

OFFSET CAPACITY ANALYSIS

Accounting for Growth Work
Group

March 22, 2013



Sustain~~able~~ ____ Attain~~able~~

BACKGROUND

- Appendix S of the TMDL requires
 - “jurisdictions to account for and manage new or increased loadings of nitrogen, phosphorus, and sediment.”
 - “a jurisdiction may accommodate such new or increased loadings only through a mechanism allowing for quantifiable and accountable offsets”

BASIS OF ANALYSIS

- In order for the Accounting for Growth Policy to succeed there must be a supply of credits for purchase
- Practices being implemented for the TMDL cannot be used to generate credits for trading
- What's left?
- Nitrogen only considered for simplicity



SOURCES OF DATA

- Chesapeake Bay Program Model (CBP)
- Maryland Parcel Point Database (MDP)
- Maryland Minor Wastewater Treatment Plant Report (MDE)
- Farm Assessment Inventory (MDA and SCD)



JUSTIFICATION FOR MULTIPLE SOURCES

- None of the sources are perfect. Some appear to be better (or worse) for different things.
- Using any single source is probably wrong
- We chose multiple sources of data to get a general sense of the potential offset supply

BAY MODEL

- Bay Model Scenarios
 - E3 - Everything, by everyone, everywhere. Loads delivered to the Bay if 100% of implementation occurred. Much lower load than the TMDL
 - 2025 - Loads to the Bay from Maryland after all of the strategies in the Phase I, II, and III WIPs have been implemented
 - Current - Loads from current practices applied on 2006 land uses.

BAY MODEL

- Used the model to calculate load scenarios for
 - Agriculture
 - Septic
- Other sources can be calculated but we selected these two for analysis for simplicity

OTHER DATA SOURCES

- Agricultural
 - The Howard County Soil Conservation District and MDA
 - Surveyed interested farmers for potential practices on their farms
 - Used National Resource Conservation Service Field Guide
 - More practices than the Bay model
 - Used to determine average farm potential, extrapolating from real farm values

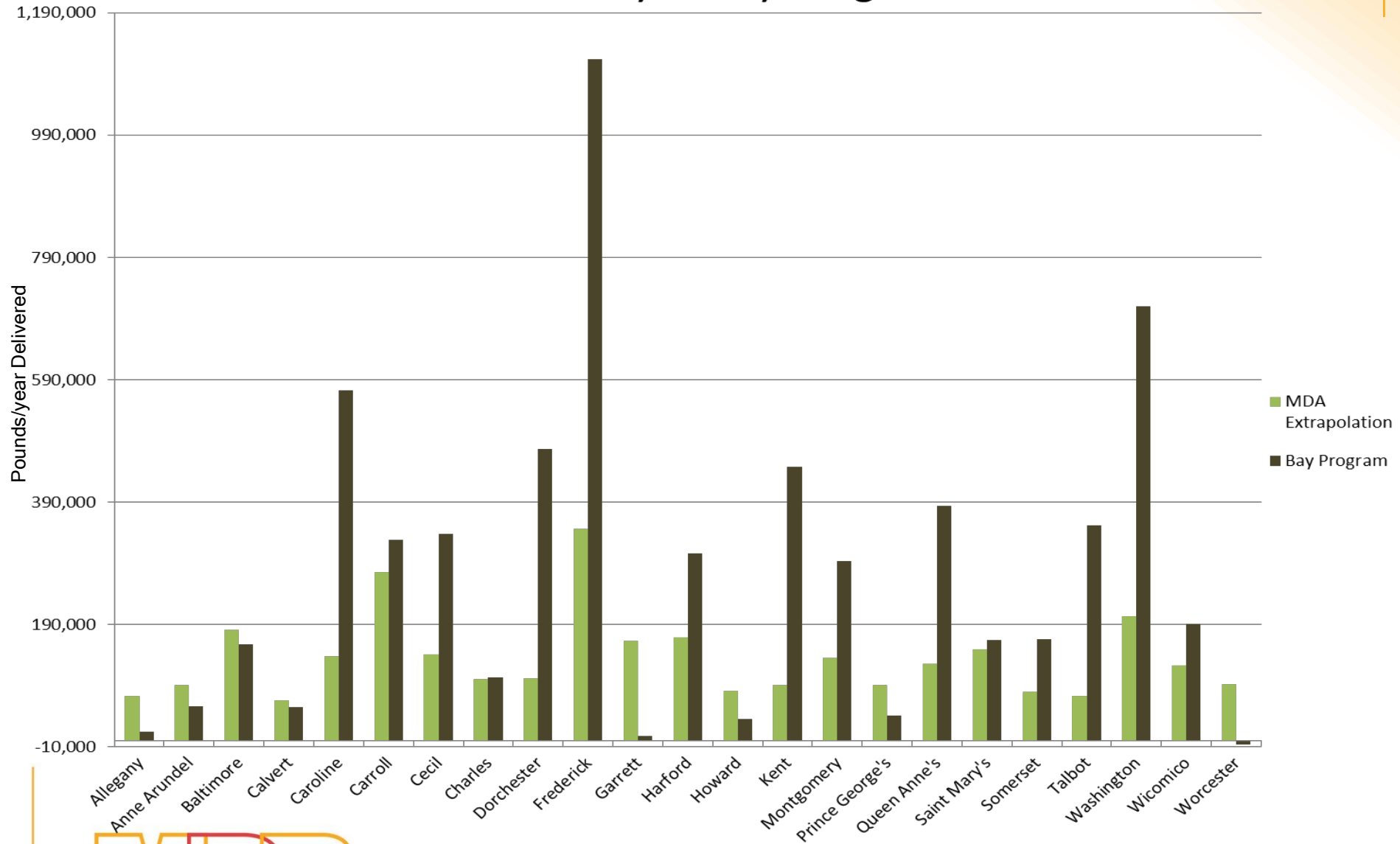
OTHER DATA SOURCES

- Septics
 - MDP Parcel Based Data
 - Used for the BRF
 - Overlays parcel point data and local jurisdiction sewer service boundaries
 - Parcel points outside of sewered areas are generally on septic

OTHER DATA SOURCES

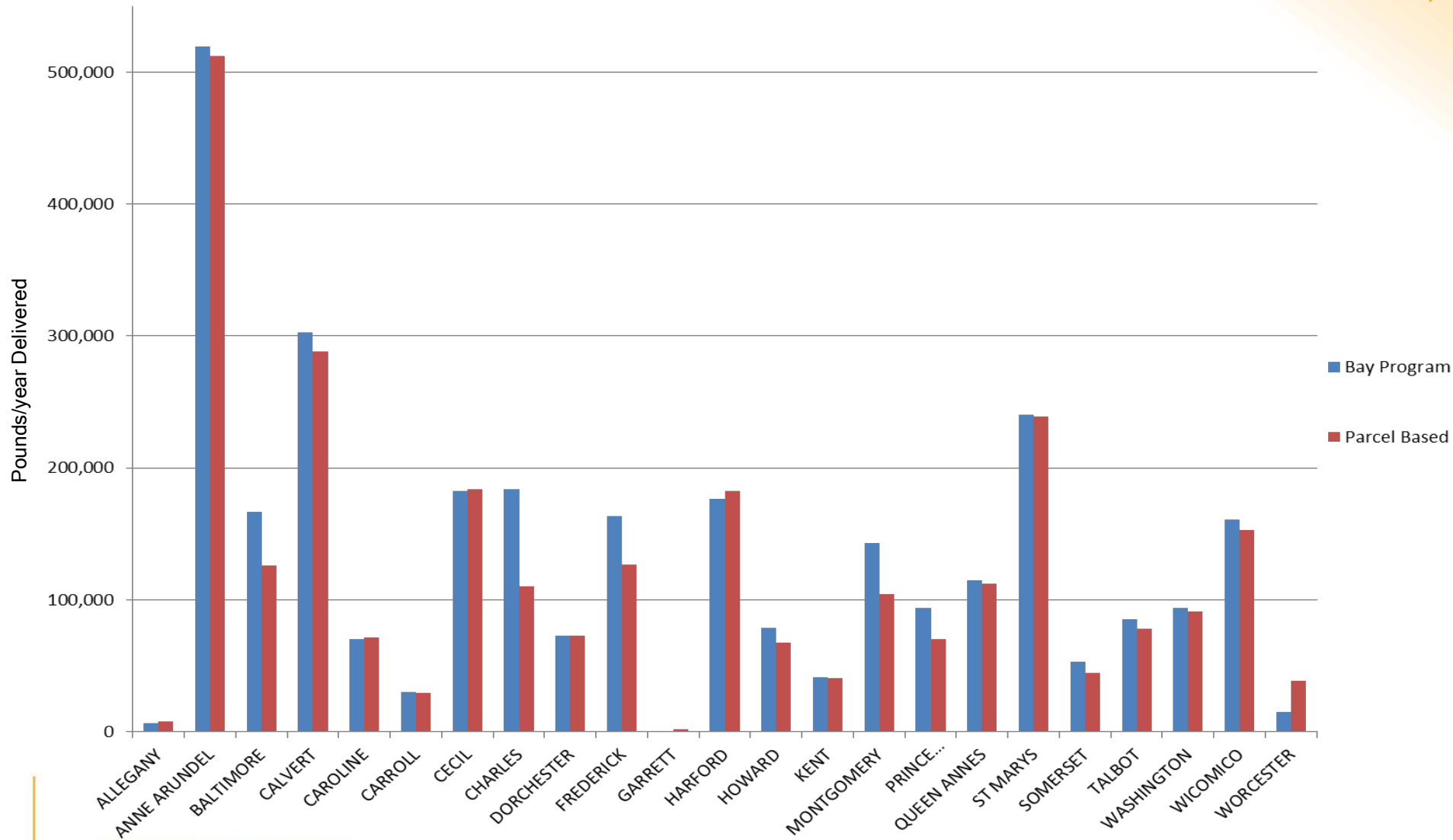
- Minor wastewater treatment plant data from MDE
- Most of these plants are not planned for upgrades
- Range of upgrade (BNR, ENR, or Zero Discharge) provides options
- These upgrades would help reduce financial burden on local governments to meet the TMDL

Possible Agricultural Credit Generation by County: MDA Inventory v. Bay Program Data



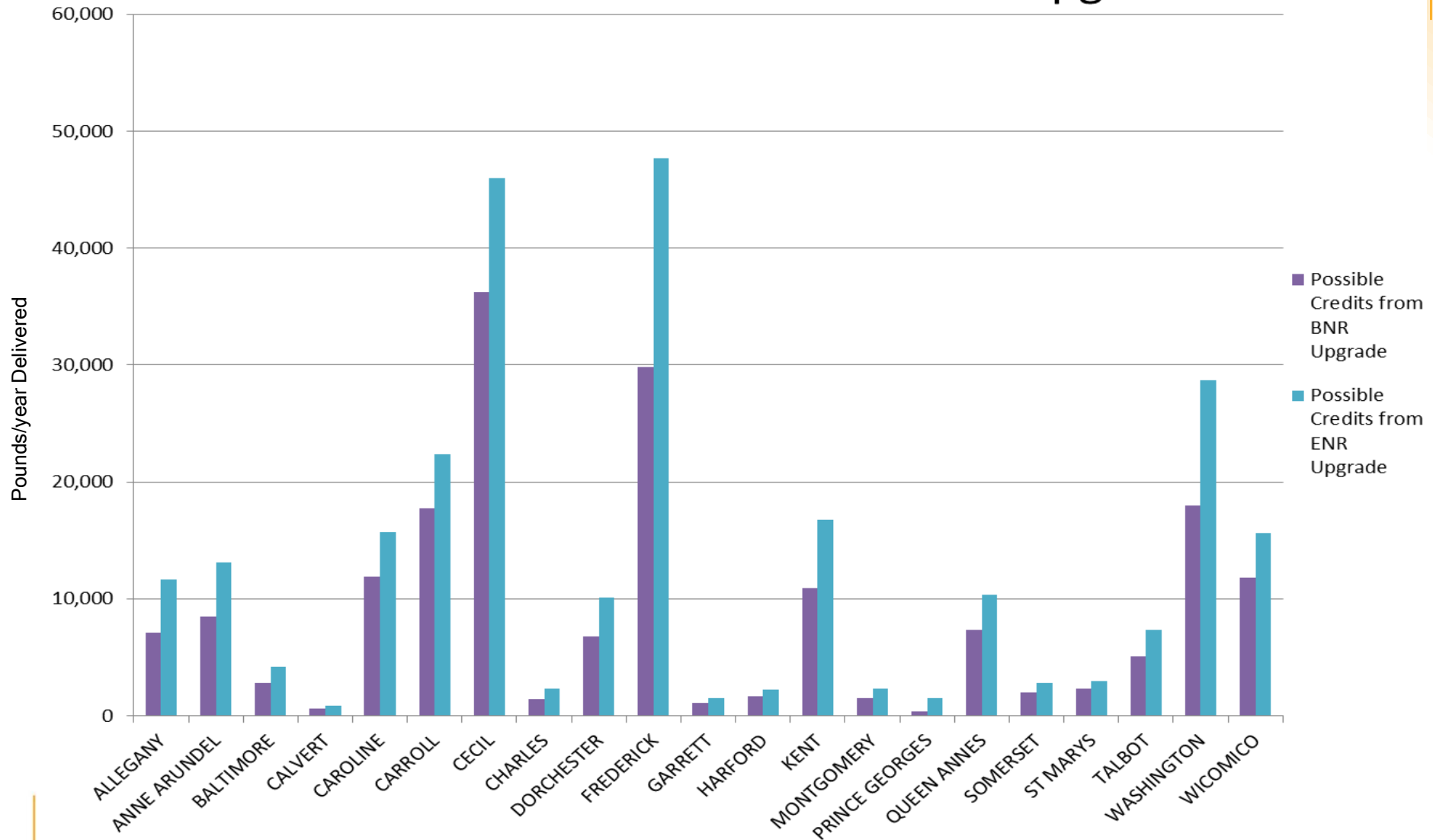
Sustainable — Attainable

Possible Septic Credit Generation by County: Bay Program Data v. Parcel Based Data

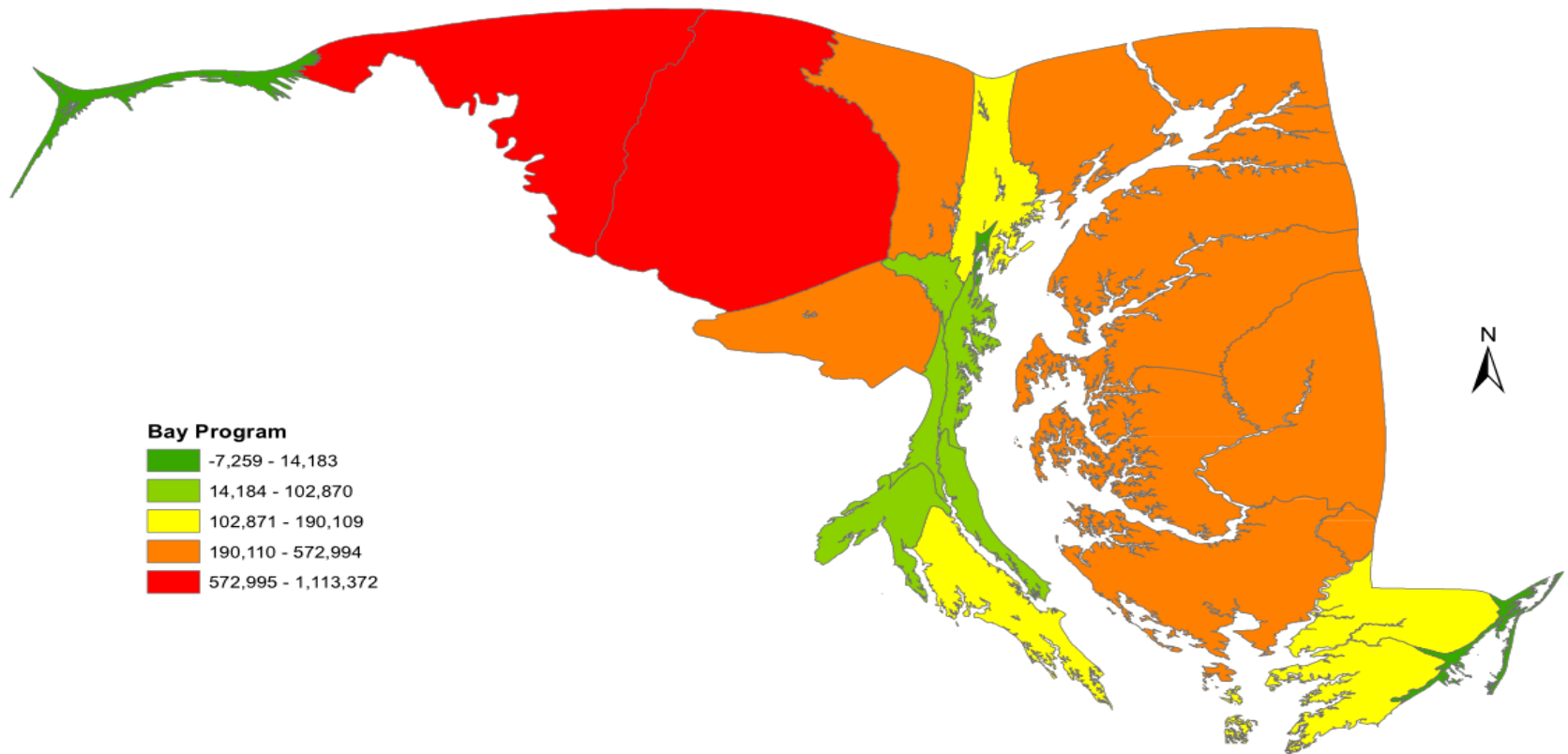


Sustain^{able} — Attain^{able}

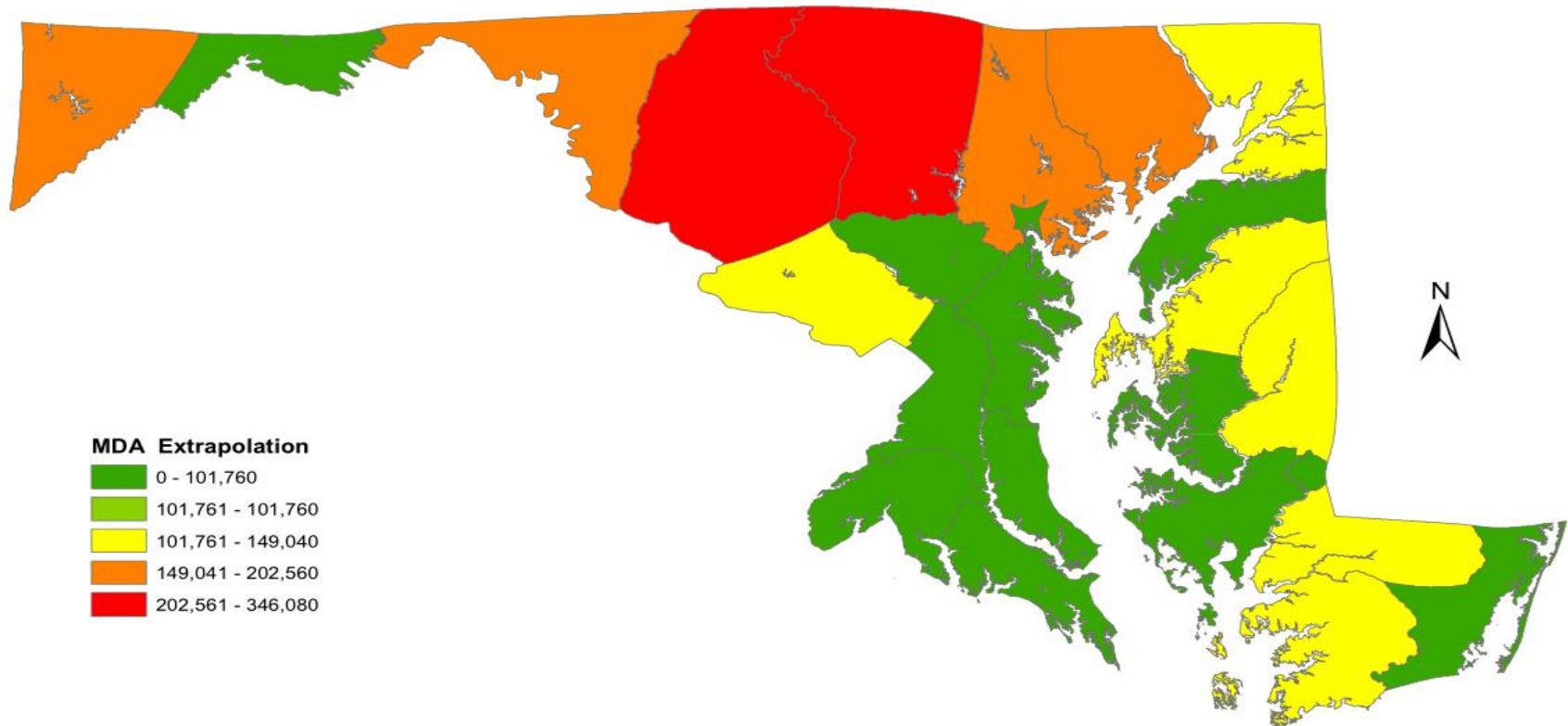
Possible Credits from Minor WWTP Upgrades



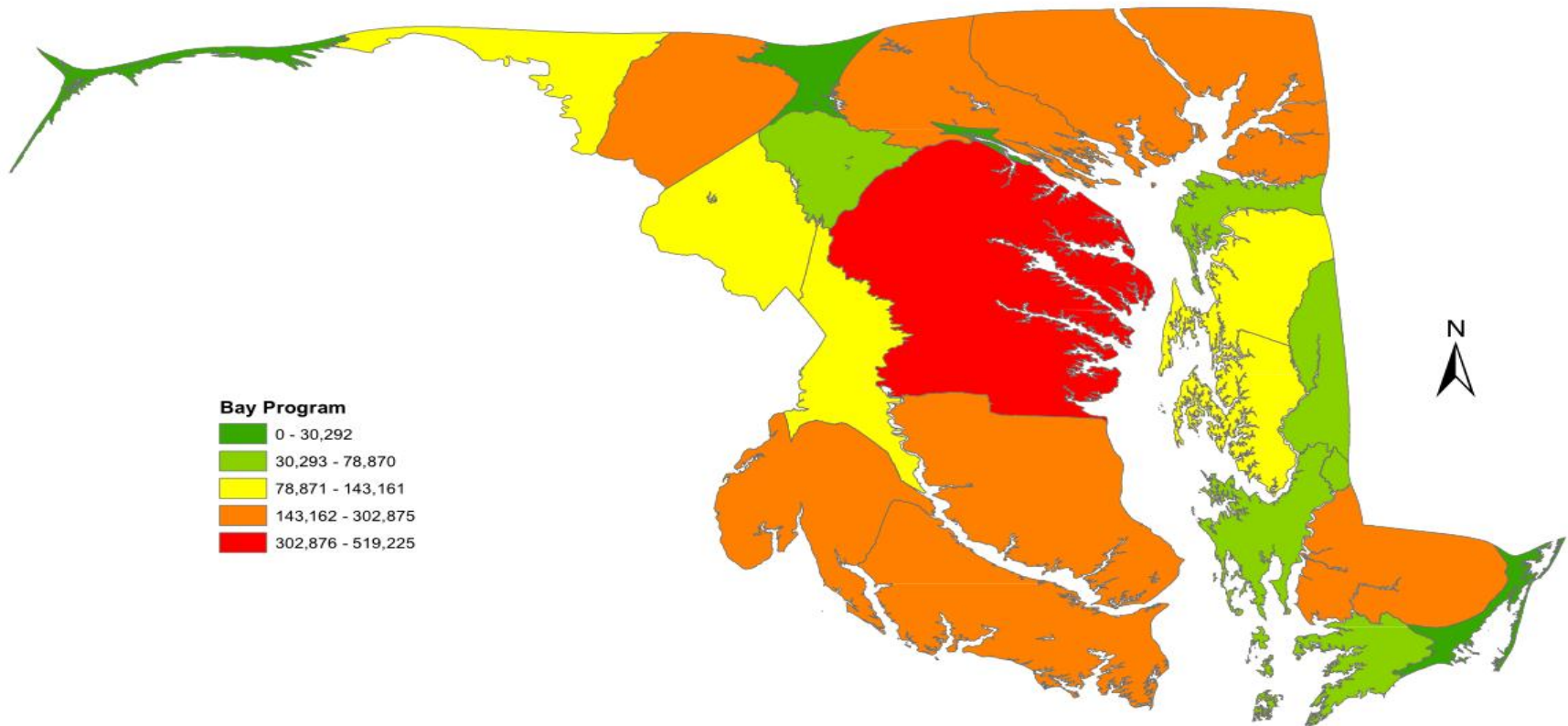
Possible Agricultural Credit Generation by County: Bay Program Data



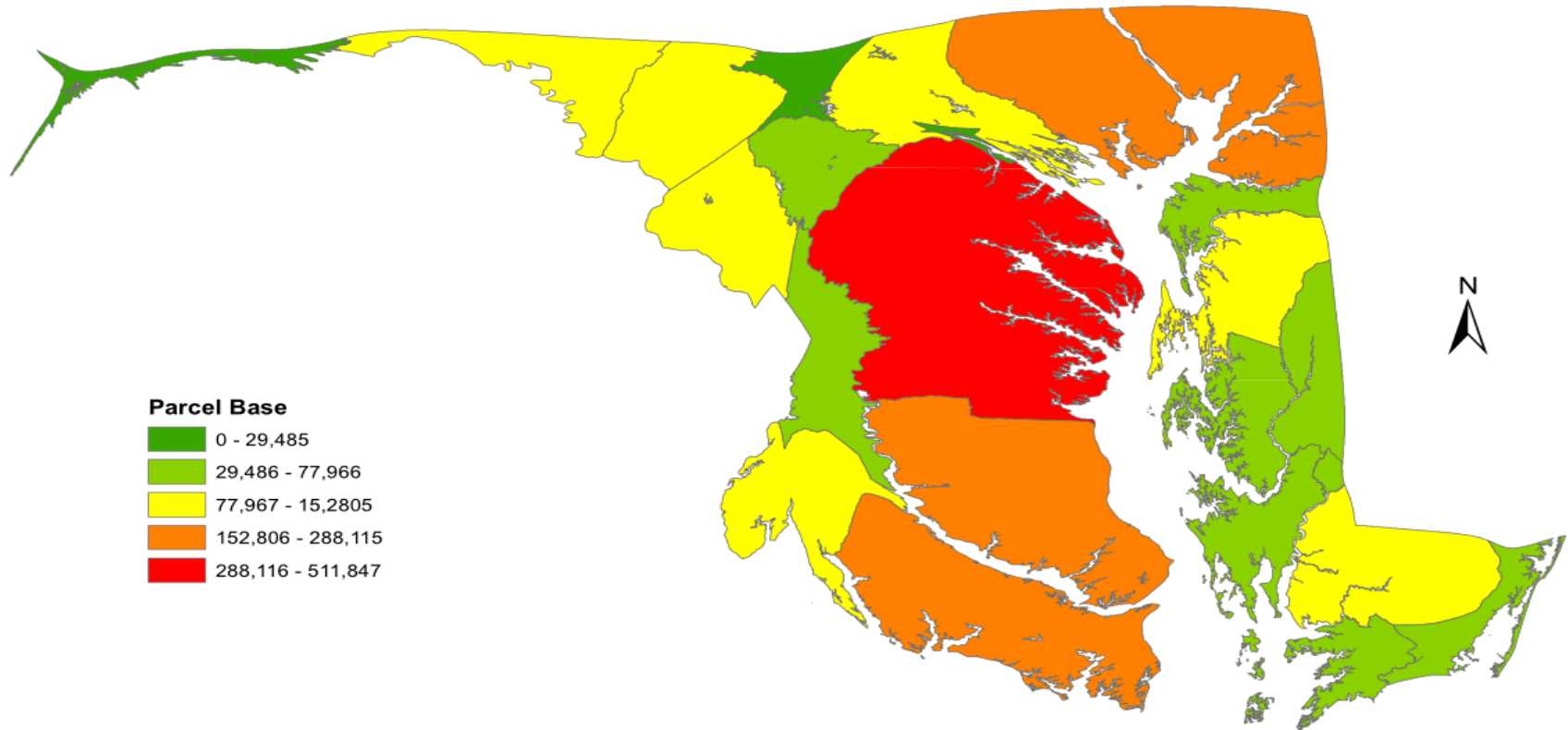
Possible Agricultural Credit Generation by County: MDA Inventory



Possible Septic Credit Generation by County: Bay Program Data



Possible Septic Credit Generation by County: Parcel Based Data



CONCLUSION

- Total estimates statewide for offset capacity range from approximately 4.5 to 9 million pounds of Nitrogen per year
- Statewide growth over that time is only expected to add a TOTAL of 2 million pounds of Nitrogen; some may not need offset
- Even the lower estimates show that there is more than enough capacity statewide to account for growth
- Demand could exceed supply within specific places depending on magnitude of growth versus reality of supply if policy restricts offset geographies in some cases
- State should be flexible if demand exceeds supply
 - Projections should be used to forecast short and long term growth potential
 - Geographic restrictions can be changed without undermining policy objectives

