

**Floodplain
Technical Memorandum
for the
State College Area Connector**

November 2025



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List of Acronyms

CLOMR	Conditional Letter of Map Revision
EIS	Environmental Impact Statement
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
I-	Interstate
LOS	Level of Service
NEPA	National Environmental Policy Act
PADEP	Pennsylvania Department of Environmental Protection
PEL	Planning and Environmental Linkage
PA	Pennsylvania
S-	Stream
US	United States
USGS	United States Geological Survey

1.0 Introduction

1.1 Project History

The State College Area Connector Planning and Environmental Linkages (PEL) Study identified transportation needs within southern Centre County, Pennsylvania in a 70 square mile initial study area. The study evaluated a range of alternatives to determine how the alternatives addressed the Study's purpose and need, balanced impacts on the natural and built environment, addressed traffic concerns within the overall study area, met engineering considerations such as constructability, cost, and considered area planning goals. The PEL Study screened nine corridors to determine the best options to advance for National Environmental Policy Act (NEPA) evaluation and preliminary engineering. Based on the impact analysis, three corridors were identified (US 322-1S, US 322-1OEX and US 322-5) to be advanced as reasonable alternatives, and a specific project area was developed to initiate detailed field investigations and conduct preliminary engineering investigations to address the transportation purpose and needs as part of the NEPA process.

The final PEL Report was published in June 2023 and Federal Highway Administration (FHWA) acknowledged in a letter, dated September 14, 2023, that the PEL Study was consistent with 23 USC Section 168 and 23 CFR 450.212. As a result, the PEL findings provide a starting point for the NEPA studies and preliminary engineering efforts. Additionally, FHWA concurred that an Environmental Impact Statement (EIS) was the proper NEPA classification for the State College Area Connector project.

The PEL Study also identified other transportation projects which did not meet the full purpose and need identified in the PEL but could provide transportation benefits to the study area roadways independently. One such project was a safety study along PA 45 generally from Boal Avenue to PA 144. Subsequent to the PEL completion, additional traffic investigations, analysis and coordination with local officials for the State College Area Connector project determined that the connector road and interior interchange would provide some localized improvements to PA 45. However, it was determined that the connector road and associated interchange was not necessary to address the project's purpose and need, nor did it address corridor wide issues along PA 45. As a result, the proposed interior interchange and local road connection was removed from this State College Area Connector project and will be considered in the independent PA 45 Corridor Improvements project, as appropriate. The State College Area Connector project will advance independently but will not preclude the inclusion of a future interior interchange and local road connection should the independent safety study along PA 45 determine that it would be beneficial in connection with other proposed PA 45 Corridor Improvement projects.

Following the PEL Study, the project area was reduced from 70 square miles to approximately 6 square miles to encompass the three alternatives proposed to move forward into preliminary engineering.

1.2 Project Location

The project area is approximately 3,963 acres, extends through the southern portion of Centre County, and traverses Potter and Harris Townships, see **Appendix A, Figure 1 – Project Location Map**. The project area is centered on US 322 which provides local access through the project area and to regional destinations and beyond. US 322, Mount Nittany Expressway at the western end of the project area provides direct access to Interstate 99 (I-99) which, in turn, provides access to nearby I-80. US 322 at Potters Mills provides access south to the Harrisburg area and connects to I-81 and I-83.

1.3 Project Purpose and Need

Project Purpose

The purpose of this project is to improve roadway congestion by achieving acceptable Level of Service (LOS) and to address safety issues by reducing the predicted crash frequency along the US 322 corridor between Potters Mills and Boalsburg. Additionally, the project will aim to provide a transportation network that meets driver expectations.

Project Needs

- High peak hour traffic volumes cause congestion and result in unacceptable LOS (LOS D [rural only], E, F) on US 322 roadway and intersections.
- Existing roadway configurations and traffic conditions contribute to safety concerns in the project area.
- The roadway network and configuration in the project area lacks continuity and does not meet driver expectations.

2.0 Alternatives

The three alternatives that were recommended in the PEL Study to move forward into the NEPA phase of the project were renamed to North, Central and South. Following public and agency involvement, refinements were made to all three alternatives. Descriptions of each alternative are listed below and can be seen in **Appendix A, Figure 2 – Floodplains and Floodways**.

2.1 North Alternative

The western end alignment would be the same for all three alternatives, from the SR 45 interchange to just east of the Mountain View Country Club. At the western end, the existing US 322 would remain in its current location and the new US 322 4-lane highway would be on the south side of the existing US 322. The western end alignment would also include a pedestrian/bicycle trail on the north side of the existing US 322. Just east of the Mountain View Country Club, the alignment would start to move north of the existing US 322 through the Nittany Farm and around the Kuhn tree farm. It would continue through the agricultural fields on the north side of US 322, avoiding the commercial area on US 322 in Potter Township. The alignment would return to the existing US 322 alignment through Tusseyville. The eastern end would maintain the existing US 322 as the local access road in its current position and the 4-lane highway alignment would be on the south side of the existing US 322 from approximately Tusseyville to Potters Mills.

2.2 Central Alternative

The western end alignment would be the same for all three alternatives, from the SR 45 interchange to just east of the Mountain View Country Club. At the western end, the existing US 322 would remain in its current location and the new US 322 4-lane highway would be on the south side of the existing US 322. The western end alignment would also include a pedestrian/bicycle trail on the north side of the existing US 322. Just east of the Mountain View Country Club, the alignment would start to move north of the existing US 322 through the Nittany Farm and around the Kuhn tree farm. It would then cross over the existing US 322 and travel through the Potter Township Athletic Complex on the south side of US 322, avoiding the commercial area in Potter Township.

It is noted that at the time of the May 8, 2025 Public Meeting, the Central Alternative was located through the baseball fields within the Potter Township Athletic Complex. As part of the public involvement and follow-up from the public meeting, Potter Township issued a letter (June 23, 2025) to PennDOT raising concern with the proposed impact to the fields and requested PennDOT consider avoidance and minimization of the property. PennDOT shifted the Central Alternative to the south to avoid the baseball fields and will only impact the undeveloped portion of the Potter Township property.

From there, the alignment crosses Sleepy Creek (stream that drains to Tussey Sink) and starts to move north towards the existing US 322. The alignment would return to the existing US 322 alignment near Tusseyville. The eastern end would maintain the existing US 322 as the local access road in its current position and the 4-lane highway alignment would be on the south side of the existing US 322 from approximately Tusseyville to Potters Mills.

2.3 South Alternative

The western end alignment would be the same for all three alternatives, from the SR 45 interchange to just east of the Mountain View Country Club. At the western end, the existing US 322 would remain in its current location and the new US 322 4-lane highway would be on the south side of the existing US 322. The western end alignment would also include a pedestrian/bicycle trail on the north side of the existing US 322. Just east of the Mountain View Country Club, the alignment would start to move south of the existing US 322 through the Tait Farm and along the side of the Tussey Mountain ridge behind the neighborhoods and communities along the south side of the existing US 322. It would then cross over Sleepy Creek (stream that drains to Tussey Sink) and start to move north towards the existing US 322. The alignment would return to the existing US 322 alignment near Tusseyville. The eastern end would maintain the existing US 322 as the local access road in its current position and the 4-lane highway alignment would be on the south side of the existing US 322 from approximately Tusseyville to Potters Mills.

3.0 Methods

Executive Order 11988, Floodplain Management establishes measures to avoid and minimize impacts associated with flooding including flood loss, risks to human safety, health and welfare, and additionally, to restore and preserve the natural and beneficial values of floodplains. Under the EO 11988, a floodplain is defined as the low lying, relatively flat area adjoining waters that are subject to a one percent or greater chance of flooding in any given year. The Federal Emergency Management Agency (FEMA) is the regulatory agency that manages the identification and activities that affect certain floodplains (FEMA floodplains). At the state level, the Pennsylvania Department of Environmental Protection (PADEP) is the regulatory authority under PA Code Title 25, Chapter 105 and 106 regulations. Chapter 105 and 106 regulations afford protection to floodplains that include both the floodway and floodplain fringe. Under Chapter 106, the floodway is defined as the channel of the watercourse and those portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year flood. The floodplain fringe is the area located outside of the floodway and within the floodplain.

PADEP Joint Permit regulations indicate that floodways are determined through either FEMA mapping or in the absence of any FEMA determined floodway along a watercourse, the floodway is assumed to extend 50 feet landward from the top of each streambank. Additionally, per the Chapter 106 Rules and Regulations, additional permit requirements are placed upon the Commonwealth (i.e. PennDOT) for activities, Structures or an assembly of material on the floodplain which may impede, retard, or change flood flows. While encroachment activities and structures within the floodway portion of the overall floodplain are already regulated under Chapter 105, the Chapter 106 requirements provide

protection to the floodway fringe area. Therefore, in areas that are mapped as FEMA floodplains, the entire floodplain is considered regulated under PA state regulations.

Data was collected from secondary sources including FEMA 100-year floodplain mapping, to identify mapped floodplain and/or floodway areas. In an area where no FEMA maps or studies have defined the boundary of the floodplain or floodway, assumed floodways were mapped to extend from the stream top of bank to 50 feet landward, in accordance with DEP regulations.

4.0 Existing Conditions

4.1 Floodplains

FEMA 100-year floodplains were identified for eleven streams including Sinking Creek, Boal Gap Run, Spring Creek, and Galbraith Gap Run. The total area of 100-year FEMA floodplains (Zone A and Zone AE) mapped within the project area is approximately 186 acres (**Appendix A, Figure 2 – Floodplains and Floodways**). As there are no FEMA Regulated Floodways mapped within the project area. The mapped FEMA floodplain areas are considered to represent both the limits of the floodway and floodplain of the respective stream (Zone A and Zone AE).

4.2 Floodways

For the intermittent and/or perennial streams that did not have a mapped FEMA floodplain, each stream was assigned the assumed 50-foot floodway designation (from each stream bank), per DEP regulations. The 50-foot assumed floodway is considered to represent both the floodway and floodplain for those respective streams. In total, approximately 177 acres of floodway/floodplain exist within the project area (**Appendix A, Figure 2 – Floodplains and Floodways**).

5.0 Alternatives Impact Analysis

The floodplain and floodway impacts for each alternative are presented in Tables 1 and 2, including the total area of floodplain and floodway within the limit of disturbance for each alternative, the area avoided through bridging and the area of impact (i.e. loss).

Table 1. Floodplain Impacts

Alternative	Total Impacted Floodplain	Avoided Floodplain (bridges)	Anticipated Floodplain Impact
North	619,549.0 square Feet (14.2 acres)	409,464.0 square feet (9.4 acres)	210,085.0 square feet (4.8 acres)
Central	640,332.0 square Feet (14.7 acres)	446,180.8 square feet (10.2 acres)	194,151.2 square feet (4.5 acres)

Alternative	Total Impacted Floodplain	Avoided Floodplain (bridges)	Anticipated Floodplain Impact
South	552,180.4 square Feet (12.6 acres)	385,940.2 square feet (8.9 acres)	166,240.2 square feet (3.7 acres)

Table 2. Floodway Impacts

Alternative	Total Impacted Floodway	Avoided Floodway (bridges)	Anticipated Floodway Impact
North	400,752.0 square feet (9.2 acres)	196,020.0 square feet (4.5 acres)	204,732.0 square feet (4.7 acres)
Central	940,896.0 square feet (21.6 acres)	505,296.0 square feet (11.6 acres)	435,600.0 square feet (10.0 acres)
South	953,964.0 square feet (21.9 acres)	348,480.0 square feet (8.0 acres)	605,484.0 square feet (13.9 acres)

The proposed project alternatives will result in unavoidable impacts to floodplains/floodways associated with construction fills and stream encroachments. The locations of the alternatives are positioned to avoid many of the extensive riparian wetland and watercourse resources located throughout the Sinking Creek and Spring Creek drainage basins. Numerous bridge crossings were also incorporated into the design of the alternatives to further avoid and minimize impacts.

5.1 Evaluation of Flooding Potential

The *Pennsylvania Riverine Condition Level 2 Rapid Assessment Protocol* (RAP) provides guidance for assessing the condition of riverine aquatic resources for the purposes of meeting regulatory requirements contained in PA Code Title 25, Chapter 105. As part of that protocol, there is guidance to determine the Riparian Zone of Influence, through different methods including:

- Hydrologic Modeling Analysis to determine the 100-year storm event elevations; or
- 100-year FEMA floodplain mapping or
- In FEMA unmapped areas, estimate the flood prone area by determining the elevation that corresponds to twice the maximum depth of the bankfull channel as taken from the established bankfull stage.

Hydrologic modeling will be completed as part of the final design and Chapter 105 permitting process for the selected alternative. To provide additional information pertaining to the extent of potential flooding at each of the proposed bridge crossings for all three Build Alternatives, the following evaluation was conducted:

- In FEMA mapped floodplains, the extent and elevation of the FEMA floodplain was compared to the approximate bottom of the proposed bridge to determine the potential for encroachment and backwater flooding, with respect to the adjacent properties.
- In the FEMA unmapped areas, the flood prone area, including depth and width, was determined following the *Level 2 Rapid Assessment Protocol for Riverine Conditions* as described above. In addition, the United States

Geological Survey (USGS) StreamStats program was accessed to determine the drainage characteristics for each proposed bridge crossing (StreamStats reports can be found in **Appendix B**). StreamStats provides the necessary data for determining the flood prone depth and width, specifically each streams bankfull depth. Twice the bankfull depth provides the approximate elevation of the flood prone area at each crossing. The purpose of determining the flood prone area was to determine an approximate flood elevation at each crossing utilizing the USGS StreamStats instead of an assumed elevation.

The following table outlines the bankfull depth and flood prone depth for each crossing. The approximated flood prone depth was then compared to the height of the proposed bridge structure to characterize whether the proposed bridge design accommodated an adequate level of freeboard (i.e., open capacity to allow flood waters) to maintain the existing flow patterns and avoid flooding impacts to the adjacent properties.

Table 3. Bridge Spans

Bridge Station (location)	N	C	S	L (feet)	W (feet)	H (feet)	Bnk (feet)	Fp (feet)	Fb (feet)	Description
123	X	X	X	531	35	54	1.25	2.5	51.5	Bridge spans S-LTZ-035-PER (Spring Creek).
147	X	X	X	531	35	11	1.5	3.0	8.0	Bridge spans S-LTZ-077-PER (Galbraith Gap Run)
171 – 178	X	X	X	600	100	42	0.22	0.44	41.56	Bridge spans S-LTZ-038-PER and WL-LTZ-147 downstream of the series of ponds along Bear Meadows Road.
197 – 202	X	X	X	288	94	35	0.36	0.72	34.28	Bridge spans S-LTZ-073-PER and parts of WL-LTZ-143-PEM at Somerset Drive
217 – 225	X	X		773	100	23	0.18	0.36	22.64	Bridge spans portions of WL-LTZ-067-PEM and S-LTZ-070-INT at Nittany Farm
243 – 249	X	X		417	120	23	0.65	1.3	21.7	Bridge spans S-LTZ-035-PER (Spring Creek) and its floodplain wetlands, north of existing US 322 and in proximity to Sharer Road
267 – 275		X		800	120	26	0.5	1.0	25	Bridge spans S-LTZ-035-PER (Spring Creek) and its floodplain wetlands, north of existing US 322
306 – 312		X		694	120	9	0.38	0.76	8.24	Bridge span S-LTZ-035-PER (Spring Creek) is 9 feet high. Bridge spans the streams and adjacent floodplain wetlands west of Tussey View Lane and south of existing US 322
306 - 312		X		694	120	5	0.2	0.4	4.6	At S-LTZ-045-PER, the bridge span is 5 feet high. S-LTZ-045-PER is a very small stream with a drainage area of 70 acres.
320 – 323			X	320	112	9	0.2	0.4	8.6	Bridge spans S-LTZ-035-PER (Spring Creek), S-LTZ-040-PER, S-LTZ-041-PER, and floodplain wetlands
349 – 361		X		1,165	120	35	0.65	1.3	33.7	Bridge span of Sleepy Creek (S-LTZ-025-PER), S-LTZ-095-PER, S-LTZ-028-PER, S-LTZ-027-INT, and adjacent wetlands at Tussey Sink.
356 – 366			X	1,025	112	58	0.65	1.3	56.7	Bridge spans S-LTZ-025-PER (Sleepy Creek) and WL-LTZ-052-PEM at Tussey Sink

Bridge Station (location)	N	C	S	L (feet)	W (feet)	H (feet)	Bnk (feet)	Fp (feet)	Fb (feet)	Description
384 – 391		X	X	550	120	28	0.56	1.1	26.9	Bridge spans upper reaches of Sinking Creek, S-LTZ-023-PER
404 – 410	X			736	117	23	0.56	1.1	21.9	Bridge spans Neff Pond, including S-LTZ-023-PER and WL-LTZ-043-POW, north of existing US 322
436 – 451	X	X	X	1,437	100	45	2.1	4.2	41.8	Bridge crossing spans Darlington Sinking Creek stream valley area, S-LTZ-001-PER & WL-LTZ-040-PEM, south of US 322
474 – 479	X	X	X	391	100	30	0.43	0.86	29.14	Bridge spans twin pond area, WL-LTZ-028-POW, south of existing US 322
502 – 513	X	X	X	918	100	23	0.5	1.0	22	Bridge spans the PEM and POW wetland system and stream S-BPH-001-PER, conveying hydrology through existing US 322 and fueling Sinking Creek north of the highway. Bridge spans the wetland floodplain along UNT to Sinking Creek at “Maggie’s Dip”, south of existing US 322

Station location is provided on project mapping in Appendix A; N: North Alternative; C: Central Alternative; S: South Alternative; L: Bridge Length; W: Bridge Width; H: Bridge Height (low chord above stream (top of bank)); Bnk: Bankfull Height; FP: Flood Prone Height; Free: Freeboard (difference between bridge height and flood prone height).

The evaluation of the potential floodplain impacts is best illustrated when evaluating the alternatives by segments: east, middle, and west.

East Segment (from Potters Mills Gap interchange to the eastern limit of the Tusseyville Historic District) - The three project alternatives all share the same alignment, which is located immediately south of existing US 322 to avoid the Natural Heritage areas north of US 322 at Maggie’s Dip and east of Tusseyville, Tusseyville Historic District, and the farming operations to the south.

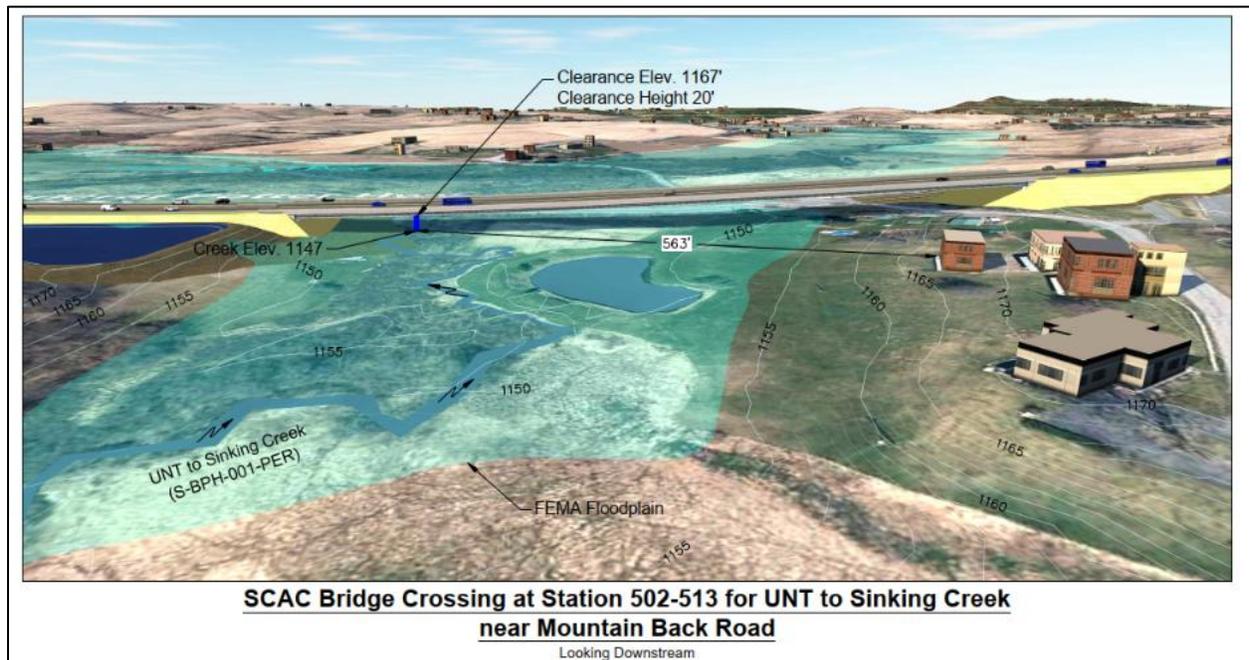
There are three bridge crossings proposed in this area, including:

- Station 502 - 513 over an unnamed tributary to Sinking Creek at Maggie’s Dip over Mountain Back/Red Mill Roads,
- Station 474 – 479 over an unnamed tributary to Sinking Creek across from Torna Storage, and
- Station 436 – 451 west of Dogtown Road over Sinking Creek.

Each of these bridge structures is planned to extend across the floodplain.

The area upstream of these three crossings is primarily farmlands, forest, and residential properties. The landscape is primarily undeveloped, and the natural riparian wetlands and floodplains provide attenuation of runoff events. Because the proposed bridge crossings are planned to span the floodplain areas, adverse impacts to the flooding patterns are not anticipated. The proposed bridges are higher than the existing topography and the bottom of the proposed bridge is not anticipated to affect the 100-year flood event. It is acknowledged that each bridge will require minimal encroachment to the floodplain associated with pier/endwall placement and construction activities. Pier/endwall placements will be further evaluated as part of the final design and permitting process to ensure each stream crossing

avoids potential flooding to the surrounding properties. **Inset Map 1** provides a representation of the proposed crossing at Station 502 - 513 along with the mapped FEMA floodplain, openness of the crossing, freeboard relation from the bridge to the floodplain, and distance to the closest building upstream of the crossing.



Inset Map 1. Bridge clearance of the floodplain for an UNT to Sinking Creek.

Middle Segment (from the eastern limit of the Tusseyville Historic District to the Tait Farm) - Each of the project alternatives follow independent alignments through the middle portion of the project area. Each is described as follows.

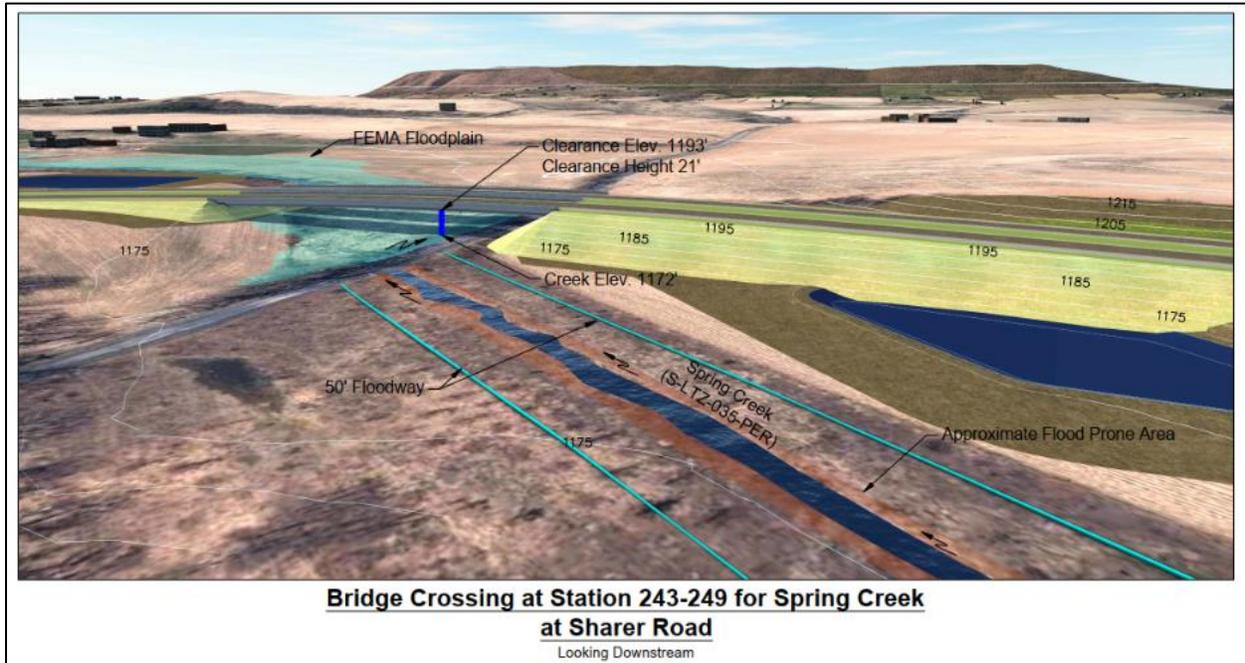
- **North Alternative** – traverses north of existing US 322 through Tusseyville and includes a bridge crossing over an existing pond feature adjacent to Neff Road (Station 404 – 410). The North Alternative encroaches upon the tributary to Sinking Creek and may require a relocation of the stream channel to the north. This has the potential for additional flooding to properties north within the Tusseyville area because the roadway embankment parallels the floodplain to the south.

From Tusseyville west to Sharer Road, there are no stream crossings along the North Alternative, and therefore, there would be no impacts to floodplains.

In the Sharer Road area, the North Alternative encroaches upon the FEMA floodplain mapped along Spring Creek. Measures will be taken during final design to evaluate the additional avoidance and minimization for the stormwater management facilities to reduce encroachment to the floodplain. A bridge is planned to carry the North Alternative over Sharer Road and Spring Creek (Station 243 – 249). This would help maintain the existing flow patterns and reduce backwater flooding in the area. From Sharer Road, the North Alternative is positioned south of Spring Creek and its mapped FEMA floodplain.

- **Central Alternative** – near Tusseyville, the alternative traverses south of existing US 322 and includes a bridge crossing over Sleepy Creek (Station 349 – 361). The proposed bridge is approximately 1,165 feet in length, and will span the floodplain/floodway of the stream. Downstream, Sleepy Creek is located within a relatively narrow forested ravine, and the bridge crossing will be designed to maintain the existing flow patterns through the area. After Sleepy Creek, the Central Alternative extends around the southern side of the Potter Athletic Complex and through the Clearwater Conservancy Conservation Easement (162 Tussey View Lane). The position through the conservation easement area includes crossing over first order tributaries to Spring Creek. A bridge is planned to span the Spring Creek streams (Station 306 - 312). The bridge would be approximately 600 feet in length and is planned to accommodate the base and flood flows for Spring Creek.

North of US 322, the Central Alternative crosses Spring Creek east of Sharer Road (Station 267 – 275) and at/west of Sharer Road (Station 243 – 249). Measures would be taken during final design to evaluate the additional avoidance and minimization for the stormwater management facilities to reduce encroachment on the floodplain. A bridge is planned to carry the Central Alternative over Sharer Road and Spring Creek (Station 243 - 249). This will help maintain the existing flow patterns and reduce potential backwater flooding in the area. From Sharer Road, the Central Alternative is positioned south of Spring Creek and its mapped FEMA floodplain. The following **Inset Map 2** provides a representation of the proposed crossing at Station 243 – 249. **Inset Map 2** illustrates the proposed crossing over Spring Creek and the mapped FEMA floodplain along with the openness of the crossing and the freeboard relation from the bridge to the floodplain. It also illustrates the extent of the assumed floodway upstream of Sharer Road and the anticipated flood prone area from the information provided in Table 3. A bridge crossing will be designed at Nittany Farm across from the Tait Farm (Station 217 – 225) to accommodate the confluence with an unnamed tributary to Spring Creek (S-LTZ-070-INT).



Inset Map 2. Bridge clearance of the floodplain for Spring Creek.

- South Alternative** – is located south of the existing US 322 corridor and would include a bridge crossing over Sleepy Creek (Station 356 – 366). The proposed bridge would be approximately 1,000 feet in length and will span the floodplain/floodway of the stream. Downstream, Sleepy Creek is located within a relatively narrow forested ravine, and the bridge crossing will be designed to maintain the existing flow patterns and flooding through the area. After crossing Sleepy Creek, the alternative avoids the US 322 commercial area in Potter Township, the Potter Township Athletic Complex, and would be positioned along the Tussey Ridge through the middle of the Clearwater Conservancy Conservation Easement. The location of the South Alternative along the Tussey Ridge would involve substantial excavation and cuts through the headwaters of Spring Creek. Though this position in the headwaters may limit the floodplain encroachments, the proposed excavation has the potential to affect the headwater discharge hydrology for Spring Creek.

West Segment (from the Tait Farm west to the Mount Nittany Expressway interchange) – The three Build Alternatives all share the same alignment in this segment, which is located immediately south of existing US 322 to avoid the residential communities along US 322, the Harris Township industrial zoned lands, and the Section 8 apartment complexes on the north side of US 322 including Centre Estates and Huntington Park Apartments.

The bridge crossings planned in this area include those near Somerset Drive, Bear Meadows Road, Galbraith Gap Run, and Spring Creek at the Mount Nittany Interchange. Each of these structures are planned to accommodate the flood flows of the respective streams. The area upstream of these crossings is a mix of residential properties, forested areas, and open space. Much of the riparian areas along the stream channels support wetlands and the floodplains that provide attenuation of runoff events. Because the proposed crossings are planned to span the floodplain area/accommodate the flood flows, adverse impacts to the flooding patterns are not anticipated. The proposed crossings are higher in elevation than the existing topography, and the structures are not anticipated to affect the

potential for backwater flooding. The proposed interchange area at the western end of the Build Alternatives is located at the existing PA 45 interchange to limit encroachment to the adjacent properties and avoid and minimize impacts to Spring Creek and its floodplain.

For the floodplain and floodway areas associated with the smaller streams outside of the proposed bridge crossings, each alternative would have net total floodplain and floodway impacts, as reported in Table 3. The net floodplain and floodway impact encroachments would include direct grading (i.e., fill or excavation) and culvert/pipe crossings, where floodplain/floodway functions would be altered. The culvert/pipe crossing would be properly sized in accordance with PennDOT's design manual and PA DEP Chapter 105 requirements to maintain existing stream flow patterns, pass the appropriate design storm flows and avoid backwater flooding.

6.0 Summary

Each Build Alternative was designed to minimize floodplain/floodway encroachments. The distribution of bridge structures along each alternative helps reduce the risk for potential flooding impacts by maintaining, to the greatest extent practicable, the natural and beneficial floodplain functions. The crossings are positioned perpendicular, to the extent practicable, to the stream flow to minimize encroachment and to help maintain the existing riparian flow patterns within both the Sinking Creek and Spring Creek watersheds. The use of bridge spans provides the opportunity for maintaining and sustaining the natural floodplain functions within the Spring and Sinking Creek watersheds. With the use of the proposed bridges, the North and Central Alternatives would have lower floodplain/floodway impacts in comparison to the South Alternative. The project will have no significant floodplain encroachment or result in potential flood risks or flood loss in accordance with the Floodplain Management Executive Order (EO 11988), PA DEP Title 25, Chapter 105 and 106 regulations and 23 CFR Part 650, Subpart A, Section 650.

7.0 Mitigation

Additional design measures will be evaluated during the final design phase of the project to further assess avoidance and minimization measures that reduce the total floodplain encroachment impacts to the floodplain/floodway areas. In accordance with 23 CFR Part 650.115 and 650.117 and PADEP Chapter 105 requirements, detailed H&H analyses will be conducted during final design for floodplain encroachments associated with the selected alternative. This will ensure that structures are properly sized for the design flood and impacts to the base flood are minimized to the greatest extent possible. Flood risks will be avoided in accordance with state and federal regulations. Minimization measures will also include the opportunities to avoid the placement of fill in the floodplain/floodway areas and minimizing longitudinal floodplain encroachments associated with the stormwater management features.

Prior to construction of the Preferred Alternative, PennDOT will obtain all necessary state and federal permits for water obstruction and encroachment. Any proposed fill within the 100-year floodplain will comply with FEMA regulations. PennDOT will coordinate with the appropriate municipalities regarding consistency with local floodplain regulations and ordinances. The Preferred Alternative is not expected to increase the flood elevation in the project area; therefore, mitigation for floodplain impacts is not anticipated for this project. Should an increase in water surface elevation to the FEMA Delineated/Mapped 100-year floodplain be identified later in final design, a Conditional Letter of Map Revision (CLOMR) will be submitted for FEMA compliance. PennDOT will coordinate with the municipalities as part of this submission.

8.0 Preparers

Logan T. Zugay, Senior Staff Scientist, Skelly and Loy, Inc., A Terracon Company

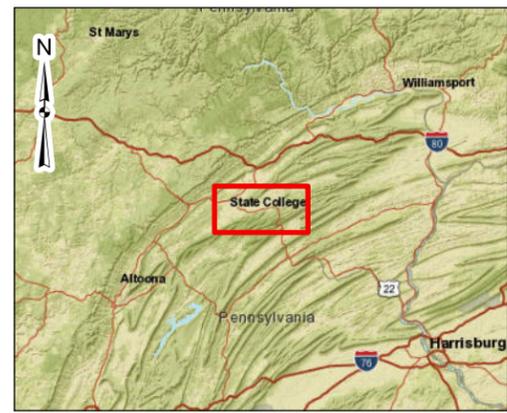
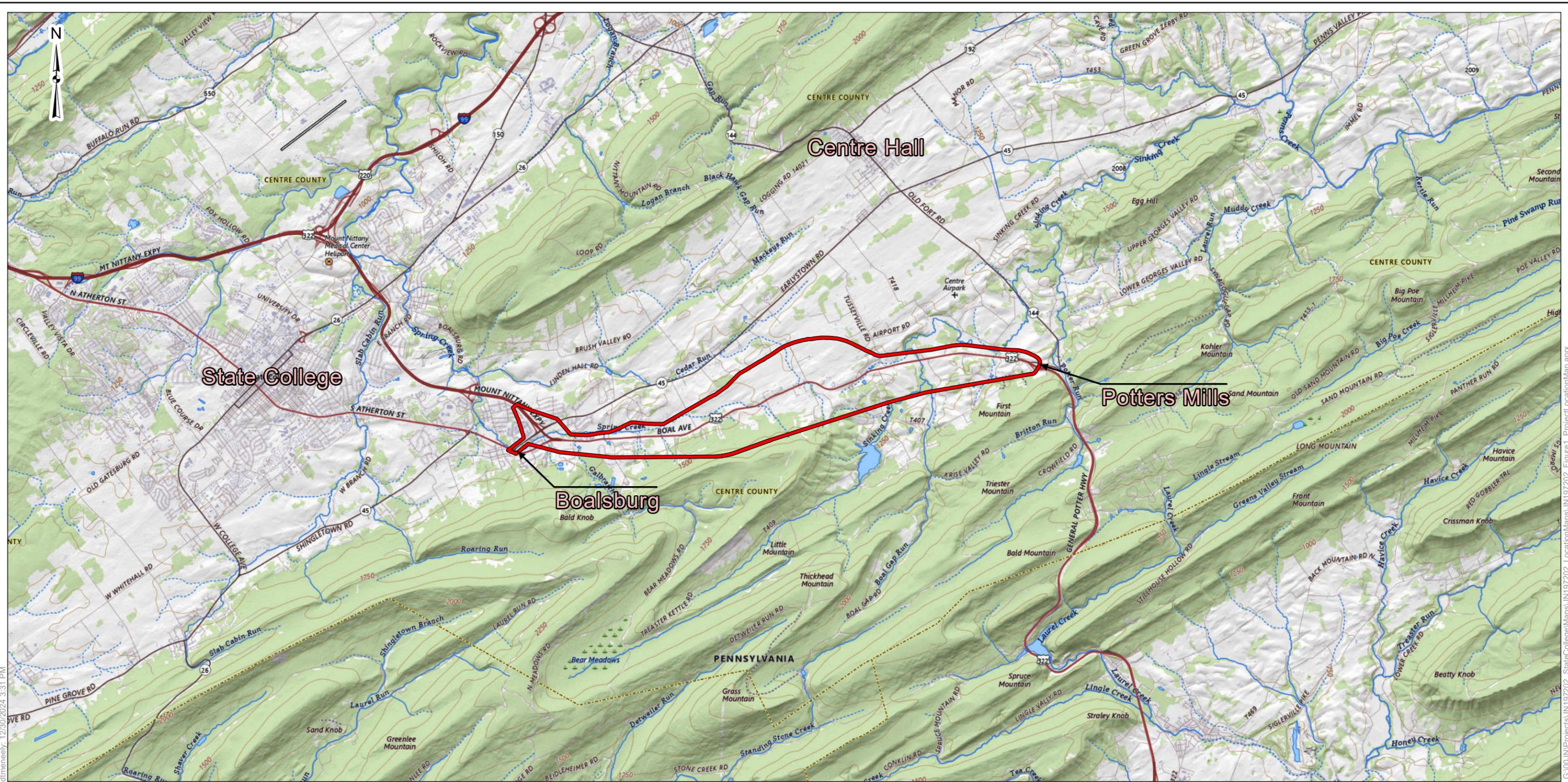
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APPENDIX A - FIGURES



Legend
 Project Location

DATA SOURCE(S):
 USGS Quadrangle - Centre Hall and State College, Pennsylvania 2023



Project No.: JN197202
 Date: December 2024
 Drawn By: DTM
 Reviewed By: BSR

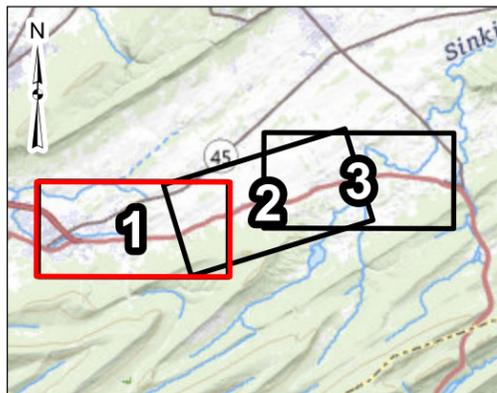
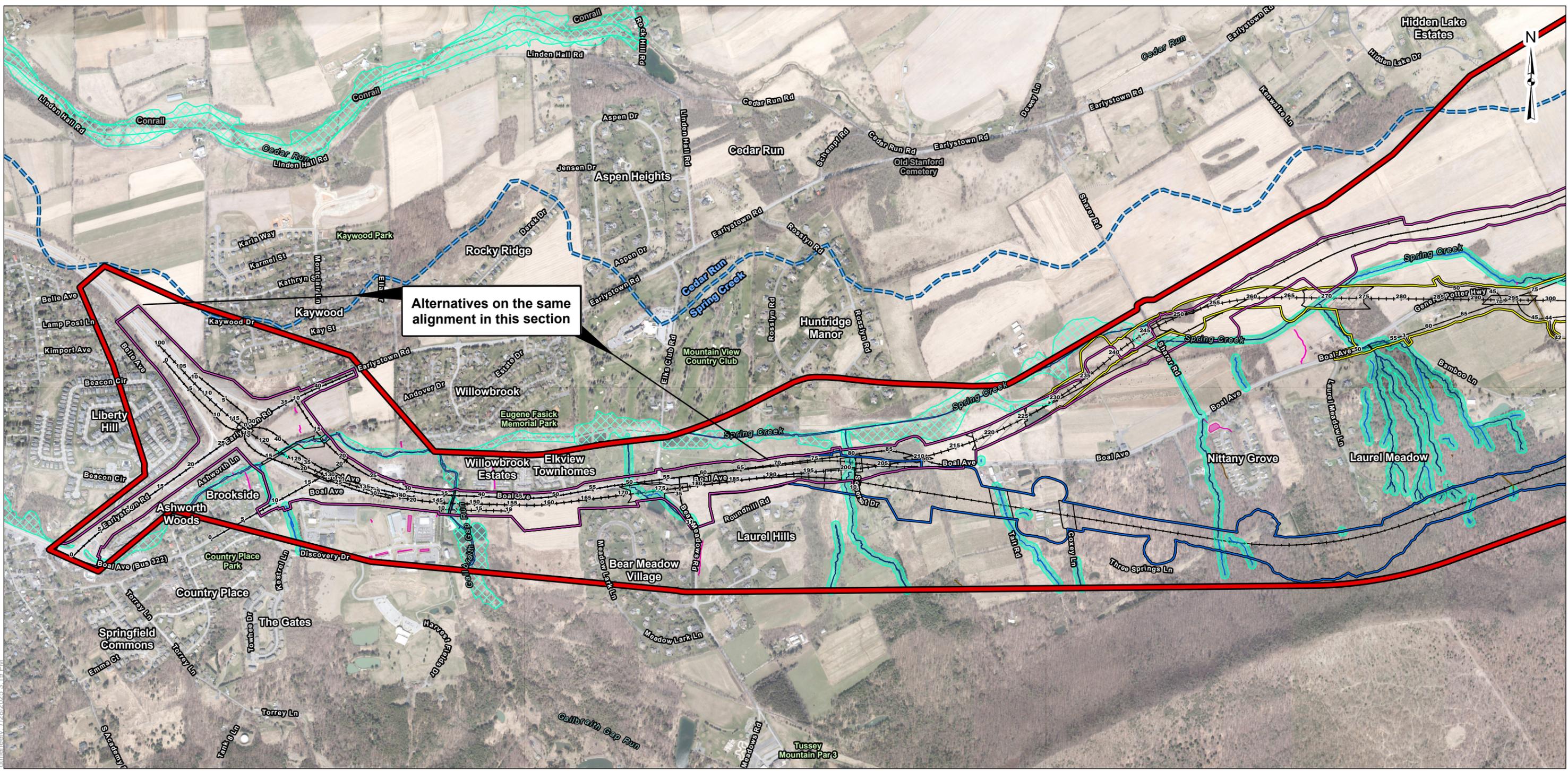
SKELLY AND LOY
 A Terracon Company
 449 Eisenhower Blvd #300 Harrisburg, PA 17111
 PH. (717) 232-0593 terracon.com

Project Location Map
 State College Area Connector Project
 Centre County, Pennsylvania

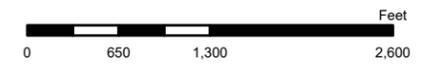
Figure
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Legend			
	Project Area		FEMA Floodplain
	North Alternative		Floodway
	Central Alternative		Ephemeral (EPH)
	South Alternative		Intermittent (INT)
	Bridge Span Minimization Area		Perennial (PER)
	Watershed Boundary		Stormwater Conveyance (SWC)

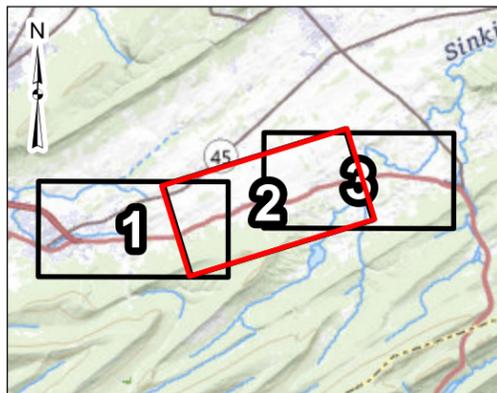
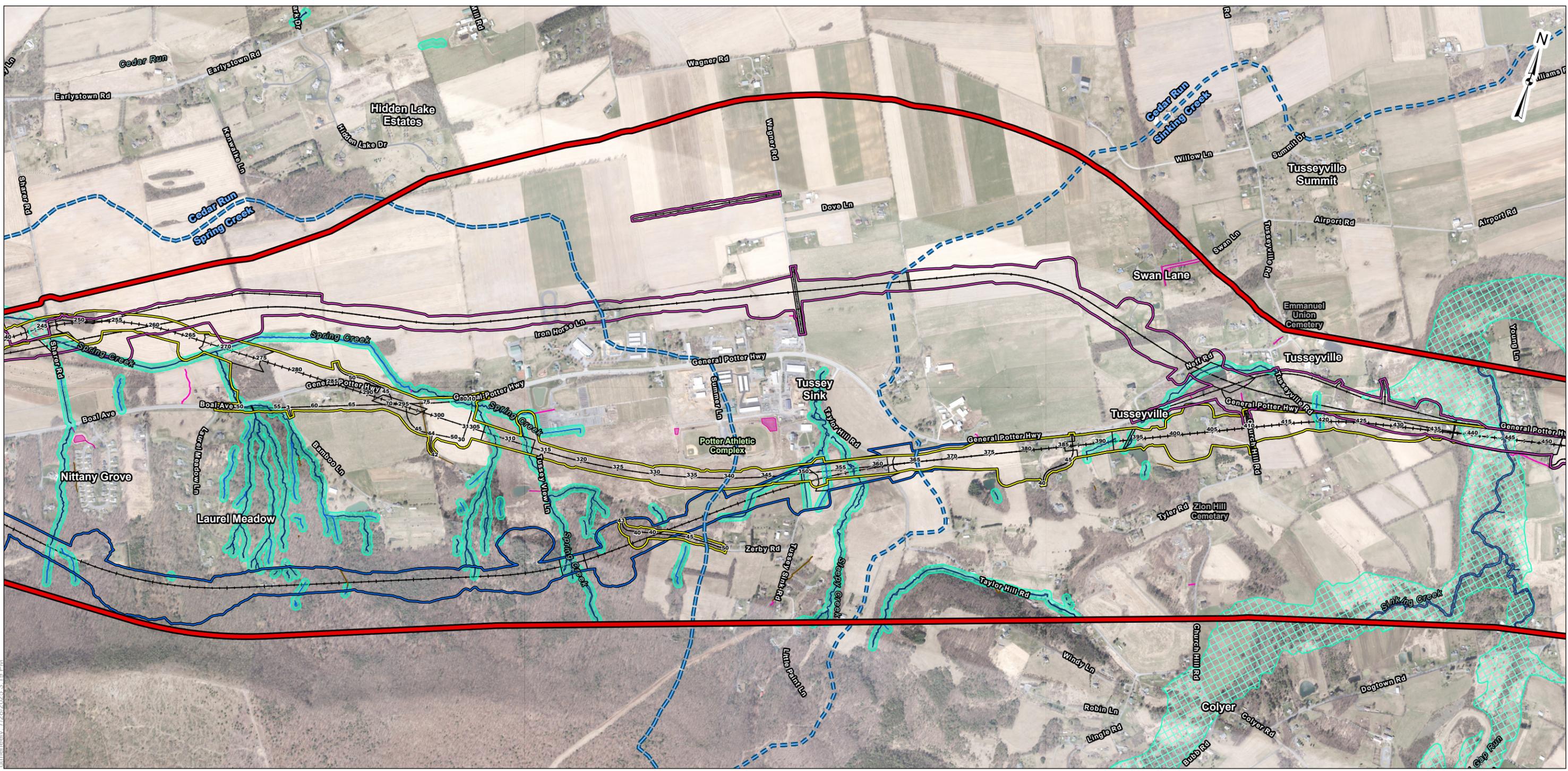


Project No.: JN197202
 Date: July 2025
 Drawn By: DTM
 Reviewed By: ARL

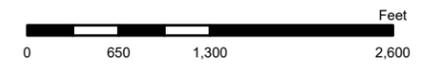
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Floodplains and Floodways
 State College Area Connector Project
 Centre County, Pennsylvania

Figure 2
Sheet 1 of 3



Legend	
	Project Area
	North Alternative
	Central Alternative
	South Alternative
	Bridge Span Minimization Area
	Watershed Boundary
	FEMA Floodplain
	Floodway
	Ephemeral (EPH)
	Intermittent (INT)
	Perennial (PER)
	Stormwater Conveyance (SWC)



Project No.: JN197202
 Date: July 2025
 Drawn By: DTM
 Reviewed By: ARL

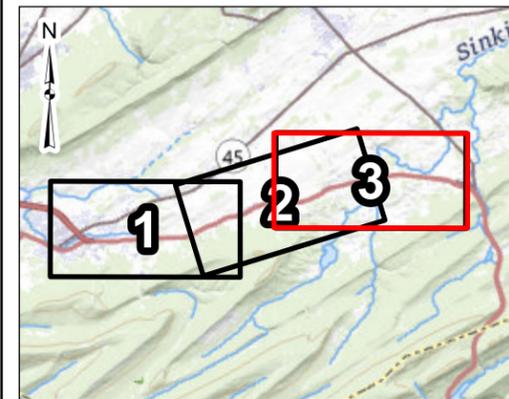
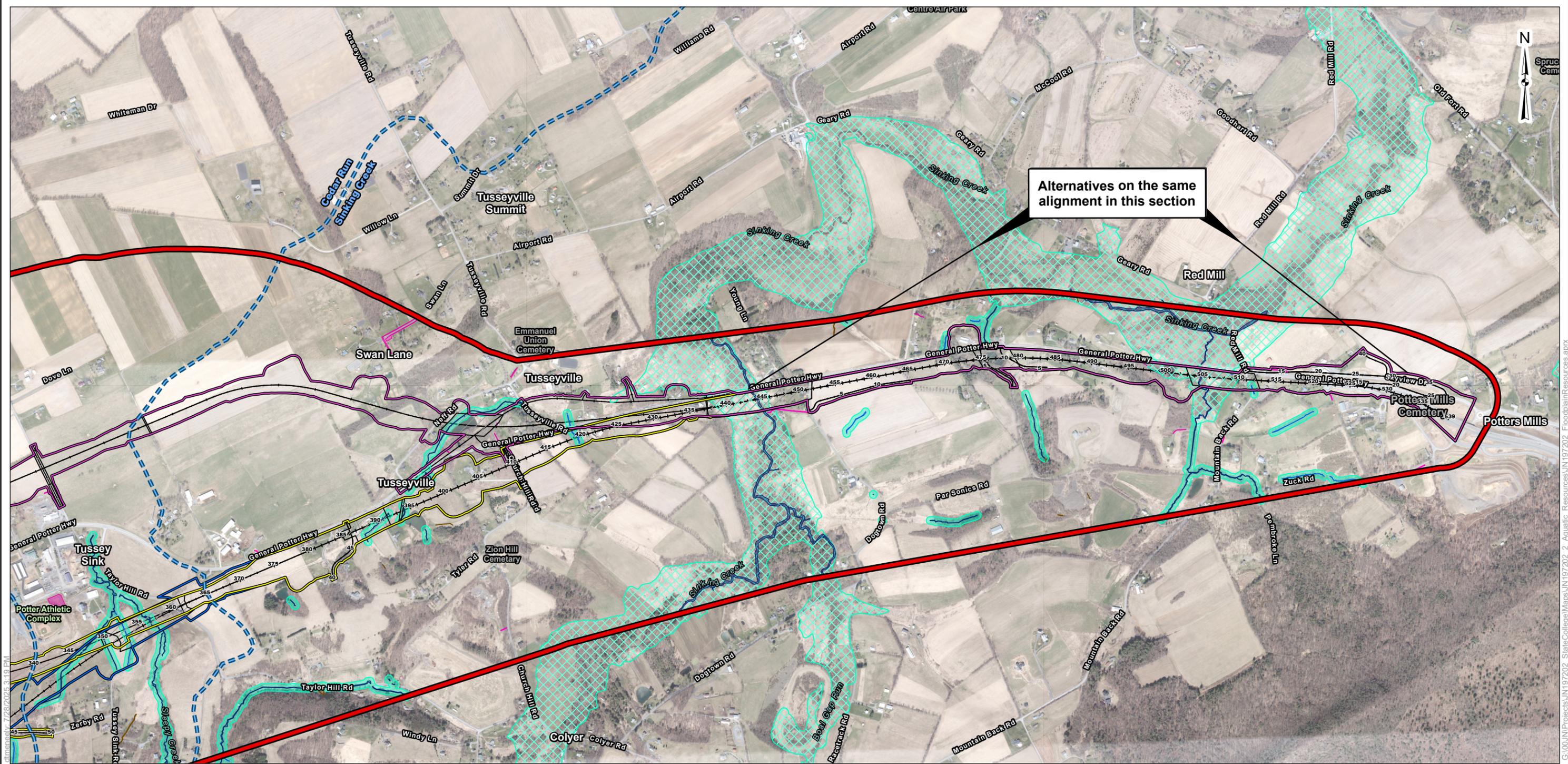
SKELLY AND LOY
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Floodplains and Floodways
 State College Area Connector Project
 Centre County, Pennsylvania

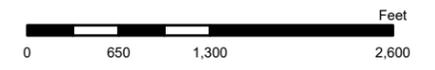
Figure 2
Sheet 2 of 3

dimensions: 7/28/2025 3:19 PM

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Legend			
	Project Area		FEMA Floodplain
	North Alternative		Floodway
	Central Alternative		Ephemeral (EPH)
	South Alternative		Intermittent (INT)
	Bridge Span Minimization Area		Perennial (PER)
	Watershed Boundary		Stormwater Conveyance (SWC)



Project No.: JN197202
 Date: July 2025
 Drawn By: DTM
 Reviewed By: ARL

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Floodplains and Floodways
 State College Area Connector Project
 Centre County, Pennsylvania

Figure 2
Sheet 3 of 3

dimension: 7/28/2025 3:13 PM

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APPENDIX B – STREAMSTATS REPORTS

StreamStats Report - Sinking Creek Trib at Maggies Dip

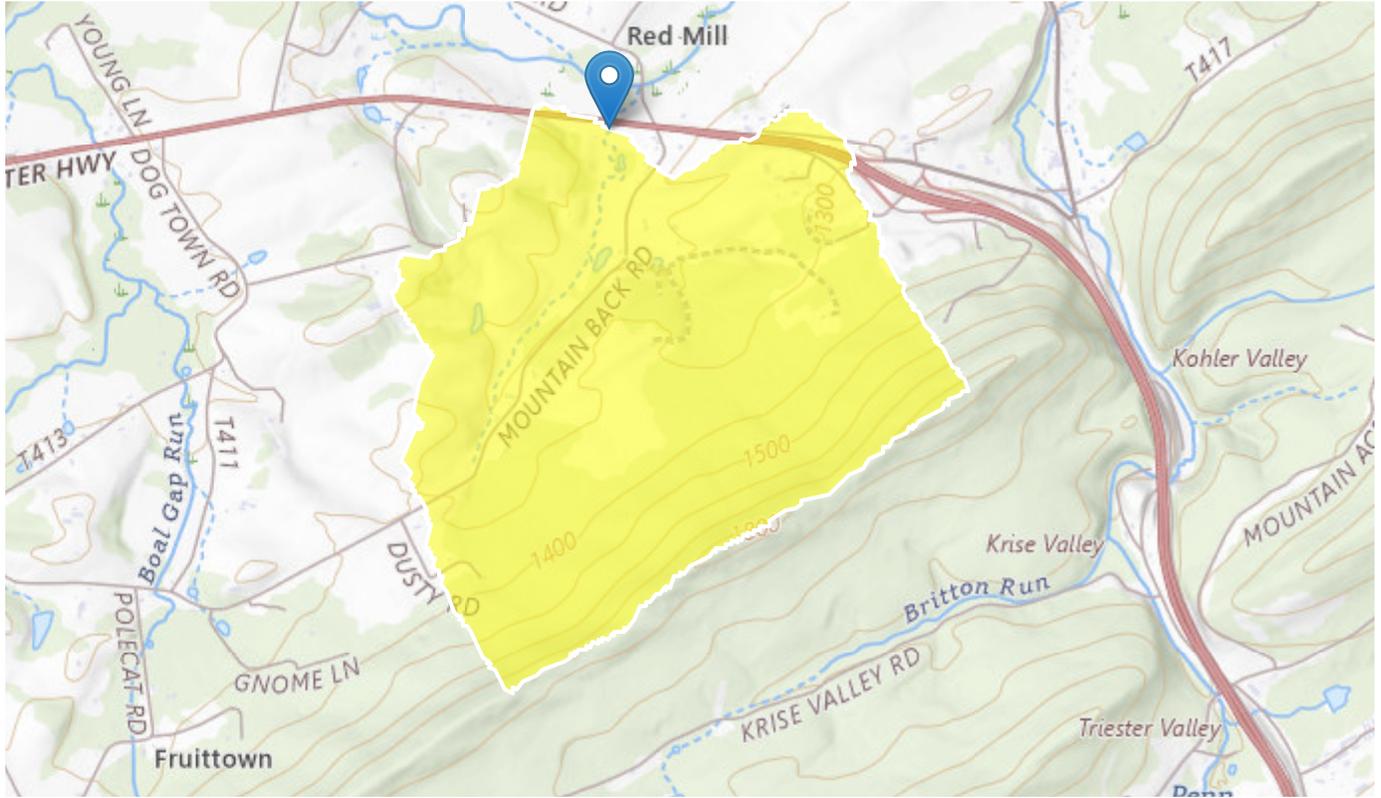
Region ID: PA

Workspace ID: PA20251014215025091000

Clicked Point (Latitude, Longitude): 40.79760, -77.64514

NHD Stream GNIS Name of Click Point:  Stream name not found

Time: 2025-10-14 17:50:47 -0400



 Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	54.99	percent
DRNAREA	Area that drains to a point on a stream	1.05	square miles
ELEV	Mean Basin Elevation	1345	feet
FOREST	Percentage of area covered by forest	52.8989	percent
PRECIP	Mean Annual Precipitation	41	inches

Parameter Code	Parameter Description	Value	Unit
ROCKDEP	Depth to rock	4.6	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	0.97	miles per square mile
URBAN	Percentage of basin with urban development	0.2642	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	54.99	percent	0	100
DRNAREA	Drainage Area	1.05	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	51	ft ³ /s
20-percent AEP flood	100	ft ³ /s
10-percent AEP flood	145	ft ³ /s
4-percent AEP flood	214	ft ³ /s
2-percent AEP flood	276	ft ³ /s
1-percent AEP flood	346	ft ³ /s
0.5-percent AEP flood	425	ft ³ /s
0.2-percent AEP flood	546	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H., 2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	54.99	percent	0	99
DRNAREA	Drainage Area	1.05	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
STRDEN	Stream Density	0.97	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.29	ft ³ /s
30 Day 2 Year Low Flow	0.355	ft ³ /s
7 Day 10 Year Low Flow	0.145	ft ³ /s
30 Day 10 Year Low Flow	0.18	ft ³ /s
90 Day 10 Year Low Flow	0.248	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.05	square miles	2.26	1720
ELEV	Mean Basin Elevation	1345	feet	130	2700
FOREST	Percent Forest	52.8989	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.2642	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	1.44	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	54.99	percent	0	99
DRNAREA	Drainage Area	1.05	square miles	2.26	1720
FOREST	Percent Forest	52.8989	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	0.2642	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.598	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	54.99	percent	0	99
DRNAREA	Drainage Area	1.05	square miles	2.26	1720
FOREST	Percent Forest	52.8989	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.2642	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.726	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.636	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.586	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	54.99	percent		
DRNAREA	Drainage Area	1.05	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.05	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.05	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.05	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	2.47	ft ²
Bankfull Streamflow	5.08	ft ³ /s
Bankfull Width	5.18	ft
Bankfull Depth	0.5	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	15.5	ft
Bieger_D_channel_depth	1.14	ft
Bieger_D_channel_cross_sectional_area	17.8	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	13.9	ft
Bieger_P_channel_depth	1.01	ft
Bieger_P_channel_cross_sectional_area	15	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	12.6	ft
Bieger_USA_channel_depth	1.22	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	17.5	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	2.47	ft ²
Bankfull Streamflow	5.08	ft ³ /s
Bankfull Width	5.18	ft
Bankfull Depth	0.5	ft
Bieger_D_channel_width	15.5	ft
Bieger_D_channel_depth	1.14	ft
Bieger_D_channel_cross_sectional_area	17.8	ft ²
Bieger_P_channel_width	13.9	ft
Bieger_P_channel_depth	1.01	ft
Bieger_P_channel_cross_sectional_area	15	ft ²
Bieger_USA_channel_width	12.6	ft
Bieger_USA_channel_depth	1.22	ft
Bieger_USA_channel_cross_sectional_area	17.5	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.05	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	4110	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
 (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

No NHD streams intersect the delineated basin.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050301	Lower Susquehanna-Penns

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC-stream 2_StreamStats Report

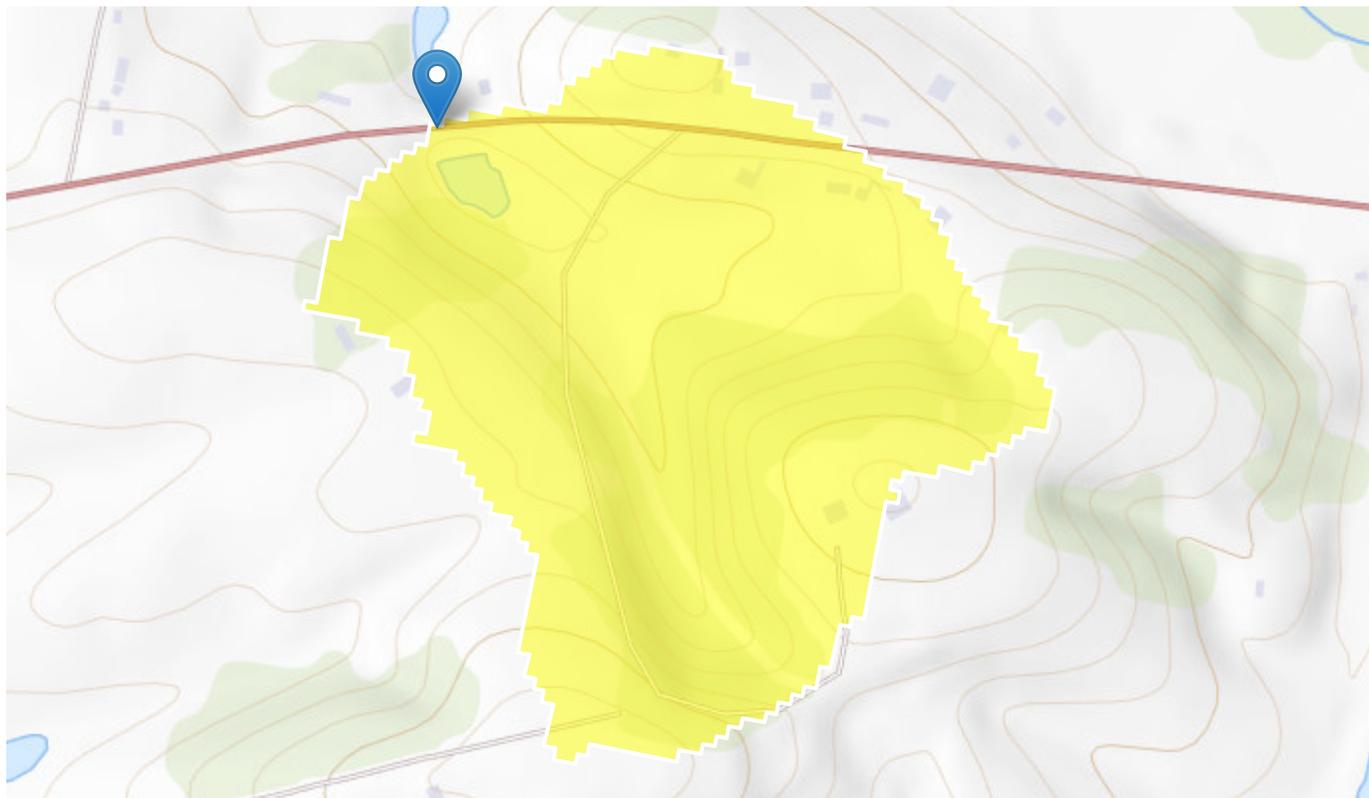
Region ID: PA

Workspace ID: PA20251014220155348000

Clicked Point (Latitude, Longitude): 40.79856, -77.65568

NHD Stream GNIS Name of Click Point:  Stream name not found

Time: 2025-10-14 18:02:16 -0400



 Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.0983	square miles
ELEV	Mean Basin Elevation	1232	feet
ELEVMAX	Maximum basin elevation	1331	feet
FOREST	Percentage of area covered by forest	23.4185	percent

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.53	miles per square mile
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	0	percent	0	100
DRNAREA	Drainage Area	0.0983	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	9.46	ft ³ /s
20-percent AEP flood	19.6	ft ³ /s
10-percent AEP flood	28.9	ft ³ /s
4-percent AEP flood	43.6	ft ³ /s
2-percent AEP flood	56.8	ft ³ /s
1-percent AEP flood	71.9	ft ³ /s
0.5-percent AEP flood	89.1	ft ³ /s
0.2-percent AEP flood	116	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	0	percent	0	99
DRNAREA	Drainage Area	0.0983	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
STRDEN	Stream Density	1.53	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00339	ft ³ /s
30 Day 2 Year Low Flow	0.00589	ft ³ /s
7 Day 10 Year Low Flow	0.000709	ft ³ /s
30 Day 10 Year Low Flow	0.00135	ft ³ /s
90 Day 10 Year Low Flow	0.0033	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0983	square miles	2.26	1720
ELEV	Mean Basin Elevation	1232	feet	130	2700
FOREST	Percent Forest	23.4185	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.119	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	0	percent	0	99
DRNAREA	Drainage Area	0.0983	square miles	2.26	1720
FOREST	Percent Forest	23.4185	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.0151	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	0	percent	0	99
DRNAREA	Drainage Area	0.0983	square miles	2.26	1720
FOREST	Percent Forest	23.4185	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.0338	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.0288	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.026	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Carbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON>30).

Bankfull Statistics Parameters [Statewide Bankfull Noncarbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	0	percent		
DRNAREA	Drainage Area	0.0983	square miles	2.62	207

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0983	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0983	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0983	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Noncarbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Noncarbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	1.96	ft ²
Bankfull Streamflow	6.49	ft ³ /s
Bankfull Width	4.93	ft
Bankfull Depth	0.432	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	5.8	ft
Bieger_D_channel_depth	0.576	ft
Bieger_D_channel_cross_sectional_area	3.37	ft ²

Bankfull Statistics Disclaimers [Valley and Ridge P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	5.15	ft
Bieger_P_channel_depth	0.507	ft
Bieger_P_channel_cross_sectional_area	2.93	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	5.47	ft
Bieger_USA_channel_depth	0.735	ft
Bieger_USA_channel_cross_sectional_area	4.88	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	1.96	ft ²
Bankfull Streamflow	6.49	ft ³ /s
Bankfull Width	4.93	ft
Bankfull Depth	0.432	ft
Bieger_D_channel_width	5.8	ft
Bieger_D_channel_depth	0.576	ft
Bieger_D_channel_cross_sectional_area	3.37	ft ²
Bieger_P_channel_width	5.15	ft
Bieger_P_channel_depth	0.507	ft
Bieger_P_channel_cross_sectional_area	2.93	ft ²
Bieger_USA_channel_width	5.47	ft
Bieger_USA_channel_depth	0.735	ft
Bieger_USA_channel_cross_sectional_area	4.88	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018-5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0983	square miles	0.1	10000

Maximum Probable Flood Statistics Disclaimers [Crippen Bue Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	527	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
 (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

No NHD streams intersect the delineated basin.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050301	Lower Susquehanna-Penns

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - Sinking Creek_StreamStats Report

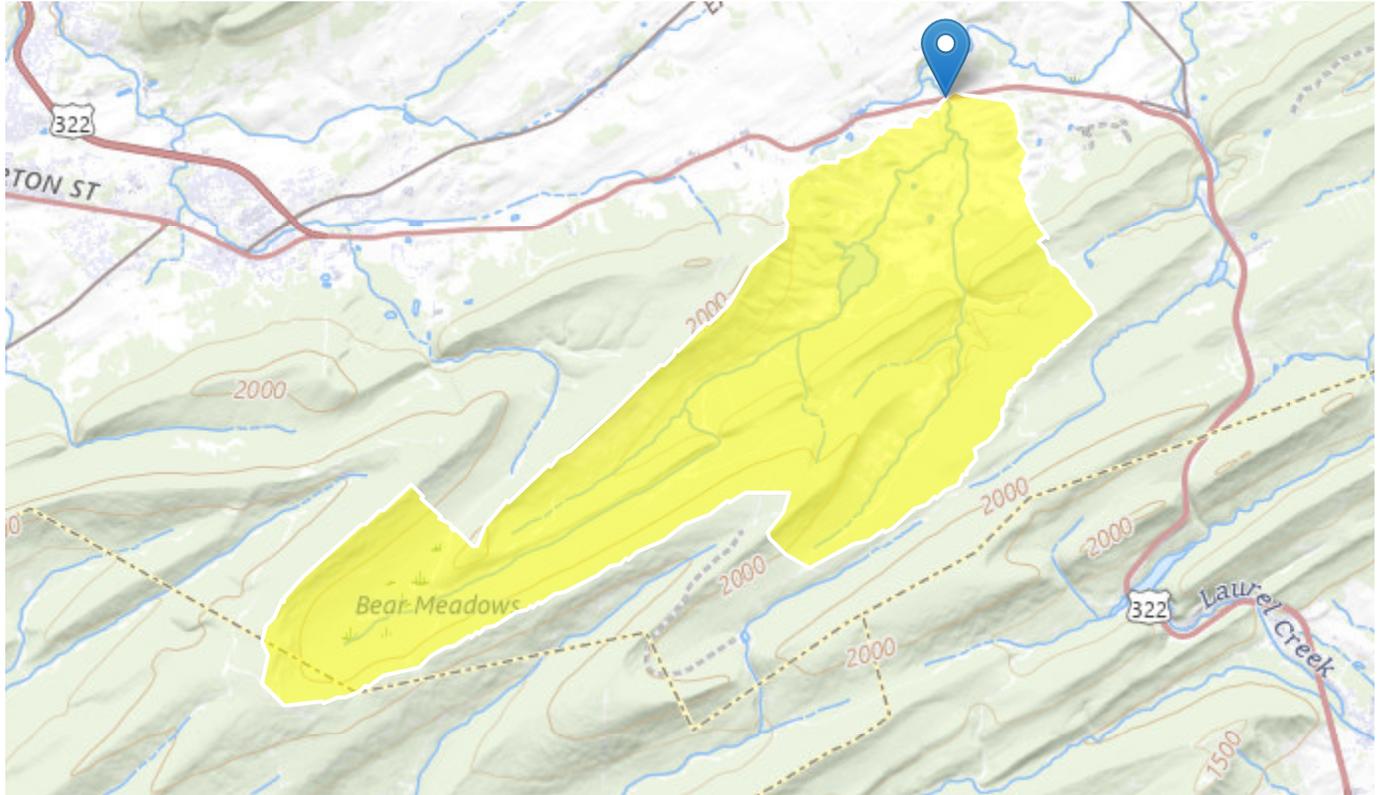
Region ID: PA

Workspace ID: PA20251014220722417000

Clicked Point (Latitude, Longitude): 40.79708, -77.66714

NHD Stream GNIS Name of Click Point: Sinking Creek

Time: 2025-10-14 18:07:46 -0400



+ Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	7.58	percent
DRNAREA	Area that drains to a point on a stream	14.4	square miles
ELEV	Mean Basin Elevation	1661	feet
ELEVMAX	Maximum basin elevation	2418	feet
FOREST	Percentage of area covered by forest	81.4966	percent

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.7	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.55	miles per square mile
URBAN	Percentage of basin with urban development	0.0747	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	7.58	percent	0	100
DRNAREA	Drainage Area	14.4	square miles	1.42	1280

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	501	ft ³ /s	41.7
20-percent AEP flood	902	ft ³ /s	39.6
10-percent AEP flood	1250	ft ³ /s	38.3
4-percent AEP flood	1780	ft ³ /s	38.5
2-percent AEP flood	2240	ft ³ /s	38.9
1-percent AEP flood	2760	ft ³ /s	40.1
0.5-percent AEP flood	3340	ft ³ /s	41.3
0.2-percent AEP flood	4220	ft ³ /s	43.7

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019-5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	7.58	percent	0	99
DRNAREA	Drainage Area	14.4	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4.7	feet	3.32	5.65
STRDEN	Stream Density	1.55	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	2.08	ft ³ /s	38	38
30 Day 2 Year Low Flow	2.71	ft ³ /s	33	33
7 Day 10 Year Low Flow	1.07	ft ³ /s	51	51
30 Day 10 Year Low Flow	1.38	ft ³ /s	46	46
90 Day 10 Year Low Flow	2.05	ft ³ /s	36	36

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.4	square miles	2.26	1720
ELEV	Mean Basin Elevation	1661	feet	130	2700
FOREST	Percent Forest	81.4966	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.0747	percent	0	89

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Mean Annual Flow	22.2	ft ³ /s	12	12

Annual Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	7.58	percent	0	99
DRNAREA	Drainage Area	14.4	square miles	2.26	1720
FOREST	Percent Forest	81.4966	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.0747	percent	0	89

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Harmonic Mean Streamflow adjusted for proportion of zero flow days	5.12	ft ³ /s	38	38

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	7.58	percent	0	99
DRNAREA	Drainage Area	14.4	square miles	2.26	1720
FOREST	Percent Forest	81.4966	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.0747	percent	0	89

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Base Flow 10 Year Recurrence Interval	8.98	ft ³ /s	21	21
Base Flow 25 Year Recurrence Interval	7.97	ft ³ /s	21	21
Base Flow 50 Year Recurrence Interval	7.39	ft ³ /s	23	23

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Carbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON>30).

Bankfull Statistics Parameters [Statewide Bankfull Noncarbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	7.58	percent		
DRNAREA	Drainage Area	14.4	square miles	2.62	207

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.4	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.4	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.4	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Statewide Bankfull Noncarbonate 2018 5066]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE
Bankfull Area	103	ft ²	64

Statistic	Value	Unit	SE
Bankfull Streamflow	459	ft ³ /s	74
Bankfull Width	48.6	ft	59
Bankfull Depth	2.14	ft	56

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	46	ft
Bieger_D_channel_depth	2.41	ft
Bieger_D_channel_cross_sectional_area	113	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	41.9	ft
Bieger_P_channel_depth	2.16	ft
Bieger_P_channel_cross_sectional_area	91.5	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	31.7	ft
Bieger_USA_channel_depth	2.13	ft
Bieger_USA_channel_cross_sectional_area	72.1	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE
Bankfull Area	103	ft ²	64
Bankfull Streamflow	459	ft ³ /s	74
Bankfull Width	48.6	ft	59
Bankfull Depth	2.14	ft	56
Bieger_D_channel_width	46	ft	

Statistic	Value	Unit	SE
Bieger_D_channel_depth	2.41	ft	
Bieger_D_channel_cross_sectional_area	113	ft ²	
Bieger_P_channel_width	41.9	ft	
Bieger_P_channel_depth	2.16	ft	
Bieger_P_channel_cross_sectional_area	91.5	ft ²	
Bieger_USA_channel_width	31.7	ft	
Bieger_USA_channel_depth	2.13	ft	
Bieger_USA_channel_cross_sectional_area	72.1	ft ²	

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.4	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	29000	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D. 1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

GNIS ID	GNIS Name	Distance from Clicked Point (ft)	Feature Type	Selected Stream Name
01198124	Sinking Creek	4.48	Perennial	<input checked="" type="radio"/> Sinking Creek

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050301	Lower Susquehanna-Penns
02050302	Upper Juniata
02050204	Bald Eagle

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - Stream across from Trump Barn-StreamStats Report

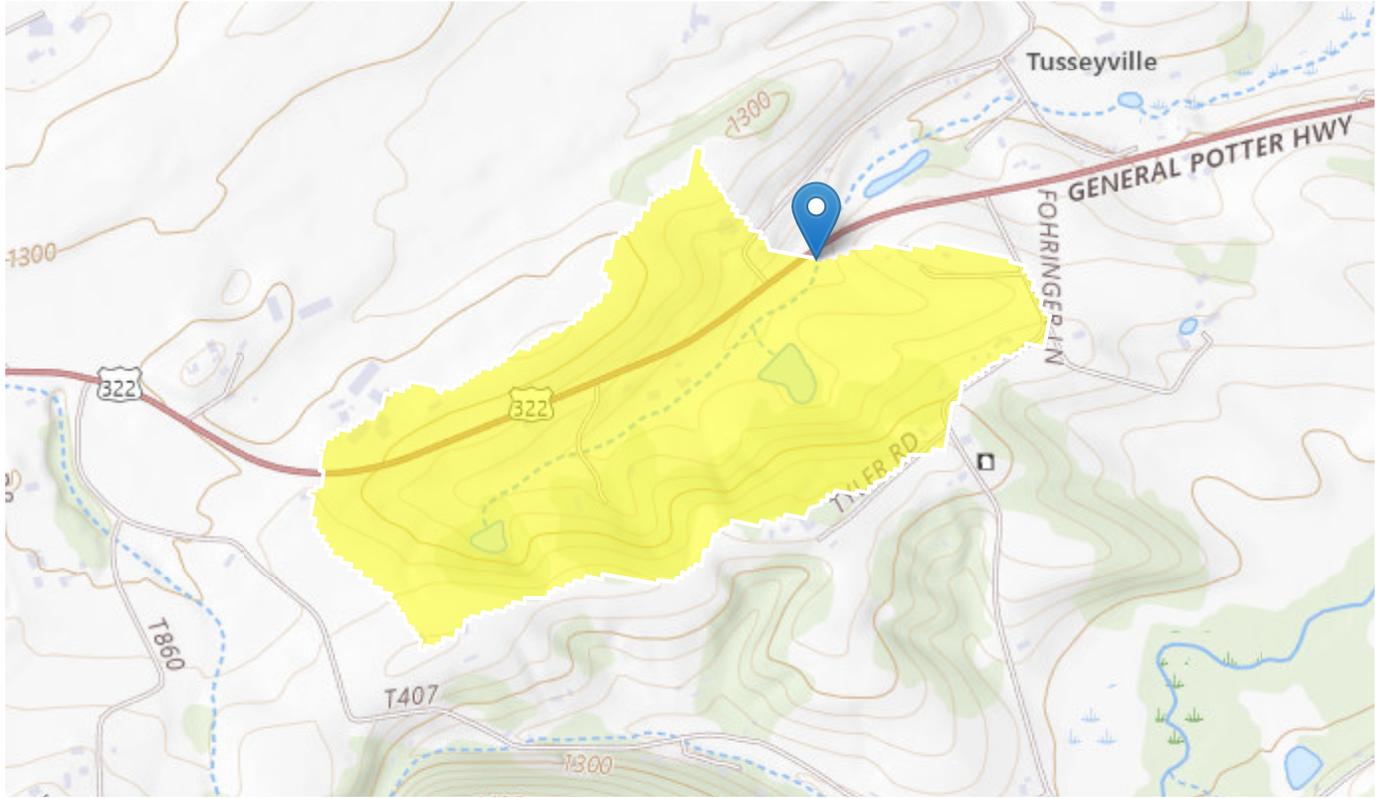
Region ID: PA

Workspace ID: PA20251015014904105000

Clicked Point (Latitude, Longitude): 40.79403, -77.68295

NHD Stream GNIS Name of Click Point: Stream name not found

Time: 2025-10-14 21:49:25 -0400



+ Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	21.87	percent
DRNAREA	Area that drains to a point on a stream	0.22	square miles
ELEV	Mean Basin Elevation	1272	feet
FOREST	Percentage of area covered by forest	13.8032	percent
PRECIP	Mean Annual Precipitation	41	inches

Parameter Code	Parameter Description	Value	Unit
ROCKDEP	Depth to rock	3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.67	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.6	miles
URBAN	Percentage of basin with urban development	0.1551	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	21.87	percent	0	100
DRNAREA	Drainage Area	0.22	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	14.4	ft ³ /s
20-percent AEP flood	29.7	ft ³ /s
10-percent AEP flood	43.7	ft ³ /s
4-percent AEP flood	65.9	ft ³ /s
2-percent AEP flood	85.6	ft ³ /s
1-percent AEP flood	108	ft ³ /s
0.5-percent AEP flood	134	ft ³ /s
0.2-percent AEP flood	174	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	21.87	percent	0	99
DRNAREA	Drainage Area	0.22	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
STRDEN	Stream Density	2.67	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00655	ft ³ /s
30 Day 2 Year Low Flow	0.0111	ft ³ /s
7 Day 10 Year Low Flow	0.00145	ft ³ /s
30 Day 10 Year Low Flow	0.00269	ft ³ /s
90 Day 10 Year Low Flow	0.00583	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.22	square miles	2.26	1720
ELEV	Mean Basin Elevation	1272	feet	130	2700
FOREST	Percent Forest	13.8032	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.1551	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.261	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	21.87	percent	0	99
DRNAREA	Drainage Area	0.22	square miles	2.26	1720
FOREST	Percent Forest	13.8032	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	0.1551	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.0514	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	21.87	percent	0	99
DRNAREA	Drainage Area	0.22	square miles	2.26	1720
FOREST	Percent Forest	13.8032	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.1551	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.0812	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.0689	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.0622	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Carbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON>30).

Bankfull Statistics Parameters [Statewide Bankfull Noncarbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	21.87	percent		
DRNAREA	Drainage Area	0.22	square miles	2.62	207

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.22	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.22	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.22	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Noncarbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Noncarbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	3.71	ft ²
Bankfull Streamflow	12.9	ft ³ /s
Bankfull Width	7.13	ft
Bankfull Depth	0.56	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	8.11	ft
Bieger_D_channel_depth	0.726	ft
Bieger_D_channel_cross_sectional_area	5.94	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	7.23	ft
Bieger_P_channel_depth	0.641	ft
Bieger_P_channel_cross_sectional_area	5.11	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	7.27	ft
Bieger_USA_channel_depth	0.873	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	7.54	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	3.71	ft ²
Bankfull Streamflow	12.9	ft ³ /s
Bankfull Width	7.13	ft
Bankfull Depth	0.56	ft
Bieger_D_channel_width	8.11	ft
Bieger_D_channel_depth	0.726	ft
Bieger_D_channel_cross_sectional_area	5.94	ft ²
Bieger_P_channel_width	7.23	ft
Bieger_P_channel_depth	0.641	ft
Bieger_P_channel_cross_sectional_area	5.11	ft ²
Bieger_USA_channel_width	7.27	ft
Bieger_USA_channel_depth	0.873	ft
Bieger_USA_channel_cross_sectional_area	7.54	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.22	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	1080	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
 (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

No NHD streams intersect the delineated basin.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050301	Lower Susquehanna-Penns
02050204	Bald Eagle

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - Sleepy Creek_StreamStats Report

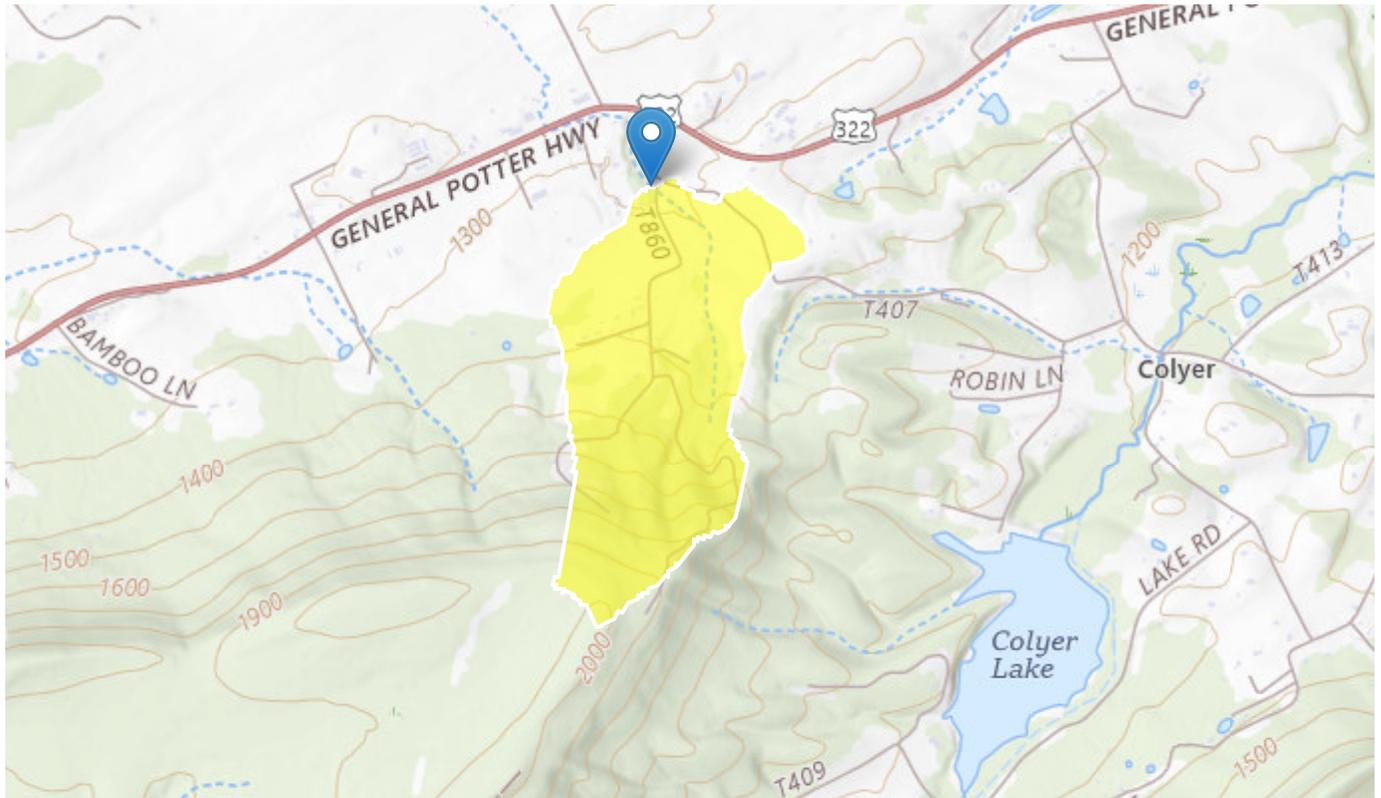
Region ID: PA

Workspace ID: PA20251015015510369000

Clicked Point (Latitude, Longitude): 40.78967, -77.69840

NHD Stream GNIS Name of Click Point: ? Stream name not found

Time: 2025-10-14 21:55:32 -0400



+ Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	15.22	percent
DRNAREA	Area that drains to a point on a stream	0.35	square miles
ELEV	Mean Basin Elevation	1485	feet
FOREST	Percentage of area covered by forest	51.9128	percent
PRECIP	Mean Annual Precipitation	41	inches

Parameter Code	Parameter Description	Value	Unit
ROCKDEP	Depth to rock	3	feet
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.73	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.61	miles
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	15.22	percent	0	100
DRNAREA	Drainage Area	0.35	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	21.6	ft ³ /s
20-percent AEP flood	43.8	ft ³ /s
10-percent AEP flood	64	ft ³ /s
4-percent AEP flood	95.9	ft ³ /s
2-percent AEP flood	124	ft ³ /s
1-percent AEP flood	157	ft ³ /s
0.5-percent AEP flood	193	ft ³ /s
0.2-percent AEP flood	250	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	15.22	percent	0	99
DRNAREA	Drainage Area	0.35	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
STRDEN	Stream Density	1.73	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.015	ft ³ /s
30 Day 2 Year Low Flow	0.0249	ft ³ /s
7 Day 10 Year Low Flow	0.00351	ft ³ /s
30 Day 10 Year Low Flow	0.00638	ft ³ /s
90 Day 10 Year Low Flow	0.014	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130,

84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.35	square miles	2.26	1720
ELEV	Mean Basin Elevation	1485	feet	130	2700
FOREST	Percent Forest	51.9128	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.479	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	15.22	percent	0	99
DRNAREA	Drainage Area	0.35	square miles	2.26	1720
FOREST	Percent Forest	51.9128	percent	5.1	100

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.0958	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	15.22	percent	0	99
DRNAREA	Drainage Area	0.35	square miles	2.26	1720
FOREST	Percent Forest	51.9128	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.182	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.159	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.146	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Carbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON>30).

Bankfull Statistics Parameters [Statewide Bankfull Noncarbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	15.22	percent		
DRNAREA	Drainage Area	0.35	square miles	2.62	207

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.35	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.35	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.35	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Noncarbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Noncarbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	5.37	ft ²
Bankfull Streamflow	19.2	ft ³ /s
Bankfull Width	8.83	ft
Bankfull Depth	0.65	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	9.83	ft
Bieger_D_channel_depth	0.829	ft
Bieger_D_channel_cross_sectional_area	8.23	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	8.78	ft
Bieger_P_channel_depth	0.733	ft
Bieger_P_channel_cross_sectional_area	7.04	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	8.56	ft
Bieger_USA_channel_depth	0.964	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	9.69	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	5.37	ft ²
Bankfull Streamflow	19.2	ft ³ /s
Bankfull Width	8.83	ft
Bankfull Depth	0.65	ft
Bieger_D_channel_width	9.83	ft
Bieger_D_channel_depth	0.829	ft
Bieger_D_channel_cross_sectional_area	8.23	ft ²
Bieger_P_channel_width	8.78	ft
Bieger_P_channel_depth	0.733	ft
Bieger_P_channel_cross_sectional_area	7.04	ft ²
Bieger_USA_channel_width	8.56	ft
Bieger_USA_channel_depth	0.964	ft
Bieger_USA_channel_cross_sectional_area	9.69	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.35	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	1620	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
 (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

No NHD streams intersect the delineated basin.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050301	Lower Susquehanna-Penns
02050204	Bald Eagle

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - Spring Creek Headwaters_StreamStats Report

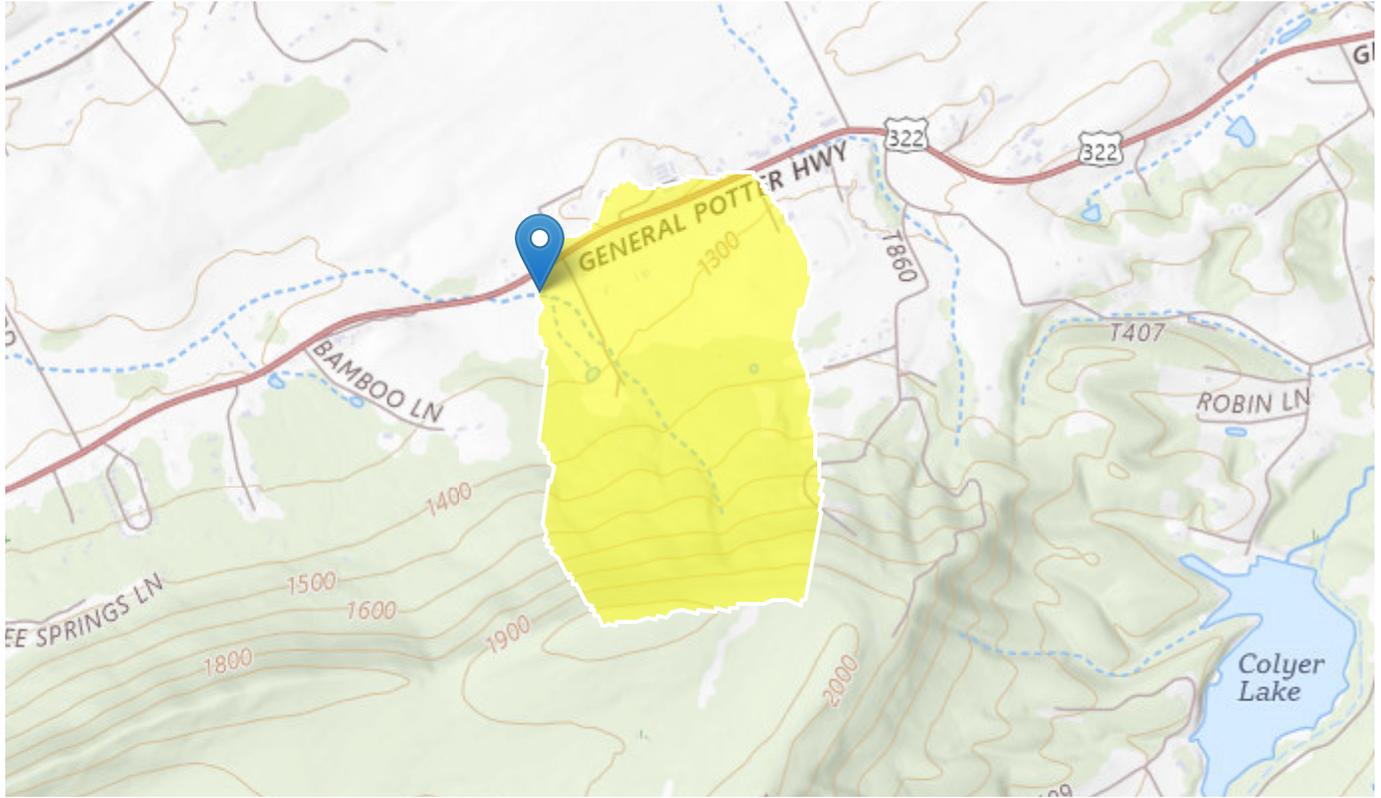
Region ID: PA

Workspace ID: PA20251015015915562000

Clicked Point (Latitude, Longitude): 40.78691, -77.71381

NHD Stream GNIS Name of Click Point: Spring Creek

Time: 2025-10-14 21:59:37 -0400



+ Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	52.76	percent
DRN	Drainage quality index from STATSGO	3.1	dimensionless
DRNAREA	Area that drains to a point on a stream	0.55	square miles
ELEV	Mean Basin Elevation	1460	feet
ELEVMAX	Maximum basin elevation	2033	feet

Parameter Code	Parameter Description	Value	Unit
FOREST	Percentage of area covered by forest	60.9322	percent
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	3.4	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.62	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.89	miles
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	52.76	percent	0	100
DRNAREA	Drainage Area	0.55	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	29.8	ft ³ /s
20-percent AEP flood	59.7	ft ³ /s
10-percent AEP flood	87	ft ³ /s
4-percent AEP flood	130	ft ³ /s
2-percent AEP flood	168	ft ³ /s
1-percent AEP flood	211	ft ³ /s
0.5-percent AEP flood	260	ft ³ /s

Statistic	Value	Unit
0.2-percent AEP flood	336	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H., 2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	52.76	percent	0	99
DRNAREA	Drainage Area	0.55	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	3.4	feet	3.32	5.65
STRDEN	Stream Density	1.62	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0496	ft ³ /s
30 Day 2 Year Low Flow	0.0721	ft ³ /s
7 Day 10 Year Low Flow	0.0153	ft ³ /s
30 Day 10 Year Low Flow	0.0241	ft ³ /s
90 Day 10 Year Low Flow	0.0419	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.55	square miles	2.26	1720
ELEV	Mean Basin Elevation	1460	feet	130	2700
FOREST	Percent Forest	60.9322	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.773	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	52.76	percent	0	99

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.55	square miles	2.26	1720
FOREST	Percent Forest	60.9322	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.303	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	52.76	percent	0	99
DRNAREA	Drainage Area	0.55	square miles	2.26	1720
FOREST	Percent Forest	60.9322	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.402	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.353	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.326	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	52.76	percent		
DRNAREA	Drainage Area	0.55	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.55	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.55	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.55	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	1.27	ft ²
Bankfull Streamflow	2.44	ft ³ /s
Bankfull Width	3.51	ft
Bankfull Depth	0.382	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	11.9	ft
Bieger_D_channel_depth	0.944	ft
Bieger_D_channel_cross_sectional_area	11.3	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	10.6	ft
Bieger_P_channel_depth	0.836	ft
Bieger_P_channel_cross_sectional_area	9.61	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	10	ft
Bieger_USA_channel_depth	1.06	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	12.4	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	1.27	ft ²
Bankfull Streamflow	2.44	ft ³ /s
Bankfull Width	3.51	ft
Bankfull Depth	0.382	ft
Bieger_D_channel_width	11.9	ft
Bieger_D_channel_depth	0.944	ft
Bieger_D_channel_cross_sectional_area	11.3	ft ²
Bieger_P_channel_width	10.6	ft
Bieger_P_channel_depth	0.836	ft
Bieger_P_channel_cross_sectional_area	9.61	ft ²
Bieger_USA_channel_width	10	ft
Bieger_USA_channel_depth	1.06	ft
Bieger_USA_channel_cross_sectional_area	12.4	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.55	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	2390	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

GNIS ID	GNIS Name	Distance from Clicked Point (ft)	Feature Type	Selected Stream Name
01188220	Spring Creek	12.58	Intermittent	<input checked="" type="radio"/> Spring Creek

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050204	Bald Eagle

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - LTZ 045 - StreamStats Report

Region ID: PA

Workspace ID: PA20251020115851244000

Clicked Point (Latitude, Longitude): 40.78607, -77.71317

Time: 2025-10-20 07:59:11 -0400



 Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	40.62	percent
DRNAREA	Area that drains to a point on a stream	0.11	square miles
ELEV	Mean Basin Elevation	1511	feet
FOREST	Percentage of area covered by forest	92.089	percent
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	3.6	feet

Parameter Code	Parameter Description	Value	Unit
STRDEN	Stream Density -- total length of streams divided by drainage area	1.35	miles per square mile
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.62	percent	0	100
DRNAREA	Drainage Area	0.11	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	7.84	ft ³ /s
20-percent AEP flood	16.5	ft ³ /s
10-percent AEP flood	24.6	ft ³ /s
4-percent AEP flood	37.5	ft ³ /s
2-percent AEP flood	49	ft ³ /s
1-percent AEP flood	62.4	ft ³ /s
0.5-percent AEP flood	77.5	ft ³ /s
0.2-percent AEP flood	101	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H., 2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.62	percent	0	99
DRNAREA	Drainage Area	0.11	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	3.6	feet	3.32	5.65
STRDEN	Stream Density	1.35	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00983	ft ³ /s
30 Day 2 Year Low Flow	0.0145	ft ³ /s
7 Day 10 Year Low Flow	0.00294	ft ³ /s
30 Day 10 Year Low Flow	0.00462	ft ³ /s
90 Day 10 Year Low Flow	0.00843	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.11	square miles	2.26	1720
ELEV	Mean Basin Elevation	1511	feet	130	2700
FOREST	Percent Forest	92.089	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.165	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.62	percent	0	99
DRNAREA	Drainage Area	0.11	square miles	2.26	1720
FOREST	Percent Forest	92.089	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.0528	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.62	percent	0	99
DRNAREA	Drainage Area	0.11	square miles	2.26	1720
FOREST	Percent Forest	92.089	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.0949	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.0847	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.079	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.62	percent		
DRNAREA	Drainage Area	0.11	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.11	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.11	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.11	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	0.244	ft ²
Bankfull Streamflow	0.393	ft ³ /s
Bankfull Width	1.33	ft
Bankfull Depth	0.195	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	6.08	ft
Bieger_D_channel_depth	0.595	ft
Bieger_D_channel_cross_sectional_area	3.65	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	5.4	ft
Bieger_P_channel_depth	0.524	ft
Bieger_P_channel_cross_sectional_area	3.17	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	5.69	ft
Bieger_USA_channel_depth	0.753	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	5.19	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	0.244	ft ²
Bankfull Streamflow	0.393	ft ³ /s
Bankfull Width	1.33	ft
Bankfull Depth	0.195	ft
Bieger_D_channel_width	6.08	ft
Bieger_D_channel_depth	0.595	ft
Bieger_D_channel_cross_sectional_area	3.65	ft ²
Bieger_P_channel_width	5.4	ft
Bieger_P_channel_depth	0.524	ft
Bieger_P_channel_cross_sectional_area	3.17	ft ²
Bieger_USA_channel_width	5.69	ft
Bieger_USA_channel_depth	0.753	ft
Bieger_USA_channel_cross_sectional_area	5.19	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.11	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	583	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - Spring Creek DS of Rte 322 across from Bamboo

Lane_StreamStats Report

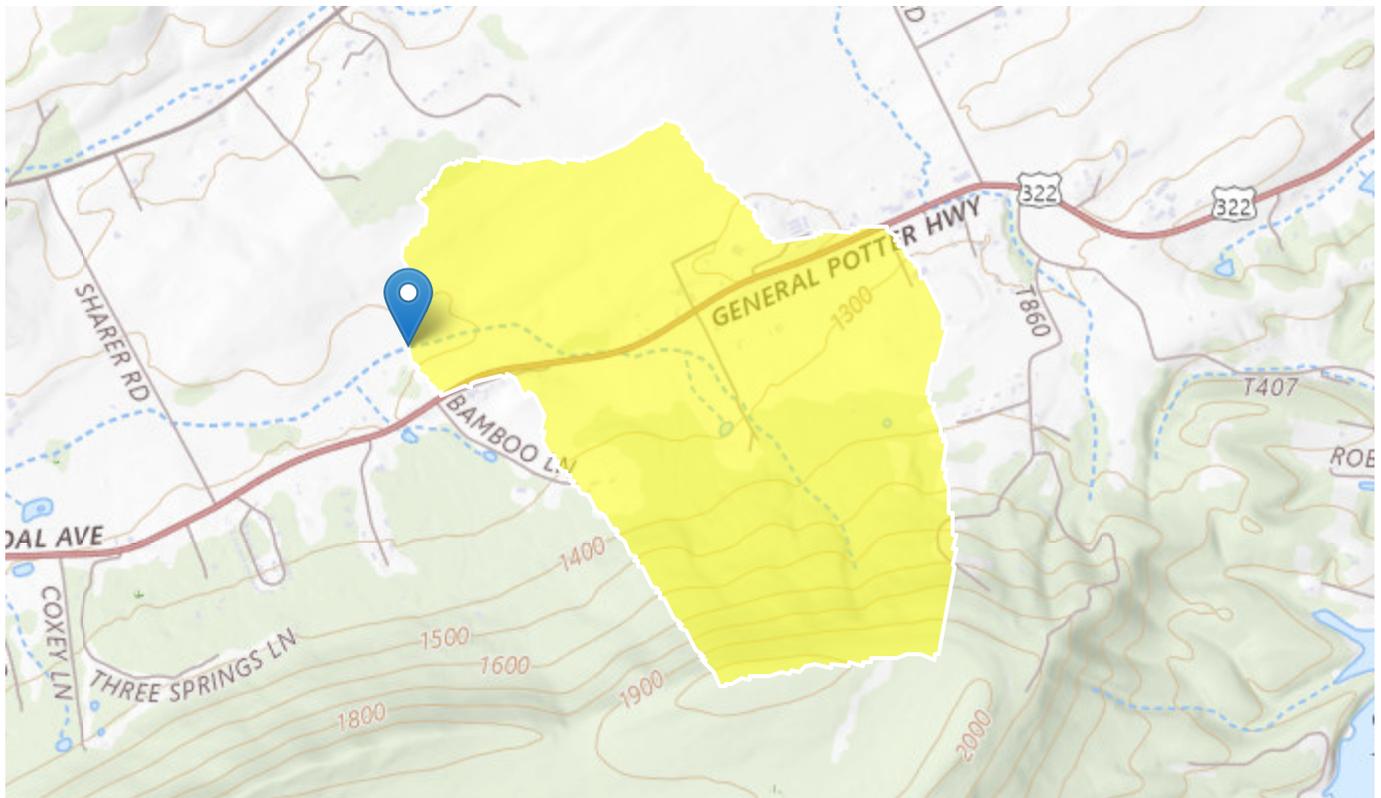
Region ID: PA

Workspace ID: PA20251015020935679000

Clicked Point (Latitude, Longitude): 40.78691, -77.72527

NHD Stream GNIS Name of Click Point: Spring Creek

Time: 2025-10-14 22:09:57 -0400



[+ Collapse All](#)

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	72.48	percent
DRNAREA	Area that drains to a point on a stream	1.01	square miles
ELEV	Mean Basin Elevation	1374	feet
FOREST	Percentage of area covered by forest	39.8378	percent

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	3.4	feet
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.1	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.51	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	1.52	miles
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	100
DRNAREA	Drainage Area	1.01	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	48.8	ft ³ /s
20-percent AEP flood	96.1	ft ³ /s
10-percent AEP flood	139	ft ³ /s
4-percent AEP flood	206	ft ³ /s
2-percent AEP flood	265	ft ³ /s
1-percent AEP flood	332	ft ³ /s
0.5-percent AEP flood	408	ft ³ /s

Statistic	Value	Unit
0.2-percent AEP flood	525	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H., 2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	99
DRNAREA	Drainage Area	1.01	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	3.4	feet	3.32	5.65
STRDEN	Stream Density	1.51	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.123	ft ³ /s
30 Day 2 Year Low Flow	0.171	ft ³ /s
7 Day 10 Year Low Flow	0.0413	ft ³ /s
30 Day 10 Year Low Flow	0.0624	ft ³ /s
90 Day 10 Year Low Flow	0.1	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.01	square miles	2.26	1720
ELEV	Mean Basin Elevation	1374	feet	130	2700
FOREST	Percent Forest	39.8378	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	1.33	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	99

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.01	square miles	2.26	1720
FOREST	Percent Forest	39.8378	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.669	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	99
DRNAREA	Drainage Area	1.01	square miles	2.26	1720
FOREST	Percent Forest	39.8378	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.681	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.592	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.543	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent		
DRNAREA	Drainage Area	1.01	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.01	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.01	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.01	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	2.37	ft ²
Bankfull Streamflow	4.86	ft ³ /s
Bankfull Width	5.06	ft
Bankfull Depth	0.492	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	15.3	ft
Bieger_D_channel_depth	1.12	ft
Bieger_D_channel_cross_sectional_area	17.4	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	13.7	ft
Bieger_P_channel_depth	0.997	ft
Bieger_P_channel_cross_sectional_area	14.6	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	12.4	ft
Bieger_USA_channel_depth	1.21	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	17.2	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	2.37	ft ²
Bankfull Streamflow	4.86	ft ³ /s
Bankfull Width	5.06	ft
Bankfull Depth	0.492	ft
Bieger_D_channel_width	15.3	ft
Bieger_D_channel_depth	1.12	ft
Bieger_D_channel_cross_sectional_area	17.4	ft ²
Bieger_P_channel_width	13.7	ft
Bieger_P_channel_depth	0.997	ft
Bieger_P_channel_cross_sectional_area	14.6	ft ²
Bieger_USA_channel_width	12.4	ft
Bieger_USA_channel_depth	1.21	ft
Bieger_USA_channel_cross_sectional_area	17.2	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.01	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	3980	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
 (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

GNIS ID	GNIS Name	Distance from Clicked Point (ft)	Feature Type	Selected Stream Name
01188220	Spring Creek	0.60	Intermittent	<input checked="" type="radio"/> Spring Creek

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
02050204	Bald Eagle

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>. (<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>. (<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

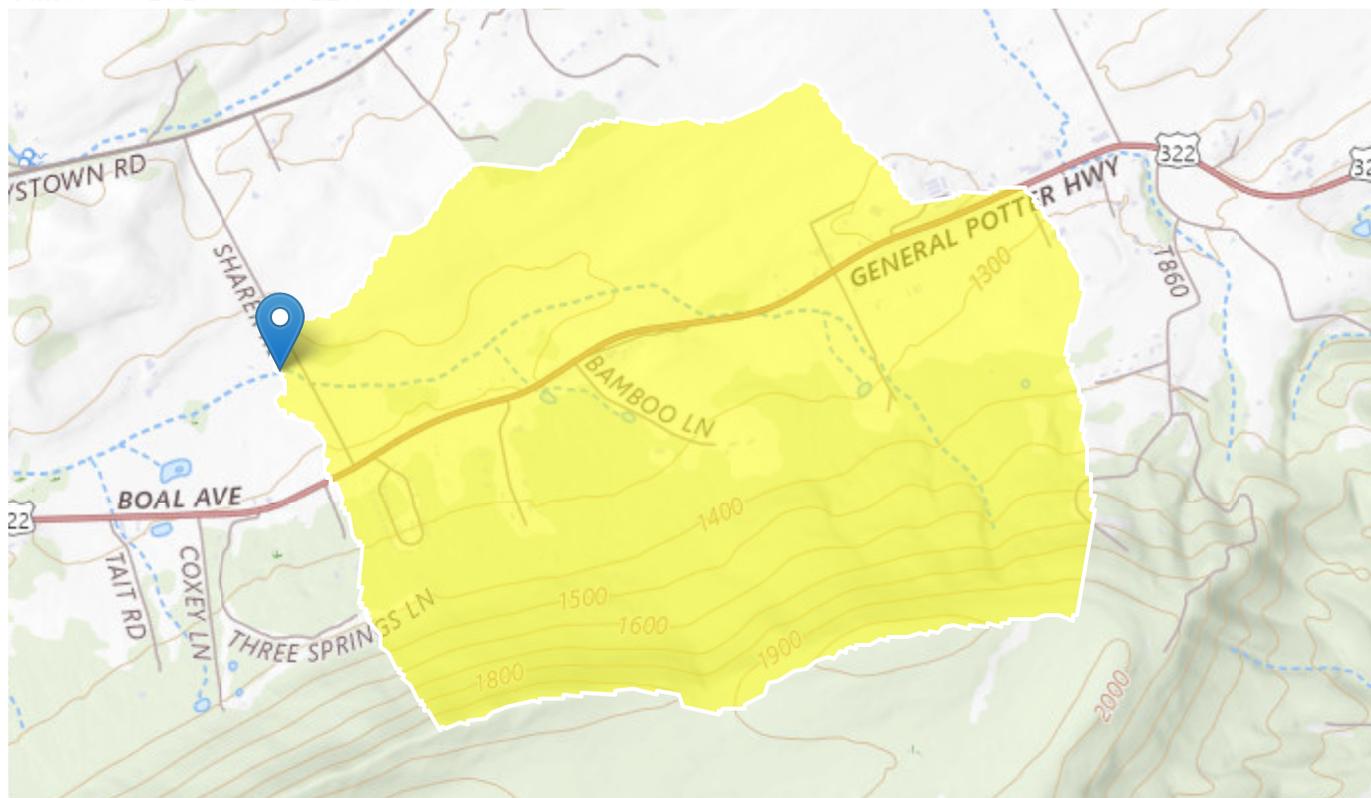
SCAC - Spring Creek at Sharer Road_StreamStats Report

Region ID: PA

Workspace ID: PA20251015021525182000

Clicked Point (Latitude, Longitude): 40.78486, -77.73673

Time: 2025-10-14 22:15:46 -0400



Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	72.53	percent
DRNAREA	Area that drains to a point on a stream	1.93	square miles
ELEV	Mean Basin Elevation	1373	feet
FOREST	Percentage of area covered by forest	49.4754	percent
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4	feet

Parameter Code	Parameter Description	Value	Unit
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.09	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.34	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	2.59	miles
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.53	percent	0	100
DRNAREA	Drainage Area	1.93	square miles	1.42	1280

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	83.9	ft ³ /s	41.7
20-percent AEP flood	162	ft ³ /s	39.6
10-percent AEP flood	232	ft ³ /s	38.3
4-percent AEP flood	340	ft ³ /s	38.5
2-percent AEP flood	436	ft ³ /s	38.9
1-percent AEP flood	545	ft ³ /s	40.1
0.5-percent AEP flood	667	ft ³ /s	41.3
0.2-percent AEP flood	855	ft ³ /s	43.7

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019-5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.53	percent	0	99
DRNAREA	Drainage Area	1.93	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
STRDEN	Stream Density	1.34	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.379	ft ³ /s
30 Day 2 Year Low Flow	0.484	ft ³ /s
7 Day 10 Year Low Flow	0.165	ft ³ /s
30 Day 10 Year Low Flow	0.221	ft ³ /s
90 Day 10 Year Low Flow	0.311	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.93	square miles	2.26	1720
ELEV	Mean Basin Elevation	1373	feet	130	2700
FOREST	Percent Forest	49.4754	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	2.64	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.53	percent	0	99
DRNAREA	Drainage Area	1.93	square miles	2.26	1720
FOREST	Percent Forest	49.4754	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	1.42	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.53	percent	0	99
DRNAREA	Drainage Area	1.93	square miles	2.26	1720
FOREST	Percent Forest	49.4754	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	1.43	ft ³ /s
Base Flow 25 Year Recurrence Interval	1.25	ft ³ /s
Base Flow 50 Year Recurrence Interval	1.15	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.53	percent		
DRNAREA	Drainage Area	1.93	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.93	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.93	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.93	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	4.62	ft ²
Bankfull Streamflow	10.1	ft ³ /s
Bankfull Width	7.47	ft
Bankfull Depth	0.645	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	20	ft
Bieger_D_channel_depth	1.35	ft
Bieger_D_channel_cross_sectional_area	27.4	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	18	ft
Bieger_P_channel_depth	1.2	ft
Bieger_P_channel_cross_sectional_area	22.9	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	15.6	ft
Bieger_USA_channel_depth	1.39	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	24.4	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	4.62	ft ²
Bankfull Streamflow	10.1	ft ³ /s
Bankfull Width	7.47	ft
Bankfull Depth	0.645	ft
Bieger_D_channel_width	20	ft
Bieger_D_channel_depth	1.35	ft
Bieger_D_channel_cross_sectional_area	27.4	ft ²
Bieger_P_channel_width	18	ft
Bieger_P_channel_depth	1.2	ft
Bieger_P_channel_cross_sectional_area	22.9	ft ²
Bieger_USA_channel_width	15.6	ft
Bieger_USA_channel_depth	1.39	ft
Bieger_USA_channel_cross_sectional_area	24.4	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.93	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	6740	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

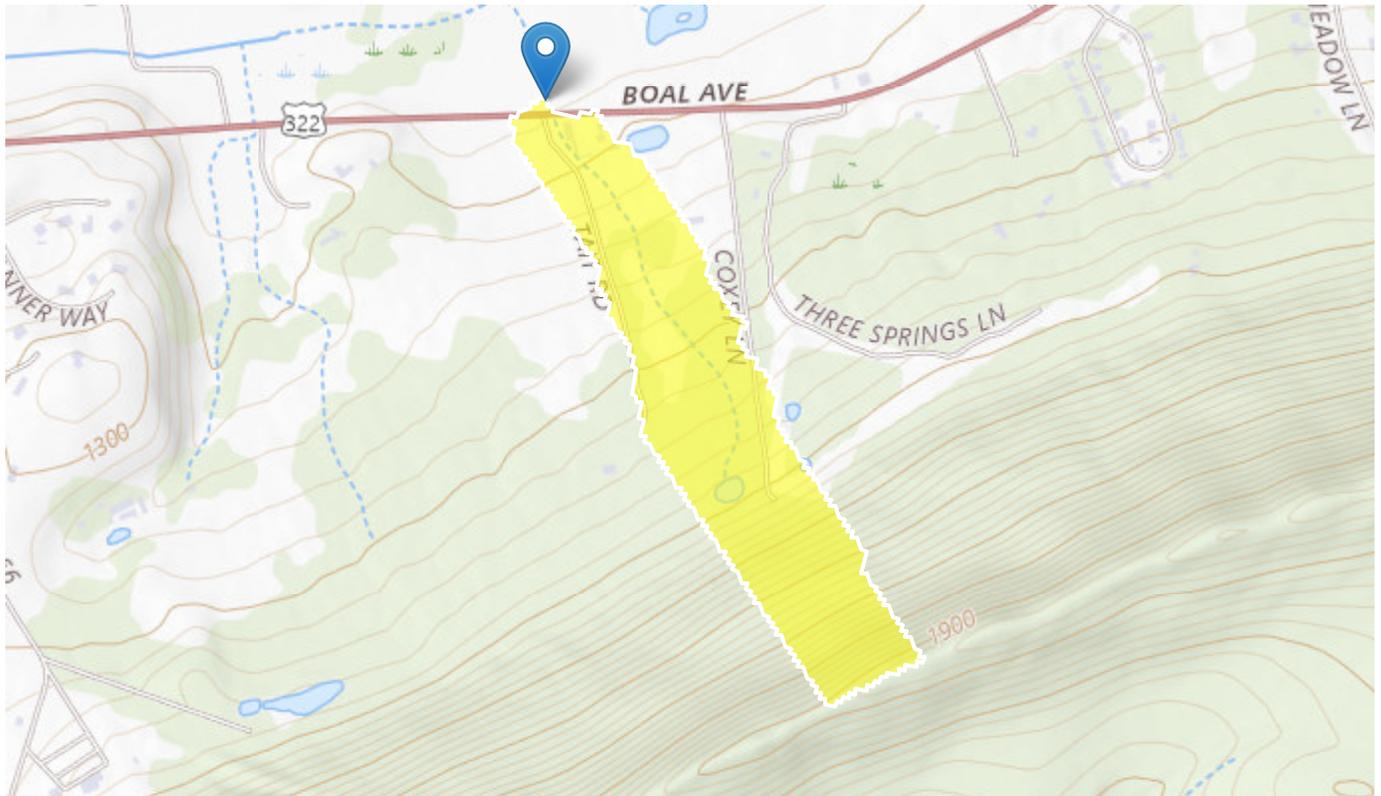
SCAC - UNT to Spring Creek at Tait_StreamStats Report

Region ID: PA

Workspace ID: PA20251016152831325000

Clicked Point (Latitude, Longitude): 40.78028, -77.74406

Time: 2025-10-16 11:28:57 -0400



 Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	72.48	percent
DRNAREA	Area that drains to a point on a stream	0.0921	square miles
ELEV	Mean Basin Elevation	1381	feet
ELEVMAX	Maximum basin elevation	1939	feet
FOREST	Percentage of area covered by forest	66.1493	percent
IMPNLCD01	Percentage of impervious area determined from NLCD 2001 impervious dataset	1.7529	percent

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4	feet
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.84	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	5.55	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.51	miles
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	100
DRNAREA	Drainage Area	0.0921	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	6.58	ft ³ /s
20-percent AEP flood	14	ft ³ /s
10-percent AEP flood	20.9	ft ³ /s
4-percent AEP flood	31.9	ft ³ /s
2-percent AEP flood	41.8	ft ³ /s
1-percent AEP flood	53.3	ft ³ /s
0.5-percent AEP flood	66.2	ft ³ /s

Statistic	Value	Unit
0.2-percent AEP flood	86.4	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H., 2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	99
DRNAREA	Drainage Area	0.0921	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
STRDEN	Stream Density	5.55	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0036	ft ³ /s
30 Day 2 Year Low Flow	0.00525	ft ³ /s
7 Day 10 Year Low Flow	0.00114	ft ³ /s
30 Day 10 Year Low Flow	0.00171	ft ³ /s
90 Day 10 Year Low Flow	0.00265	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0921	square miles	2.26	1720
ELEV	Mean Basin Elevation	1381	feet	130	2700
FOREST	Percent Forest	66.1493	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.128	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	99

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0921	square miles	2.26	1720
FOREST	Percent Forest	66.1493	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.0601	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent	0	99
DRNAREA	Drainage Area	0.0921	square miles	2.26	1720
FOREST	Percent Forest	66.1493	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.0786	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.0694	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.0643	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.48	percent		
DRNAREA	Drainage Area	0.0921	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0921	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0921	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0921	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	0.203	ft ²
Bankfull Streamflow	0.321	ft ³ /s
Bankfull Width	1.2	ft
Bankfull Depth	0.181	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	5.65	ft
Bieger_D_channel_depth	0.565	ft
Bieger_D_channel_cross_sectional_area	3.22	ft ²

Bankfull Statistics Disclaimers [Valley and Ridge P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	5.01	ft
Bieger_P_channel_depth	0.498	ft
Bieger_P_channel_cross_sectional_area	2.8	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	5.35	ft
Bieger_USA_channel_depth	0.725	ft
Bieger_USA_channel_cross_sectional_area	4.71	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	0.203	ft ²
Bankfull Streamflow	0.321	ft ³ /s
Bankfull Width	1.2	ft
Bankfull Depth	0.181	ft
Bieger_D_channel_width	5.65	ft
Bieger_D_channel_depth	0.565	ft
Bieger_D_channel_cross_sectional_area	3.22	ft ²
Bieger_P_channel_width	5.01	ft
Bieger_P_channel_depth	0.498	ft
Bieger_P_channel_cross_sectional_area	2.8	ft ²
Bieger_USA_channel_width	5.35	ft
Bieger_USA_channel_depth	0.725	ft
Bieger_USA_channel_cross_sectional_area	4.71	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018-5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0921	square miles	0.1	10000

Maximum Probable Flood Statistics Disclaimers [Crippen Bue Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	497	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
 (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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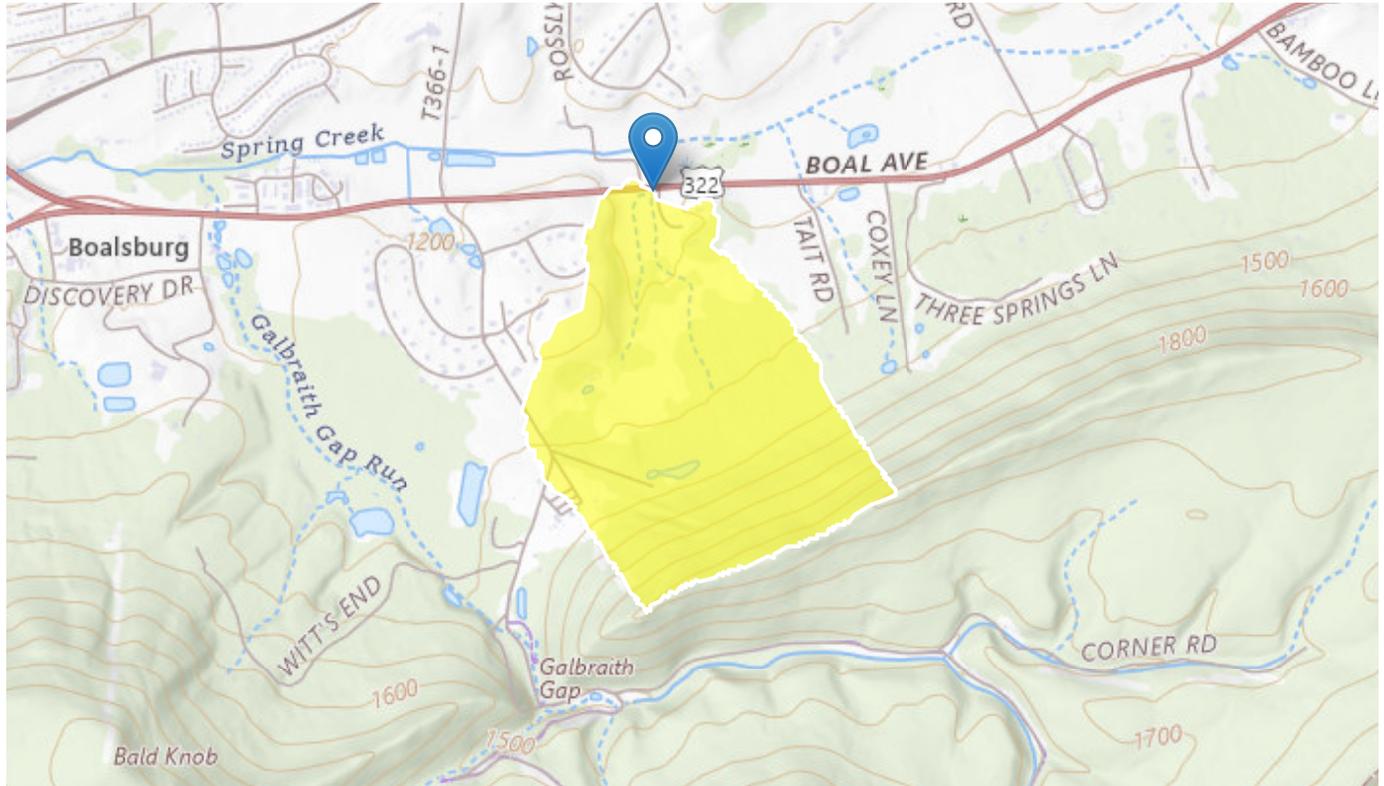
Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

SCAC - UNT to Spring Creek at Somerset lane_StreamStats Report

Region ID: PA
 Workspace ID: PA20251016153239320000
 Clicked Point (Latitude, Longitude): 40.77970, -77.75046
 Time: 2025-10-16 11:33:02 -0400



Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	72.74	percent
DRNAREA	Area that drains to a point on a stream	0.48	square miles
ELEV	Mean Basin Elevation	1376	feet
ELEVMAX	Maximum basin elevation	1916	feet
FOREST	Percentage of area covered by forest	54.8817	percent
IMPNLCD01	Percentage of impervious area determined from NLCD 2001 impervious dataset	0.395	percent

Parameter Code	Parameter Description	Value	Unit
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4	feet
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.36	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.98	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.95	miles
URBAN	Percentage of basin with urban development	0	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.74	percent	0	100
DRNAREA	Drainage Area	0.48	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	26.2	ft ³ /s
20-percent AEP flood	52.8	ft ³ /s
10-percent AEP flood	77.1	ft ³ /s
4-percent AEP flood	115	ft ³ /s
2-percent AEP flood	149	ft ³ /s
1-percent AEP flood	188	ft ³ /s
0.5-percent AEP flood	232	ft ³ /s

Statistic	Value	Unit
0.2-percent AEP flood	300	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.74	percent	0	99
DRNAREA	Drainage Area	0.48	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
STRDEN	Stream Density	1.98	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0572	ft ³ /s
30 Day 2 Year Low Flow	0.0765	ft ³ /s
7 Day 10 Year Low Flow	0.022	ft ³ /s
30 Day 10 Year Low Flow	0.0308	ft ³ /s
90 Day 10 Year Low Flow	0.0453	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.48	square miles	2.26	1720
ELEV	Mean Basin Elevation	1376	feet	130	2700
FOREST	Percent Forest	54.8817	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.658	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.74	percent	0	99
DRNAREA	Drainage Area	0.48	square miles	2.26	1720

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
FOREST	Percent Forest	54.8817	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.331	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.74	percent	0	99
DRNAREA	Drainage Area	0.48	square miles	2.26	1720
FOREST	Percent Forest	54.8817	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.373	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.327	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.302	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	72.74	percent		
DRNAREA	Drainage Area	0.48	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.48	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.48	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.48	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	1.11	ft ²
Bankfull Streamflow	2.09	ft ³ /s
Bankfull Width	3.24	ft
Bankfull Depth	0.361	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	11.2	ft
Bieger_D_channel_depth	0.908	ft
Bieger_D_channel_cross_sectional_area	10.3	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	10	ft
Bieger_P_channel_depth	0.804	ft
Bieger_P_channel_cross_sectional_area	8.75	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	9.56	ft
Bieger_USA_channel_depth	1.03	ft
Bieger_USA_channel_cross_sectional_area	11.5	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	1.11	ft ²
Bankfull Streamflow	2.09	ft ³ /s
Bankfull Width	3.24	ft
Bankfull Depth	0.361	ft
Bieger_D_channel_width	11.2	ft
Bieger_D_channel_depth	0.908	ft
Bieger_D_channel_cross_sectional_area	10.3	ft ²
Bieger_P_channel_width	10	ft
Bieger_P_channel_depth	0.804	ft
Bieger_P_channel_cross_sectional_area	8.75	ft ²
Bieger_USA_channel_width	9.56	ft
Bieger_USA_channel_depth	1.03	ft
Bieger_USA_channel_cross_sectional_area	11.5	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p.

(<https://digitalcommons.unl.edu/usdaarsfacpub/1515?>

[utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=](https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.48	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	2130	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D. 1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.
(<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

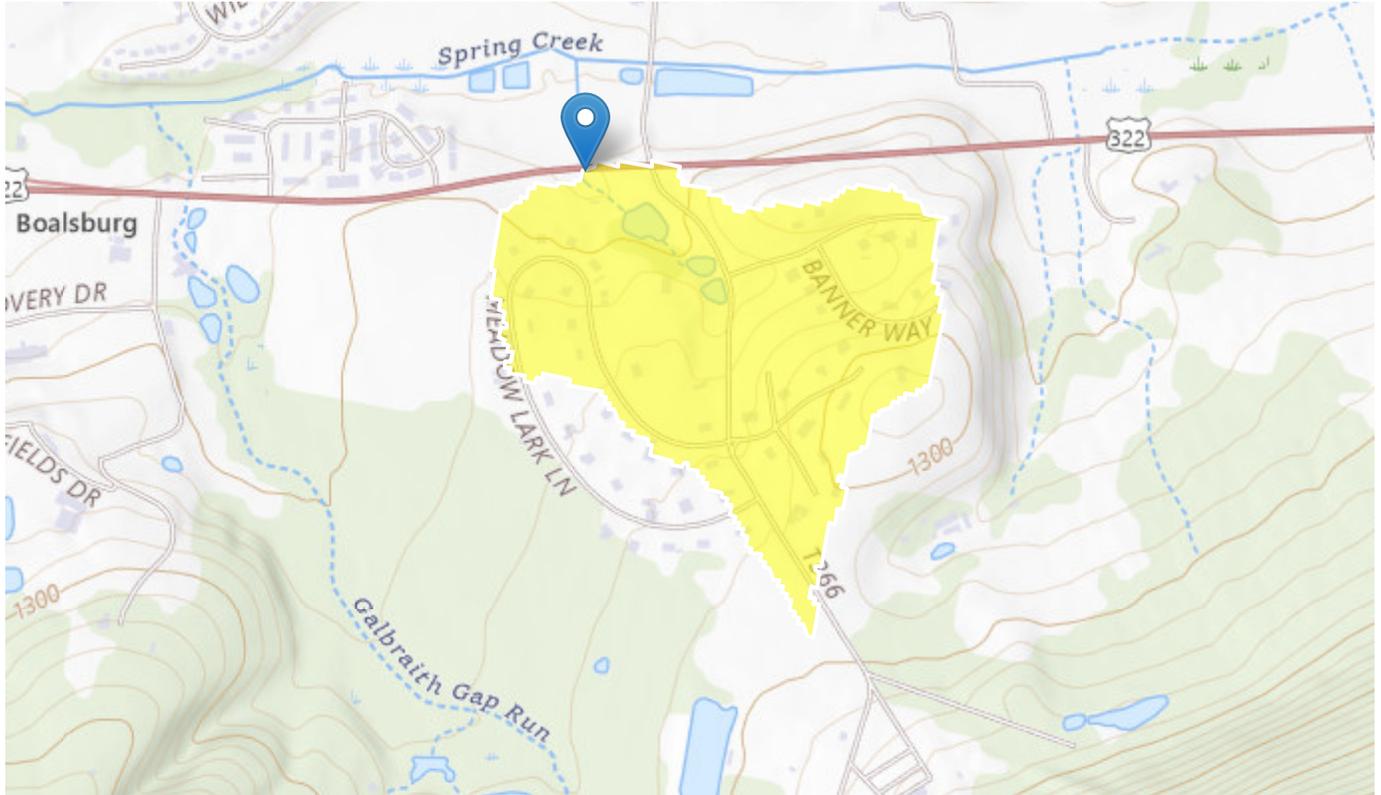
SCAC UNT to Spring Creek at Bear Meadows_StreamStats Report

Region ID: PA

Workspace ID: PA20251016154009276000

Clicked Point (Latitude, Longitude): 40.77934, -77.76099

Time: 2025-10-16 11:40:30 -0400



Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	90.53	percent
DRNAREA	Area that drains to a point on a stream	0.15	square miles
ELEV	Mean Basin Elevation	1247	feet
FOREST	Percentage of area covered by forest	10.0309	percent
PRECIP	Mean Annual Precipitation	39	inches
ROCKDEP	Depth to rock	4.9	feet

Parameter Code	Parameter Description	Value	Unit
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	1.8	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.2	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.18	miles
URBAN	Percentage of basin with urban development	0.2315	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	90.53	percent	0	100
DRNAREA	Drainage Area	0.15	square miles	1.42	1280

Peak-Flow Statistics Disclaimers [Peak Flow Region 3 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	9.79	ft ³ /s
20-percent AEP flood	20.5	ft ³ /s
10-percent AEP flood	30.4	ft ³ /s
4-percent AEP flood	46.2	ft ³ /s
2-percent AEP flood	60.3	ft ³ /s
1-percent AEP flood	76.7	ft ³ /s
0.5-percent AEP flood	95.1	ft ³ /s
0.2-percent AEP flood	124	ft ³ /s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019-5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	90.53	percent	0	99
DRNAREA	Drainage Area	0.15	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
ROCKDEP	Depth to Rock	4.9	feet	3.32	5.65
STRDEN	Stream Density	1.2	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0349	ft ³ /s
30 Day 2 Year Low Flow	0.042	ft ³ /s
7 Day 10 Year Low Flow	0.0175	ft ³ /s
30 Day 10 Year Low Flow	0.0212	ft ³ /s
90 Day 10 Year Low Flow	0.0275	ft ³ /s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130,

84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.15	square miles	2.26	1720
ELEV	Mean Basin Elevation	1247	feet	130	2700
FOREST	Percent Forest	10.0309	percent	5.1	100
PRECIP	Mean Annual Precipitation	39	inches	33.1	50.4
URBAN	Percent Urban	0.2315	percent	0	89

Annual Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Mean Annual Flow	0.16	ft ³ /s

Annual Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	90.53	percent	0	99
DRNAREA	Drainage Area	0.15	square miles	2.26	1720
FOREST	Percent Forest	10.0309	percent	5.1	100

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
PRECIP	Mean Annual Precipitation	39	inches	33.1	50.4
URBAN	Percent Urban	0.2315	percent	0	89

General Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Harmonic Mean Streamflow adjusted for proportion of zero flow days	0.0723	ft ³ /s

General Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	90.53	percent	0	99
DRNAREA	Drainage Area	0.15	square miles	2.26	1720
FOREST	Percent Forest	10.0309	percent	5.1	100
PRECIP	Mean Annual Precipitation	39	inches	33.1	50.4
URBAN	Percent Urban	0.2315	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.0706	ft ³ /s
Base Flow 25 Year Recurrence Interval	0.0598	ft ³ /s
Base Flow 50 Year Recurrence Interval	0.0539	ft ³ /s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	90.53	percent		
DRNAREA	Drainage Area	0.15	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.15	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.15	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.15	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	0.335	ft ²
Bankfull Streamflow	0.558	ft ³ /s
Bankfull Width	1.61	ft
Bankfull Depth	0.222	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	6.91	ft
Bieger_D_channel_depth	0.65	ft
Bieger_D_channel_cross_sectional_area	4.53	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	6.15	ft
Bieger_P_channel_depth	0.574	ft
Bieger_P_channel_cross_sectional_area	3.92	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	6.35	ft
Bieger_USA_channel_depth	0.805	ft

Statistic	Value	Unit
Bieger_USA_channel_cross_sectional_area	6.13	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	0.335	ft ²
Bankfull Streamflow	0.558	ft ³ /s
Bankfull Width	1.61	ft
Bankfull Depth	0.222	ft
Bieger_D_channel_width	6.91	ft
Bieger_D_channel_depth	0.65	ft
Bieger_D_channel_cross_sectional_area	4.53	ft ²
Bieger_P_channel_width	6.15	ft
Bieger_P_channel_depth	0.574	ft
Bieger_P_channel_cross_sectional_area	3.92	ft ²
Bieger_USA_channel_width	6.35	ft
Bieger_USA_channel_depth	0.805	ft
Bieger_USA_channel_cross_sectional_area	6.13	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.15	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	769	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

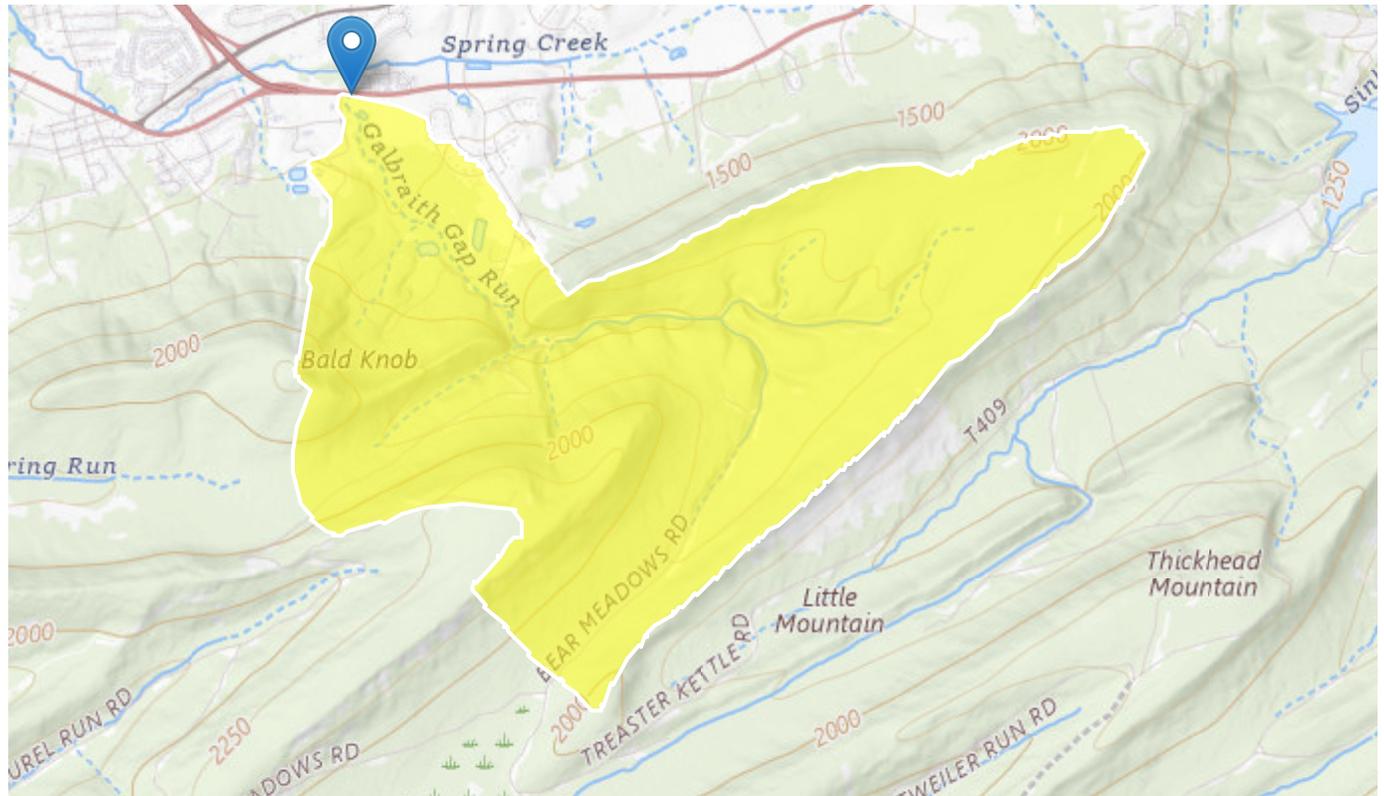
SCAC Galbreath Gap Run_StreamStats Report

Region ID: PA

Workspace ID: PA20251016153623563000

Clicked Point (Latitude, Longitude): 40.77885, -77.76943

Time: 2025-10-16 11:36:48 -0400



Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	6.58	percent
DRNAREA	Area that drains to a point on a stream	5.18	square miles
ELEV	Mean Basin Elevation	1757	feet
FOREST	Percentage of area covered by forest	95.6238	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	0.1446	percent
PRECIP	Mean Annual Precipitation	41	inches

Parameter Code	Parameter Description	Value	Unit
ROCKDEP	Depth to rock	4.6	feet
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.32	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.46	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	7.56	miles
URBAN	Percentage of basin with urban development	0.0336	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	6.58	percent	0	100
DRNAREA	Drainage Area	5.18	square miles	1.42	1280

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	214	ft ³ /s	41.7
20-percent AEP flood	398	ft ³ /s	39.6
10-percent AEP flood	559	ft ³ /s	38.3
4-percent AEP flood	807	ft ³ /s	38.5
2-percent AEP flood	1020	ft ³ /s	38.9
1-percent AEP flood	1270	ft ³ /s	40.1
0.5-percent AEP flood	1540	ft ³ /s	41.3
0.2-percent AEP flood	1960	ft ³ /s	43.7

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019-5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	6.58	percent	0	99
DRNAREA	Drainage Area	5.18	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
STRDEN	Stream Density	1.46	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.676	ft ³ /s	38	38
30 Day 2 Year Low Flow	0.903	ft ³ /s	33	33
7 Day 10 Year Low Flow	0.318	ft ³ /s	51	51
30 Day 10 Year Low Flow	0.423	ft ³ /s	46	46
90 Day 10 Year Low Flow	0.662	ft ³ /s	36	36

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.18	square miles	2.26	1720
ELEV	Mean Basin Elevation	1757	feet	130	2700
FOREST	Percent Forest	95.6238	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.0336	percent	0	89

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Mean Annual Flow	8.23	ft ³ /s	12	12

Annual Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	6.58	percent	0	99
DRNAREA	Drainage Area	5.18	square miles	2.26	1720
FOREST	Percent Forest	95.6238	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.0336	percent	0	89

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Harmonic Mean Streamflow adjusted for proportion of zero flow days	1.8	ft ³ /s	38	38

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	6.58	percent	0	99
DRNAREA	Drainage Area	5.18	square miles	2.26	1720
FOREST	Percent Forest	95.6238	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.0336	percent	0	89

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Base Flow 10 Year Recurrence Interval	3.55	ft ³ /s	21	21
Base Flow 25 Year Recurrence Interval	3.17	ft ³ /s	21	21
Base Flow 50 Year Recurrence Interval	2.95	ft ³ /s	23	23

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Carbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON>30).

Bankfull Statistics Parameters [Statewide Bankfull Noncarbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	6.58	percent		
DRNAREA	Drainage Area	5.18	square miles	2.62	207

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.18	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.18	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.18	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Statewide Bankfull Noncarbonate 2018 5066]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE
Bankfull Area	45.6	ft ²	64

Statistic	Value	Unit	SE
Bankfull Streamflow	192	ft ³ /s	74
Bankfull Width	30.4	ft	59
Bankfull Depth	1.54	ft	56

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	30.1	ft
Bieger_D_channel_depth	1.8	ft
Bieger_D_channel_cross_sectional_area	54.9	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	27.2	ft
Bieger_P_channel_depth	1.6	ft
Bieger_P_channel_cross_sectional_area	45.2	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	22.1	ft
Bieger_USA_channel_depth	1.71	ft
Bieger_USA_channel_cross_sectional_area	41.5	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE
Bankfull Area	45.6	ft ²	64
Bankfull Streamflow	192	ft ³ /s	74
Bankfull Width	30.4	ft	59
Bankfull Depth	1.54	ft	56
Bieger_D_channel_width	30.1	ft	

Statistic	Value	Unit	SE
Bieger_D_channel_depth	1.8	ft	
Bieger_D_channel_cross_sectional_area	54.9	ft ²	
Bieger_P_channel_width	27.2	ft	
Bieger_P_channel_depth	1.6	ft	
Bieger_P_channel_cross_sectional_area	45.2	ft ²	
Bieger_USA_channel_width	22.1	ft	
Bieger_USA_channel_depth	1.71	ft	
Bieger_USA_channel_cross_sectional_area	41.5	ft ²	

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.18	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	14300	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D. 1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (<https://pubs.usgs.gov/wsp/1887/report.pdf>)

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

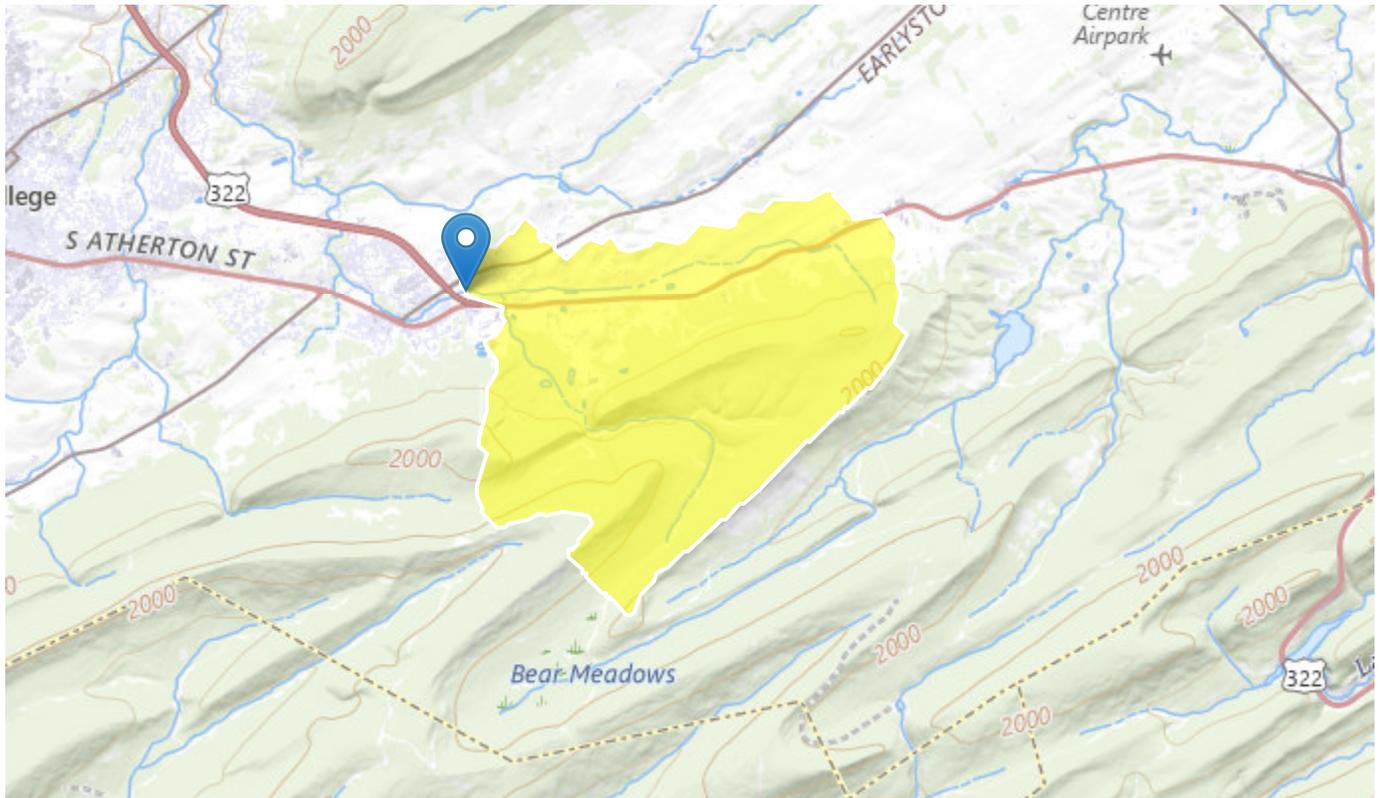
SCAC - Spring Creek at Nittany Interchange_StreamStats Report

Region ID: PA

Workspace ID: PA20251016154309952000

Clicked Point (Latitude, Longitude): 40.78095, -77.77672

Time: 2025-10-16 11:43:38 -0400



Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	40.08	percent
DRNAREA	Area that drains to a point on a stream	9.4	square miles
ELEV	Mean Basin Elevation	1560	feet
FOREST	Percentage of area covered by forest	69.6	percent
LC01DEV	Percentage of land-use from NLCD 2001 classes 21-24	10.6145	percent

Parameter Code	Parameter Description	Value	Unit
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	10.6478	percent
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.6	feet
STORAGE	Percentage of area of storage (lakes ponds reservoirs wetlands)	0.32	percent
STRDEN	Stream Density -- total length of streams divided by drainage area	1.56	miles per square mile
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	14.62	miles
URBAN	Percentage of basin with urban development	0.8005	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 3 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.08	percent	0	100
DRNAREA	Drainage Area	9.4	square miles	1.42	1280

Peak-Flow Statistics Flow Report [Peak Flow Region 3 SIR 2019 5094]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	ASEp
50-percent AEP flood	324	ft ³ /s	41.7
20-percent AEP flood	595	ft ³ /s	39.6
10-percent AEP flood	832	ft ³ /s	38.3
4-percent AEP flood	1190	ft ³ /s	38.5
2-percent AEP flood	1510	ft ³ /s	38.9
1-percent AEP flood	1870	ft ³ /s	40.1
0.5-percent AEP flood	2270	ft ³ /s	41.3

Statistic	Value	Unit	ASEp
0.2-percent AEP flood	2880	ft ³ /s	43.7

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.08	percent	0	99
DRNAREA	Drainage Area	9.4	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
STRDEN	Stream Density	1.56	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.81	ft ³ /s	38	38
30 Day 2 Year Low Flow	2.26	ft ³ /s	33	33
7 Day 10 Year Low Flow	0.957	ft ³ /s	51	51
30 Day 10 Year Low Flow	1.2	ft ³ /s	46	46
90 Day 10 Year Low Flow	1.61	ft ³ /s	36	36

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130,

84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.4	square miles	2.26	1720
ELEV	Mean Basin Elevation	1560	feet	130	2700
FOREST	Percent Forest	69.6	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.8005	percent	0	89

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Mean Annual Flow	14	ft ³ /s	12	12

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.08	percent	0	99
DRNAREA	Drainage Area	9.4	square miles	2.26	1720
FOREST	Percent Forest	69.6	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
URBAN	Percent Urban	0.8005	percent	0	89

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Harmonic Mean Streamflow adjusted for proportion of zero flow days	5.5	ft ³ /s	38	38

General Flow Statistics Citations

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.08	percent	0	99
DRNAREA	Drainage Area	9.4	square miles	2.26	1720
FOREST	Percent Forest	69.6	percent	5.1	100
PRECIP	Mean Annual Precipitation	41	inches	33.1	50.4
URBAN	Percent Urban	0.8005	percent	0	89

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
Base Flow 10 Year Recurrence Interval	6.84	ft ³ /s	21	21
Base Flow 25 Year Recurrence Interval	6.05	ft ³ /s	21	21
Base Flow 50 Year Recurrence Interval	5.61	ft ³ /s	23	23

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Statewide_Bankfull_Noncarbonate_2018_5066 equations are not appropriate for this location and have been removed from the final report. This region does not meet the following criteria: (CARBON <=30).

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	40.08	percent		
DRNAREA	Drainage Area	9.4	square miles	18.9	213

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.4	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Valley and Ridge P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.4	square miles	0.100386	395.999604

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.4	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	23.5	ft ²
Bankfull Streamflow	61.2	ft ³ /s
Bankfull Width	19.3	ft
Bankfull Depth	1.25	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	38.5	ft
Bieger_D_channel_depth	2.13	ft
Bieger_D_channel_cross_sectional_area	83.5	ft ²

Bankfull Statistics Flow Report [Valley and Ridge P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	35	ft
Bieger_P_channel_depth	1.9	ft
Bieger_P_channel_cross_sectional_area	68.2	ft ²

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	27.3	ft
Bieger_USA_channel_depth	1.94	ft
Bieger_USA_channel_cross_sectional_area	57.3	ft ²

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	23.5	ft ²
Bankfull Streamflow	61.2	ft ³ /s
Bankfull Width	19.3	ft
Bankfull Depth	1.25	ft

Statistic	Value	Unit
Bieger_D_channel_width	38.5	ft
Bieger_D_channel_depth	2.13	ft
Bieger_D_channel_cross_sectional_area	83.5	ft ²
Bieger_P_channel_width	35	ft
Bieger_P_channel_depth	1.9	ft
Bieger_P_channel_cross_sectional_area	68.2	ft ²
Bieger_USA_channel_width	27.3	ft
Bieger_USA_channel_depth	1.94	ft
Bieger_USA_channel_cross_sectional_area	57.3	ft ²

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam)

➤ Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.4	square miles	0.1	10000

Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 4]

Statistic	Value	Unit
Maximum Flood Crippen Bue Regional	21800	ft ³ /s

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p.

<https://pubs.usgs.gov/wsp/1887/report.pdf>

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Application Version: 4.29.3

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

APPENDIX C – REFERENCES

REFERENCES

FEMA Flood Map Service Center. <https://msc.fema.gov/portal/home>. Accessed March 2025.

USGS Streamstats. <https://streamstats.usgs.gov/ss/>. Accessed October 2025.

GIS DATA SOURCES

Layer Name	Source	Date
Delineated Watercourses	S&L	2025
Floodplains	FEMA	2025
Floodways	S&L	2025