million federal dollars to fund 162 local projects, matched with $8.8 million local dollars. CRMP's planning investment into public access development has resulted in significant gains on the ground. Since 2013, over $2.1M pass-through funds have resulted in construction of nine miles of 17 new trail segments, nine new access sites, and 22 improvements to existing sites. Since January 2020, nine coastal restoration projects have been completed with a federal investment of $300,000, ranging from living shoreline restoration along the Schuylkill River to stream stabilization in the LECZ. In 2022 alone, CRMP supported 100 volunteers to remove 5,240 pounds of trash from the DECZ. Coastal zone grants funded seven outreach projects held in 2022 and 2023, ranging from rigorous environmental education for Erie high-schoolers to development of a freshwater mussel education program for elementary students in the Philadelphia area. The Delaware River Festival celebrated its 17th year with a return to an in-person format in 2023. Since 2020, CRMP has passed through $443,261 federal dollars to fund completion of ten research projects that address beach erosion, harmful algal blooms,

and bird migration in the LECZ to PFAS prevalence and sea level rise impacts in the DECZ.

Every five years, CRMP reviews its program to identify priority needs and develops a multi-year enhancement plan under Section 309 of the Coastal Zone Management Act. The resulting report sets out two new strategies to be implemented from 2021-2026 to integrate and strengthen adaptation and resiliency planning in the Delaware Estuary and develop a comprehensive program to identify and mitigate the impacts of stormwater on Lake Erie bluff erosion and recession.

Department of Conservation and Natural Resources

The Pennsylvania Department of Conservation & Natural Resources (DCNR) conducts several conservation and partnership programs including River Conservation Grants, managing aquatic invasive species, and providing education programs.

DCNR oversees various community conservation partnership program grants. One category is River Conservation Grants. These grants focus on enhancement and protection of Pennsylvania's waterways. Applications for these grants are submitted under several categories: Land Acquisition and Conservation Funding, which includes lands for the purpose of waterway conservation; Community Recreation and Conservation Planning Funding, which address water-related recreation or conservation needs; Park Rehabilitation and Development Funding, which include physical improvements that enhance water resources; State and Regional Partnerships Funding, which fund a variety of water-related projects; and Community Watershed Forestry, which supports the planting of trees and shrubs along streams, conversion of mowed lawn into meadow and upland forest habitats, and planting of new trees within developed communities statewide.

Thirty-one River Conservation Grants were awarded between 2023 and 2024 for a total investment of $5.1 million. Projects included River Conservation Planning and Development: stream and watershed restoration, habitat improvements, and fishing and boating access in communities across the Commonwealth.

Between 2023 and 2025, DCNR provided a grant investment of $5.2 million throughout Pennsylvania for planting native trees and income-producing species along streams and throughout watersheds to help keep nutrients and sediments from impacting water quality. During the same timeframe, DCNR grants provided $7.6 million for Urban and Community Forestry, reducing urban runoff, mitigating urban heat islands and promoting equity in underserved communities. The total investment for Community and Watershed Forestry was $12.8 million and supported Fifty-one organizations leading these efforts to restore and protect watershed habitats.

DCNR supports the "The River of the Year" and "River Sojourn" programs to build community networks for climate resiliency and economic development. A grant to the Pennsylvania Organization for Watersheds and Rivers supports the River of the Year and Pennsylvania Sojourn Programs. By public voting, the 2025 River of the Year is the Delaware River.15-20 River Sojourns are supported each year. They offer a variety of experiences from hour-long to week-long paddles in scenic, rural and urban environments.

DCNR administers the Pennsylvania Scenic Rivers Program. There are 13 state-designated Scenic Rivers.

DCNR is working closely with the Pennsylvania Fish and Boat Commission to develop the 2025 Statewide Fishing and Boating Access Strategy, a tool kit for communities to identify, develop and improve recreational access to Pennsylvania Waterways.

DCNR is also working closely with the Department of Health (DOH) to monitor bacteria. All permitted inland beaches are regulated by DOH under 28 Pa. Code Chapter 18, §18.28, Bathing beach contamination. Weekly testing for Escherichia coli (E. coli) density is required based on USEPA 2012 Recreational Water Quality Criteria. The Federal Beaches Environmental Assessment and Coastal Health Act (BEACH Act) was signed into law on October 10, 2000. This requires the EPA to develop criteria for testing and monitoring recreational water issues. Pennsylvania is one of the states covered by this Act. See the summary of DOH for more details.

DCNR's Bureau of State Parks participates in a task force of various state agencies to address harmful algae blooms. State parks post advisories and provide information to visitors about active HAB conditions when needed. State Park waterbodies comprise the majority of waterbodies monitored for HABs by DEP each year, and data collected from this monitoring program contribute to a long-term dataset as well as similar monitoring programs maintained by DEP, such as a rotating, statewide trophic-state index (TSI) sampling schedule.

DCNR also has an aquatic invasive species program. This program is actively suppressing nuisance and invasive aquatic species in several state park and state forest waterbodies for recreational access and ecological purposes. DCNR promotes clean, drain, dry practices to reduce the potential spread of invasive species through efforts including ongoing voluntarily launch stewardship activities at certain locations.

DCNR provides aquatic education programs. These programs included:

- Watershed Education (WE) programs for schools
- Watershed Education teacher workshops (including advanced WE topic-specific trainings), an annual WE Community Connections Forum for high school students
- Meaningful Watershed Educational Experiences (MWEE) Ambassador trainings for non-formal educators, school administrators, and classroom teachers
- WE and MWEE training facilitation for Penn State Master Watershed Stewards
- Project WET (Water Education Today) educator workshops and student activities
- School and public programs on invasive plants (including service learning with aquatic invasive plant removal)
- School and public programs using water as a lens to investigate land use practices
- School programs that included water quality monitoring.

DCNR conducted the following park programs for aquatic education:

- Facilitated 9 Watershed Education (WE) teacher workshops for 127 total educators.
- Led 220 WE school programs to 10,135 students using the WE curriculum.

- Organized and led 4 “Community Connections to the Watershed” Forums for 102 high school students.
- Offered 14 Meaningful Watershed Education Experiences (MWEE) workshops for 207 educators in partnership with intermediate units (IU) and school district MWEE facilitators.
- Provided14 MWEE programs for 791 students to support school MWEEs.
- Facilitated 15 Project WET teacher workshops for 175 educators.
- Led 28 introductory aquatic programs for 815 participants using the Project WET lessons.

DCNR continues to assess, enhance, and restore aquatic resources in the following park areas:

- The Bureau completed comprehensive geomorphological watershed assessments at Canoe Creek, Jennings Environmental Education Center, Keystone, and Maurice K. Goddard.
- Headwater tributary restoration completed at Keystone.
- Dam removal and floodplain restoration completed at Raccoon Creek.
- In-stream habitat/streambank stabilization projects completed at Blue Knob, Clear Creek, Jacobsburg Environmental Education Center, Little Pine, and Ole Bull.
- Wetland restoration projects completed at Marsh Creek and Kinzua Bridge.
- Shoreline enhancement projects completed at Bald Eagle, Colonel Denning, Keystone, Maurice K. Goddard, Moraine, Presque Isle, Prince Gallitzin, Pymatuning, and Shawnee.

Interstate Basin Waters Programs

DEP’s Interstate Water Resource Management Division (IWRMD) is located within the Bureau of Safe Drinking Water and coordinates Pennsylvania’s responsibilities as a member of interstate organizations. IWRMD delivers planning, development, implementation, and evaluation of statewide policy and program activities to promote interagency and interstate cooperation on shared water resource issues. This includes partnering with established river basin commissions and interstate associations that work to restore and protect water quality, including Delaware River Basin Commission (DRBC), Great Lakes Commission (GLC), Great Lakes-St. Lawrence River Basin Water Resource Council, Great Lakes-St. Lawrence River Basin Water Resource Regional Body, Interstate Commission on the Potomac River Basin (ICPRB), Ohio River Valley Water Sanitation Commission (ORSANCO), Partnership for the Delaware Estuary (PDE), and Susquehanna River Basin Commission (SRBC).

Delaware River Basin Commission (DRBC)

The DRBC was the first regional organization formed for water resource management between states and the federal government. It was formed through an interstate compact that was ratified by Federal and state legislation signed concurrently in 1961 by President Kennedy and the governors of Pennsylvania, Delaware, New Jersey, and New York. The DRBC is comprised of the four states and the Division Engineer, North Atlantic Division, US Army Corps of Engineers, who serves as the federal representative. Part of DRBC’s efforts include the development of the Comprehensive Plan for the Water Resources of the Delaware River Basin. DRBC is a regulatory agency and its programs include water quality protection, water supply allocation, project review (permitting), water conservation initiatives, watershed planning, drought management, flood loss reduction, and recreation.

Great Lakes Commission (GLC)

The GLC is an advisory, non-regulatory interstate compact agency established in 1955 by the eight US Great Lakes states of Pennsylvania, Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Wisconsin. This was formalized by the Great Lakes Basin Compact enacted by Congress in 1968 and the two Canadian Provinces of Ontario and Quebec were included as Associate Members through a Declaration of Partnership in 1999. The GLC's purpose is to promote the orderly, integrated, and comprehensive development, use, and conservation of the water resources of the Great Lakes. The GLC collects, interprets, and reports data leading to recommendations and resolutions on: the balanced development and use of water resources; the improvement of navigation aids and ports; improving and maintaining the fisheries; examining the intersection of water and economic sustainability; securing the proper balance among industrial, commercial, agricultural, public water, recreational, and other legitimate uses of water; and, maintaining and improving water quality policies on federal, state, and local laws, ordinances, or regulations. GLC facilitates dialogue between the states and provinces, between the states and the federal governments of the US and Canada and has the authority to assist in the negotiation and formulation of any treaty or other mutual agreement between the US and Canada with reference to the Basin or any portion thereof.

Great Lakes-St. Lawrence River Basin Water Resource Council (Compact Council) and Great Lakes-St. Lawrence River Basin Regional Body (Regional Body)

The Compact Council is a regulatory interstate compact agency created under the Great Lakes-St. Lawrence River Basin Water Resources Compact of 2008 comprised of the governors of the eight US states of Pennsylvania, Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Wisconsin. The Regional Body is an international advisory body through the voluntary, international Great Lakes-St. Lawrence River Basin Water Resources Agreement between the eight US states and the Canadian provinces of Ontario and Quebec. The Compact Council and Regional Body act in tandem to regulate water withdrawals and consumptive uses and ban the diversion of water outside of the Basin, thereby removing causes of present and future water controversies. The entities foster consistent approaches to water management across the Basin while retaining state management authority over water management decisions within the Basin. Also, the entities strengthen the scientific information base upon which decisions are made through the generation and exchange of data.

Interstate Commission on the Potomac River Basin (ICPRB)

ICPRB is an advisory, non-regulatory interstate compact agency comprised of four states including Maryland, Pennsylvania, Virginia, and West Virginia, the District of Columbia, and the federal government. ICPRB's mission is "to protect and enhance the waters and related resources of the Potomac River Basin through science, regional cooperation, and education". The Potomac Basin Comprehensive Water Resources Plan, which serves as a guide to manage water resource issues, protect water quality, aquatic life, water supplies, and drinking water sources, is available on ICPRB's website.

Ohio River Valley Water Sanitation Commission (ORSANCO)

ORSANCO is a regulatory interstate compact agency governed by eight states, five federal organizations, and the Ohio River Basin Alliance. The state and federal organizations include

Pennsylvania, Illinois, Indiana, Kentucky, New York, Ohio, Virginia, West Virginia, NOAA Satellite and Information Service, US Army Corps of Engineers, US Environmental Protection Agency, US Fish and Wildlife Service, and US Geological Survey. ORSANCO's mission is to control and abate pollution in the Ohio River Basin and it operates programs to set waste water discharge standards, perform biological assessments, monitor water quality, and conduct surveys and studies.

Partnership for the Delaware Estuary (PDE)

The PDE hosts the Delaware Estuary Program, which collaborates scientific efforts with Pennsylvania, Delaware, and New Jersey, to restore water quality in the tidal Delaware River and Bay. Part of these efforts include the development of (and revisions to) a Comprehensive Conservation and Management Plan (CCMP) for the Estuary. The original CCMP was approved in September 1996 and provided guidance to regional agencies and organizations for collaborating on water quality control and restoration efforts. The CCMP was revised in 2019 and contains goals and targets for the three themes: clean waters, healthy habitats, and strong communities. The revised CCMP aims to make watershed improvements to benefit millions of people who live, work, and play in the tri-state region.

Susquehanna River Basin Commission (SRBC)

The SRBC was formed through an interstate compact that was ratified by Federal and state legislation. The SRBC is comprised of the governors of Pennsylvania, New York, and Maryland, and the federal representative, the Division Engineer, North Atlantic Division, US Army Corps of Engineers. SRBC's mission is to enhance public welfare through comprehensive planning, water supply allocation, and management of the water resources of the Susquehanna River Basin. SRBC is a regulatory agency that performs project reviews (permitting). Additionally, SRBC's efforts include the development of the Comprehensive Plan for the Water Resources of the Susquehanna River Basin, which provides the framework to manage and develop the Susquehanna River Basin's water resources and guides the water quality control and restoration programs.

Mining Operations Program

DEP's Office of Active and Abandoned Mining Operations is responsible for the policies and implementation of programs that regulate or minimize the impact from the extraction of coal and noncoal (industrial minerals). The office is organized into four Bureaus that have distinct roles and responsibilities for the safe extraction of mineral resources and the reclamation and protection of environmental resources. The Bureau of District Mining Operations is responsible for permitting and inspection of mining sites across Pennsylvania.

To control impacts to water, the six District Mining Offices issue NPDES discharge permits for active mining operations. For qualifying operations managing stormwater only, in lieu of an individual NPDES permit, the mine permittee may obtain coverage under the General Permit for Stormwater Associated with Mining Activities (BMP-GP-104) which requires implementation of best management practices for erosion and sediment control, to stabilize all areas where earth disturbance is conducted, and manage post-construction stormwater rate and volume. The District Mining Offices conduct regular inspections of mining operations to control water impacts and to ensure that any impacts are corrected in a timely manner.

Individual NPDES permits are reviewed and issued in conjunction with new coal and noncoal mining permits and in conjunction with the renewal of coal mining permits, which, like NPDES permits, also have a 5-year term. Noncoal mining permits are issued without a term limit and do not expire so there is no renewal of a noncoal mining permit related to the NPDES renewal. Modifications to the NPDES permits are often in conjunction with mining permit revisions and are reviewed and issued in that context. The latest BMP-GP-104 was issued in March 2021 and will expire in March 2026.

As shown in Table 5, there are approximately 918 individual NPDES permits active at any time related to active mining activities (466 coal and 453 noncoal) and approximately 751 facilities with coverage under the BMP-GP-104 (197 coal and 646 noncoal).

Updates to the permit applications and program are managed by the Bureau of Mining Programs.

Table 5. Overview of the Active Mining Operations Statistics

	FFY 19/20	FFY20/21	FFY21/22	FFY22/23	FFY23/24
NPDES Individual Permits					
New Coal	14	14	10	15	15
New Noncoal (Ind Minerals)	21	13	27	15	7
Renew Coal	119	96	89	73	73
Renew Noncoal	51	64	80	80	79
Total	**205**	**187**	**206**	**183**	**174**
Approximate Fees Collected	$195,000	$107,000	$121,500	$106,500	$98,000
GP-104 Stormwater Only					
Coal	31	7	13		
Noncoal	64	46	75		
Total	**95**	**53**	**88**	**76**	**50**
Approximate Fees Collected	$23,750	$13,250	$22,000	$19,000	$12,500
Enforcement					
Inspections					
Violations				369	442
Penalties Collected				$172,897	$115,990

Nutrient Credit Trading Program

DEP's Bureau of Clean Water is responsible for managing Pennsylvania's Nutrient Credit Trading Program (Program). The Program is one part of the Chesapeake Bay restoration strategy being implemented in Pennsylvania to address water quality issues. The primary purpose of the Program is to provide a more cost-efficient way for National Pollutant Discharge Elimination System (NPDES) permittees in the Chesapeake Bay Watershed to meet their effluent cap load for nutrients.

An effluent cap load is the mass load of a pollutant that a facility may discharge as authorized by an NPDES permit. If a facility discharges more nutrients than its permit cap load, and the permit allows for nutrient trading, the facility may purchase verified nutrient credits from a credit generator implementing nutrient reduction activities as long as surface water quality will be protected and maintained as required by applicable regulations and DEP permits, schedules of compliance, and orders.

The Program manages the three administrative steps that are required for every trade to occur: certification, verification, and registration. Inspection and enforcement actions related to NPDES permit cap loads are handled by DEP Regional Clean Water staff.

Trades take place through direct communication between credit buyers and credit generators. The Program is not involved in financial transactions related to trading.

DEP's Nutrient Credit Trading Program regulations can be found at 25 Pa. Code § 96.8. On July 22, 2023, the Program transitioned to the Phase 6 Chesapeake Bay Watershed Model delivery ratios and on March 13, 2023, the credit calculation methodologies for nonpoint source credit generators were updated. An explanation of these changes can be found in the Phase 3 Watershed Implementation Plan Nutrient Trading Supplement.

The Compliance Year (CY) runs from October 1st – September 30th. Credits generated in a CY may be traded during the truing period of October 1st to November 28th immediately following the end of a CY but may only be used to meet the permit cap load requirements for the same CY as when the credits were generated. Trades for CY 2023 (i.e., October 1, 2022 – Sept. 30, 2023) and CY 2024 (i.e., October 1, 2023 – Sept. 30, 2024) can be found in Table 6.

Table 6. Overview of Pennsylvania Nutrient Trading Credit Program for CY 2023 and 2024

CY	# of trades	Credits Verified		Credits Registered	
		Nitrogen	Phosphorus	Nitrogen	Phosphorus
2023	101	513,757	52,680	223,646	47,910
2024	98	539,338	53,778	314,049	33,784
Total	199	1,053,095	106,458	537,695	81,694

Oil and Gas Program

DEP's Office of Oil and Gas Management is responsible for the statewide oil and gas conservation and environmental programs to facilitate the safe exploration, development, and recovery of Pennsylvania's oil and gas reservoirs in a manner that is protective of Pennsylvania's environment. The office develops policy and programs for the regulation of oil and gas development and production pursuant to the Oil and Gas Act, the Coal and Gas Resource Coordination Act, and the Oil and Gas Conservation Law; oversees the oil and gas permitting and inspection programs; develops statewide regulations and standards; conducts training programs for industry; and works with the Interstate Oil and Gas Compact Commission, Oil and Gas Technical Advisory Board and the Pennsylvania Grade Crude Development Advisory Council. The office also regulates aboveground and underground storage tanks at oil and gas well sites.

To control impacts to water, the office issues permits requiring oil and gas operators to implement best management practices for erosion and sediment control, stabilize all areas where earth disturbance is conducted, and manage post-construction stormwater rate, volume, and quality. When submitting a notice of intent for coverage under the Erosion and Sediment Control General Permit (ESCGP), oil and gas operators must also demonstrate that their post-construction stormwater management plans are consistent with county stormwater management plan requirements. Operators must also restore well sites and remove all drilling supplies and equipment not needed for production within nine months of drilling of the wells, or after the well permit expires.

Routine inspections help to ensure compliance of these permits. Between fiscal year 2022-23 through fiscal year 2023-24, DEP collected a total of $12,425,941 in fines and penalties. These fines and penalties are used to reimburse operating costs that are incurred by DEP in the oversight of oil and gas and related environmental programs and to deter noncompliance with environmental laws. An overview of the stream permits issued, inspections completed, and violation statistics for 2023 are provided in Table 7.

Table 7. Overview of the Oil and Gas Management statistics according to the latest report (2023).

Stream Crossing and Encroachment Permits Issued	See note below *
Erosion and Sediment Control Permits Issued	203 **
Unconventional Drilling Permits Issued	692
Conventional Drilling Permits Issued	189
Inspections	44,746
Violations at Conventional and Unconventional Well Sites	10,201
Fines & Penalties Collected	$12,425,941 ***

* Note (Stream Crossing Permits): Stream Crossing and Encroachment Permits Issued (Individual Permits) = 372 Stream Crossing and Encroachment Permits Issued (General Permits) = 2,768 (Includes "new" permits only. Does not include permit renewals, amendments, transfers, etc.)

** 29 "Expedited" ESCGPs and 174 "Standard" ESCGPs

*** Note (Fines and Penalties): DEP collected $8,714,325 and $3,711,616 in fines and penalties in FY2022-23 and FY2023-24, respectively.

To protect water quantity, the 2012 Oil and Gas Act (Act 13 of 2012) requires a Water Management Plan that covers the water sources to be withdrawn or utilized for drilling or hydraulic fracturing of each unconventional natural gas well project in Pennsylvania. There are additional requirements within the

Susquehanna and Delaware River basins controlled by the Susquehanna River Basin Commission and the Delaware River Basin Commission, respectively.

Recycling of flowback and produced water from unconventional wells for new hydraulic fracturing operations reduces the amount of water to be withdrawn from freshwater sources in Pennsylvania and reduces the amount of wastewater for disposal or treatment. Based upon the 2023 waste data submitted by the Oil and Gas Operators, about 84% of the flowback and produced water from unconventional wells was recycled/reused, 6% disposed in Underground Injection Control wells, and 10% stored for reuse, disposal and treatment. The DEP 2023 Oil and Gas Annual Report | Department of Environmental Protection | Commonwealth of Pennsylvania includes data and trends related to DEP's permitting and inspection programs. Also highlighted in the report are notable accomplishments achieved during 2023 and some information about what to expect from this program in the future.

PENNVEST

The Pennsylvania Infrastructure Investment Authority Act (March 1, 1988, P.L. 82, No. 16) authorized the establishment of the Pennsylvania Infrastructure Investment Authority (PENNVEST). PENNVEST is mandated by the Act to establish and administer revolving funds to provide financial assistance through the issuance of loans and grants for the construction, maintenance, and improvement of Pennsylvania's water infrastructure. The Act also authorizes PENNVEST to issue notes and bonds, make appropriations and repeals, and authorize referendums to incur indebtedness. PENNVEST's mission is "To serve communities and the citizens of Pennsylvania through capital funding for drinking water, sewer, storm water, non-point source pollution prevention and other related projects that benefits the health, safety, environment, promote economic development, and improve water quality."

PENNVEST provides financial assistance to municipal governments, individuals, and private entities (both for-profit and not-for-profit) through federal and state funding programs. PENNVEST funding is provided through the Clean Water State Revolving Fund (CWSRF), the Drinking Water State Revolving Fund (DWSRF), and Commonwealth Funding (State Funding). In addition, Credit Enhancement Assistance may be provided by PENNVEST to an applicant through leveraging.

The CWSRF program primarily receives funding from the EPA through an annual capitalization grant. These funds provide financing for projects involving construction, improvement, extension, expansion, repair or rehabilitation of wastewater collection, treatment, and disposal facilities. The CWSRF program provides funding for stormwater management and nonpoint source pollution controls including agricultural best management practices, watershed and estuary management, acid mine drainage remediation, brownfield remediation and redevelopment, and greyfield redevelopment. Furthermore, The Infrastructure Investment and Jobs Act (IIJA) provides additional wastewater project funding and is managed through the CWSRF program.

The DWSRF program primarily receives funding from the EPA through an annual capitalization grant as well. These funds provide financing for projects involving construction, improvement, extension, expansion, repair or rehabilitation of drinking water sources, and treatment, distribution, and storage facilities. Moreover, the IIJA provides additional drinking water infrastructure project funding and is managed through the DWSRF program.

The State Funding program uses revenue from Commonwealth General Obligation bonds and allocations from Commonwealth general funds to finance water infrastructure projects. Furthermore, special state legislative acts can provide additional funding when required.

Funds provided through the CWSRF, DWSRF, and State Funding programs are offered to applicants in the form of grants or low interest loans. Low interest loan repayments are recycled through each program thus growing the program for future project funding. DEP provides technical support to PENNVEST as defined in a memorandum of understanding while the EPA provides program oversight. More detailed information can be found on the Authority's website at www.pennvest.pa.gov.

Radiation Protection Program

DEP's Bureau of Radiation Protection (BRP) is responsible for ensuring the public, occupational, and environmental exposure to radiation from non-natural and controllable natural sources is As Low As Reasonably Achievable. The program includes the oversight of radioactive materials, radiation-generating machines, radon testing and mitigation, and environmental surveillance. Our program provides emergency response capability for four operating nuclear power sites and Three Mile Island.

BRP's Environmental Surveillance Section is responsible for evaluating long-term trends in environmental radiation levels; assessing the environmental impact of particular sites; and providing this information to the public. The section's monitoring activity is focused on radiation levels in the outdoor environment affected by human activities such as industrial processes, weapons testing, and wastes from medical facilities. This section analyzes samplings of air, water, milk, fish, sediment, and produce, for levels of non-natural radioactivity. The U.S. Nuclear Regulatory Commission (NRC) has established guidelines for levels of exposure to radiation thought to be safe. These facilities also have radiological environmental surveillance programs and provide annual data reports to NRC.

BRP's Decommissioning Section performs technical reviews of decontamination and decommissioning activities for radioactive materials licensees and non-licensed radiologically contaminated sites. The section also reviews decommissioning plans, reviews site-specific release criteria, conducts in-process site inspections, reviews final status surveys, develops and implements confirmatory surveys, and determines if the facility is suitable for release.

The Radiation Protection Program ensures radioactive materials licensees comply with federal regulatory limits for radionuclides by incorporating NRC regulation by reference in 25 Pa. Code Subpart D, Article V. The NRC has direct liquid discharge and sanitary sewer effluent limits in 10 CFR Part 20, Appendix B (10CFR20) (Table 8). In addition, the EPA has drinking water standards for radionuclides (Table 9).

Table 8. Radionuclide effluent limits and direct liquid discharge to sewers. Please note the table within 10 CFR Part 20 has an extensive of list of radionuclides. Below are just two radionuclides BRP is monitoring within a landfill leachate study.

Radionuclide	Effluent	Release to Sewers*Monthly Avg
Radium 226	60 pCi/L	600 pCi/L
Radium 228	60 pCi/L	600 pCi/L

Table 9. Radionuclide drinking water standards.

Combined Radium-226 & Radium-228	5 pCi/L
Uranium	30 ug/L
Gross Alpha Emitters	15 pCi/L
Beta Particle & Photon Radioactivity	4 mrem/yr

*Adapted from EPA: Radionuclides Rule - A Quick Reference Guide

The program produces environmental radiation annual reports describing previous years' important work and environmental surveillance data. DEP's full 2022 Environmental Radiation in Pennsylvania Annual Report is available here. During 2022, several key items were completed related to water quality:

- Over 600 Nuclear Power Plant site visits and safety reviews, and hundreds environmental sampling tasks,
- Landfill leachate monitoring, and
- DEP's continued Water Quality Network sampling at seven stations for radionuclides; all were indicative of natural background radiation levels.

Most of the funding for program activities comes from fees, although some comes from small EPA radon grants, fines, and penalties. Funding for water protection is not individually provided for in the program's budget. Nonetheless, an overview of the expected revenue in the current spending plan is provided in Table 10.

Table 10. Overview of FY 2024-2025 spending plan.

Radon Certification*	$1.0 million
X-Ray Machines	$5.8 million
Radioactive Material*	$4.0 million
Nuclear Power Plants	$2.6 million
Fines & Penalties	$50,000

Safe Drinking Water Program

DEP's Bureau of Safe Drinking Water is responsible for managing the federally delegated drinking water program and because we have primary enforcement authority (primacy), DEP implements both the federal and state Safe Drinking Water Acts and associated regulations. To control impacts to water, the Safe Drinking Water Program: protects all Pennsylvania residents and visitors from microbiological, chemical, and radiological contaminants in drinking water served at nearly 8,400 public water systems;

conducts surveillance, compliance, enforcement, and permitting activities at public water systems to ensure compliance with safe drinking water standards; protects Pennsylvania's drinking water sources through proper planning and management of water resources and their uses; responds to water supply emergencies, such as floods, droughts, chemical spills, or waterborne disease outbreaks; and maintains a web-based reporting application to allow accredited laboratories and public water suppliers to report drinking water sample results electronically. The bureau also trains and certifies drinking water and wastewater operators for over 10,000 treatment plants.

Annually, the Safe Drinking Water Program produces the 'Pennsylvania Public Water System Annual Compliance Report.' For the 2022 calendar year, 2,185 sanitary surveys (full inspections) were completed, and 12,308 compliance notices and notices of violations were issued. An overview of the program's most recent statistics is provided in Table 11, and within DEP's 2022 Annual Compliance Report.

Table 11. Overview of the Safe Drinking Water Program's compliance actions according to the latest report (2022).

Compliance Notices and Notices of Violations	12,308
Consent and Administrative Orders	513
Consent Assessments	22
Boil Water advisories (Community Systems)	21
Boil Water advisories (Noncommunity Systems)	78
Civil Penalties Collected	$88,988

DEP's 2018 Disinfection Requirements Rule (DRR) strengthened the requirements intended to guard against microbial contamination by ensuring the adequacy of treatment designed to inactivate microbial pathogens and ensuring the integrity of drinking water distribution systems. Public water suppliers treating surface water or Groundwater Under the Direct Influence of Surface Water (GUDI) sources must demonstrate compliance with existing log inactivation requirements by routinely reporting the level of disinfection being achieved. Additionally, public water systems required to provide disinfection are now required to maintain a specified minimum disinfectant residual throughout the distribution system, and water suppliers are required to conduct an investigation at locations with low residual levels to identify the cause and appropriate corrective actions. More information about Safe Drinking Water Program updates can be found in the latest edition of DEP's Drinking Water News.

DEP's 2018 General Update and Fees Rule (GUFR) establishes the regulatory basis for issuing general permits, clarifies that noncommunity water systems (NCWS) require a permit or approval from DEP prior to construction and operation, and addressed concerns regarding gaps in the monitoring, reporting, and tracking of back-up sources of supply. This rule also amended existing permit fees and added a new annual fee to supplement Commonwealth costs to ensure that DEP has adequate funding to enforce the applicable drinking water laws, meet state and federal minimum program elements, and retain primacy (primary enforcement authority). The new annual fee became effective CY 2019.

DEP's 2023 PFAS MCL Rule published on January 14, 2023 protects public health by setting state MCLs in drinking water for two perfluoroalkyl and polyfluoroalkyl substances (PFAS) –

perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). PFAS are a large class of man-made synthetic chemicals that were created in the 1930s and 1940s for use in many industrial and manufacturing applications. PFAS have been widely used for their unique properties that make products repel water, grease and stains, reduce friction and resist heat. Because of their unique chemical structure, PFAS readily dissolve in water and are mobile, are highly persistent in the environment and bioaccumulate in living organisms over time. PFAS are considered emerging contaminants because research is ongoing to better understand the potential impacts to human and animal health.

Sewage Facilities Planning and Permitting Program

DEP's Bureau of Clean Water manages the Sewage Facilities Program, which implements the Pennsylvania Sewage Facilities Act (known as "Act 537") and enforces 25 Pa. Code Chapters 71, 72, and 73. Chapter 71 is titled "Administration of Sewage Facilities Planning Program", Chapter 72 is titled "Administration of Sewage Facilities Permitting Program", and Chapter 73 is titled "Standards for Onlot Sewage Treatment Facilities". The program's goal is to address existing sewage disposal needs and help prevent future problems through proper planning, permitting, design, operation, and maintenance of all types of sewage facilities.

Act 537 requires municipalities to develop and implement up-to-date, comprehensive official sewage facilities plans to protect public health and safety, prevent future sewage collection, treatment, and disposal problems, and protect the quality of the state's surface water and groundwater from sewage related issues. Act 537 provides the framework that allows DEP to enforce the requirement for municipalities to develop and maintain a sewage management program (SMP). More specifically, in areas where citizens rely on on-lot systems to provide sewage treatment and disposal, municipal SMPs ensure areas that cannot be served by public sewerage facilities are properly managing on-lot treatment and disposal systems. Detailed information about Act 537 can be found here. In addition, Article II of the Pennsylvania Clean Streams Law, contains provisions for prohibiting and regulating sewage discharges into waters of the Commonwealth.

The program provides oversight of the municipalities and local agencies that administer the program at the municipal level. DEP, local agencies, and Sewage Enforcement Officers are provided with the powers and duties to provide for protection of both surface and ground waters.

Act 537 also provides for new land development (NLD) to be served with sufficient long- term sewage disposal. NLD proposals may consider various options for collection, treatment, and disposal of treated sewage. Options of available treatment and disposal alternatives vary from municipally owned centralized collection, conveyance, treatment and disposal to individual and community on-lot systems. Land application of sewage is another method of treatment and disposal that is commonly available. In any case, proposals for NLD must provide assurance that long-term sewage disposal will be provided.

Once sufficient planning occurs, the design of the proposed facilities must be permitted. Individual and community on-lot systems treating 10,000 gallons per day or less of sewage are permitted by local agencies. All other on-lot and sewage treatment and disposal permits are issued by DEP via Water Quality Management permits under the authority of the Clean Streams Law. If a facility is proposing a

discharge to the waters of the Commonwealth, a National Pollutant Discharge Elimination System (NPDES) permit is also required. The Domestic Wastewater Facilities Manual contains guidance on the permitting, design, and construction of domestic wastewater treatment facilities. These detailed instructions provide guidance that is designed to protect surface water, groundwater, and public health and safety. The Small Flow Treatment Facilities Manual provides guidance for the design of sewage treatment facilities that collect and treat 2,000 gallons per day or less of sewage. Standards for individual and community on-lot systems and alternate on-lot system listings are provided in 25 Pa. Code Chapter 73. These documents provide for potential sewage pollution mitigation from all sources, big and small.

Storage Tanks Program

DEP's Bureau of Environmental Cleanup and Brownfields is responsible for policies and implementation of the Storage Tank Program. The program provides for the health and safety of the citizens of Pennsylvania by protecting Pennsylvania's air, land, and water from storage tank releases. The program staff work as partners with individuals, organizations, governments, and businesses to prevent releases from storage tanks and restore our natural resources when releases do occur. Under the Storage Tank and Spill Prevention Act, which became effective on August 5, 1989, the Storage Tank Program is responsible for developing and implementing regulations for aboveground and underground storage tanks. Specific program responsibilities include the following: registration and permitting of regulated aboveground and underground storage tank systems and collection of annual tank registration fees, certification of individuals and companies that perform tank inspection and tank handling (installation, modification, removal) activities, establishment of technical and operational standards for aboveground and underground storage tank systems, and development of procedures for reporting of releases and corrective action by tank owners.

The Storage Tank Program encompasses two Divisions within the Bureau. The Division of Storage Tanks manages the statewide program to regulate aboveground and underground storage tanks under Pennsylvania's Storage Tank and Spill Prevention Act. The Site Remediation Division develops regulations, policy and guidance for the storage tanks corrective action program and the state and federal Superfund programs. The Site Remediation Division also procures and administers statewide contracts to perform site assessment, design, interim response and other actions to respond to petroleum and hazardous substance releases.

The Storage Tank Program regulates approximately 17,323 aboveground storage tanks and approximately 20,779 underground storage tanks located at approximately 12,100 different facilities in Pennsylvania. From July 1, 2023 through June 30, 2024, Storage Tank Program staff and DEP-certified third-party inspectors performed over 5,726 inspections at regulated storage tank facilities. From July 1, 2023 through June 30, 2024, Storage Tank Program staff completed 307 cleanups at regulated storage tank sites.

Stormwater Compliance Program

The Stormwater Compliance Section in DEP's Bureau of Clean Water is responsible for developing policies, guidance, outreach, and inspection strategies for compliance assessment, compliance assistance, and enforcement of regulatory programs relating to stormwater runoff. This section

conducts activities relating to regulatory compliance for construction-related erosion and sediment control; post-construction stormwater management; Municipal Separate Storm Sewer Systems (MS4s); and industrial stormwater.

The NPDES Construction Stormwater program is a statewide program where permitting and compliance activities are delegated to most County Conservation Districts, and inspections are performed by the Districts throughout construction as well as at the time of permit termination. Table 12 shows the total universe of active permitted construction sites at the time of this report (approximate), the state inspection goal committed to EPA, and the total number of inspections completed for the period of October 1, 2023 – March 31, 2025 (including inspections completed as a result of the receipt of complaints).

Table 12. Total permitted construction sites, the Environmental Protection Agency (EPA) inspection goal, and the actual inspections completed. EPA expects at least 10% of the regulated construction sites of equal to or greater than one acre of disturbed area to be inspected annually.

Total Permitted Sites	7,500
Inspection Goal	750
Inspections Completed	16,531

Water Quality Standards Program

The Water Quality Division (Division), located in DEP's Bureau of Clean Water, develops, reviews and maintains Pennsylvania's water quality standards (WQS). WQS includes water uses, numeric and narrative criteria to protect those uses, and an antidegradation policy. The Division is also responsible for the preparation of this Integrated Report, which includes the development of appropriate monitoring and assessment methodologies to guide impairment listings on the Integrated Report.

DEP routinely evaluates and revises both the protected water uses for surface waters of the Commonwealth and the water quality criteria in 25 Pa. Code Chapter 93. As part of every regulatory update, the public is provided an opportunity to submit comments on the proposed regulation and to present testimony at a public hearing.

Under the Federal Clean Water Act, States are required to periodically, but at least once every three years, review and revise their WQS. This practice is commonly referred to as the triennial review of water quality standards. The tenth triennial review of water quality standards is nearing completion. The proposed rulemaking was published in the Pennsylvania Bulletin at 53 Pa.B. 6170 (October 7, 2023) with a 45-day public comment period that closed on November 21, 2023.The Division will be presenting the final-form rulemaking to the Environmental Quality Board (EQB) at its next available meeting, which is expected to occur on July 8, 2025.

The Division has also developed regulatory updates to 25 Pa. Code § 93.8d (relating to development of site-specific water quality criteria) and a site-specific methylmercury criterion for Ebaughs Creek in York County. This proposed rulemaking was published in the *Pennsylvania Bulletin* at 53 Pa.B. 6854 (November 4, 2023) with a 45-day public comment period that closed on December 19, 2023. The final-form rulemaking was presented to, and adopted by, the EQB on April 8, 2025. Following approval by

the Independent Regulatory Review Commission, the final-form rulemaking will be published in the *Pennsylvania Bulletin*. Publication is anticipated for fall or winter of 2025.

In addition to these rulemakings, the Division is also working on several stream redesignation rulemakings, including a Class A stream redesignation rulemaking and the Chester Creek et al. stream redesignation rulemaking. Stream evaluations and redesignations ensure the surface waters of the Commonwealth are protected at the appropriate level. Stream redesignation rulemakings are typically prepared in response to EQB petitions, requests from the Pennsylvania Fish and Boat Commission (PFBC), ongoing Statewide monitoring efforts, and any errors identified in Chapter 93. The Class A Stream Redesignation proposed rulemaking was published in the Pennsylvania Bulletin at 55 Pa.B. 914 (February 1, 2025) with a 45-day public comment period that closed on March 18, 2025. The Division anticipates presentation of this final-form rulemaking to the EQB in late 2025. The Division also anticipates presentation of the Chester Creek et al. Stream Redesignation proposed rulemaking to the EQB in late 2025.

Changes to WQS have the potential to impact many activities and programs within DEP, including NPDES-permitted activities and other DEP permits and approvals. The specific impacts to the various DEP programs and permits or other approvals are determined on a case-by-case.

Wetlands Protection Program

Wetlands, as defined under, 25 Pa. Code Chapter 105, include the following:

"*Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions including swamps, marshes, bogs and similar areas.*"

The approval of a permit, environmental assessment, or plan under Chapter 105 is required prior to conducting any work related to dams, water obstructions, or encroachments as those structures and activities are defined under the chapter.

Certain structures and activities may be eligible for a waiver of permit requirements under § 105.12 without obtaining prior authorization, unless specified. DEP also provides water quality certification, as required, under Section 401 of the Clean Water Act for activities that include, but are not limited to, federal Section 404 permits such as the Pennsylvania State Programmatic General Permit (PASPGP), Nationwide Permits (NWPs), and other activities regulated under Section 404 and 408 of the Clean Water Act and Section 10 of the River and Harbors Act of 1899 which require a federal license or permit.

DEP's Bureau of Waterways Engineering and Wetlands (BWEW) coordinates the overall implementation and development of the wetlands protection program; however, many aspects of implementation are delegated. Thirty-two of Pennsylvania's County Conservation Districts (District) have Chapter 105 delegation agreements with DEP to register certain general permits within their counties. The basic duties of each District are to provide information to the public on Chapter 105 regulations, review registrations for and authorize the use of general permits and perform on-site investigations. Other programs/offices within DEP are responsible for reviewing and approving general

and individual permits relating to mineral resources, abandoned mine lands, oil and gas activities, and BWEW's own Stream Improvement and Flood Protection programs.

BWEW has three technical guidance documents that provide guidelines for evaluating the condition of various types of aquatic resources: wetland (palustrine and tidal), riverine, and lacustrine aquatic resources. These three technical guidance documents outline how to conduct the rapid condition assessments and establish a scoring system based upon defined condition categories. BWEW also finalized revisions to its Environmental Assessment (EA) Form which includes references to these three technical guidance documents and many other changes intended to result in the submission of more complete environmental assessments for use in Chapter 105 permit applications and requests for water quality certification under Section 401 of the Clean Water Act.

BWEW is continuing to develop and oversee efforts of partner agencies and organizations to update the current Pennsylvania Aquatic Resource Protection and Management Action Plan (PARMAP). PARMAP provides a framework and direction for DEP and its partners to strengthen and improve the programs that provide regulatory oversight, management, restoration, and monitoring of wetlands and other aquatic resources. The 2025-2030 plan is intended to be a "living" document which may be periodically revised to advance the goals as necessary. In addition, BWEW has continued to expand the number of participating agencies and institutions that share common interests in aquatic resources to provide a more diverse set of stakeholders contributing input into developing and accomplishing PARMAP initiatives. DEP has primarily relied upon Wetland Program Development Grant monies from EPA Region 3 in conjunction with state matching funds to facilitate PARMAP initiatives. Program development is needed to help address new threats, ensure compensatory mitigation provides for lost functions, and improve the scientific understanding of the resources to develop better tools for restoration, protection, and monitoring and assessment activities. The outputs from these projects will impact other programs beyond the wetland program including the Erosion and Sediment Control program (riparian buffers), TMDL program (Chesapeake Bay TMDL nutrient reduction efforts), Public Water Supply program, Sewage Facilities program, and the Post Construction Stormwater program.

The Pennsylvania Wetland Mapping Initiative, funded by DEP to enhance wetland mapping for Pennsylvania, completed in 2019 for the entire state. The statewide estimated wetland acreages were approximately 403,924 acres. The new mapping provides an estimate of 1,591,012 acres of wetlands across Pennsylvania, which is more than three times the previous estimated acreages. BWEW is beginning to analyze the mapping data in conjunction with broader watershed data (i.e., water quality data) to better help understand potential watershed impacts from wetland losses. These types of analyses will be used to better inform DEP how wetlands function, interact, and contribute to overall watershed health.

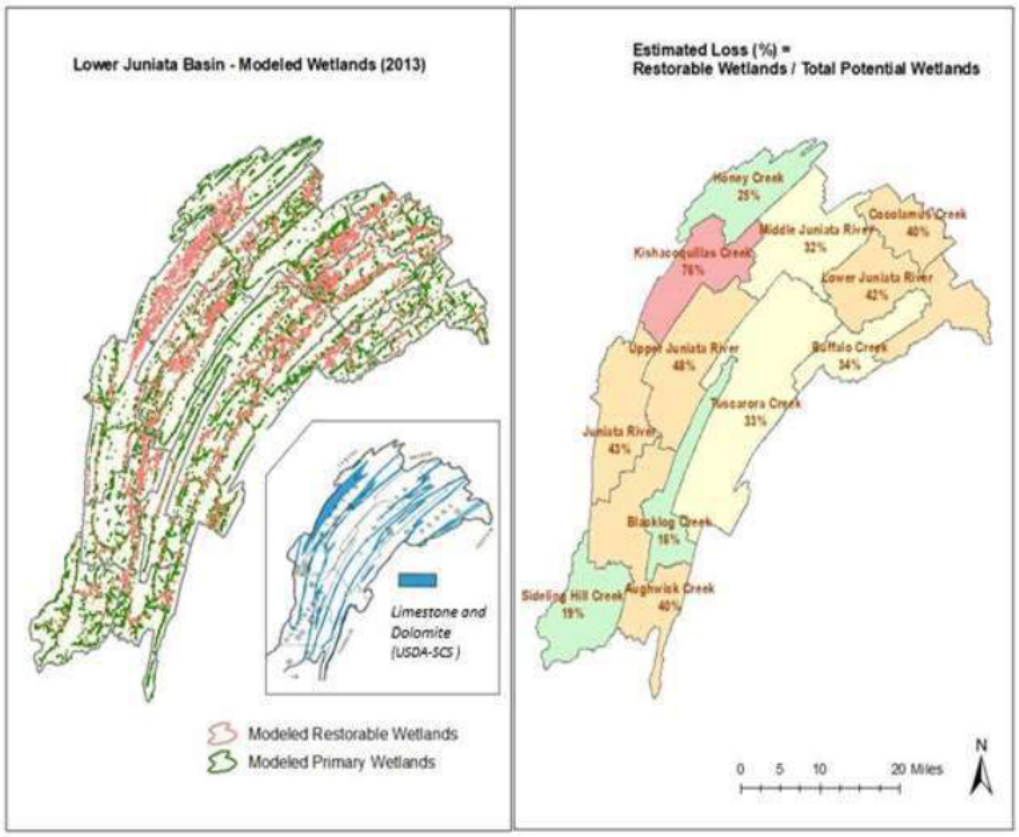

Figure 1. Spatial distribution of (1) modeled wetlands (University of Vermont, 2013) and (2) mineral resources, including limestone and dolomite (USDA-SCS, 1978), within the Lower Juniata Subbasin (left map). Estimated loss (%) of wetlands averaged by HUC-10 watersheds (right map). Adapted from Final Report for Wetland Program Development Grant CD-963471-01.

RESTORATION PROGRAM DESCRIPTIONS

Abandoned Mine Lands Program

DEP's Bureau of Abandoned Mine Reclamation (BAMR) administers and oversees the Abandoned Mine Reclamation Program in Pennsylvania. BAMR is responsible for resolving abandoned mine land (AML) problems such as mine fires, mine subsidence, dangerous highwalls, open shafts and portals, mining impacted water supplies, water pollution emanating from abandoned mines and other hazards which have resulted from past coal mining (pre-1977) practices in accordance with requirements established by the federal Office of Surface Mining Reclamation and Enforcement (OSMRE) under authority of the Surface Mining Control and Reclamation Act (SMCRA), (OSMRE).

Over 748 permit authorizations for restoration efforts have been administered under 25 Pa. Code Chapters 102 and 105 since permit delegation in 2003. BAMR's AML Construction Inspection Section inspects projects in accordance with Chapter 102/105 permit conditions. BAMR accomplishments include several thousand AML sites across the coal fields of Pennsylvania. As of the end of 2024, the federal eAMLIS database reports more than 151,000 acres of abandoned coal mine sites have been reclaimed, with a construction cost of $948 million. There are numerous Pennsylvania Award Winning Reclamation Projects. These time periods reflect the most current data available for the 2026 Integrated Report.

AML funding is provided to Pennsylvania through grants from OSMRE. Over the last 10 years, Pennsylvania has received over $1.35 billion in AML grant funding (Oversight Documents). SMCRA allows AML Programs to set-aside up to 30% of their AML grants into an AMD Set-Aside Program account for the treatment or abatement of abandoned mine drainage (AMD) in Qualified Hydrologic Units (QHUs) as defined within SMCRA Section 402(g)(6) . From the AML grant funding received over the last 10 years, Pennsylvania has set-aside just over $64.7 million. The AML Program has awarded reclamation contracts using the AML Program, AMD Set-Aside, AMLER Program (formerly the AML Pilot Program), Growing Greener, and State Capital Budget funds. On November 15, 2021, President Biden signed Public Law 117-58, known as the Infrastructure, Investment, and Jobs Act (IIJA). This law provided unprecedented funding for AML reclamation. Through the BIL/IIJA, Pennsylvania's AML program has currently applied for and received three of 15 federal grants in the amount of approximately $244 million dollars for each grant application. This funding will be used to reclaim both AML and AMD issues created by legacy mining. In addition, the Consolidated Appropriations Act, 2023 included an amendment to the IIJA known as the Safeguarding Treatment for the Restoration of Ecosystems from Abandoned Mines Act (STREAM Act) that allows a state AML Program to set aside 30% of its annual grant for abandoned mine reclamation provided under the IIJA for the treatment and abatement of abandoned mine drainage, reclamation of mine subsidence, and reclamation of abandoned mine fires. Since the STREAM Act Amendment became law on December 29, 2022, BAMR has preserved over $220.3 million for AMD abatement, mine subsidence and mine fire projects in Pennsylvania.

From 2020 through 2024, total AML program (grant and direct deposit) values used to reclaim eligible pre-1977 abandoned mine lands, in which water quality control and site restoration are achieved, exceed $999 million (Table 13).

Table 13. Total grant values per fiscal year and fund type.

Fiscal Year	AML	AMLER	BIL/IIJA
2020	$32,171,975.00	$25,000,000.00	
2021	$27,403,916.00	$25,000,000.00	
2022	$26,463,897.00	$26,630,000.00	$244,904,000.00
2023	$22,128,591.83	$29,347,334.00	$244,786,476.00
2024	$21,482,485.00	0*	$245,082,772.30
Totals	**$129,650,864.83**	**$105,977,334.00**	**$734,773,248.30**

*2024 AMLER was a direct deposit of $28.666 million and not a grant.

Advance Restorations Program

Beginning with the 2016 Integrated Report, the EPA and states launched a new vision for meeting the goals of CWA Section 303(d). The new vision included 6 goals: Engagement, Integration, Protection, Prioritization, Alternatives, and Assessment. To implement the vision, EPA provided a new adaptive management tool to achieve water quality standards. An advance restoration approach is a near-term plan of actions with a clear schedule for achieving a set of milestones. In certain impairment situations, an advance restoration plan (ARP) can be more beneficial than a TMDL, because restoration implementation can begin immediately. An important aspect of having watersheds selected for ARPs

is that these watersheds are in areas where state and local governments, along with watershed groups and other nongovernmental organizations are actively engaged in activities to restore waters. The Vision was revised in 2023 to provide a framework for the future that was consistent with the 2016 Vision and the CWA but modified in a way that took advantage of lessons learned from the original Vision in both plan development and reporting.

The 303(d) section of this Integrated Report details DEP's current list of ARPs. The focus of ARPs is currently on statewide siltation impairments. However, as plans progress and more information become available, any impaired watershed may move from the standard TMDL process to an advance restoration approach. Although siltation is the focus, watersheds with other causes of impairment were also selected because stakeholders are interested in working together to improve the watershed. Several watersheds have pollution impairments listed on Category 4c that do not require a TMDL; however, for waters selected for ARPs these impairments are likely to be addressed through the ARP. It should be noted that any of the waters selected either for TMDL or ARP may ultimately be switched from one track to the other based on new information or lack of progress towards achieving water quality standards.

To date, there have been four ARPs completed for the following watersheds: Kishacoquillas Creek, Chiques Creek, Fishing Creek, and Hammer Creek. These ARP documents and future ARPs are available on DEP's website. Current and planned ARPs can also be found within this Integrated Report.

Chesapeake Bay Watershed Restoration Program

Within DEP's Bureau of Watershed Restoration and Nonpoint Source Management, the Chesapeake Bay Watershed Restoration Division coordinates Pennsylvania's activities to implement the 2010 U.S. EPA Chesapeake Bay Total Maximum Daily Load (TMDL) to restore water quality in local waterways and the Chesapeake Bay. The Chesapeake Bay Watershed Restoration Division also coordinates efforts surrounding the implementation of the 2014 Chesapeake Bay Watershed Agreement, which consists of goals that will advance the restoration and protection of local waters within the Chesapeake Bay watershed.

Pennsylvania and the Chesapeake Bay TMDL

The Chesapeake Bay TMDL requires Pennsylvania to make specific reductions in nitrogen, phosphorus, and sediment pollution and to have best management practices in place to meet those reduction goals by 2025. As part of the TMDL, a series of three "Watershed Implementation Plans" (WIPs) have been developed to specify how Pennsylvania will accomplish these pollution reduction goals. Pennsylvania developed its Phase 1 WIP in 2010; its Phase 2 WIP in 2012; and its final Phase 3 WIP in July 2022. Pennsylvania and the other Bay signatory partners are also looking beyond 2025 as the Chesapeake Bay Partnership works collectively to update the 2014 Chesapeake Bay Watershed Agreement to address the TMDL and other outcomes.

Pennsylvania's Commitment to Cleaner Water: Partners, Projects, Progress

Pennsylvania's Phase 3 WIP is the product of successful collaboration and engagement between government agencies, state legislators, county and local government officials, industry associations, nonprofit organizations, and citizens.

Pennsylvania has recognized that a bottom-up local engagement approach that focuses on local partnerships is a critical component of a successful Phase 3 WIP and is key to the success in planning and implementation of practices that will help to clean up local waters. This unique approach to meeting the state's Chesapeake Bay nutrient reduction goals has been well received by Pennsylvania counties in the Bay watershed. In fact, this comprehensive effort has resulted in the development of Countywide Action Plans (CAPs) for clean water that are realistic and implementable for local communities. All 34 counties who were asked to voluntarily draft CAPs have done so and are now implementing them.

Pennsylvania's Phase 3 WIP is unique in its strategic, bottom-up approach to reducing nutrient pollution in Pennsylvania's portion of the Chesapeake Bay watershed. Trusting county partners to take the lead on clean water efforts has put the power to make change in the hands of the people most impacted by that change -- local community members and their representatives.

Pennsylvania takes its supporting role in the Phase 3 WIP seriously and has proven it by taking major steps to ensure counties have all they need to get the job done. Inspiringly, this dedication has not gone unnoticed and the Phase 3 WIP has created a diverse network of people and organizations who are actively working for clean water in the Commonwealth. Due to the momentum the Phase 3 WIP and CAPs have generated, many organizations and agencies are also developing dedicated funding streams to offer grants and other financial support to projects in Pennsylvania's portion of the Bay watershed.

Local action is making a difference through the work of individuals and partnerships focused on clean water. The Phase 3 WIP focuses on working with local stakeholders at the county level to create and implement CAPs. Implementation of a CAP comes with many benefits, including financial resources. Both the state and a diverse group of partners working across Pennsylvania's portion of the watershed have dedicated funding to fund projects identified in county CAPs. As projects at the county level are funded and completed, water quality improves, benefiting local stakeholders and those living downstream.

Robust action by the state government and each sector (e.g., agriculture, stormwater, wastewater, forestry) has led to more funding, more staff members, and more programs. The Pennsylvania General Assembly took historic action in 2022 to provide funding directed at projects that reduce water pollution across Pennsylvania's portion of the Chesapeake Bay watershed. Staff across state agencies and state action leaders in agriculture, forestry, stormwater and wastewater had prepared for this in previous years and were able to distribute funds into a variety of programs that made, and will continue to make, measurable differences on-the-ground. Big changes in agency-level organization led to improvements in the state's ability to accomplish state-level work and support county-led efforts.

In 2024, the Phase 3 WIP received the prestigious National Association of Environmental Professionals (NAEP) Environmental Excellence Award, earning national recognition for its innovative approach and underscoring its role as a leader in Chesapeake Bay restoration efforts. Stream monitoring data confirmed positive improvements across Pennsylvania's waterways, from small creeks to the mighty Susquehanna River, significantly impacting Chesapeake Bay health.

The Commonwealth demonstrated its commitment by dedicating significant financial support through the 2024-2025 state budget, ensuring the continuation and expansion of successful initiatives such as the Turtle Creek Rapid Delisting project. It's been inspiring to see so many county leaders, farmers, landowners, non-profits and others come to the table to tackle water issues in their community through programs such as the Countywide Action Planning (CAP) and Implementation process. Pennsylvania's approach to collaborating with local communities empowers them to identify and achieve their clean water goals through projects and programs that also enhance their communities.

This voluntary, county-led, bottom-up approach has yielded impressive results within just five years of initiating the Phase 3 WIP. All 34 Chesapeake Bay watershed counties are implementing their unique action plans, making progress by implementing projects and programs that are their own, in places that they prioritize, and building partnerships every step of the way. Simultaneously, the Pennsylvania Department of Environmental Protection's (DEP) Bureau of Watershed Restoration and Nonpoint Source Management (BWRNSM) provides crucial support and coordination through open communication, training, technical assistance, and funding, building on a strong foundation of trust and long-term collaboration.

Championing Strategies for Clean Water: Growing Connections and Commitments

In early 2025, Pennsylvania's second annual Clean Water Gathering brought together more than 120 dedicated individuals—ranging from state agency and county action leaders to policymakers and community partners—all united by a shared commitment to protect and restore the Commonwealth's waterways. This action-driven summit built on the momentum generated in October 2023 by unveiling 25 Strategies for Success, detailed recommendations developed in 2024 by over 60 contributors who collectively devoted 1,000 hours to strengthen Pennsylvania's clean water progress.

Leaders from the Departments of Environmental Protection, Conservation and Natural Resources, and Agriculture, as well as Pennsylvania's state legislature, took the stage to champion these strategies, promising to support innovative funding solutions and grow the conservation workforce.

Their pledges underscored the state's resolve to achieve meaningful, long-term protection for local streams, rivers, and the vast Chesapeake Bay watershed. By embracing a collaborative, community-focused approach, the Gathering affirmed that Pennsylvania's success will hinge on steady partnership and deliberate action at every level—urban to rural, local to statewide.

Partners at every level – from the landowner who agreed to have a BMP installed on their land, to the local watershed organization on their county CAP team who put the project together, to state program managers and leaders who have committed time, funding and resources to this effort – have found a way to do their part. The result is measurably cleaner water across Pennsylvania's portion of the Chesapeake Bay watershed.

Thanks to the efforts of many partners at all levels, Pennsylvania is well on its way towards reaching the TMDL goals.

To learn more, subscribe to Pennsylvania's Healthy Waters e-newsletter to stay up to date on coordination efforts, action steps and resources Pennsylvania is counting on to achieve its nutrient pollution reduction goals.

Environmental Cleanup Programs

DEP manages contaminated surface water and groundwater by requiring or encouraging the remediation of contaminated sites through several environmental cleanup programs. While many components of these restoration programs remediate the land, they are inherently tied to groundwater and surface water. Simply stated, to remediate land is to remediate water quality. These restoration programs include:

- Land Recycling Program (a.k.a., 'Act 2')
- Storage Tank Cleanup Program
- Hazardous Sites Cleanup Program
- Superfund Program
- Department of Defense and State Memorandum of Agreement Program
- Hazardous Waste Cleanup Program (HWCP, formerly, the Resource Conservation and Recovery Act (RCRA) Corrective Action Program)

Through DEP's Bureau of Environmental Cleanup and Brownfields, the Land Recycling Program develops and implements Act 2 (35 P.S. §§ 6026.101 et seq) regulations, remediation standards, and technical guidance; promotes redevelopment of brownfields; and provides technical expertise in the areas of risk assessment, statistical analysis, vapor intrusion, separate phase liquids and groundwater modeling. Through financial incentives, the Land Recycling Program encourages the voluntary cleanup and reuse of contaminated commercial and industrial sites. Since July 1, 2023, 787 Notices of Intent to Remediate (NIRs) were received. Since then, 270 NIRs are still active and 517 NIRs have been closed with the approval of their final reports.

The Site Remediation Division in DEP's Bureau of Environmental Cleanup and Brownfields manages the corrective action program for releases of petroleum products and hazardous substances from storage tanks through the Storage Tank Cleanup Program. Currently, there are 1,359 open Storage Tank Cleanup sites, with 12,205 throughout the life of the program that have been closed. The Division also manages the response program for releases of hazardous substances that fall under the state Hazardous Sites Cleanup Act through the Hazardous Sites Cleanup Program, and for releases of hazardous substances that fall under the Federal Superfund law through a partnership with the EPA in the Federal Superfund Program. In the Hazardous Sites Cleanup Program, there are currently 96 sites listed as active, and 396 sites listed as closed since the program start in 1988, and 8 projects since July 1, 2023. the Superfund's National Priorities List includes 91 active sites in Pennsylvania and 35 sites that have been de-listed since the first Pennsylvania site was listed in October of 1981. The Division further provides regulatory oversight of federal facilities restoration through the Department of Defense and State Memorandum of Agreement Program. There are 8 Formerly Used Defense Sites currently listed as active. In some instances, there may have been sites that were deemed "No Further Action" without state regulatory agency concurrence by the Department of Defense. As such, the number of sites considered closed were not readily available.

DEP's Bureau of Waste Management, Division of Hazardous Waste Management implements the Hazardous Waste Cleanup Program (HWCP), formerly known as the RCRA Corrective Action Program. There have been many changes over the last year at both EPA Region 3 and DEP regarding this program. The projects are the same but are now contracted through procurement services. New EPA requests on overall project numbers now go through the Bureau of Environmental Cleanups and Brownfields, primarily for sites that have been investigated, jointly, through the One Cleanup Program. DEP's Central Office assists the regions with HWCP projects on a case-by-case basis and continues to maintain the RCRA HWCP workshare program for EPA Region 3. Many of the sites have had historic releases and include treatment, storage, and disposal facilities, industrial and commercial properties where the owners have limited knowledge of past releases (the property is vacant) and/or owner/operators are unable to afford costs associated with cleanup. Some sites previously closed are reopened due to new information or technology. Additionally, the RCRA HWCP workshare has various stages of activity and can include investigations of bedrock, soil, groundwater, soil gas, air, surface water, sediment and other media with the end result being the identification of impacted media, its extent and the generation of viable options for remediation to protect human health and the environment. Each site investigation approach, remedy, and end point are different. Since October 1 2023, 11 Long-Term Stewardship inspections were completed with DEP assistance and seven more have been initiated to check the effectiveness of a prior remedy. DEP Regional and/or EPA initiated investigations have been conducted at eight additional sites; three of which are now closed, and five of which are active (three are entering remedial implementation, one is an open investigation/remediation superfund site with a brownfields component, and one is an active vapor intrusion investigation site).

Great Lakes Program

The DEP Great Lakes Program is responsible for the coordination and implementation of water quality and watershed-related initiatives within the basin, including commitments under the Great Lakes Water Quality Agreement (GLWQA) and the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Compact and Agreement. This multi-disciplinary, multi-jurisdictional program interacts with Great Lakes states, Canadian provinces, and U.S and Canadian federal governments to implement policies and programs to achieve protection of the largest surface freshwater system on Earth.

In 1972, the GLWQA was signed by U.S. and Canada to provide a framework for the restoration, protection, and management of the Great Lakes water resources shared between the countries. The GLWQA was amended in 2012 to include a process to develop new phosphorus reduction targets for Lake Erie to address over-nutrification problems identified within the lakes and develop U.S and Canadian Domestic Action Plans (DAP) for phosphorus reductions in each country. The final Pennsylvania Lake Erie Phosphorus Reduction DAP was adopted in September 2017 and is scheduled for updates in 2026.

During the reporting period (October 1 2023 – June 30 2025), the DEP Great Lakes Program administered EPA Great Lakes Restoration Initiative (GLRI) Management Assistance funding to facilitate water quality improvement programs and projects. GLRI funding is authorized through Section 118(c) of the Clean Water Act and allows the Great Lakes Program to work with partners to advance water quality activities in several program areas, including:

Pennsylvania Vested in Environmental Sustainability PLUS (PA VinES)

Beginning in 2014, DEP Office of the Great Lakes assembled essential stakeholders to develop a new agricultural outreach and best management practices program named PA VinES. This program works with viticulture and grape growers – the largest agricultural land use in Pennsylvania's portion of the Lake Erie basin – through a voluntary, proactive approach to assess agricultural operations for environmental and economic sustainability, fund best management practices identified by the assessments, and create a certification/recognition program. DEP and Erie County Conservation District expanded the program to include other agriculture types found in the PA Lake Erie Basin and continued investments of state funding to construct water quality BMPs and continue program administration.

Pennsylvania Lake Erie Environmental Forum (PA LEEF)

To increase public participation in DEP policy development during the reporting period, DEP awarded GLRI Management Assistance funding to Pennsylvania Sea Grant to organize PA LEEF through 2025. This initiative holds virtual and in-person public meetings to inform local citizens and government agencies about topics of concern on the Great Lakes and how DEP responds to those challenges. Meetings routinely gather over 50 attendees and help in the outreach associated with the Pennsylvania Lake Erie Phosphorus Reduction Domestic Action Plan and other important initiatives. Meetings are made available on online for viewing after meetings.

Growing Greener Plus Program

Pennsylvania's Growing Greener Plus Program, administered by DEP's Bureau Watershed Restoration and Nonpoint Source Management (BWRNSM), is part of DEP's Grant and Loan Program, which provides grants to assist individuals, groups, and businesses in addressing a host of environmental issues. The Growing Greener Plus Program remains the largest single investment of state funds in Pennsylvania's history to address Pennsylvania's critical environmental concerns of the 21st century. The program encourages partnerships between counties, municipalities, county conservation districts, watershed organizations, and other groups to restore and protect the environment. The three programs covered under DEP's Growing Greener Plus Grants Program include Growing Greener Watershed Restoration and Protection, Act 167 Stormwater Management Planning, and Surface Mining Conservation and Reclamation (SMCRA) Bond Forfeiture grants. More information on these programs is provided in their respective sections in this Integrated Report.

The Growing Greener Plus Program is supported by the Environmental Stewardship Fund, which receives funding from landfill tipping fees. Since 1999, the Growing Greener Program has awarded more than $1 billion in state funds for farmland-preservation projects statewide; open space protection; maintenance in state parks; clean-up of abandoned mines and restoration of watersheds; recreational trails and local parks; new and upgraded water and sewer systems; and installation of best management practices to reduce nonpoint source water pollution. The funds are distributed among four state agencies: the Department of Environmental Protection; the Department of Agriculture to administer farmland preservation projects; the Department of Conservation and Natural Resources for state park renovations and improvements; and the Pennsylvania Infrastructure Investment Authority for water and sewer system upgrades.

In August 2022, the Office of Attorney General announced that Energy Transfer was convicted of criminal charges related to their conduct during the construction of two major pipelines – the Mariner East 2 Pipeline, which crosses 17 counties across southern Pennsylvania, and the Revolution Pipeline, a 42.5-mile pipeline that starts in Butler County, and is routed through Beaver County and Allegheny County, connecting to a gas processing plant in Washington County. As part of the settlement agreement, Energy Transfer is paying $10 million towards dedicated projects that improve the quality of watersheds and streams along the two pipeline corridors (Table 15).

DEP is authorized to allocate these funds in grants for watershed restoration and protection, abandoned mine reclamation, and abandoned oil and gas well plugging projects. In 2023 and 2024, a combined 150 projects were approved totaling $27,929,770 (Table 14 and Table 15) under the DEP's Growing Greener Plus Grants Program.

Table 14. 2023 Growing GreenerAct 167 Stormwater Management Planning and Mariner East 2/Revolution Pipeline Corridor Settlement Projects

Program	Projects Approved	Amount Awarded
Growing Greener	62	$12,047,829
Act 167 Stormwater Management Planning	6	$ 260,000
Mariner East 2/Revolution Pipeline Corridor Settlement	2	$ 437,664
Totals	70	$12,745,493

Table 15. 2024 Growing Greener Projects, SMCRA and Mariner East 2/Revolution Pipeline Corridor Settlement Projects

Program	Projects Approved	Amount Awarded
Growing Greener	72	$12,944,635
SMCRA		
Mariner East	1	$ 159,575
2/Revolution Pipeline	7	$2,080,0674
Corridor Settlement		
Totals	80	$15,184,277

Since 2016, there has been an added emphasis on agriculture and stormwater projects that are in Pennsylvania's portion of the Chesapeake Bay Watershed, to reduce nitrogen, phosphorus, and sediment in Pennsylvania's local waters leading to the Chesapeake Bay. A current list of projects for the protection and enhancement of Pennsylvania's water resources is available for 2023 and 2024 at DEP.

Nonpoint Source Management Program (Section 319 Program)

The Nonpoint Source (NPS) Management Program is part of DEP's Bureau Watershed Restoration and Nonpoint Source Management (BWRNSM), Watershed Support Section, and provides grants to assist watershed associations, county conservation districts, and other non-profit organizations in addressing a host of environmental issues. This grant program manages funds awarded to DEP from EPA through the Clean Water Act Section 319(h) grant program. Funds awarded to DEP are used to fund programmatic efforts and as sub-grants to local partners for the implementation of water quality improvement projects specified in EPA-approved Watershed Implementation Plans (WIPs). The NPS Management Program provides technical support to local groups interested in preparing WIPs, with priority given to groups working actively in watersheds with significant nonpoint source water quality impairments and one or more TMDLs, where watershed assessments and/or restoration plans have been completed. Projects funded include abandoned mine drainage treatment, minimization of agricultural and urban stormwater run-off, and natural channel design/stream restoration projects.

Between October 1, 2022 – and September 30, 2024, more than $4.7 million was awarded annually to projects in watersheds with WIPs and to DEP internal projects, such as personnel. Most of the funding is split into four categories or sectors, depending on the type of project or NPS pollution (Table 16). For the same period, grants have resulted in the installation of numerous Best Management Practices (BMPs) in (Table 17).

Table 16. Funding per NPS type in federal fiscal year (FFY) 2023 (October 1, 2022 – September 30, 2023) and FFY 2024 (October 1, 2023 – September 30, 2024)

NPS Type	FFY 2023 and 2024 Funding
Abandoned Mine drainage	$1,046,550
Agriculture	$2,020,513
Urban Runoff and Stream Restoration	$2,892,237
Other (DEP internal projects)	$1,864,003

Table 17. BMPs installed in the federal fiscal year 2023 and 2024

NPS Type	BMP Type	Number Installed
Abandoned Mine drainage	Passive Treatment Systems	1
Agriculture	Barnyard BMPs	13
Agriculture	Livestock Stream Exclusion Fencing with Buffers	1
Agriculture	Waste Storage Systems	1
Urban Runoff and Stream Restoration	Stream Restoration Projects	12

Total Maximum Daily Load Program

Section 303(d) of the Clean Water Act (CWA) requires states to establish Total Maximum Daily Loads (TMDLs) for waterbodies that are impaired by pollutants. TMDLs prescribe a maximum amount of a pollutant that can occur within a waterbody while still allowing it to meet water quality standards. By

using common mass/time units, TMDLs integrate the management of various point and nonpoint sources of a pollutant. The primary way that TMDLs are enforced is by requiring reductions from point sources via National Pollutant Discharge Elimination System (NPDES) permits. While TMDLs generally do not mandate reductions nonpoint sources, they can establish pollution reduction goals for use in watershed restoration plans that seek voluntary reductions.

In accordance with the United States Protection Agency's (USEPA) evolution of management goals for the TMDL program, Pennsylvania's history of TMDL development can be summarized according to four major periods. Pennsylvania first established a list of impaired waters in 1996, and pursued a goal developing TMDLs for such waters, where necessary, in about 10 to 12 years. Much of this work focused on mine drainage (metals and acidity), nutrients, and sediment, though other pollutants were addressed as well. The second period, lasting from around 2008 to 2013, also focused on rapid TMDL development, with a goal of completing TMDLs within about 10 years of impairment listing. In Pennsylvania, this translated to about 350 stream segments per year. TMDL development during this time also focused on metals, acidity, nutrients and sediment. During USEPA's "New Vision" period which lasted from about 2013 through 2022, DEP's work focused primarily on siltation and nutrients. A notable innovation during this time however was the use of Alternate Restoration Plans (now referred to as Advance Restoration Plans, or ARPs). Such plans were promoted by USEPA for cases where they may be more effective at solving problems than TMDLs. DEP has developed several such plans for watersheds where nonpoint source pollution was primarily responsible for the impairment and there was significant interest and potential for restoration. Such ARPs not only establish a pollution reduction goal, but also include the elements of a voluntary watershed implementation plan that may be used by implementation partners to guide restoration.

USEPA's current "New Vision" period began in 2022 and extends until 2032. DEP has developed a prioritization strategy for this vision. As was the case for the prior periods, it is proposed to develop additional TMDLs for sediment, nutrients, and metals. However, future nutrient TMDLs will be based on new sophisticated methodology currently under development, and TMDLs for pathogens (fecal coliform and *E. coli* bacteria) are also proposed. Furthermore, DEP plans to continue to use ARPs, as well as pursue new goals related to environmental justice, climate change, and protection plan development for existing healthy resources. DEPs current prioritization strategy document will be used to guide the selection of specific waterbodies for plan development, biennially, throughout the remainder of the 2022-2032 vision period. The 2026 Integrated Report includes a list and mapping of current priority waterbodies for TMDL and ARP development. Existing USEPA approved TMDLs can be accessed by selecting waterbodies in the 2026 Integrated Report Viewer. The "Restoration Priorities" section of the Integrated Report also shows waterways with existing or proposed ARPs.