

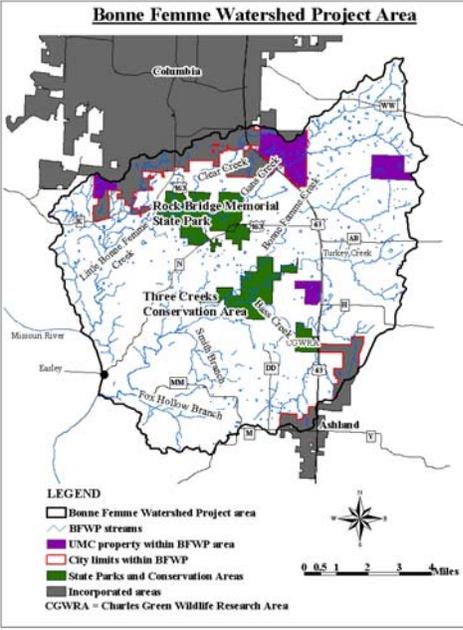
Bonne Femme Watershed Plan February, 2007

Created by the Bonne Femme
Stakeholder Committee

Presented by Terry Frueh

Watershed Characteristics

- Watershed is located in southern Boone County; bordered by Cedar Creek watershed to the east and the Missouri River to the west
- Watershed area encompasses 59,702 acres (93 square miles)
- Public Lands
 - Rock Bridge Memorial State Park
 - Three Creeks Conservation Area
- Outstanding State Resource Waters
 - Devils Icebox Cave Branch, Bass, Turkey, Bonne Femme, and Gans Creeks
- Population increased by 40% from 1990-2000



The map, titled "Bonne Femme Watershed Project Area", shows the watershed boundary in Boone County, Missouri. It features a network of streams including the Missouri River, Turkey Creek, and several branches of the Bonne Femme River. Key locations marked include Columbia, Ashland, and Easley. The map highlights Rock Bridge Memorial State Park and the Three Creeks Conservation Area in green. A legend identifies symbols for the watershed project area, streams, UMC property, city limits, state parks, and incorporated areas. A scale bar indicates distances up to 4 miles, and a north arrow is present.

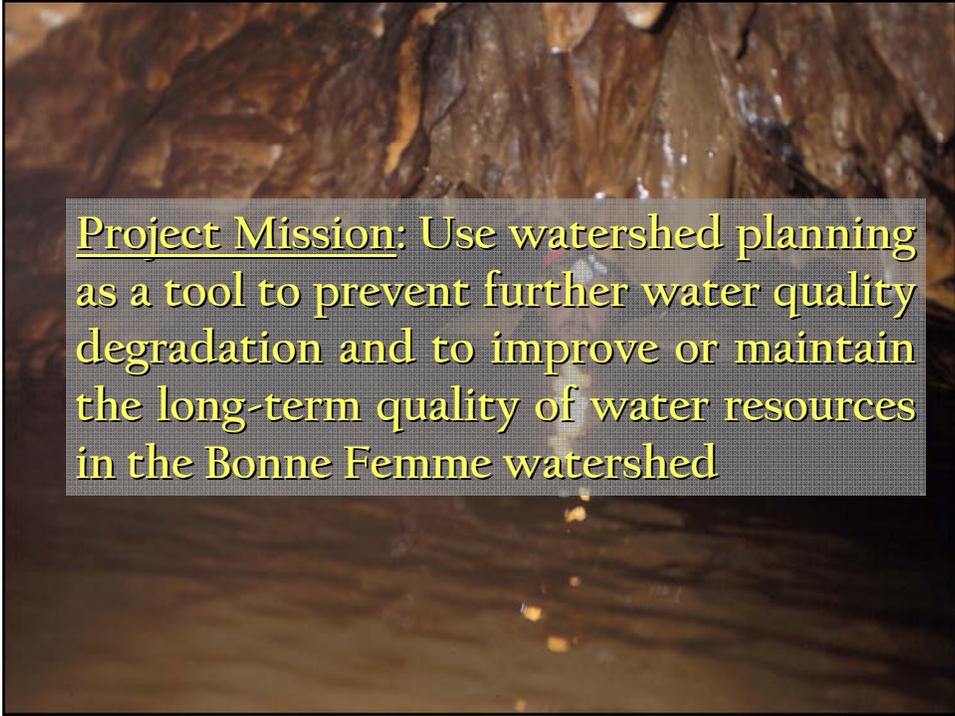
Watershed Characteristics

- **Natural Features:**
 - Oak-Hickory Forests
 - Karst Topography
 - 1) Caves (>30)
 - 2) *Lossing stream hydrology*
(Devils Icebox, Hunters Cave)
 - 3) Sinkholes
 - 4) Springs
 - Endangered and Endemic Species
 - 1) Pink Planaria
 - 2) Gray Bats
 - 3) Indiana Bats
 - 4) Topeka Shiner
 - 5) Cherrystone Snail



Bonne Femme Watershed Project Activities

- **Education**
 - Watershed events (seminars, discussion forums, debates)
 - Annual Newsletters mailed to all watershed landowners
 - Open houses, invites mailed to all landowners
- **Scientific analyses:** dye tracing, EPT indexing (biomonitoring), Subwatershed Sensitivity Analysis, water quality monitoring
- **Development of Watershed Plan**
- **Cost-share funds:** Help implement stream-protection practices (e.g. onsite sewer upgrades, rain gardens, etc.)



Project Mission: Use watershed planning as a tool to prevent further water quality degradation and to improve or maintain the long-term quality of water resources in the Bonne Femme watershed

Why develop a plan?

Uncontrolled urban stormwater runoff causes streams to degrade:

- Increased flood peaks and frequencies, which causes:
 - increased channel erosion & sedimentation

Gans Creek smothered with mud



Why develop a plan?

Uncontrolled urban stormwater runoff causes streams to degrade:

- Increased flood peaks and frequencies, which causes:
 - increased channel erosion & sedimentation
 - dramatic channel changes (threatens infrastructure, destroys aquatic habitat)



Rolling Hills Rd.
creek wash out.

Why develop a plan?

Uncontrolled urban stormwater runoff causes streams to degrade:

- Increased flood peaks and frequencies, which causes:
 - increased channel erosion & sedimentation
 - dramatic channel changes (threatens infrastructure, destroys aquatic habitat)
- Lower dry-weather flows (stream dries up, less aquatic habitat)
- Increased pollutants and stream temperature

In order to prevent streams from becoming degraded, appropriate measures need to be taken. These are addressed through development of the Bonne Femme Watershed Plan.

Who developed the plan?

- A group of Stakeholders representing many interests: farming, residential, development, recreation, environmental, real estate, engineering, construction, education.
- The committee was composed of 18 people, from 3 broad interests:
 - watershed landowners
 - business/development
 - environmental

Why Stakeholder group to develop the plan?

In order to have a plan that is appropriate for our political and social context:

- Important to have a broad set of perspectives considered during the process;
- Need to have a balanced group so the plan would not be skewed in any particular direction.
- More likely politicians will adopt and implement a plan if it is supported by the community;

2 other committees helped the Stakeholders

➤ Policy Committee:

- Consists of local political decision-makers;
- Gave input as to the legal and political feasibility of Stakeholders' plan recommendations;
- Chose Stakeholders' representatives

➤ Steering Committee:

- Consists of technical staff;
- Provided support for, and gave guidance to, Stakeholders during plan development

Membership of all 3 committees is listed in Appendix D, page 114

How the plan was developed

- Stakeholders met monthly for 2 ½ years to work through the process
- Had educational presentations on diverse subjects (e.g. property rights, stream life, farming, real estate, water quality, stormwater management, etc.)

How the plan was developed (cont.)

- Identified which issues needed to be considered throughout the planning process (Chapter 2)
- Developed a vision for how the watershed should look in the year 2030 (Chapter 4)

Stakeholder vision: In the year 2030, we envision a watershed where quality of life and economic vitality are fostered by: maintaining or improving the current conditions of the water resources, having a mix of land uses and development types, and maintaining thriving agricultural activities.

How the plan was developed (cont.)

- Transformed the vision into achievable goals (Chapter 5)

-Examined which vision elements are complementary and which ones are conflicting

-Outlined the obstacles to achieving the goals, rated their “strength”

How the plan was developed (cont.)

- Developed Policy Recommendations to achieve the goals (Chapter 6)



Plan Policy Recommendations

- General policy statements (leave details to local governments for implementation)
- Listed in both the Executive Summary and Chapter 6

Plan Policy Recommendations

Umbrella recommendations (to be considered as part of EACH recommendation)

- 1) Important to **assess the effectiveness of plan implementation**. This assessment includes three aspects:
 - Enforcement/inspection** ordinances being followed?
 - Maintenance** of new stormwater and sewer infrastructure will be necessary for proper functioning.
 - Plan evaluation**: plan being followed? How effective are various measures?
- 2) **Equity**: Measures implemented to protect water quality shouldn't unfairly burden individuals; want incentive-based programs.

The complete text of the forty-one stakeholder recommendations, including associated goals and strategies, is contained in Chapter 6

The need for intergovernmental cooperation was a pervasive theme throughout the plan development process.

Watershed Plan - Next Steps

1. Public Comments were gathered through April 24th, 2007.
 - via fax, email and regular mail
 - at 3 public meetings (each 7-9 pm):
 - Rock Bridge Elementary School, April 10th, 2007
 - S. Boone Co. Senior Center (Ashland), April 18th, 2007
 - Little Bonne Femme Baptist Church, April 23rd, 2007
2. Stakeholders responded to public comments at their May 14th, 2007 meeting
3. Both public comments and Stakeholders' responses are included as a plan addendum.
4. Local governments begin adoption process

Watershed Plan - Next Steps

Bonne Femme Watershed Project ends this summer. The Missouri Department of Natural Resources extended the grant through June 2008. Project Objectives for the extended project include:

- Adoption of the plan
- Implementation of plan recommendations
- Continue cost share program to implement plan and LID development

Local governments being asked to adopt plan:

Ashland
Columbia
Boone County
Pierpont

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