On-the-ground applications of data and technology to advance restoration outcomes
PA State Team Meeting for Phase 3 WIP: July 28, 2022
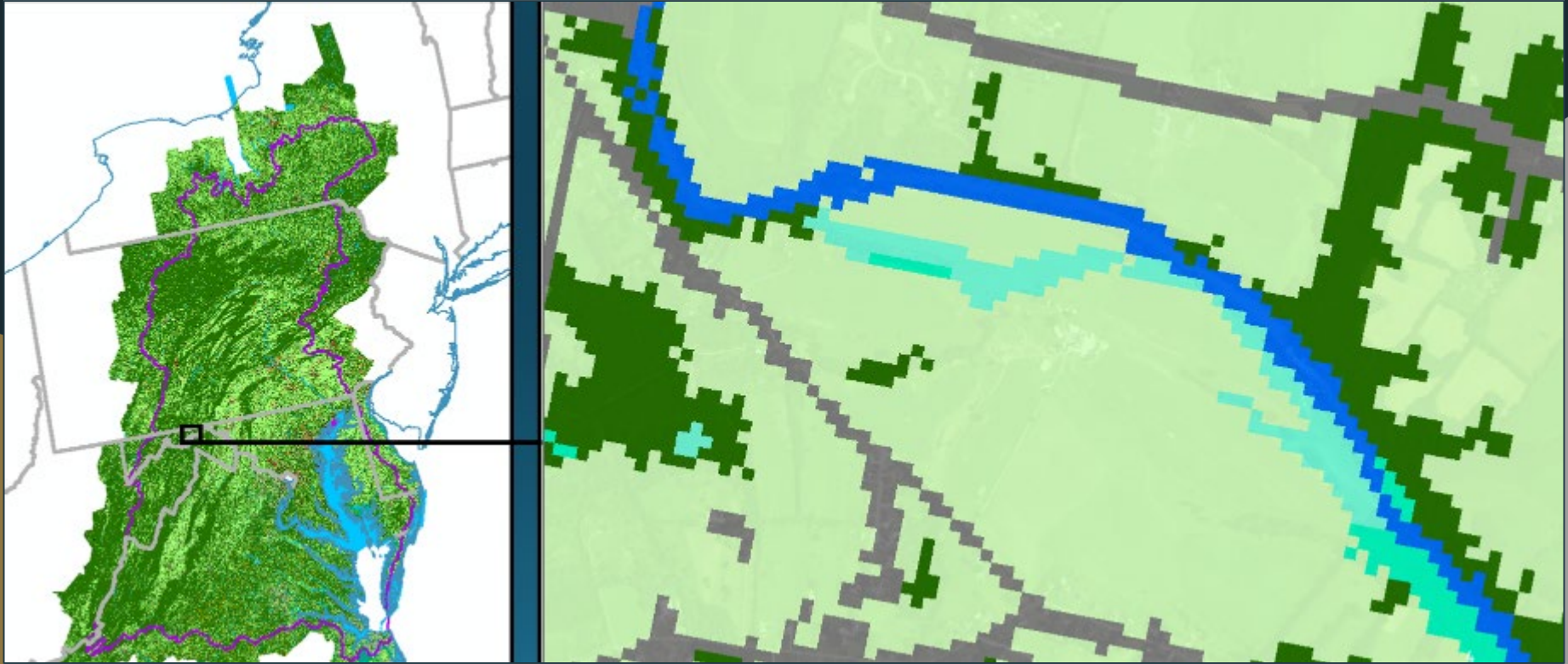
Chesapeake Conservancy
EXPLORE. CONSERVE. INNOVATE.

Carly Dean, Program Manager

2016 Chesapeake Bay High -resolution Land Cover Data

Previously Available Land Cover Data

2016 Chesapeake Bay High -resolution Land Cover Data

Chesapeake Bay Program Geospatial Support

Objective 1: Land Cover, Land Use and Change Mapping
Data released May 2022

Objective 2: Hyper-resolution Hydrography Mapping

Objective 3: Restoration Planning & Reporting (Opportunity Mapping, Nutrient and Sediment Reduction Modeling)

Objective 4: Mapping support for Chesapeake Bay Program Goal Implementation Teams (GITs)

Change Detection products: Tree Canopy Change

Loss

2013 → 2017

Gain

Anne Arundel County 2017 Tree Canopy

Impervious Surface Analysis

Example land uses:
- Roads
- Buildings
- Pavement
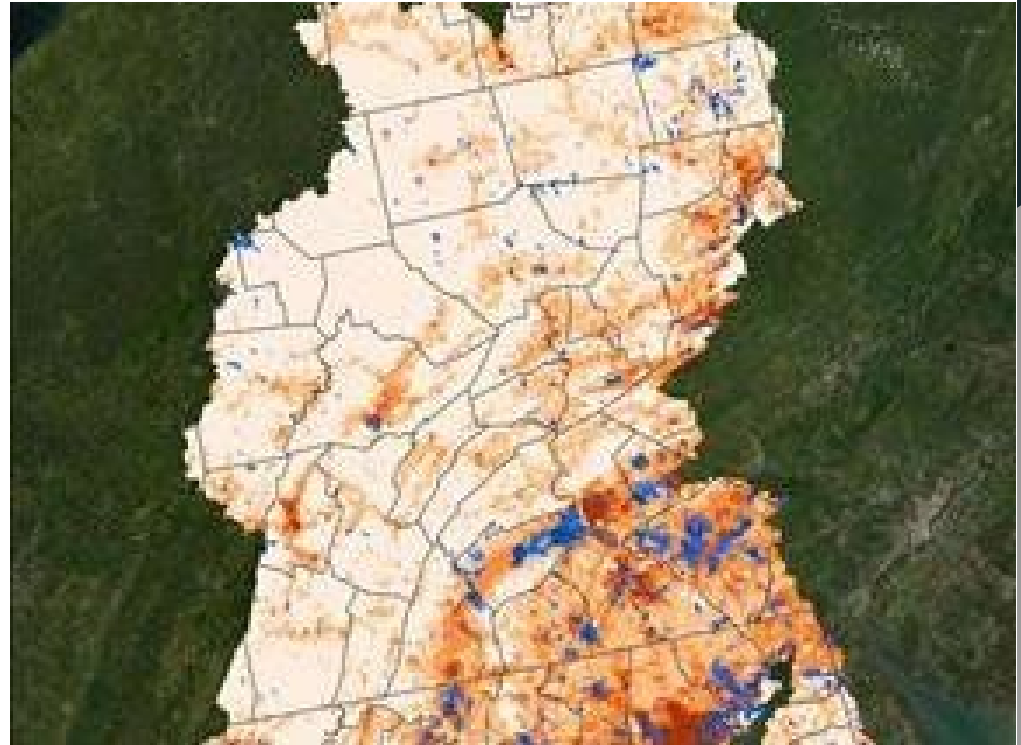
Less developed -> More developed (in 2017)

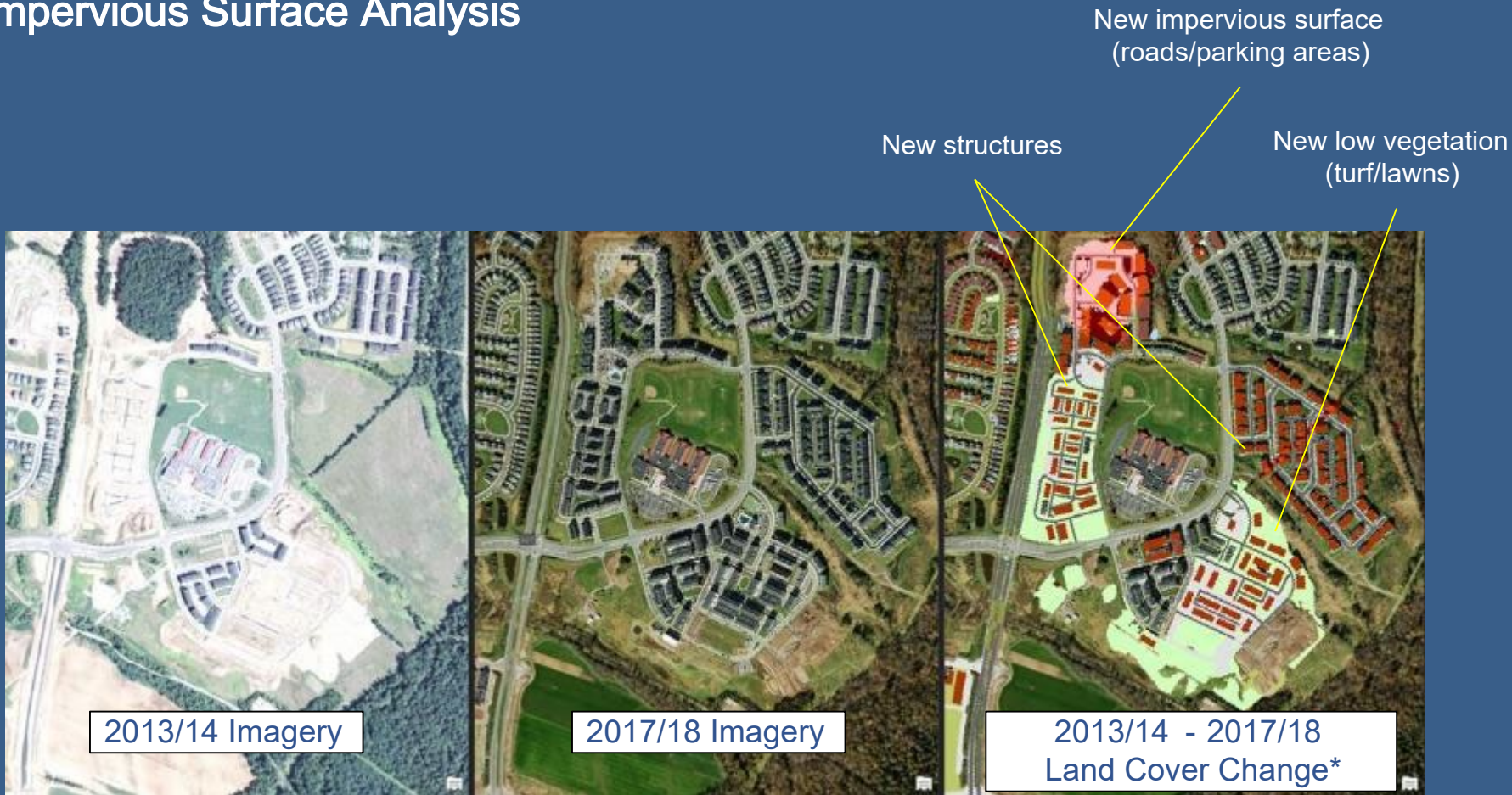0%   68.3%

Change in impervious (increase from 2013 - 2017)

0%   3.8%

Impervious Surface Analysis

New impervious surface
(roads/parking areas)

New structures

New low vegetation
(turf/lawns)

2013/14 Imagery

2017/18 Imagery

2013/14 - 2017/18
Land Cover Change*

* data shown are preliminary results and may differ from the final released data

Previously Available Hydrography Data

High-resolution Hydrography Data

Leveraging High -resolution Data
to Restore Impaired Streams

Pennsylvania "Rapid Stream Delisting Strategy" brings together:

- Water-Quality
- Fish, Wildlife, and Habitat
- Land Conservation
- Benefits to people

PA Dept. of Environmental Protection: Integrated Water Quality Report & 303(d) List;

- Non-attaining for aquatic life use
- Impaired from agricultural sources

Rapid Stream Delisting Strategy:

- Isolating relatively small impaired stream segments to achieve attainment status & delist
- Quantifying goals, needs, and feasibility
- Coordination and collaboration

Photo: Frank Rohrer

Leveraging High-resolution Data to Restore Impaired Streams

Mapping how pollution enters our waterways

Fastest recovery: watershed analysis

Efficient implementation: "smarter, not harder"

Advancing momentum: local knowledge

Leveraging High-resolution Data to Restore Impaired Streams

Mapping how pollution enters our waterways
- 0.6 mi. of stream impaired

Fastest recovery: watershed analysis
- 232 total acres; 3 acres buffer gap (2013)

Efficient implementation "smarter, not harder"
- 5 priority farms; target 148 ag acres with BMPs

Advancing momentum: local knowledge

Leveraging High-resolution Data to Restore Impaired Streams

Mapping how pollution enters our waterways
- 0.6 mi. of stream impaired

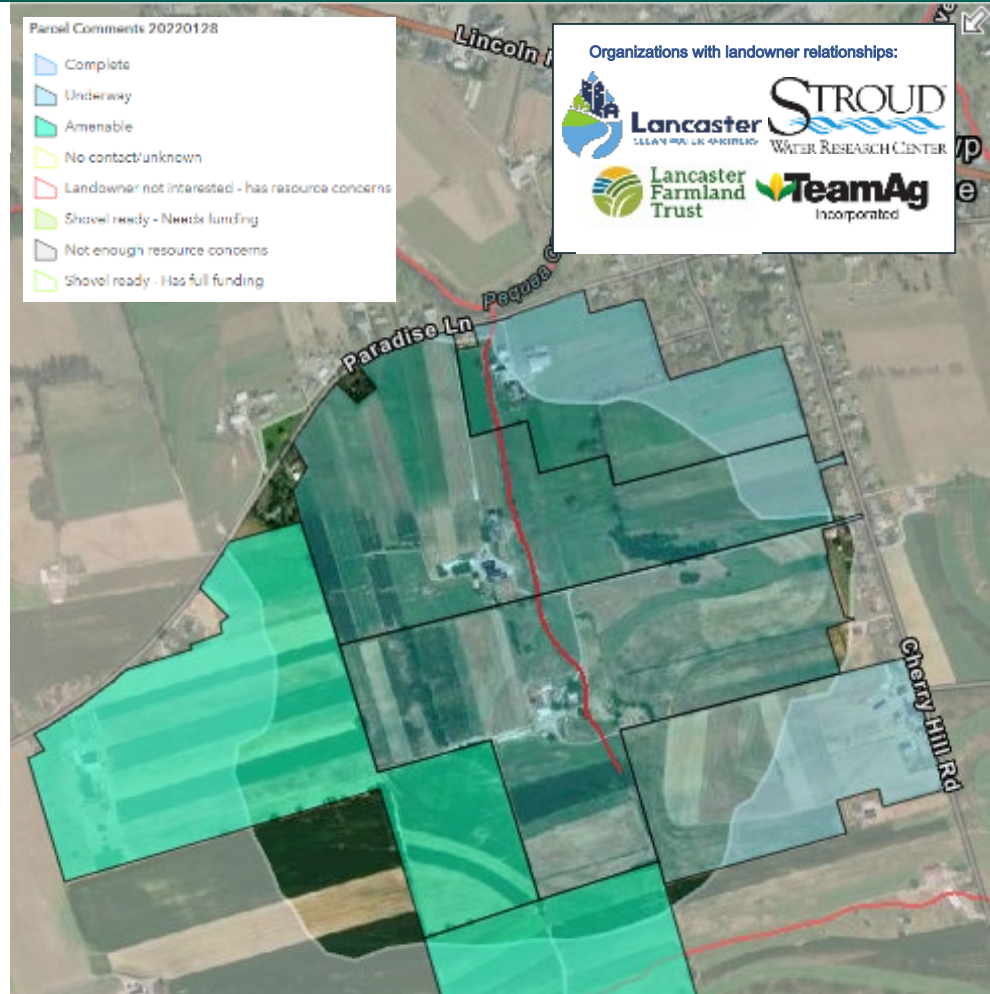Fastest recovery: watershed analysis
- 232 total acres; 3 acres buffer gap (2013)

Efficient implementation "smarter, not harder"
- 5 priority farms

Advancing momentum: local knowledge
- Existing relationships with farmers on 4 out of 5 priority farms

Leveraging High -resolution Data to Restore Impaired Streams

Pennsylvania's 30 by 30 rapid stream delisting strategy

The strategy is underway for 39 streams in 7 Pennsylvania counties.

Building a project portfolio toward implementing BMPs on 500 priority farms.

Bundle projects to streamline fundraising and leverage partner strengths.

- 200 farms restored
- Approximately $12M raised
- New funding through PA DEP Growing Greener: Watershed Renaissance program

Gov. Wolf, Chesapeake Conservancy & Partners Announce Initiative to Restore 30 Agriculturally Impaired Streams by 2030

April 22, 2021

Two administration employees honored for being 'Champions of the Chesapea

Governor Tom Wolf marked Earth Day today by joining the Chesapeake Conservancy to anno collaborative environmental initiative for the Commonwealth of Pennsylvania to restore the agriculturally-impaired streams by 2030.

https://www.governor.pa.gov/newsroom/gov-wolf-chesapeake-conservancy-partners-announce-initiative-to-restore-30-agriculturally-impaired-streams-by-2030/

Next Steps for High -resolution Data Development and Applications

Short -term actions

- Promote use of existing tools
- Data roll -out and local support
- Ecosystem services for selected BMPs

Longer -term action

- Keep up the pace - policies and funding programs
- Scale strategies that are working
- Streamline existing data products

Carly Dean
Program Manager
cdean@chesapeakeconservancy.org

Joel Dunn
President and CEO
jdunn@chesapeakeconservancy.org

Susan Minnemeyer
Vice President for Technology
sminnemeyer@chesapeakeconservancy.org