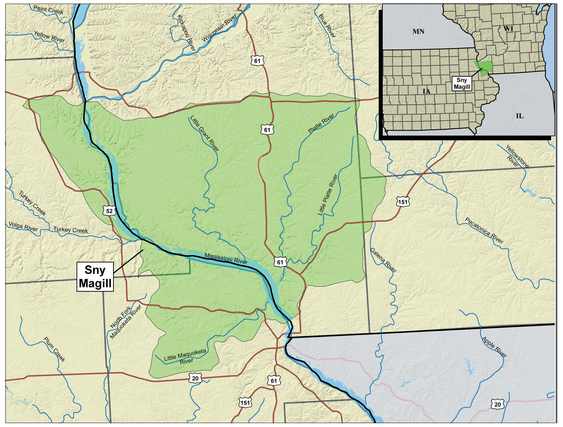
United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

Sny Magill Creek Watershed, Iowa: 2004-2007*

A CSREES* Competitive Grant Watershed, one of 24 CEAP watershed projects.



CEAP Assessment

Determining which combinations of conservation practices and respective placements within the watershed will achieve local water quality goals for sediment, nitrogen, and phosphorous loads.

Watershed Description

- 22,541 acres
- 49% forest, 24% pasture, 26% crop land
- Sny Magill Creek and North Cedar Creek (a tributary) have been designated as "put and take" fisheries by the Iowa Department of Natural Resources.
- Karst features (caves, sinkholes, and springs) are common throughout the watershed.
- Impaired water quality parameters: Sediment, nitrogen and phosphorus
- Watershed is a Clean Water Act Section 319 grant demonstration and monitoring project.

Issues: Sediment lost from the agricultural landscape has been identified as the primary source of water quality impairment. Nutrient losses to the stream system are a secondary source of impairment.

*Cooperative State Research, Education, and Extension Service

Approach

Water sampling: Nitrogen, phosphorus, sediment, and bacteria

Watershed models: SWAT (Soil and Water Assessment Tool)

Water monitoring: EPA Nonpoint National Long-Term Monitoring Project

Assess practices: Conservation tillage, terraces, grassed waterways, strip cropping, and contouring, nutrient management and other production practices.

Communicating Results

Extend findings to watershed and commodity groups, environmental groups, state government, and other interested parties through a variety of activities.

Collaborators

- USDA Agricultural Research Service National Soil Tilth Laboratory
- Iowa Department of Natural Resources
- Iowa Department of Agriculture
- Land Stewardship

Contacts

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NRCS Hydrologist Laurel Foreman uses a Global Positioning System (GPS) and personal digital assistant (PDA) to record status of a Conservation Reserve Program (CRP) filter strip planting in Cass County, Iowa.

Students collect and test water samples from a small stream as part of a corps of volunteer water quality monitors in the state of Iowa.

A water quality improvement project on private land in the watershed improves trout habitat in the Sny Magill coldwater stream in Clayton County in northeast Iowa.

Timeline

2003 Initial funding

2004 **August** CEAP bibliographies

2005 **May** Wetlands peer review; **July** Wildlife literature review (program-based); **October** Cropland literature reviews, Wildlife literature review (practice-based), Wildlife Work Plan; **November** Wetlands Work Plan; **December** Draft findings—Prairie Pothole region

2006 **February** Preliminary habitat quality models—Prairie Potholes wetland region; **March** Preliminary National Assessment Report

2007 **Fall** National Assessment Final Report

2008 **January** CSREES Watershed final reports

www.nrcs.usda.gov/technical/nri/ceap/