

Lehigh Valley Watershed Assessment & Global Act 167 Model Ordinance Update

WorkshopLV – Water Meeting #1
August 1, 2024



WORKSHOPLV WATER

Housekeeping

- Handouts
- Sign in Sheet
- Before leaving, please give parking ticket to Angela for validation
 - You will have 15 minutes to leave the lot after
- Certain expenses may be reimbursed by DEP
 - Municipalities may submit applications for reimbursement of prior year activities
 - Recommend keeping track of your time spent on this effort
 - Contact DEP for further details or visit their website
 - <https://www.dep.pa.gov/Business/Water/CleanWater/StormwaterMgmt/Pages/Act-167.aspx>

Agenda

- Welcome and Introductions – Group Survey Exercise
- Purpose and Goals
- Watershed Primer
- PA Act 167 Refresher
- Status of Stormwater Management Planning in Lehigh Valley
- Next Steps, Schedule and Municipal Survey

Q1. What is your top Stormwater Management Concern?

Q2. Which of the following green infrastructure practices have been implemented in your community?

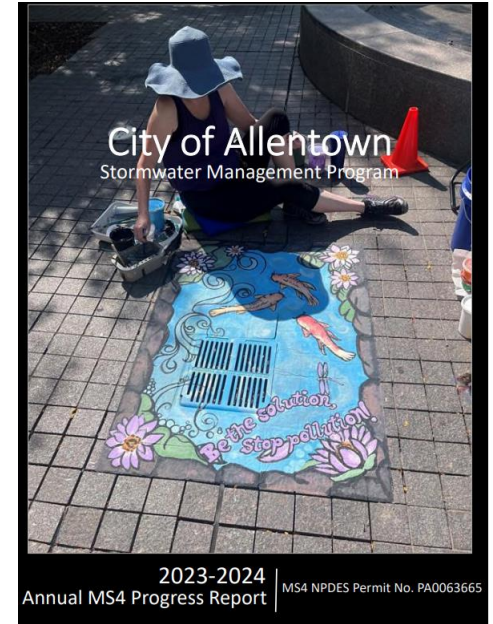
Flash Survey



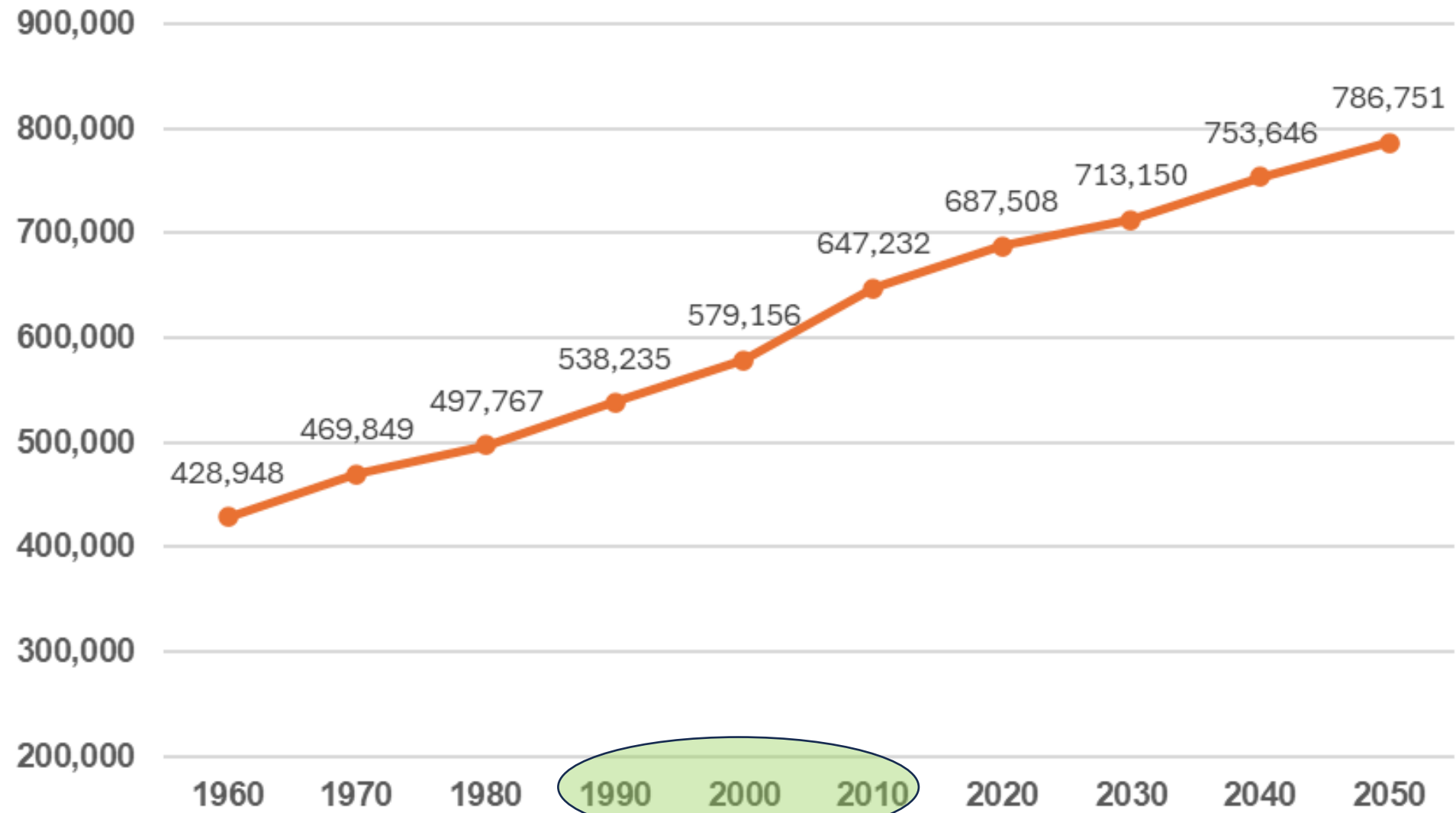
Purpose and Goals

- Create consistent, up-to-date stormwater ordinance – including:
 - Green infrastructure & water balance standards
 - PA DEP Post Construction Stormwater Management measures
 - Climate change considerations
- Coordinate with all 62 municipalities, county conservation districts, equity communities, interested groups, and PA DEP
- Update hydrologic analysis to re-evaluate the runoff control standards
- Establish baseline water quality analysis for all 15 watersheds for MS4 planning

Why Should You Participate?



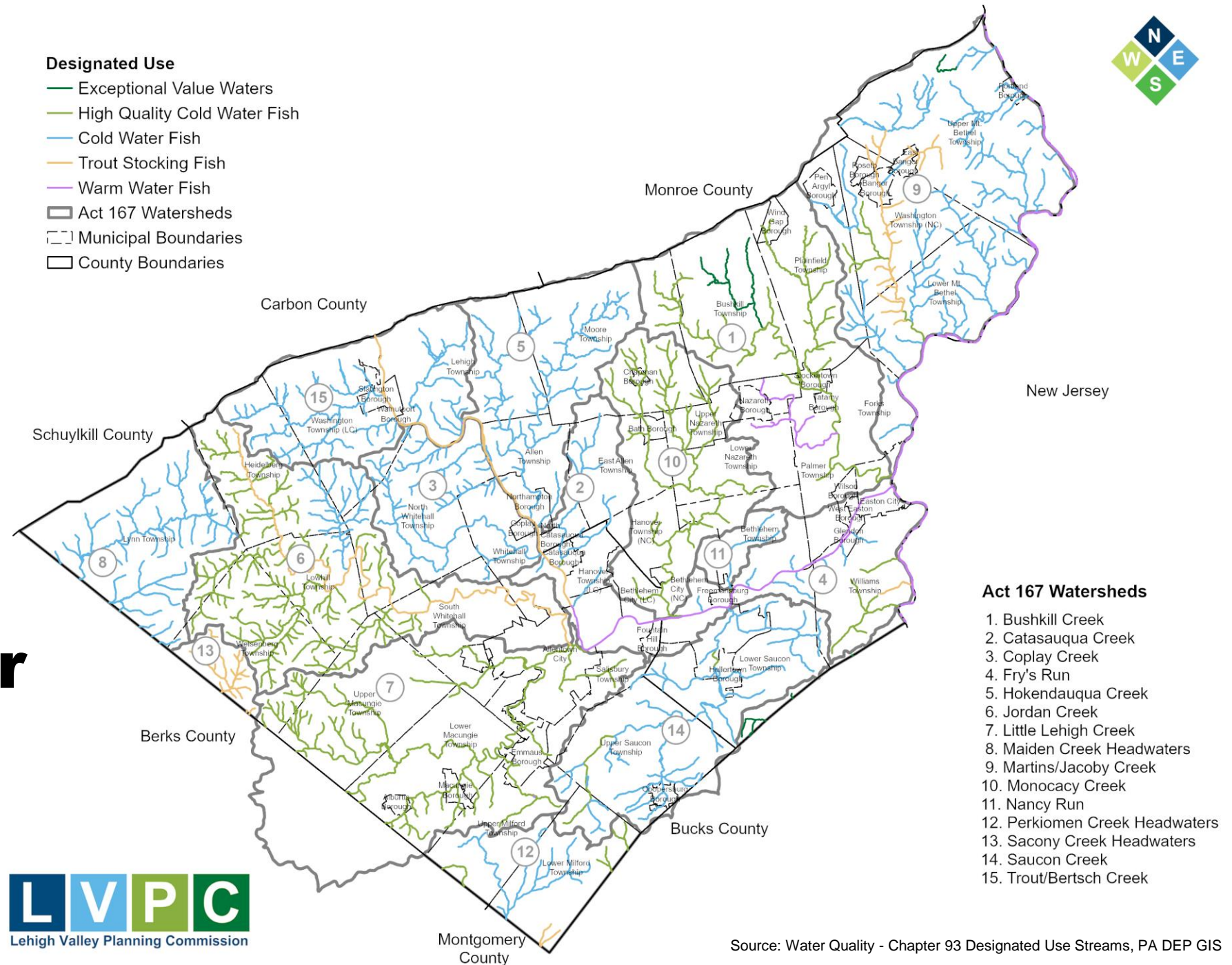
Lehigh Valley Population





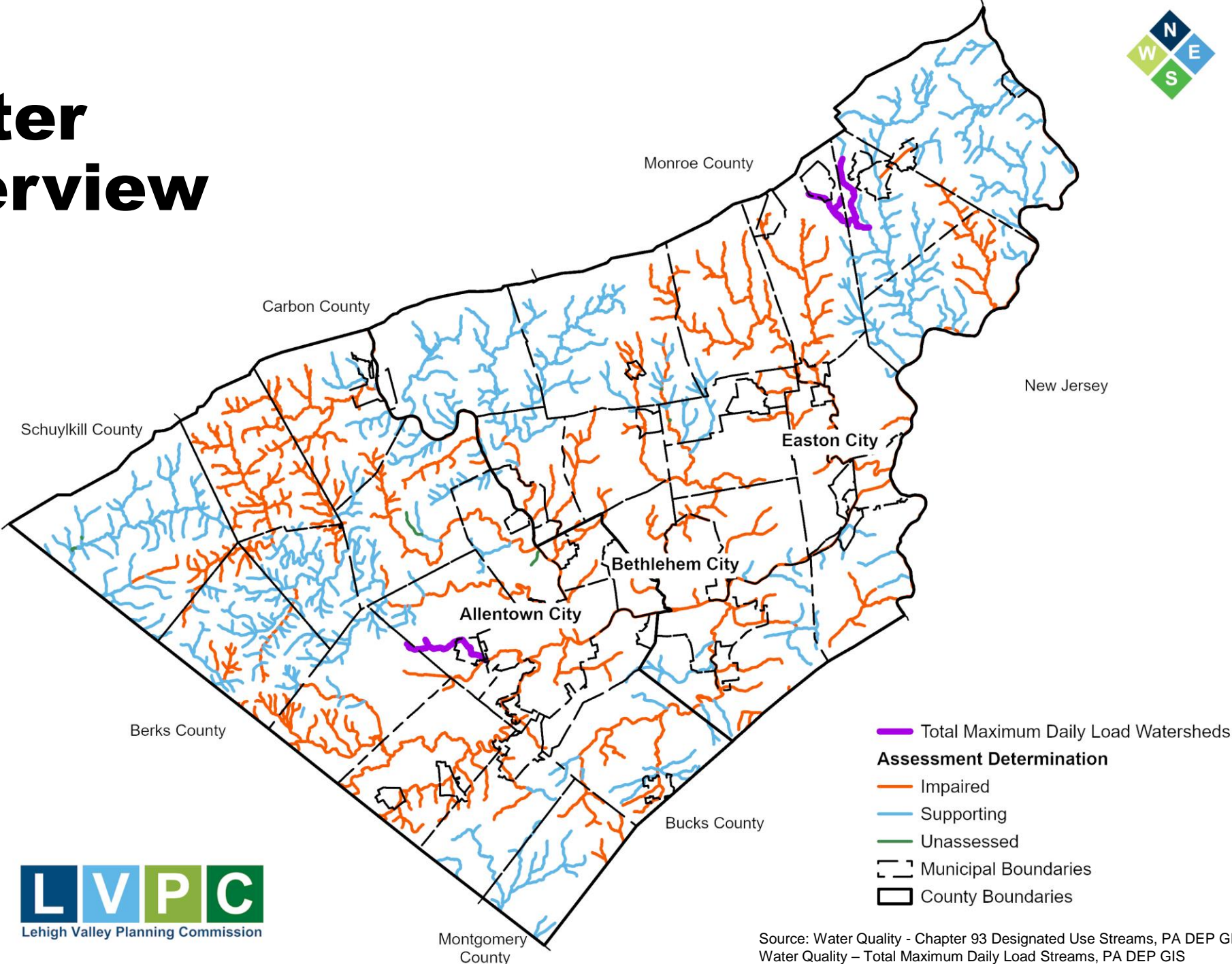
Designated Use

- Exceptional Value Waters
- High Quality Cold Water Fish
- Cold Water Fish
- Trout Stocking Fish
- Warm Water Fish
- ▬ Act 167 Watersheds
- - - Municipal Boundaries
- ▭ County Boundaries



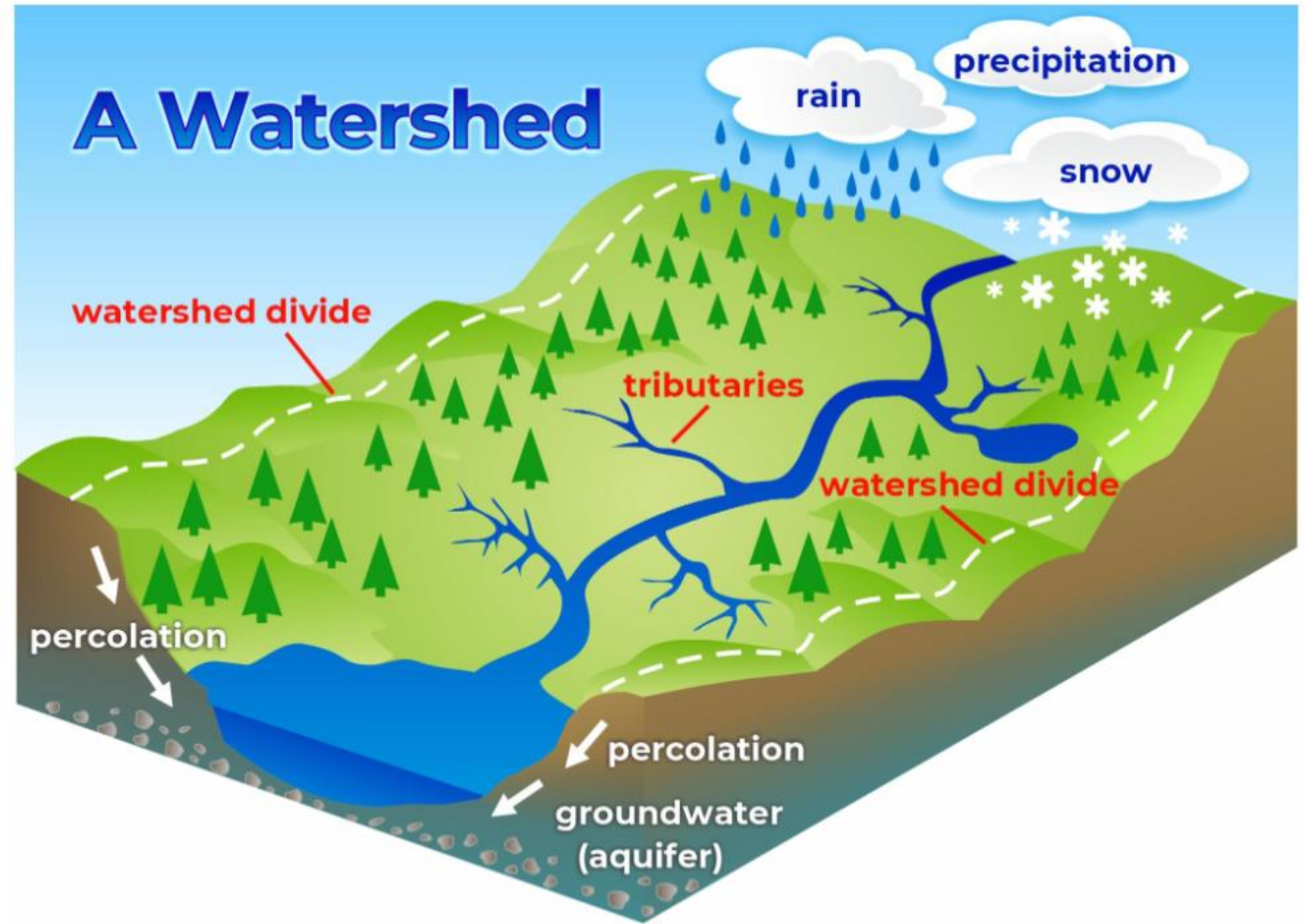
Stream Water Quality Overview

Stream Water Quality Overview



Watershed Primer

An area of land that drains to a single point such as a creek, or river.



Source: [PA State Water Atlas](#)

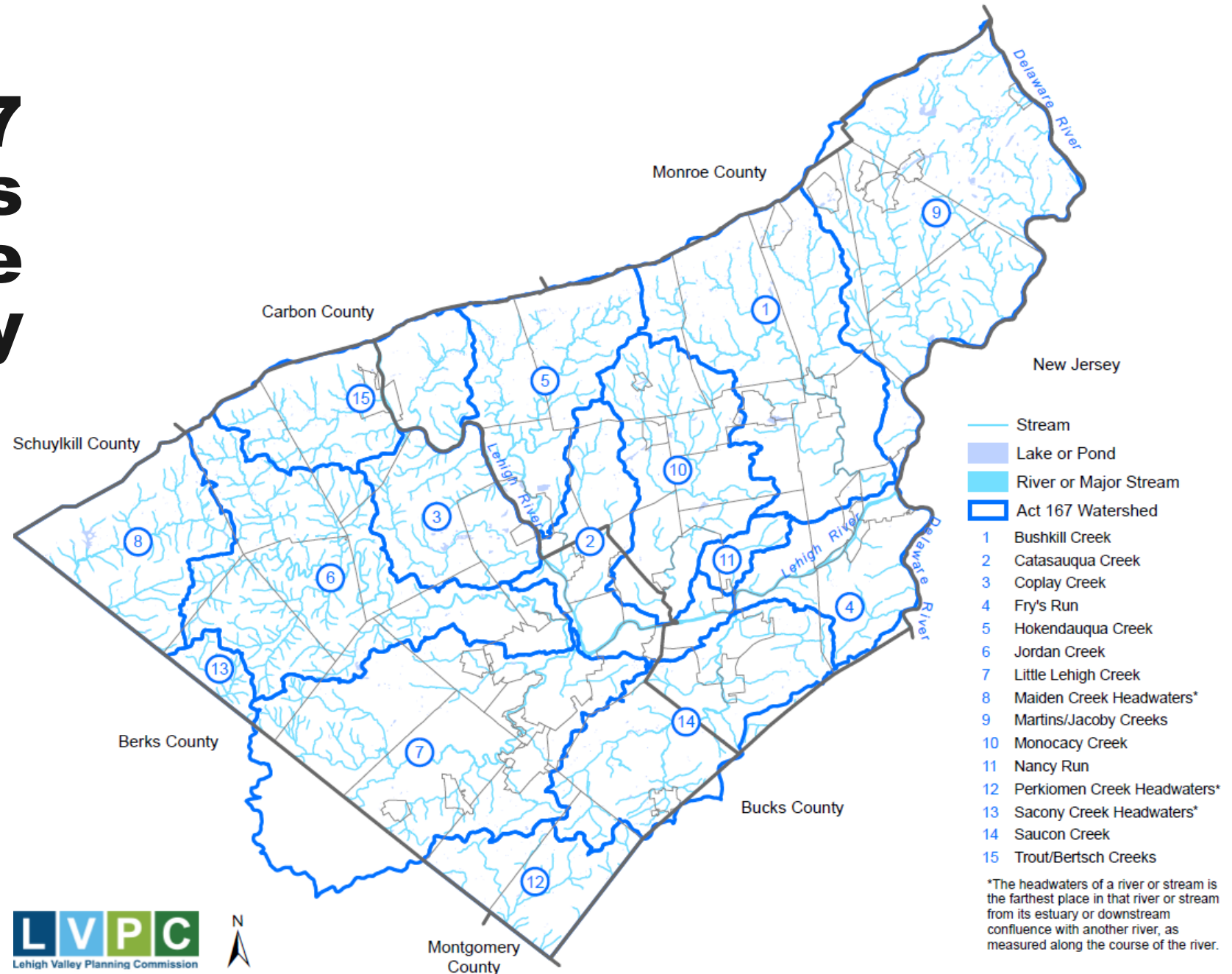
Watershed Drainage Areas

Pennsylvania's Watersheds Hydrologic Units (HU)



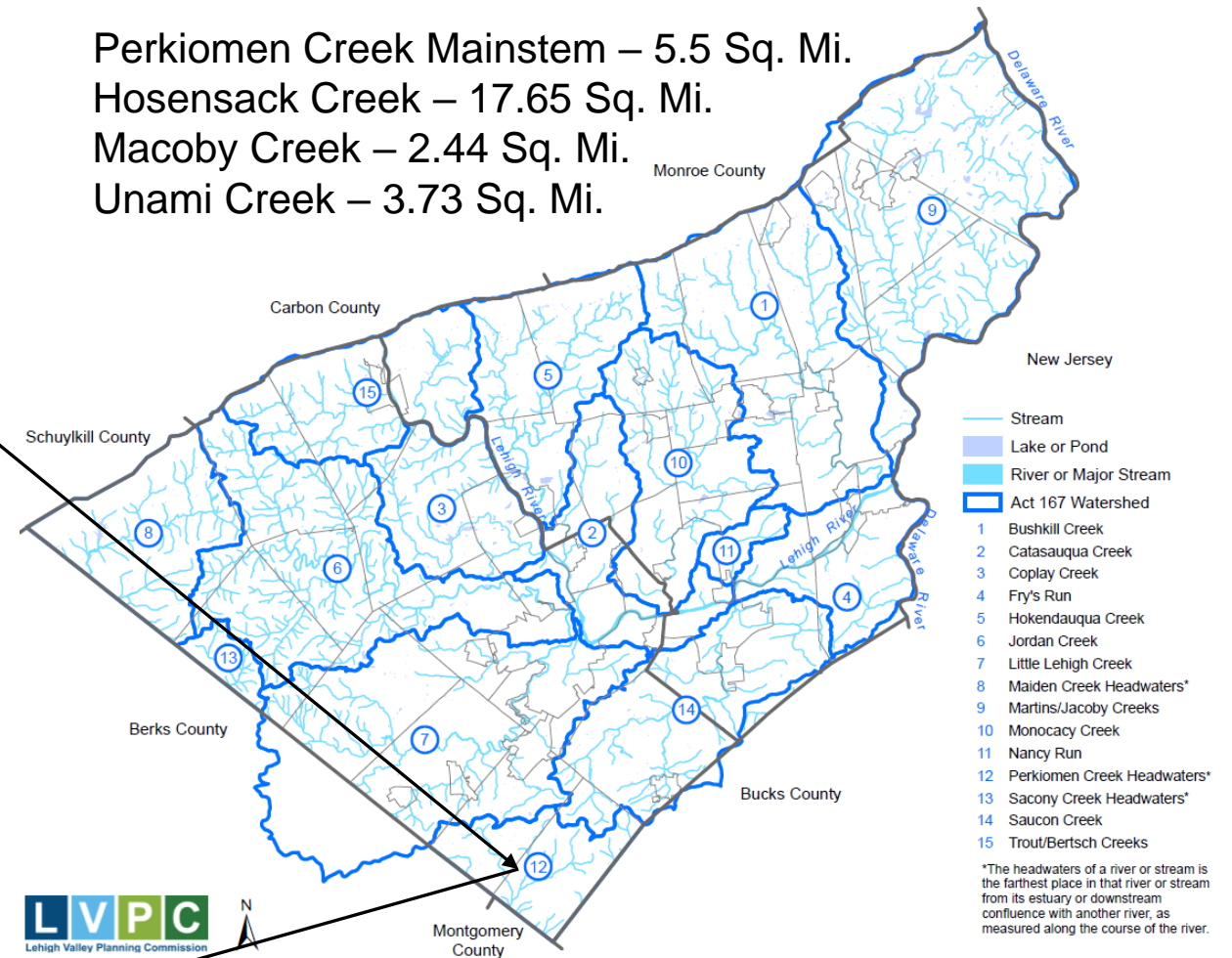
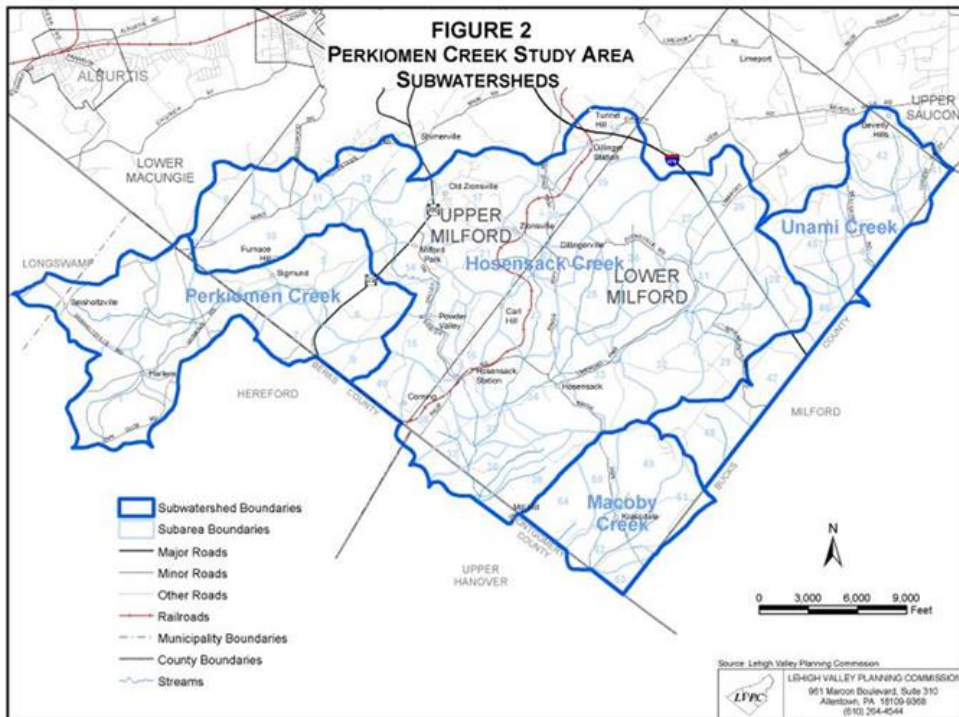
Level	Name	Digits	Avg. Size (mi ²)	Units
1	Region	2	15,100	3
2	Subregion	4	4,530	10
3	Basin	6	3,485	13
4	Subbasin	8	824	55
5	Watershed	10	139	327
6	Subwatershed	12	31	1,452

Act 167 Watersheds Of The Lehigh Valley



Act 167 Overview

Perkiomen Creek Mainstem – 5.5 Sq. Mi.
Hosensack Creek – 17.65 Sq. Mi.
Macoby Creek – 2.44 Sq. Mi.
Unami Creek – 3.73 Sq. Mi.



Perkiomen Creek Headwaters Plan – 29.32 Sq. Mi.
Study Area (2009)

Act 167 Overview

Pennsylvania Stormwater Management Act of 1978

Major Components

- Places responsibility on counties to prepare watershed plans.
- Outlines 13 plan requirements.
- Authorizes DEP to prepare guidelines to assist counties.
- Authorizes DEP to designate watersheds.
- Authorizes grant program to reimburse counties.
- Places responsibilities on land developers.

Purposes

- Encourage the sound planning and management of storm runoff.
- Coordinate the storm runoff management efforts within each watershed.
- Encourage the local administration and management of storm runoff.



13 Plan Requirements

1. Survey of existing runoff characteristics
2. Survey of obstructions
3. Assessment of projected land development
4. Analysis of Flood Hazard Area development
5. Survey of existing drainage problems
6. Survey of existing and proposed storm sewers
7. Assessment of alternative runoff controls



13 Plan Requirements (Cont.)

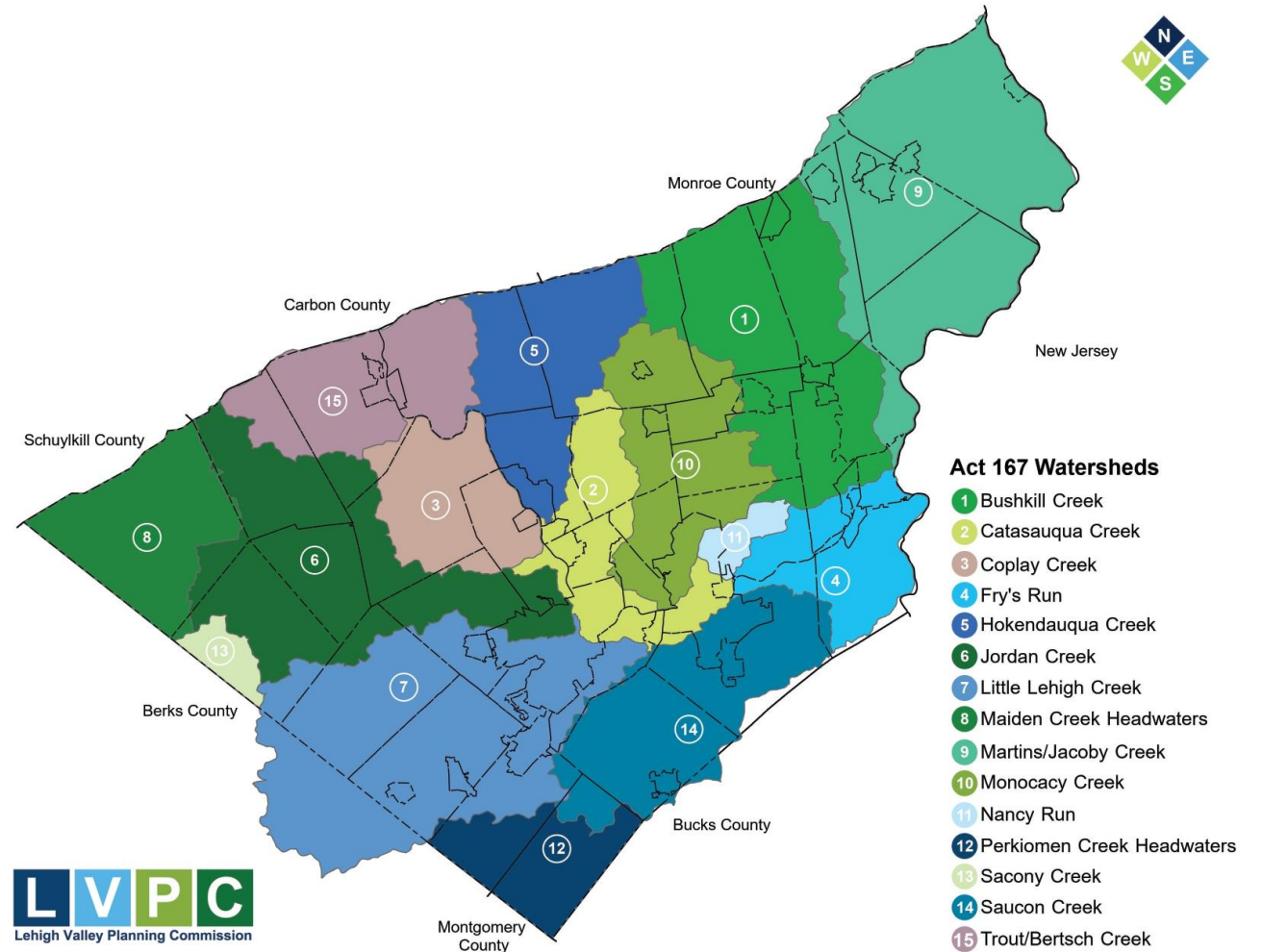


- 8. Identification of future flood control projects
- 9. Designation of future storm sewer areas
- 10. Identification of floodplains
- 11. Development of runoff control criteria
- 12. Development of implementation priorities
- 13. Development of plan review/revision process

County Responsibilities

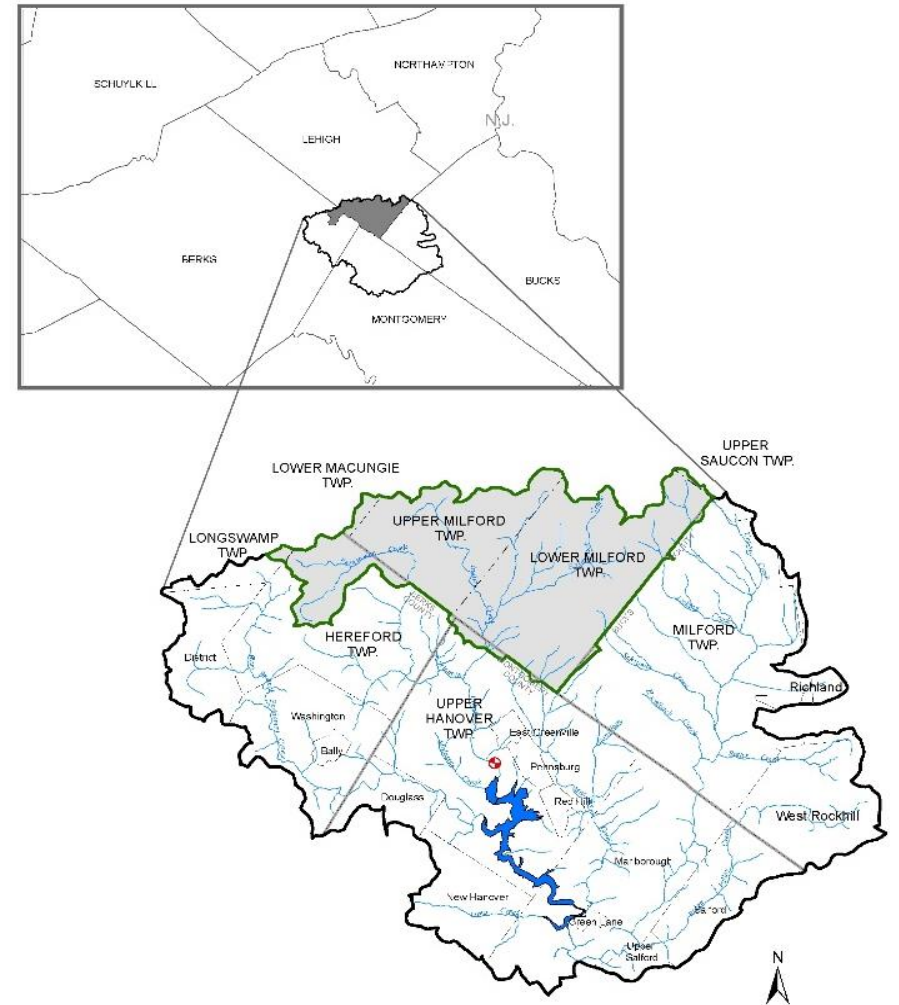
- Develop an Act 167 Plan for each watershed within its boundaries.
- Consult with municipalities through the Watershed Plan Advisory Committee.
- Adopt the plan by resolution after holding a public hearing and making the appropriate changes.
- Submit adopted plan to DEP.

Lehigh and Northampton counties have delegated plan preparation to the LVPC



Municipal Responsibilities

- Participate in the plan development
- Review the draft plan and provide comments.
- Adopt the necessary ordinances to control storm runoff after the plan is approved by DEP.
- Implement the plan through the enforcement of the new stormwater ordinance.



Status Of Act 167 Stormwater Management Plans And Ordinances

ACT 167 Stormwater Management Plan			
Lehigh and Northampton Counties			
	Watershed	Last Full Update: Hydrology and Ordinance	Ordinance Only Update for Water Quality
1	Bushkill Creek Watershed	1992	2006
2	Catasauqua Creek Watershed + Lehigh River Subbasin 4	1997	2006
3	Coplay Creek Watershed + Lehigh River Sub-basin 2	1994	2006
4	Fry's Run - Delaware River Sub-basin 2 + Lehigh River Sub-basin 5	1999	2006
5	Hokendauqua Creek Watershed + Lehigh River Sub-basin 3	1997	2006
6	Jordan Creek Watershed	1992	2006
7	Little Lehigh Creek Watershed	1999	2005
8	Maiden Creek Headwaters	2010	
9	Martins/Jacoby Creeks Watershed + Delaware River Subbasin 1	1996	2006
10	Monocacy Creek Watershed	2018	
11	Nancy Run Watershed	1989	2006
12	Perkiomen Creek Headwaters	2009	
13	Saony Creek Headwaters	2010	
14	Saucon Creek Watershed	1991	2006
15	Trout/Bertsch Creeks Watershed + Lehigh River Subbasin 1	1995	2006

Act 167 Modeling

The LVPC creates hydrologic models to test proposed control strategies against existing stream flows

Model input data and sources include:

- Geology and soils data – Existing mapping
- Existing land use and land cover data – GIS and field data
- Future land use data – Current zoning
- Stream channel geometry – Aerial photography and field data

LVPC also collects data on existing drainage problems

- Obstruction documentation – Historical Information/Municipal questionnaire
- Existing problem area documentation – Municipal questionnaire

Geology for Lehigh and Northampton Counties

LIMESTONE BEDROCK AREAS

- Jacksonburg Limestone
- Ontelaunee Formation
- Epler Formation - Beekmantown Group
- Rickenbach Dolomite - Beekmantown Group
- Stonehenge Limestone - Beekmantown Group
- Allentown Dolomite
- Leithsville Formation

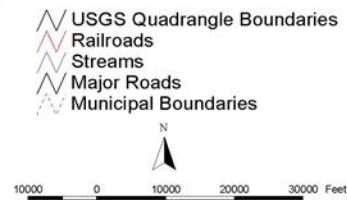
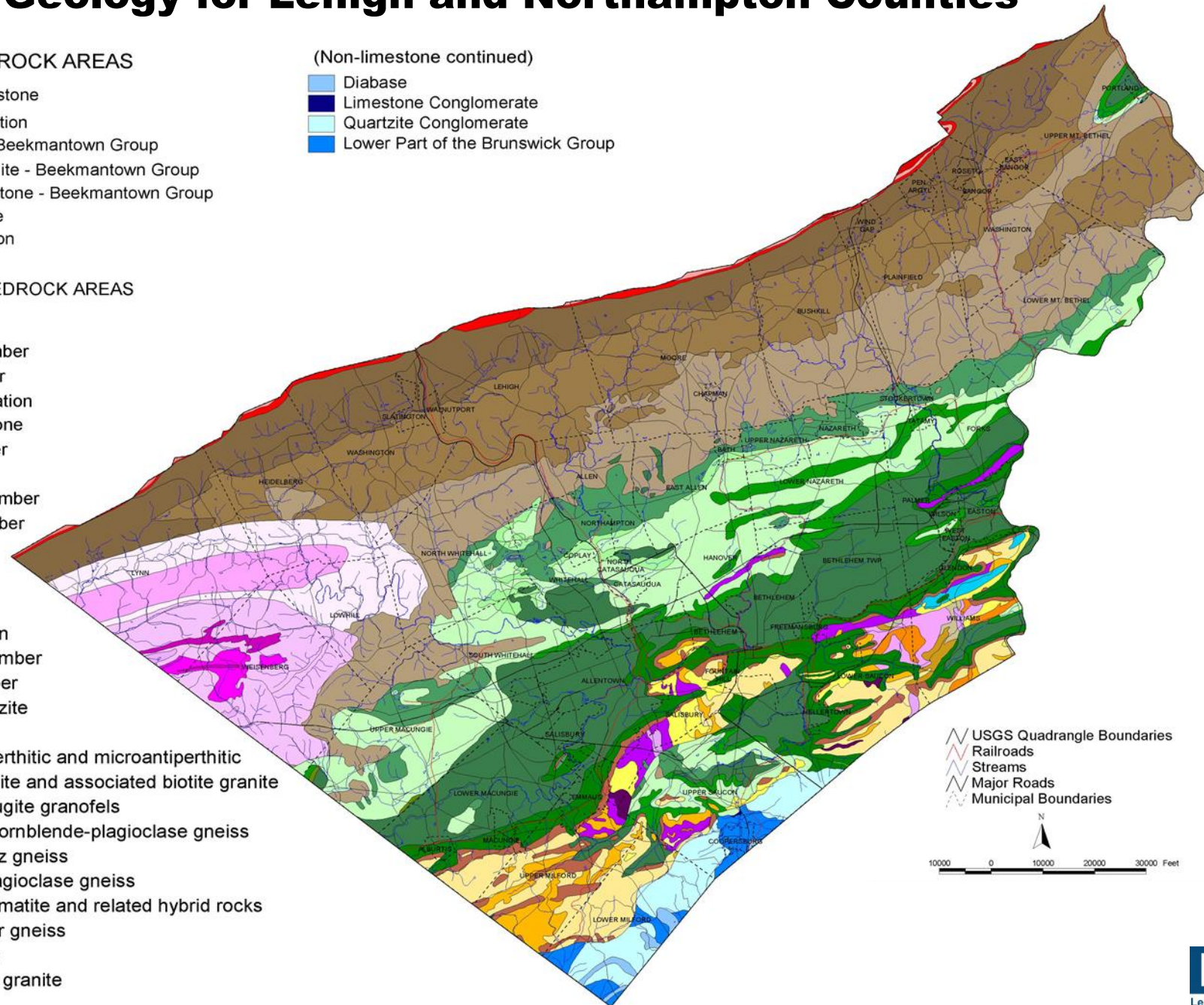
(Non-limestone continued)

- Diabase
- Limestone Conglomerate
- Quartzite Conglomerate
- Lower Part of the Brunswick Group

NON-LIMESTONE BEDROCK AREAS

- Bushkill Member
- Ramseyburg Member
- Pen Argyl Member
- New Tripoli Formation
- Shochary Sandstone
- Dreibelbis Member
- Red Beds
- Switzer Creek Member
- Weisenberg Member

- Minsi Member
- Clinton Formation
- Lizard Creek Member
- Tammany Member
- Hardyston Quartzite
- Amphibolite
- Alaskite, microperthitic and microantiperthitic
- Hornblende granite and associated biotite granite
- Quartz-garnet-augite granofels
- Epidote-augite-hornblende-plagioclase gneiss
- Oligoclase-quartz gneiss
- Biotite-quartz-plagioclase gneiss
- Amphibolitic migmatite and related hybrid rocks
- Potassic feldspar gneiss
- Pyroxene gneiss
- Albite-oligoclase granite
- Quartz Diorite



Summary of Update Process

- Data Collection – Municipal Survey and LVPC GIS
- Watershed Modeling and Alternative Analysis
- Update Global Act 167 Model Ordinance Standards
- Develop Stormwater Management Plan Update
- Municipal Review, Public Hearing and County Adoption
- WorkshopLV-Water & Public Engagement – Planning for 6 over the 2-year project term
- Sub-committees – Engineering and Solicitor



1. Changes in stormwater problem areas from original plan.
2. Changes to obstruction data from original plan.
3. Existing and proposed flood control projects.

Next Steps

Municipal Survey

**Next Meeting:
August 15, 2024
9:00 am – 10:30 am
615 Waterfront Drive**



Questions?