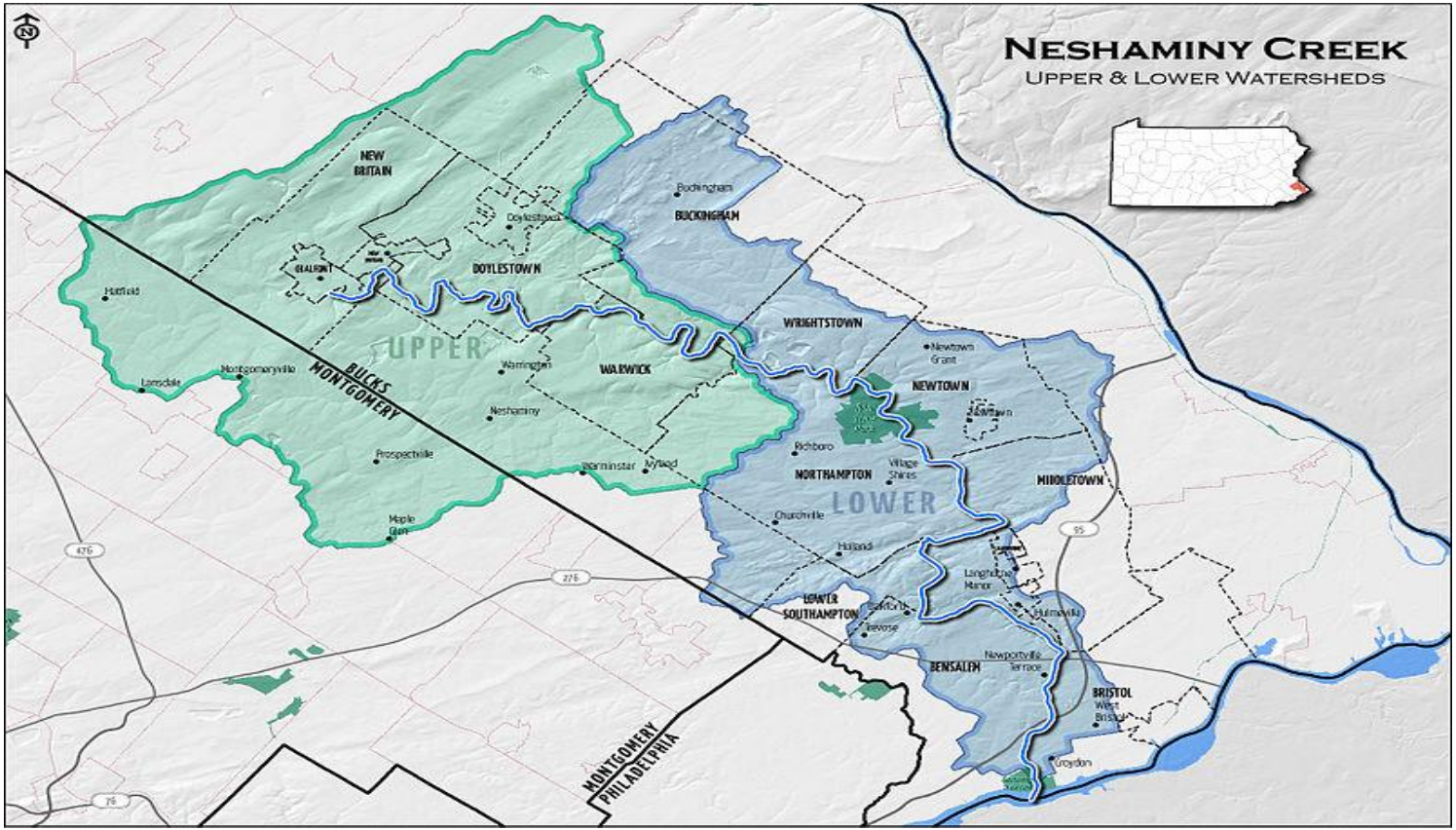
Neshaminy Creek Environmental Control (NCEC)

David Litz, Yunjie Yu, RoseMarie Scalzo,
Garrett Becker, Liancheng Jin

Neshaminy Creek Watershed



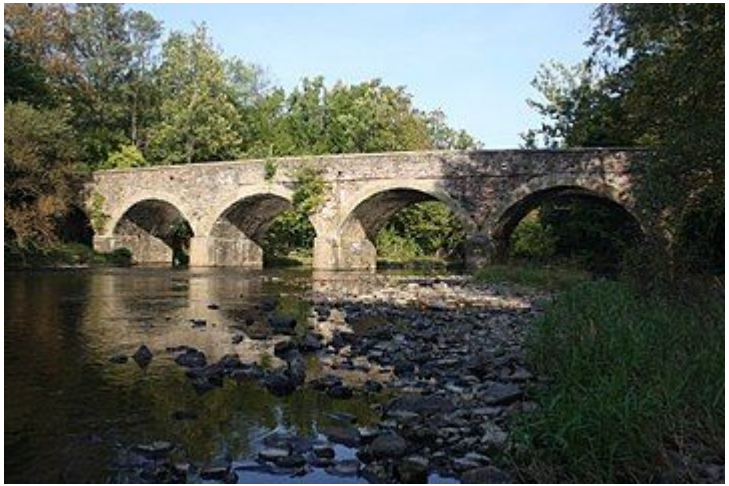
Geography

- 40.7 mile-long stream running through all of Bucks County, Pennsylvania
- Begins in the borough of Chalfont and flows southeast toward Bristol Township and Bensalem Township into the Delaware River
- Runs through through two state parks: Tyler State Park and Neshaminy State Park

History of Neshaminy's Name

- The name "Neshaminy" originates with the Lenni Lenape
- Lenni Lenape were indigenous people known as "Delaware People"
- Means "place where we drink twice"
- Focused on section of the river that slowed down and changed direction
- Might also refer to area where two springs were present near the river

History of Creek



- The Neshaminy Creek was the first stream in bucks county to be crossed by bridges and ferries
- Creek used for early transportation and shipping needs
- Declared a public highway on March 9, 1771
- Been target to many historical floods, particularly in 1833 and 1865
- Bridges and dams destroyed, flow so great it reached new jersey shore line

Mission Statement

The NCEC’s mission is to restore and protect the Neshaminy Creek watershed by increasing wildlife habitat by 20%, reduce flooding by 30%, and accomplish fishable and swimmable water quality standards throughout the watershed by the year 2040.

Problems

Pollution

- Property development eliminates soil and vegetation
  - Decreased nutrient absorption
- Increased Nitrogen and Phosphorus loads in the stormwater runoff
- 15 municipal wastewater discharge points and sewer lines running along the creek

Flooding

- Increased urbanization and impervious surface cover
- Water moves faster running over impervious surfaces
- Greater volume of water reaching stream in less time

Lack of Habitat

- The acquisition of land and natural resources within the watershed for development has reduced the watershed's ability to prevent bank erosion, handle nutrient loads and house native species.
- Decreased canopy cover hinders the watershed's ability to moderate stream temperature.

Goals

1. Protect and improve the water quality in the Neshaminy Creek Watershed in an effort to improve recreational opportunities, wildlife habitat and sources of drinking water.
2. Reduce impacts from flooding on economic, historic and natural resources.
3. Increase areas of natural wildlife habitat for the region.

Recommendations

- Stricter control over development in the area
  - 100% of increased runoff volume from impervious surface cover should be accounted for by stormwater runoff mitigation.
  - Swales, retention ponds, and infiltration basins
- Expansion of the 100 year floodplain
  - Protect people and businesses from flood prone areas.
  - Increase the distance between new development and the stream to allow for habitat to replenish and decrease nutrient loads in runoff.
- Long term monitoring of discharge points along creek and within the watershed
  - Provide data on nutrient loads entering creek.
  - Identify locations of pollutant sources.

THANK YOU !

Questions?