

Conservation Effects Assessment Project ARS Watershed Assessment Study



Agricultural Research Service

the in-house research arm of the U.S. Department of Agriculture

Purpose of CEAP Watershed Assessment Study

- The U.S. Department of Agriculture has been providing assistance to farmers in implementing conservation practices for over 60 years.
- The effects of conservation practices have not been quantified.
- The CEAP Watershed Assessment Study will quantify the environmental benefits of conservation practices at the watershed scale.

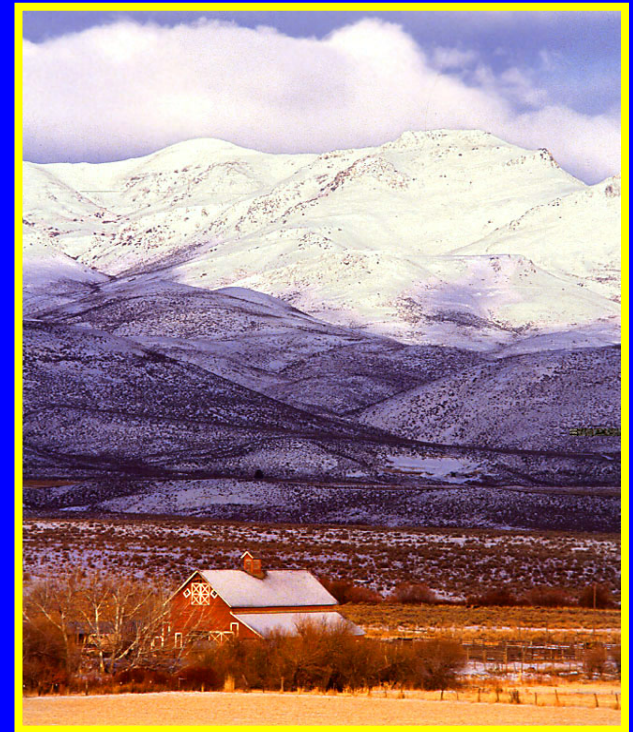
CEAP Has Two Major Components

National Assessment

- Provides estimates of conservation benefits at the national scale.
- Heavily based on application of SWAT.

Watershed Assessment Study

- Provides more detailed information on conservation effects in selected benchmark watersheds.
- Designed to support the National Assessment.

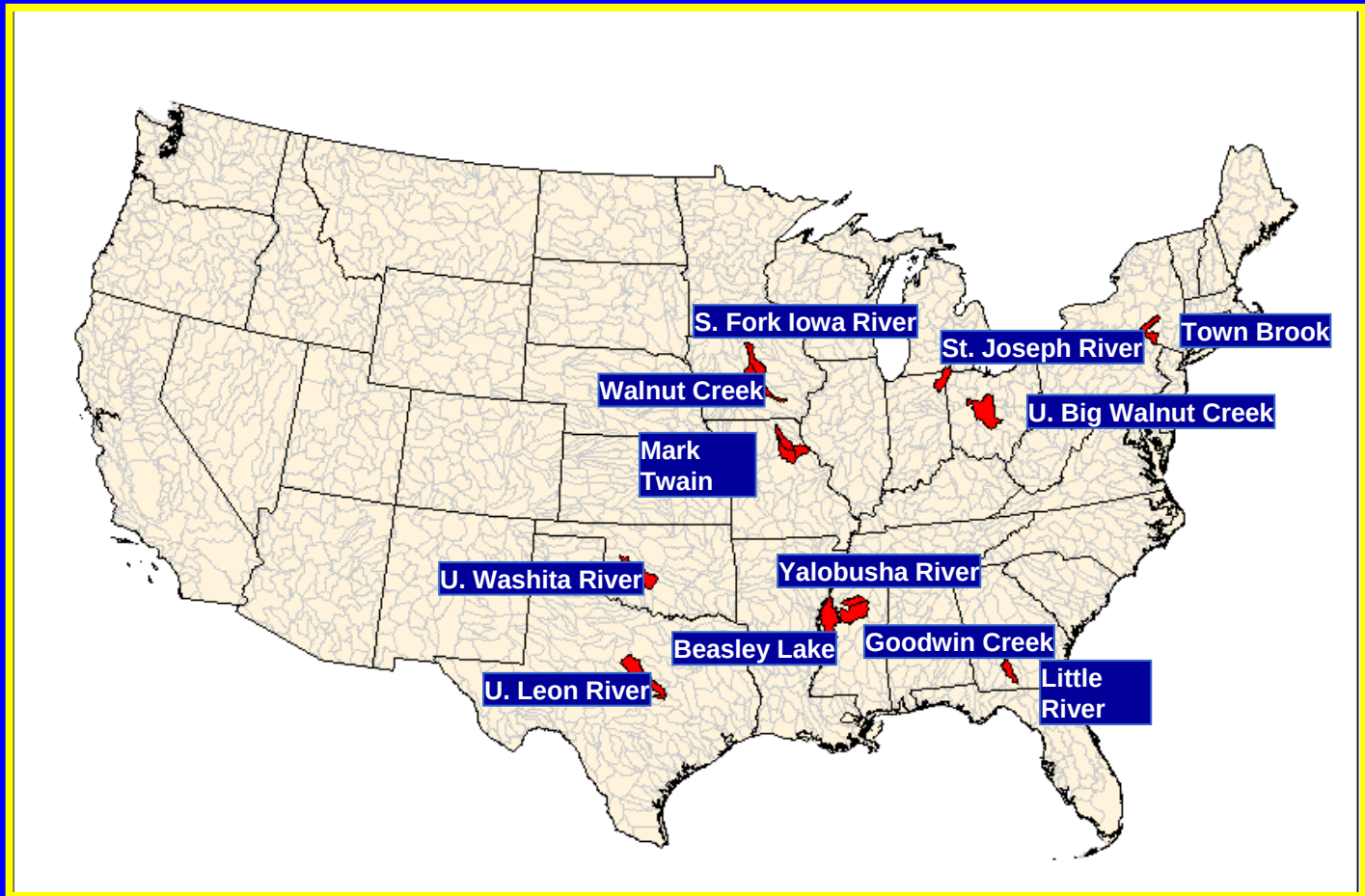


The ARS CEAP Research Approach

- 12 Benchmark Watersheds
- Six multi-location teams
- Focus on rainfed cropland watersheds
- Collaboration with NRCS and other agencies



The ARS Watershed Assessment Study



The ARS Benchmark Watersheds

Scope

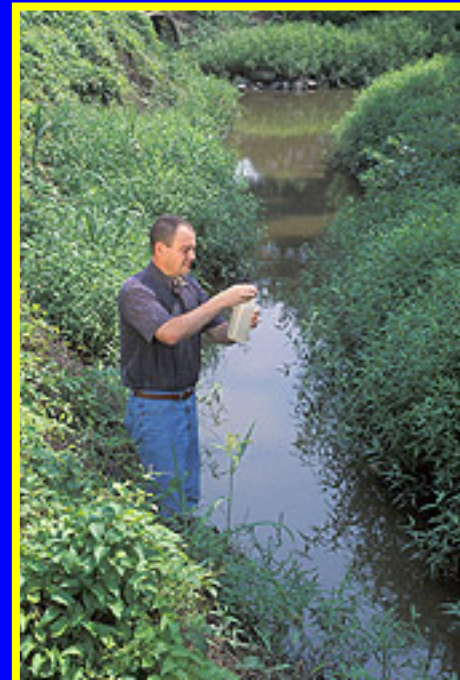
- 60 ARS Scientists
- 23 Projects
- 11 Locations



The ARS Watershed Assessment Study

Expected Outcome:

- A quantitative assessment of environmental benefits of USDA conservation programs



The ARS Watershed Assessment Study

Anticipated Products:

1. Water, soil, management, and economic data system.
2. Quantification of effects of conservation practices on environmental quality.
3. Validation of models and quantification of uncertainties of model predictions.
4. Evaluation of cost effectiveness of selection and placement of conservation practices.
5. Development of regional watershed models.

CEAP Watershed Assessment Study Research Teams

1. Data Management

- Design, develop, and implement a web-based data system
- Archive data for the 12 Benchmark Watersheds

2. Watershed Design

- Design methods to assess effects of conservation practices
- Conduct and interpret field data

3. Model Validation, Evaluation & Uncertainty

- Develop model validation standards
- Validate SWAT and AnnAGNPS on the 12 Benchmark Watersheds

CEAP Watershed Assessment Study

Research Teams

4. Economic Analysis

- Collect economics data form selected watersheds
- Develop methods for assessing cost-effectiveness of conservation practices

5. Model Development and Regionalization

- Develop regional models to address essential processes for specific regions of the U.S.
- Use the Object Modular System to develop regional models

6. Data Quality & Assurance

- Identify uniform methods/procedures for data collection across the 12 Benchmark Watersheds
- Assure data quality through implementation of an inter-laboratory data comparison program

CEAP Watershed Assessment Study Progress

- A project plan was developed during 2004
- Data collection is underway on all 12 Benchmark Watersheds
- The six teams are actively conducting the research
- The first Annual Meeting of ARS CEAP scientists was held in March 2005 to provide coordination.

CEAP Web site

<http://www.nrcs.gov/technical/nri/ceap/>

Web site contains –

- Overview of CEAP
- Fact sheet for each watershed
- ARS Watershed Assessment Study project plan
- Work plan for National Assessment



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