

Data Solicitation Report 2020

Section 303(d) of the federal Clean Water Act requires Pennsylvania to identify all its water quality limited water body 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 water bodies 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 and information.

For the 2020 Integrated Report, information was posted regarding the data solicitation process on the DEP website April 1, 2019, 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 for data was September 30, 2019; data submitted after the deadline will be considered for the 2022 Integrated Report.

For any given Integrated Report cycle, DEP reviews all existing and readily available information provided by outside groups that has been submitted through the data solicitation process. Submitted data is 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 it can be used.

Tier 1: educational or environmental screening data that has known quality and a study plan but does 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: data that has clearly defined quality assurance plans and procedures but may have not 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: 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 four separate outside data sources were submitted to DEP for consideration in the 2020 Integrated Report.

Aquetong Creek Data

The Bucks County Conservation District submitted information on behalf on the Aquetong Watershed Association. Data was collected by Princeton Hydro, LLC for Solebury Township on the Aquetong Creek at the Aquetong Creek restoration site and upstream of the restoration site to evaluate existing water quality conditions and

biological condition to support the potential to maintain a brook trout fishery. The Aquetong Creek watershed has been listed as impaired for aquatic life use since 2016, due to urban runoff/storm sewers and habitat modification, based on assessment data collected by DEP biologists in 2013.

Macroinvertebrate samples, continuous instream water quality monitoring, grab water quality samples, fish community data, and stream flow were collected between 2015 and 2019. DEP has determined that some of this data falls into Tier 1 and some in Tier 2 of the data acceptance policy based on the following rationale. Illustrated by the map below, the study, and therefore the stations, is focused on a small portion of the Aquetong watershed.

The macroinvertebrate samples were collected 14 times at one station between April 2015 and June 2019, using the USEPA Rapid Bioassessment Multi-habitat protocol. DEP has a similar Multi-Habitat protocol, but DEP's protocol has been developed specifically for Pennsylvania streams and must be used to make an Aquatic Life Use (ALU) assessment. DEP protocols also require that collectors are audited by DEP in order to use the data for assessments and Princeton Hydro, LLC was not audited prior to this study. The macroinvertebrates were not sorted or identified in accordance with DEP protocols, therefore the raw macroinvertebrate data cannot be used in the metrics DEP utilizes to make an ALU assessment. The 2016 ALU assessment was driven by macroinvertebrate data but since the macroinvertebrate data collected by Princeton Hydro, LLC is too coarse for a comparison with previously collected DEP data, it's difficult to determine whether the data supports the current assessment.

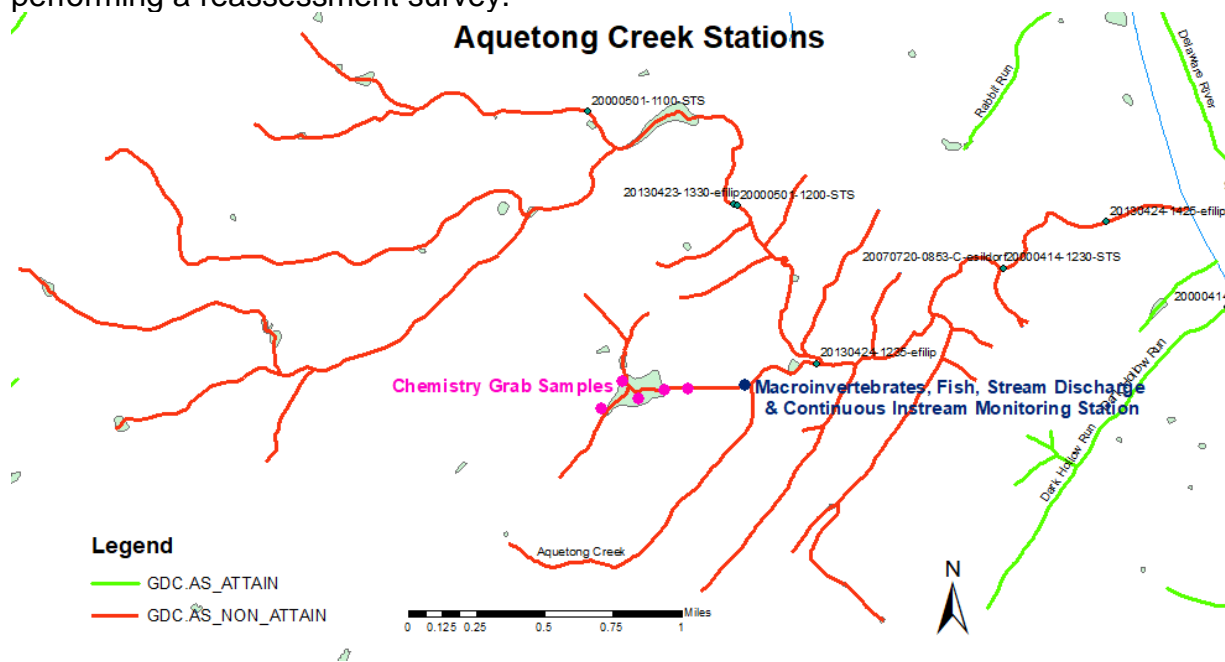
The grab water quality samples were collected on three dates in 2018 and analyzed by a registered lab (Environmental Compliance Monitoring, Inc. Hillsborough, NJ) but the parameters (Nitrogen, Nitrate, Nitrite, Phosphorous, Total Suspended Solids) are not parameters for which DEP has ALU criteria. The data show that water quality criteria were met for nitrogen for the PWS use, however nitrogen PWS criteria are only applied at surface potable water supply withdrawals. There is currently no existing or planned potable water withdrawal in this location therefore DEP is not making an assessment using the submitted data.

The continuous instream monitoring examined pH, temperature, conductivity and dissolved oxygen over a month in each 2015, 2016, 2017 and 2018. The data was collected in accordance with the consultant's standard operating procedures, but the collection did not follow the DEP Continuous Physiochemical Data Collection Protocol, which includes discrete "field checks" and a DEP audit, and therefore cannot be used for assessment purposes.

Fish community data was collected in October 2018. The sampling was described in the report, but not performed in accordance with DEP Fish Data Collection protocol, which includes a DEP audit. Currently DEP does not assess aquatic life use using fish data since the DEP Fish Data Assessment Method is still under development.

Stream discharge data was collected in 2018, however, DEP does not make assessments based solely on stream discharge data. Stream discharge data, when collected with water quality data, can be used to characterize quantities of pollutants carried by waterbodies; or it can be used to establish abiotic-biotic relationships with macroinvertebrate or fish data.

Although the Aquetong data cannot be used by DEP assessments, nor was it intended for that purpose, it may be used by DEP to gain a general understanding of how water quality is changing in the Aquetong Creek, especially since several abiotic and biotic categories of data were collected. The data will be sent to DEP regional biologists so they can determine whether the area should be prioritized for reassessment or allow more time for the aquatic community to rebound due to the restoration project before performing a reassessment survey.



Wissahickon Creek Data

Temple University submitted chemistry data collected from Wissahickon Creek. Four grab samples (one per season) were taken at 35 stations from July 2016 to May 2017. Parameters that were analyzed from the grab samples include: fluoride, chloride, bromide, sulfate, calcium, magnesium, sodium, potassium, iron, copper, manganese, strontium, sulfur and silicon, nitrate, nitrite, total dissolved phosphorous, ortho-phosphate and total phosphorous. Written documentation of the sampling protocols and a clearly defined quality assurance plan was submitted along with the data, however, since the samples were analyzed at the University lab which is not an accredited or registered lab, DEP cannot use the data to make an assessment. DEP has determined that these data meet Tier 2 of the data acceptance policy and can be used for other purposes such as trend or performance analysis. Data will be shared with regional biologists and other staff in the Water Quality Division who are working on criteria development for some of these parameters.

Chester Water Authority Data on Octorara Creek

The Chester Water Authority submitted 2018 fecal coliform and nitrite plus nitrate data for the Octoraro Reservoir and nitrite plus nitrate data for the East and West Branches of Octoraro Creek, for the period of October 2017 to September 2018. Coliform measurements were collected daily and Nitrate plus Nitrate were reported 2 or 3 times per month. Sampling protocols and quality assurance plans were not submitted with the data and therefore DEP has determined that this data is in Tier 1 and cannot be used make an assessment in the 2020 Integrated Report. However, a cursory review of the data suggests that the water quality may have changed, therefore the data will be shared with regional biologists so that sampling can be prioritized.

United States Geological Survey (USGS) Data on Presque Isle Bay Beaches

USGS submitted *E. coli* data from 6 beaches of Lake Erie in Presque Isle. The data was collected 7 days per week since 2011 and 4 days per week in 2010, during the recreational season. Documentation of sampling methodology and quality assurance plans were submitted along with the data. However, the Pennsylvania water quality standard for bacteria is fecal coliforms, not *E. coli*, therefore the data cannot be used to make a recreational use assessment. Furthermore, DEP methodology requires that bacteria samples be collected in the waterbody, not along a beach. This data meets Tier 1 of DEP data acceptance policy. The data have been shared with the DEP biologist who manages the recreational monitoring program to see how it can be used to highlight areas of interest for future monitoring.