

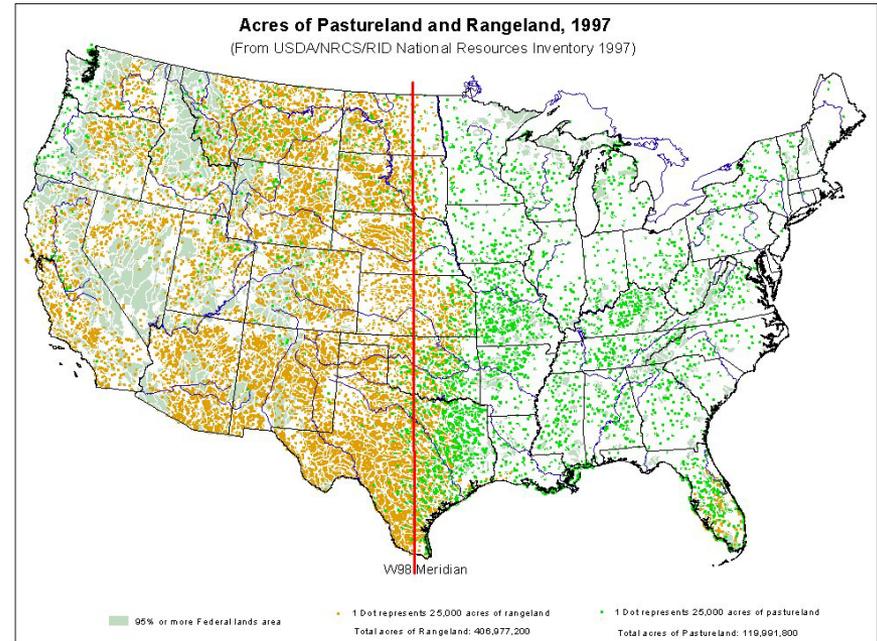
Pastureland Research and Assessment Supporting CEAP Objectives and Benefitting Farmers

Matt A. Sanderson

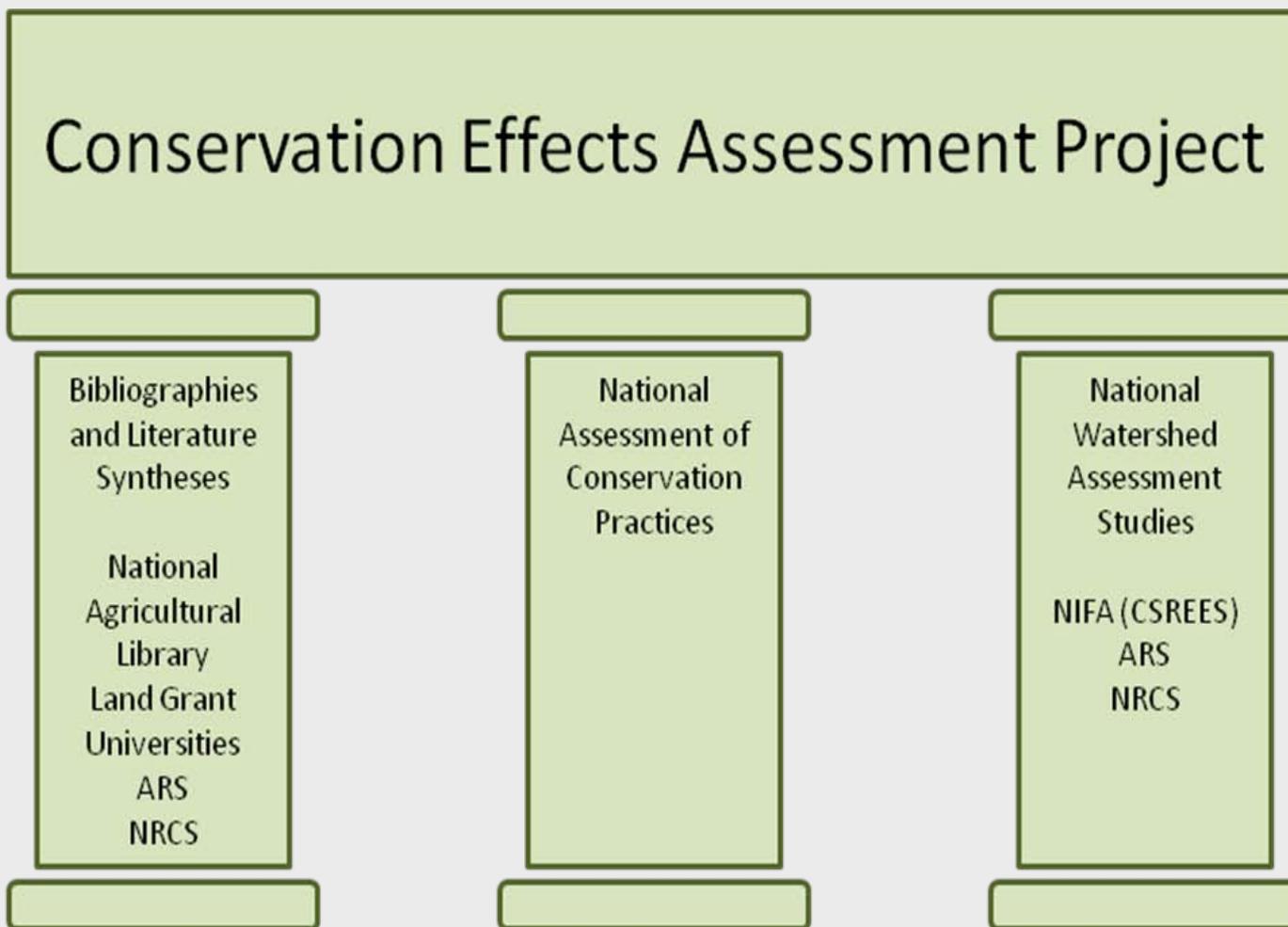
USDA-ARS Pasture Systems and Watershed
Management Research Unit
University Park, PA



- Pasture and hayland critical to agriculture
- Food, feed, fiber
 - Hay is \$18B crop in USA
 - Forages contribute ~\$45B to U.S. livestock production
- Soil and water conservation
 - Erosion control
 - Water quality protection



Components of Pastureland CEAP



Goal of this talk

Outline research and assessment underway or completed related to pastureland CEAP

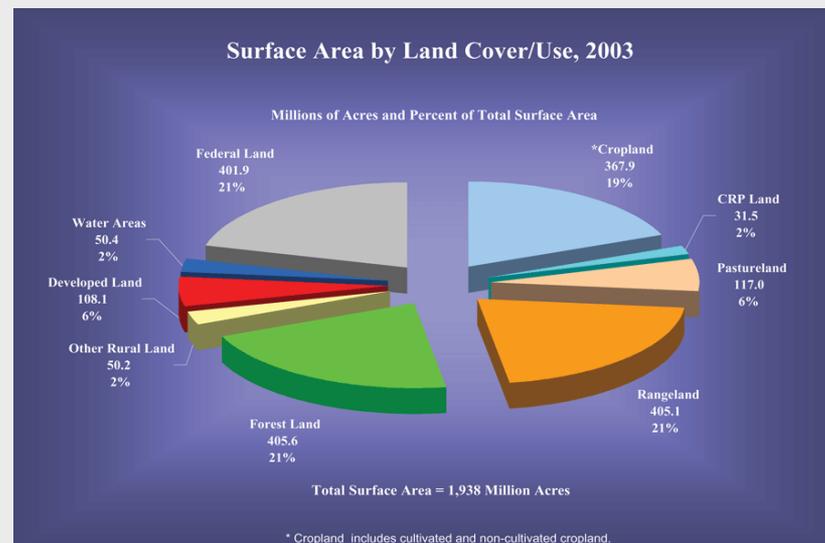
- Pastureland National Resource Inventory (NRI)
- NIFA-ARS watershed research
- USDA-ARS research
 - Watkinsville, GA
 - Coshocton, OH
 - University Park, PA



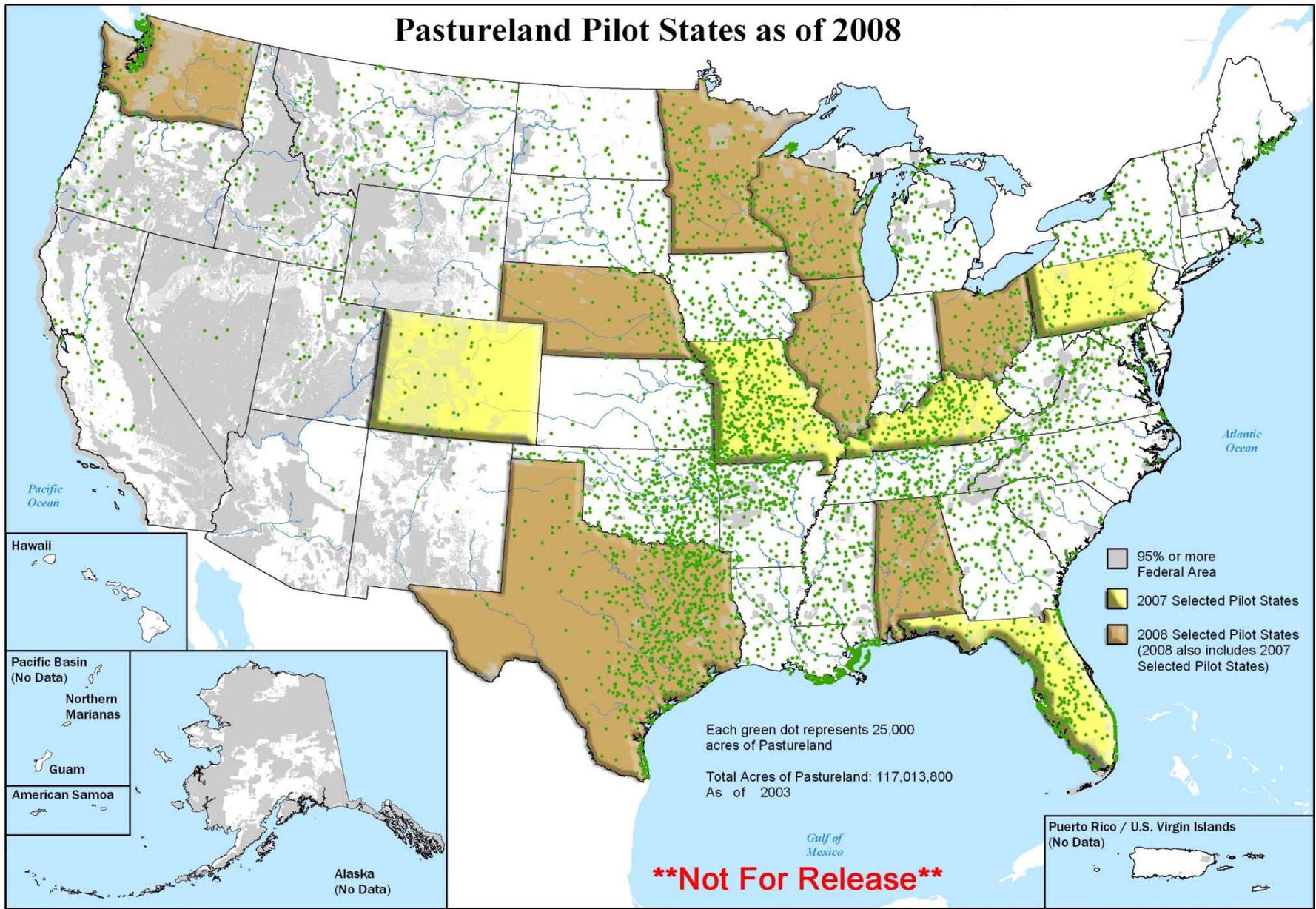
USDA-NRCS

Pastureland National Resource Inventory (NRI) Pilot Project

- A statistical survey of land use and natural resource conditions and trends on U.S. non-Federal lands.
- The NRI provides the scientific framework for the National Assessment component of CEAP



Pastureland Pilot States as of 2008



U.S. Department of Agriculture
Natural Resources Conservation Service
Resources Inventory and Assessment Division
Washington, D.C. October, 2008

Map ID: 10361

Source: 2003 National Resources Inventory

NIFA CEAP Grazing Lands Watershed Research

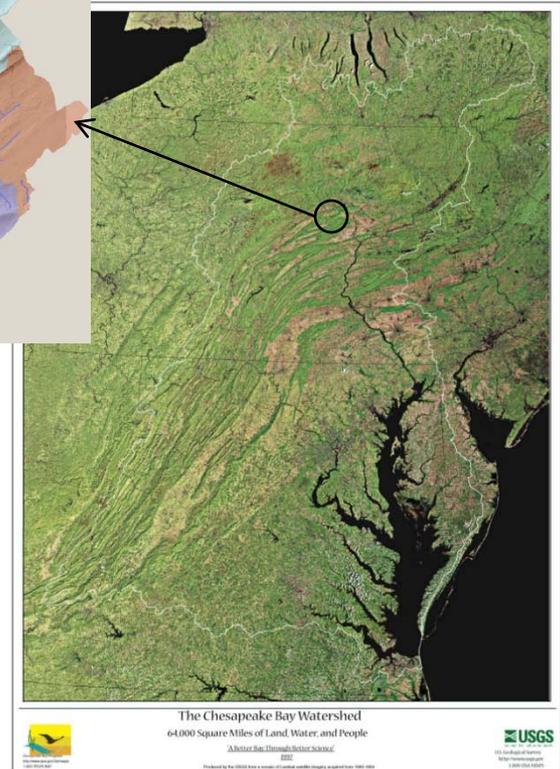
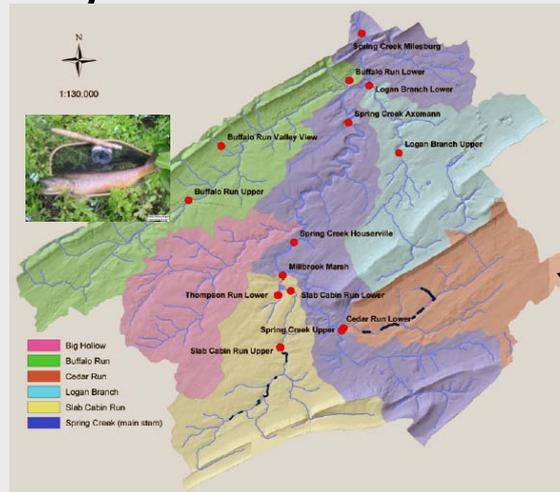
Spring Creek, an agriculturally influenced watershed in Pennsylvania

Rob Brooks, Penn State

Sarah Goslee, USDA-ARS

Denise Piechnik, PSU-ARS

- Landscape Characterization- Coarse vs. Fine Resolution GIS Analyses
- Hydrologic and Landscape Modeling of BMP Performance

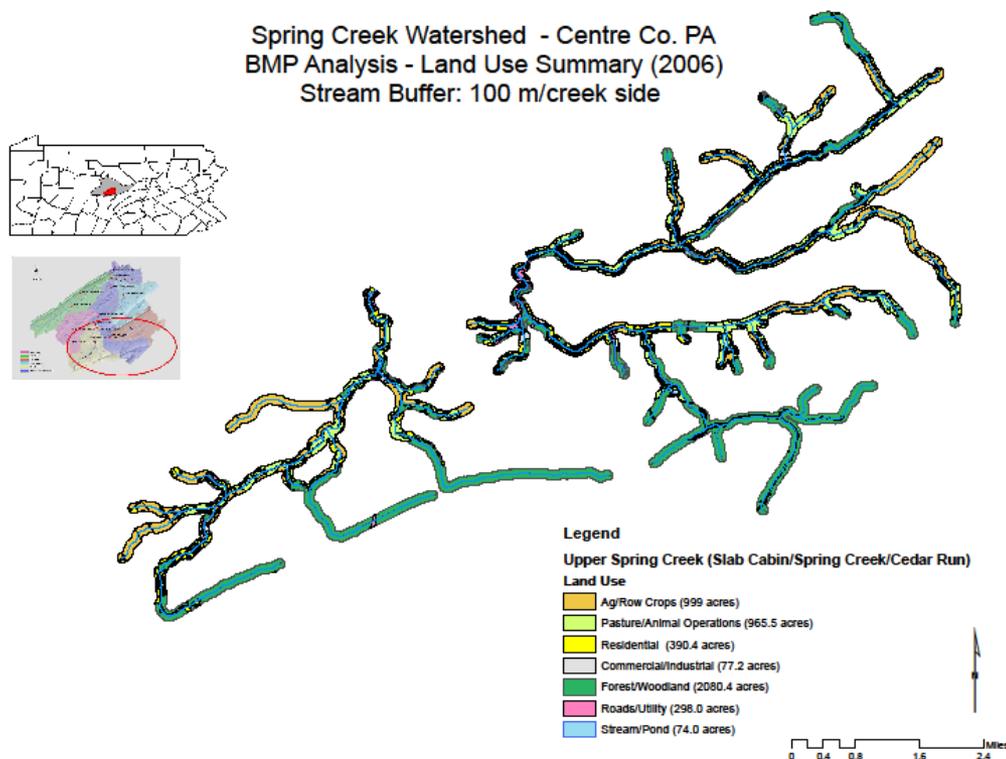


NIFA CEAP Grazing Lands Watershed Research

Does greater data resolution enhance understanding of BMP performance ?



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USDA-ARS

Pasture, Forage, and Rangelands Systems

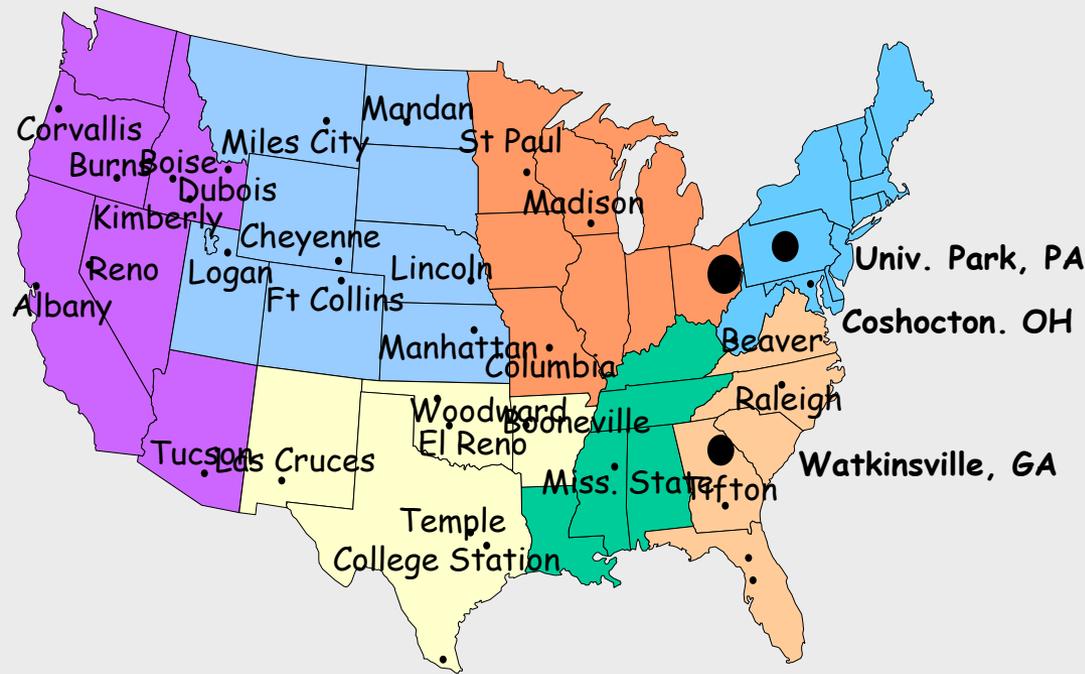
National Program 215

Evert Byington, National Program Leader

30 Laboratories, 200 scientists

Six components:

- Plant improvement
- Forage management
- Grazing management:
livestock production & environment
- Integrated mgmt of weeds & pests
- Sustainable Ecosystems



Pastureland CEAP-Related Research

USDA-ARS Watkinsville, GA

- Soil carbon management and sequestration under pastures
 - Soil organic matter 75% > than fields under conventional tillage and 39% greater than conservation tillage
- Nutrient management of hay and pastureland
 - Haying of bermudagrass an effective management tool to reduce phosphorus runoff



Pastureland CEAP-Related Research

USDA-ARS Coshocton, OH

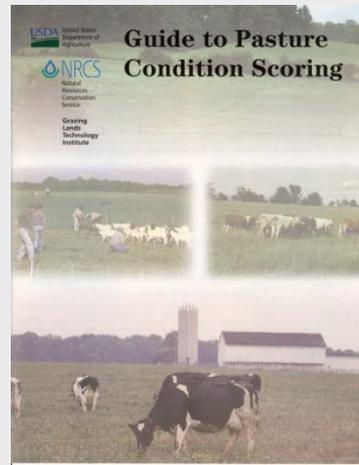
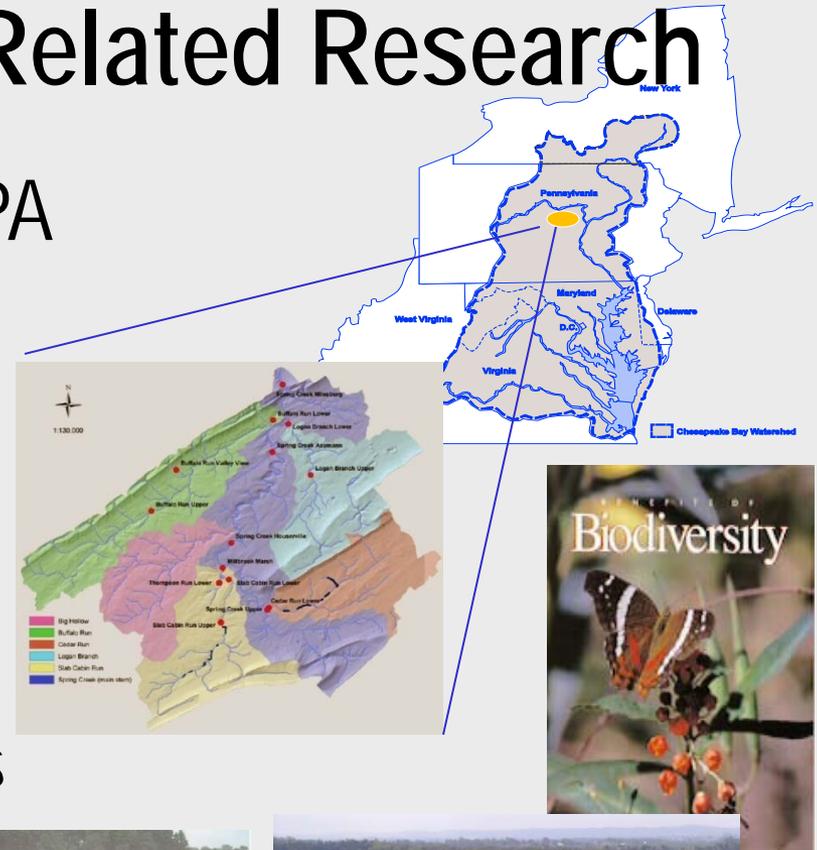
- Intensive grazing management vs. continuous grazing management
 - Forage and animal productivity
 - Soil and water quality
- Soil carbon management in pastures
 - Pasture soil carbon > than no-till corn/soy/rye rotation



Pastureland CEAP-Related Research

USDA-ARS University Park, PA

- Spring Creek watershed
- Biodiversity in pastures
- Livestock concentration areas
- Evaluation of Pasture Condition Score system



Summary

CEAP research and assessment benefits farmers through science-based information to:

- Document state of the land (NRI)
- Optimize ecosystem services from forage and grasslands
 - Forage and animal production
 - Carbon sequestration
 - Nutrient cycling
 - Water quality

