pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chesapeake Bay Program Office

Local Planning Goals

Water Quality Goal Implementation Team

January 22, 2018

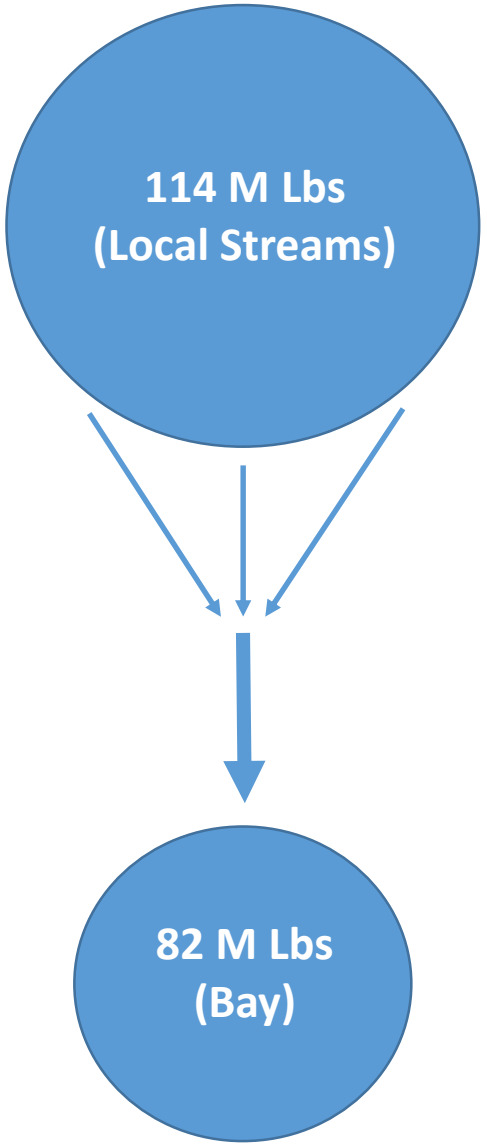
Clean water:
Great for PA
Good for the Bay

Chesapeake Bay Program
Science. Restoration. Partnership.

How do we determine “local”?

- Step 1: Convert any Chesapeake Bay “diet” into a local PA stream diet.
  - CBP Model has estimates of nutrient and sediment delivery from the field to local streams through large rivers and to the Bay.
  - Pounds of pollutant delivered to the Bay can be expressed as pounds delivered to local streams using these factors.
  - If 82 M lbs of Nitrogen delivered to the Bay is PA’s Chesapeake Bay “diet”, that number is equivalent to about 114 M lbs of Nitrogen delivered to local streams.

Source:
Matt Johnston, University of Maryland

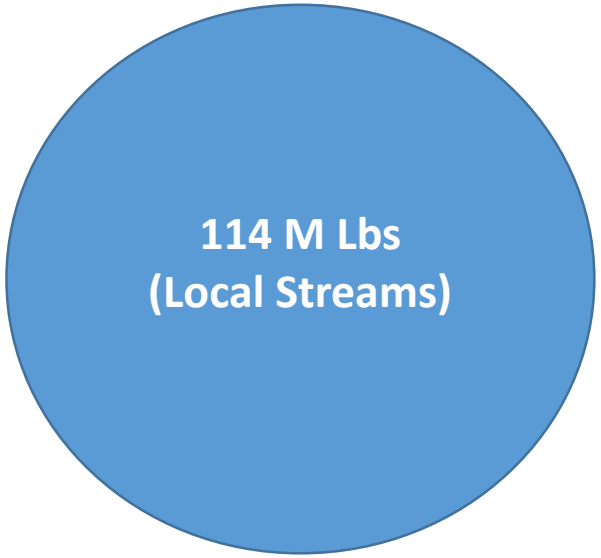


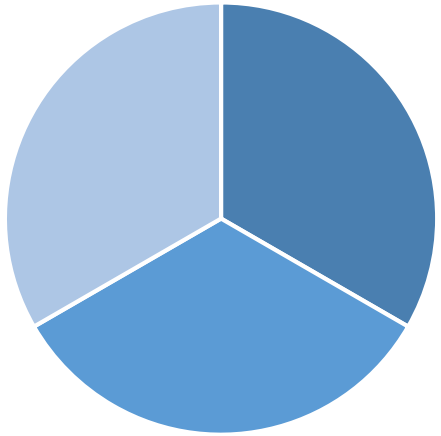
Source:
Matt Johnston, University of Maryland

How do we determine “local”?

- Step 2: Choose a geography to split up the diet.
  - CBP Model can provide pollution by:
    - Small watershed – Swatara Creek (122)
    - County – Berks (43)
    - Sub-basin – Lower Susquehanna River (6)
    - River basin – Susquehanna River (3)

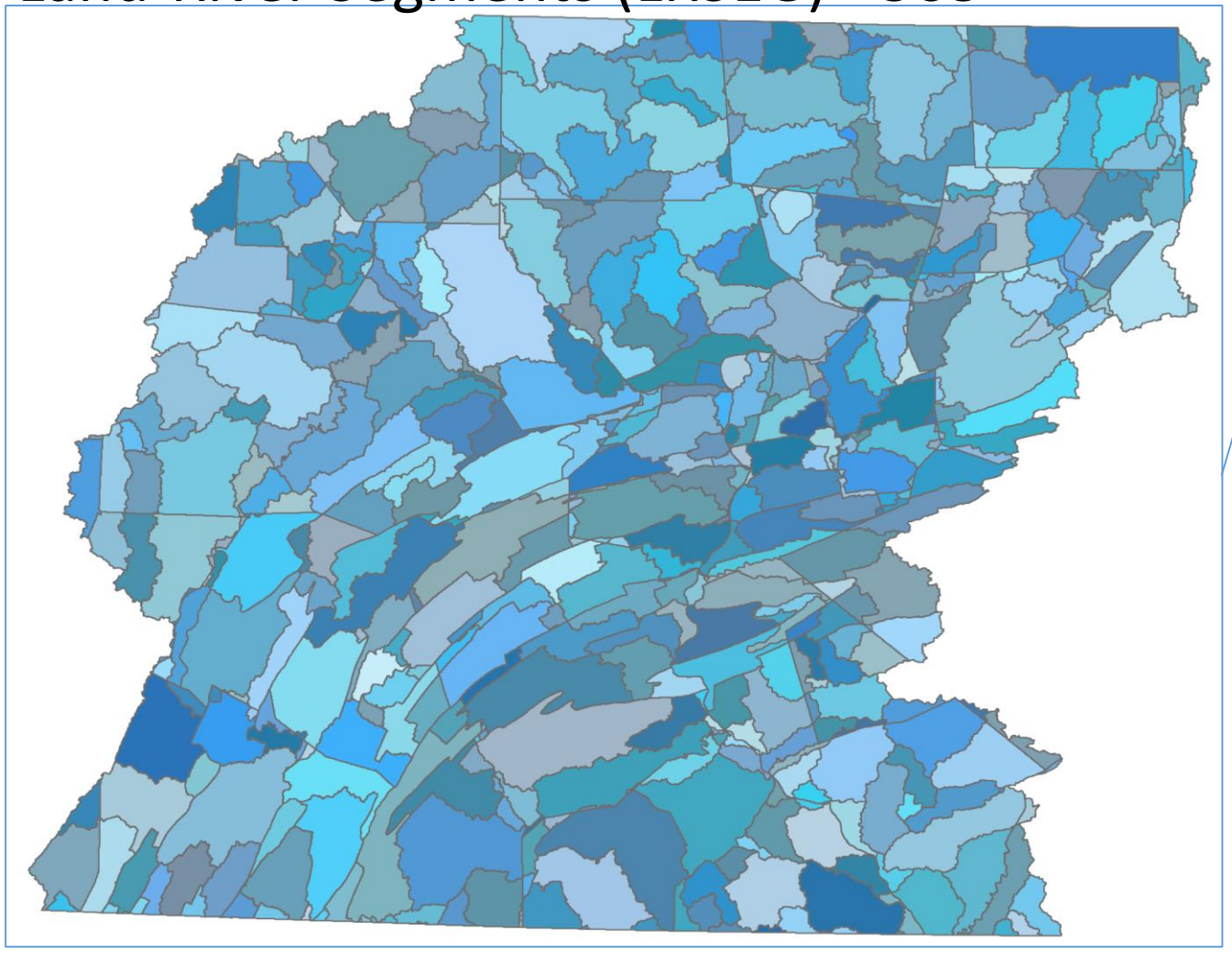
  - **<u>Regardless of geography selected, data can be provided to localities at any level.</u>**

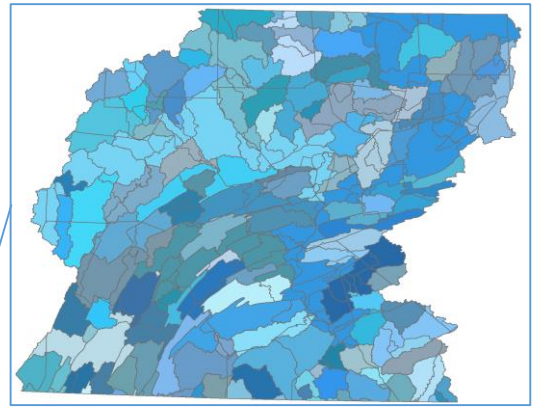




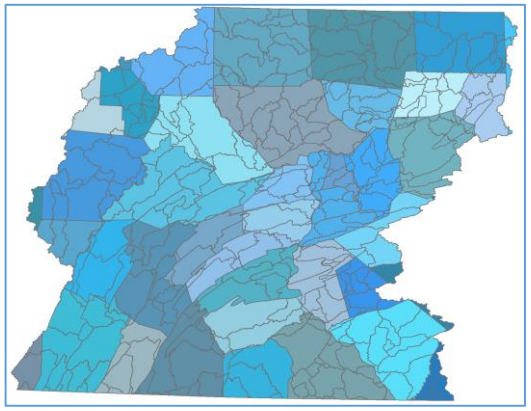
Source:
Matt Johnston, University of Maryland

Land-River Segments (LRSEG) - 505

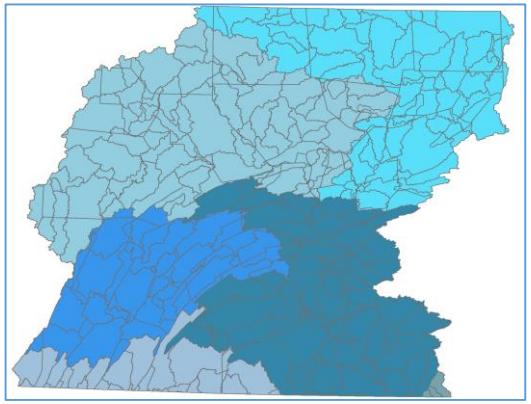




Rivers - 122

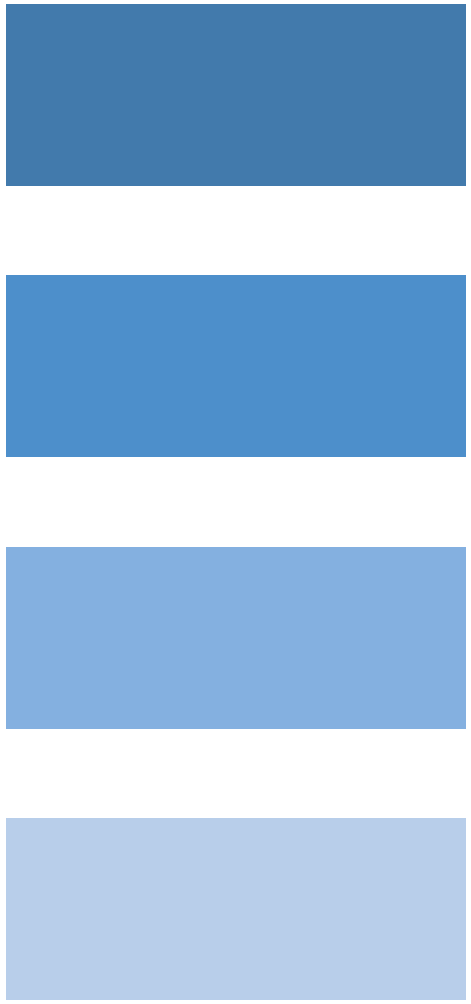


Counties - 42



Sub-Basins - 6

What are Tiers?



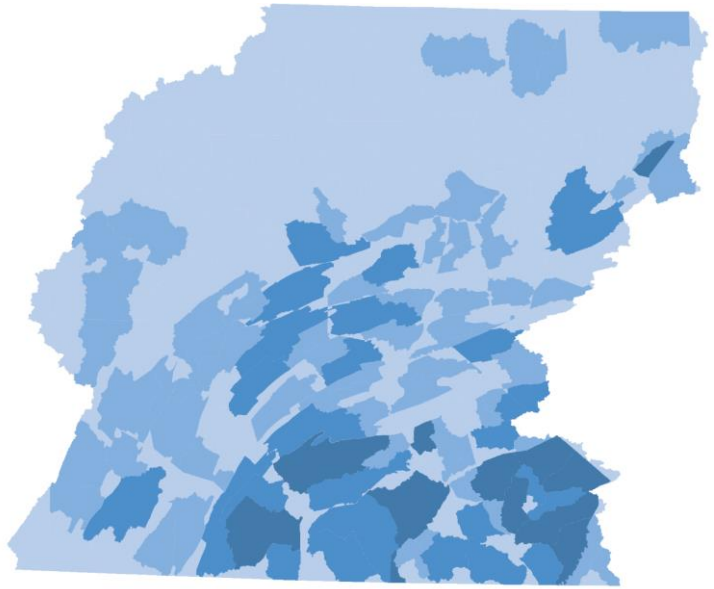
Tier 1 – First 25%

Tier 2 – Second 25%

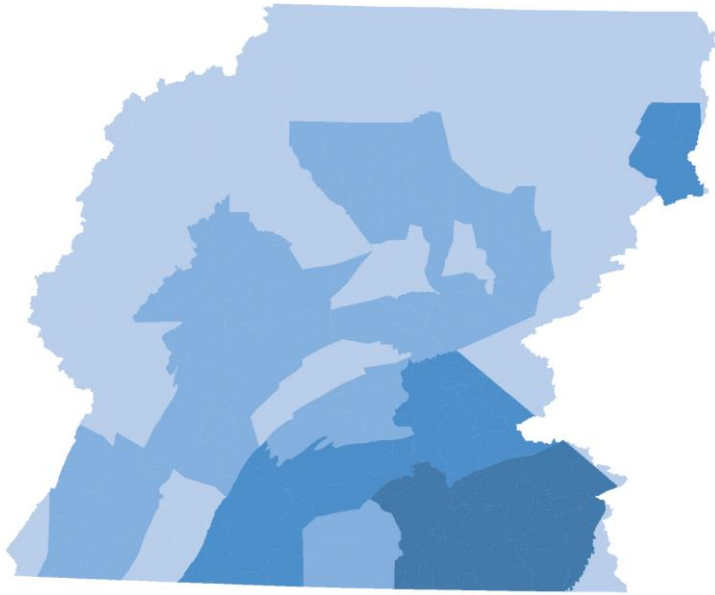
Tier 3 – Third 25%

Tier 4 – Final 25%

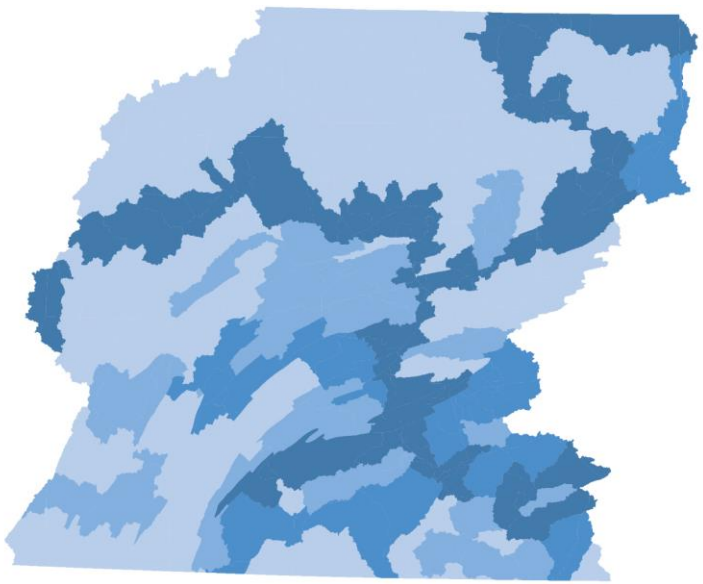
- Geographies are categorized into tiers using the color scheme on this slide.
- Tier 1 = The least number of geographies (e.g., counties) needed to achieve at least 25% of the state's reduction goal.
- Efforts are still needed in ALL locations to fully achieve state goal.



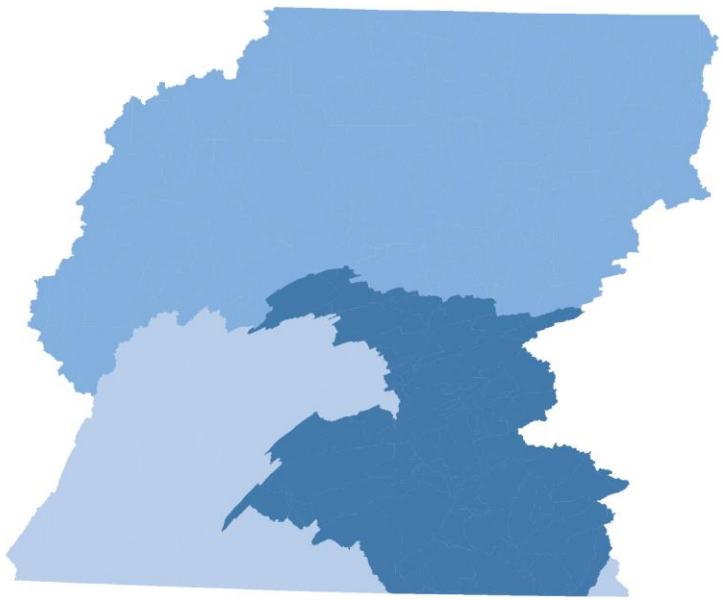
Land River Segment



County



River



Subbasin

Source:
Matt Johnston, University of Maryland

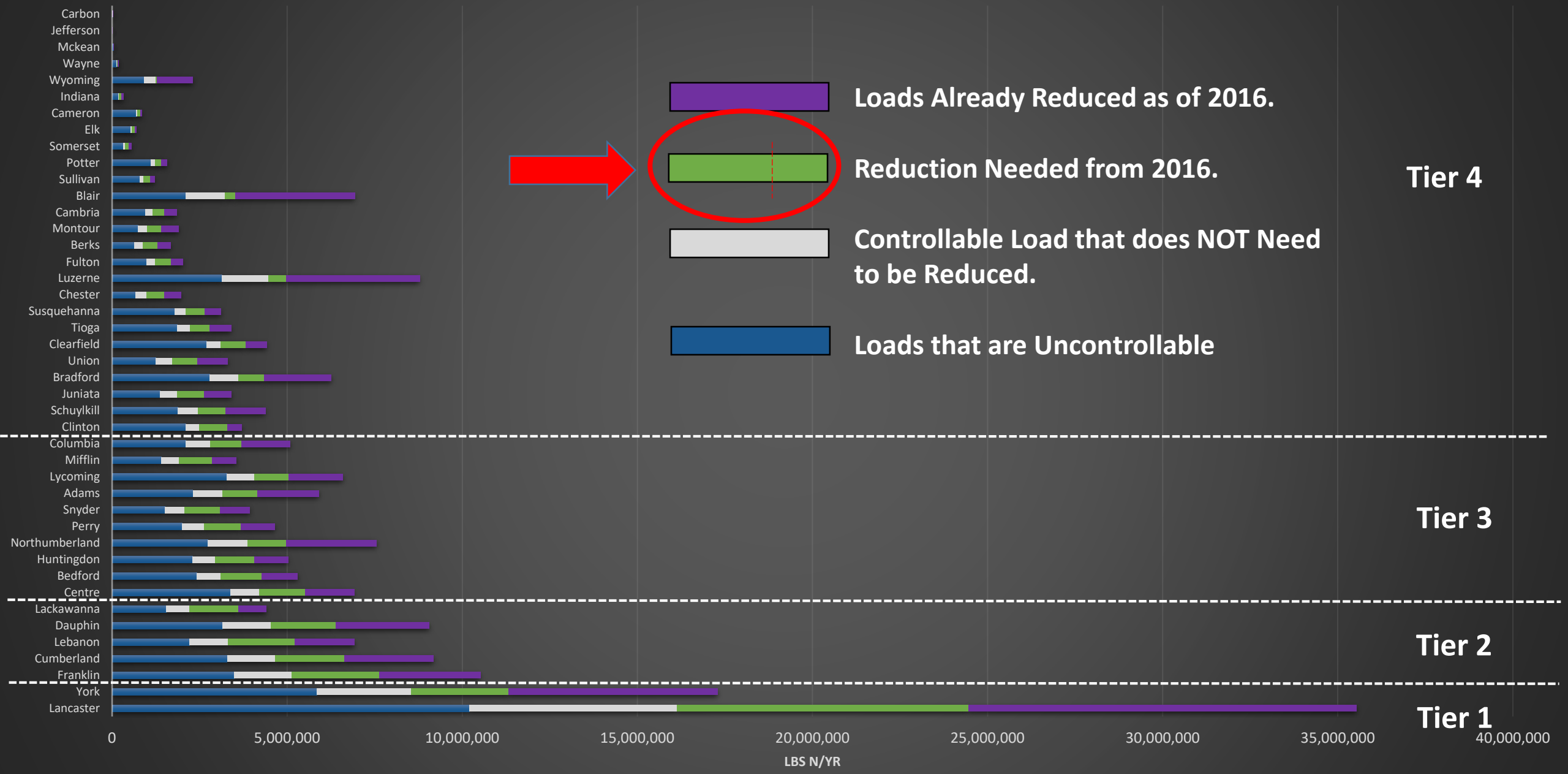
Determining County Goals

- Step 3: Create Expectation of % Effort.
  - Chesapeake Bay Program Model can provide pollution estimates if 0 BMPs existed and if landscape was saturated with BMPs (also known as E3, or everything by everyone everywhere).
    - Expected % Effort lies somewhere between these two scenarios.

- Equal % Effort:
  - All geographies must implement the same % of POSSIBLE BMPs.

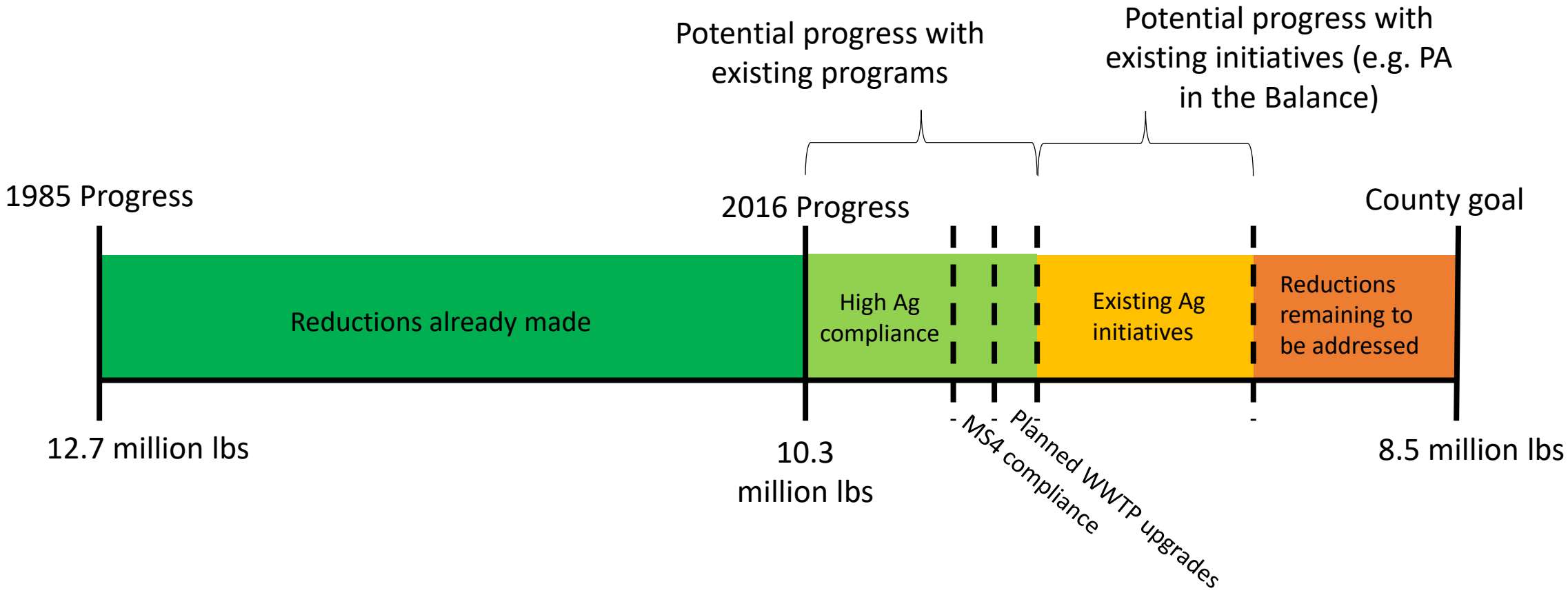
  - Greater Impact to Local Waters = Greater % Effort
    - A numeric ranking system is needed to determine areas that have a greater impact.
      - Example: Lbs of Nitrogen/Acre Delivered to Streams by each area

Lbs of Nitrogen Delivered to Local Streams By County in Various Scenarios Assuming Equal Effort



Next Steps for Local Planning Goals?

Hypothetical journey to a county goal (nitrogen)



Source:
Emily Trentacoste, EPA Bay Program Office

Chesapeake Bay Phase 6 Program Watershed Model.
http://cast.chesapeakebay.net

Next Steps for Local Planning Goals?

- Developing a toolbox for county stakeholders to use in determining locally how they will meet their goal
  - Informed by sector-based work groups
- Continued public engagement and input

Clean water:
Great for PA
Good for the Bay



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chesapeake Bay Program Office

Contact Information:

Lisa Schaefer
Director of Government Relations
County Commissioners Association of Pennsylvania
PA Local Area Goals Work Group Co-Chair
lschaefer@pacounties.org

DEP Chesapeake Bay Program Website:
http://www.dep.pa.gov/ChesapeakeBay

Phase 3 WIP Website:
www.dep.pa.gov/chesapeakebay/phase3