



# Fayetteville Natural Heritage Association

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## OUR WATERSHED

### The Importance of Watershed Protection

It is often said that a lake is a reflection of its watershed. This is because a lake or reservoir is a part of a larger ecosystem that includes its tributaries and all of the land draining to those tributaries. For Beaver Lake, that ecosystem includes 763,000 acres of the West Fork, Middle Fork, White River, Richland Creek, Brush Creek, and War Eagle watersheds. If this watershed is healthy, then our lake will be healthy as well. Generally a healthy watershed is one that has intact riparian corridors, low percentage of imperviousness, mature vegetative cover, stable stream reaches, intact floodplains, and a diverse biota including pollution intolerant species.

The overall health of Beaver Lake is good. At Beaver

Water District however, we routinely deal with two water quality issues – sediment and nutrient enrichment. Sediment is an issue not because the lake is filling in, but because of the potential that pollutants are carried into the lake chemically bound to sediment particles. Water treatment plants must remove practically all of the sediment present in water for the water to be considered safe. Turbidity is not a direct measure of sediment, but in the absence of algae is can be used as a surrogate. Last summer, the turbidity of water at the Beaver Water District intake was roughly 2 to 3 Nephelometric turbidity units or NTUs. This spring after the floods in March, turbidity peaked at 450 NTUs. Looking back into the watershed for sources of sediment, you find shoreline erosion around the

lake, massive streambank erosion, especially in the West Fork tributary, unpaved roads, and construction sites denuded of vegetation.

Over abundance of nutrients in a water body contributes to the growth of algae. Algae, especially Blue-Greens, are the cause of taste and odor problems that we experience in Beaver Lake each fall. The degree of nutrient abundance in a lake is normally measured by the lakes trophic status. Oligotrophic lakes are very clear and nutrient poor. Eutrophic lakes are typically turbid and nutrient rich. In Beaver, the trophic status depends very much on where in the lake you measure. The Arkansas Department of Environmental Quality identifies the lower lake; from Rocky Branch to the dam is one of the most oligotrophic, large, deep lakes in

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the New Pavilion is nearing completion

## FAYETTEVILLE'S PARKLAND

The Park Land Dedication Ordinance was adopted in 1981 requiring developers to dedicate land for parks or make a reasonable contribution of money in lieu of land dedication. Within the

past 26 years the Ordinance has provided over 185 acres of park property and over \$3.84 million for park development and acquisition. ORDINANCE SUMMARY The City of Fayetteville

uses guidelines established by the National Recreation and Park Association (NRPA) to determine the recommended park acreage per resident. Fayetteville

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For my first Chairman's Corner, I'm pleased to be able to touch on three current and widely different projects that illustrate how FNHA is working to preserve our natural areas.

**Green Infrastructure Planning**

Back in February FNHA was asked to participate with the Arkansas Forestry Commission Urban Forestry Program and the Beaver Water District in applying for a competitive grant to begin the development of a Green Infrastruc-

Johnson, Greenland and Fayetteville with the goal of having the Green Infrastructure Plan adopted by each of the city councils and thereby influence land use policy.

**Sustainable Funding for Natural Area Conservation**

Many communities have implemented programs of sustainable funding for conservation of natural areas, building green infrastructure, and promoting thoughtful development.

gest the next step is to measure public opinion as a means to chart the course that's best for Fayetteville. Objectives for a poll would include 1) defining the vision/priorities of the natural area/greenspace conservation program, 2) identifying key aspects of a well-crafted program, and campaign for its implementation, and 3) identify the conditions necessary to get the support of the voters. The poll is to be conducted this summer, and we are hoping to have a well-

Sara and I knew that Fayetteville had a great natural beauty when we moved here more than eight years ago, and it didn't take us long to figure out that another of the qualities that makes Fayetteville such a great place to live is the large number of people who volunteer their time, their effort, and their money toward building a better community. We're proud to be part of this community and part of a volunteer group that tackles projects such as those which I've high-

IN ORDER TO REMAIN SUCCESSFUL IN SAVING OUR IRREPLACEABLE NATURAL HERITAGE, FNHA NEEDS YOUR CONTINUED SUPPORT.  
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ture Plan for our area. In April we were notified that ours was one of four proposals funded in the Southeast. The \$50,000 project (\$25,000 US Forest Service/\$25,000 volunteer labor) will take nearly 18 months to complete.

Green Infrastructure Planning identifies a network of working landscapes, trails, watersheds, parks, and natural and historic areas. Areas such as these support the health of communities. A healthy green infrastructure promotes thoughtful growth and creates economic, social and environmental benefits. The planning effort requires input from government, business, land owners, etc. Our project will focus on the portion of Washington County that includes Farmington,

The FNHA Board thinks it is time that Fayetteville considers joining these forward-thinking communities by developing a program specific to our situation. *The 2007 Citizens' Survey* sponsored by the City Council gives cause for optimism. Seventy-eight percent (78%) of respondents supported the City buying land to preserve natural areas while only 21 percent were unwilling to pay any additional taxes for managing growth. Further, the widely accepted *City Plan 2025* calls for assembling an enduring green network. We feel FNHA is uniquely suited to lead our community's development of a sustainable funding program for the conservation of natural areas.

The experiences of successful communities sug-

defined program for sustainable funding for natural-area conservation along with a campaign to implement it in the works by early fall.

**Adopt-A-Trail** (and greenspace)

Back in April the FNHA Board sent an email to members asking for volunteers to help clean up a new section of Scull Creek Trail. The response was amazing, and we decided to adopt the section of Scull Creek Trail from Futrall to Steele Boulevard. This section of the trail will now include 16 acres of adjacent greenspace that was just donated to the city. The City hopes to have this section of trail finished in the next couple months, and it is our goal to have the area clean when it opens.

lighted. It is our hope that you share our goals, and that you will continue to support FNHA's efforts to preserve our natural heritage.

Bob

**Fayetteville’s Parkland**  
**Continued from page 1**

has adopted the national standard of 10 acres per 1,000 residents to establish the Park Land Dedication formula. Additionally, Washington County Assessor’s records were utilized to determine a fair and reasonable acreage value for money in lieu.

Current Park Land Dedication Ordinance Formulas:

Single Family	0.024
acres/unit	
	\$960*/unit
Multi Family	0.017
acres/unit	
	\$680*/unit

\*Based on \$40,000 per acre

**CRITERIA FOR ACCEPTING LAND**

Ordinance 166.03.K.1.d.: The physical characteristics of the designated land are suitable for park purposes.

The proposed park land is consistent with the Parks and Recreation Master Plan.

Storm water facilities, wetlands, and land designated as FEMA floodway are not acceptable for park land.

Proposed park land within a floodplain must be reviewed and approved on a case by case basis.

Drainage from adjacent streets, creeks, rivers, ponds, etc. is not acceptable on park land.

Park land shall have street frontage along a residential street unless otherwise approved.

Park land is located in an area that allows for future

expansion as adjacent development occurs.

Park land dedication cannot be credited as Tree Preservation Land.

Location and condition of site must be free of debris, safety hazards or areas that will require an inor-



minate amount of maintenance.

Park land shall not be less than 2 acres unless it is a pocket park or located in an area that could be expanded in the future.

Proposed park land to be dedeed in phases may be prioritized according to

the needs of the park system.

**Trail Corridors**

The trail corridor is consistent with the Fayetteville Alternative Transportation and Trails Master Plan as a proposed trail corridor.

Proposed trail corridor within the floodplain must be reviewed and approved on a case by case basis.

Pedestrian access connecting residents to a trail corridor is recommended throughout a proposed development or subdivision.

Drainage pipes directed to existing water courses must be reviewed and approved by Parks Staff and Trails Coordinator.

The Park Land Dedication Ordinance plays an integral role in improving the quality of life for our citizens.

Article by: Connie Edmonston, Fayetteville Parks and Recreation

**Our Watershed**  
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Arkansas. On the other hand, the upper lake, south of the Highway 12 Bridge, is the most eutrophic, large, deep lake in the state. Sources of nutrients include point sources or waste water treatment plants and runoff from any type of land cover that is fertilized. While point sources are important in Beaver’s watershed, by far the largest contribution to the nutrient load is runoff from fertilized land. Fertilization is necessary to maintain

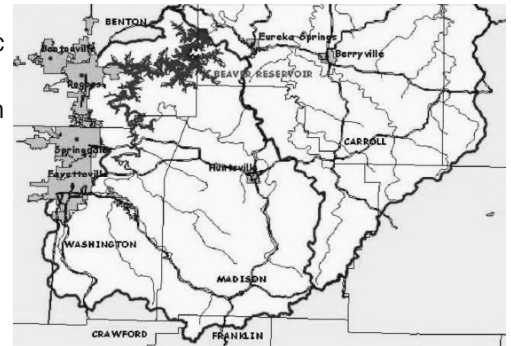
healthy vegetative cover on land surfaces. The key is to find that magic point where vegetation is maintained and loss of fertilizer to runoff is minimized. Homeowners and property owners can help to manage sources of pollutants by implementing practices to reduce stormwater runoff from their property and applying nutrients in accordance with soil test recommendations.

One of the best practices to maintain watershed health in the Beaver Lake watershed is to maintain intact riparian corridors.

Riparian corridors have been shown to effectively remove both nutrients and sediments from stormwater runoff. Corridors with intact vegetation provide protection against streambank erosion. Riparian vegetation also provides habitat, shading, and food that helps to maintain diversity of aquatic species. The vast majority of riparian area in the Beaver Lake watershed is in private ownership. To encourage these owners to protect their

riparian corridors, we need to develop effective, incentive-based programs such as conservation easements to protect these critical areas and continue public education on the value of riparian corridors.

Article by: Bob Morgan, Ph.D. Beaver Water District



Map showing the Limits of Beaver Lake watershed