THRIVING AG

Thriving Agricultural Systems in Urbanized Landscapes

Dave Abler, Project Director

USDA

PennState

University of Maryland

Ohio State

Virginia Tech

Stroud Water Research Center

Utah State University

The George Washington University
Washington, DC

Exurban and Suburban Agriculture

- Economic base – ag and food supply chains
- Locally produced food
- Open space and scenery amenities
- Agritourism and other recreation
- Wildlife habitats

Montgomery County, PA

Sustainability Challenges

Economic Sustainability	**Environmental Sustainability**
Competition, land, water, and workers	Water quality
Developing and serving local markets	Greenhouse gas emissions
Environmental regulations	Odors, pests, dust from ag operations

Lancaster County, PA

Thriving Ag Project

- 5 years, plus 1-year planned extension
- $9 million, funded by USDA's National Institute of Food and Agriculture (NIFA)
- Partner institutions
  - Penn State
  - University of Maryland
  - U of Maryland Center for Environmental Science
  - Ohio State
  - Stroud Water Research Center
  - Utah State
  - Virginia Tech
  - George Washington University

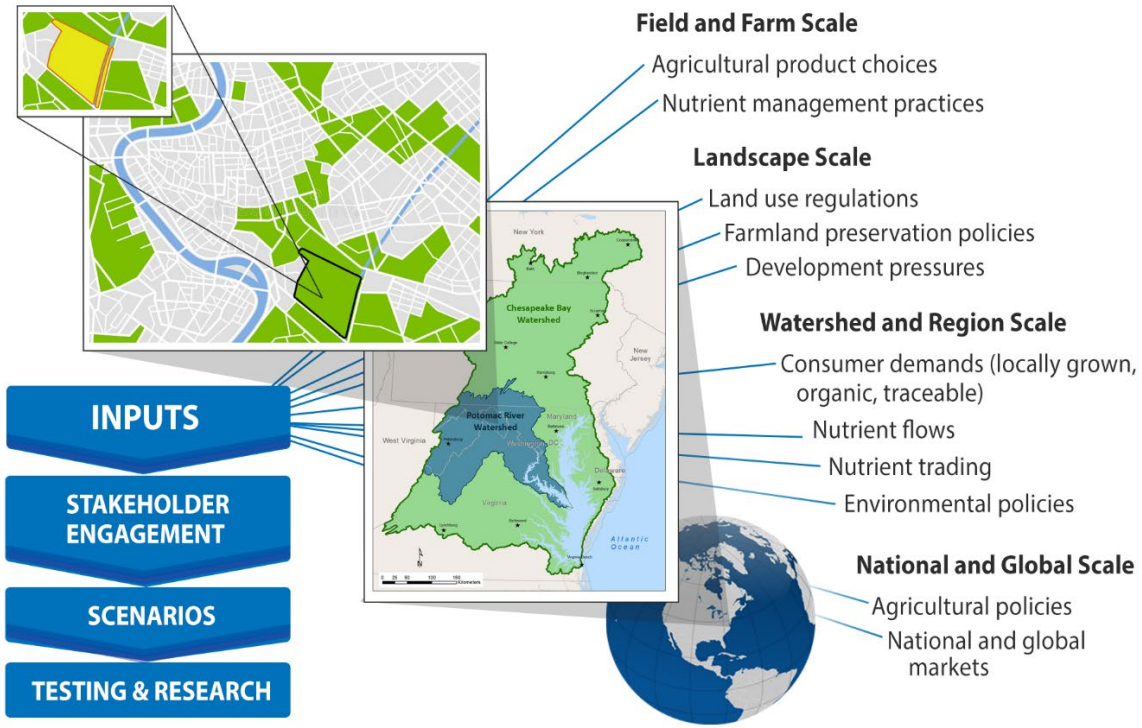
Lancaster County, PA (source: Bay Journal)

Thriving Ag Project Goal

- Achieve an environmentally and economically sustainable agriculture in urbanized landscapes in the next 25 years
- Conduct research, outreach, engagement, and education to reach this goal
- Chesapeake Bay Watershed as case study and proof of concept

Project overview

- Close engagement and co-learning with stakeholders
- Scenario-based approach
- Multiple scales – field, farm, landscape, watershed, region, nation, world
- Develop new technologies, management strategies, policy tools



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Ag in Bay Watershed vs Rest of US

Small, labor-intensive, high-value farms

- High land and building asset values
- Low machinery assets
- High number of ag workers
- Small acreage

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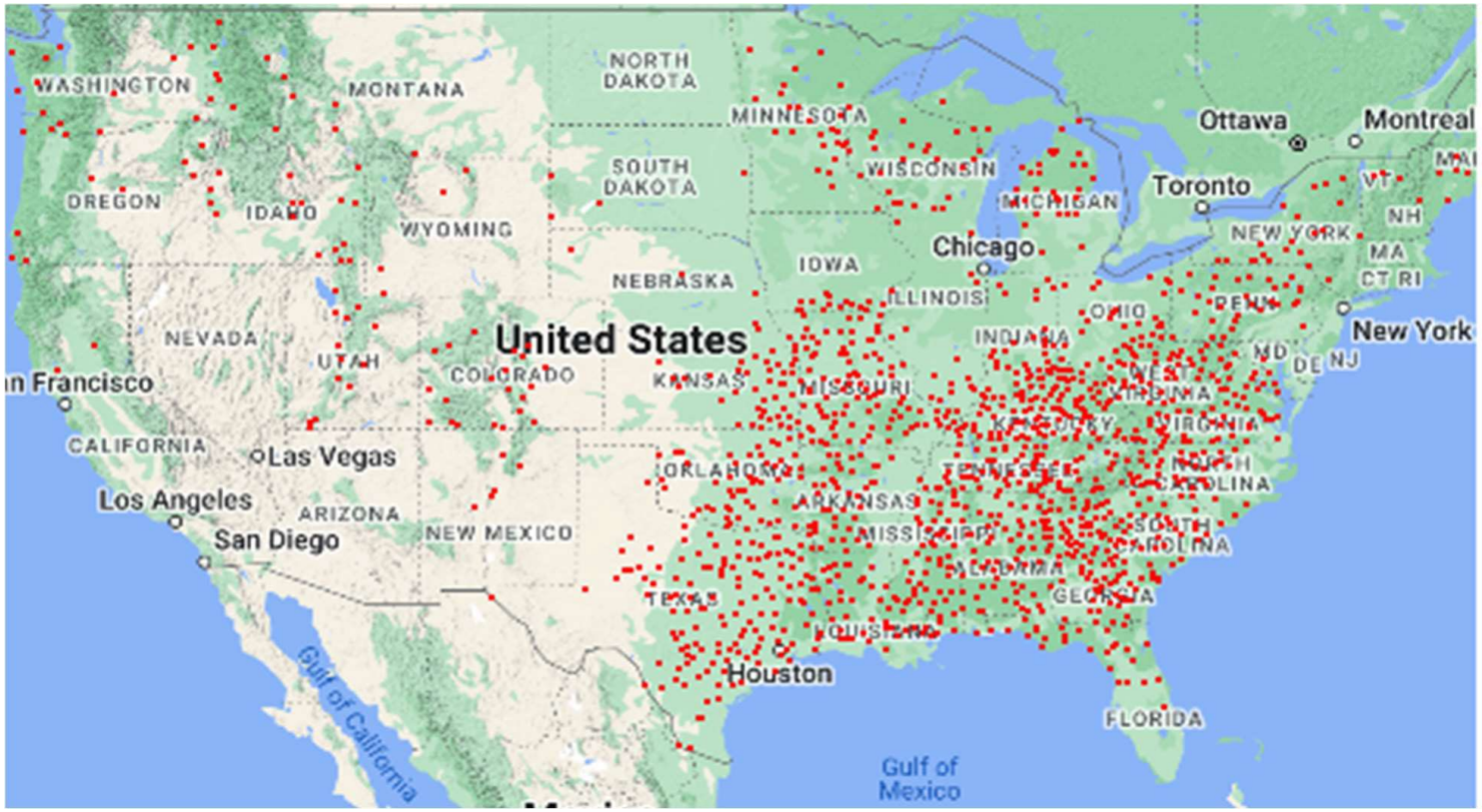
Ag in Bay Watershed vs Rest of US

Small, low resource farms



- Low land and building asset values
- Low machinery assets
- Low number of ag workers
- Small acreage
- High use of fertilizer and ag chemicals

Scenario approach

- Plausible stories about the future of agriculture in the Chesapeake Bay watershed, including key drivers of change
- Close stakeholder involvement in scenario development and interpretation of scenario outcomes
- Scenario storylines are incorporated into the project's models to explore scenario outcomes

Scenario Storylines

1. Business as usual
   - Existing trends in urbanization, agriculture, food consumption, and climate change continue in the Chesapeake Bay watershed over the next 25 years

2. Ecosystem services
   - Farms are incentivized to implement and maintain best management practices (BMPs) by receiving payments for how well the BMPs perform

Scenario Storylines

3. Farmland preservation
   - State and local governments significantly expand "smart growth" policies: farmland preservation, zoning, and urban growth boundaries

4. Local food
   - Local consumers embrace the agricultural community, and food systems become more localized, allowing farms to produce more specialty crops and value-added products

Scenario Storylines

5. Plant-based proteins and alternative meats
    - Disruptive dietary shift to plant-based proteins and alternative meats, like how cow's milk alternatives have become popular with consumers