



 USGS



Chesapeake Bay Program
A Watershed Partnership

2025 Land Use Scenarios Discussion

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CBP Land Use Workgroup Call

Draft WIP Expectations: Land Use Planning and Conservation Efforts

Document what and how land use and conservation BMPs will be devised, enhanced, funded, etc. to help achieve the numeric pollutant load reduction goals in the Phase 3 WIPs.

- Establish and document Programmatic and Implementation Milestones for both land use and conservation BMPs.

Verification of Land Use Planning and Land Conservation Effects

Options for Monitoring Land Change

- 1. Evaluate land change hot spots with NAIP imagery (1m) every 2 years with 1-2 year production lag.**
 - Delaware, Maryland, New York, and Pennsylvania:
 - Evaluate changes 2013-2015-2017 for June 2019 progress and milestones
 - Virginia and West Virginia:
 - Evaluate changes 2014-2016-2018 for June 2019 progress and milestones
- 2. Evaluate land change hot spots with Landsat imagery (30m) every 2 years with 1-2 year production lag.**
 - Use Continuous Change Detection and Classification (CCDC) and LandTrendr methods to identify hot spots of change 2013-2015-2017 for June 2019 progress and milestones for all states.
- 3. Evaluate land change comprehensively with update to 2013 high-res land use/cover dataset every 4-5 years with 1-2 year production lag.**
 - Use Continuous Change Detection and Classification (CCDC) and LandTrendr methods to identify hot spots of change 2013-2015-2017 for June 2019 progress and milestones for all states.

Verification of Land Use Planning and Land Conservation Effects

Adaptive Response to Monitoring


Condition 1. Monitored land cover changes support WIP claims of land use planning and conservation effects.

- No response required.

Condition 2. Monitored land cover changes challenge WIP claims of land use planning and conservation effects.

- Jurisdictions provide validation/explanation for observed changes, propose offsets for inclusion in 2-year milestones, and focus outreach and support to localities where land cover changes challenge WIP claims.
- EPA evaluates jurisdictional responses, milestone commitments, and considers changes to oversight status.

Scenario Specifications



Includes both
high-valued
forests and
farms

1. Forest Conservation (FC) scenario (1st Priority)

- Conserve riparian zones (100-ft)
- Conserve wetlands (NWI, State Designated Wetlands, and Potential Conservable Wetlands(PA only))
- Conserve areas subject to a 1m-rise in sea levels by 2100 and within 1-mile of National Wildlife Refuges
- Conserve large forest tracts (250+ acres)
- Conserve shoreline forests (all contiguous tracts within 1000-ft of the shoreline)
- Conserve all high-value conservation lands identified by the Chesapeake Conservation Partnership

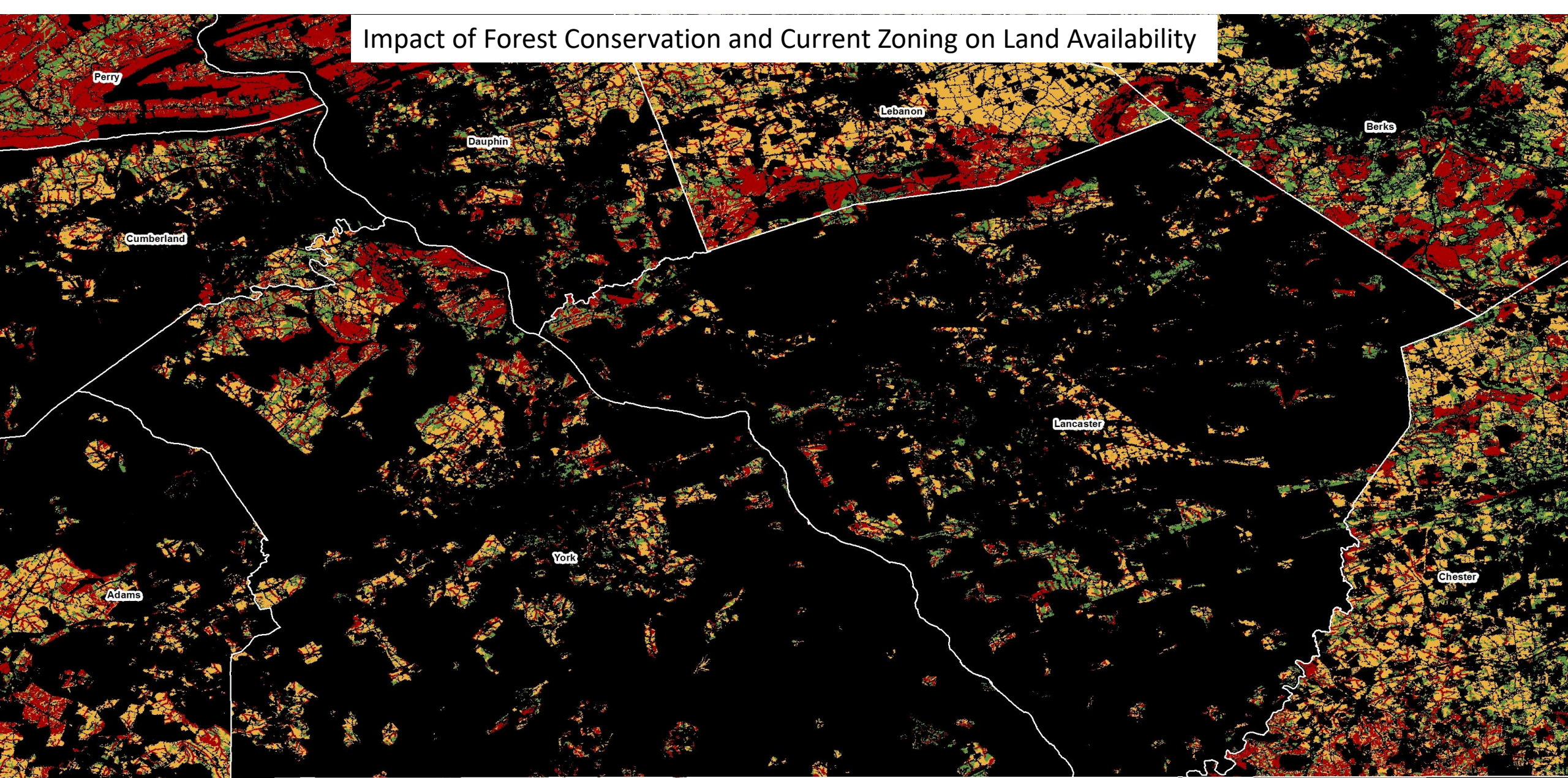
2. Growth Management (GM) scenario (2nd Priority)

- Increase percent of infill/redevelopment by 10% for 2025 and per decade thereafter
- Increase urban densities by 10% for 2025 and per decade thereafter
- Increase proportion of urban vs rural growth by 10% for 2025 and per decade thereafter
- Expand sewer service areas by 1-mile for 2025 and hold static thereafter
- Avoid growth on soils unsuitable for septic systems

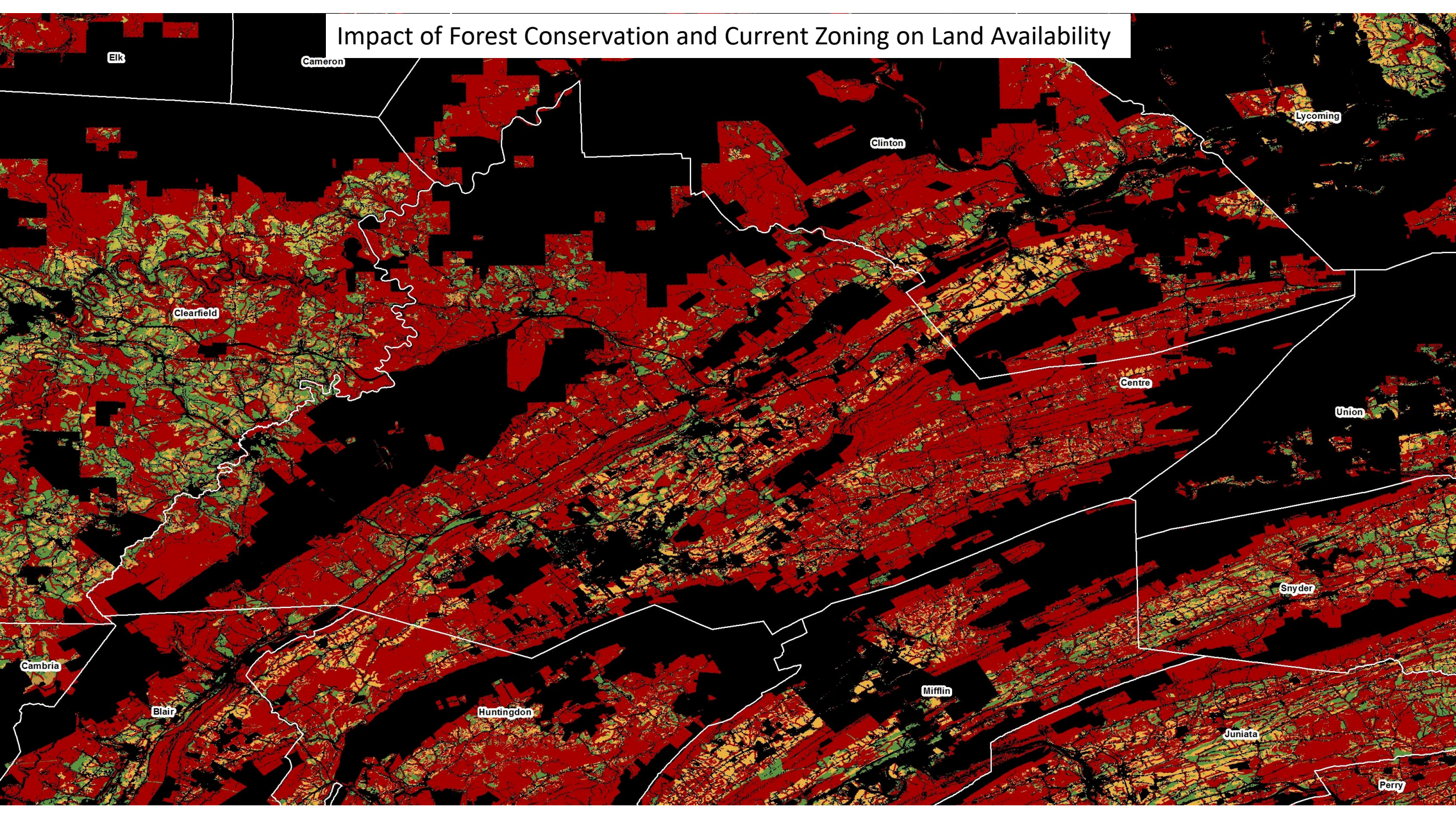
3. Agriculture and Soil Conservation (ASC) scenario (3rd Priority)

- Conserve all designated Agricultural Districts and areas zoned rural agricultural
- Conserve 100-year floodplain and frequently-flooded soils
- Conserve prime farmlands and farmland of state importance
- Conserve potential restorable wetlands (PA only)

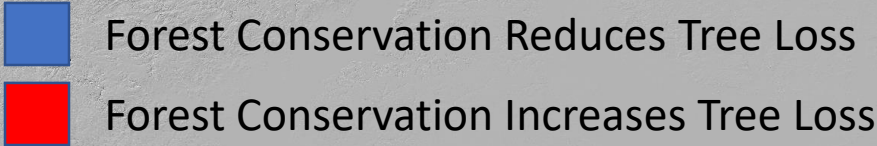
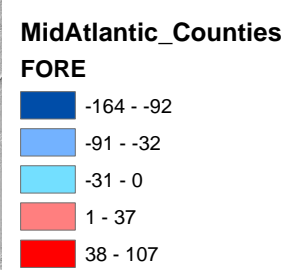
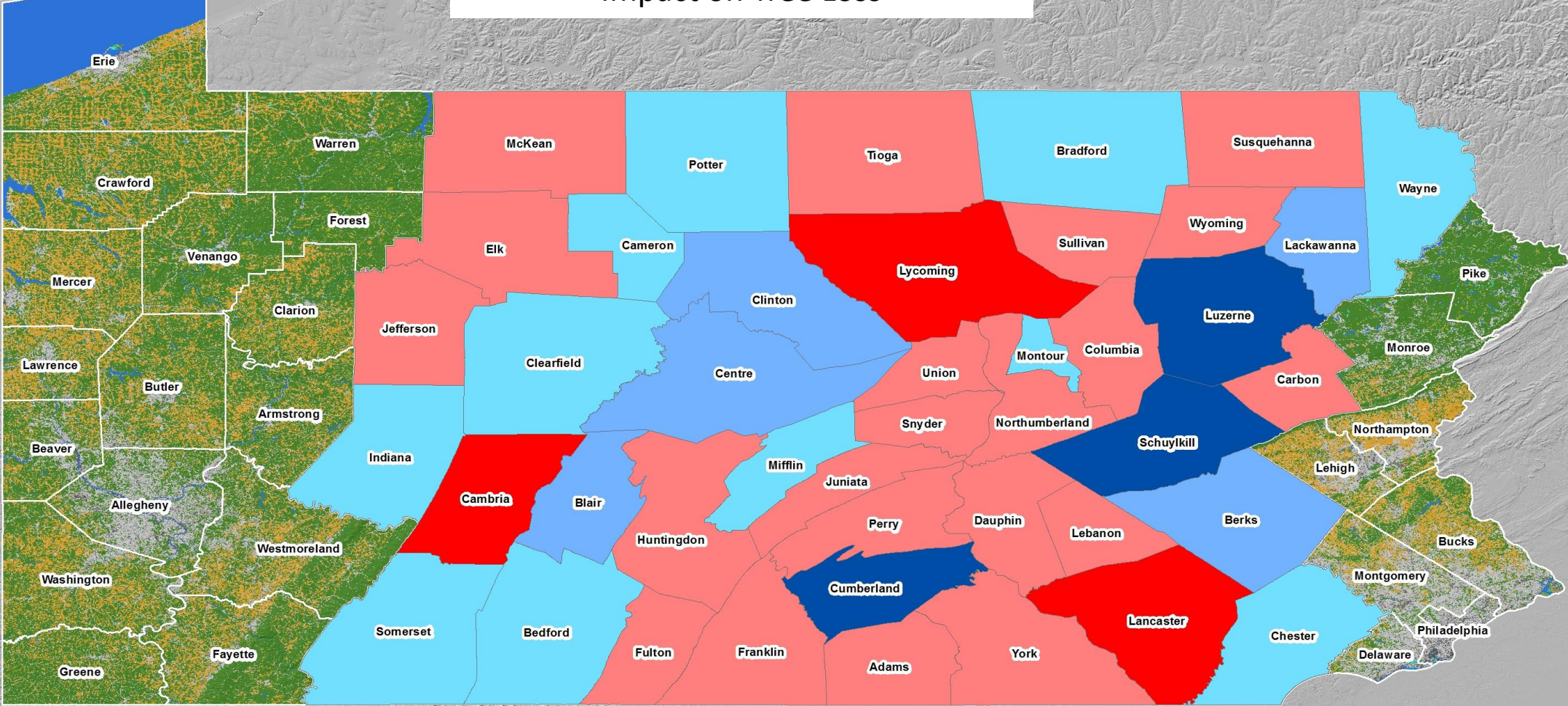
Impact of Forest Conservation and Current Zoning on Land Availability



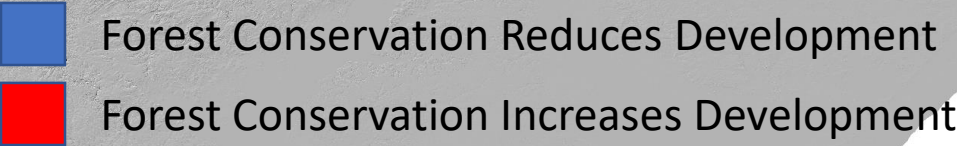
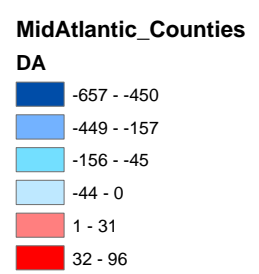
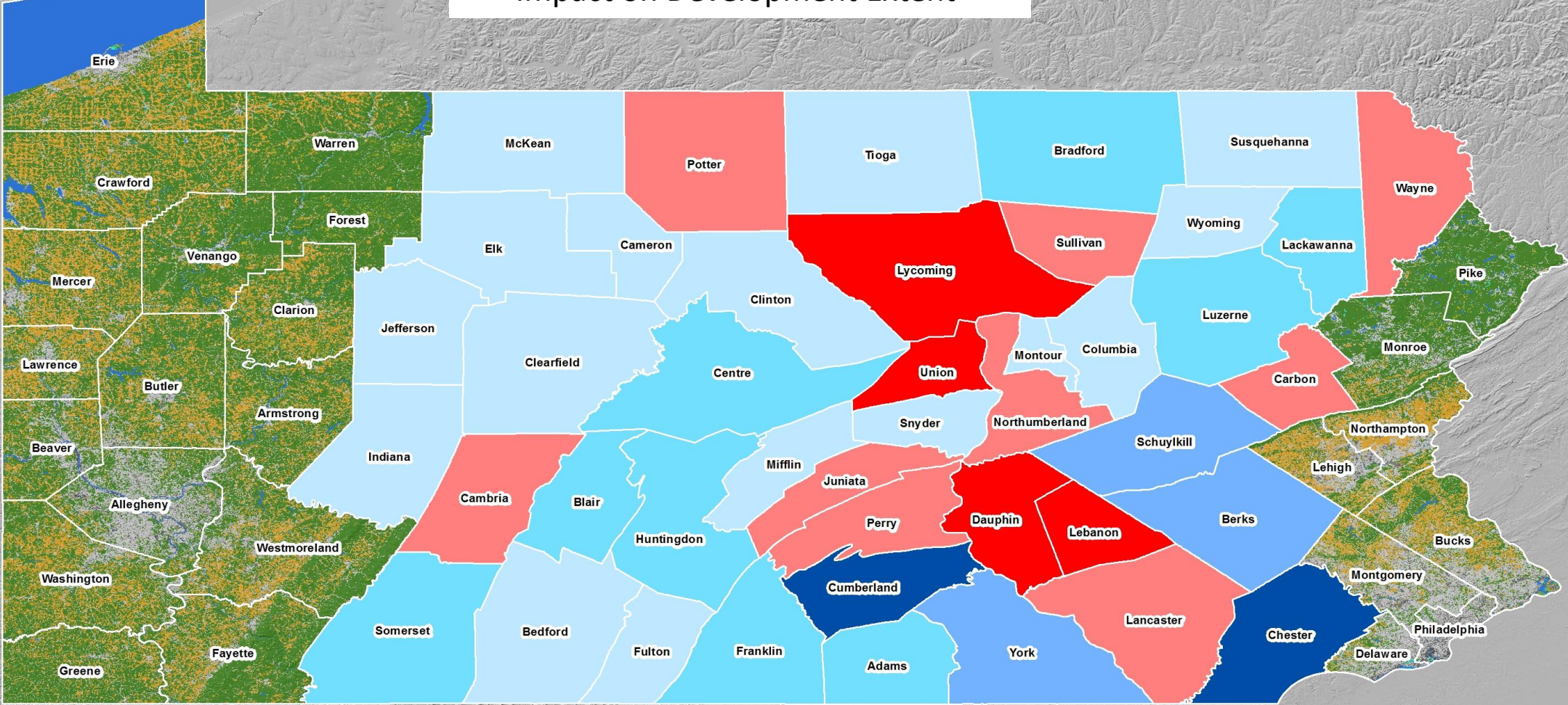
Impact of Forest Conservation and Current Zoning on Land Availability



Forest Conservation vs. Current Zoning Impact on Tree Loss



Forest Conservation vs. Current Zoning Impact on Development Extent



Chesapeake Bay 2025 Scenario Production Schedule

January 2018 (in CAST March 31st)

- Current Zoning

February 2018 (in CAST March 31st):

- Historic Trends (revised)
- Forest Conservation (revised)
- Forest Conservation + Zoning
- Growth Management
- Growth Management + Zoning
- Scope out jurisdiction-specific scenarios

March 2018 (in CAST April 2018):

- Run jurisdiction-specific scenarios (one per jurisdiction: DC, DE, MD, NY, PA, VA, and WV)

April – December 2018 (in CAST on rolling basis as produced):

- Develop and run additional scenarios as requested by jurisdictions and other CBP Partners
- Streamline model and code for rapid production and evaluation of scenarios.

“Historic Trends” (revised) scenario represents “worst-case” and provides the greatest margin for safety.

Differences Between Current Zoning & Historic Trends (revised), units = acres.

States	Impervious	Turf Grass	Natural	Mixed Open	Cropland	Pasture
DC	-17	-6	23	0	0	0
DE	-656	-1,837	1,313	-8	1,070	119
MD	-8,528	-27,286	13,604	2,608	11,674	7,928
NY	-21	-148	-287	47	226	182
PA	-806	-3,464	-1,202	53	3,950	1,470
VA	-13,601	-20,702	17,368	3,261	5,468	8,207
WV	62	76	-39	5	-29	-75

Conclusion: The Historic Trends scenario has more development and therefore more conversion of natural and agricultural lands compared with Current Zoning. Development on septic is also higher in most states under the Historic Trends scenario compared to Current Zoning scenario (data TBD).