

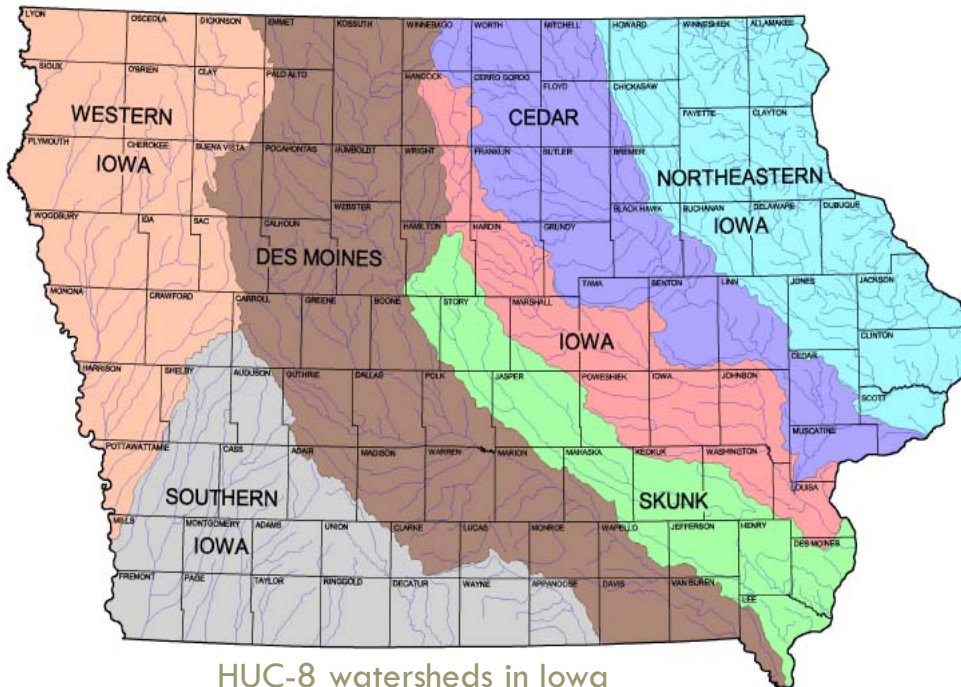


PRAIRIE RIVERS
of Iowa

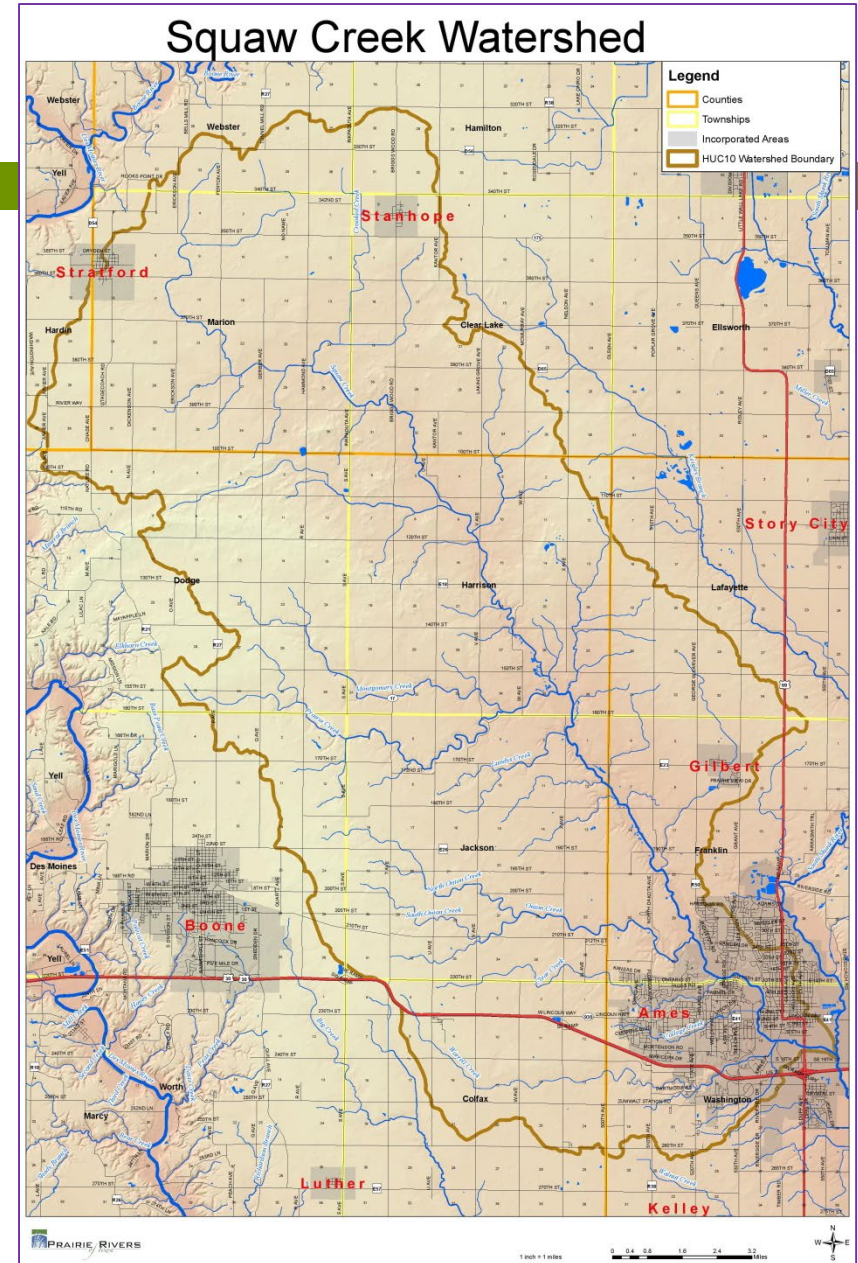
SQUAW CREEK WATERSHED

Kayla Bergman, Watersheds & Waterways Program Coordinator

Squaw Creek Watershed



HUC-8 watersheds in Iowa



The Journey

Prairie Rivers of Iowa has always led our work with the intent of organizing groups and individuals to affect change in water quality via **education**.



Squaw Creek WMA

- Formed in 2012
- Hired Emmons & Olivier Resources (Minnesota) to develop watershed management plan
 - ▣ Prairie Rivers of Iowa subcontracted to do the social portion of the plan development
- Management plan published in December 2014



Components of the watershed plan

- Watershed characteristics
- Stream health
- Pollutant sources
- Goals and objectives
- Implementation strategies
- Monitoring plan
- Agriculture Conservation Planning Framework maps

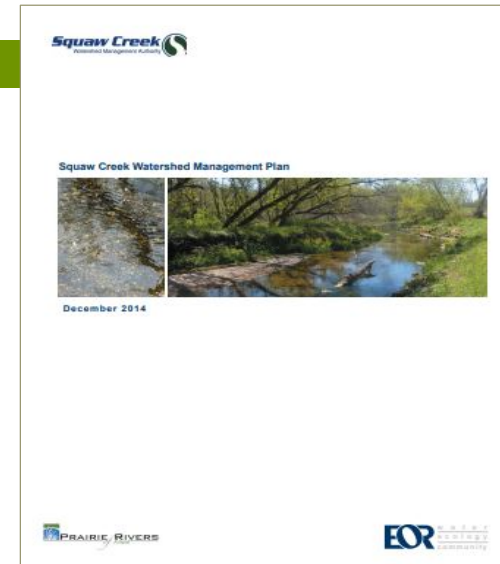


Table 2-2. Land Use of the Squaw Creek Watershed

Land Use	Acres	% of Watershed
Corn Soybean	105,225	71.6%
Continuous Corn	12,561	8.5%
Conservation Corn Rotation	3,694	2.5%
Forest	3,953	2.7%
Grass	11,331	7.7%
Urban	10,107	6.9%
Ponds/Wetlands	129	0.1%

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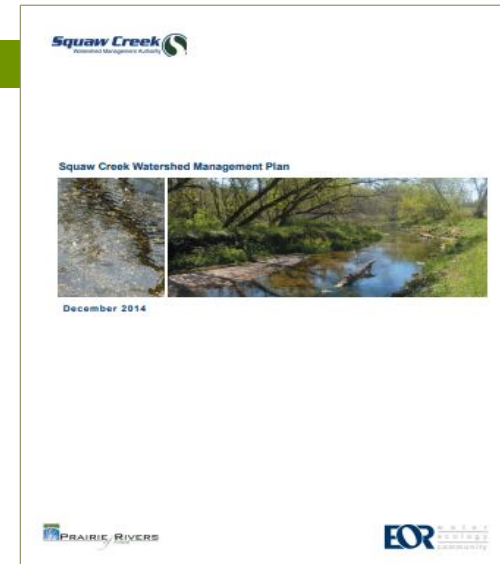


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Goals and Objectives

- ❑ Increase people's awareness and understanding of the individual connection and efforts within the watershed
- ❑ Improve water quality in the watershed
- ❑ Reduce the effects associated with altered hydrology (heavy flows, diminished based flow)
- ❑ Increase the variety of habitat for animal and plant life in the watershed
- ❑ Create outstanding recreational opportunities in the watershed
- ❑ Work cooperatively to identify stakeholders and resources and facilitate partnerships to implement the watershed plan

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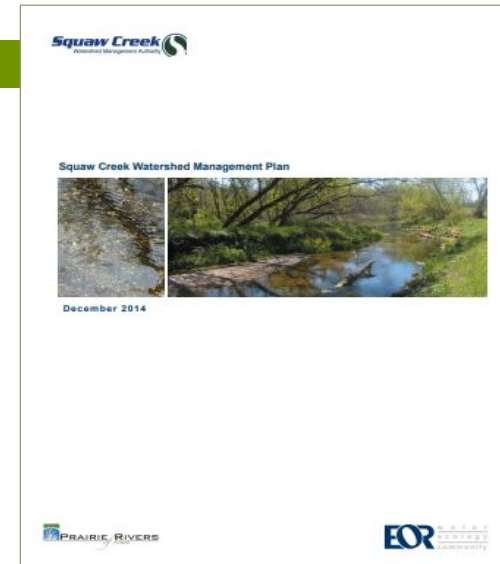


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Implementation Strategies

- Education/Outreach
- Water Quality
- Hydrology
- Habitat Improvement
- Stream Restoration/Recreation
- Facilitating Partnerships



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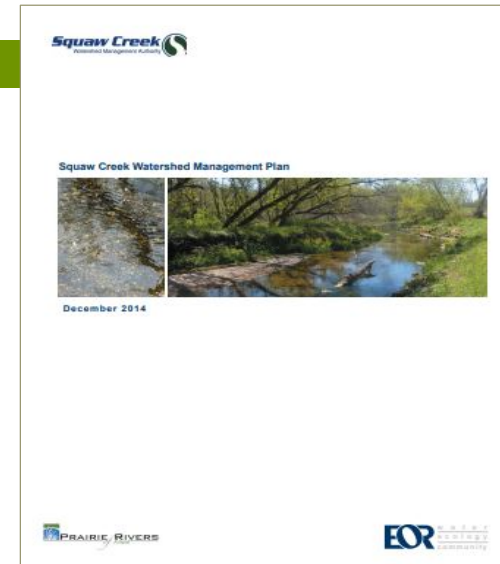


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Agriculture Conservation Planning Framework (ACPF) Maps

[About](#) [Content](#) [Legend](#)

Legend

Squaw Creek Watershed

Streams

Edge-of-Field Bioreactor

Grassed Waterways

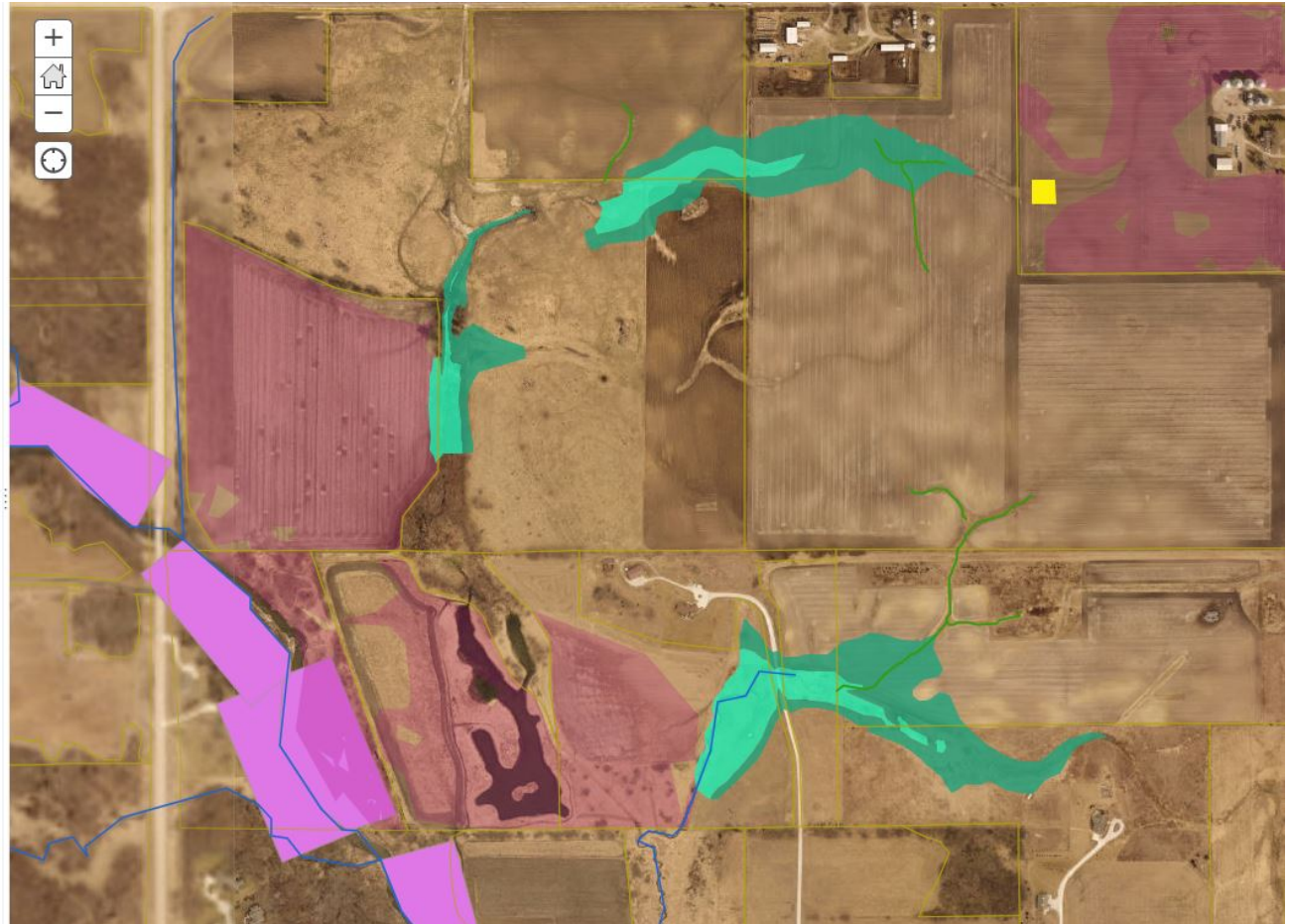
Field Boundaries

Nutrient Reduction Wetland

Drainage Water Management

Riparian Denitrifying Practices

- Vegetated Buffer
- Wetland Pool
- Saturated Buffer
- Bioreactor



Projects to date – Prairie Rivers and partners

- ❑ Squaw Creek Water Quality Initiative (WQI)
 - Practice Implementation
 - Education/outreach
- ❑ Collaboration with cities, counties, and soil & water conservation districts
- ❑ Water quality monitoring
- ❑ Urban Fringe Landowners special project



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Conservation Practice Implementation

Squaw Creek Watershed



Cover Crops

2,003 acres 2015-2017
1,529 acres in 2018



No-till/Strip-till

1,419 acres 2015-2017
2,300 acres in 2018



Denitrifying Bioreactors

1 unit installed fall 2017
2 units in progress for 2019

Example: Lundys Creek and Worrell Creek (2 HUC-12 subwatersheds)
7,340 acres of cover crops, 2,560 acres of no-till/strip-till, and 38 denitrifying bioreactors

Education/Outreach

- Education and Outreach Campaign focused on watershed awareness, water quality, and soil health
 - ▣ Publications, videos, social media, mailings, and events
 - ▣ In 2018 alone, Prairie Rivers of Iowa reached over 600 adults and 400 students through outreach events



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Collaboration with Cities

- ❑ City of Stanhope (pop. 403)
 - Sourcewater Protection Plan development and implementation
- ❑ City of Gilbert
 - State Revolving Loan Fund application assistance
- ❑ City of Ames
 - Soil health and water quality education collaboration
 - Support of urban conservation practices
 - Water quality monitoring
 - Future conservation practice implementation in watersheds



Collaboration with Counties

- ❑ Watershed Signage
- ❑ County-wide watershed assessment
- ❑ Agriculture Conservation Planning Framework maps
- ❑ Private lands assistance program
- ❑ Water quality monitoring
- ❑ Wildlife habitat (Conservation Dept.)



Collaboration with Soil & Water Conservation Districts

- ❑ Field days and educational workshops
- ❑ Cover crop administration
- ❑ Public relations
- ❑ Watershed signage
- ❑ Shared landowner/producer management



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Water Quality Monitoring

- ❑ Automated sampler (City of Ames)
- ❑ Volunteer monitoring (Squaw Creek Water Coalition)
- ❑ Educational Monitoring



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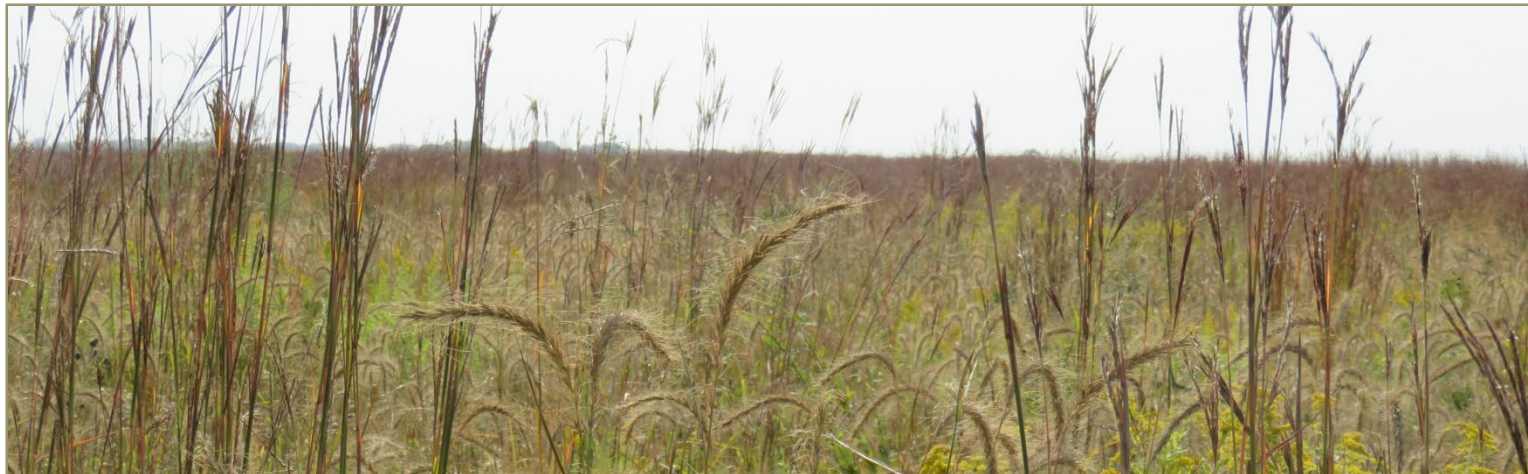
Urban Fringe Landowner Project

- Technical Assistance to landowners of:
 - 100 acres or less
 - In the 5-mile urban fringe around Ames
 - Within Squaw Creek Watershed



Where the story goes from here

- ❑ Continue seeking funding opportunities
- ❑ Continue educating watershed citizens and encouraging watershed activity
- ❑ Increase technical assistance across the watershed
- ❑ Collaborate with the Headwaters of the South Skunk River WMA



Final Message

From a recent study at Iowa State University:

Results showed that **participation in organized watershed management** and receipt of cost-share funds or technical assistance **had large positive direct effects on cover crop use.** Farmers who had participated in watershed group activities were almost 40 percent more likely to be using cover crops.

Those who had received cost-share funds or other conservation assistance in the previous five years were twice as likely to report cover crop use.

-J. Gordon Arbuckle Jr., Grant Wall, Laurie Nowatzke

Questions?

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