



The Pennsylvania Housing Research Center

Summary of Stream Buffer Requirements and Geographic Distribution of Buffers for Exceptional Value and High Quality Streams in Pennsylvania

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Table of Contents

PART I

I. Introduction	I
II. Definitions of High Quality or Exceptional Value Waters	I
A. High Quality Waters	1
1. Chemistry	1
2. Biology	1
B. Exceptional Value Waters	2
III. Riparian Buffer Requirements	2
A. Exceptions and Waivers	3
B. Activities within a Riparian Buffer	4
IV. Geographic Distribution of Stream Buffers for Exceptional Value and High Quality Waters in Pennsylvania	5
VI. Resources and References.....	12

PART 2

Appendix: State and County Maps of Exceptional Value and High Quality Streams

I. Introduction

The current version of the PA Code, Title 25, Chapter 102 Erosion and Sediment Control that became effective on November 19, 2010 (hereafter referred to as Chapter 102) requires a 150-foot-wide buffer on waters in a High Quality (HQ) or Exceptional Value (EV) watershed for earth disturbance projects greater than 1 acre (Pa Code, Title 25, Ch. 102). This report summarizes the definitions of HQ and EV waters and the riparian buffer requirements from Pa Code, Title 25, Chapters 94 and 102, respectively. The report also provides a summary of the distribution of EV and HQ streams and stream buffer area county-by-county across the Commonwealth through a series of tables.

The riparian buffer regulations apply to perennial or intermittent rivers, streams, or creeks; lakes or ponds; and reservoirs, but data tables of buffer areas and the included maps only apply to perennial streams. There are additional surfaces that would be required to have a riparian buffer.

II. Definitions of High Quality or Exceptional Value Waters

High quality and exceptional value waters are defined in the Pennsylvania Code, Chapter 93.4b. A summary of these definitions are provided here, but please refer to the Pennsylvania Code for the full definitions.

A. High Quality Waters

High Quality (HQ) waters are defined by their chemistry and/or biology:

1. Chemistry

The chemical characteristics of a water that will cause it to be classified as HQ are based on the concentration levels of key parameters that allow the support of propagation of fish, shellfish, and wildlife, and recreation uses in and on the water. The parameters for evaluation are: dissolved oxygen, aluminum, iron, dissolved nickel, dissolved copper, dissolved cadmium, temperature, pH, dissolved arsenic, ammonia nitrogen, dissolved lead, and dissolved zinc. The PA Department of Environmental Protection (DEP) is also able to use additional chemical and toxicity information in the assessment of water quality (Pa Code, Title 25 Ch. 93.4b(a)(1)).

2. Biology

The biological qualification for designation as an HQ water is based on two criteria: the Biological Assessment Qualifier and the Class A Wild Trout Stream Qualifier. A water must meet one or more of the associated criteria (Pa Code, Title 25 Ch. 93.4b(a)(2)).

a) Biological Assessment Qualifier

The surface water is designated as an HQ water if it supports a high quality aquatic community based on approved assessment procedures that consider physical habitat, benthic macroinvertebrates or fish. The DEP may also consider other biological information which characterizes or indicates the quality of a water.

b) Class A Wild Trout Stream Qualifier

A surface water is designated as a HQ water if it has been designated a Class A Wild Trout Stream by the Fish and Boat Commission following public notice and comment.

B. Exceptional Value Waters

Exception Value (EV) waters are designated by two different sets of criteria (Pa Code, Title 25 Ch. 93.4b(b)).

1. The water meets the requirements for designation as a HQ stream and also meets one or more of the following conditions:
 - The water is located in a national wildlife refuge or a state game propagation and protection area;
 - The water is located in a designated state park natural area or state forest natural area, national natural landmark, Federal or state wild river, Federal wilderness area or national recreational area;
 - The water is an outstanding national, state, regional or local resource water;
 - The water is a surface water of exceptional recreational significance;
 - The water achieves a score of at least 92% (or its equivalent) using the methods and procedures used to determine the Biological Assessment Qualifier approach to determining if it is an HQ stream (Ch 93.4b(a)(2)(i)(A) or (B)); or
 - The water is designated as a “wilderness trout stream” by the Fish and Boat Commission following public notice and comment.
2. The water is a surface water of exceptional ecological significance.

III. Riparian Buffer Requirements

The full requirements for riparian buffers can be found with the erosion and sediment control and stormwater regulations in the Pa Code, Title 25, Chapter 102.14.

If a project site is located in an EV or HQ watershed and requires an NPDES Individual or General Permit for Discharges Associated with Construction Activities, no earth disturbance activities may take place within 150 feet of a perennial or intermittent river, stream, or creek; lake or pond; or reservoir (hereafter referred to as “a surface water”).

Additional requirements for a riparian forest buffer are dependent on whether or not the surface water is attaining its designated uses as listed in Category 4 or 5 on Pennsylvania's Integrated Water Quality Monitoring and Assessment report. The Integrated Water Quality Monitoring and Assessment report is available on the DEP's website under Water > Bureau of Point and Non-Point Source Management > Water Quality Standards. As of August 2014, a draft of the 2014 report is available at http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/2014%20Integrated%20List/2014_Pennsylvania_Integrated_Water_Quality_Monitoring_and_Assessment_Report.pdf

If the surface water is attaining its designated use, a 150-foot-wide riparian buffer around the surface water must be protected, but there are no other requirements for improvement.

If a project site is located in an EV or HQ watershed where there are waters failing to attain one or more designated uses, and the project site contains, is along, or is within 150 feet of a surface water, one of the following must be implemented:

- Protection of an existing riparian forest buffer;
- Conversion of an existing riparian buffer to a riparian forest buffer; or
- Establishment of a new riparian forest buffer.

A. Exceptions and Waivers

Exceptions and waivers to the establishment of a riparian buffer are written into the regulations. Exceptions include:

- A project site more than 150 feet from a surface water;
- Activities involving less than 1 acre (0.4 hectare) of earth disturbance;
- Activities when permit coverage is not required by Pa Code, Title 25, Chapter 102;
- Activities when a permit or authorization for the earth disturbance activity required under this chapter was obtained, or application submitted prior to November 19, 2010;
- Road maintenance activities;
- The repair and maintenance of existing pipelines and utilities;
- Oil and gas, timber harvesting, or mining activities for which site reclamation or restoration will be completed;
- A single family home on a parcel of land that is not part of a larger common plan of development or sale, and the parcel was acquired by the applicant prior to November 19, 2010; or
- Activities authorized by a DEP permit under another Chapter within Title 25, and the activity complies with that Chapter's required setback.

A waiver may be granted if reasonable alternatives for compliance can be shown, so long as any existing riparian buffer is undisturbed to the extent practicable and that the activity will otherwise meet the requirements of Chapter 102. A waiver may be granted for the following projects and conditions:

- The project is necessary to abate a substantial threat to public health or safety;
- Linear projects which may include pipelines, public roadways, rail lines, or utility lines;
- Abandoned mine reclamation activities;
- Temporary projects where the site will be fully restored to its preexisting condition;
- Redevelopment projects; or
- Projects for which compliance with mandatory riparian buffer requirements are not appropriate or feasible due to site characteristics or existing structures at the project site.

B. Activities within a Riparian Buffer

The types of activities that may or may not take place within a riparian buffer are defined in Chapter 102.14(f).

The following activities are not allowed within the riparian buffer:

- Soil disturbance by grading, stripping of topsoil, plowing, or cultivating;
- Draining by ditching, underdrains, or other drainage systems;
- Housing, grazing or otherwise maintaining animals for agricultural, or commercial purposes;
- Storing or stockpiling materials; or
- Off-road vehicular travel.

The following practices and activities are allowable in the riparian buffer when authorized by the DEP:

- Construction or placement of roads, bridges, trails, storm drainage, utilities, or other structures;
- Water obstructions or encroachments; or
- Restoration projects.

The following practices and activities are allowed within the riparian buffer:

- Activities to maintain the riparian buffer, including the disturbance of existing vegetation and tree and shrub removal, as needed, to allow for natural succession of native vegetation and protection of public health and safety;
- Timber harvesting activities in accordance with the riparian forest buffer management plan as part of the Post-Construction Stormwater Management (PCSM) Plan;

- Passive or low impact recreational activities, so long as the function of the riparian buffer is maintained;
- Emergency response and other similar activities; or
- Research and data collection activities, which may include water quality monitoring and stream gauging.

IV. Geographic Distribution of Stream Buffers for Exceptional Value and High Quality Waters in Pennsylvania

EV and HQ streams are found in every county of Pennsylvania except for Philadelphia. Using spatial data from the Pennsylvania Spatial Data Access (PASDA), the location of streams and EV/HQ streams were mapped, and county level summaries of stream miles and buffer areas were determined. Using ArcMap software, the EV and HQ streams were mapped, and a 150-foot-wide buffer was applied. Overlapping buffers, which occur at the confluences of two EV/HQ streams, were dissolved so there is no duplication of buffer areas. The total stream length, stream length of EV and HQ streams, and the land area falling within the 150-foot-wide stream buffer was determined. This data is presented in maps of each county as an appendix to this report, and Table 1 presents the data in numerical form. Table 2 presents a county-by-county summary of the percentage of stream miles that are designated as EV or HQ and the percentage of land area within the county that is within a riparian stream buffer. Table 3 presents the same data as that in Table 2, but it is sorted from largest to smallest percentage of area within a riparian stream buffer.

Riparian buffers also apply to other surface waters including intermittent rivers, streams, or creeks; lakes or ponds; and reservoirs, but those surface waters are not included in this analysis.

Table 1. Summary of total length of streams (mi), length of EV or HQ designated streams (mi), and total area designated within a 150-foot-wide stream buffer (sq mi) for each county in the Commonwealth.

County	Total Stream Length (mi)	Length of EV/HQ Stream (mi)	Total Area in a 150' wide Stream Buffer (mi ²)
Adams	1,265.2	128.9	7.2
Allegheny	1,347.5	49.6	2.8
Armstrong	1,500.4	258.8	14.5
Beaver	891.0	179.0	10.0
Bedford	2,465.6	1109.1	61.8
Berks	1,294.3	187.3	10.5
Blair	1,036.6	245.6	13.7
Bradford	2,134.8	147.5	8.2
Bucks	1,100.5	179.3	10.0
Butler	1,599.4	379.2	21.3
Cambria	1,369.8	278.2	15.5
Cameron	739.8	577.2	32.3
Carbon	580.1	311.3	17.5
Centre	1,804.2	894.9	50.4
Chester	1,376.9	601.0	33.6
Clarion	1,194.9	177.9	10.0
Clearfield	1,943.6	604.6	33.9
Clinton	1,401.9	1057.7	59.5
Columbia	782.2	128.4	7.2
Crawford	2,578.7	495.0	27.2
Cumberland	769.9	196.9	10.9
Dauphin	1,085.7	100.4	5.6
Delaware	385.1	38.9	2.2
Elk	1,581.4	847.4	47.2
Erie	1,943.0	166.9	9.3
Fayette	1,613.4	447.8	25.1
Forest	801.2	509.6	28.3
Franklin	1,697.0	213.8	11.9
Fulton	1,112.8	299.0	16.7
Greene	1,402.7	273.2	15.4
Huntingdon	1,704.9	613.5	34.4
Indiana	1,883.0	420.8	23.5
Jefferson	1,308.3	402.4	22.5
Juniata	749.4	110.2	6.2
Lackawanna	774.9	324.0	17.9

Table 1 continued.

County	Total Stream Length (mi)	Length of EV/HQ Stream (mi)	Total Area in a 150' Wide Stream Buffer (mi²)
Lancaster	1,488.5	330.4	18.5
Lawrence	673.2	75.9	4.2
Lebanon	553.8	40.8	2.3
Lehigh	535.7	227.1	12.8
Luzerne	1,348.4	468.4	26.0
Lycoming	2,228.8	1161.4	65.3
McKean	1,958.5	900.8	50.2
Mercer	1,376.9	19.2	1.1
Mifflin	646.3	372.4	21.1
Monroe	989.6	850.9	46.9
Montgomery	851.0	22.4	1.2
Montour	299.1	0.9	0.1
Northampton	497.9	153.7	8.6
Northumberland	917.1	10.0	0.5
Perry	1,067.1	381.7	21.3
Philadelphia	114.2	0	0.0
Pike	941.4	904.3	50.2
Potter	2,191.7	1713.3	93.6
Schuylkill	1,040.3	101.1	5.7
Snyder	727.8	59.2	3.3
Somerset	2,048.4	766.5	42.8
Sullivan	817.6	432.3	24.4
Susquehanna	1,593.8	130.5	7.3
Tioga	1,834.9	486.5	27.2
Union	584.7	257.0	14.3
Venango	1,331.5	107.8	6.0
Warren	1,692.2	691.3	38.6
Washington	1,956.3	469.1	26.3
Wayne	1,447.7	1340.1	74.4
Westmoreland	2,209.0	498.3	27.9
Wyoming	547.9	193.5	10.7
York	1,651.5	121.2	6.8

Table 2. Summary of total percentage of total streams for each county that have been designated as EV or HQ and the total percentage of land area within each county that is within a 150-foot-wide stream buffer.

County	Percentage of stream miles designated as EV/HQ	Percentage of land area in stream buffer
Adams	10.2%	1.4%
Allegheny	3.7%	0.4%
Armstrong	17.3%	2.2%
Beaver	20.1%	2.3%
Bedford	45.0%	6.1%
Berks	14.5%	1.2%
Blair	23.7%	2.6%
Bradford	6.9%	0.7%
Bucks	16.3%	1.6%
Butler	23.7%	2.7%
Cambria	20.3%	2.2%
Cameron	78.0%	8.1%
Carbon	53.7%	4.5%
Centre	49.6%	4.5%
Chester	43.7%	4.4%
Clarion	14.9%	1.7%
Clearfield	31.1%	2.9%
Clinton	75.5%	6.7%
Columbia	16.4%	1.5%
Crawford	19.2%	2.6%
Cumberland	25.6%	2.0%
Dauphin	9.2%	1.0%
Delaware	10.1%	1.1%
Elk	53.6%	5.7%
Erie	8.6%	1.2%
Fayette	27.8%	3.1%
Forest	63.6%	6.6%
Franklin	12.6%	1.5%
Fulton	26.9%	3.8%
Greene	19.5%	2.7%
Huntingdon	36.0%	3.9%
Indiana	22.4%	2.8%
Jefferson	30.8%	3.4%
Juniata	14.7%	1.6%
Lackawanna	41.8%	3.8%
Lancaster	22.2%	1.9%

Table 2 continued.

County	Percentage of stream miles designated as EV/HQ	Percentage of land area in stream buffer
Lawrence	11.3%	1.1%
Lebanon	7.4%	0.6%
Lehigh	42.4%	3.7%
Luzerne	34.7%	2.9%
Lycoming	52.1%	5.3%
McKean	46.0%	5.1%
Mercer	1.4%	0.2%
Mifflin	57.6%	5.1%
Monroe	86.0%	7.6%
Montgomery	2.6%	0.3%
Montour	0.3%	0.0%
Northampton	30.9%	2.3%
Northumberland	1.1%	0.1%
Perry	35.8%	3.8%
Philadelphia	0.0%	0.0%
Pike	96.1%	8.8%
Potter	78.2%	8.7%
Schuylkill	9.7%	0.7%
Snyder	8.1%	1.0%
Somerset	37.4%	4.0%
Sullivan	52.9%	5.4%
Susquehanna	8.2%	0.9%
Tioga	26.5%	2.4%
Union	44.0%	4.5%
Venango	8.1%	0.9%
Warren	40.9%	4.3%
Washington	24.0%	3.1%
Wayne	92.6%	9.9%
Westmoreland	22.6%	2.7%
Wyoming	35.3%	2.7%
York	7.3%	0.8%

Table 3. Summary of total percentage of total streams for each county that have been designated as EV or HQ and the total percentage of land area within each county that is within a 150-foot-wide stream buffer sorted by highest to lowest percentage of land area within a 150' wide stream buffer.

County	Percentage of stream miles designated as EV/HQ	Percentage of land area in stream buffer
Wayne	92.60%	9.90%
Pike	96.10%	8.80%
Potter	78.20%	8.70%
Cameron	78.00%	8.10%
Monroe	86.00%	7.60%
Clinton	75.50%	6.70%
Forest	63.60%	6.60%
Bedford	45.00%	6.10%
Elk	53.60%	5.70%
Sullivan	52.90%	5.40%
Lycoming	52.10%	5.30%
McKean	46.00%	5.10%
Mifflin	57.60%	5.10%
Carbon	53.70%	4.50%
Centre	49.60%	4.50%
Union	44.00%	4.50%
Chester	43.70%	4.40%
Warren	40.90%	4.30%
Somerset	37.40%	4.00%
Huntingdon	36.00%	3.90%
Fulton	26.90%	3.80%
Lackawanna	41.80%	3.80%
Perry	35.80%	3.80%
Lehigh	42.40%	3.70%
Jefferson	30.80%	3.40%
Fayette	27.80%	3.10%
Washington	24.00%	3.10%
Clearfield	31.10%	2.90%
Luzerne	34.70%	2.90%
Indiana	22.40%	2.80%
Butler	23.70%	2.70%
Greene	19.50%	2.70%
Westmoreland	22.60%	2.70%
Wyoming	35.30%	2.70%

Table 3 continued.

County	Percentage of stream miles designated as EV/HQ	Percentage of land area in stream buffer
Blair	23.70%	2.60%
Crawford	19.20%	2.60%
Tioga	26.50%	2.40%
Beaver	20.10%	2.30%
Northampton	30.90%	2.30%
Armstrong	17.30%	2.20%
Cambria	20.30%	2.20%
Cumberland	25.60%	2.00%
Lancaster	22.20%	1.90%
Clarion	14.90%	1.70%
Bucks	16.30%	1.60%
Juniata	14.70%	1.60%
Columbia	16.40%	1.50%
Franklin	12.60%	1.50%
Adams	10.20%	1.40%
Berks	14.50%	1.20%
Erie	8.60%	1.20%
Delaware	10.10%	1.10%
Lawrence	11.30%	1.10%
Dauphin	9.20%	1.00%
Snyder	8.10%	1.00%
Susquehanna	8.20%	0.90%
Venango	8.10%	0.90%
York	7.30%	0.80%
Bradford	6.90%	0.70%
Schuylkill	9.70%	0.70%
Lebanon	7.40%	0.60%
Allegheny	3.70%	0.40%
Montgomery	2.60%	0.30%
Mercer	1.40%	0.20%
Northumberland	1.10%	0.10%
Montour	0.30%	0.00%
Philadelphia	0.00%	0.00%

VI. Resources and References

Corradini, K. (n.d.). "Streams CH93 Designated Use 2013_08."

<http://www.pasda.psu.edu/uci/MetadataDisplay.aspx?entry=PASDA&file=StreamsCH93DesignatedUse2013_08.xml&dataset=1098> (Jul. 11, 2014).

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Pennsylvania Department of Environmental Projection. (2014). *Integrated Water Quality Monitoring and Assessment Report.*
<http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/2014%20Integrated%20List/2014_Pennsylvania_Integrated_Water_Quality_Monitoring_and_Assessment_Report.pdf> (Jul. 11, 2014).

APPENDIX

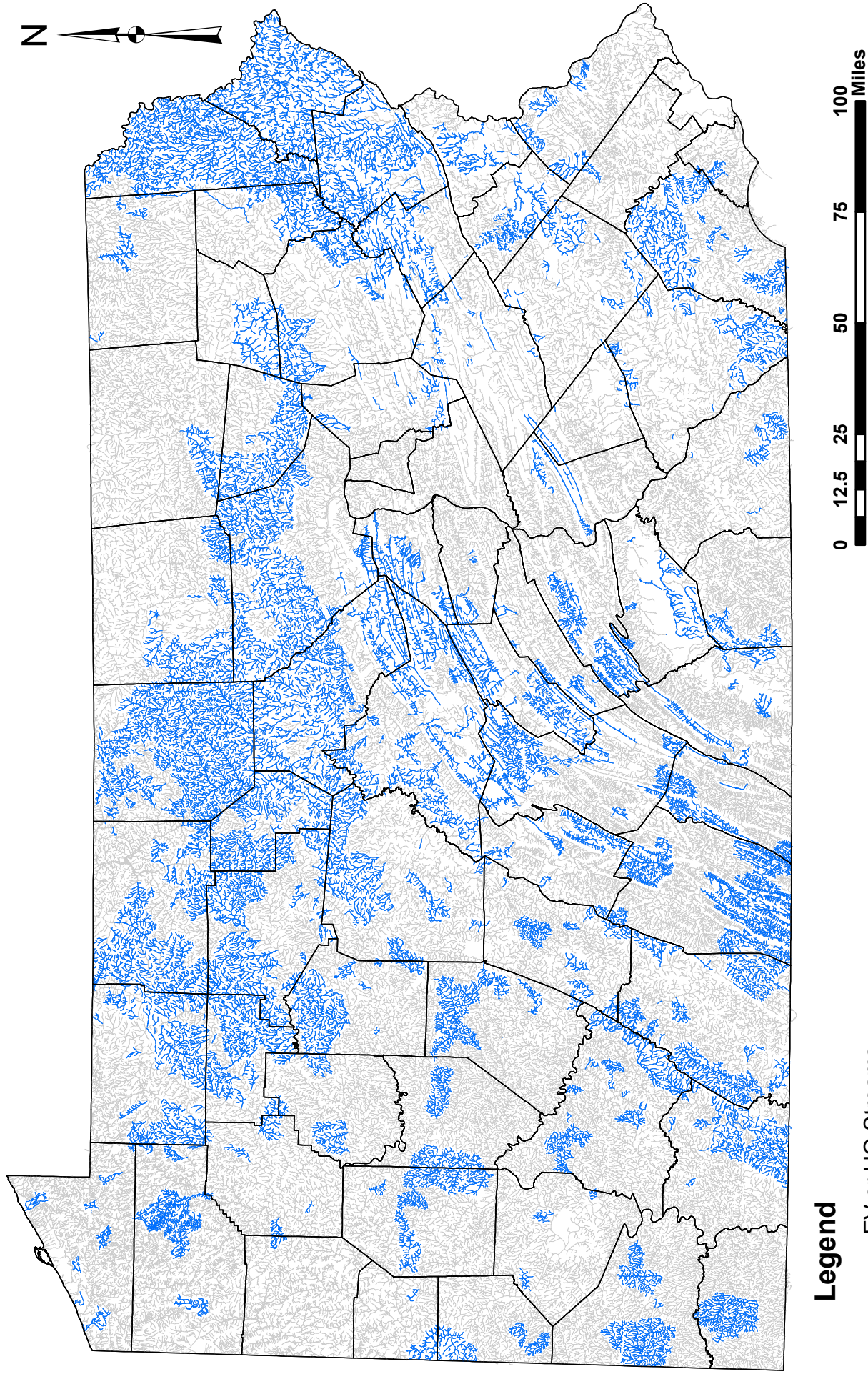
State and County Maps of Exceptional Value and High Quality Streams

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

Check the PA Code for the most up-to-date stream designations: www.pacode.com.

Data reference: Corrandini, K.J., (2013) "Streams CH93 Designated Use 2013_08." Penn State Institutes of the Environment. Pennsylvania State University. Available online at:

http://www.pasda.psu.edu/uci/MetadataDisplay.aspx?entry=PASDA&file=StreamsCH93DesignatedUse2013_08.xml&dataset=1098



Legend

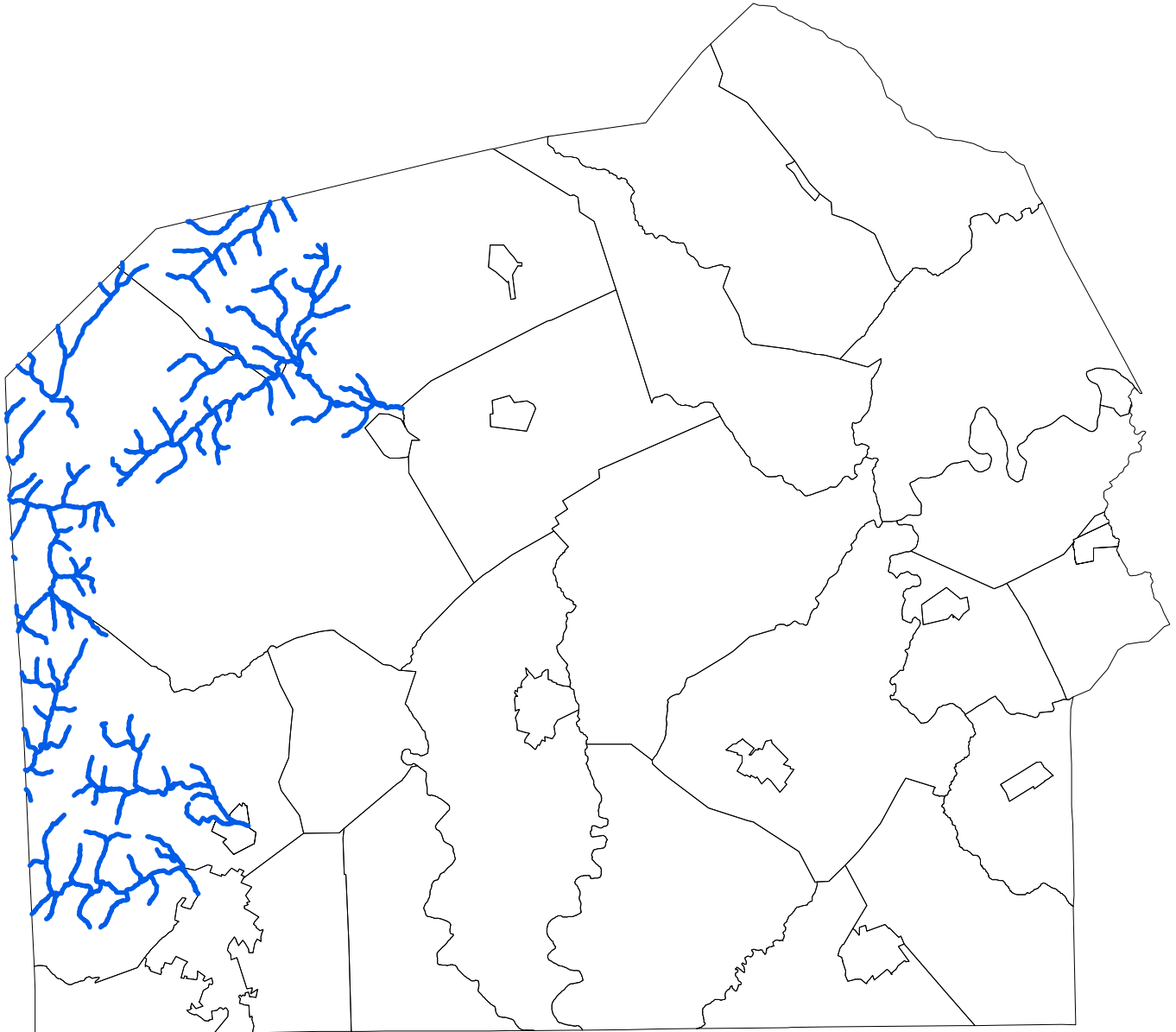
— EV or HQ Streams

— Non EV or HQ Streams

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013. Check the PA Code for the most up-to-date stream designations (<http://www.pacode.com/>).

GIS Data Reference: Corrandini, K.J. (2013) "Streams CH93 Designated Use 2013_08." Penn State Institutes of the Environment. The Pennsylvania State University. Available online at: http://www.pasda.psu.edu/uci/MetadataDisplay.aspx?entry=PASDA&file=StreamsCH93DesignatedUse2013_08.xml&dataset=1098.

Adams County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

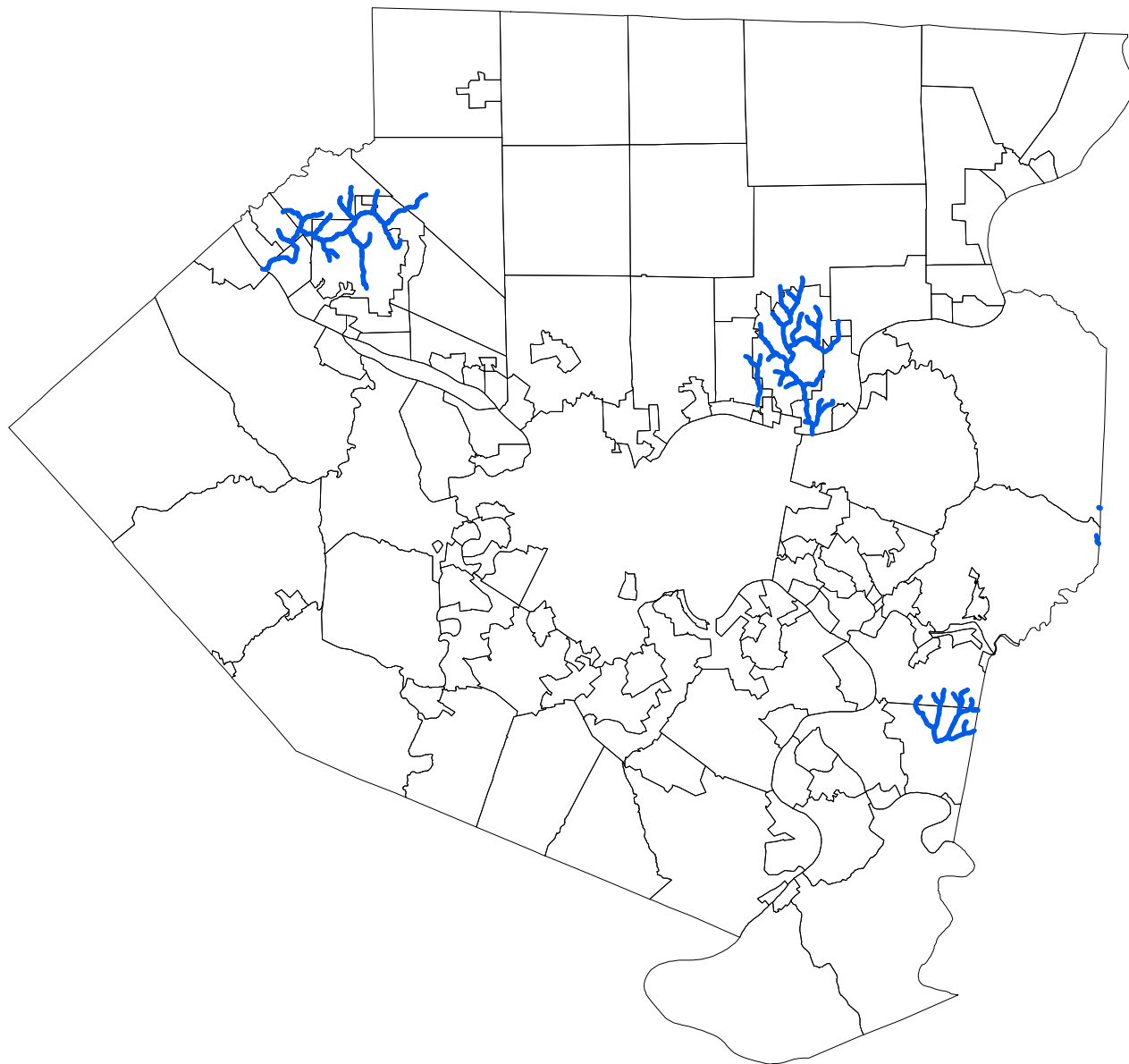
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

Check the PA Code for the most up-to-date stream designations: www.pacode.com.

Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Allegheny County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

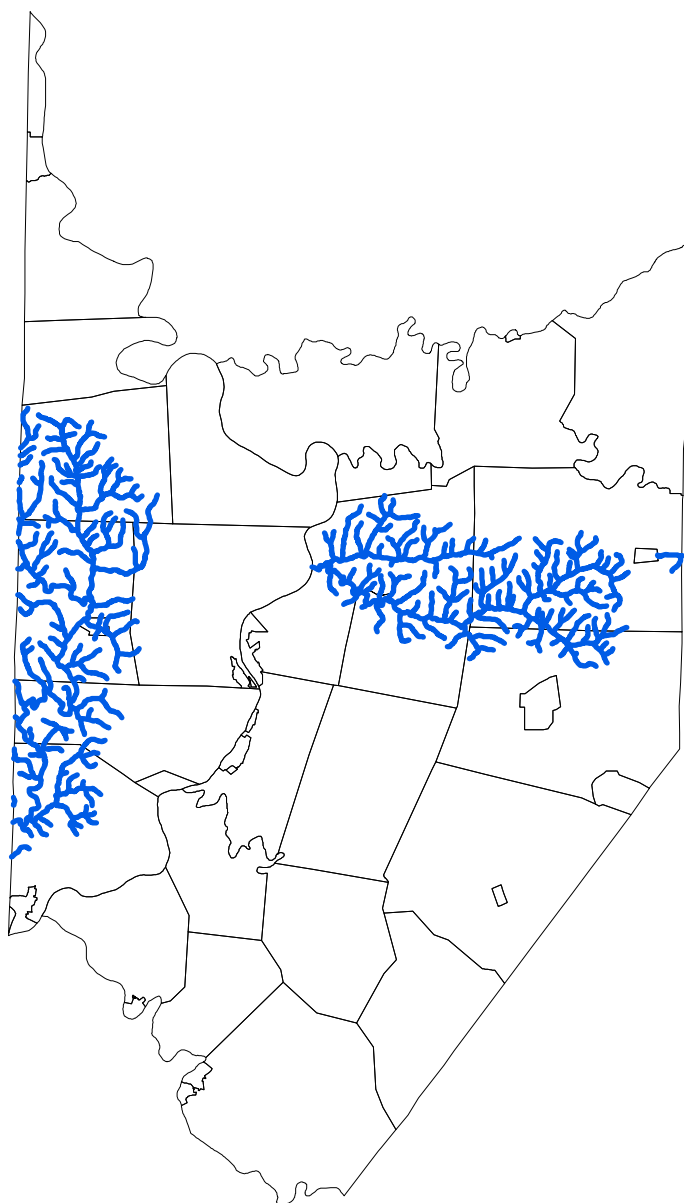
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Armstrong County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

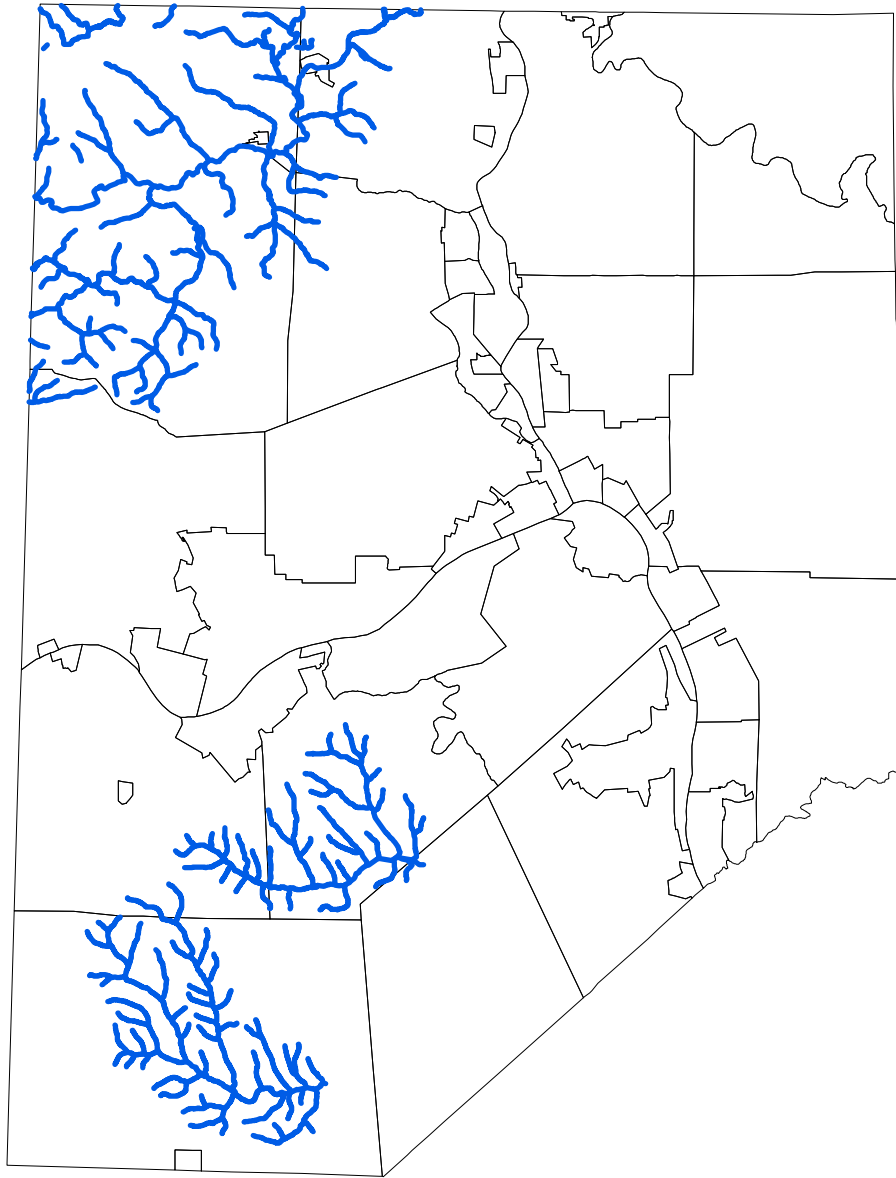
* as of August 2013

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Beaver County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

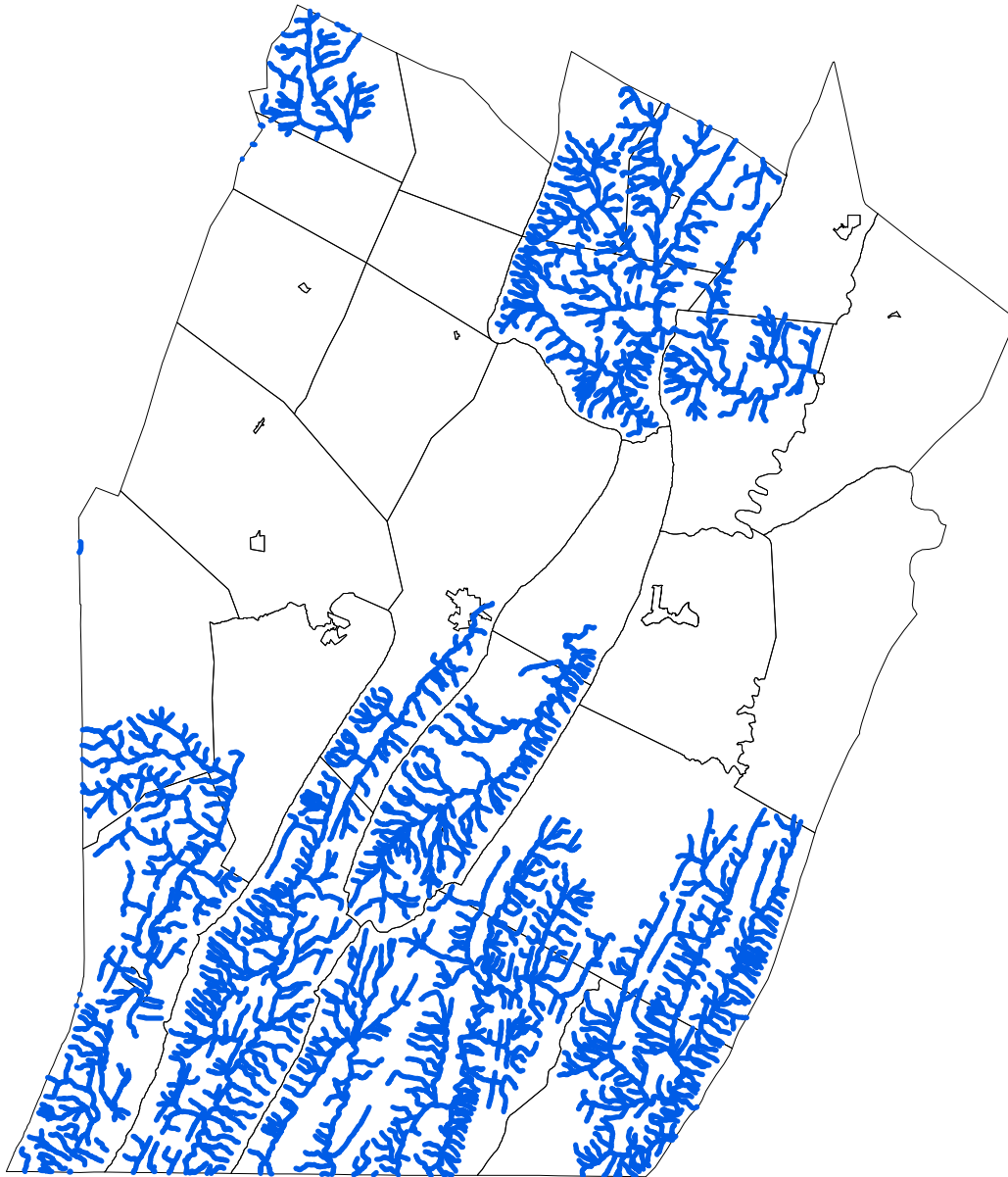
* as of August 2013

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Check the PA Code for the most up-to-date stream designations: www.pacode.com.

Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Bedford County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

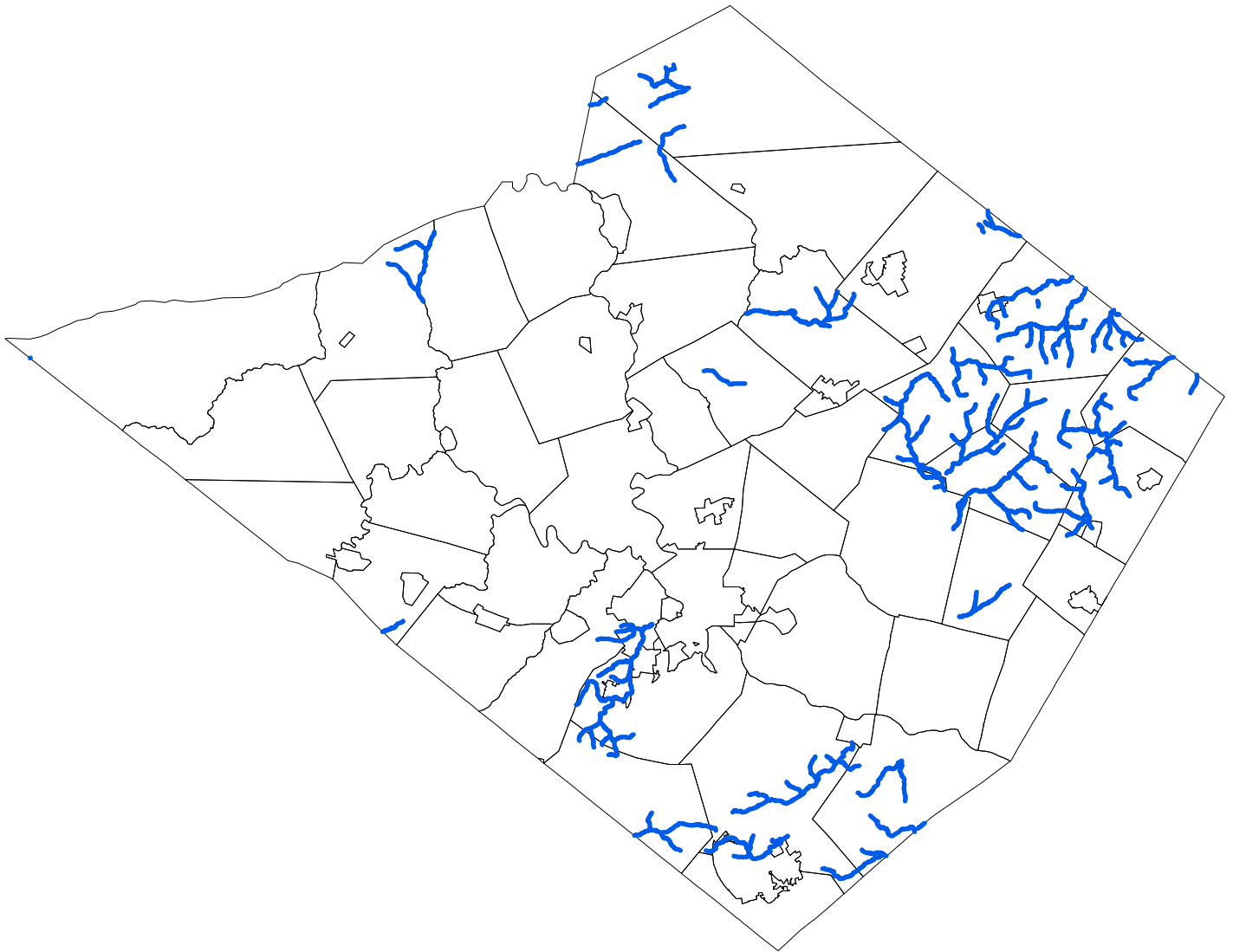
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

Check the PA Code for the most up-to-date stream designations: www.pacode.com.

Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Berks County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

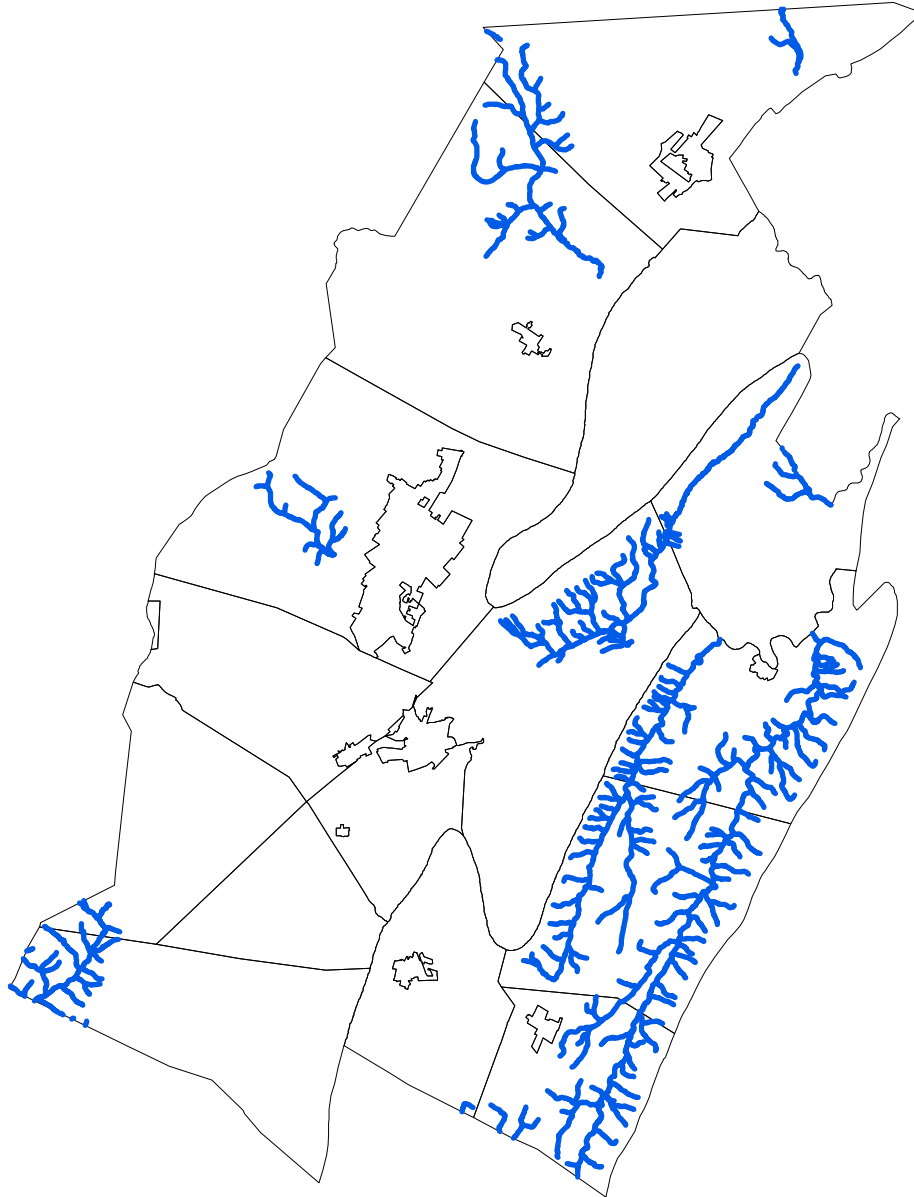
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Blair County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

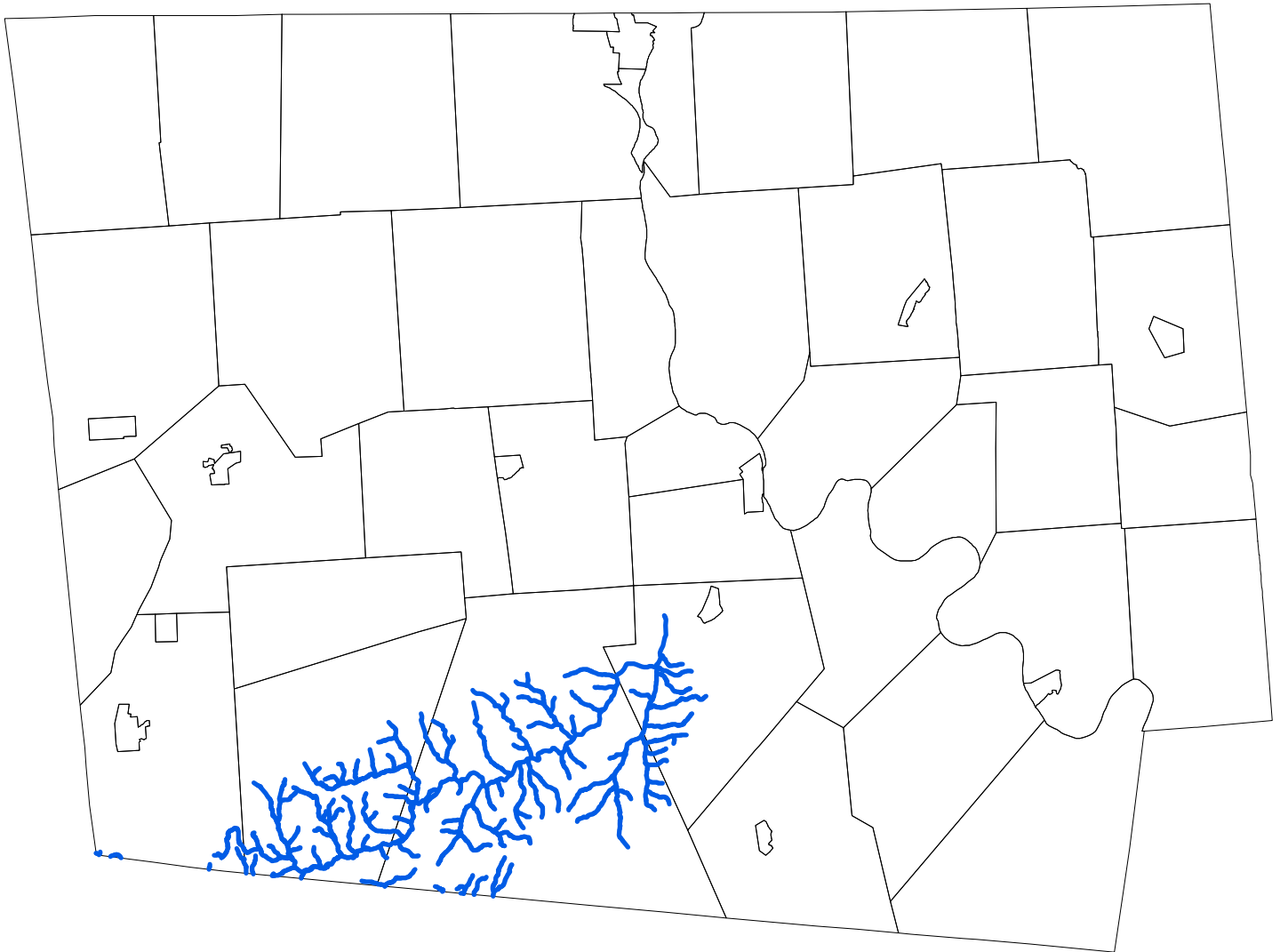
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Bradford County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

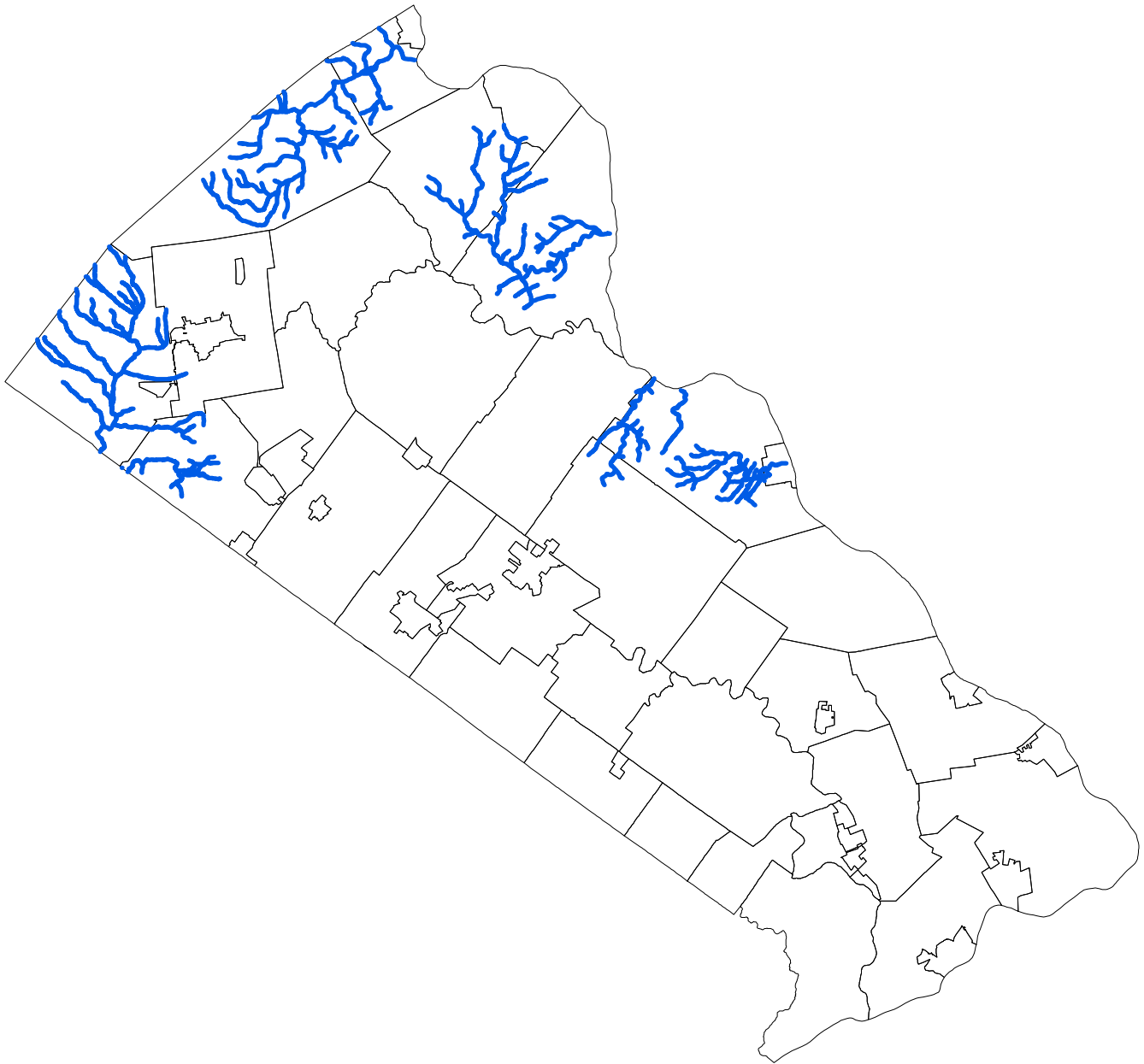
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Bucks County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

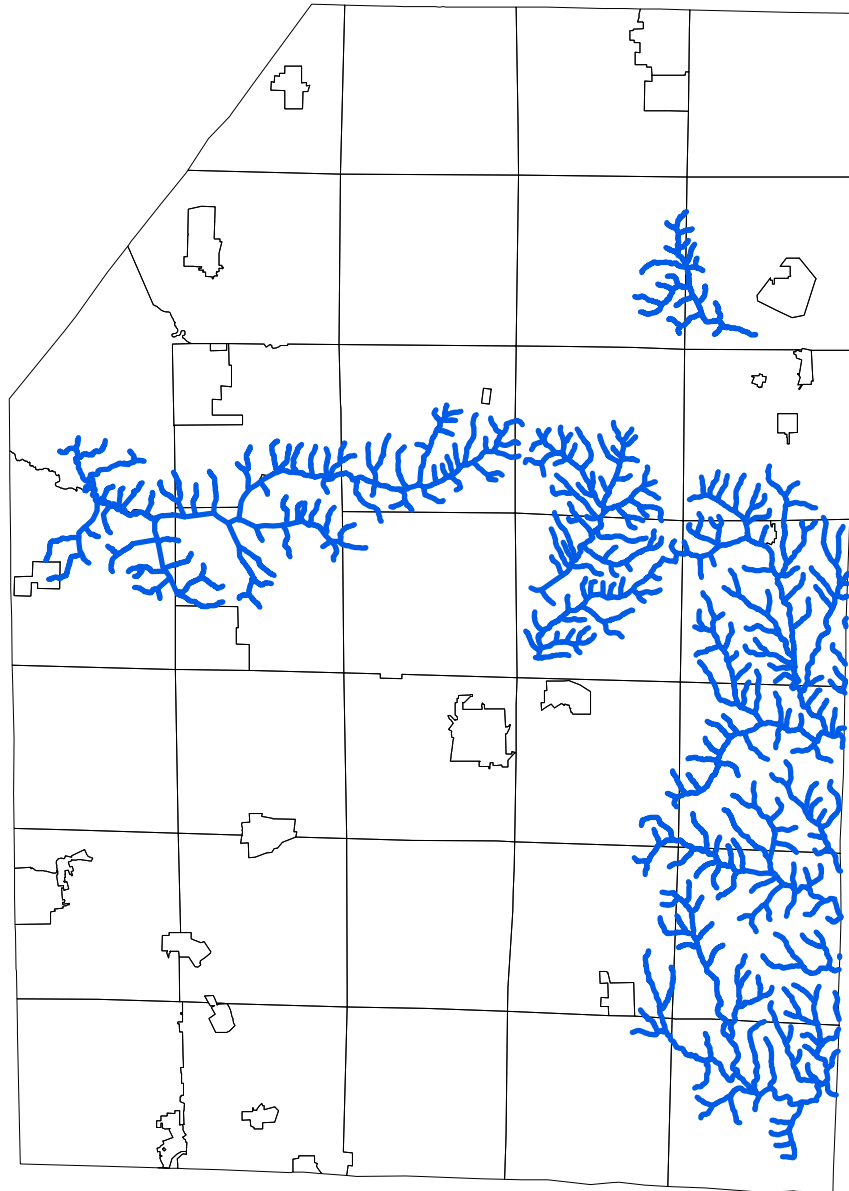
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Butler County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

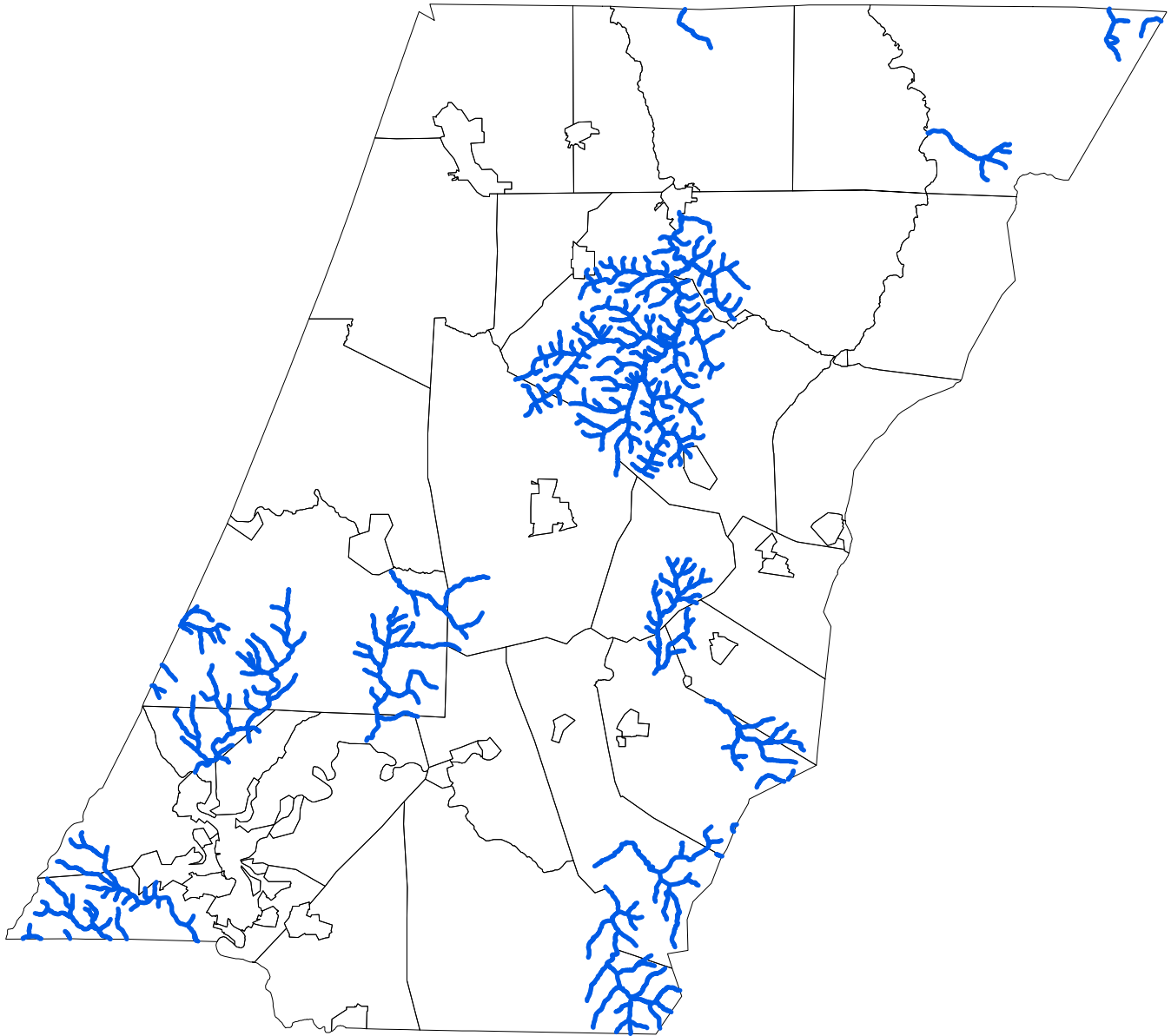
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Cambria County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

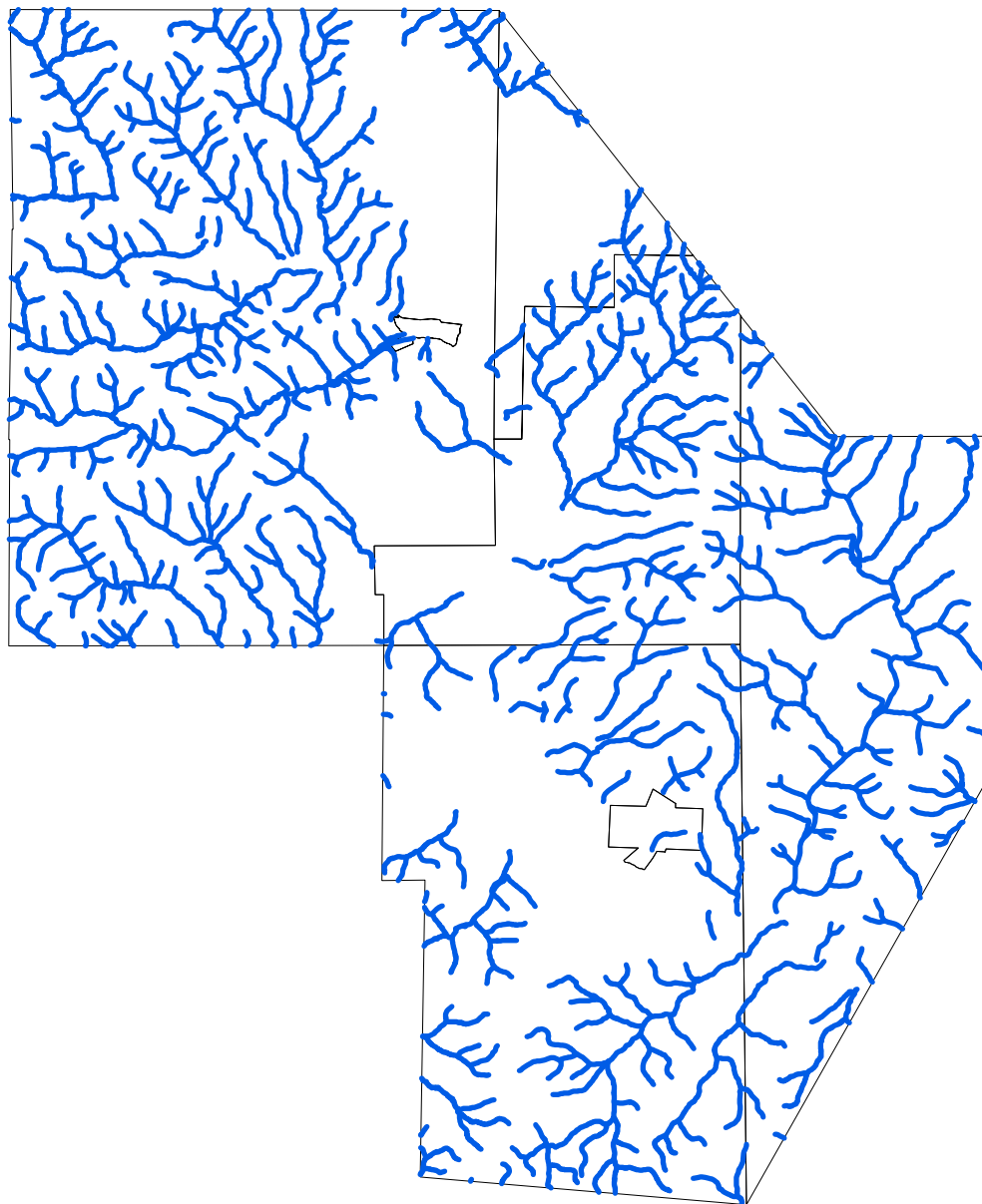
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Cameron County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

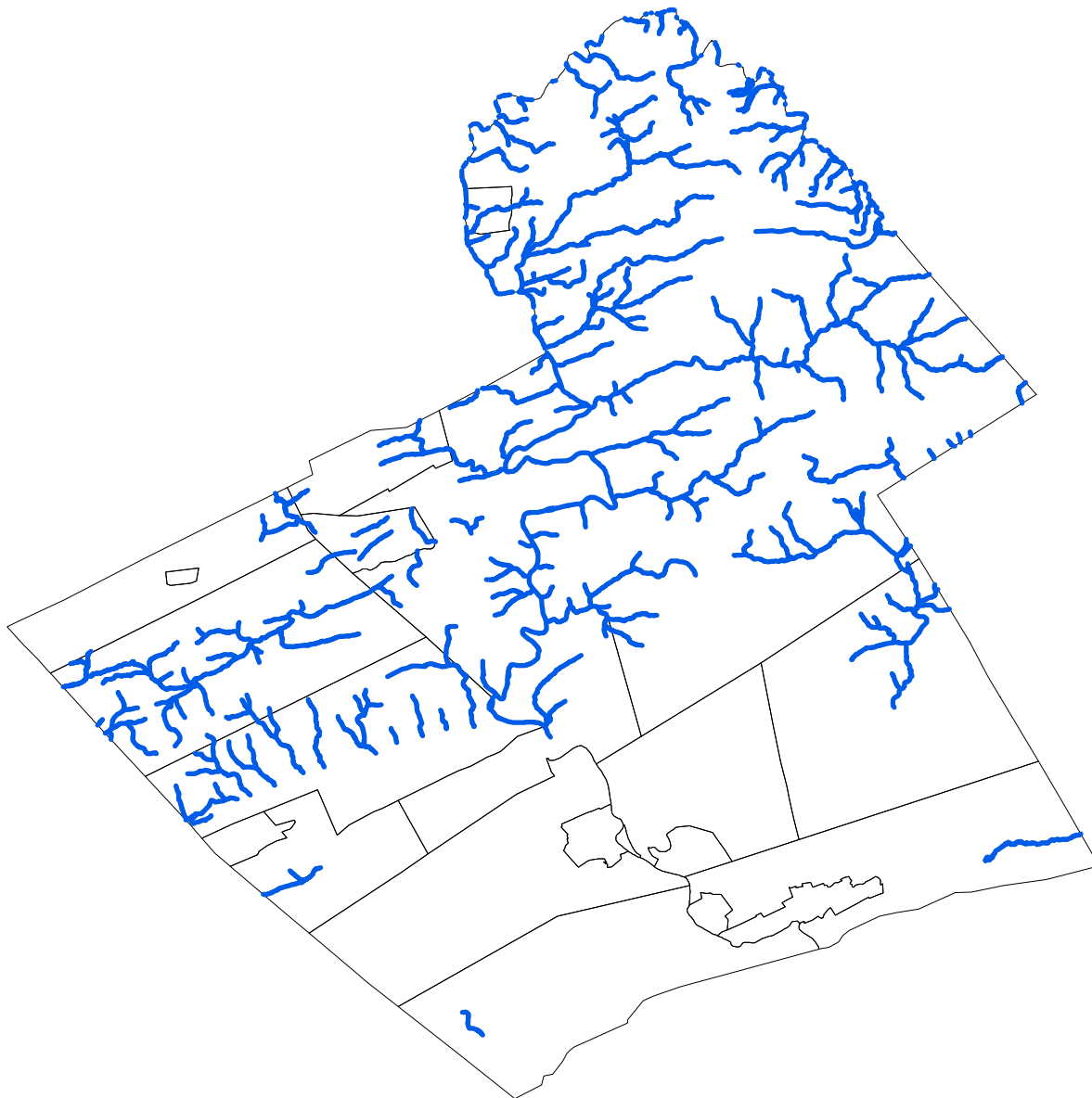
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Carbon County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

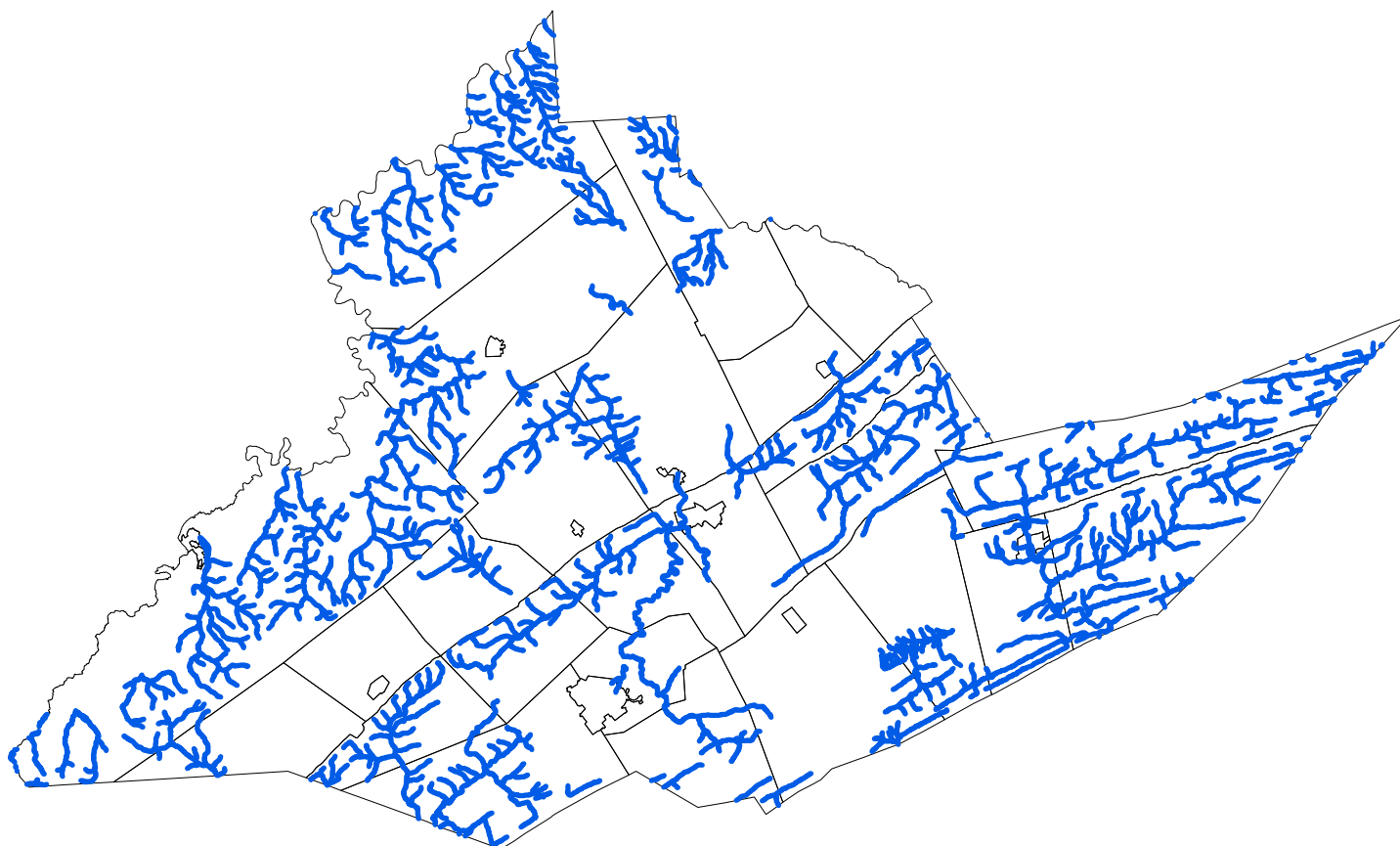
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Centre County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

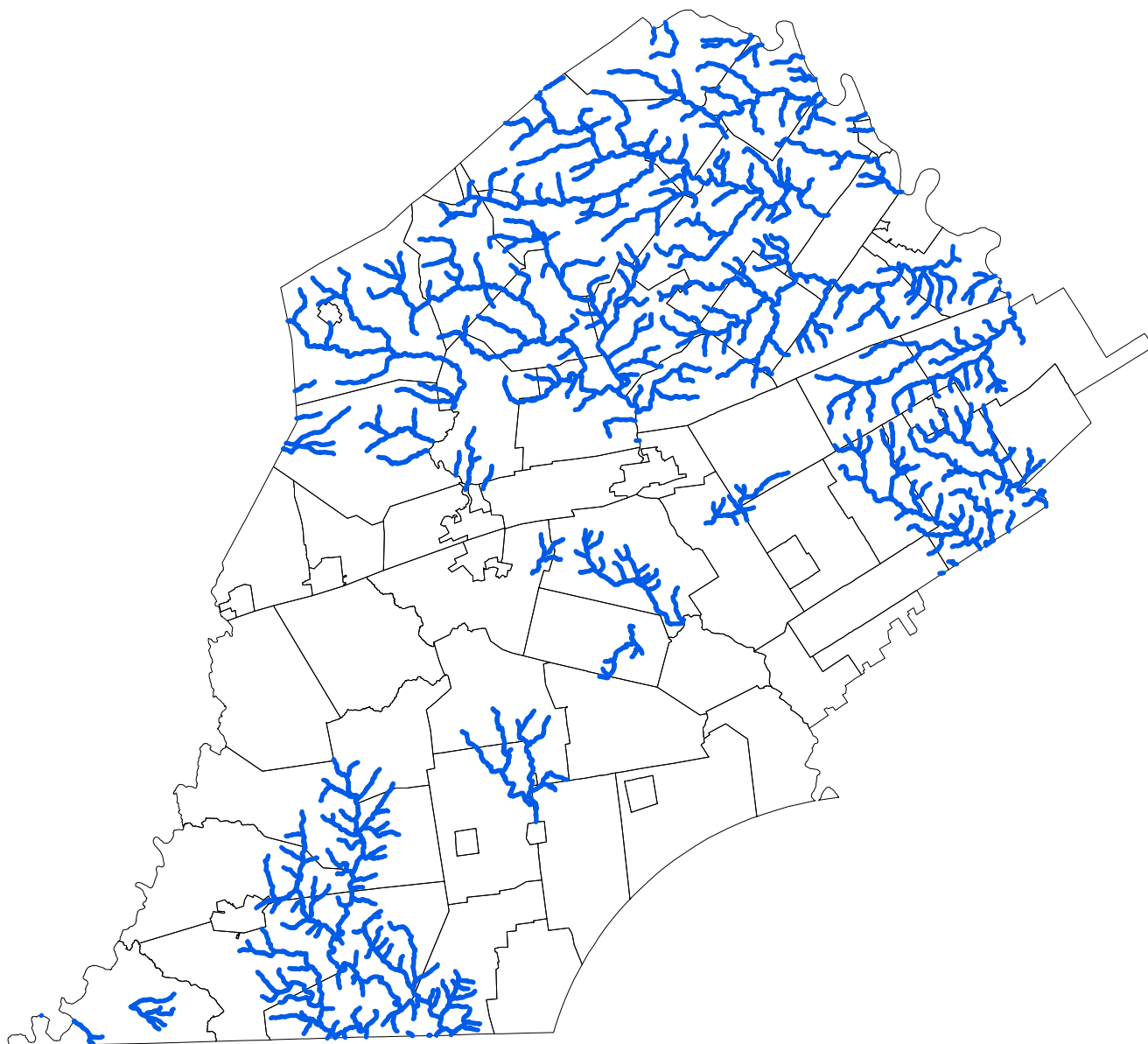
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Chester County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

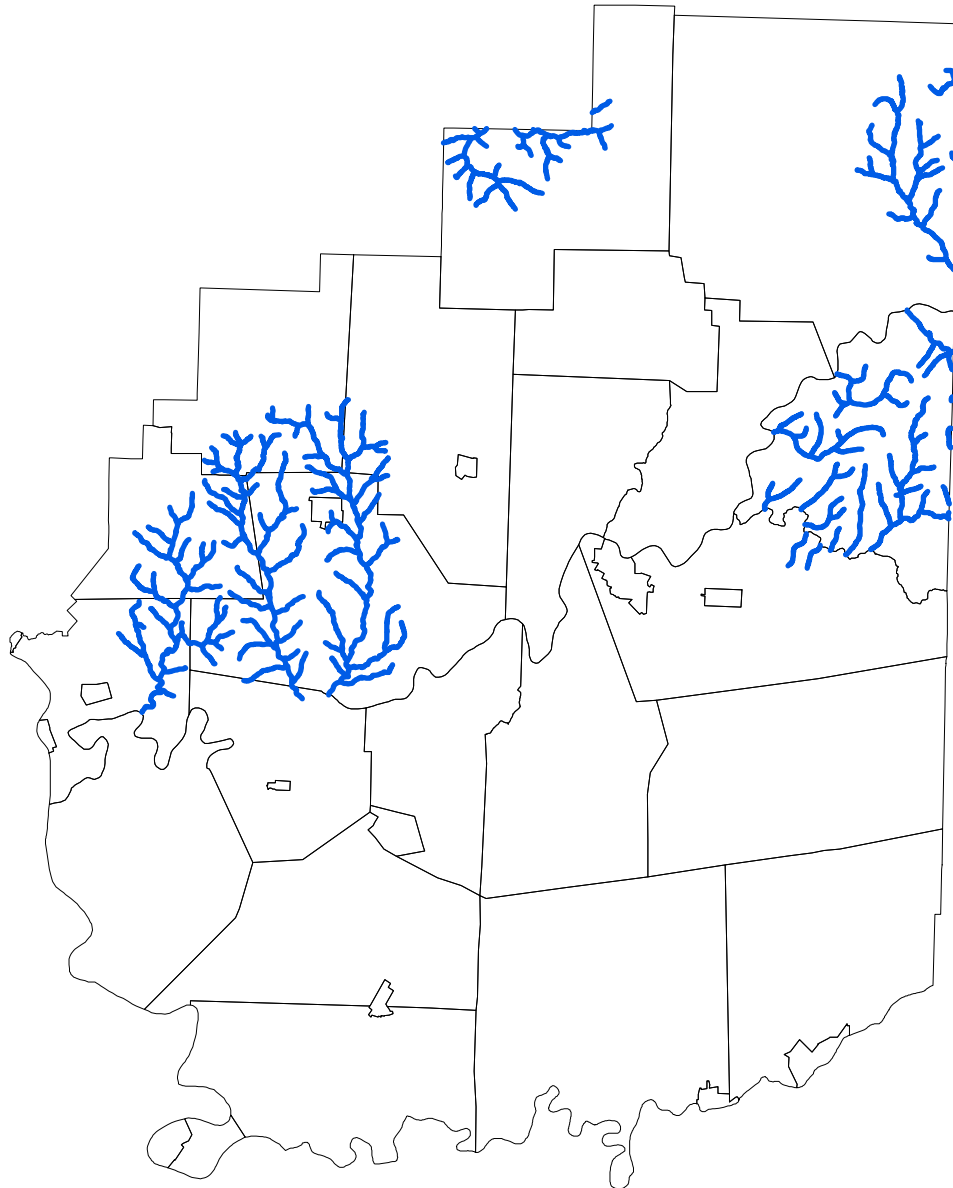
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Clarion County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

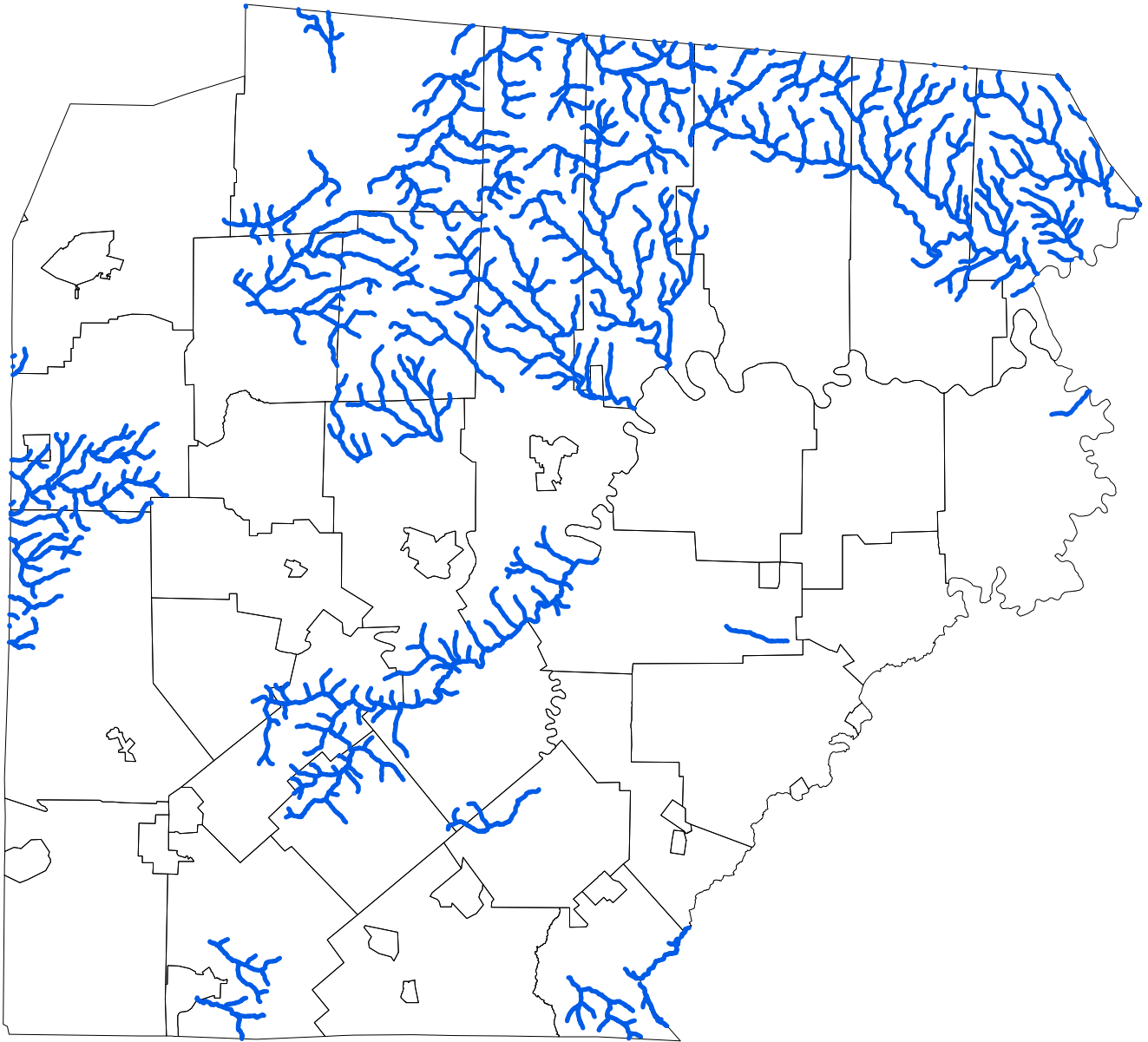
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Clearfield County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Clinton County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

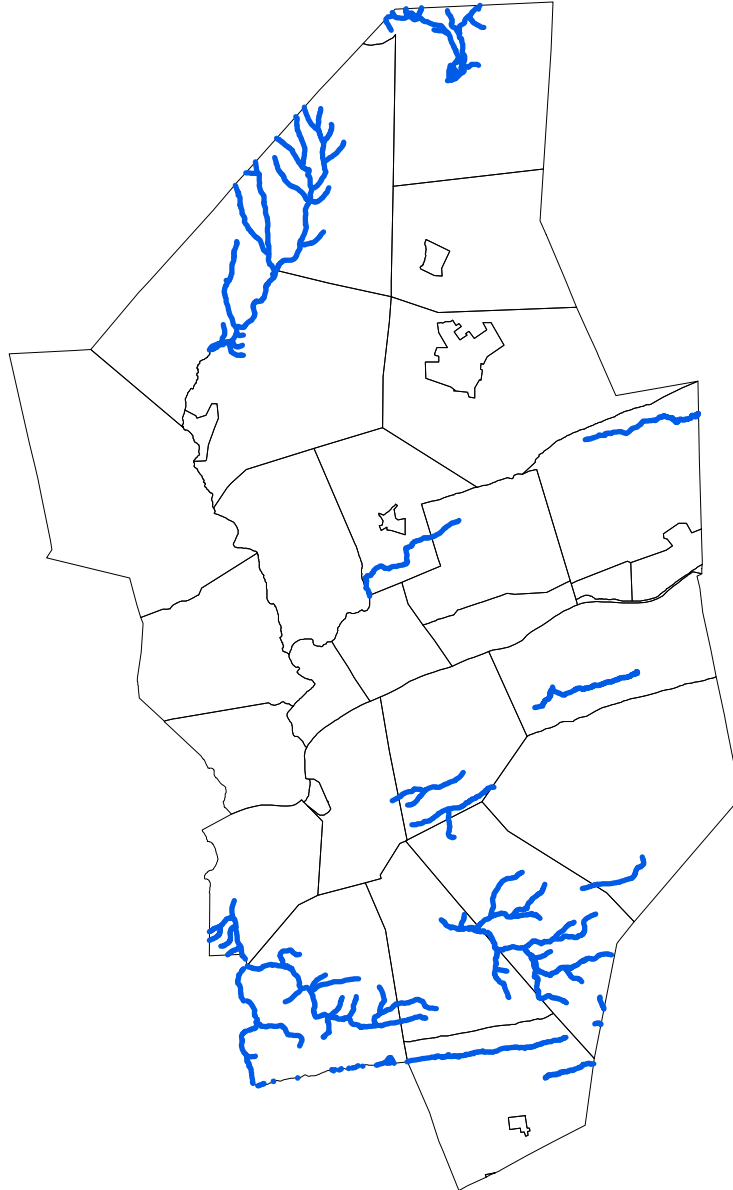
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Columbia County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

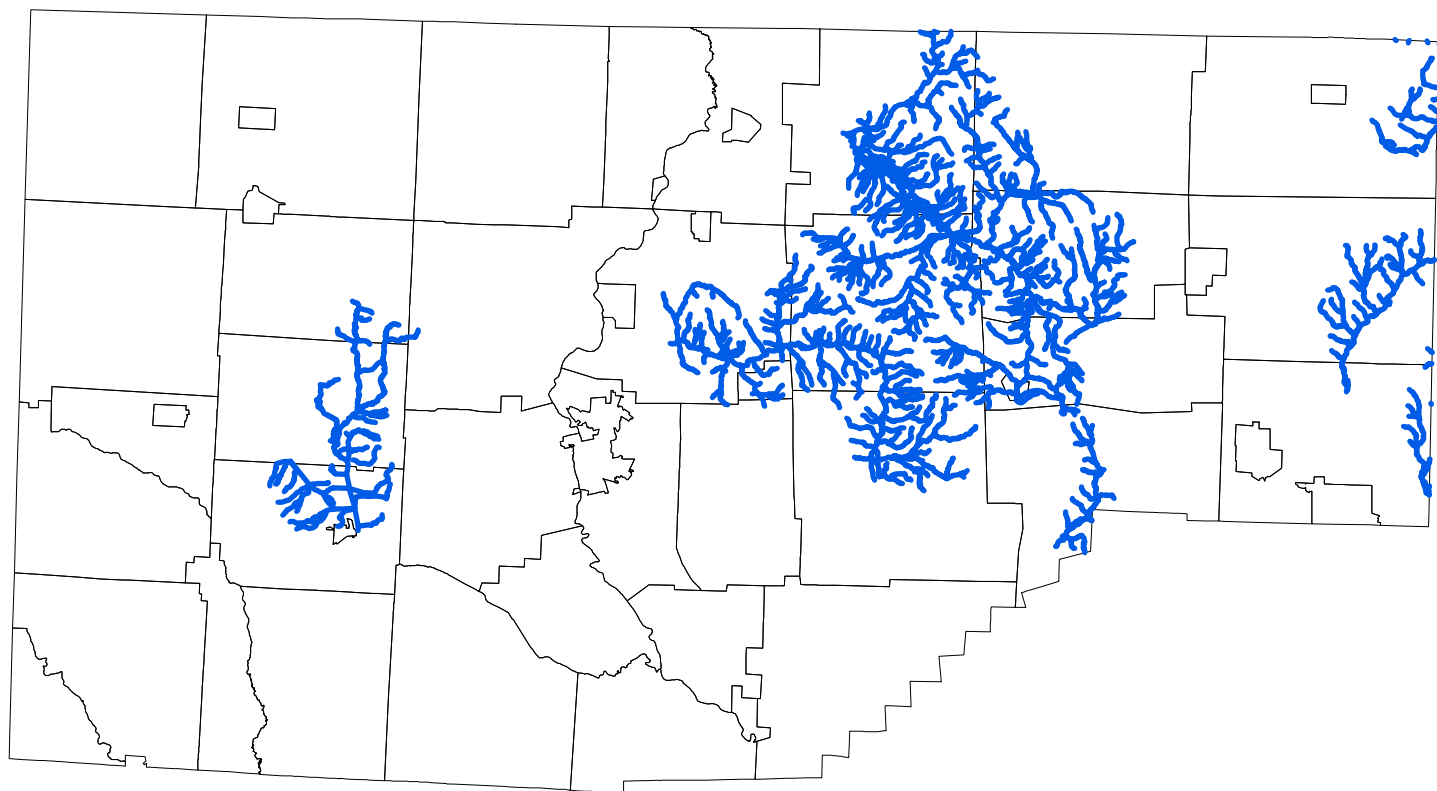
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Crawford County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

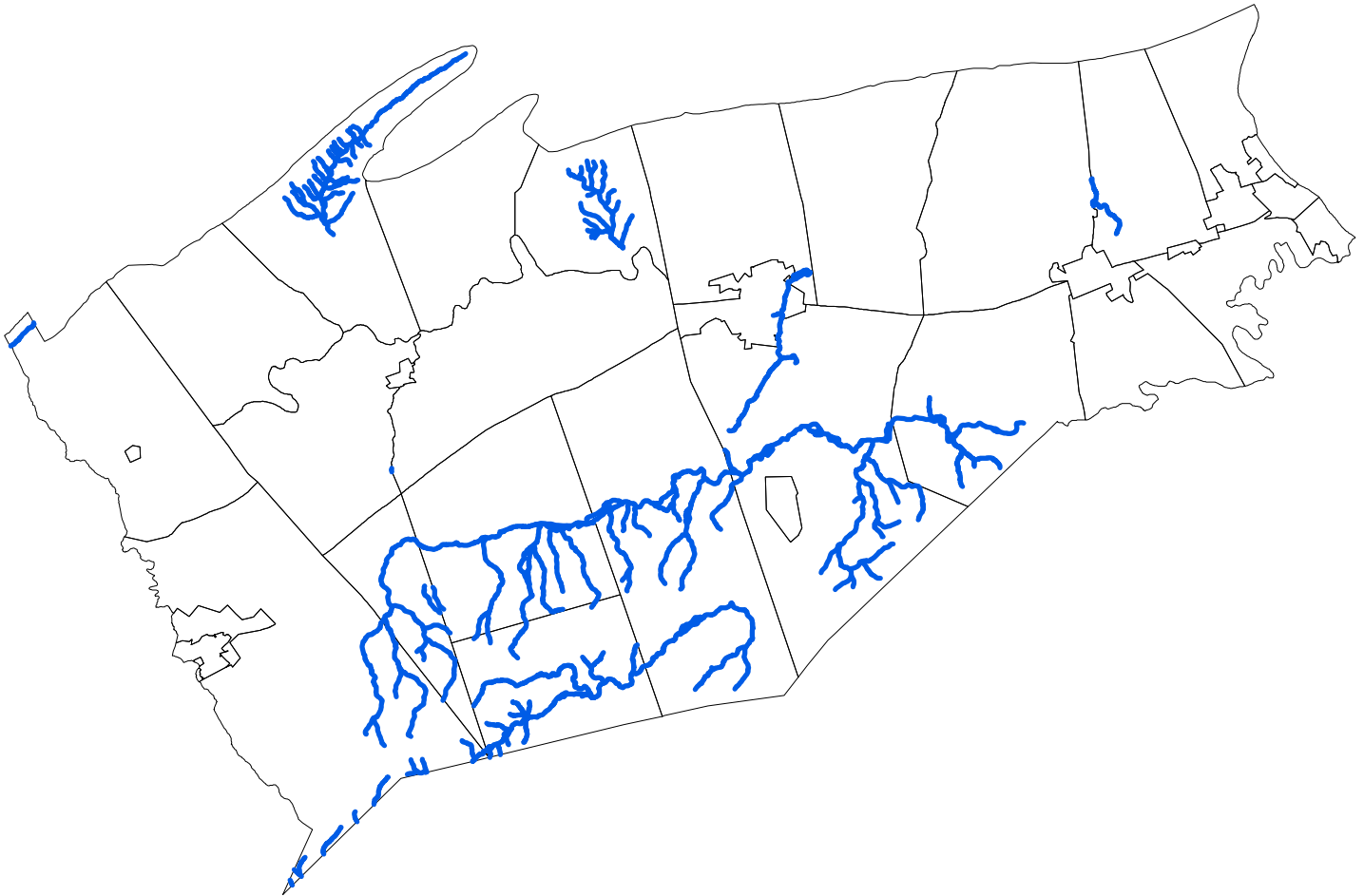
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Cumberland County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

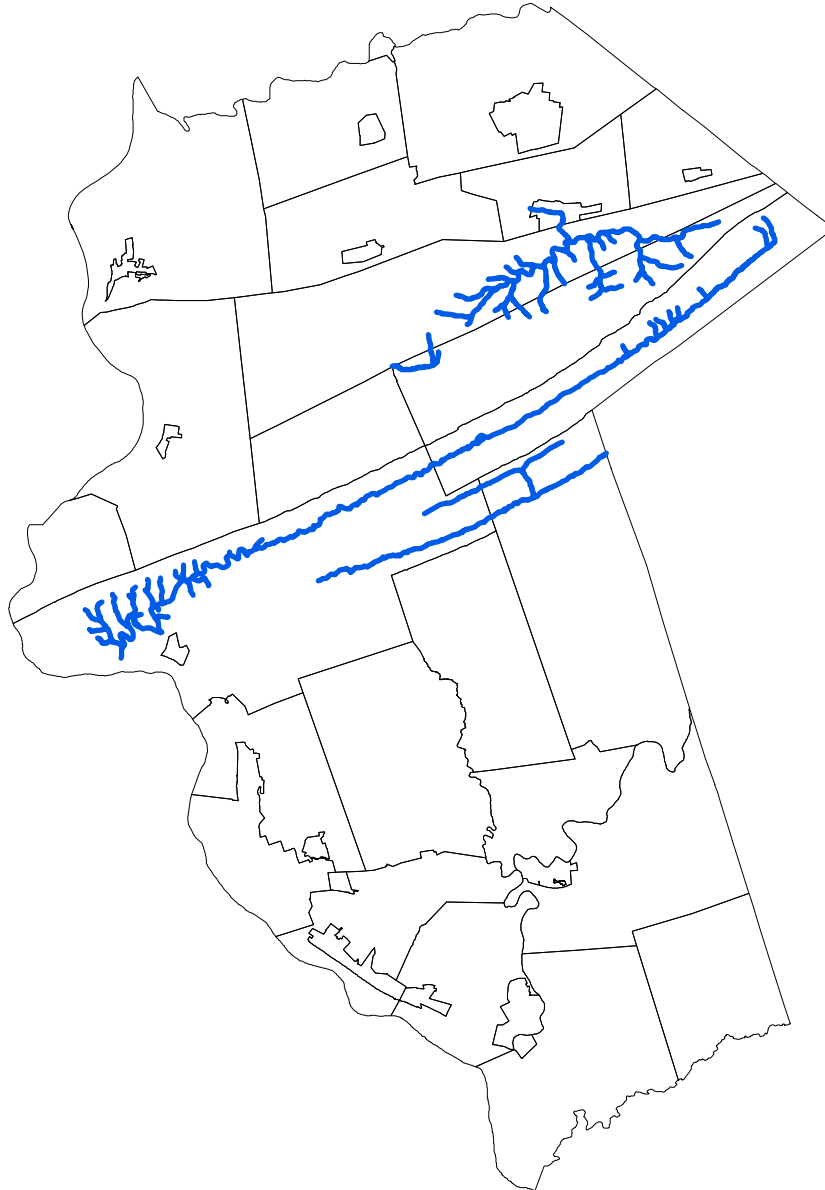
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Dauphin County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

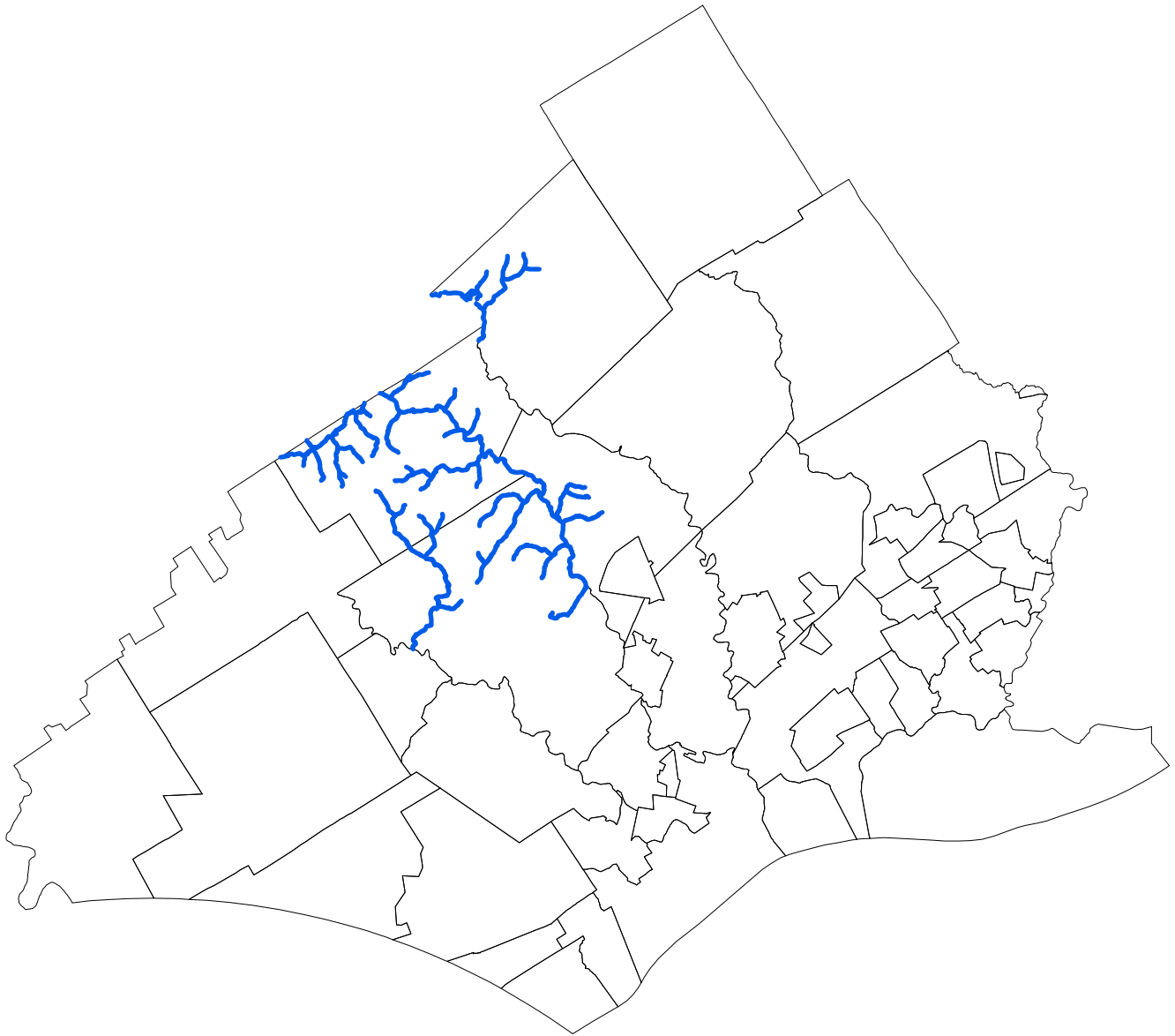
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Delaware County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

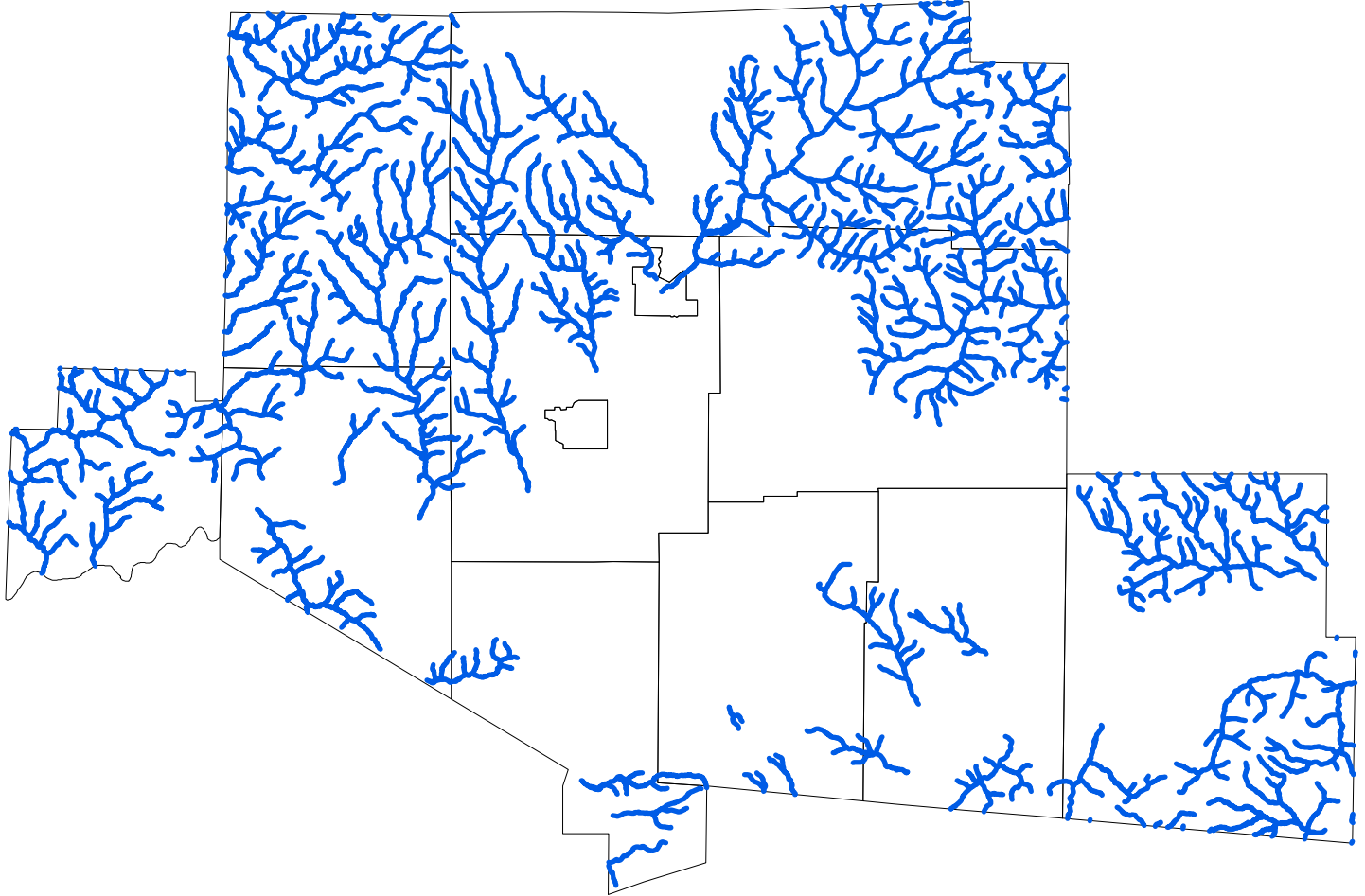
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Elk County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

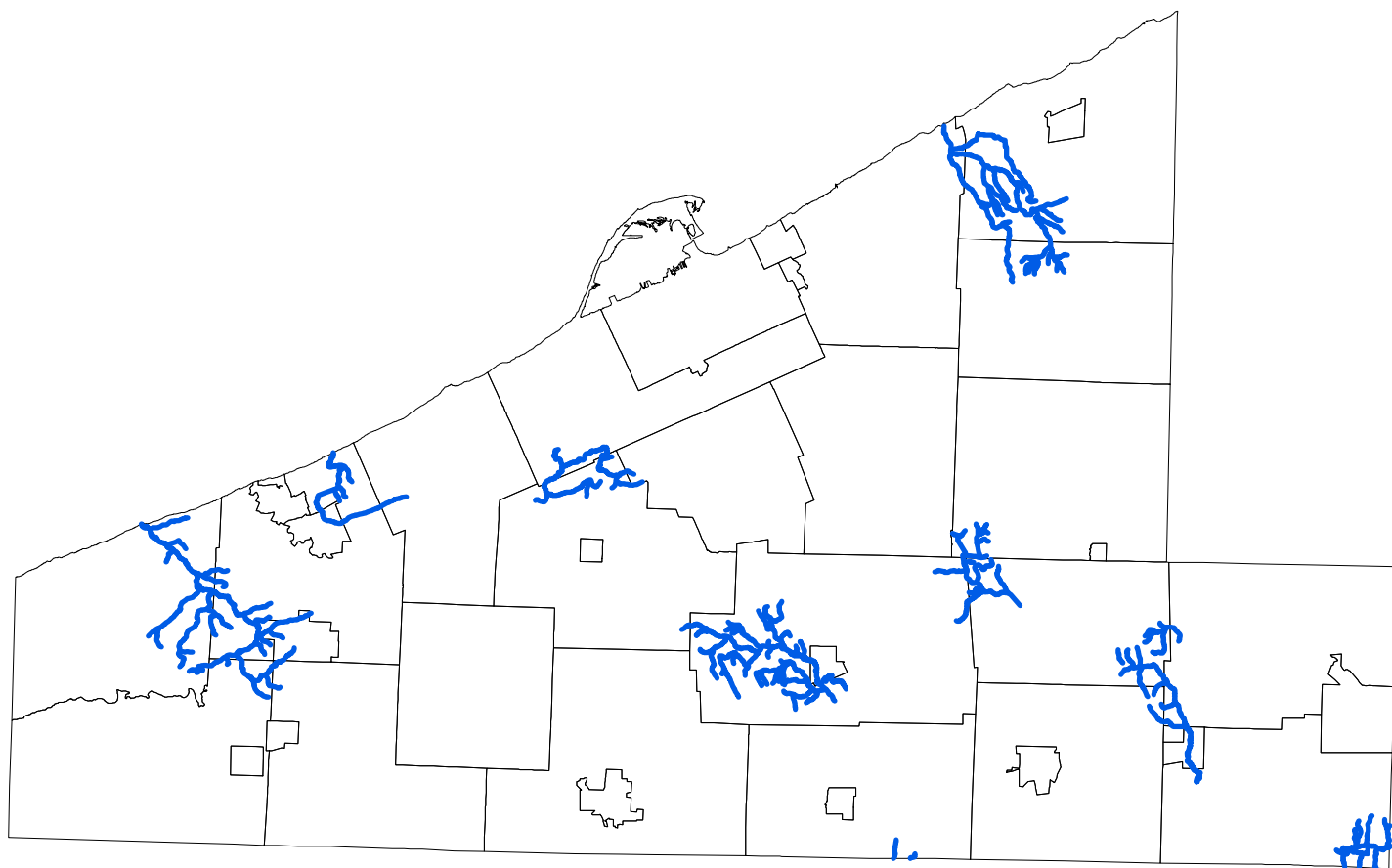
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Erie County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

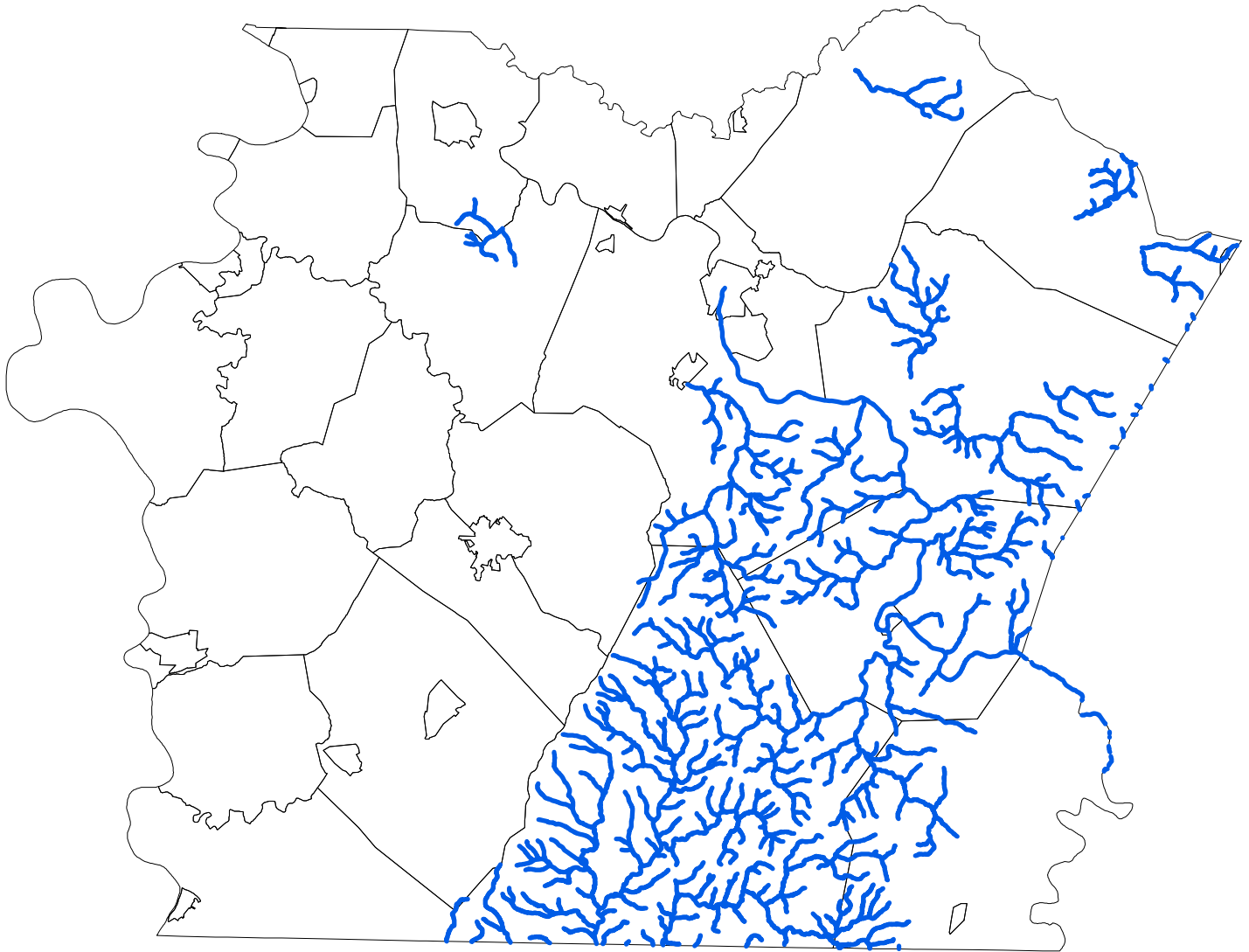
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Fayette County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

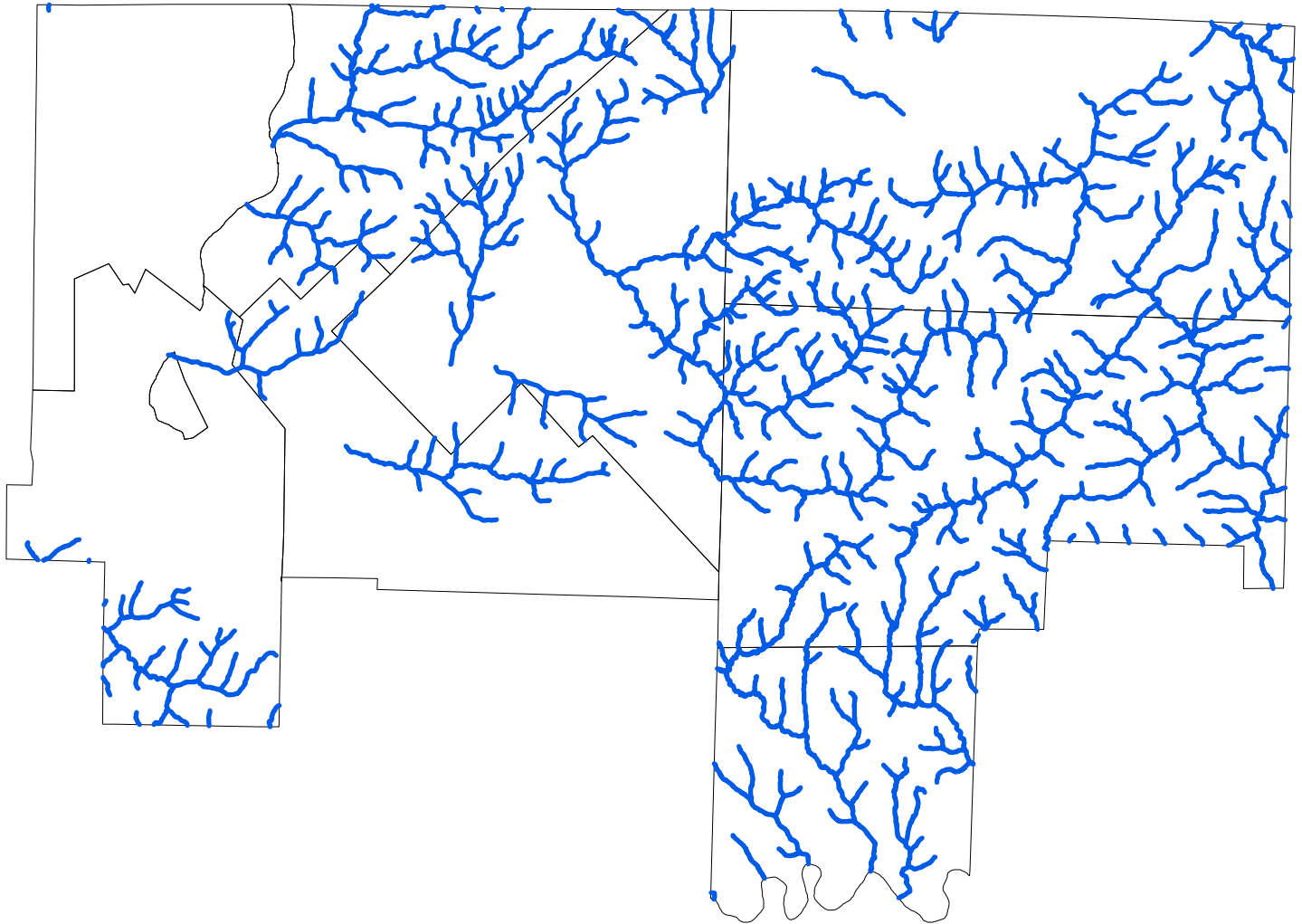
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Forest County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

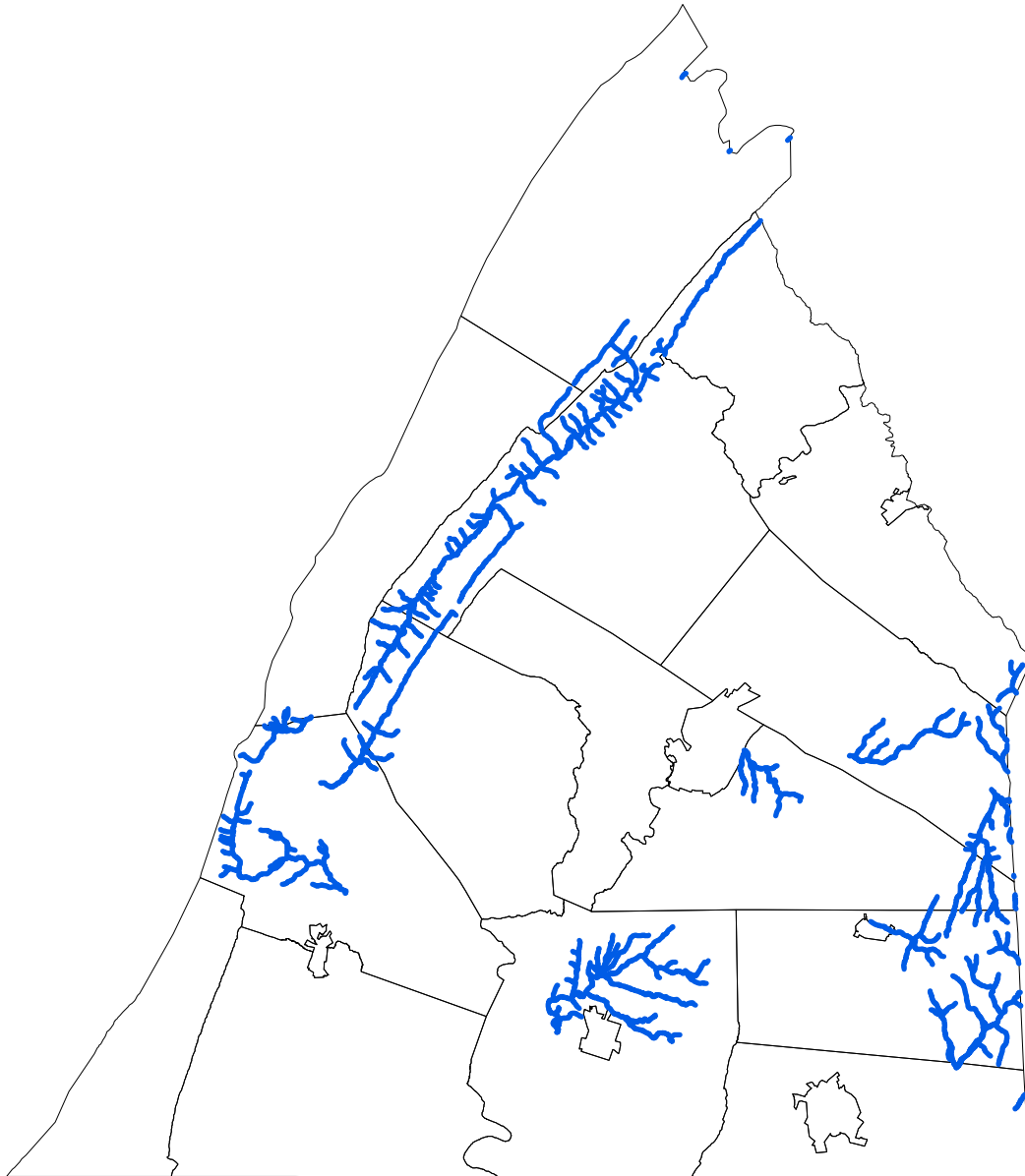
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Franklin County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

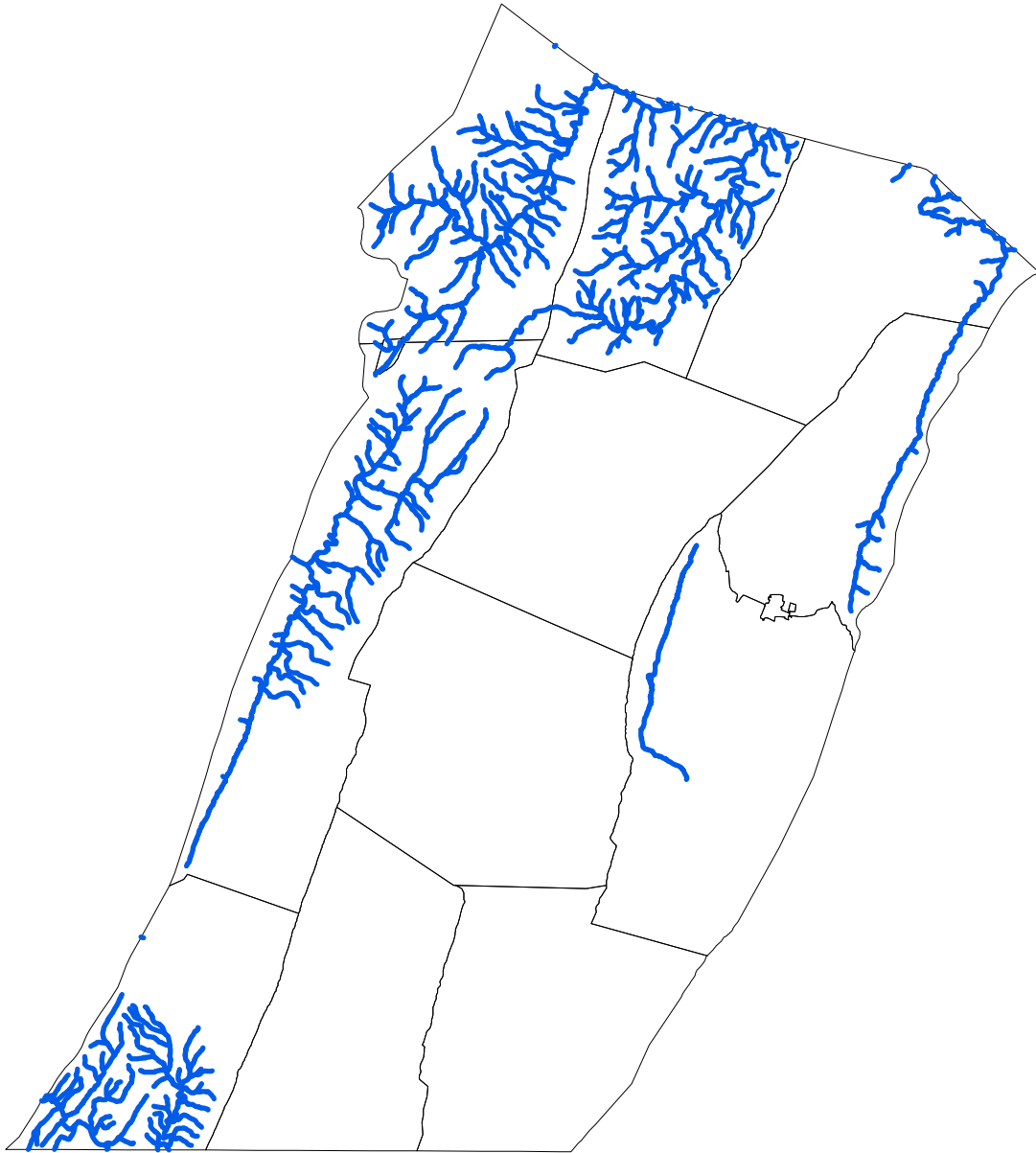
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Fulton County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

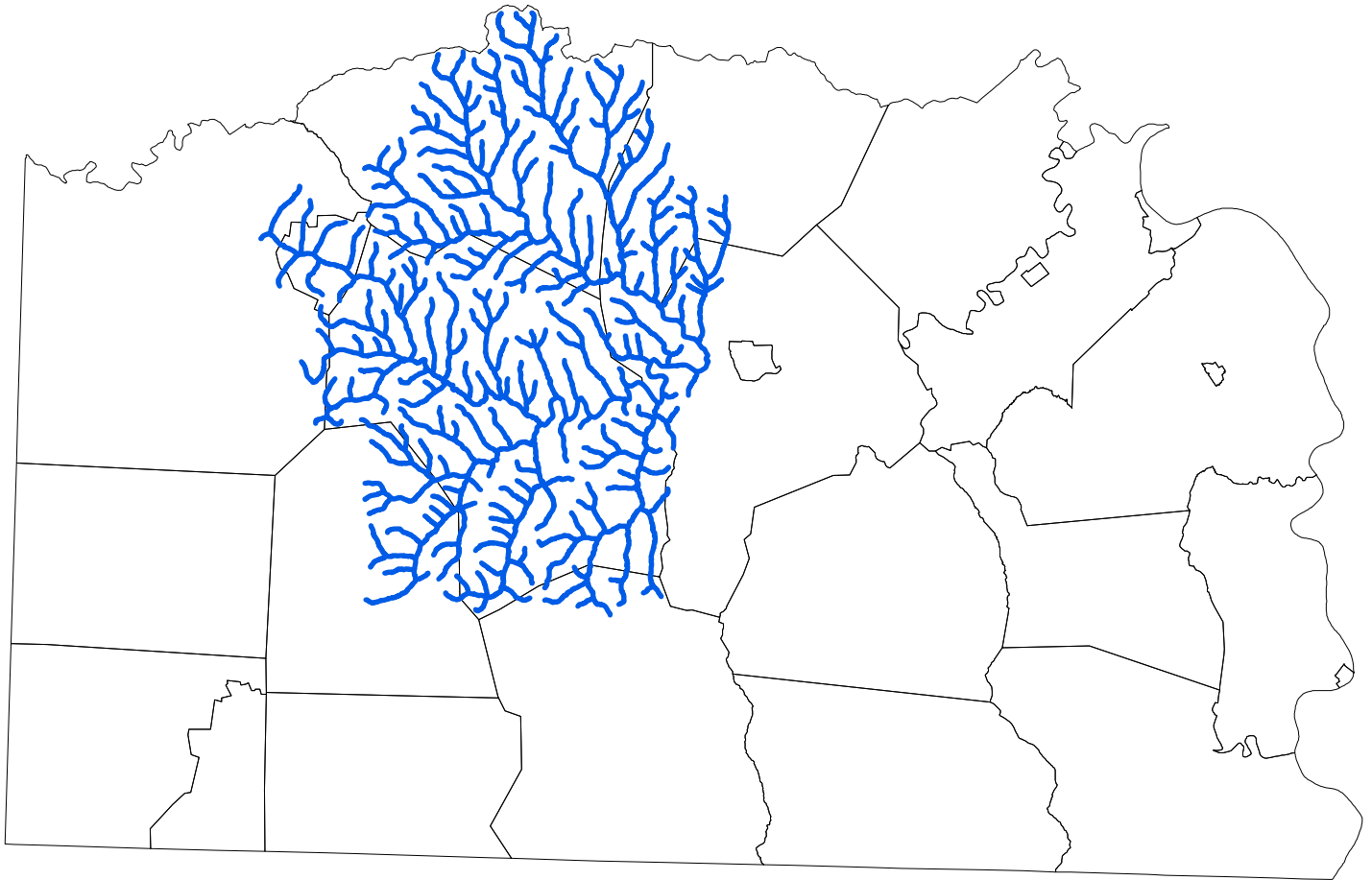
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Greene County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

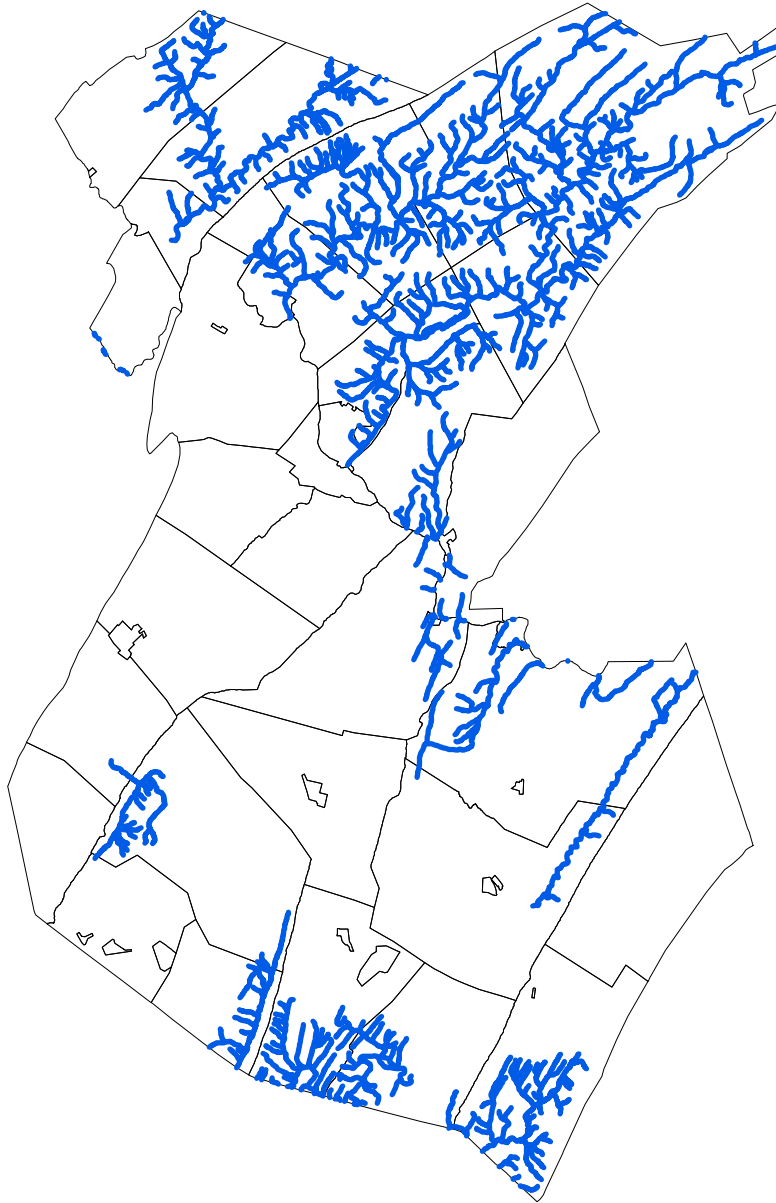
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Huntingdon County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

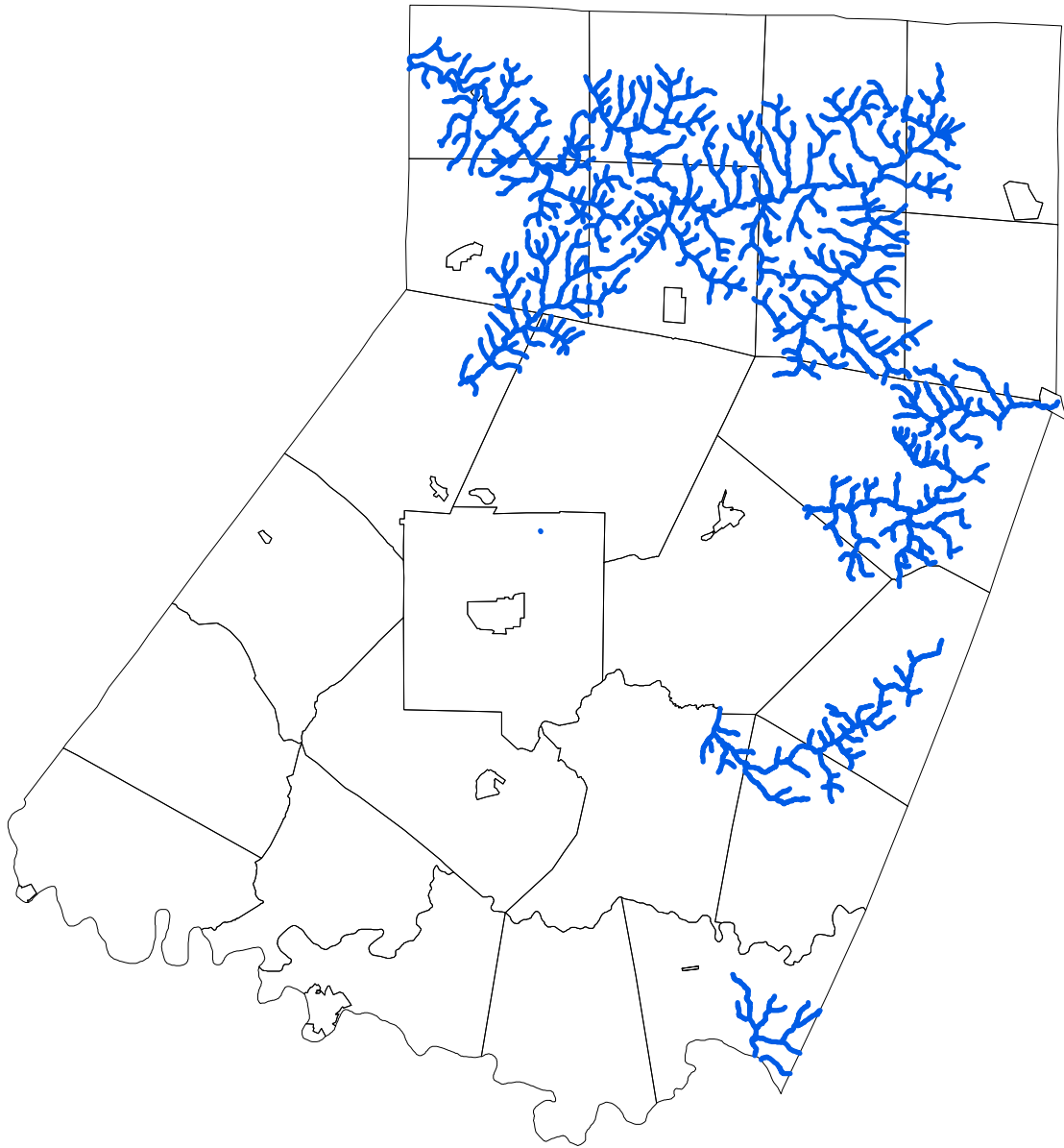
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Indiana County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

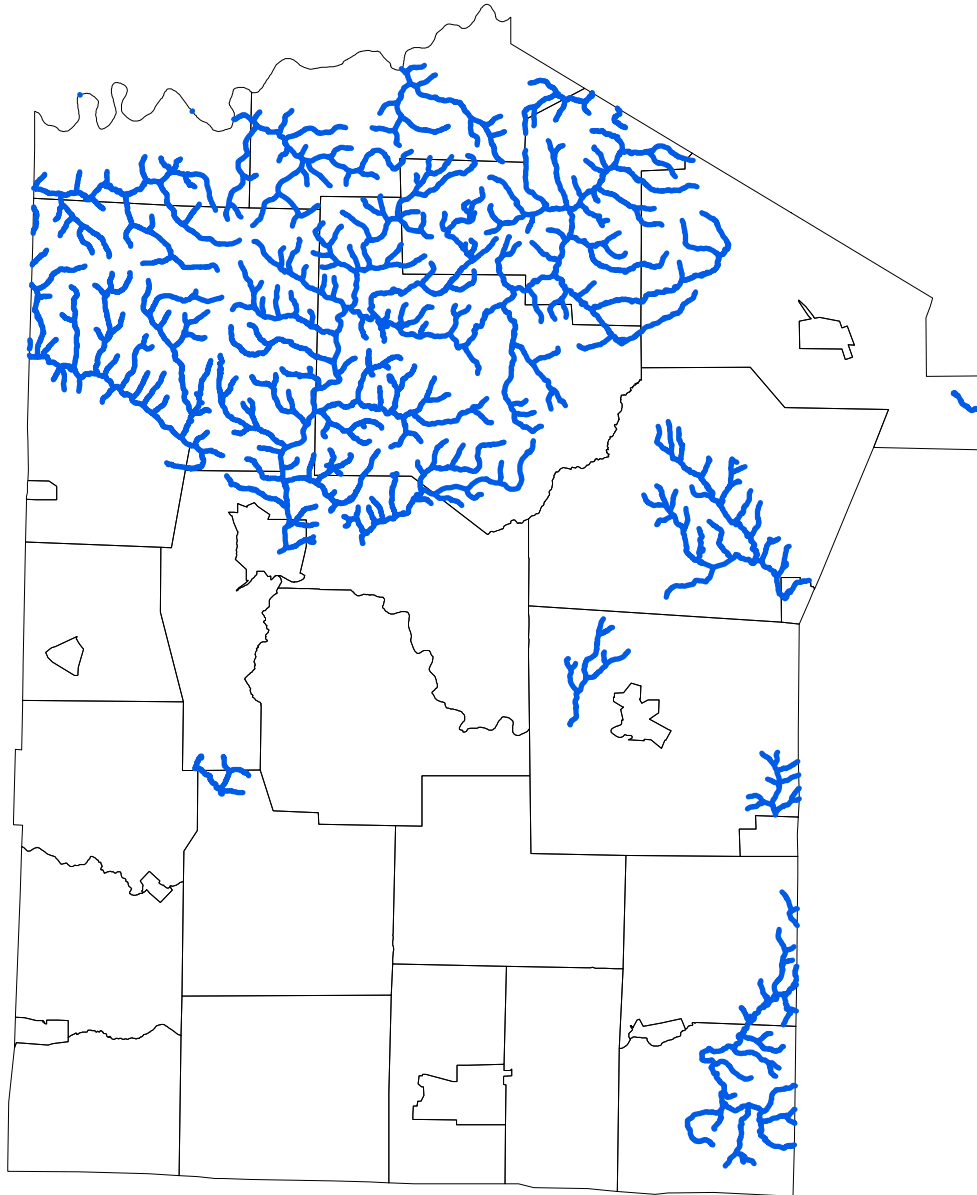
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Jefferson County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

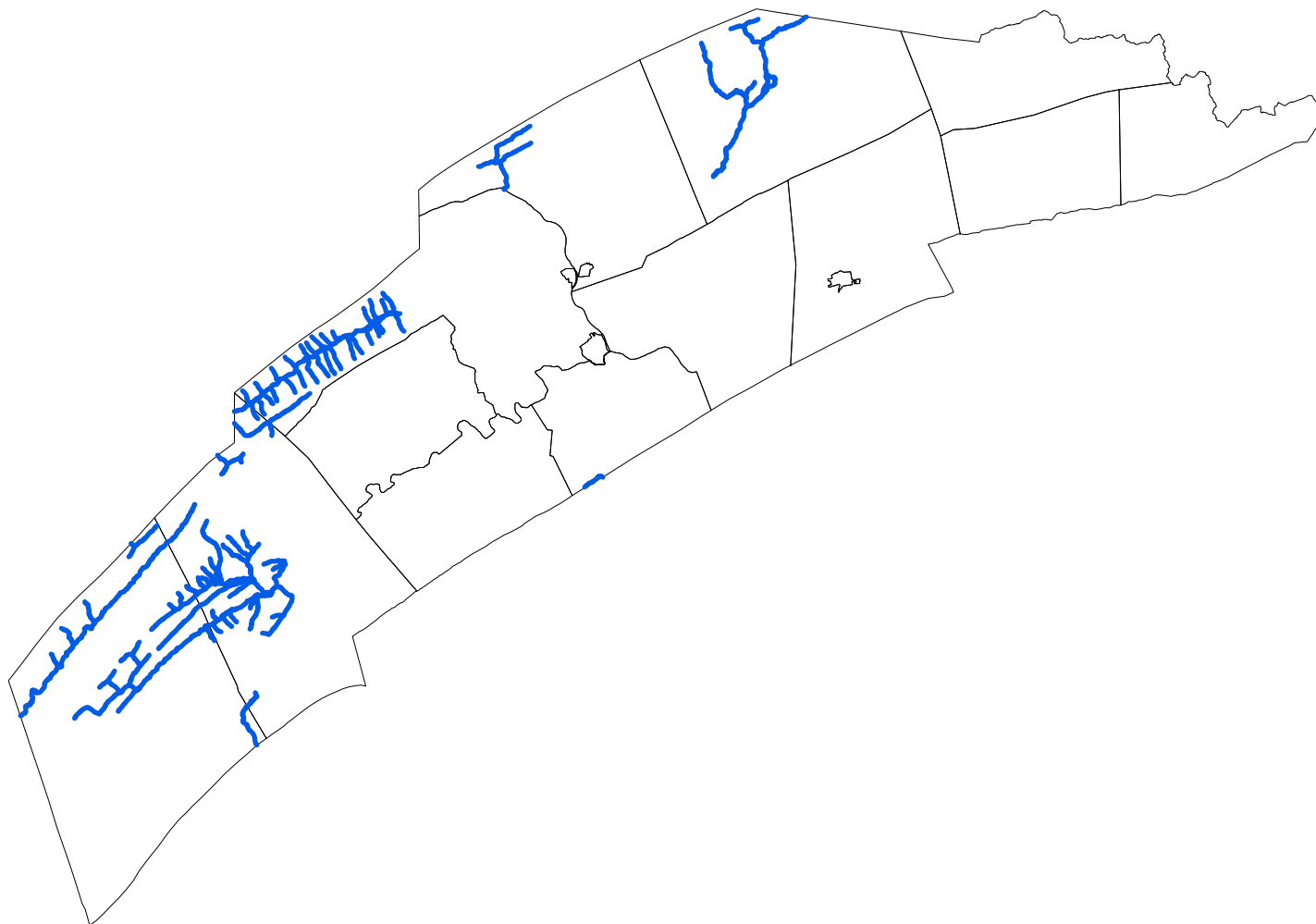
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Juniata County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

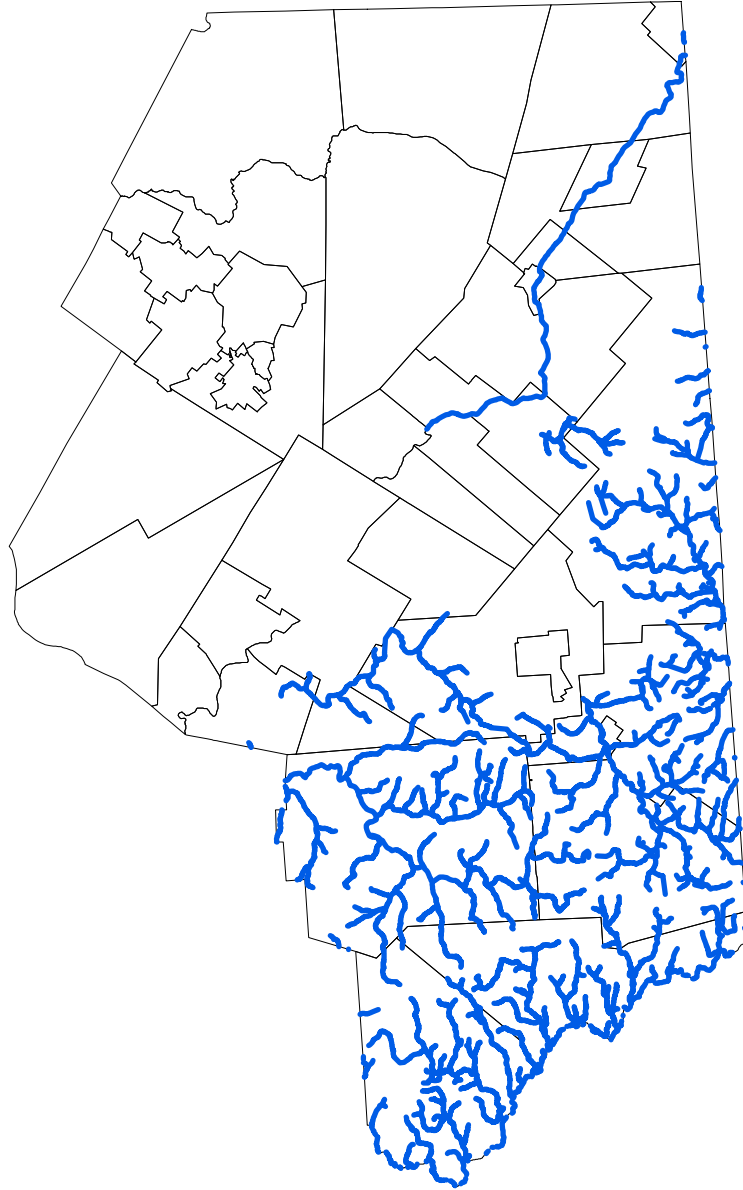
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Lackawanna County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

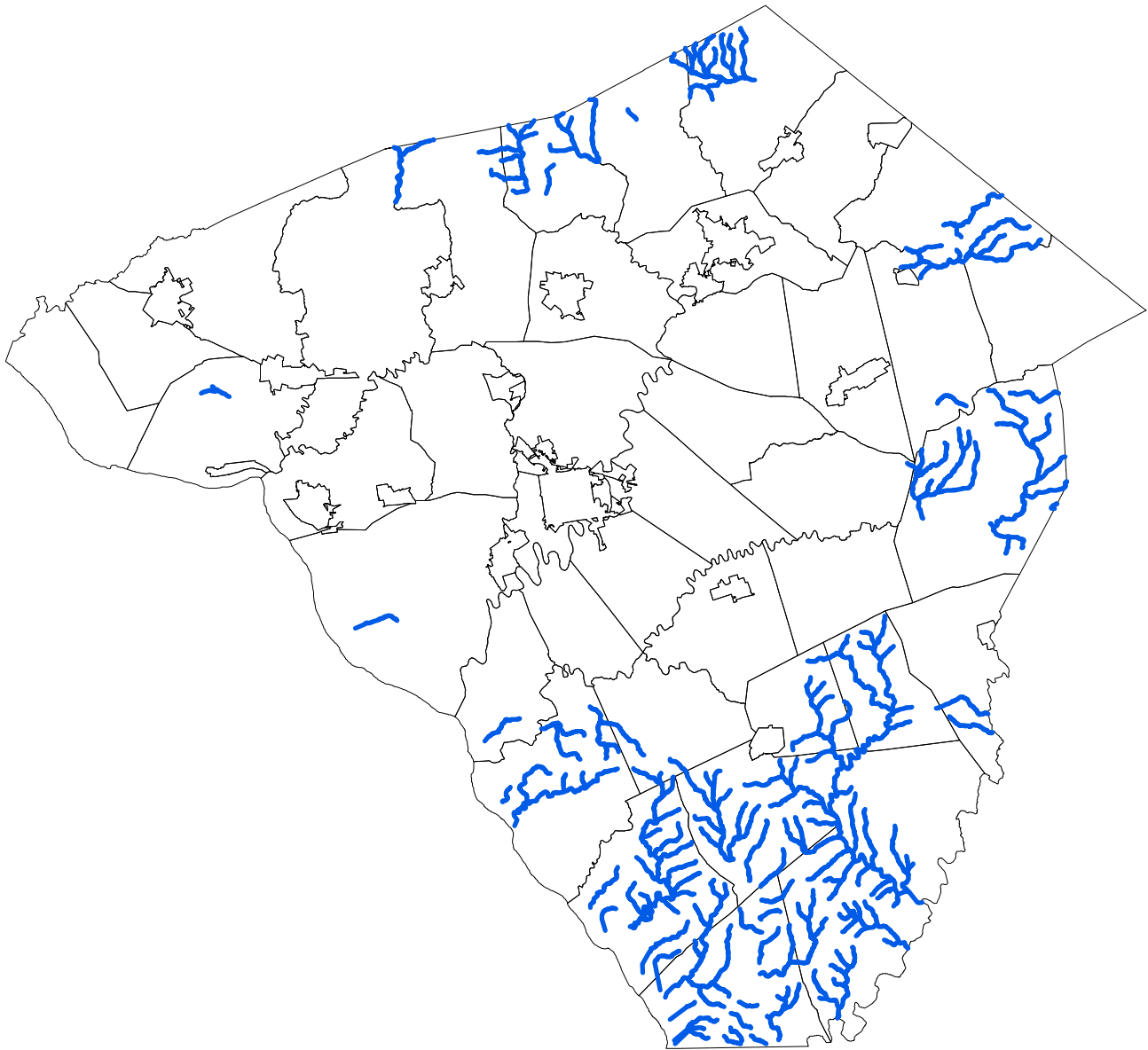
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Lancaster County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

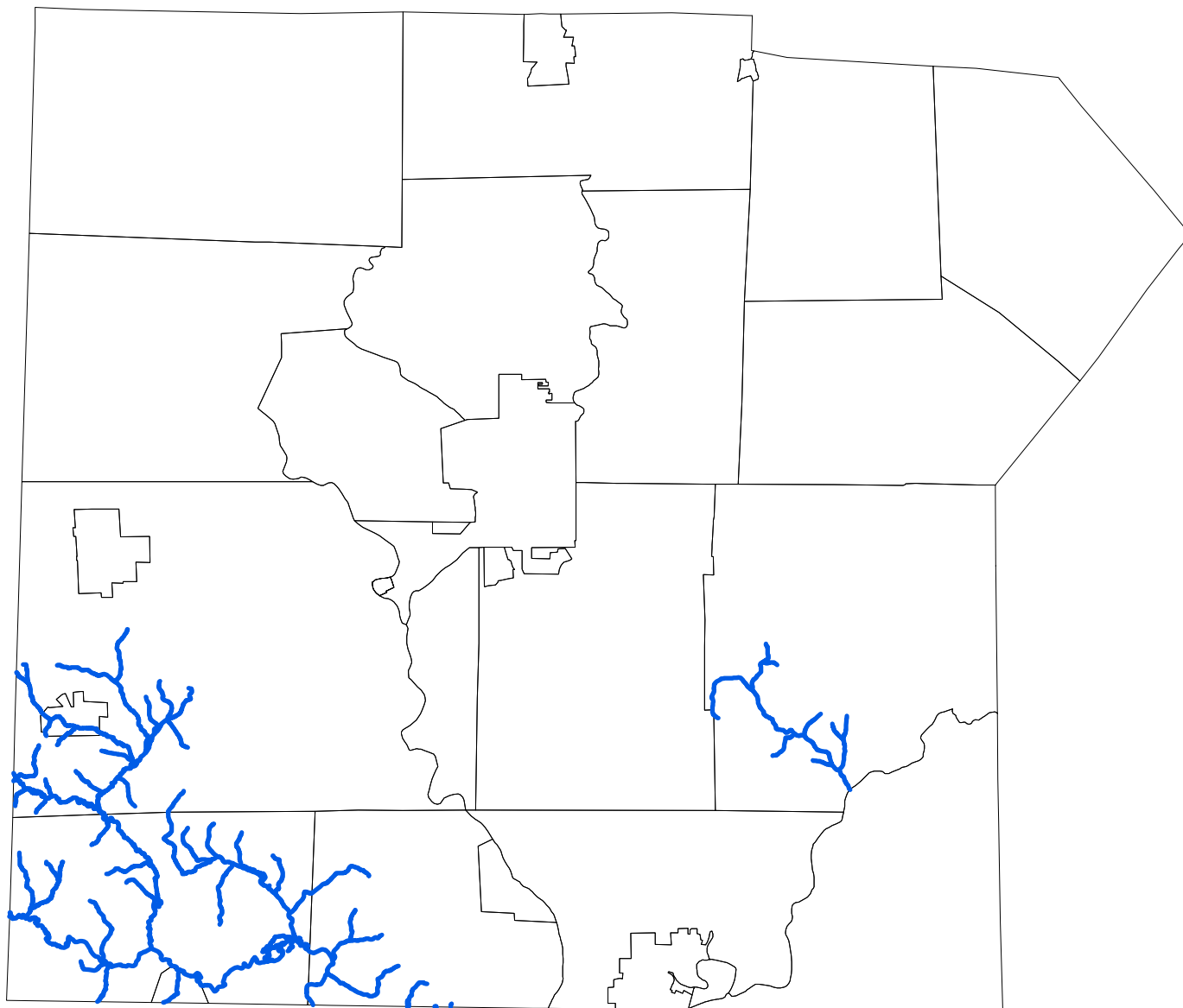
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Lawrence County



Legend

— High Quality (HQ) or Exceptional Value (EV) stream*

□ Municipal boundary

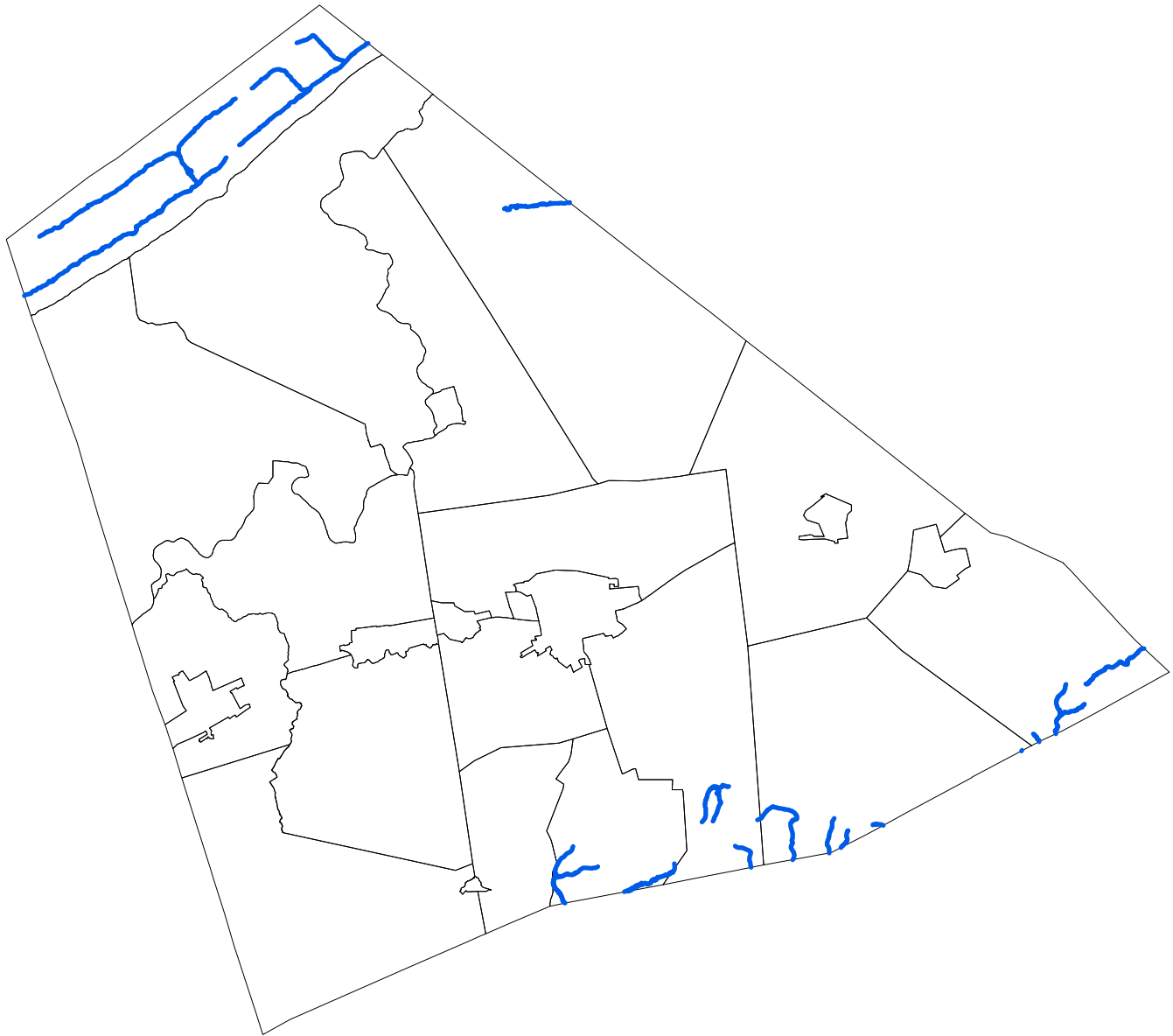
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Lebanon County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

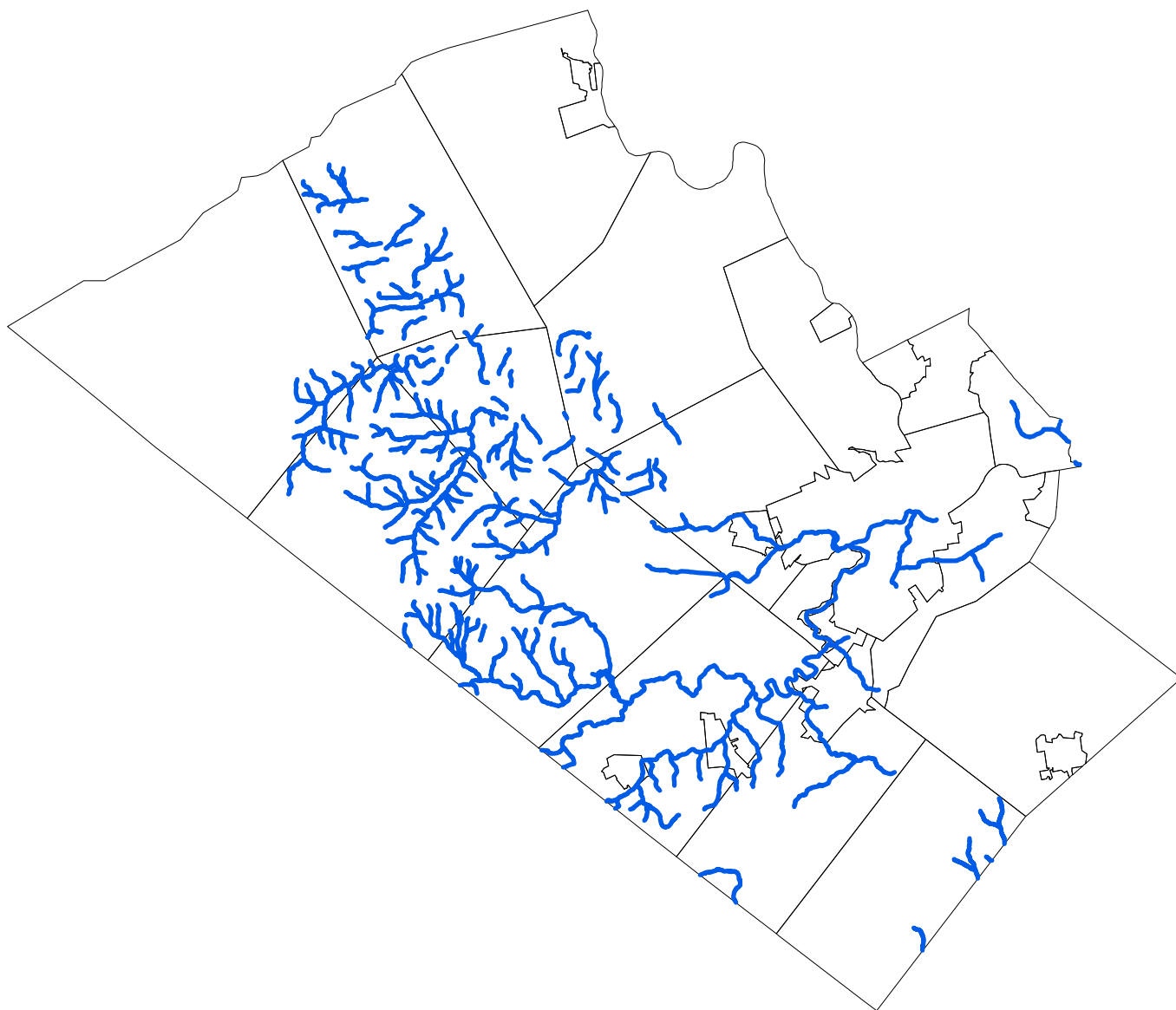
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Lehigh County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

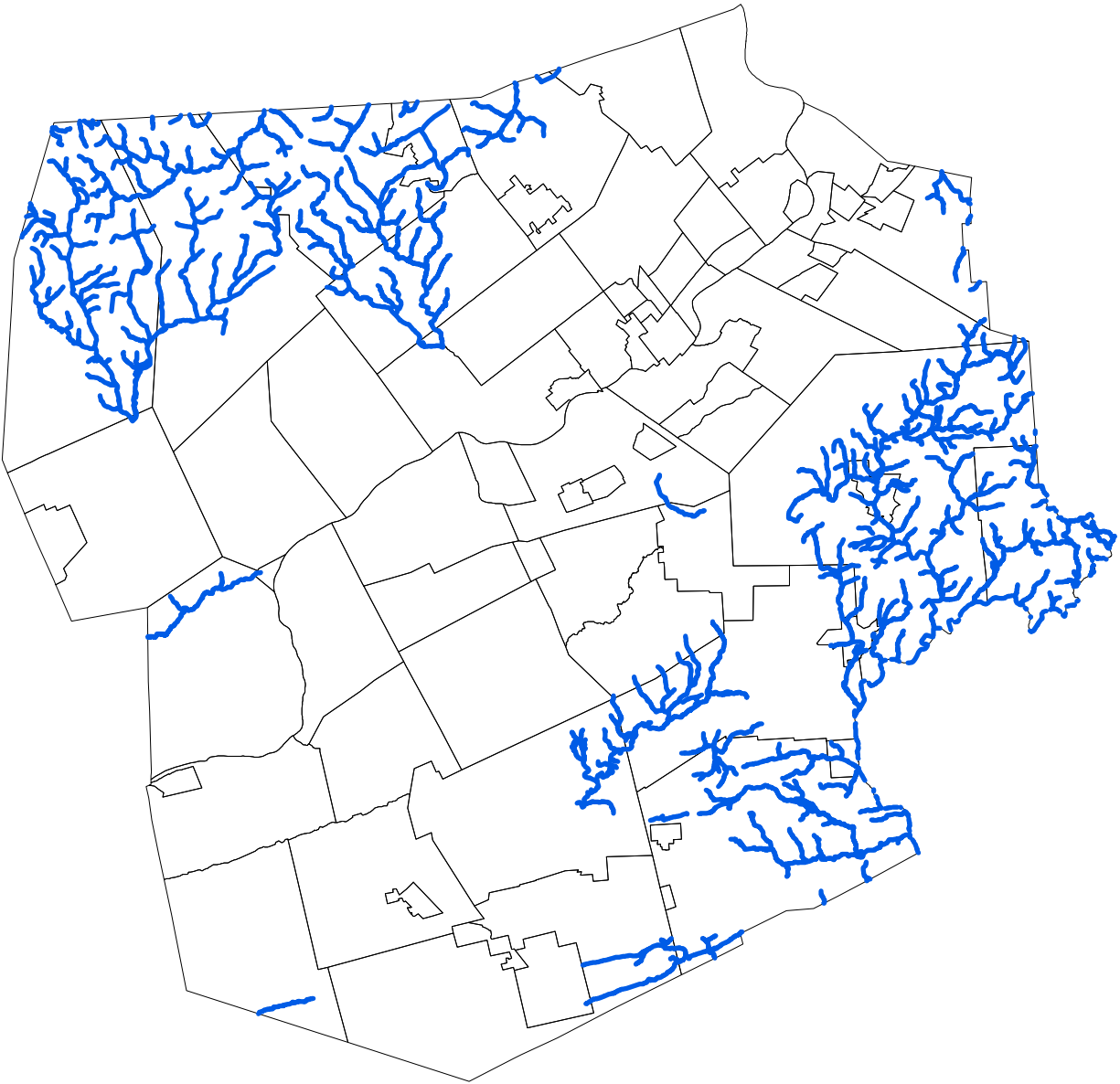
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Luzerne County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Lycoming County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

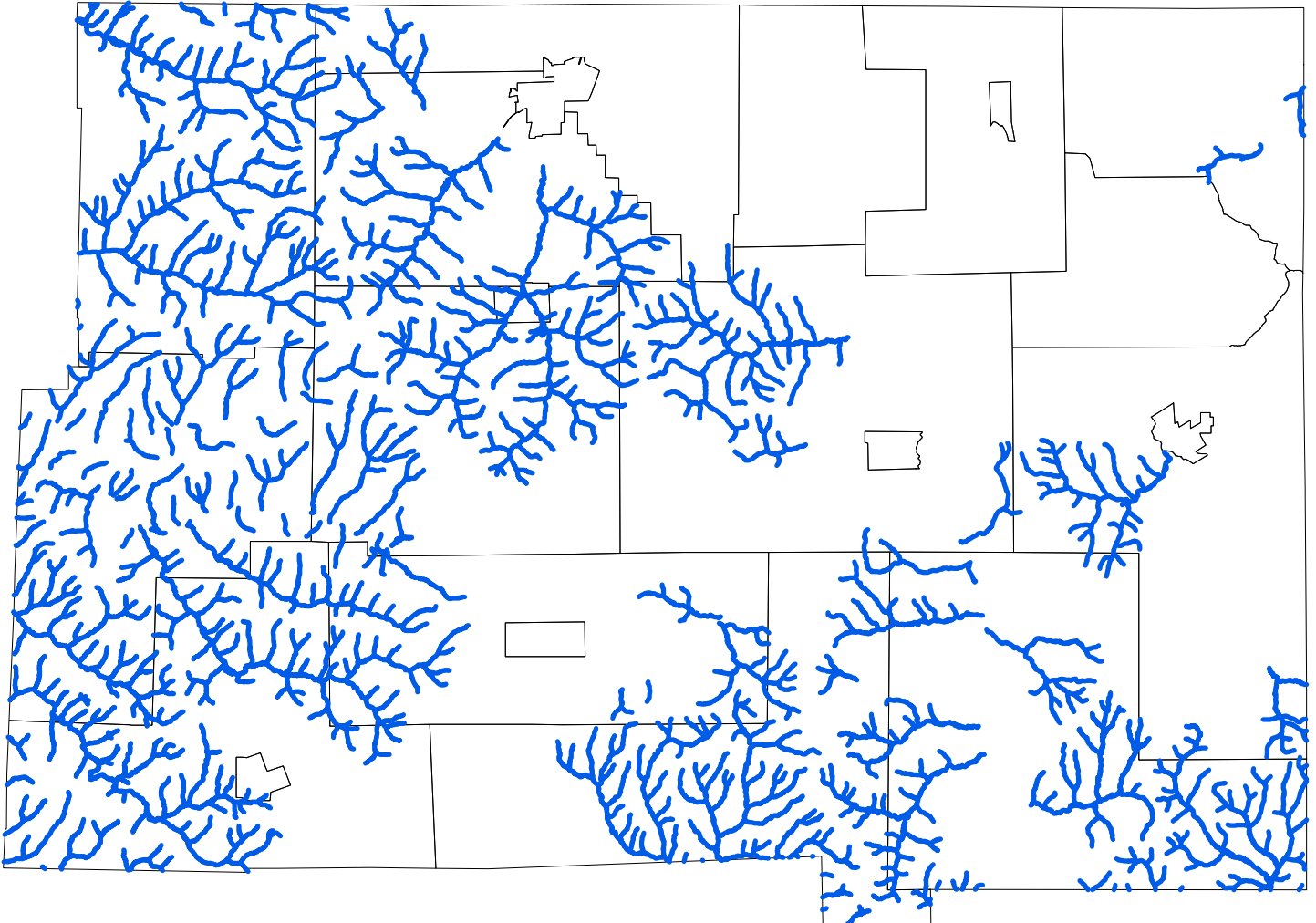
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

McKean County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

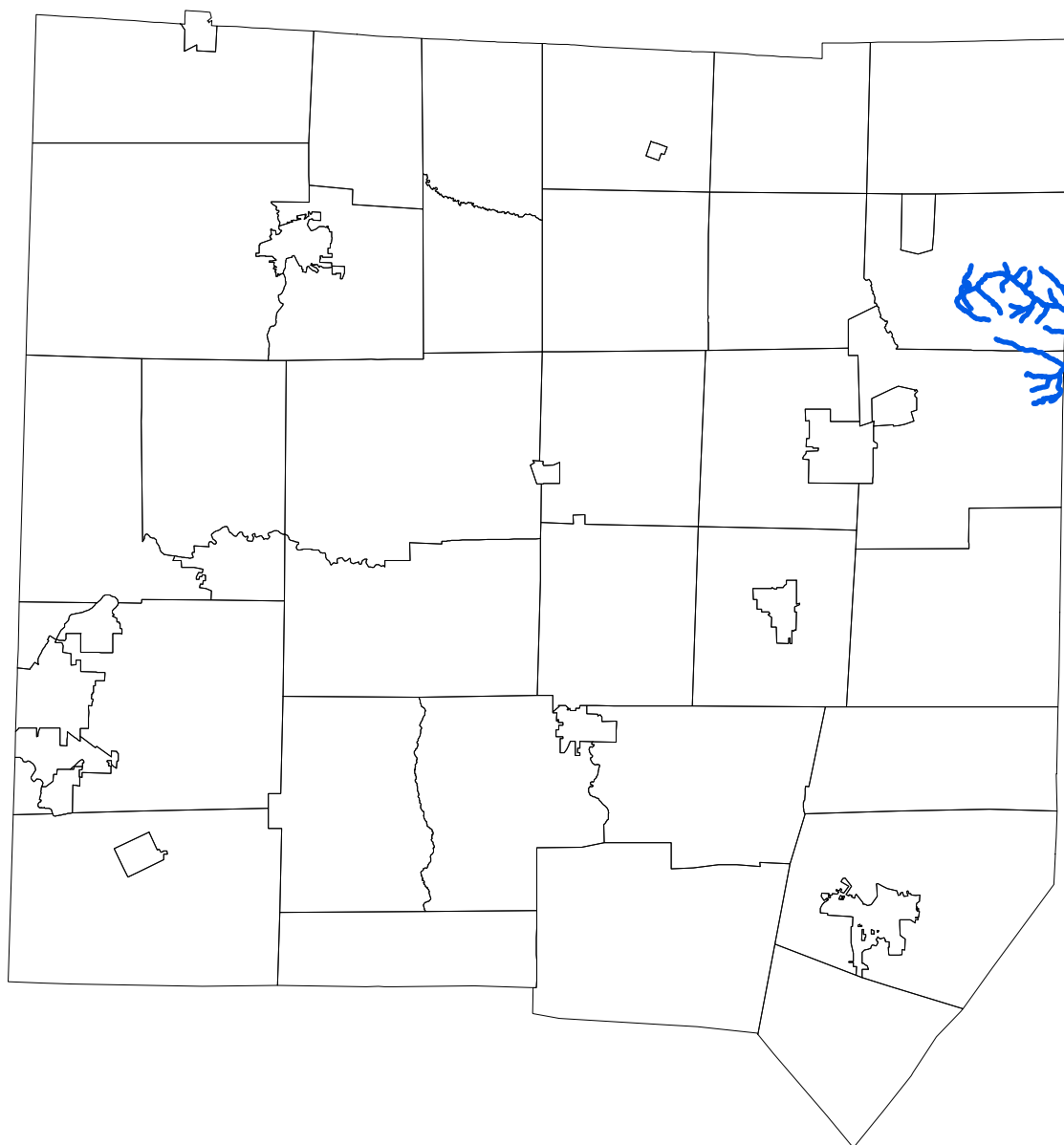
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Mercer County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



Check the PA Code for the most up-to-date stream designations: www.pacode.com.

Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Mifflin County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Monroe County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

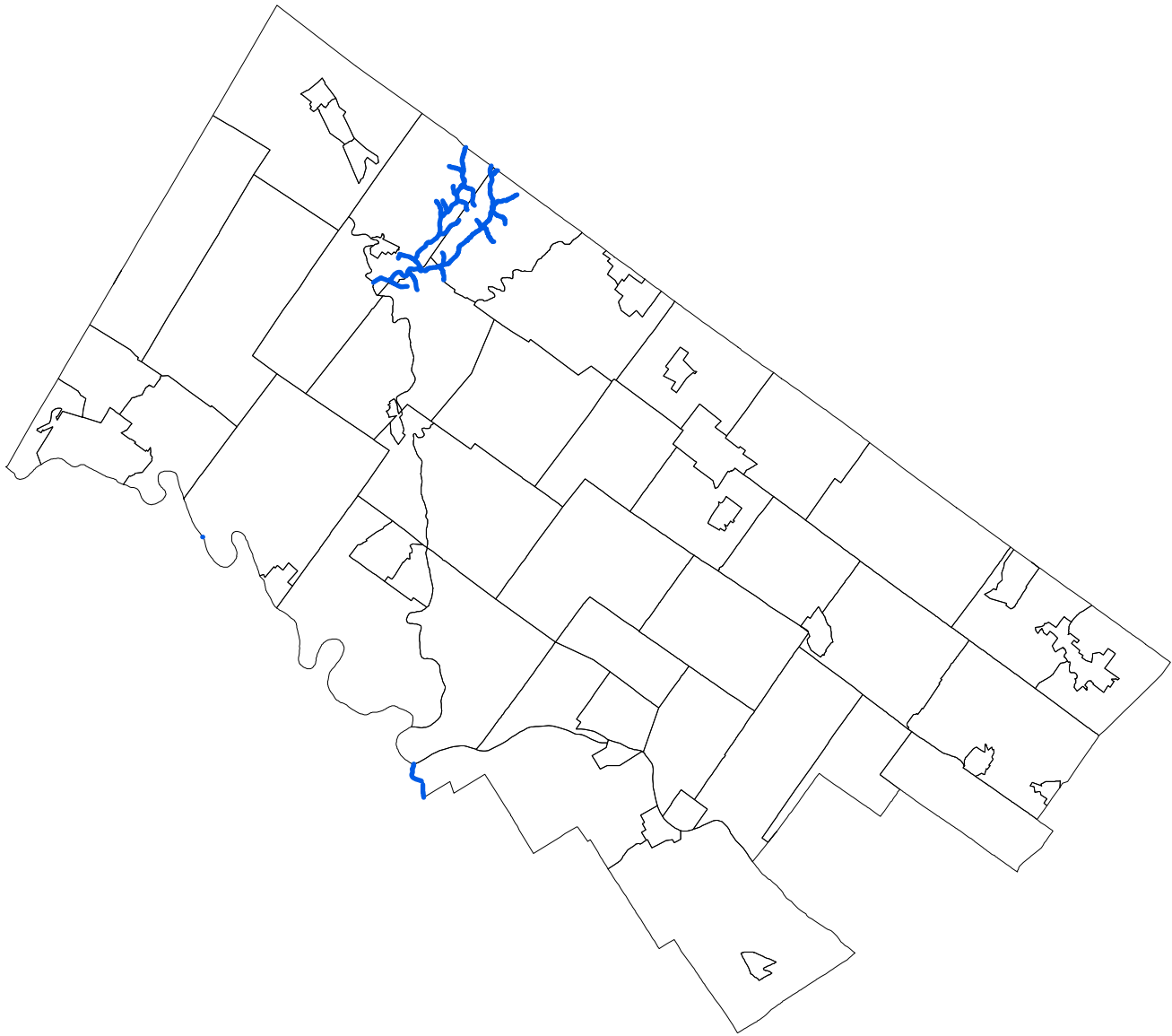
* as of August 2013

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Montgomery County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

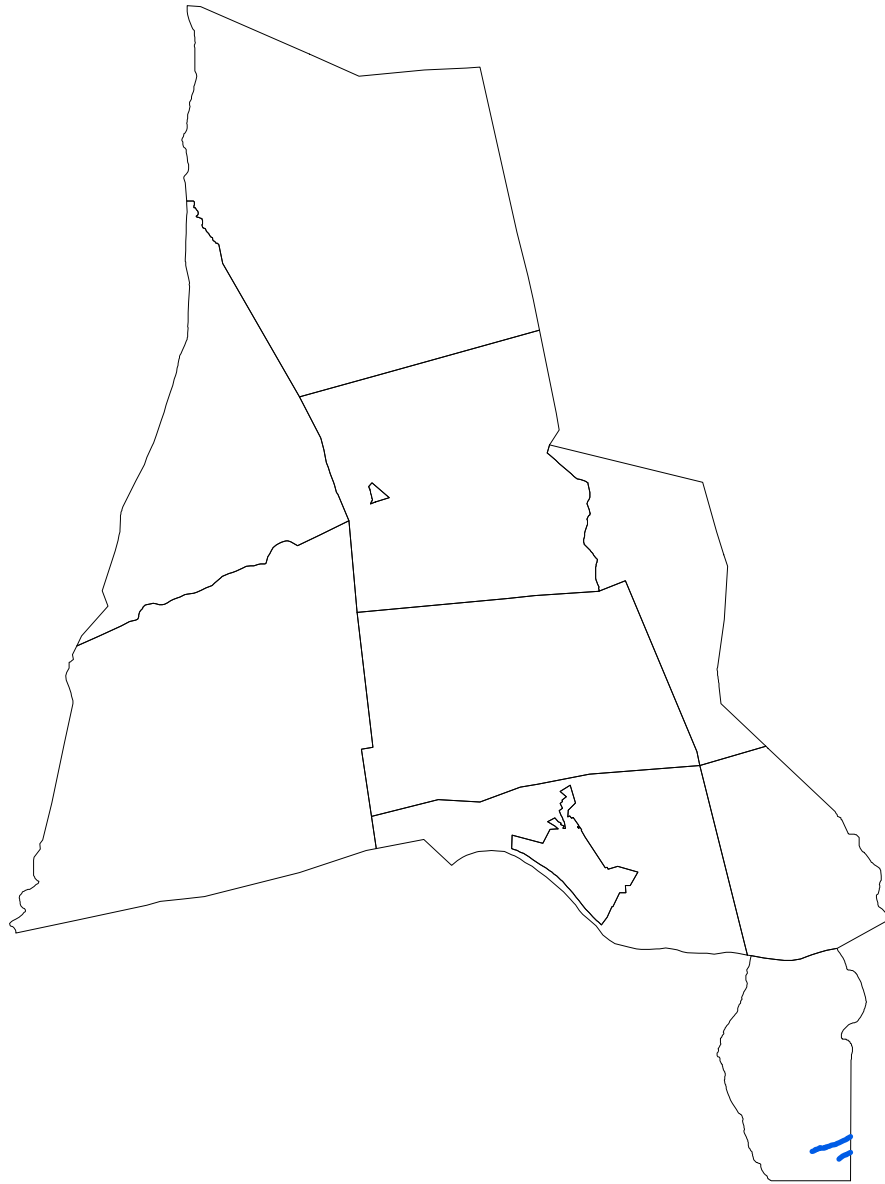
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Montour County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

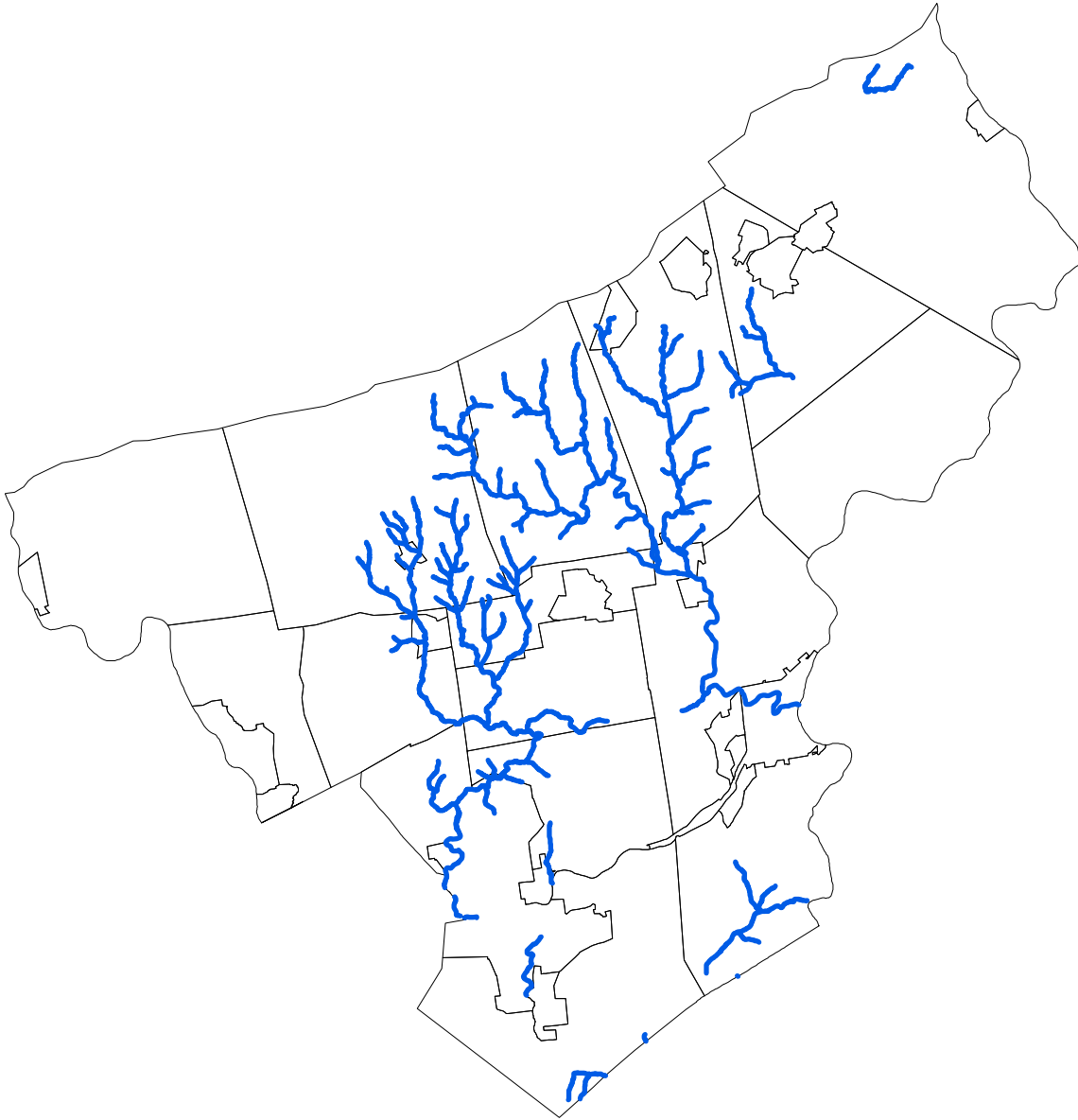
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Northampton County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

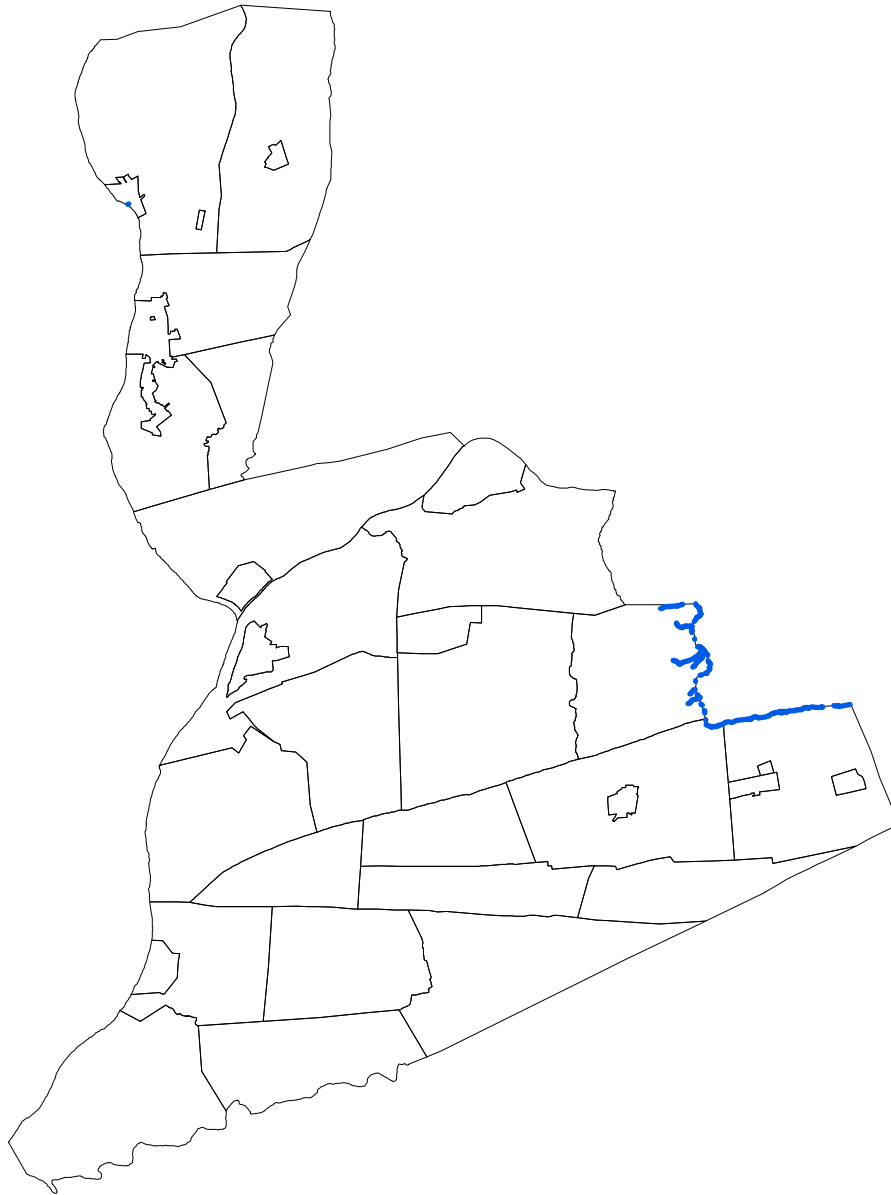
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Northumberland County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Perry County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Philadelphia County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.



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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Pike County



Legend

-  High Quality (HQ) or Exceptional Value (EV) stream*
-  Municipal boundary

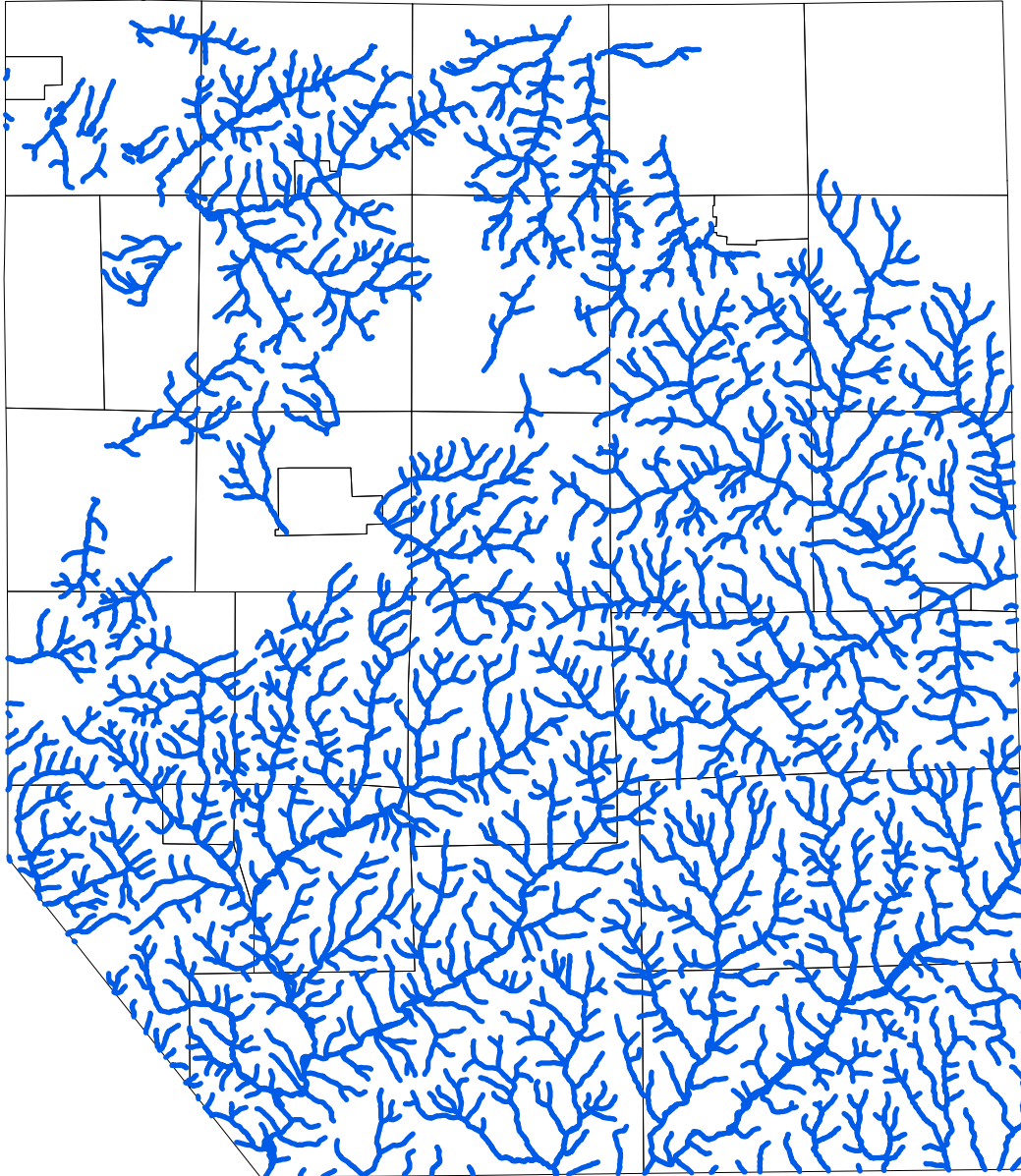
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Potter County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

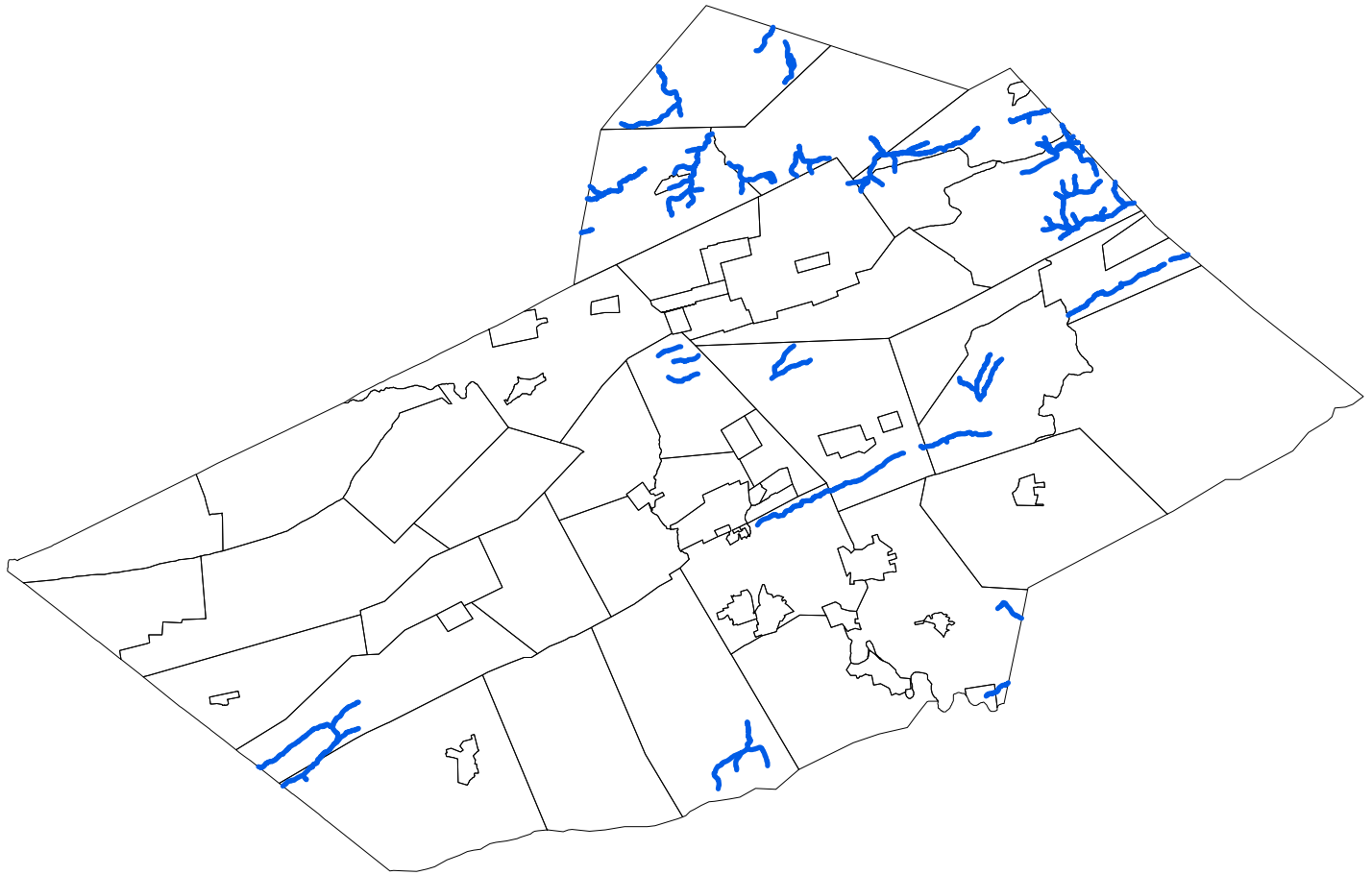
* as of August 2013

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Schuylkill County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

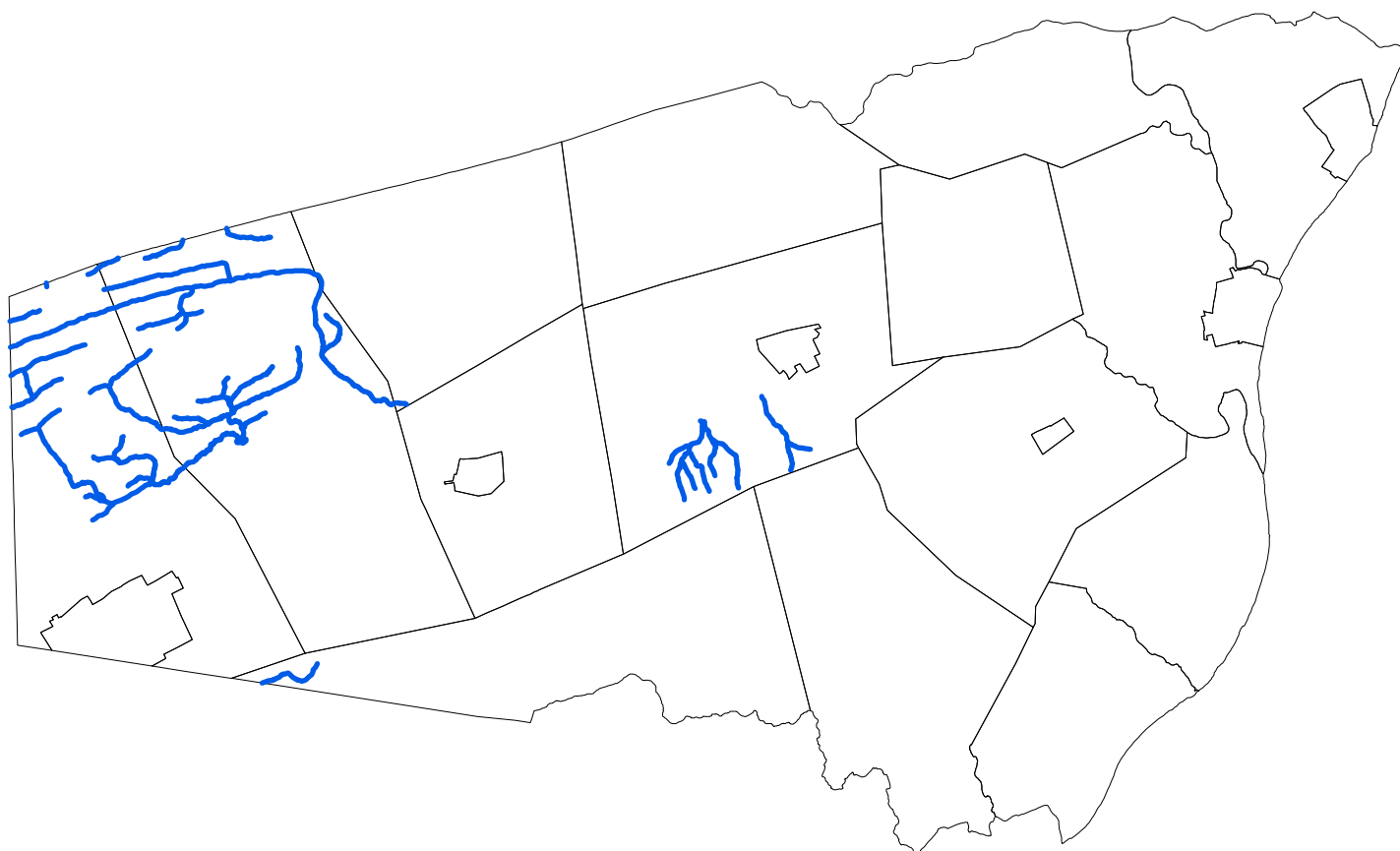
* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Snyder County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

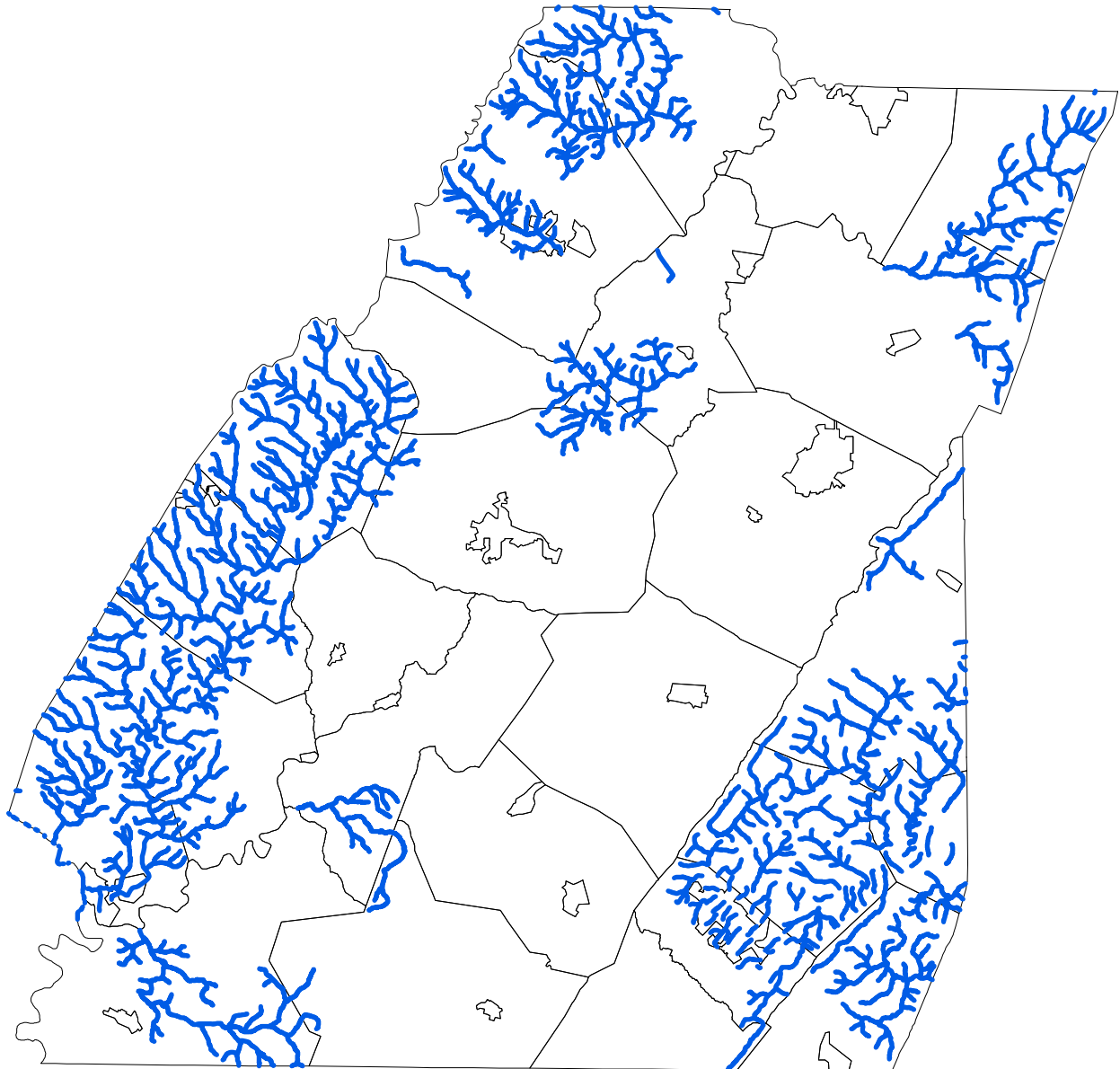
* as of August 2013

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Somerset County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

* as of August 2013

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Additional mapping tools available at eMapPA: www.emappa.dep.state.pa.us

Sullivan County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

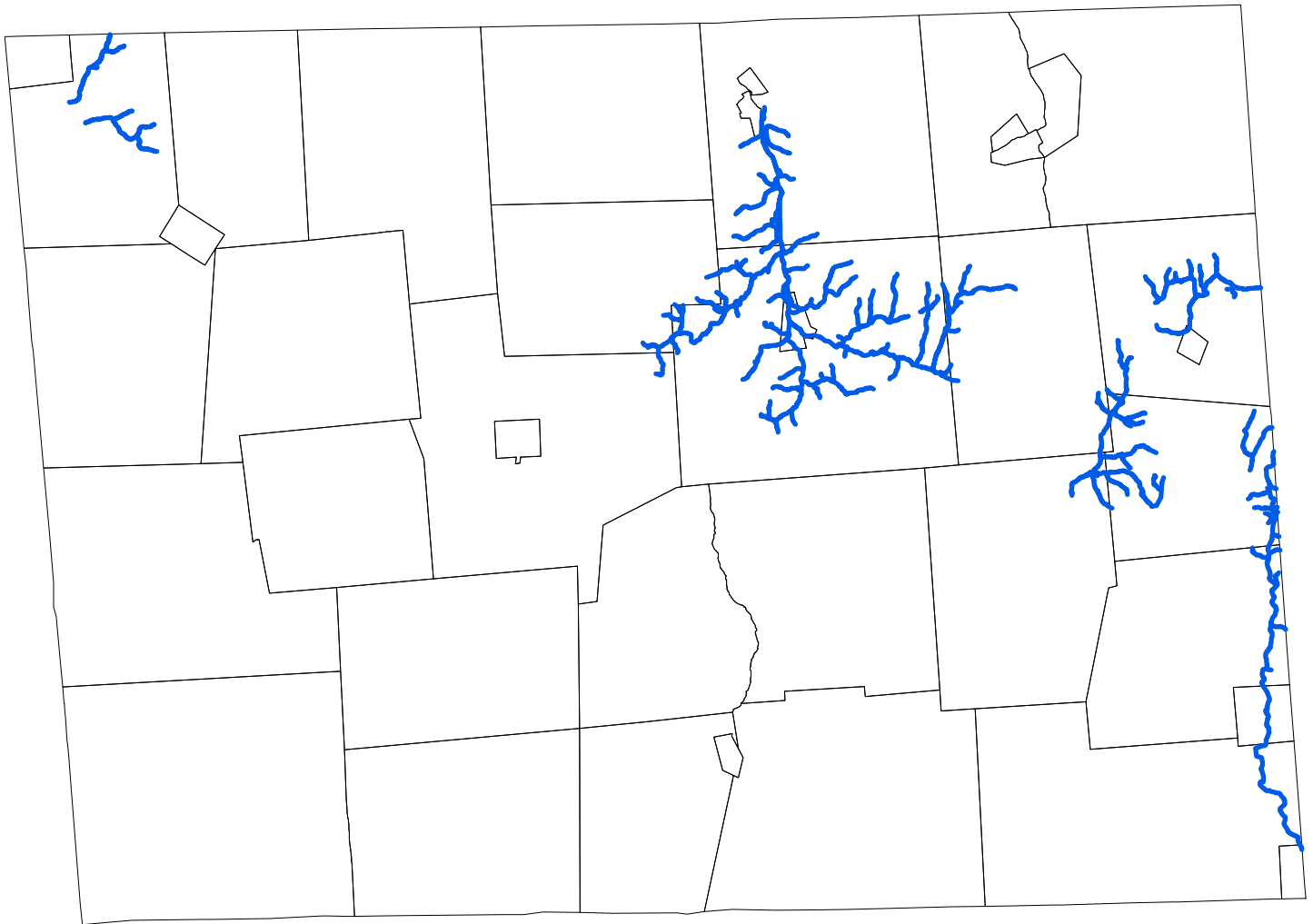
* as of August 2013

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Susquehanna County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

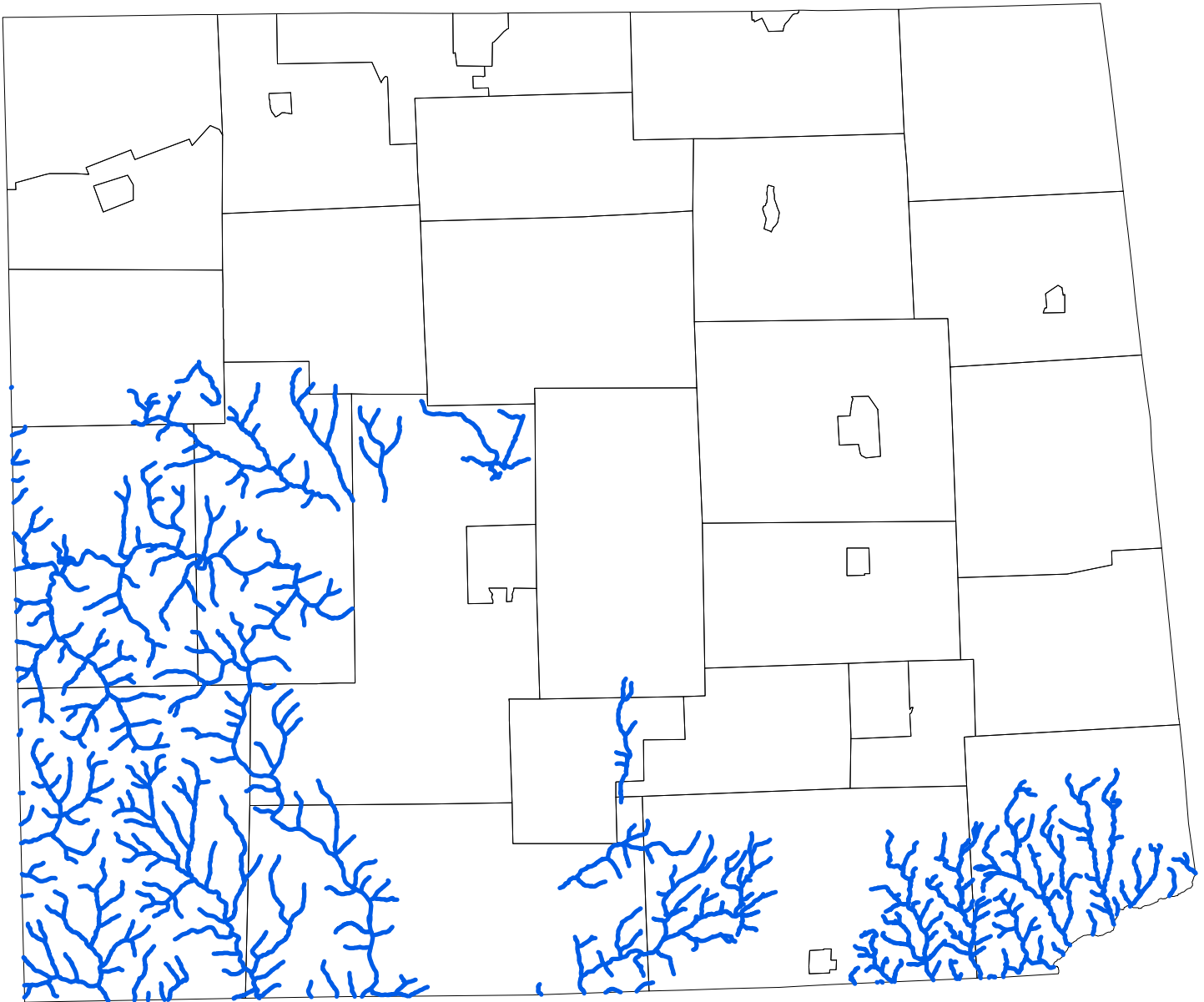
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Tioga County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

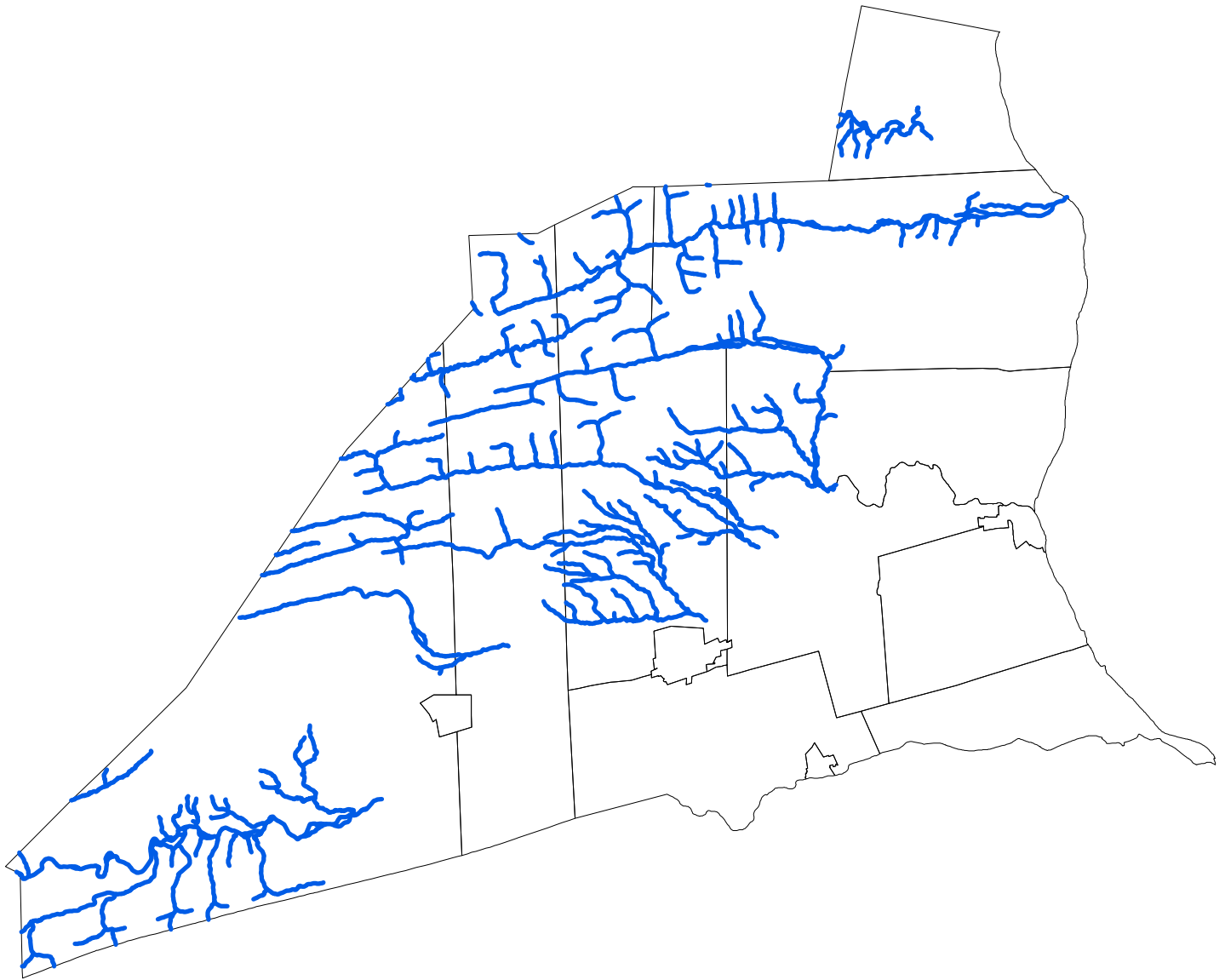
* as of August 2013

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Union County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

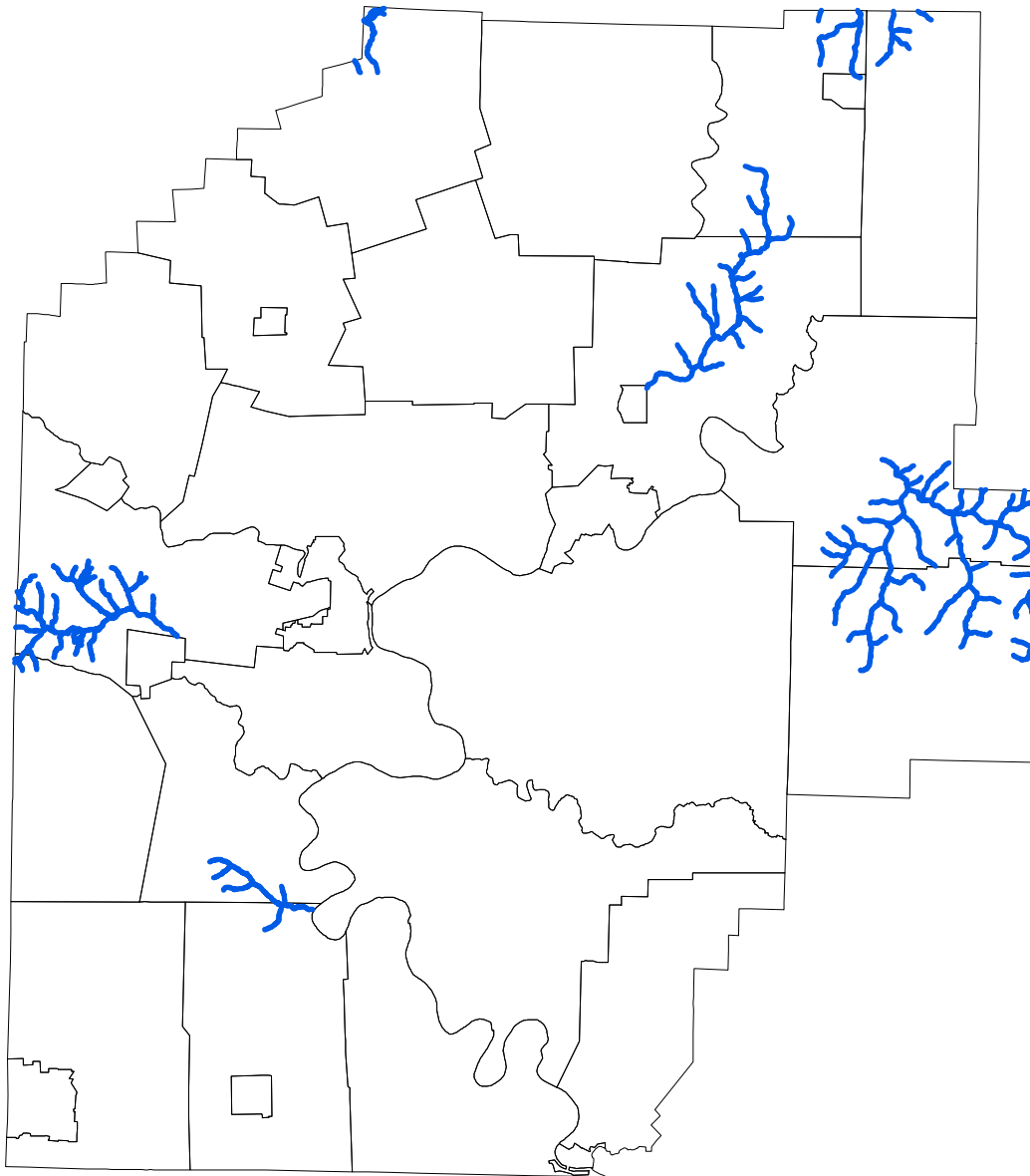
* as of August 2013

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Venango County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

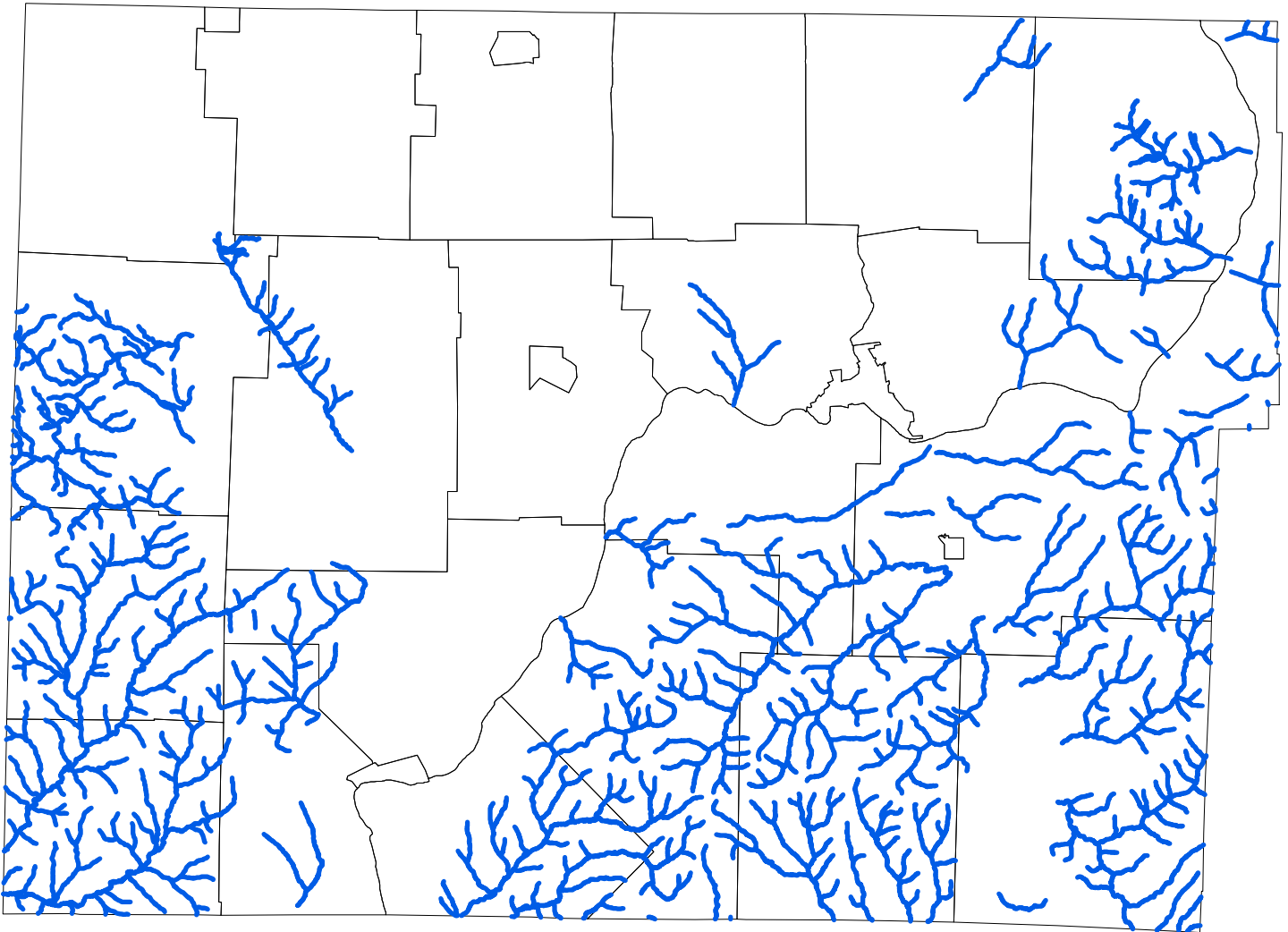
* as of August 2013

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Warren County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

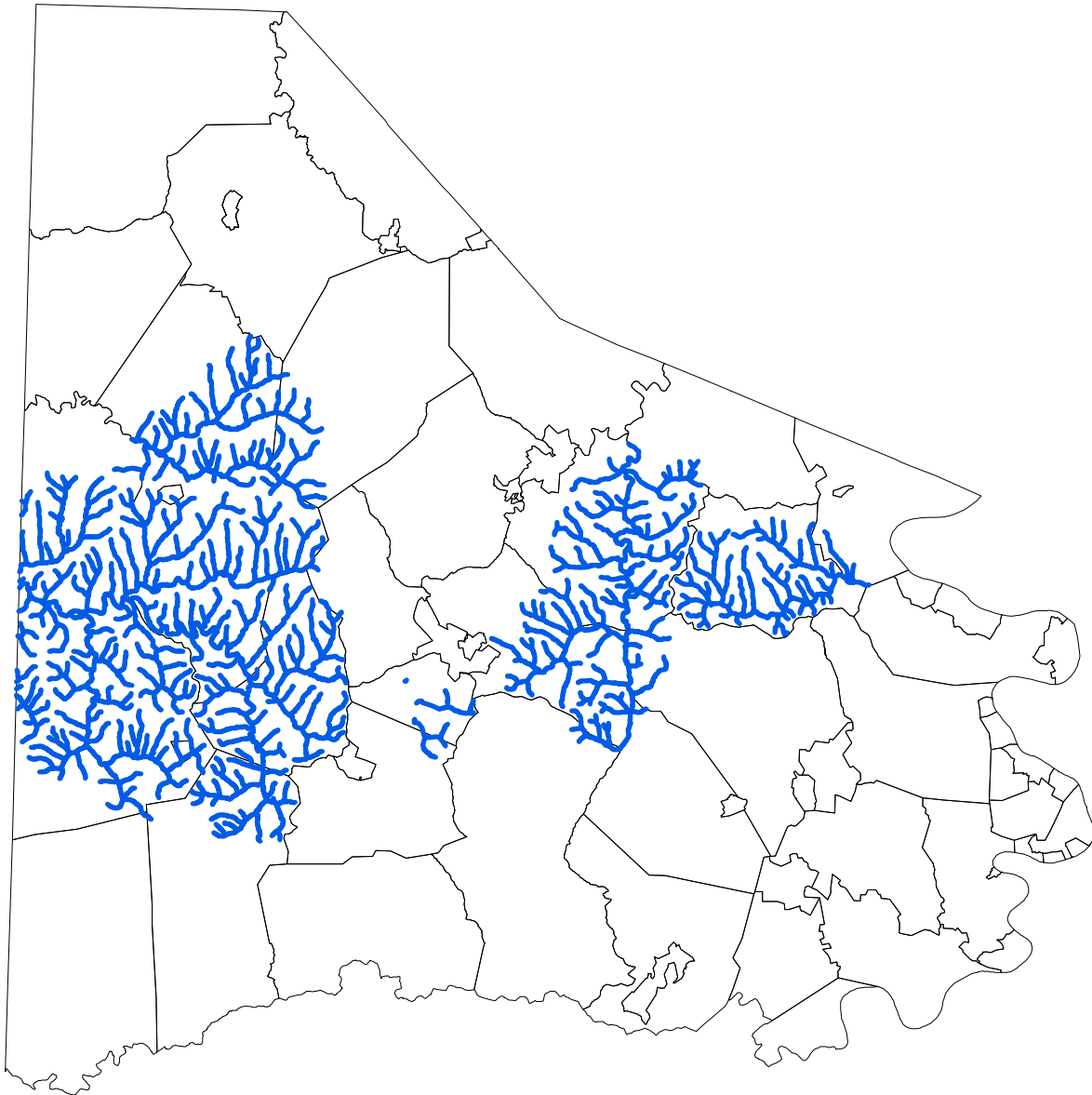
* as of August 2013

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Washington County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

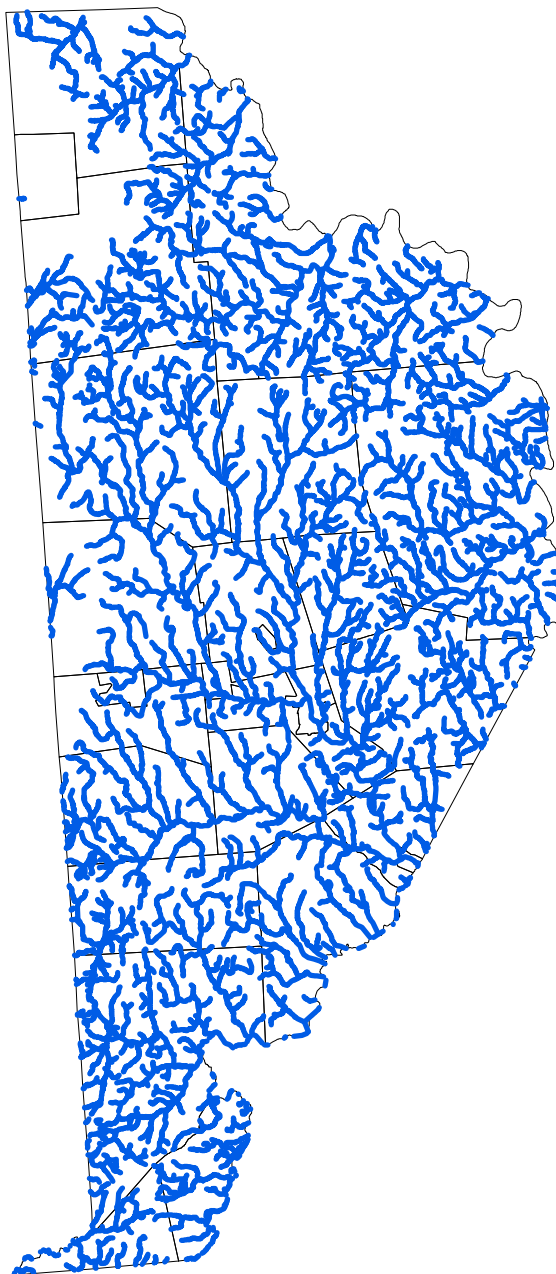
* as of August 2013

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Wayne County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

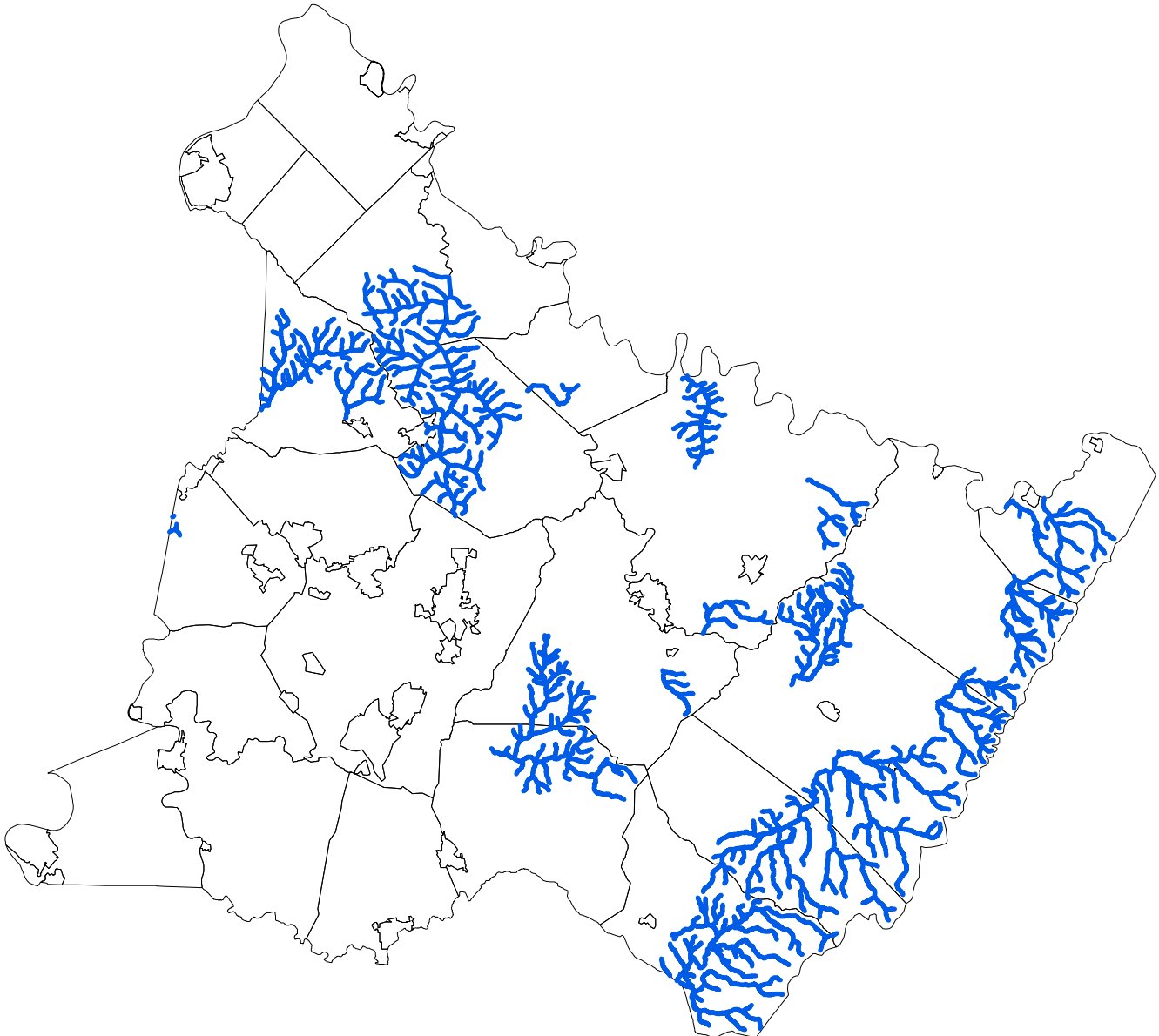
* as of August 2013

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Westmoreland County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

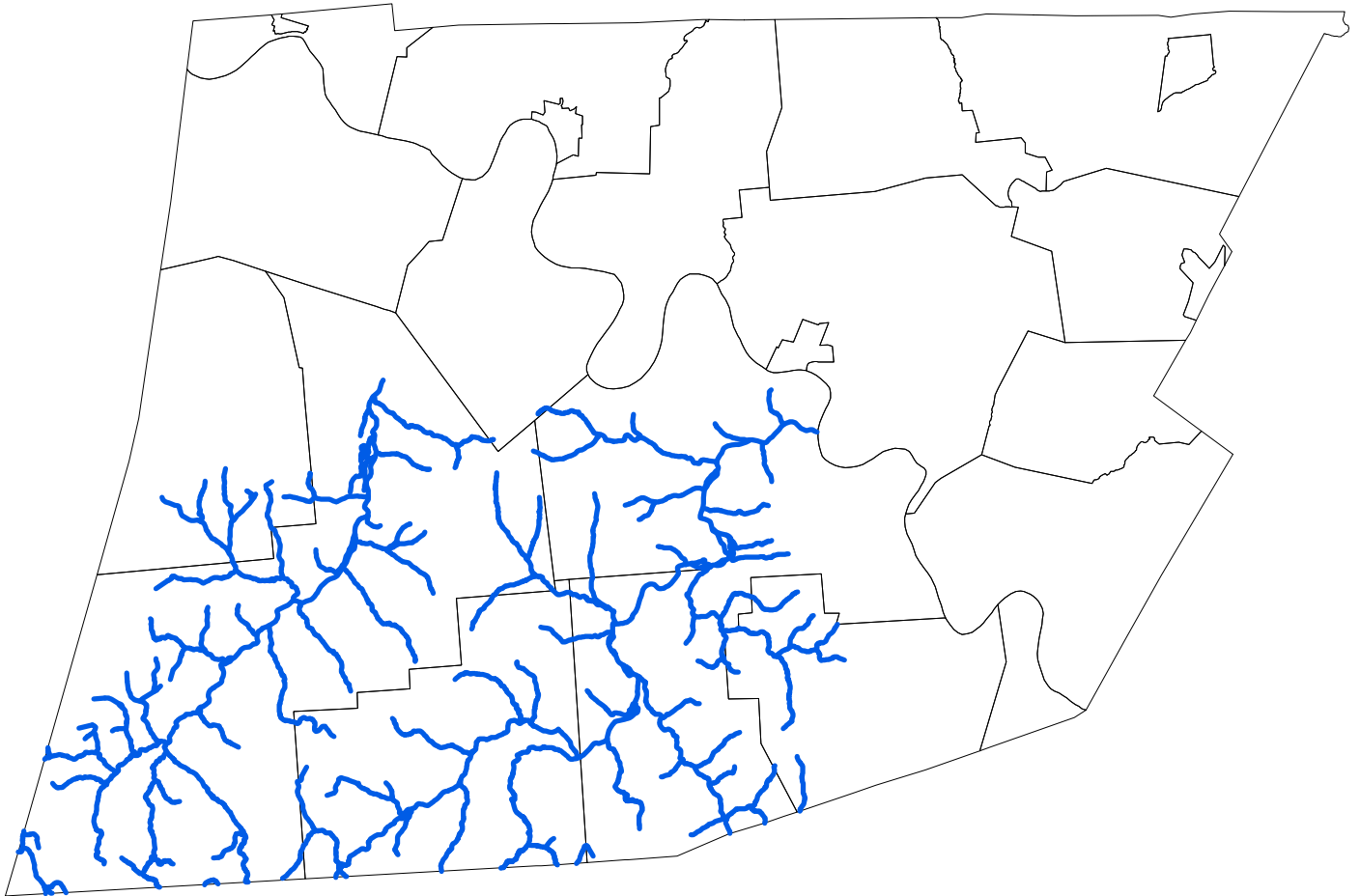
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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Wyoming County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

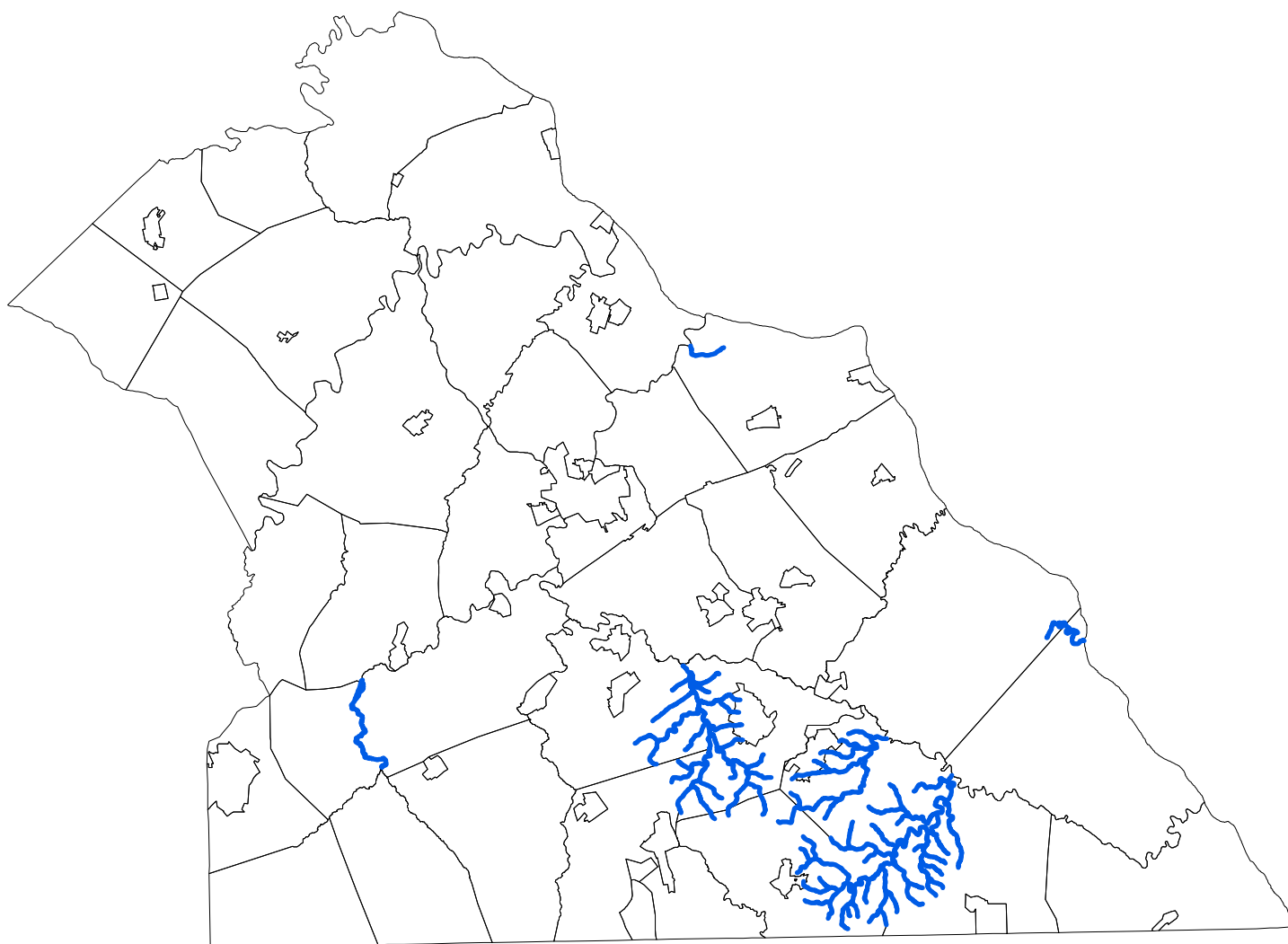
* as of August 2013

Exceptional Value (EV) and High Quality (HQ) streams or watersheds (basins) designated water uses are mapped from Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93, Water Quality Standards as of August 2013.

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York County



Legend

- High Quality (HQ) or Exceptional Value (EV) stream*
- Municipal boundary

* as of August 2013

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