EPA’s New Research Focus on Ecosystem Services, with a Study of Biofuels Expansion in the Midwestern US

Randy Bruins, Betsy Smith, Alex Macpherson, Rick Linthurst, Iris Goodman, Office of Research and Development, U.S. EPA

EPA’s Ecosystem Services Research

Program Goal: To transform the way decision makers understand and respond to environmental issues by showing how policy and management choices affect the type, quality and magnitude of the goods and services we receive from ecosystems.

Planned Program Duration: 2009 – 2013
Program Status: Multyear plan under review; Assessment plans under development

Elements that Cut Across Assessments
- Landscape Characterization
- Services Inventory and Mapping
- Forecasting & Modeling
- Ecosystem Services & Human Health
- Valuation
- Decision Support
- Outreach & Education

Future Midwestern Landscapes Study
Assessment Plan Under Development

Landscape Characterization
Baseline Landscape (2001/2002)
Land use and crop cover at 30 m² pixel size

Scenario Forecasting
Continuation of existing policies
Hypothetical incentives for wide array of services

“Fuel Targets” Landscape
“Multi-Services” Landscape

Terrestrial Processes
- Crop growth
- Soil processes
- Landscape pattern
- Wildlife habitat

Water Processes
- Runoff, basin hydrology & biogeochemistry
- Groundwater interaction
- Aquatic community ecology
- Mainstem hydraulics

Air Processes
- Emissions
- Dispersion, deposition
- Human exposure

Modeling

Ecosystem Services: Quantification and Valuation
- Commodity and biofuels production
- Recreation
- Climate regulation
- Wildlife and rural landscape values

Water quality/quantity
- Human health
- Flood loss prevention
- Property value protection
- Recreation

Decision Support And Outreach
- Client-centered case studies
- Internet based analytical tools for decisionmakers
- Analysis and data to support voluntary programs and ecosystem service trading and auction tools

Partners To Date (other partnerships sought)
- Iowa State University
- Kansas State University

For information, contact:
Rick Linthurst
National Program Director for Ecological Research
linthurst.rick@epa.gov

Randy Bruins or Betsy Smith
Project leads for FML Study
bruins.randy@epa.gov
smith.betsy@epa.gov

Midwestern US
Willamette River Basin
Coastal Carolinas
Tampa Bay Watersheds and Estuary

Midwestern US
Wetlands Research
Coral Reefs Research
Ecosystem Assessments

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