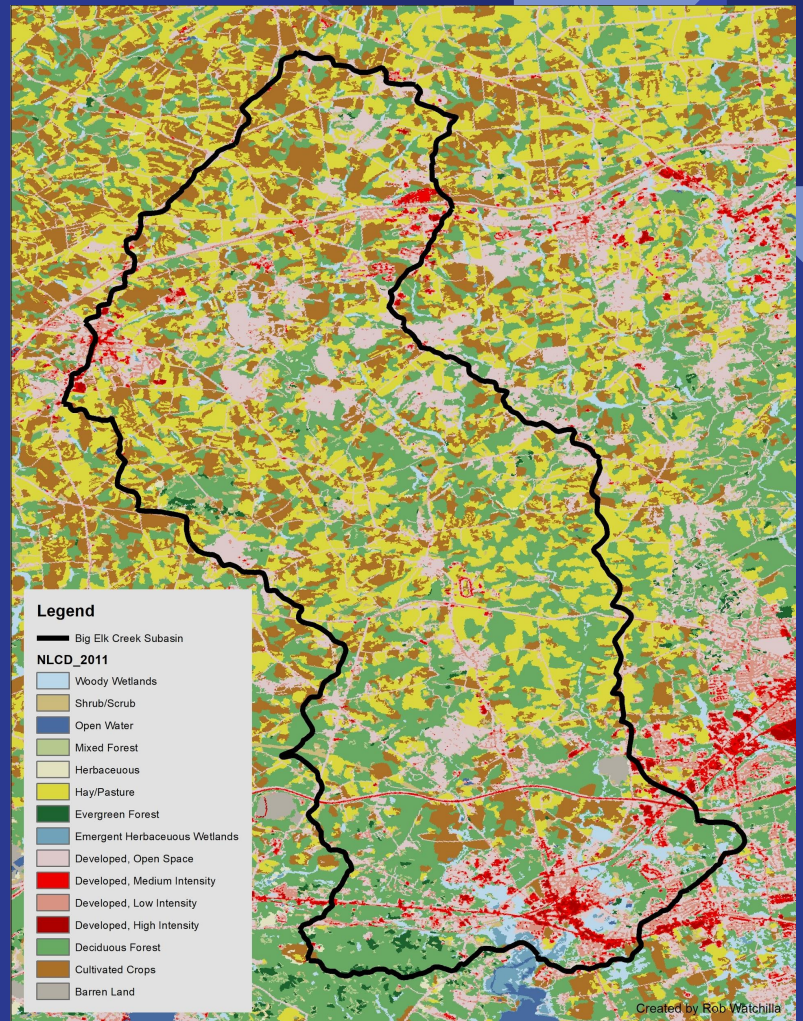
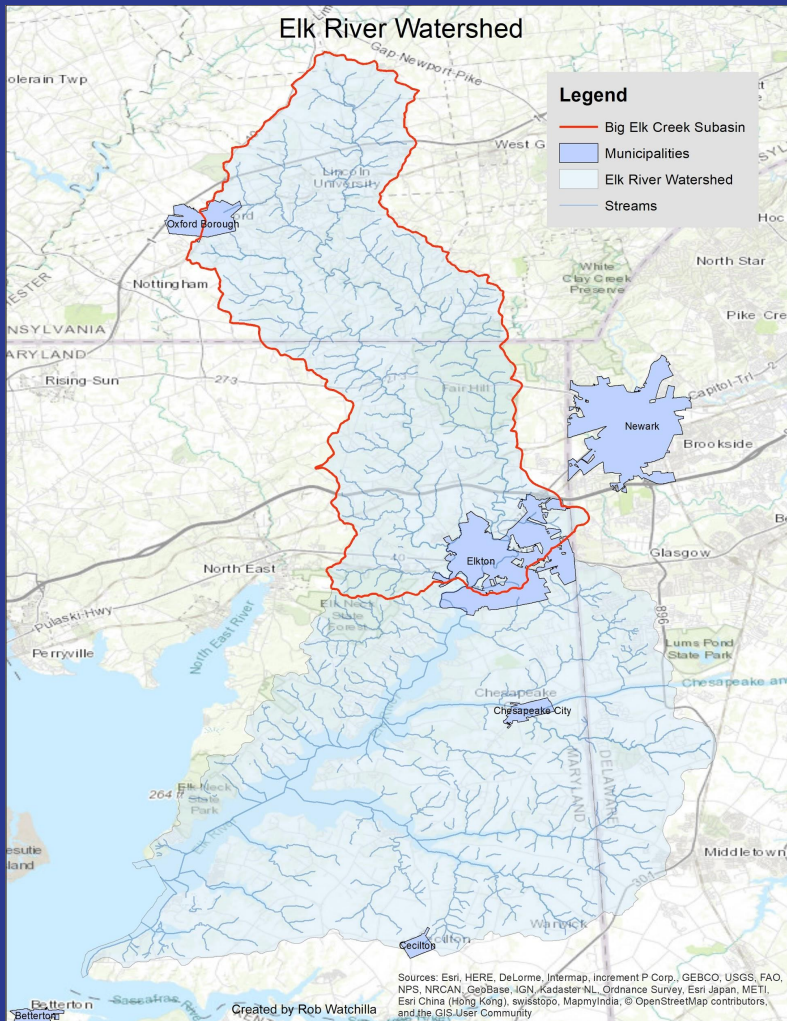


Big Elk Creek Watershed Plan for Clean Intact Streams (BECCI)

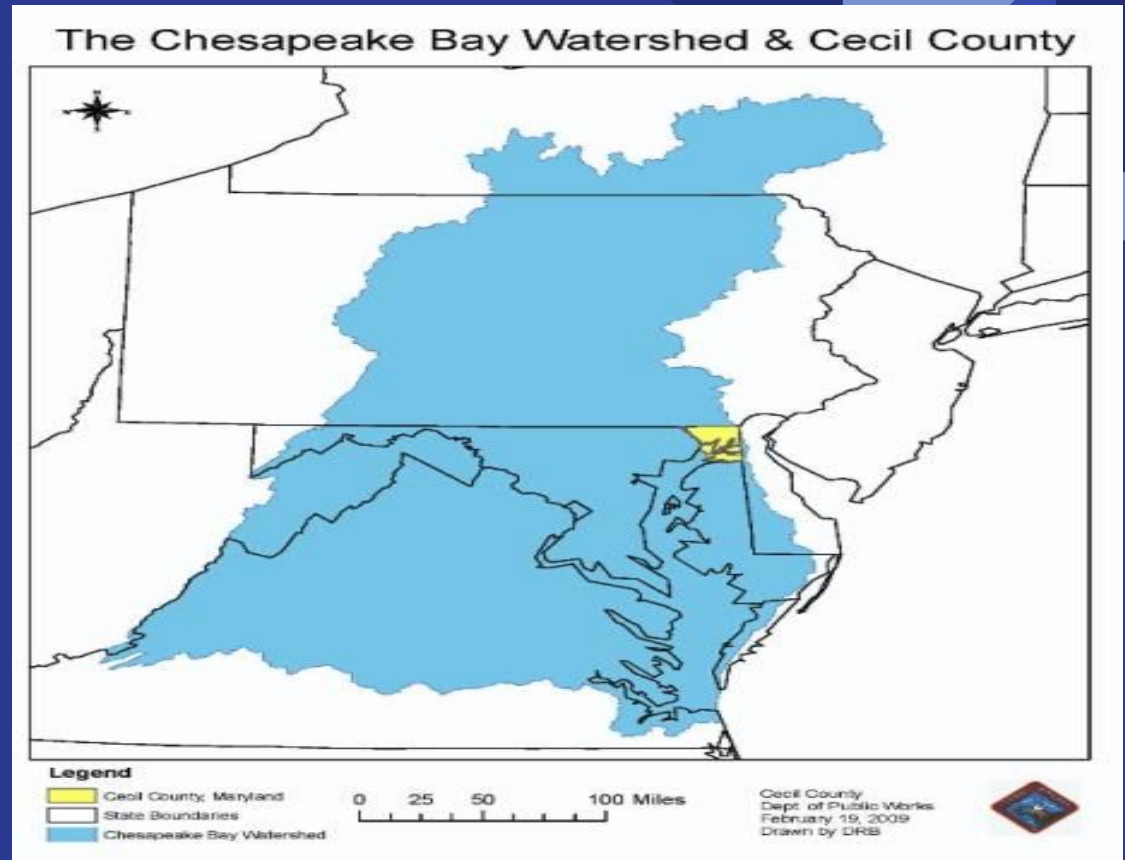
By: Terra Eby, Rob Watchilla and Kyle Zentkovich





Geography

- Rolling Hills north of Route 40 in the Piedmont.
- South of Route 40 is apart of the coastal plane.
- The Big Elk Creek is present in both



Source:

<http://www.ccgov.org/government/public-works/public-works-divisions/stormwater-management-division/watersheds>

Background

***Extends over 15 miles throughout PA, MD and Northern DE**

***The main nonpoint sources of pollution stem from contamination from non-regulated watershed areas upstream that exchange into the Elk River. The designated use of the elk river is to support marine and aquatic life.**

***In 2014 the Elk & North East Rivers Watershed Association was established.**

Mission Statement

The goal of Becci is to reduce the risks of flooding, improve water quality from the effects of human development and agricultural runoff, and to promote a healthier habitat for all living creatures within the Elk Creek Watershed by 2028.

Problem 1

The Big Elk Creek region is set to increase in population by 20% between now and 2020. The recharge could greatly be impacted by human activities such as developments or paving that contribute to topsoil loss. The area is also surrounded by agriculture. The use of groundwater for irrigation can cause a potential threat to this watershed.

Solutions

Balance of Water Budget for water entering and leaving the Big Elk Creek

Problem 2

High nitrogen and phosphorus levels due to the high density of farms and major roads within the watershed.

Solutions:

1. Have buffer strips of land between farmland and drainage basins.
2. Limit the use of chemical fertilizers.
3. Keep the contaminants from major roadways(I-95 , US 40 and Route 1) from entering the waterways.
4. Plant grasses in the drainage basins along with Bioswales to remove pollutants.



Problem 3

Pathogens and bacteria present in waterways.

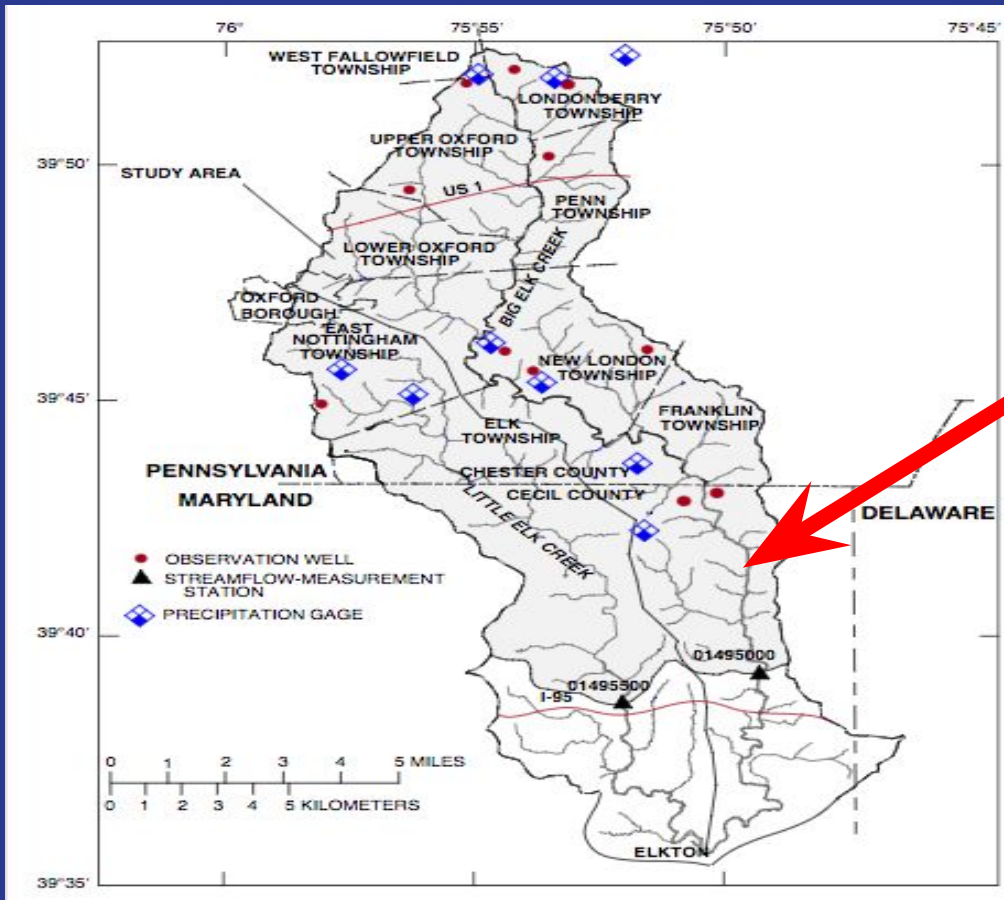
Solutions:

1. Monitor large dairy and chicken farm runoff.
2. Prevent septic tank seepage from reaching streams. Contain leaks.



TMDL

- The Big Elk Creek is a sub watershed of the Elk River Watershed which is also a sub watershed to the Chesapeake Bay Watershed.
- Big Elk Creek follows EPA regulations for the Chesapeake Bay Watershed.
- High nitrogen and phosphorus levels are present in the Big Elk Creek watershed.
- TMDL strives to maintain water quality standards by setting pollution limits.
- MS4 - Municipal separate storm sewer system for Maryland SHA



The Watershed does include Fair Hill Natural Resources management area in Cecil County Maryland.

This encompasses over 5,500 acres of mostly undeveloped land.

Source:
<https://pubs.usgs.gov/fs/2002/0019/fs20020019.pdf>



Questions ?