

# NORTHEAST IOWA RIVER BASINS USDA WATER QUALITY DEMONSTRATION

## IOWA

### Project Summary

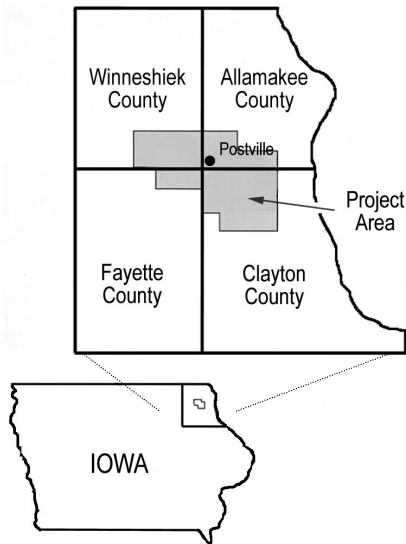
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### Background

The Northeast Iowa River Basins Demonstration was initiated in 1991 with funding from the USDA Water Quality Initiative. The project area is located on the divide between the Yellow and Turkey Rivers, tributaries to the Upper Mississippi. The 148,000 acre project area includes the Big Spring groundwater basin, site of Iowa's original multi-agency, state-funded groundwater protection project. Northeast Iowa is characterized by rolling hills and trout streams, and has the state's largest concentration of dairy farms. The scenic beauty of the area is underlain by creviced limestone, making groundwater aquifers on which residents and farmsteads depend highly vulnerable to nitrate and microbial contamination from agricultural practices.

Iowa State University Extension provided leadership for the project. Allocations for the project totaled over \$2.9 million from state and federal sources. Many local producers, organizations and agribusinesses cooperated with project demonstrations and education programs. The project shared Extension resources for manure, nutrient and pest management education and information marketing with the USDA Sny Magill HUA project in Clayton County, and with an Iowa 319/WPF project in the Hickory Creek Watershed.

### Project Impacts

- Producers ask for and use results of a local database generated from 186 agriculture production demonstrations (28 multi-year) on over 100 farms documenting the economic viability of best management practices for manure, nitrogen, tillage, pasture/forages and woodland.
- Two educational initiatives developed by the project became models for statewide programs sponsored by ISUE, NRCS, DALs and DNR. Both promote long-term BMP adoption through individualized learning. Producers use their own resource and crop production information to plan and evaluate manure, nutrient and pest management.
- Project cost-share and NRCS assistance have helped build 35 manure structures on 31 farms, and designed many additional systems in the area. Extension has assisted with over 155 manure nutrient management plans.

### Project Partners and Allocations

- \* USDA Water Quality Initiative (WQI) Co-operative State Research, Extension and Education Service (CSREES) Project No. 95-EWQD-1-9531, \$724,620, 1991-99
- \* USDA WQI Natural Resources Conservation Service (NRCS), \$1,130,000, 1991-96
- \* USDA WQI Farm Service Agency (FSA), \$270,000, 1991-93
- \* USDA WQI FSA Water Quality Incentive and Special ACP, \$149,000, 1992-94
- \* US EPA 319 Nonpoint Source Program through Iowa Department of Natural Resources (DNR), \$335,459, 1992-95, 1997-99
- \* US EPA 319 through DNR, Hickory Creek Watershed Project, \$11,300, 1997-99
- \* NRCS Iowa, \$270,000, 1992, 1997-98
- \* Iowa Department of Agriculture and Land Stewardship (DALs), Water Protection Fund (WPF) \$34,000, 1992-93, 1997
- \* Leopold Center for Sustainable Agriculture, \$43,920, 1994-95, 1997-98
- \* Iowa State University and University Extension
- \* Cooperating farmers
- \* Project Advisory Council
- \* Four County Extension Councils, Soil and Water Conservation District Commissioners and FSA Committees
- \* US Forest Service
- \* US Fish and Wildlife Service

### Audience

**Crop and livestock producers** in the project area and those with similar resource concerns in surrounding north-east Iowa and adjoining states.

**Staff of USDA and state agencies** - project outreach has provided data, staff training, mentoring, and model programs for manure, nutrient and pest management, and pasture/grazing management to agency staff, watershed projects, EQIP and other initiatives throughout Iowa.

**Area agribusinesses and ag lenders** were represented on the Advisory Committee and provided funds for manure spreader calibration scales. Project specialists worked closely with dealer agronomists to implement WQIP NPM practice incentives. An annual agribusiness 'breakfast' event provided briefings on BMP demonstration results.

## Publications

**Water Watch**, the project newsletter, has been published bimonthly since 1992 and has a circulation of over 1,700. Subscriptions are free upon request.

**Nutrient and Pest Management Incentive Program Newsletter**, 10-12 biweekly issues written each growing season by project specialists provided timely information for integrated pest management of area crops and forages. Developed for NPM program participants, the newsletter was requested by many other local producers and agronomists, and distributed by four other northeast Iowa watershed projects.

A **Manure Nutrient Management Planning notebook** was assembled in response to inquiries from producers and consultants. It contains general guidelines, planning information and on-farm manure nutrient and spread calibration databases developed by the project.

**Demonstration results** of the project's nitrogen, manure and soil management demonstrations, which include many multi-year, replicated treatments, are used in extension publications and programs throughout the state.

## Educational Programs

**Nutrient and Pest Management Incentive Education** - this project initiative developed NPM education as an alternative to specialists' prescriptions, to enhance long-term adoption of targeted crop and manure management practices. Sixty-five producers used their own farm data to write and evaluate individualized NPM plans over a 3 year period. Surveys show the program increases confidence in their ability to manage their own fertility programs (rather than relying on suppliers), reduces use of purchased fertilizers, and improves manure management.

State agencies have sanctioned use of the incentive education model in other Iowa water quality projects. NRCS has recommended an NPM program on the same model for all EQIP contracts.

**Manure management assistance** was provided one-on-one and in workshops to over 155 producers. Over 70% of participants surveyed increased their manure nutrient credits and reduced fertilizer application as a result. ISUE implemented a 3-year Statewide Manure Nutrient Management Initiative of workshops based on this model program.

**Pasture walks** now involve dozens of producers on a regular schedule of visits to innovative farms examining controlled grazing, grass-based dairy, alternative forages and other practices. An annual grazing conference is also held.

**Field days and workshops.** Staff have participated in 30-40 field days, workshops and educational programs annually to promote the BMPs targeted by the project. These include crop, manure, CRP, pasture, timber and streambank stabilization management.

## Community Improvements

- Over 100 manure spreaders have been calibrated and local farmers now make better use of their manure resource for crop nutrients, reducing over-application of purchased fertilizers and potential nitrate contamination of groundwater.
- Private well water samples submitted for testing by area families in 1998 showed a lower incidence of nitrate and coliform bacteria contamination than those submitted in 1992.
- A strong local graziers' organization has formed, facilitated by the project, to study, demonstrate and adopt improved grazing and forage management.

## Participants' Response

"I was wondering what I was going to do about my fertilizer bill this spring, but I learned enough in the last 30 minutes, I guess I shouldn't have too much of a bill." - L.B., when his spreader calibration showed he had been applying more than 40 tons/A. solid manure.

"Quite a large number of my customers have started 'talking' and taking manure fertility credits - you must be getting the message out!" - Bank ag-loan officer, following a one-on-one review of demonstration results.

"This kind of information is not generally available from non-biased sources" - Fayette Co. SWCD Commissioner's remark about the projects' marketing of local demonstration results.