Conservation Effects Assessment Project (CEAP): Watershed Assessment Studies

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Conservation Effects Assessment Project (CEAP)

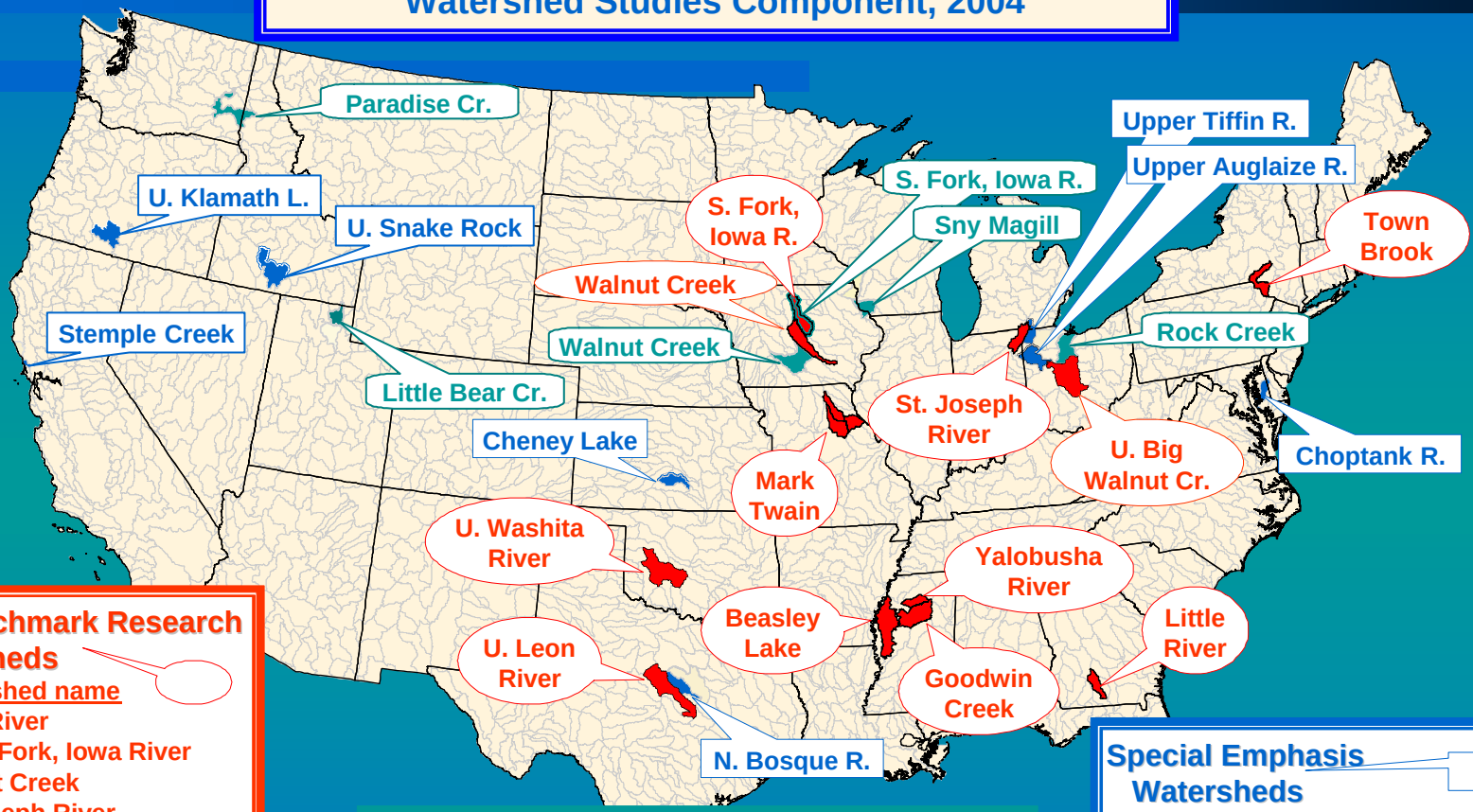
The Focus of CEAP

- The purpose of CEAP is to develop tools and techniques that can be used to quantify the environmental and economic benefits of conservation practices at field and watershed scale.

The Watershed Assessment Studies Categories

- **Three Watershed Categories:**
  - Agricultural Research Service (ARS) Benchmark Watersheds
  - Special Emphasis Watersheds (NRCS)
  - Competitive Grants Watersheds (CSREES)

Conservation Effects Assessment Project (CEAP): Watershed Studies Component, 2004



ARS Benchmark Research Watersheds

	Watershed name
GA	Little River
IA	South Fork, Iowa River
IA	Walnut Creek
IN	St. Joseph River
MO	Mark Twain
NY	Town Brook
OH	Upper Big Walnut Creek
OK	Upper Washita River
MS	Goodwin Creek
MS	Beasley Lake
MS	Yalobusha River
TX	Upper Leon River

Competitive Grants Watersheds

	Watershed name	Research Lead
IA	Three watersheds (Walnut Creek, South Fork Iowa River, Sny Magill)	(Iowa St. U.)
UT	Little Bear River	(Utah St. U.)
OH	Rock Creek	(Heidelberg College)
ID	Paradise Creek	(U. of Idaho)

Special Emphasis Watersheds

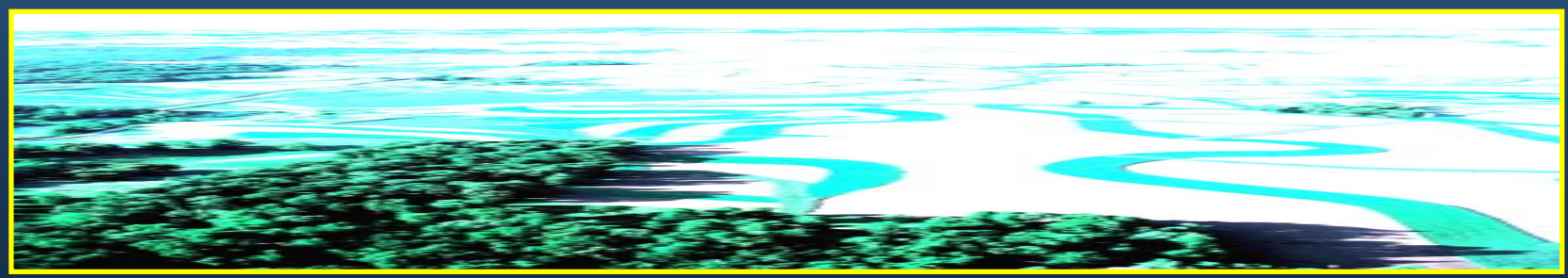
	Watershed name
CA	Stemple Creek
ID	Upper Snake Rock Creek
KS	Cheney Lake
MD	Choptank River
OH	Maumee River (Upper Auglaize R.)
MI	Maumee River (Upper Tiffin R.)
OR	Upper Klamath Lakes
TX	North Bosque River

Note: CEAP Watershed locations are plotted as 8-digit Hydrologic Unit Code Watershed boundaries for general locations only.

The ARS Watershed Assessment Study

Purpose

- Providing detailed research findings on intensively studied watersheds.
- Develop and improve models for use in the National Assessment.
- Develop models & tools for program implementation at watershed scales.



The ARS Watershed Assessment Study

- Initial analysis utilizes existing data and models.
- The initial focus is on cropland.

The ARS Watershed Assessment Study

- Future work will incorporate manipulative treatments to quantify cumulative effect of implementing conservation practices at the watershed scale.
- Models are being designed to allow for optimization of placement of practices to reached targeted objectives.

The ARS Watershed Assessment Study

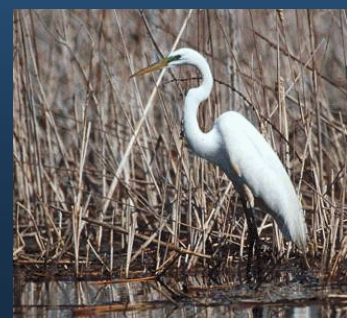
Project Plan:

- Scientific description of the project.
- Contains a Project Management Plan of tasks and responsibilities.
- Has received scientific peer review.

The ARS Watershed Assessment Study

Objectives:

1. Develop and implement a data system.
2. Measure effects of conservation practices at the watershed scale.
3. Develop and validate models and quantify uncertainty of model predictions.
4. Develop policy-planning tools to optimize profits and program efficiency.
5. Develop regional watershed models to predict impact of conservation practices.



The ARS Watershed Assessment Study

Approach:

- 12 ARS Benchmark Watersheds
- Six multi-location teams
- Collaborative research is the centerpiece of CEAP

The ARS Watershed Assessment Study

- Scope
  - 60 ARS Scientists (~38 SYs)
  - 15 Research Units
  - 12 Locations
- Funding
  - $16.3 million/yr ARS
  - $1.1 million/yr NRCS

The ARS Watershed Assessment Study

Research Teams:

1. Data Management Leaders: Jean Steiner, John Sadler
2. Watershed Design for Determining Environmental Effects Leaders: Mike Burkart, Martin Locke
3. Model Development, Evaluation and Uncertainty Analysis Leaders: Jeff Arnold, Ron Bingner, Tim Strickland

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Research Teams:

4. Economic Analysis Leader: Gerald Whittaker, Chi Hua Huang
5. Model Development and Regionalization

   Leaders: Laj Ahuja, Matt Romkens
6. Data Quality and Assurance

   Leaders: Norman Fausey, Ray Bryant

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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.

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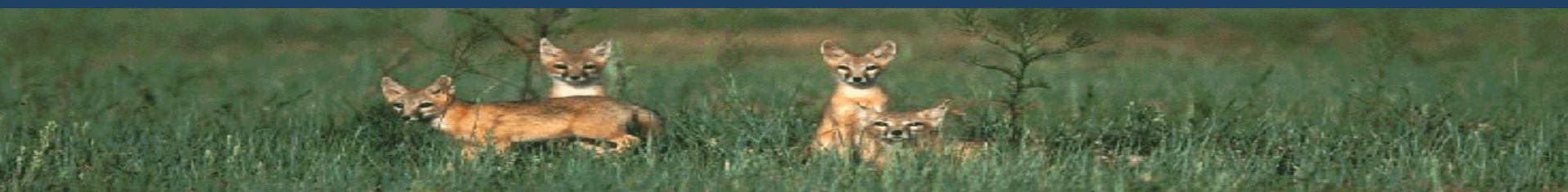
Anticipated Products:

4. Evaluation of cost effectiveness of selection and placement of conservation practices.
5. Development of new software tools for quantifying environmental outcomes in major agricultural regions.



The ARS Watershed Assessment Study

Summary:

- ARS CEAP Watershed Assessment Study is the first official Multi-location Project .
- Study is conducted on 12 ARS Benchmark Watersheds.
- Study is conducted by 6 research teams involving 60 scientists.

The ARS Watershed Assessment Study

Summary:

- Project Plan developed by scientists was reviewed to ensure scientific quality.
- Project Leader established to coordinate and guide project.
- Project Management Plan will guide management of the project.

The ARS Watershed Assessment Study

Summary:

- Policy Decision Resource Allocation Memos (PDRAM) are being develop to assign resources and staff to CEAP tasks.
- Quarterly and Annual Project Plan progress reports.
- Project will be oversaw be external Review panel.

The ARS Watershed Assessment Study

Summary:

- Annual meeting will be held to make adjustments and report on progress.
- USDA-Office of Risk Assessment and Cost Benefit Analysis to develop a prototype Risk Assessment by November 2005.

The ARS Watershed Assessment Study

Summary:

- Existing CEAP tasks and goals will role forward in the next cycle of NP 201 scheduled to begin in November 2005.

- Major remaining task is to clearly define the Report and findings that we will deliver in September 2006.

Conservation Effects Assessment Project (CEAP)

CEAP has two components:

- National Assessment

- Watershed assessment