



**OFFICE OF WATER PROGRAMS**  
**BUREAU OF CLEAN WATER**  
**2024 DATA SOLICITATION REPORT**

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## **INTRODUCTION**

Section 303(d) of the federal Clean Water Act (CWA) requires Pennsylvania to identify all its water quality limited waterbody segments. According to 40 CFR section 131.3, a “water quality limited segment” is any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of technology-based effluent limitations required by sections 301(b) and 306 of the CWA. These waterbodies appear on Category 5 in the Pennsylvania Department of Environmental Protection’s (DEP) Integrated Water Quality Monitoring and Assessment Report (Integrated Report). As part of this ongoing effort, DEP utilizes outside sources of data.

For the 2024 Integrated Report, information was posted regarding the data solicitation process on the DEP website with a link titled “Existing and Readily Available Data”. Information on the website includes data submission instructions and a form to submit along with data. The deadline to submit data for the 2024 Integrated Report was June 30, 2023; data submitted after the deadline will be considered for the 2026 Integrated Report.

For any given Integrated Report cycle, DEP reviews all existing and readily available information provided by the public that has been submitted through the data solicitation process. Submitted data are then categorized in one of three tiers under the data acceptance policy, which is described below. Data in Tier 3 are included in the assessment database to prepare the Integrated Report. Data in Tier 1 or 2 will need further evaluation to determine how they can be used.

### **Tier 1**

These are educational or environmental screening data that have known quality and a study plan but do not follow DEP or EPA quality assurance plans. These data will not be used for regulatory assessment purposes but can be used by DEP to highlight areas of interest for future monitoring efforts.

### **Tier 2**

These are data that have clearly defined quality assurance plans and procedures but may not have followed approved data collection protocols. These data may not be used for assessment purposes but can be used for other purposes such as trend or performance analysis.

### **Tier 3**

These are assessment-level data that have approved quality assurance plans, follow appropriate study designs, and use DEP data collection protocols. Individuals seeking to provide DEP with Tier 3 data must also be audited by DEP staff before submitting data.

Data from six separate outside sources were submitted to DEP for consideration in the 2024 Integrated Report. In addition, DEP considered the data and assessments in the 305(b) reports finalized by the Ohio River Valley Water Sanitation Commission and the Delaware River Basin Commission. Where applicable, the results of the river basin commission reports were consistent with DEP’s current assessments, so the reports were not discussed in further detail herein.

## **DATA SUBMISSIONS**

### **Mountain Watershed Association (MWA)**

In 2022, MWA submitted data during the 2022 Integrated Report public participation/comment period. Because the 2022 data solicitation period was already closed when these data were submitted, DEP's Water Quality Division (WQD) used these data for assessments covered in the 2024 Integrated Report.

MWA's 2022 submission included data for the Youghiogheny River and Indian Creek watersheds. For the Youghiogheny River Watershed, data included 2019–2021 bacteria data (total coliform and *E. coli*) from multiple sites and water chemistry data collected on February 22, 2022 for ten parameters at five of these stations. For the Indian Creek Watershed, data included 2020–2021 bacteria data (fecal coliform) and field chemistry for fourteen sites, and resubmitted data from assessments made during the 1980s and 1990s.

The 2019–2021 bacteria data were total coliform and *E. coli* collected at multiple sites in the Youghiogheny River watershed from the Association's Swimmable Waters Program and a document of laboratory procedures associated with these bacteria data. The 2020–2021 bacteria data were fecal coliform and field chemistry for fourteen sites in the Indian Creek watershed. MWA's resubmitted data from assessments made in the 1980s and 1990s in the Indian Creek watershed were first received during the 2020 Integrated Report public comment period and used for assessments covered in the 2022 Integrated Report. At that time, DEP corrected an assessment on a segment of Indian Creek and shared all data with the DEP Southwest Regional Office for prioritizing future assessments.

Throughout the Youghiogheny River watershed, MWA monitors bacteria at popular swimming spots as part of the Swimmable Waters Program. *E. coli* samples are collected weekly at popular swimming, wading and paddling sites from May until the end of September. The data are analyzed at the MWA Bacteria Laboratory. MWA submitted *E. coli* data for fifteen sites in 2019 and thirteen sites in 2020 and 2021. Field meter data including pH, total dissolved solids and conductivity were collected at most sites and submitted. The Swimmable Waters *E. coli* data are categorized as Tier 2. A sampling plan and quality assurance measures were submitted which includes instructions for collection, handling and processing the samples. The sampling is not consistent with DEP data collection protocols. Specifically, DEP protocols recommend the sample to be taken mid-stream at mid-depth. The MWA Policies and Procedures document only specifies that a sampler be used (i.e., sampling pole), the sample be taken facing upstream, and stagnant water be avoided. Quality assurance measures are taken such as utilizing a chain-of-custody form and – according to DEP correspondence with MWA – a few duplicate samples were sent to a certified laboratory which utilizes the same analysis technology for verification of MWA results. For other samples, MWA utilized its own on-site bacteria laboratory which is not DEP-registered or accredited. The field chemistry associated with the samples has not been categorized because collection of those parameters or quality assurance measures was not described in the data submission.

In the Indian Creek watershed, MWA submitted total coliform, fecal coliform, as well field meter data (conductivity, specific conductance, turbidity, salinity, dissolved oxygen) for fourteen sites. The

collections occurred between May 2020 and September 2021. Site descriptions were included, and latitude and longitude coordinates were provided for several of the sites. However, these data did not have an accompanying study plan and DEP did not assume that the Swimmable Waters Policies and Procedures were utilized since a different parameter was measured in the Indian Creek samples (fecal coliforms rather than *E. coli*). This deficiency prevented DEP from categorizing these data as Tier 3 as outlined in the Tiered Data Acceptance Policy and these data could not be used to make assessments.

The chemistry data submitted by MWA were not sufficient to make new assessments and has been categorized as Tier 1 data. Most of the data submitted were chemistry samples from 1980s, 1990s. Most data were collected/analyzed by DEP Bureau of Mining and Reclamation. No sampling plan or quality assurance plan was submitted or approved, although these plans may exist in the original reports cited in the references of the MWA comments.

The water chemistry sample data for ten parameters at five locations from February 22, 2022 were analyzed by Geochemical Testing in Somerset, PA, which is an accredited laboratory. However, a sampling plan or a quality assurance plan were not submitted, and the collector was not DEP-field audited. Therefore, these data are also categorized as Tier 1.

While the chemistry data submitted are not sufficient to make water quality assessments, the data along with the information provided in the comments are very helpful for prioritizing future assessments. These data have been sent to and discussed with the DEP Southwest Regional Office and reassessment for Aquatic Life Use (ALU) are being prioritized in these streams.

### **Willistown Conservation Trust (WCT)**

WCT submitted water chemistry and field meter data for ten stations in the headwaters of Ridley, Crum, and Darby Creeks. Each station was sampled every four weeks, with a few exceptions, from January 2018 to June 2023 as part of a monitoring program to examine water quality and the impact of land protection efforts in these watersheds. WCT has partnered with the Academy of Natural Sciences at Drexel University (Academy) to undertake this monitoring program. Field meter parameters collected include dissolved oxygen, temperature, pH, and specific conductance. Water chemistry samples were collected for turbidity, total suspended solids, alkalinity, hardness, chloride, and nutrients (total nitrogen, total phosphorous, ammonia, nitrate, and soluble reactive phosphorous). Stream flow/discharge was also measured. Along with the raw data, WCT submitted its August 2022 [State of Our Streams Report](#) which details the monitoring program and results. A sample site map, including latitude and longitude coordinates, as well as a study design and methods document were submitted as well. WCT contacted DEP to discuss the data and the monitoring program prior to data submission.

The WCT data have been categorized as Tier 2 data and are therefore not used directly to make assessments in these watersheds. WCT submitted a detailed study design plan and clearly defined Quality Assurance/Quality Control (QA/QC) information. The data do not meet Tier 3 because: the Academy, which is not a registered or accredited laboratory, analyzed the water chemistry samples; the study design and QA/QC is based on protocols from the Academy rather than DEP data collection protocols; and the collectors were not trained or audited by DEP.

When comparing WCT's study plan and QA/QC for instream chemistry monitoring and the DEP protocols, there are many similarities but some differences in how data is collection. For example, similarities include that WCT's calibration procedures for field meters are similar to DEP's procedures: calibration prior to use, including recommendation to recalibrate dissolved oxygen sensors to account for temperature and barometric changes, and keeping detailed calibration records. Differences include that WCT procedures state that field meters are calibrated no more than 48 hours prior to every sample period and DEP strongly recommends meters should have calibration checks before each day of use at a minimum, and in most cases, it is recommended that the sensors be calibrated then. Regarding study design, DEP protocols often recommend cross-sectional field meter readings to determine the homogeneity of water quality but WCT does not account for this in their study design. However, is it's unclear if this would be necessary in these watersheds. DEP plans to work with WCT to determine if future data collections could/should be adjusted and training and auditing could occur, so that future field chemistry data submissions could be categorized as Tier 3 assessment level data.

The WCT data will be shared with the DEP Southeast Regional Office to be used to prioritize future monitoring efforts in these watersheds. Also, due to the quality of the study design and QA/QC measures, and the rigorous frequency and duration of the monitoring, these data can be used for examining long-term trends in these watersheds. Trend data are valuable to understand temporal water quality changes in surface waters.

### **Huntingdon County Conservation District (HCCD)**

HCCD submitted benthic macroinvertebrate data from twenty-two samples, along with field meter data and habitat data within North Branch Little Aughwick Creek, Warriors Mark Run, Spruce Creek, Standing Stone Creek, and Shavers Creek watersheds. The data were categorized as Tier 3 and used to make ALU assessments, where appropriate. The HCCD Watershed Specialist, Logan Stenger, utilized DEP data collection protocols and assessment methodology, was audited by DEP WQD staff for data collection and macroinvertebrate subsampling, and is a certified taxonomist. The DEP WQD provided quality assurance checks of macroinvertebrate identification for several of Stenger's 2021–2022 samples.

#### North Branch Little Aughwick Creek

Five samples were collected from Unnamed Tributaries (UNTs) to North Branch Little Aughwick Creek, and one sample was collected from North Branch Little Aughwick Creek on April 07, 2021. These data are categorized as Tier 3 and have been entered in the DEP database but are insufficient to make a new assessment. The data can be used in future assessments once more data are collected. Coinciding water chemistry data are needed to identify impairment causes. The data submitted indicates stream conditions may be different from the current ALU assessment and this watershed will be prioritized for additional monitoring and assessment. The current assessment indicates ALU impairment for source/cause Crop Production (Crop Land or Dry Land)/Nutrients.

#### Warriors Mark Run

Three samples were collected on Warriors Mark Run on April 22, 2022 and were used to assess for ALU. Data from Station 20210422-1100-HuntingdonCCD is consistent with the current/prior, 2022

assessment (also based on HCCD Tier 3 data): impaired source/cause Agriculture/Siltation. Warriors Mark Run is designated High Quality – Cold Water Fishes (HQ-CWF) in Chapter 93. The macroinvertebrate Index of Biotic Integrity (IBI) score shows improvement at this station from earlier samples and is evidence of supporting ALU but physical habitat scores still indicate impairment from Siltation. Data from samples 20210422-1230-HuntingdonCCD and 20210422-1330-HuntingdonCCD are consistent with the current assessments: impaired source/cause Grazing in Riparian or Shoreline Zones/Nutrients and Grazing in Riparian or Shoreline Zone/Siltation. The macroinvertebrate IBI scores have decreased since 2020 sampling, but habitat scores are improving; both still indicate an impairment.

#### Spruce Creek and Standing Stone Creek

Data from two samples on Globe Run (collected on April 11, 2022), two samples on Spruce Creek (collected on May 2, 2022), two samples on Standing Stone Creek (collected on April 1, 2022) and two samples on Laurel Run (collected April 1, 2022) were submitted. The data indicated that the ALU is supported in segments associate with the data, which is consistent with current assessments.

Data from two samples collected on Standing Stone Creek on April 15, 2022 were entered into the DEP database as Tier 3 data but were not used to make assessments. Data from the samples are consistent with the current, supporting ALU assessment; however, due to the large distance and land cover changes between these samples, an assessment delineation was unclear. Therefore, no reassessment was recommended. It is recommended to return to this stream and collect more samples to more accurately characterize the targeted reach. DEP Southcentral Region will be notified of these data for future monitoring prioritization.

#### Shavers Creek

Two samples on Shavers Creek were collected on April 11, 2022 and April 15, 2022 and another on an UNT to Shavers Creek on May 3, 2022. Data from the April collections are consistent with the current supporting ALU assessment; however, due to the large distance and land cover changes between these samples, an assessment delineation was unclear. Therefore, no reassessment was recommended. It is recommended to return to this stream and collect more samples to adequately represent the assessment reach. The data have been entered into the DEP database and DEP Southcentral Region will be notified of its availability. The May data from UNT to Shavers Creek, Station 20220503-1345-HuntingdonCCD, have been used to make an assessment and are consistent with the current assessment: impaired source/cause Agriculture/Siltation and Habitat Alterations.

Data from one sample collected at Herod Run, Station 20210401-1300-HuntingdonCCD, were collected on April 1, 2022, and were used to make an ALU assessment. The macroinvertebrate and habitat data were consistent with and maintained the current/prior, 2022 assessment (also based on HCCD data): impaired source/cause Agriculture/Siltation and Habitat Alterations.

#### **Logan Stenger, Penn State University**

Logan Stenger submitted data collected for an ongoing research project with the Department of Entomology at the Penn State University. The data include eight macroinvertebrate samples and field meter data within Monument Run (Clinton County), Rapid Run, Spruce Run and Muddy Run (Union County) and Halfmoon Creek (Huntingdon and Centre counites) watersheds. The data were

categorized as Tier 3 because Stenger utilized DEP data collection protocols and assessment methodology, was audited by DEP WQD staff for field collection and macroinvertebrate subsampling and is a certified taxonomist. Furthermore, WQD provided quality assurance checks of macroinvertebrate identification for several of Stenger's 2021–2022 samples. These data were used to make ALU assessments on the appropriate streams.

#### Monument Run, Spruce Run, and Rapid Run – Supporting

Macroinvertebrate and field meter data were used to make supporting ALU assessments in Monument Run, Rapid Run and Spruce Run. These assessments are consistent with previous assessments in these streams and maintained those assessment decisions.

#### UNT Rapid Run, Muddy Run, and Halfmoon Creek – Impaired

Data collected from one station on UNT Rapid Run, station 20220424-0930-HuntingdonCCD, were used to make a new assessment. Results of the new assessment were consistent with previous ALU assessment. Data collected from Muddy Run, Station 20210424-1200-HuntingdonCCD, were used to make an ALU assessment consistent with previous assessment: impaired with source/cause Agriculture/Siltation. Data collected from three stations on Halfmoon Creek were used to make an assessment consistent with the previous ALU assessment resulting in the stream being impaired with source/cause of Agriculture/Siltation.

### **Chesapeake Conservancy**

Logan Stenger submitted data on behalf of Chesapeake Conservancy for twenty-three stations. The data include macroinvertebrate samples, along with field meter data and physical habitat data. Data were collected in April 2022 for Pine Run (Wyoming County), Winfield Creek (Union County), and North Branch Mahantango Creek (Snyder County); and in December 2022 for Cold Run (Union County), Halfmoon Creek (Centre and Huntingdon counties), and Turtle Creek (Union County). The data were collected as part of the Chesapeake Conservancy's Rapid Delisting Strategy, which aims to improve water quality with improvement projects in small watersheds that are impaired by agriculture with the overall goal to support the removal of streams from the 303(d) list in the next 10-12 years. The streams included are considered priority watersheds for this strategy. The data were categorized as Tier 3 and used to make ALU assessments, where appropriate. Logan Stenger utilized DEP data collection protocols and assessment methodology, was audited by DEP WQD staff for field collection and macroinvertebrate subsampling and is a certified taxonomist. WQD provided quality assurance checks of macroinvertebrate identification for several of Stenger's 2021–2022 samples.

#### Pine Run (Wyoming County) and Winfield Creek (Union County)

The April 2022 Pine Run and Winfield Creek data were used to make ALU assessments which are consistent with the previous assessments: impaired with the same sources and causes as previous assessments (Agriculture/Siltation for Pine Run; Crop Production (Crop Land or Dry Land)/Siltation, and Channelization/Habitat Alterations for Winfield Creek).

#### North Branch Mahantango Creek (Snyder County)

One station from North Branch Mahantango Creek, Station 20220428-1000-HuntingdonCCD, resulted in an ALU assessment with the same result (impaired) and source/cause as previous



assessment Agriculture/Organic Enrichment. Another North Branch Mahantango Creek station, Station 20220428-1150-HuntingdonCCD, resulted in an impaired assessment consistent with the prior assessment, but the Siltation cause was removed based on the physical habitat evaluation scores. The resulting source/cause is Agriculture/Habitat Alterations. The third station on North Branch Mahantango, Station 20220428-1120-HuntingdonCCD, resulted in an assessment (impaired) and source/cause Agriculture/siltation, and Agriculture/Habitat Alterations, that were consistent with the previous assessment. The macroinvertebrate IBI score shows ALU is supported, but the physical habitat evaluation scores still indicate impairment based on Siltation and Habitat Alteration. The final station on North Branch Mahantango, Station 20220428-1245-HuntingdonCCD, resulted in an impaired ALU assessment, consistent with the previous assessment. Similar to the previously mentioned station, the IBI score suggests ALU is supported, but the physical habitat evaluation scores indicate impairment. The source/cause is Agriculture/Siltation.

#### Cold Run (Union County) and Halfmoon Creek (Centre and Huntingdon Counties)

The December 2022 Cold Run (2 stations) and four of the five Halfmoon Creek stations were used to make ALU assessments that were consistent with previous assessments (impaired with same sources/causes). Macroinvertebrate and habitat data associated with Station 20221213-1400-HuntingdonCCD for an UNT to Halfmoon Creek were used to delist this stream from the 303(d) list. Data provided showed that ALU is supported with an IBI score of 82 and a habitat score of 174.

#### Turtle Creek (Union County)

Two of the four Turtle Creek samples resulted in an impaired ALU assessment with the same source/cause Crop Productions/Siltation as the previous assessment. An UNT to Turtle Creek was previously impaired but macroinvertebrate and habitat data submitted from Station 20221214-1400-HuntingdonCCD, showed that ALU is supported. Therefore, a new assessment was made resulting in a cause removal of this UNT. Similarly, data provided by Station 20221214-1500-HuntingdonCCD were used for a cause removal in the upstream portion of another UNT to Turtle Creek. The station was determined to be representative of the upstream portion, therefore the downstream portion of the UNT remains impaired.

In summary, all of the data were used to make ALU assessments and most were consistent with previous impaired assessments. Some macroinvertebrate and habitat data were used for cause removals.

#### **Little Juniata River Association**

Logan Stenger submitted data on behalf of the Little Juniata River Association. The data include three macroinvertebrate samples, along with field meter data and habitat assessments within the Little Juniata River and Sandy Run watersheds. The data were categorized as Tier 3 and have been entered into DEP's database. Logan Stenger utilized DEP data collection protocols and assessment methodology, was audited by DEP WQD staff for field collection and macroinvertebrate subsampling and is a certified taxonomist. WQD provided quality assurance checks of macroinvertebrate identification for several of Stenger's 2021–2022 samples. However, the data from these stations were not used to make ALU assessments due to insufficient data but will be forwarded to the DEP regional office for monitoring and assessment prioritization. Since the data are Tier 3, they can be used as recently collected data to support future assessments in these watersheds.

### Little Juniata River

The current/previous assessment for Little Juniata River resulted in an ALU impairment for sources/causes Municipal Point Source Discharges/Organic Enrichment and Urban Runoff/Storm Sewers/Cause Unknown. These new data submitted for Station 20230410-0915-HuntingdonCCD, indicate stream conditions are different from the current assessment but the data are insufficient to make a new assessment. Without coinciding field meter or water chemistry data, these macroinvertebrate and habitat data collected are insufficient to assess for the current impairment causes. In addition, given the extent of the size of the upper watershed and the varying current assessment decisions, the extent of which stream segments this single station represents is unclear. Data from Little Juniata River, Station 20230410-1200-HuntingdonCCD, indicate supporting ALU in the stream segment where they were collected, which is consistent with the current assessment. However, due to the size of the upper watershed, the extent of which stream segments are represented by this single station is unclear. Similarly, data from Station 20230410-1100-HuntingdonCCD, indicate supporting ALU in the stream segment where they were collected, but due to the size of the upper watershed, the extent of which stream segments are represented by this single station is unclear.

### Sandy Run

There have been varying previous assessment decisions in the upper watershed of Sandy Run but more data are necessary for a new assessment in this watershed. Given the extent of the size of the upper watershed and the varying existing assessment decisions, the extent of which stream segments this single station represents is unclear.

### **DEP Act 54 Reports**

Bituminous underground mining activities in Pennsylvania are regulated by DEP under the Bituminous Mine Subsidence and Land Conservation Act (BMSLCA) of 1966 which calls for protection of structures, including buildings, homes, and cemeteries. BMSLCA was amended in 1980 and again in 1994. The 1994 amendment, known as Act 54, included provisions for protection and restoration of water supplies affected by mining and additional remedies for structural damage. It also required regular assessment of the underground mining regulatory program. The specific regulations pertaining to this program are codified in 25 Pa. Code Chapters 86 and 89.

Under the Act 54 amendments to BMSLCA, DEP is required to compile data and report findings regarding the effects of underground mining on land, structures, and water resources. This review is done with assistance from professionals with appropriate expertise as stipulated by Act 54. A report is prepared and presented to the Governor, General Assembly, and the Citizens Advisory Council (CAC) every five years.

DEP's Bureau of Clean Water reviewed the most recent [Act 54 report \(2019\)](#) and compared the data to assessments currently in the Integrated Report. Overall, assessments within the Integrated Report were consistent with the findings in the Act 54 report. Impairments associated with subsurface mining were concentrated in Greene and Washington counties. Watersheds with the most stream-miles impaired by subsurface mining were Dunkard Creek, Dyers Fork, Enlow Fork, and Whiteley Creek (Table 1). DEP's Bureau of Clean Water staff are continuing to work with DEP's Bureau of District

Mining staff to update assessments based on the information presented in the most recent Act 54 report.

**Table 1.** Miles of subsurface mining impairment for each watershed within Greene and Washington Counties.

<b>Watershed</b>	<b>Miles of Subsurface Mining Impairment</b>
Dunkard Creek	25.5
Dutch Run	2.1
Dyers Fork	19.2
Enlow Fork	16.6
Frosty Run	4.9
Robinson Fork	7.3
Rocky Run	1.4
Smith Creek	2.9
Templeton Fork	2.2
Whiteley Creek	19.4

### **Bartram’s Gardens**

Bartram’s Garden submitted water chemistry and *E. coli* data from the dock location on the tidal portion of the Schuylkill River to DEP for consideration in the 2024 Integrated Report. The Bartram’s Garden study was conducted to assess water quality and *E. coli* to inform safety and cancellation policies for public boating programs. Water chemistry parameters included: discrete field measurements (using a handheld probe) of pH, conductivity, and temperature. A hyperlink was also provided with live and historical data from continuous instream monitors/sensors (Mayfly Loggers) which record depth, temperature, conductivity, turbidity, and dissolved oxygen. The continuous instream monitor/sensor reading for the associated date and time of discrete field measurements and bacteria sample was also reported along with the sample results in the data submission. Relevant information was also noted along with data such as recent rainfall measurements and high and low tides.

The water chemistry and *E. coli* data submitted have been categorized as Tier 2 data since the data was accompanied by a sampling plan and quality assurance plan. The data do not meet Tier 3 data quality which is needed to directly make a water quality assessment for the Integrated Report since the collectors were not audited, the quality assurance plan was not DEP or EPA approved, and sampling did not adhere to DEP data collection protocols. DEP was not able to determine that the specific locations sampled were representative of the waterbody, as required by assessment methodology. Additionally, there was some lack of confidence in the results because the bacteria samples were incubated and analyzed on site at Bartram’s Garden using 3M Petrifilm rather than the Bureau of Laboratories (BOL) as the sampling methodology requires, or a DEP accredited lab using an approved EPA method.

Bartram’s Garden data were sent to the DEP Southeast Regional Office. The sampled location and accompanying data will also be considered as DEP and DRBC work toward designing a large-scale bacteria study in 2024.