

High Resolution Land Cover for the Chesapeake Bay Watershed

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Management Challenges Land Cover Data can help address in the Chesapeake Bay Watershed

- Reducing Nutrient (N and P) and Sediment Pollution
 - Agricultural Landscapes
 - Urban/Suburban Stormwater
- Conserving Remaining High Functioning Landscapes
- Restoring Ecosystem Functions to Under Performing Landscapes
- Monitoring the impacts of climate change on critical habitats
 - Wetland loss and upland migration
 - Resilience and connectivity



Precision Conservation in the Chesapeake Bay Watershed



*“Getting the right practices, in the right places,
at the right scale, at the right time and
making sure they are working”*

An aerial photograph of a coastal area, likely a city or town, with a large, semi-transparent red overlay covering most of the land. The overlay is composed of many small, irregular polygons, suggesting a digital map or data visualization. The red overlay is not uniform in color, with some areas appearing darker or lighter. The background shows a mix of urban development, including roads, buildings, and green spaces. A body of water is visible in the bottom left corner. The text 'Previously Available Data' is overlaid in white at the bottom of the image.

Previously Available Data

An aerial photograph of a city, likely Baltimore, Maryland, showing a dense street grid. The map is overlaid with a color-coded data layer. Most of the urban area is colored red, while green areas represent parks and undeveloped land. A network of black lines, possibly representing transit routes or infrastructure, crisscrosses the city. The city is bordered by water on the left and right sides. The text "New Data" is superimposed in large white letters at the bottom center.

New Data

Chesapeake Bay Watershed High Resolution Land Cover Data



- **Total cost to produce: \$3.5 Million**
 - \$1.3 million for DE, PA, MD, DC, NY, WV
 - \$2.2 million for VA
- **Total Area Covered: ~100,000 mi²**
 - Data Coverage in 206 counties that compose the watershed
- **Processing took 10 months with three teams working on the data analysis**
 - Chesapeake Conservancy: MD, DC, NY, WV
 - University of Vermont: PA, DE
 - Worldview Solutions: VA

CBP Land Cover Classification



Supports Management Efforts of All Bay Agreement Goals and Outcomes

1. Sustainable Fisheries

2. Vital Habitats

3. Water Quality

4. Toxic Contaminants

5. Healthy Watersheds

6. Stewardship

7. Land Conservation

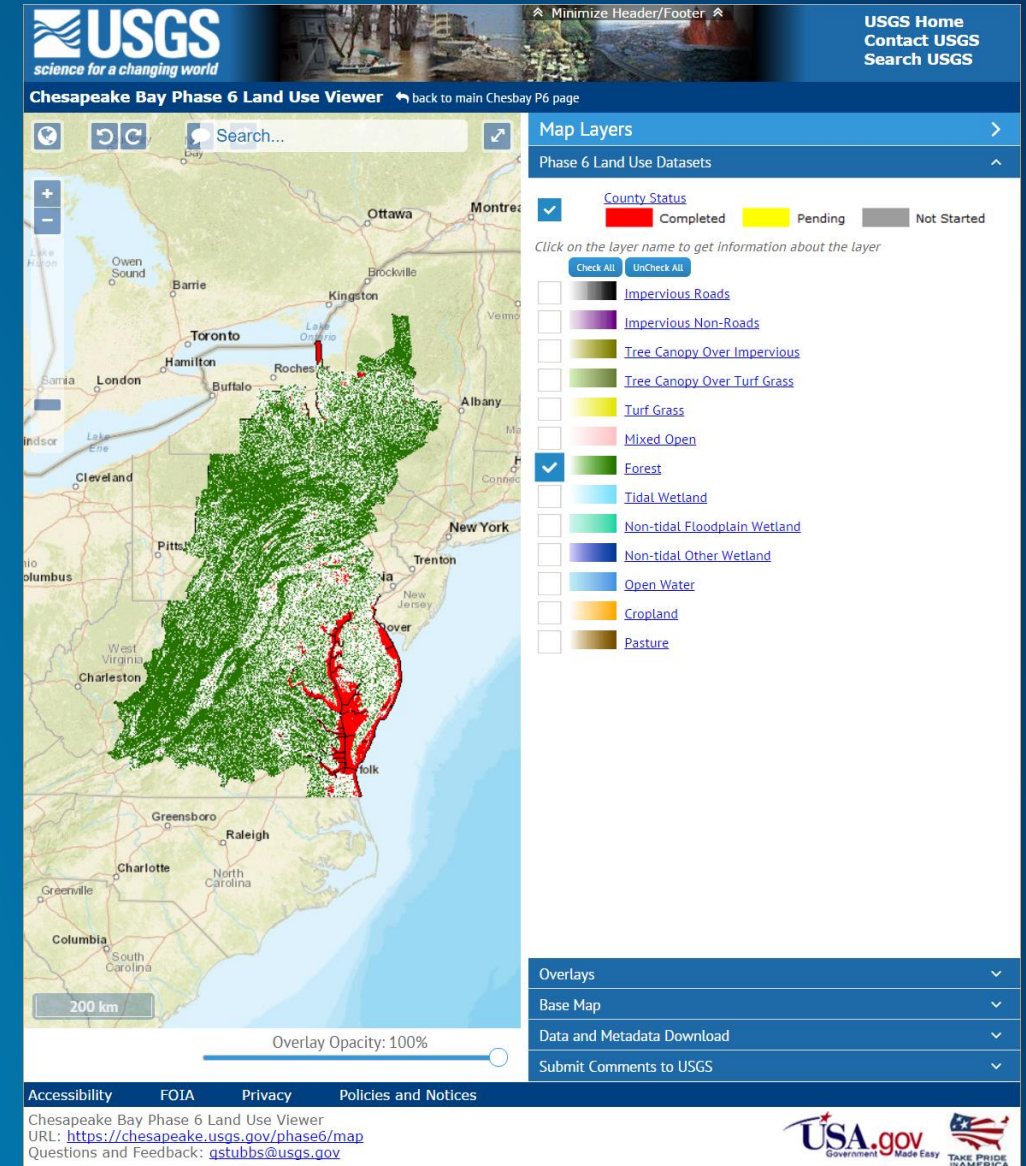
8. Public Access

9. Environmental Literacy

10. Climate Resiliency

Significance to CBP Management Efforts

- Provides higher resolution inputs for the Chesapeake Bay Program's Phase 6 suite of models
- Provides a baseline for tracking:
 - *Development trends*
 - *Conversion of forest and agricultural lands*
 - *Wetland loss*
- Increases the resolution of GIS-based management and prioritization efforts
- Engages local governments through the review process and provides them with actionable data products



Partners are already using the data for management efforts

- **Army Corps of Engineers and National Fish & Wildlife Foundation**
 - *Chesapeake Bay Comprehensive Water Resources and Restoration Plan*
- **Commonwealth of Pennsylvania and Envision the Susquehanna Partners**
 - *Riparian Buffer Restoration Prioritization*
- **York County, PA**
 - *Stormwater Consortium Restoration Funding Prioritization*
- **Smithsonian Environmental Research Center**
 - *Anadromous fish spawning habitat analysis*



From analysis to action: PA Buffers

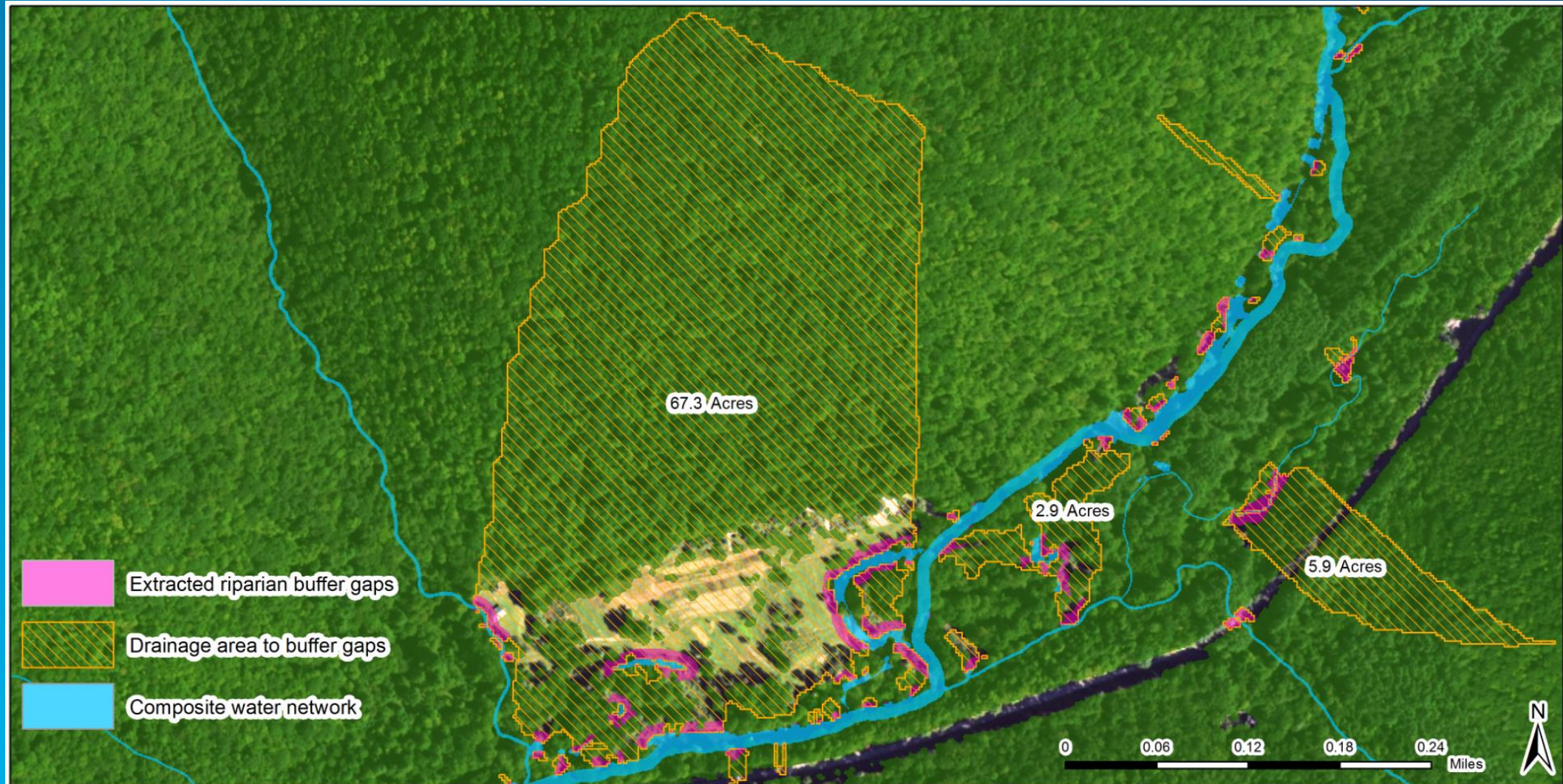


PA Environmental Digest Daily

Bay Agreement: Restore and Conserve Riparian Forested Buffers until 70% buffer coverage is achieved

PA DCNR Buffer Initiative: the goal is to plant an additional 95,000 acres of buffers by 2025

Kettle Creek case study – Prioritization



Web-Based Tools to Evaluate, Compare, and Track Proposed Projects

YCSWC

YORK COUNTY
STORMWATER CONSORTIUM

York County, Pennsylvania

Home

All Projects

My Projects

Documentation

Logout

Geography

1. Verify current project:

Sovereign Bank Stadium Bioswale

2. Search for closest address (note: may zoom in directly on map):

Find address or place

Q

3. Draw Project Area

4. Generate Treatment Area

5. Adjust Treatment Area (Optional)

6. Calculate Land Use/ Land Cover Values

7. Save Data



Individual land use / land cover classes	Within project area (acres)	Within treatment area (acres)	Details
Please complete steps 4-6 to calculate these values.			