



Photo credit: Bald Eagle by Alan Bland

CHAPTER 6. ENVIRONMENT

The natural environment has become increasingly important in the transportation planning process. Environmental assessment studies are often required for transportation projects in order to ensure that impacts on wildlife habitats and natural resources would be mitigated as much as possible. The Northwest Arkansas region faces typical environmental challenges such as soil erosion during road construction or impact on water quality and, as a result, there is an increasing need to protect the habitats of unique species such as the threatened Ozark Cavefish (*Amblyopsis rosae*) and to protect ground-water recharge areas as the region continues to grow. Important environmental factors to consider for transportation planning purposes include expanding urban land area, the widening and building of new roadways, and the choice of travel modes.

Transportation and the environment are linked through runoff from roadways and pollution through vehicle emissions. Transportation is one of the largest factors related to energy and emissions. Energy conservation can help reduce total daily pollution output. Solutions such as investing in public transportation can help cut down on emissions released into the air. Environmentally friendly pre-construction and construction considerations will also assist our transportation environmental impact. Technology continues to quickly improve and ideas such as autonomous vehicles and drone delivery will likely have favorable impacts on our environment.

The FAST Act, which was signed into law on December 4, 2015 is a transportation bill that includes Planning Factor 9: Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation and Planning Factor 10: Enhance travel and tourism. These elements have always been a consideration in the transportation process in NWA.

Northwest Arkansas has a rich cultural history. Transportation plans must also take historic and cultural factors into consideration as roadways are aligned or widened. Historic and cultural environmental factors of Northwest Arkansas include the Cherokee Trail of Tears, the Civil War trails and the Old Missouri Road/Old Wire Road/Butterfield Coach Trail. Historic buildings, battlefield sites, archeological sites, and cemeteries are additional examples of historic and cultural factors. It is important that these factors be considered when road alignments, the type of roadways, and the scale of roadways are chosen. For example, a limited access boulevard with a greenway median may be more appropriate than a five-lane highway through a historic-scenic area.

A series of studies and initiatives have been undertaken to address the environmental and cultural factors for preservation or mitigation in the region. Protecting and preserving our environment and promoting our rich natural resources, our cultural resources enhance the travel and tourism and the quality of life of the region.

Working with federal, state, local governments, non-profits, and organizations is necessary to determine what and how the environment is being impacted and what are the best ways to mitigate impact.

THE CAVE SPRINGS KARST RESOURCE CONSERVATION STUDY

Northwest Arkansas is an area of the State that has experienced unprecedented periods of growth over the last decade, most notably from 2003 to 2007. The location of the corporate headquarters of Wal-Mart, Tyson Foods, J.B. Hunt, and other companies in Northwest Arkansas has been the primary factor in this growth. The rapid population growth has strained the local infrastructure. As a result, many new transportation infrastructure projects have been proposed to keep pace with the residential and commercial development.

Some of the major proposed transportation projects include the additional phases of Hwy 412 Northern Bypass, Northwest Arkansas Regional Airport Access Road, an improved north-south travel corridor along Hwy 112, an improved eastern The existing development, the proposed transportation projects, and future development may affect local karst resources that support threatened and endangered species, as well as having potentially detrimental effects to groundwater and wildlife resources in general. This Study was undertaken to mitigate for any potentially adverse effects to sensitive resources resulting from possible secondary and cumulative development.

Cave Springs Cave is located in the northwest Arkansas community of Cave Springs, near the intersection of Highways 264 and 112 in southern Benton County. The Cave Springs Recharge Area encompasses lands that are included in the municipalities of Cave Springs, Rogers, Lowell, and Springdale and has a total recharge area of 12,515 acres (19.5 square miles).

Springs Cave provides habitat for the largest known population of Ozark Cavefish, a Federally listed threatened species. In addition to providing habitat for Federally protected species, water quality in the cave is an indicator of regional water quality in the shallow aquifer



Cave Springs Cave

NWARPC entered into a contract with Crafton and Tull in early 2014 to begin the Cave Springs Area Karst Resource Conservation Study. The study was completed in 2015 with the four municipalities including Cave Springs, Rogers, Springdale and Lowell adopting the Study recommendations. This project was unique with having four cities, four mayors, four city councils, and four planning commissions all working together to protect NWA ground water quality in the recharge area and advancing the protection of the known threatened and endangered species.

The Study consisted of three primary objectives:

Objective One was to seek out, consolidate and analyze existing water quality data; species population data; and development data in and around the Study area, defined as the Cave Springs Recharge Area. This information was used to determine trends and needs for additional data.

Objective Two was to work with the scientific community to determine appropriate actions necessary to ensure adequate protection of local karst recharge zones that support threatened and endangered species, and builds on previous efforts for karst conservation.

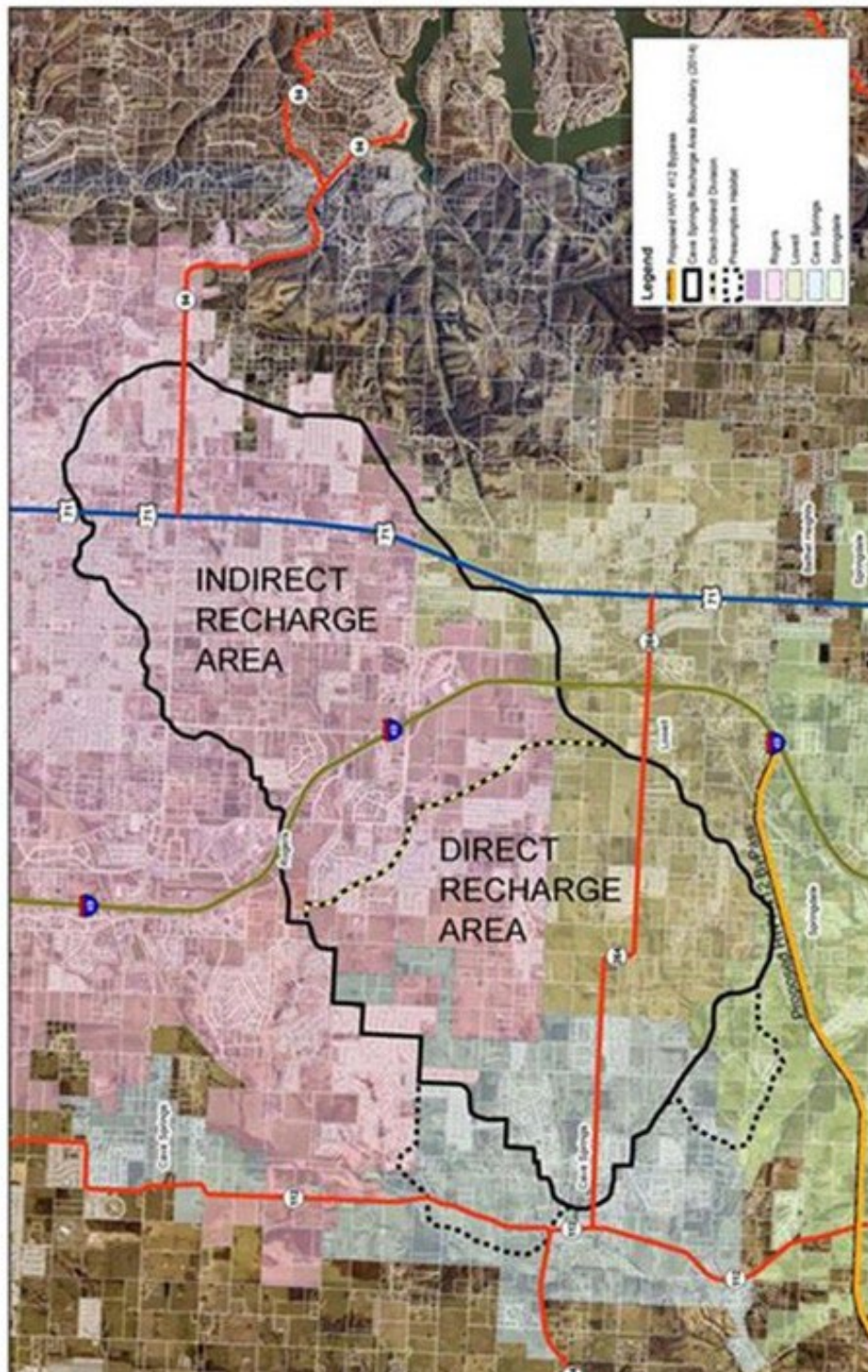
Objective Three was to work with local, county and State officials/administrators and other relevant stakeholders to determine and implement the best mechanisms to ensure that conservation actions are used effectively in the appropriate areas.

As part of the study, the Nature Conservancy and Ozark Underground Laboratory (OUL) performed an extensive literature review of cave hydrology, biology and water quality. Based on this Study, primary water quality goals for the Cave Springs Recharge Area are to limit discharges of oxygen-depleting contaminants, turbidity/fine sediments, nutrients, and metals to the groundwater system through the use of best management practices (BMPs). Additional criteria and guidance for BMPs to protect the unique karst resources of the Cave Springs Recharge Area were developed while allowing for future growth and development.

Map 6.1 shows the Cave Springs Recharge Area, which is comprised of two major areas:

The **Direct Recharge Area** includes 5,702 acres (8.9 square miles) and provides most of the recharge water for the Cave Springs cave system. This is an area where soils allow for relatively rapid recharge, and there is a direct hydrologic connection between infiltrating runoff and the karst system. The northeastern boundary of the Direct Recharge Area lies roughly parallel to, and west of, Interstate 49 (I-49).

The **Indirect Recharge Area** encompasses 6,813 acres (10.6 square miles) and lies to the northeast of the Direct Recharge Area. Groundwater tracing has shown that very little of the water from losing streams in this area reaches the Cave Springs cave system. However, the dye tracing indicates that there is some groundwater movement from the Indirect Recharge Area into the Direct Recharge Area and ultimately to cave Springs Cave. I-49 crosses the Indirect Recharge Area.



Map 6.1 Cave Springs Recharge Area

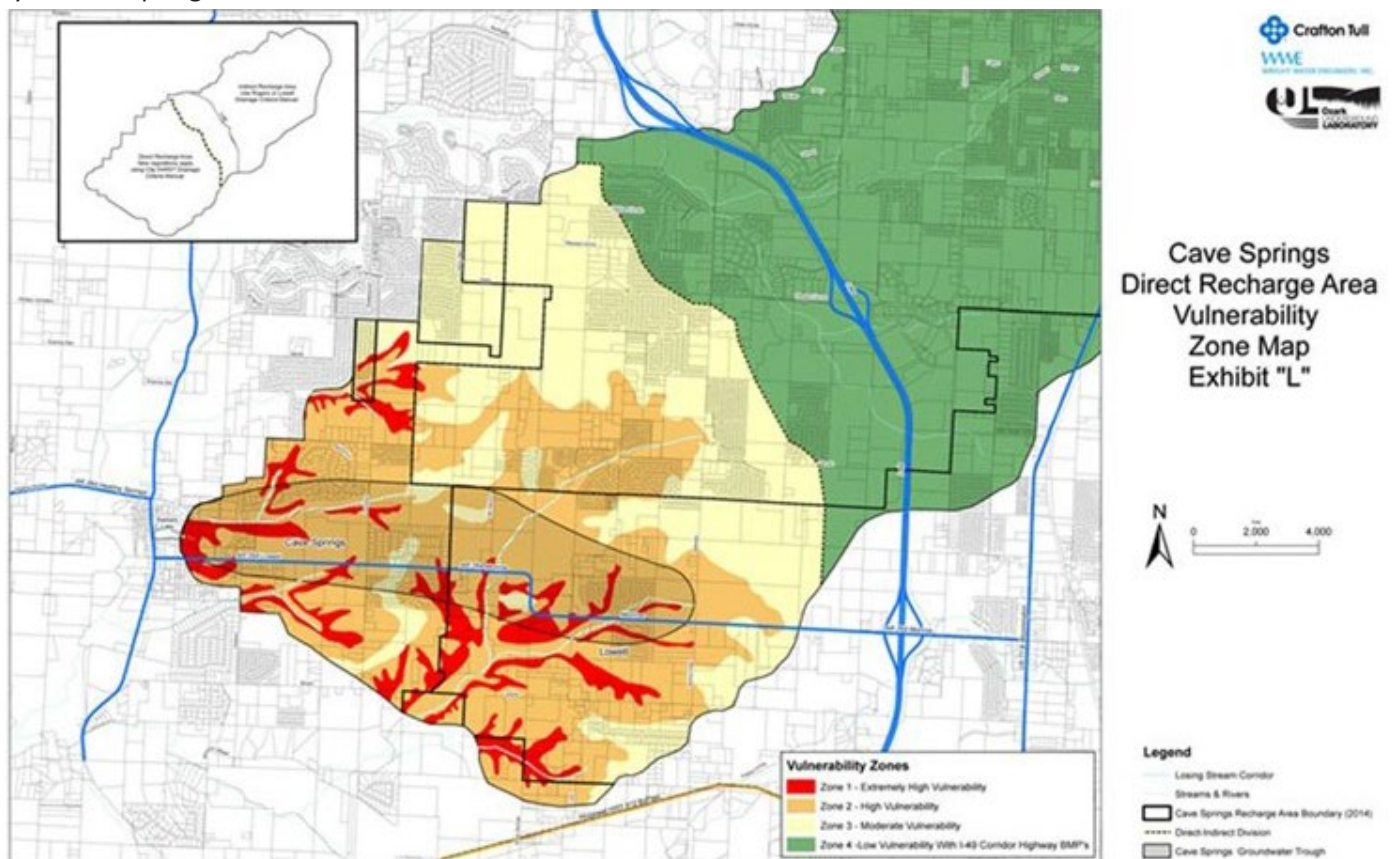
The Study also included a groundwater vulnerability assessment for the recharge area for Cave Springs Cave. The vulnerability assessment is based on the concept that not all lands pose equal risks of introducing contaminants into karst groundwater systems. Vulnerability mapping is based on physical and hydrogeologic conditions of the land being mapped. The approach permits planners and others to tailor the level of management attention to the likely severity of groundwater impacts from particular land uses.

The vulnerability of a karst groundwater system and its associated biological community is a function of the hydrobiological characteristics of its particular groundwater system and is intimately connected with land use within its recharge area.

The vulnerability map (Map 6.2) qualitatively depicts risks posed to groundwater quality by various portions of the direct and indirect recharge area. The Cave Springs recharge area was mapped to show the following categories of relative risk:

- Low Vulnerability Lands including lands within the Indirect Recharge Area for Cave Springs, with additional scrutiny required along the I-49 corridor;
- Moderate Vulnerability Lands including lands within the Direct Recharge Area with soils that have been classified as having good natural soil treatment capability;
- High Vulnerability Lands including lands within the Direct Recharge Area with soils that have been classified as having fair natural soils treatment capability; and
- Extremely High Vulnerability Lands including lands within the Direct Recharge Area with soils that have been classified as having poor natural soils treatment capability. Locations within the groundwater trough and along losing stream corridors are also considered as extremely high vulnerability factors.

Potential hazards to groundwater quality were also identified within the Cave Springs recharge area. The major groundwater hazards identified include runoff and spills from highways; sewage conveyance, treatment and disposal facilities; and stormwater detention basins. The vulnerability mapping performed in this assessment helps to ensure that land development BMPs are only applied to necessary areas where they will do the most good in protecting water quality at Cave Springs.



PHASE II STORMWATER REGULATIONS

Over the past decade and a half, the NWARPC has partnered with the University of Arkansas, Division of Agriculture Cooperative Extension Service (UACES) to assist communities, counties and the University of Arkansas in Washington and Benton Counties to meet EPA's Phase II stormwater regulations. In urbanized areas, stormwater picks up pollutants and flows, untreated, through Municipal Separate Storm Sewer Systems (MS4s), into local creeks, streams and lakes. To prevent harmful pollutants from being washed or dumped into a storm drain system, the U.S. EPA requires that jurisdictions obtain permits to properly manage and discharge stormwater.

In July 2019, the Arkansas Department of Environmental Quality (ADEQ) issued the fourth consecutive five-year MS4 Stormwater General Permit which mandates that each of 20 regulated jurisdictions (Bethel Heights was annexed into Springdale summer 2020) in Northwest Arkansas develop and implement their own stormwater management program to reduce the contamination of stormwater runoff and prohibit illicit discharges. These jurisdictions include: Bella Vista, Benton County, Bentonville, Cave Springs, Centerton, Elkins, Elm Springs, Farmington, Fayetteville, Greenland, Johnson, Little Flock, Lowell, Pea Ridge, Prairie Grove, Rogers, Springdale, Tontitown, University of Arkansas, and Washington County.



Northwest Arkansas MS4 Stormwater Compliance Group

A key role of the NWARPC is coordinating regular meetings of the MS4 Stormwater Compliance Group. Composed of local MS4 representatives, NWARPC staff and the UACES, the group meets regularly to discuss permit compliance challenges, local stormwater education program needs and accomplishments, and regional coordination of stormwater protection efforts. The MS4 Stormwater Compliance Group remains a model for other MS4s in Arkansas. NWARPC continues the work of assisting the Northwest Arkansas MS4s, as well as others, in the development of their stormwater management programs and meeting the EPA Phase II requirements.



Stormwater Coordination Meeting

Regional Stormwater Education Program

The 15-year partnership between NWARPC and UACES created and continues the NWA Urban Stormwater Education Program and is responsible for the educational components that are required through the National Pollutant Discharge Elimination System (NPDES) permit for the MS4 jurisdictions. The goal of the program is to help jurisdictions stay in compliance of permit requirements which are set to maintain local water quality standards. A Stormwater Education Steering Committee meets annually to guide and direct the UACES's regional urban stormwater education and involvement programs. UACES programming is increasing public awareness and understanding of stormwater runoff, through the development and distribution of print and electronic educational materials, displays, mass media promotion, youth and adult education programs, and public engagement events including creek and lake clean-ups. The regional program also provides shared knowledge and individualized audit support for each jurisdiction. Additional guidance is given to MS4s as unique situations arise to find resources that ensure they are staying compliant with federal and state stormwater regulations. UACES staff provides Quarterly Reports and Annual Reports for the MS4s and conducts annual municipal employee trainings. This regional program has received praise from ADEQ as an innovative and cost-efficient way to help jurisdictions stay compliant.



Sample Rain Garden and Drain Art

NORTHWEST ARKANSAS OPEN SPACE PLAN

Northwest Arkansas has abundant open space today, but the rapid growth of the region has already begun to replace forests, prairies, farmland and other valued natural lands with housing, shopping centers, highways, office parks and other forms of development. Without question, people need places to live, work, shop and be entertained. However, people also need places that support outdoor activities, protect water supply from pollution, conserve habitat for native plants and animals, and ensure the quality of life for all residents. People value the beauty and function of their natural lands and waters and open space conservation is important to the region. Since its formation in 1966, the NWARPC has been working toward making Northwest Arkansas a more desirable place to live and work. Open space has been a subject of discussion in Northwest Arkansas for decades, beginning with NWARPC's first open space plan in the 1970s. Since then, many other local and regional studies have focused on open space or included it as a key component.

This new Plan builds upon these previous and ongoing efforts and provide the rationale and strategies necessary to implement Plan recommendations. The Plan was financed through a grant by the Walton Family Foundation to the NWARPC. The work on the Northwest Arkansas Regional Open Space Plan began in late 2014, with the public process to develop the Plan being carried out throughout 2015 and adopted in January 2016. The Plan identifies the natural landscapes and open spaces that make Northwest Arkansas an attractive place to live, and includes a comprehensive strategy for the conservation of these natural assets. Though focused on conservation, this Plan is consistent with the regional goal of continued growth and development. Landowner participation in conservation programs is welcome and encouraged, but strictly voluntary. To this end, the Plan features a detailed mapping inventory of regional resources, and a 'toolbox' of strategies that landowners, developers, and governments can draw upon to balance regionally important goals of land conservation and development.



OPEN SPACE PLAN SUMMARY

This Plan combines extensive public input and stakeholder involvement with state-of-the-art analysis of the region's natural, cultural, historic, agricultural, and recreation resources. The result is a set of maps and data that show priority areas for conservation throughout the region. The goal is not to protect all priority areas, but rather to work with willing landowners who wish to conserve their land, using the maps as a tool in evaluating potential projects.

A voluntary, regional approach to conservation is recommended, involving only willing landowners, and in coordination with the region's existing conservation organizations.



Gentry Prairie (Photo by Terry Stanfill)

The recommended next steps for this initiative are to continue education and outreach about the benefits of open space and about the needs, goals, and results of this study and additional studies from The Trust for Public Land and other conservation organizations. Recommend documenting the level of financial need for the program from interested landowners and conservation groups, while also gauging public interest in funding the program to fulfill that need. Based on other successful open space programs in the U.S., a dedicated local funding stream is recommended and should continue to be sought after.

The Plan identifies the natural landscapes and open spaces that make Northwest Arkansas an attractive place to live, and includes a comprehensive strategy for the conservation of these natural assets. The Plan was adopted by the NWAPRC on January 27, 2016. The complete Plan and Appendix are a part of the MTP and can be viewed at <http://www.nwarpc.org> or at <http://www.nwaopenspace.com>. In 2017, an ArcGIS on-line map was created so all organization could quickly determine the level of priority based on a GIS model that was created through the Plan development process and can be viewed at <https://www.nwarpc.org/interactive-gis-maps/>.

The Trust for Public Land reviewed the Open Space Plan and at the request of Washington County, completed a Conservation Finance Feasibility Study, which was presented to the Washington County Quorum Court in March 2018. The study analyzed various funding options available for financing land conservation and parks, determined the fiscal capacity and legal requirements of a variety of approaches, and provided demographic information and election history. The funding approach that best matches the needs identified by the Open Space Plan is a general obligation bond.

According to the feasibility study, additional funding through capital improvement bonds backed by a 0.125 percent (1/8th cent) Sales and Use Tax would generate approximately \$4.98 million per year. This revenue could pay the debt service on a \$65 million bond, and enable the County to protect natural resources in today's dollars.

General obligation debt in Washington County cannot exceed 10 percent of the total assessed value of real and personal property as determined by the last tax assessment. As of December 31, 2016, the legal debt limit for bonded debt in Washington County was \$328,787,387.1 A \$65 million bond would add approximately \$4.78 million to the county's annual debt service.

A 1/8th cent sales tax increase would bring Washington's sales tax from 1.25 percent to 1.375 percent. A \$65 million bond, if issued all at once, backed by a 1/8th cent sales tax would cost the typical household \$18 per year, or \$1.50 per month.

In May 2018, The Trust for Public Land commissioned a professionally administered, statistically valid public opinion survey of 400 Washington County likely November 2018 voters. The survey found that a majority of Washington County voters would support a \$65 million bond to conserve land to protect water quality, natural areas, wildlife habitat, and parks.

After hearing an "initial ballot test," nearly six in ten (59 percent) likely voters indicated they would vote yes. When provided with additional information -- including the annual household cost, and pros and cons of the proposed measure -- support increases. After hearing an "informed ballot test," support for the \$65 million bond goes up by 10 points (69 percent). The bar chart illustrates these results: The \$65 million bond stands a very good chance for successful passage if a well-funded and effective education and outreach campaign informs voters of program's benefits and structure.

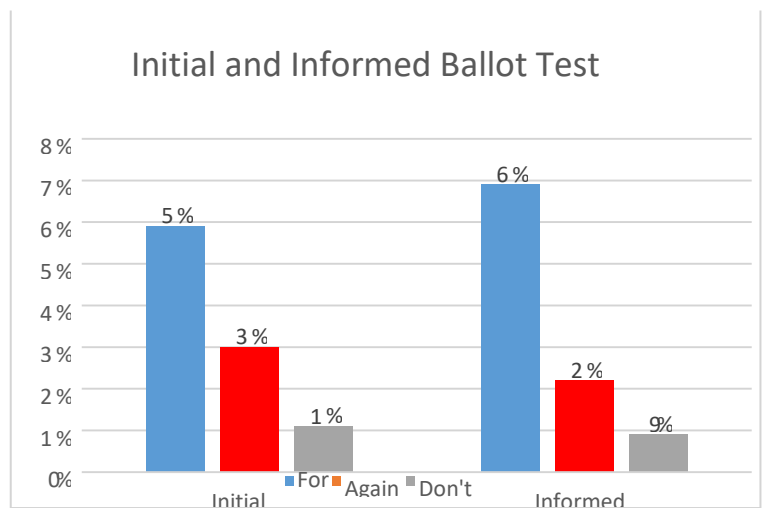


Figure 6.1 Ballot Test Results

The Trust for Public Lands requested that the Washington County Quorum Court direct the County Attorney to work with The Trust for Public Land to draft an ordinance, including ballot language, for consideration by the Quorum Court, and refer a \$65 million General Obligation Bond backed by a 1/8th cent Sales and Use Tax to fund land conservation to the November 6, 2018 ballot. Washington County chose not to continue at the time.

BENEFITS OF OPEN SPACE

Creating Value & Generating Economic Activity

- Proximity to parks and open space enhances the value of residential properties.
- Parks and greenways attract non-resident visitors who put new dollars into local economies.
- Quality parks and scenic landscapes help attract and retain a high quality workforce.

Water Quality Benefits

- Open space provides protective natural buffers to critical water resources, such as Beaver Lake (the primary source of drinking water for Northwest Arkansas), the White River, the Illinois River, and their tributary creeks, streams, and wetlands.
- A 2008 survey of Arkansans found that “Nearly all respondents viewed water as an important issue for Arkansas’ long-term growth and prosperity.”

Natural Wildlife Habitats

- According to the Northwest Arkansas Land Trust, “While some cities are beginning to incorporate connective greenways into their planning process, natural areas are being rapidly consumed in Northwest Arkansas, resulting in the fragmentation of important ecosystems, scenic areas and wildlife habitats.”
- Northwest Arkansas’ karst topography (including caves, springs, and sink holes) supports clean water and native habitats unique to the region. These are areas highly sensitive to pollution and open space helps to protect them.

Recreation, Health and Safety Benefits

- Recreation areas help to increase physical activity, thereby preventing obesity and reducing chronic medical conditions, not to mention improving mental health and overall quality of life. Parks may also improve public health by increasing social interaction, reducing stress through exposure to nature, and more.
- The protection of natural floodplains along rivers and streams also protects people and property from flood damage.

Historic & Cultural Benefits

- Open space provides context for historic and cultural attractions. The quality of experience for visitors is critical to the success of tourism for such sites, and open space planning can help protect them and buffer them from nearby development.
- Example: Pea Ridge National Military Park is the most intact Civil War battlefield in the United States, and a key goal for management of the park is “preserving the character of the landscape”.

Farmland & Rural Landscapes

- Scenic landscapes, such as family farms, prairies, forested ridgelines and Ozark vistas help define Northwest Arkansas’ very character.
- According to the Northwest Arkansas Council’s 2014 Regional Food Assessment, “The continued viability of agriculture in Northwest Arkansas depends significantly on three interdependent factors: farms remaining economically viable, farmland staying in production (and out of development), and new farmers succeeding retirees”
- Working closely with landowners is a cornerstone of successful open space protection, whether it is a farmer who wants to keep their land in farming, or a property-owner who simply wants their children to recognize the land they grew up on.



BENEFITS OF OPEN SPACE – THE NUMBERS

Beaver Lake and General Watersheds

- \$30.24 million in visitor spending in 2006
 - <http://www.bwdh2o.org/wp-content/uploads/2012/03/2010-FINAL-Beaver-Lake-Watershed-Report.pdf>
- Daily average demand of water from beaver lake is 55 mgd
 - <https://www.bwdh2o.org/about/production-data/>
- Brings in \$4.5 million in revenue from its hydroelectric dam
 - <https://owwbeaverlake.org/beaver-lake/beaver-lake-watershed/>
- “NYC saves about \$7 billion in water treatment infrastructure costs by getting drinking water from protected watersheds.”
 - <http://s3.amazonaws.com/landtrustalliance.org/USFWS-LandTrustAlliance-Economic-Benefits-Brochure.pdf>

Property Value Benefits

- Proximity to protected lands, like National Wildlife Refuges, can increase urban home values by 3-9%. - L. Taylor et al. 2012. Amenity Values of Proximity to National Wildlife Refuges.
- Nearby parks increase value of residential properties and attract tourists who put money into local economies
 - <http://cloud.tpl.org/pubs/ccpe-econvalueparks-rpt.pdf>

Health Care Benefits

- Residents of Jefferson Co, AL saved \$21 million annually in health care due to the urban trail system
 - <http://s3.amazonaws.com/landtrustalliance.org/USFWS-LandTrustAlliance-Economic-Benefits-Brochure.pdf>
- “People who engage in moderate exercise outdoors can save an average of \$1,100 in medical costs annually.”
 - <http://cloud.tpl.org/pubs/ccpe-seattle-park-benefits-report.pdf>

Benefits of Living Near Green Spaces

- “Contact with nature has been linked to a greater ability to cope with life stressors, improved work productivity, reduced job-related frustration, increased self-esteem, enhanced capacity to pay attention, and greater life satisfaction.
 - http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/SOPARC-Report.pdf
- “Having 10 more trees in a city block, on average, improves health perception in ways comparable to an increase in annual personal income of \$10,000 and moving to a neighborhood with \$10,000 higher median income or being 7 years younger. We also find that having 11 more trees in a city block, on average, decreases cardio-metabolic conditions in ways comparable to an increase in annual personal income of \$20,000 and moving to a neighborhood with \$20,000 higher median income or being 1.4 years younger.”
 - <https://www.nature.com/articles/srep11610>

Green Space as Hazard Mitigators And For Stormwater Treatment

- Preserving natural flood mitigators can save an estimated \$1.5 million in potential damage
 - <http://s3.amazonaws.com/landtrustalliance.org/USFWS-LandTrustAlliance-Economic-Benefits-Brochure.pdf>
- In 2016 dollars, trees can give urban communities over \$3.6 million in stormwater benefits annually
 - United States Environmental Protection Agency - Office of Wetlands, Oceans and Watersheds. 2013. *Stormwater to Street Trees: Engineering Urban Forests for Stormwater Management*, Washington, DC
- An acre of protected land can save local communities an average of \$380 in stormwater treatment costs annually
 - <https://www.landtrustalliance.org/topics/economic-benefits/sources-brochure-statistics>

Arkansas Tourism Numbers

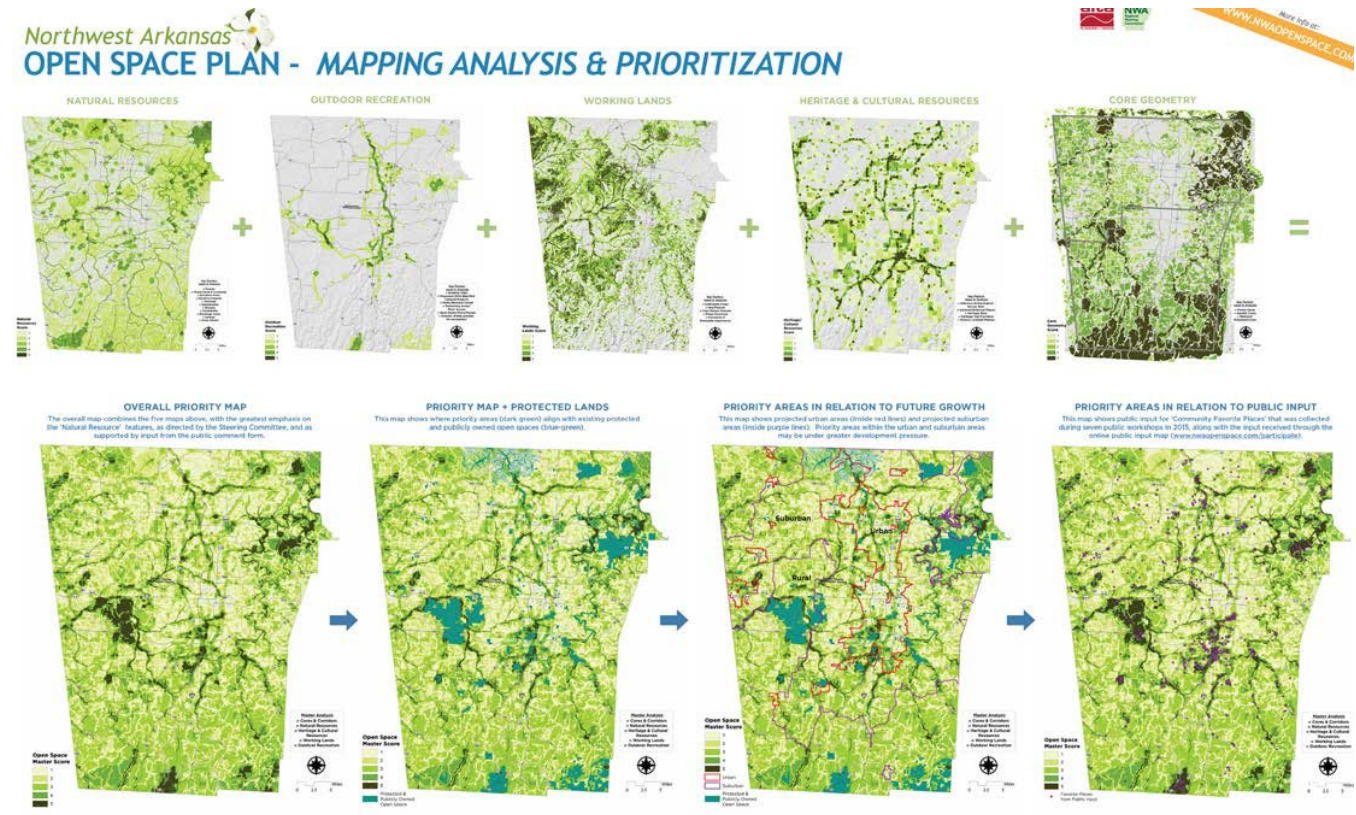
- \$1.8 billion total spent on wildlife-related recreation • \$496 million spent on fishing-related activities • \$1.0 billion spent on hunting-related activities • \$216 million spent on wildlife-watching activities
- Over 28 million dollars revenue generated from state parks
 - https://www.arkansas.com/userfiles/annual_report_2017/2017_annual_report.pdf

HOW PRIORITIES WERE DEVELOPED

As a region, the communities in Northwest Arkansas can be strategic in protecting their most valued natural landscapes and heritage resources as they grow. This Plan identifies such landscapes by combining extensive public input and stakeholder involvement (Chapter 2) with state-of-the-art analysis of the region's natural, cultural, historic, agricultural, and recreation resources (Chapter 3). The result is a set of maps and data that show priority areas for conservation throughout the region. These main input maps cover:

- Natural Resources
- Outdoor Recreation
- Working Lands
- Heritage & Cultural Resources
- Cores & Corridors

These five resources maps, in the Open Space Plan, were overlaid and combined to create the Overall Open Space Priority Map, with the greatest emphasis on natural resource features, as directed by the Steering Committee.

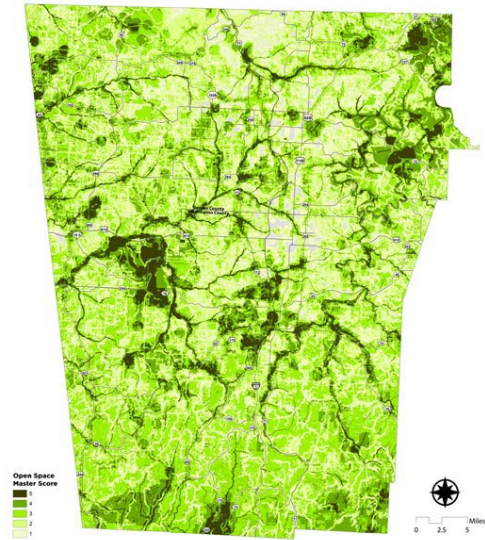


Map 6.3 - Open Space Mapping Analysis and Prioritization

OVERALL PRIORITY OPEN SPACE MAP

Open space resources are shown with a priority range of 1-5, with the higher values shown in darker shades of green. This map should be considered as a starting point for regional discussions about conservation priorities (Map 6.4). The goal is not to protect all priority areas, but rather to work with willing landowners who wish to conserve their land, using the maps as a tool in evaluating potential projects.

All landowners are welcome to submit ideas for land conservation, regardless of the priority ranking on these maps.

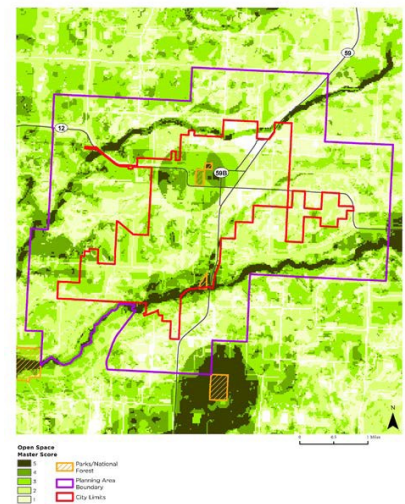


Map 6.4 - Overall Priority Open Space Map

LOCAL COMMUNITY OPEN SPACE PRIORITY MAPS

Community maps for 31 cities have been prepared and included in the Appendix. The Appendix provides a municipal-scale version of the overall priority map for each community in the region. GIS data will be available for creation of local maps for local purposes. The maps should be considered as starting points for local discussions about conservation priorities.

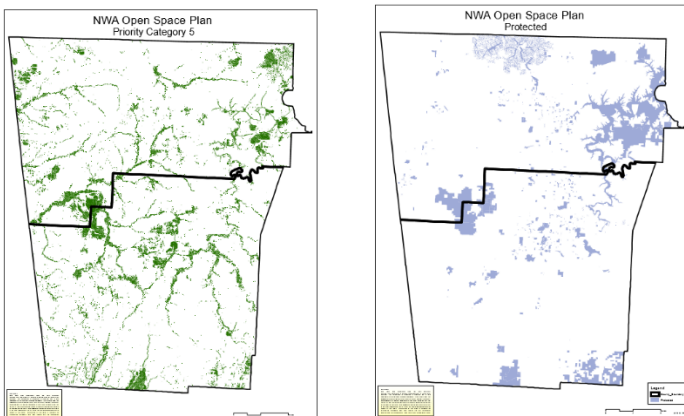
Open space resources are shown on the maps with a priority range of 1-5, with areas that have a higher potential for conservation value shown in darker shades of green. These areas were identified through an extensive analysis of existing conditions throughout the region. Map 6.5 illustrates an example of a community open space priority map.



Map 6.5 – Gentry Community Open Space Priority Map

Open Space Priority Map by Acre

The priority map has categories 0-5 with 5 being the highest priority and zero being no data or developed. Here is a table of acres per category for the overall priority map.



Map 6.6 – Priority Map Category 5 and Protected Open Space

Total Acres for Priority Category 2016

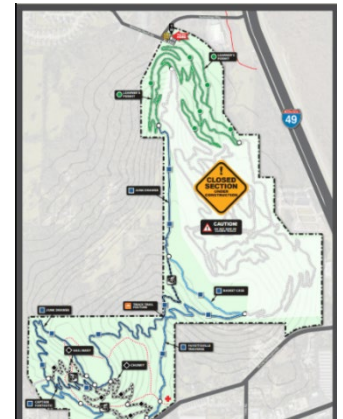
Description	Benton	Washington	Combined
Priority 1	125,897	114,908	240,805
Priority 2	147,006	125,795	272,801
Priority 3	135,751	204,148	339,900
Priority 4	88,707	102,340	191,047
Priority 5	47,417	47,700	95,116
No data (Developed)	21,834	14,605	36,439
	566,613	609,495	1,176,108

Table 6.1 – Total Acres by Priority Category

OPEN SPACE PROGRAM CONSERVATION ACCOMPLISHMENTS

Since the adoption of the NWA Open Space Plan in 2016, over 4,000 acres have been conserved by individuals, non-profits, and local and state governments agencies. Multiple properties have been donated, put in conservation easements, or purchased. Here are a few highlights:

- 2017 – Fitzgerald House and Fitzgerald Station Barn, Springdale, AR – 3 Acres - Purchased by non-profit and then donated to City of Springdale - The Fitzgerald farmstead's history dates back to before Arkansas became a state in 1836. An inn and tavern on the property was a way station for stagecoaches, the Trail of Tears and Civil War soldiers. The Springdale barn is one of the few original structures left that was part of the 2,812-mile Butterfield Overland Express. Built using native stone for the walls, the barn's original wood shake roof was destroyed by fire and replaced with a metal one, according to the National Register nomination. A detachment of Cherokee Indians passed by Fitzgerald Station in 1839 as part of an exodus known today as the Trail of Tears. The Butterfield stagecoach ran the route twice weekly. The trip took 25 days, cost \$200 per passenger, and there were 140 stations along the way. Twelve 12 horses were kept on the Fitzgerald property so fresh horses would be ready to replace the animals that had been pulling the stagecoach. The Butterfield Overland Express was a major factor in the settlement and development of Arkansas and the American West before the Civil War, according to The Encyclopedia of Arkansas History & Culture. Now this history is part of a trailhead and the first stop to the Fitzgerald Mountain Bike Park.
- 2018 - Centennial Park at Millsap Mountain, Fayetteville, AR – 220 Acres -The newly created Centennial Park at Millsap Mountain will be a cycling-activated park with state-of-the-art cyclo-cross and mountain biking facilities. Residents will be able to access trail infrastructure unlike any other in the region within an area of preserved greenspace connected to neighborhoods and Fayetteville's existing 45 miles of shared-used paved trails and 38 miles of natural-surface trails. Purchase of the property from Centennial Bank was made possible by Walton Family Foundation and City of Fayetteville. For project history and current status visit <https://www.fayetteville-ar.gov/3671/Centennial-Park-at-Millsap-Mountain>
- 2018 – Greenland Nature Park, Greenland, AR - a 37-acre nature/river park will be the main attraction. The land (47 acres total) was bought from a private property owner by the City of Greenland with some of the park funding has come from Arkansas Game and Fish, Arkansas Parks and Tourism and Beaver Water District, to name a few agencies. The project will be a work in progress for a few years but will include quail and wild turkey habitat, walking and running trails, and it's one mile from the school and on the catalyst trail project route. The location used to be a salvage yard that had to be remediated.



There were many additional Open Space wins (acres):

- Conservation Fund – Pea Ridge Wilson Property (12)
- Arkansas Natural Heritage Commission – Searles Prairie (2)
- City of Lowell – Kathleen Johnson Memorial Park Land – (100)
- NWA Trailblazers – Coler Mountain Bike Park
- Arkansas Game and Fish Commission Education Center (80)
- Nature Conservancy (40) 001-04761-000 •
- Arkansas Natural Heritage Commission and Arkansas Game and Fish Commission – NE of Devils Eyebrow (68)
- Northwest Arkansas Land Trust - (270)
- City of Gentry – Property next to school (15)
- City of Fayetteville –Dead Horse Mountain Open Space (96)
- NWA Trailblazers - Kessler Mountain - (65)
- City of Rogers – Pinnacle Open Space Project (24)
- Ozark Off-Road Cyclists – Kessler Mountain - (40)
- City of Prairie Grove – 7 Acres of Muddy Fork
- Arkansas Natural Heritage Commission and Arkansas Game and Fish Commission (128)
- Arkansas Game and Fish Commission (50)
- The Nature Conservancy (463)
- Walton Family Foundation (72)
- City of Gentry - (11 acres)
- Arkansas Natural Heritage Commission - Devils Eyebrow (120) (36)
- City of Fayetteville –
 - (2) BelClaire HomeOwners Assoc 765-28459-000
 - (3) Cliffs III 765-14287-000
 - (3) Pace Ind 765-14622-005
 - (3) Hughmount Village 256-00129-000
 - (4) CMN Bus Park Ph II 765-22075-000
 - (4) Timber Trails Tree Pres Area 765-26318-000
 - (4) Cobb&Westville 765-22969-000
 - (4) Rochier Heights Add
 - (6) Nelms LLLP
 - (7) Reserve at Steele Crossing
 - (9) 765-19958-000
 - (16.42) 765-15415-000



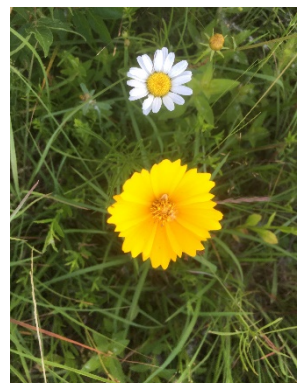
Pea Ridge Wilson Property by Tom McClure



Coler Park



Kessler Mountain



Searle's Prairie by Tom McClure

RECOMMENDATIONS

Compelling Vision

This Plan defines a compelling vision for open space conservation. The benefits of open space are clearly articulated in this Plan. Open space protects the water we drink, the air we breathe, and the landscapes we call home. Open space is important to everyone in Northwest Arkansas, as it shapes the lives and wellbeing of the people that reside in the region.

Leadership

Based on work in other communities in the U.S., project consultants recommended that the managing entity should be a group that has

- Public trust and a proven record of success
- Regional representation through an existing operating framework
- The ability to update and manage Geographic Information Systems (GIS) mapping
- An understanding of open space concepts
- An understanding of the regional political landscape

Given these parameters, the NWARPC is the most appropriate organization, and leadership entity, to guide the implementation of this Open Space Plan. An Open Space Committee can be established by the NWARPC. Committee membership number should be approximately 15 to 20 persons. Under the above proposal, the ultimate authority and decision maker for the implementation of the Open Space Plan would be the leadership (members) of the NWARPC. NWARPC staff and the Open Space Committee would provide technical support and advice to NWARPC. The NWARPC should adopt an annual work plan, at the beginning of each fiscal year that outlines the goals and objectives of the Northwest Arkansas Open Space program. This should include an annual budget that supports the actions and activities of the Program.

RECOMMENDED PROGRAM FRAMEWORK

As noted at the outset of this planning process, the purpose of this Plan is to develop a coordinated, voluntary program to protect and promote the region's most valued natural landscapes and open spaces. The goal of the program is to create opportunities for landowners, organizations, and local governments to have a place to go to nominate projects for conservation, and to provide a strategy for how those nominations are addressed.

Selecting Projects

This Plan's prioritization maps serve as a guide only. They show prioritized tracts of land throughout the region based on technical data. Rather than generating a listing of project based on mapping, the selection of projects should instead be based on a community-driven approach that uses the mapping as a starting point and a tool for analysis.

The size of the Open Space Committee can be established by the NWARPC with input from NWARPC staff. It is recommended that the Committee membership number approximately 15 to 20 persons.

The selection of projects should be based on a community-driven approach that uses the mapping as a starting point and a tool for analysis. Communities, organizations, and individual landowners will decide what they consider as priorities to submit as part of the program. Potential projects will be nominated to the open space committee through a periodic call for proposals. Nominations would come from individual land owners, non-profits, community groups, businesses, and municipalities.

Technical evaluation: How well does the project align with the priority mapping analysis? Community-driven evaluation: How well does the project compare given other key factors?

NWA Open Space Committee – (2016-2018)

NWA Open Space Committee was setup in 2016. The Committee met monthly March 2016 to December 2018. The Committee setup 4 Subcommittees to address the recommendations in the Plan:

- Framework – Create application, selection criteria/ranking, letters, handouts, promotional materials, type of agreements options (conservation easements, contracts, moa), list of organizations partner organizations that will accept properties, list of grant organizations
- Outreach and Education – create handouts, video, presentations, flyers, posters, develop a message and dissemination, general public outreach, present to Civic Groups (landowners, local org, schools, community leaders, and others interested parties), social media posts, coordinate/incorporate with other existing city/county plans, reach out to community regarding toolbox (city planners, developers, residents, etc), promote Best Management Practices
- Funding – funding for projects selected projects and maintenance until sustainable funding is obtained, obtain sustainable funding, review/research all options available for AR Counties/cities/RMA(taxes, bonds, real estate transfer fee, driver’s license, impact fees, etc), research political will, review options for taxing authority being established, reviewed organizations with expertise in Open Space Funding - Trust for Public Lands, complete feasibility study, complete public opinion survey, ballot measure development, present information to taxing entity for consideration
- Priority Properties – Create priority selection per category (nat res, recreation, cultural, core, working lands) and overall, contact each city/county/conservation organization with what their priorities are, used toolbox to conserve properties, maintain priorities maps and GIS data, find and conserve properties, maintain GIS data and map.

NWA Open Space Collaborative (2019 to present)

The NWA Open Space Committee continued to meet March 2016 to December 2018. In December, the Open Space Committee recommended that there be a collaborative effort among individuals and organizations going forward with the NWA Land Trust leading the way, with continuing involvement and support from NWARPC. The RPC/Policy Committee approved the recommendation at their December 5, 2018 meeting. The Collaborative continues to meet and implement the Open Space Plan.

PRIORITY ACTIVITIES AND PHASING

Upon adoption of this Open Space Plan, a variety of work activities will need to be undertaken by the NWARPC, NWARPC staff, project partners and the Open Space Committee. These activities are described in greater detail as:

PHASE ONE PROGRAM (2016)

- Education and Outreach
- Maintain Official Open Space map
- Land Conservation

PHASE TWO PROGRAM (2017-2018)

- Open Space Funding
- Education and Outreach
- Land Conservation

PHASE THREE PROGRAM (2019 AND BEYOND)

- Land Conservation
- Conservation Toolbox 25 ways to conserve. Examples include: fee simple acquisition, donation, conservation easement, right of first refusal, donation via bequest, intergovernmental partnership, etc.

FUNDING THE OPEN SPACE PROGRAM

Every successful open space program in the United States shares one common trait – a local source of funding that is used to match and leverage other funding in support of open space conservation. A regional sales tax is a recommended funding method. Other local opportunities may include: city sales tax, bond referendum, or project-by-project basis.

Trust for Public Land Partnership

In 2017, a partnership was formed with the Trust for Public Lands to examine a plan for a funding the NWA Open Space Plan. The Trust for Public Lands laid out a Plan for the Committee with stepping off points if data or political will changed the progression.

The first step was to have a Feasibility Study completed for Benton and Washington Counties. This included assistance from the Counties to request the studies.

Ballot Measure Components Key Steps for Successful Ballot Measures

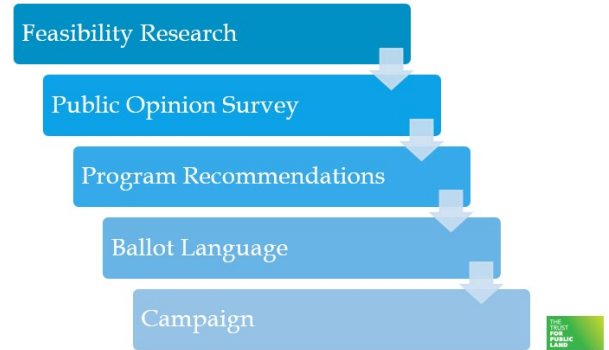
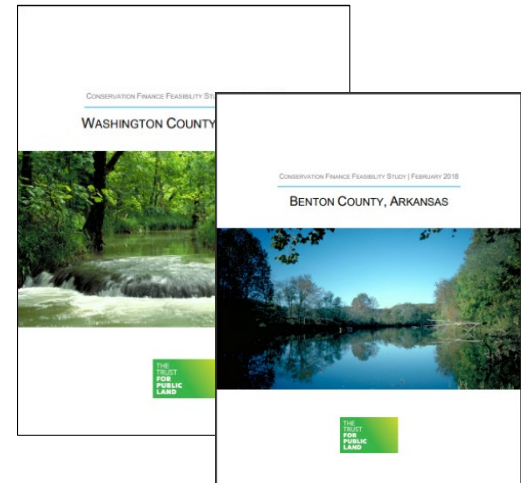


Figure 6.2 Ballot Measure Components

Feasibility Studies

Conservation Feasibility Study for Benton and Washington Counties was completed that showed the most viable finance mechanisms for open space preservation were capital improvement bonds, sales tax, and property tax. completed NWA Open Space Plan, with recommendations, options, and alternatives was given to the appropriate decision-makers at the county level, their decision was not to move forward at this time on a dedicated funding source for open space preservation.



Trust for Public Land Public Opinion Survey - Washington County – May 14-16, 2018

The Trust for Public Land commissioned John Wilson Research to complete a statistically valid survey of Washington County voters regarding their support for a bond referendum to fund land conservation and parks. The random sample was drawn from registered voters throughout the county who had voted in the 2016 general election, or registered to vote in the county since the last presidential election. The sample is also demographically representative of the profile of likely November 2018 voters. Interviews were distributed proportionally throughout the county. The survey was conducted May 14-16, 2018 on both landline and cell phones (50 percent), and has an overall margin of error of +4.9%. Sampling error for subgroups within the sample will be larger.

Voter Intentions

Nearly six in ten likely voters indicate that they would vote Yes if the election were being held today for a ballot measure that would fund land conservation through a \$65 million general obligation bond backed by a 1/8-cent sales tax. Respondents were presented with the following language of the proposal as it would appear on a future ballot:

“CONSERVATION AND RECREATION BONDS

Vote for or against the issuance of bonds in Washington County in the maximum aggregate principal amount of \$65,000,000 for the purpose of financing land conservation and improvements in all areas of Washington County to protect the water quality of rivers, lakes, and streams, natural areas, fish and wildlife habitat, farmland, parks, recreational areas, trails, and wetlands; and, to pay the bonds, the levy and pledge of a new 0.125% (one-eighth percent) local sales and use tax within the County that will expire after the bonds have been paid?”

Given this language, a large majority of Washington County voters (59 percent) indicate they will vote Yes, with 36 percent of the electorate indicating they will “definitely” vote Yes. 30 percent indicate opposition at this time and 11 percent are undecided.

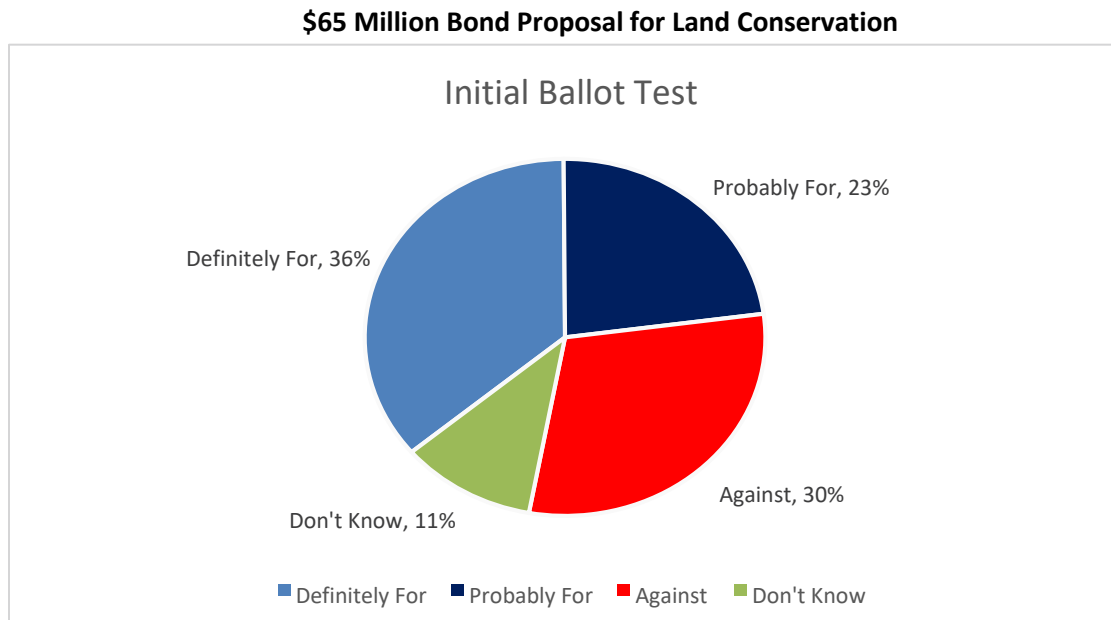


Figure 6.3 Ballot Test Results

- **When provided with information about the tax impact of the proposal, support for the proposal increases.** Survey respondents were informed that bond referendum would cost the average household in Washington County an additional \$18 per year. When provided with this information about cost, support increased with 64 percent of Washington County voters indicating they will vote Yes and 41 percent of the electorate indicating they will “definitely” vote Yes. 31 percent indicate opposition after hearing the cost information and 6 percent are undecided.
- **After hearing more about the proposal, support increases significantly with 69 percent indicating that if the election were held today they would vote Yes for the \$65 million bond for land conservation.** In the survey, we simulated some of the give and take that could occur over the course of a campaign so that respondents heard a series of statements in support of and opposed to the proposal. After hearing all of the information over the course of the survey, fully 69 percent indicate they would vote Yes, with 37 percent saying they would definitely vote Yes. Just 22 percent oppose the proposal.

Uses for Funds

Voters respond very positively to all of the specific uses for the funds for conservation and recreation, with an emphasis on water, including protecting drinking water sources and protecting the water quality of rivers, lakes, and streams. The survey also reveals that voters approve of the ways in which funds from such a measure could be used. A minimum of three of every four voters approved of each of the conservation and recreation uses tested. Those uses for funds receiving the highest level of support are as follows.

Feature	% Strongly Approve	% Total Approve
To protect drinking water sources.*	81%	93%
To protect Beaver lake, the drinking water source for Washington County.*	80%	91%
To the water quality of rivers, lakes, and streams.	75%	90%
To preserve fish and wildlife habitat.	67%	87%
To protect natural areas.*	64%	88%
To protect working farms.	64%	86%
To alleviate traffic congestion in high growth areas.	64%	84%

Table 6.2 Uses for Funds

Accountability Provisions

A few common sense accountability provisions also increase voter confidence in the proposal. We tested a range of accountability provisions in order to assess the impact they have on voters’ willingness to support the \$65 million bond proposal. The strongest provisions are as follows.

- The bond referendum language spells out in detail what the funds can be used for and the funds can only be used for those purposes. (76% more likely to vote Yes, 54% much more likely to vote Yes)*
- There will be full public disclosure of all project spending. (74% more likely to vote Yes, 54% much more likely to vote Yes)*
- There will be an annual independent audit of how the funds are spent. (72% more likely to vote Yes, 48% much more likely to vote Yes)

Conclusion

In sum, the polling shows good prospects for the passage of a \$65 million land conservation bond in Washington County in the November (2018) election. Voters offer strong support initially and that support grows as voters learn more about the measure. Given a good campaign to communicate the measure’s benefits to voters, it is well positioned for success at the ballot in November (2018).

Trust for Public Lands Recommendation – Washington County

Based upon feasibility research and a recent public opinion survey of 400 likely voters in Washington County conducted by the Trust for Public Land,² we recommend that the Washington County Quorum Court place a conservation finance ballot measure on the ballot this November with the following provisions:

Funding mechanism, duration, and amount: A 20-year \$65 million General Obligation Bond backed by a 0.125% (1/8th cent) Sales and Use Tax.

Purposes: Protect drinking water sources, including Beaver Lake; the water quality of rivers, lakes, and streams; natural areas; fish and wildlife habitat; wetlands; working farms; historic, heritage and cultural sites; parks, recreational areas, and recreational trails for walking, running, and bicycling.

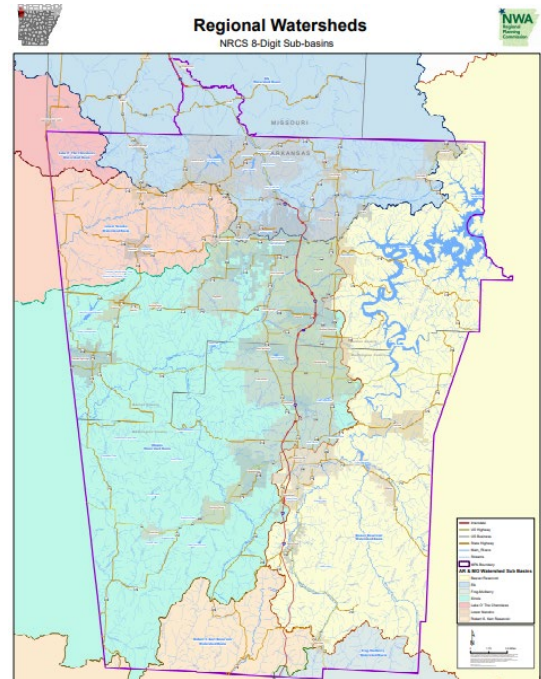
Accountability: An annual independent audit of spending with full public disclosure of all spending. Land will only be purchased from willing sellers on a voluntary basis.

Election timing: November 6, 2018, general election.

Watersheds

A **watershed** is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. There are 7 watersheds in the NARTS planning area. Each watershed has significant importance whether it provides the drinking water for 1 of 6 people in the state like the Beaver impacts in the area it services.

Section 303(d) of the Clean Water Act (CWA) requires states to identify waters that do not meet or are not expected to meet applicable water quality standards. These waterbodies are compiled in even numbered years into a document known as the List of Impaired Waterbodies prepared pursuant to Sections 305(b) and 303(d) of the Federal Water Pollution Control Act. The regulation (40 CFR 130.7) requires that each 303(d) list be prioritized and identify waters targeted for TMDL development. The 2020 List of Impaired Waterbodies can be accessed at www.adeq.state.ar.us/water/planning/integrated/303d/list.aspx. NWA has multiple waterbodies on this list. Additionally, there are Ecologically Sensitive Waters and Extraordinary Resource Waters located in NWA that the State.



Map 6.7 - Watersheds

Figure IV-1: Arkansas's Waterbodies with Completed TMDLs (Categories 4a and 1b)

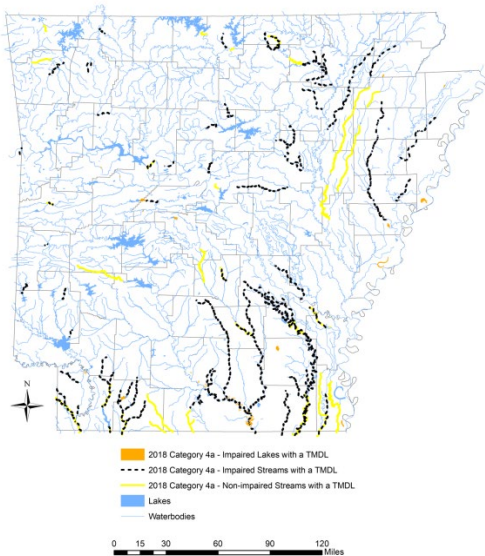
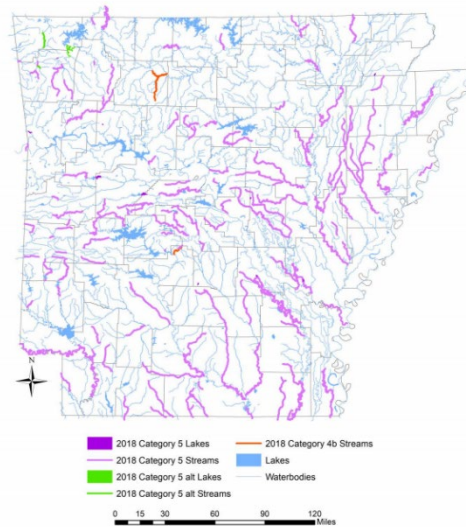


Figure IV-2: Arkansas's Impaired Waterbodies without Completed TMDLs (Category 5, 5-alt, and 4b)



Map 6.8 – Impaired Waterbodies

Significant Publicly-owned Lakes – Primary Purpose

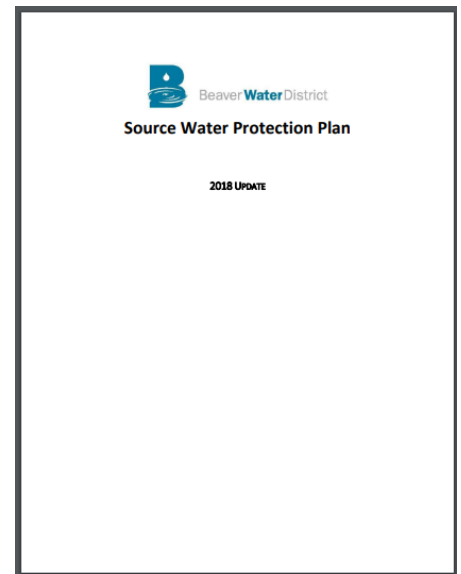
- 15 Crystal Angling (Public Fishing)
- 30 SWEPCO Water Supply
- 11 Beaver Hydropower
- 21 Elmdale Angling (Public Fishing)
- 22 Fayetteville Recreation
- 29 Sequoyah Recreation
- 19 Wedington Recreation
- 23 Bobb Kidd Angling (Public Fishing)

<https://www.adeq.state.ar.us/water/planning/integrated/303d/pdfs/2018/final-2018-305b-report.pdf>

Beaver Water District (BWD)

More than 70 years ago, visionary community leaders got together to discuss the need for a long-term supply of clean, safe water for Northwest Arkansas. With an eye to the future and knowledge that a large lake was the best source of water, these citizens worked to establish Beaver Lake Reservoir. The dam that created Beaver Reservoir and the first water treatment plant (constructed by the City of Springdale) were completed in the mid-1960s. Since that time, Beaver Water District (BWD) has expanded facilities and improved to keep up with increased water demand and stricter drinking water standards. BWD is a Regional Water Distribution District enabled by Arkansas Act 114 of 1957.

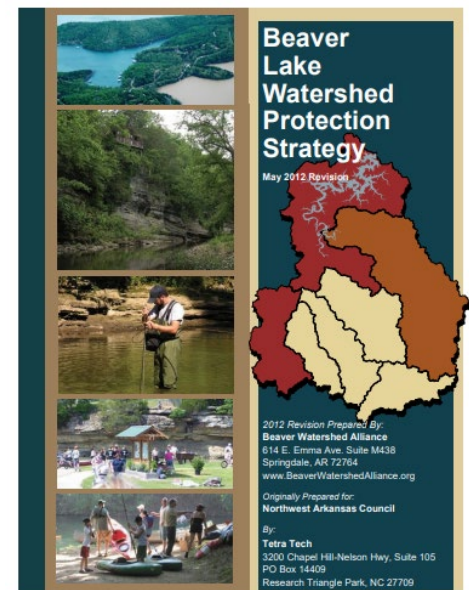
BWD's mission is to serve our customers' needs by providing high quality drinking water that meets or exceeds all regulatory requirements and is economically priced consistent with our quality standards. BWD supplies clean, safe drinking water, sourced from Beaver Lake, at the wholesale price of \$1.38 per thousand gallons to four customers -- Fayetteville, Springdale, Rogers, and Bentonville. These cities in Northwest Arkansas then pump, store, distribute and resell the water to more than 350,000 people and industries in their cities and surrounding areas. On April 21, 2016, BWD's Board of Directors approved a motion to dedicate \$0.04 cents per 1000 gallons sold to the Source Water Protection Fund. In 2018, Beaver Water District staff completed an update of the 2012 Plan.



Beaver Watershed Alliance (BWA)

The Beaver Watershed Alliance was formed in 2011 to establish programming to maintain high quality drinking water in Beaver Lake and improve water quality in the Beaver Lake Watershed. The Alliance represents a diverse stakeholder group from conservation, education, water utilities, technical and science, business, agriculture, recreation, and local government groups working together for the cause of clean water.

The Beaver Watershed Alliance (BWA) works to proactively protect, enhance, and sustain the high water quality of Beaver Lake and its tributaries through voluntary best management practice implementation, outreach and education, and scientific evaluation. Tributaries of Beaver Lake such as the West, Middle, and East Forks of the White River, Richland Creek, and War Eagle Creek offer a diverse and stunning variety of aesthetic beauty, wildlife, and cultural heritage as they flow along their course to Beaver Lake. From Harrison, Arkansas to Westville, Oklahoma, over 420,000 people rely on Beaver Lake for drinking water, industry, and recreational activities such as boating, skiing, birding, and swimming. BWA provides strategic, valued, and meaningful programing to provide watershed landowners and environmental stewards with the resources they need to help protect the water quality of Beaver Lake and its tributaries. In addition to working with landowners and on innovative solutions to our regions water quality issues, BWA also plans fun and informational volunteer events to keep the lake and rivers clean! Planting native trees, shrubs, grasses, and wildflowers at stream restoration sites and upland areas of the watershed helps teach participants about the issues affecting Beaver Lake and gets them involved in actively stewarding the precious resource. Everyone can make a difference in the water quality in Northwest Arkansas, and BWA is proud to equip people with the tools needed to achieve just that.



To learn more about the technical aspects to protecting Beaver Lake and its tributaries, check out the Beaver Lake Watershed Protection Strategy. <https://www.beaverwatershedalliance.org/>

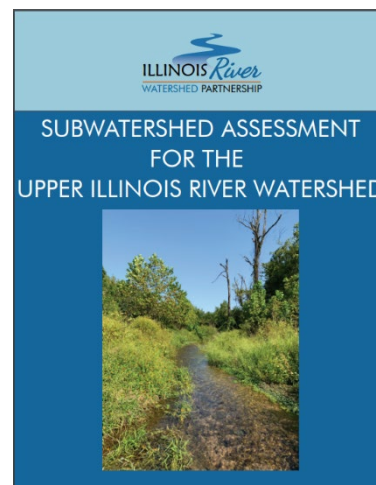
THE ILLINOIS RIVER WATERSHED PARTNERSHIP (IRWP)

In 2005, IRWP was founded on the belief that neighbors could work together to improve water quality without further government regulation. The board is made up of representatives from agriculture, business, construction, education, and conservation. Illinois River Watershed Partnership works to improve the integrity of the Illinois River Watershed through public education, outreach, and implementation of conservation and restoration practices throughout the watershed. The

vision of the IRWP is that the Illinois Rivers and its tributaries will be a fully functioning ecosystem, where ecological protection, conservation, and economically productive uses support diverse aquatic and riparian communities, meet all state and federal water quality standards, promote economic sustainability, and provide recreational opportunities.

IRWP owns and operates the Illinois River Watershed Sanctuary and Learning Center a 30-acre Watershed Sanctuary that is open for hiking, fishing, canoeing, and kayaking from dawn to dusk everyday. Bat viewing March through October at dusk. Assessments were conducted on the following priority subwatersheds from 2018-2019: Moore's Creek (located near Lincoln), Sager Creek (located in Siloam Springs), Lower Muddy Fork (located near Prairie Grove), and Clear Creek (located near Fayetteville). Each assessment consisted of collecting and identifying macroinvertebrate communities and stream characteristics. All four subwatersheds are considered high priority for sediment, total nitrogen, and total phosphorus in Arkansas Natural Resource Commission's (ANRC) 2011-2016 NPS (Nonpoint Source Pollution) Management Plan

In 2019, IRWP began outreach and implementation of our new Riparian Restoration Program. With the help of a generous \$2.8 million grant from the Walton Family Foundation and Arkansas Natural Resources Division, IRWP is working to restore 20 miles of riparian corridor by the end of 2023. We are serving landowners in five priority subwatersheds that are currently classified as impaired for their designated use: Sager Creek, Lower Muddy Fork, Moore's Creek, Clear Creek, and Lake Wedington to the Illinois River Watershed. In 2020, IRWP created a free in-school or creekside mobile lab that moves our water quality focused educational/interactive activities out into the watershed.



Multi-Basin Regional Water Council

One organization that is working in multiple watersheds in four states including Arkansas and Missouri to bring needed cooperation among stakeholders is the Multi-Basin Regional Water Council. The Multi-Basin Regional Water Council is a not-for-profit organization that was formed in 2009 whose purpose is to educate its members and the public on environmental issues and other such issues as water quality, water conservation, watershed management, and to increase the capacity of member organizations to cooperate and to fulfill their own mission. The four states represented in the council are Missouri, Arkansas, Oklahoma and Kansas. The Multi-Basin Water Council meets quarterly and is increasing its ability to foster communication among members, governmental agencies, political subdivisions and non-governmental organizations.

Water Conservation Resource Center (WCRC)

WCRC is a Non-profit Organization that strives to protect, conserve and restore natural resources by utilizing the watershed approach, environmental outreach and providing planning and technical assistance to landowners, communities and government. The organization was formed in 2006 Sandi J. Formica and Mathew Van Eps, P.E. formed the WCRC, a 501(c)(3) nonprofit organization; committed to making a difference through conservation and restoration. WCRC recognizes that safe-guarding our Nation's natural resources and protecting water quality requires the will of well-organized individuals, strategic funding mechanisms, and broad community support.

WCRC has completed many conservation and restoration projects in Northwest Arkansas. The WCRC continues to monitor, evaluate, and maintain all of the sites. Implementation of the projects has resulted in the reduction of sediment and phosphorus loadings in the Beaver Lake and Illinois River watersheds. The stream restoration projects have protected city parks, utility infrastructure, a historic cemetery, and private property during high flow events



Mullins Branch at the University of Arkansas

WCRC has created a mitigation bank. The West Fork White River(WFWR) mitigation bank was constructed in the summer of 2015. The project is located west of Dead Horse Mountain Road in southeast Fayetteville, Arkansas. The mitigation bank provides both stream and wetland mitigation credits to United States Corps of Engineers permittees whose project create unavoidable impacts to waters of the United States.

LAND TRUSTS

A land trust is essentially a private agreement, whereby one party, the trustee, agrees to hold title to property for the benefit of another party or parties, the beneficiary(ies). The creator of the trust is often called the settlor or trustor. There are two land trusts that operate in the MPO area Ozark Land Trust and Northwest Arkansas Land Trust. Both work with conservation-minded landowners, municipalities and partner organizations to protect land with agricultural, ecological, scenic, historic and recreational significance in Northwest Arkansas. The NWALT is an accredited land trust, the only one in the state and in the region. The two land trusts work to obtain conservation easements, fee-simple purchases or donations of land, and land management and stewardship.

Ozark Land Trust (OLT) <https://ozarklandtrust.org/>

The Ozark Land Trust is a not for profit organization whose mission is to help landowners preserve and protect the nature, history, and heritage of the Ozarks forever. With Missouri, Arkansas, Kansas, and Oklahoma land trusts, OLT has more than 28,000 acres protected from urban development and subdivision. The way this is achieved is through various methods that include conservation easements, nature preserves, and partnerships with conservation organizations

Northwest Arkansas Land Trust (NWALT) <https://www.nwalandtrust.org/>

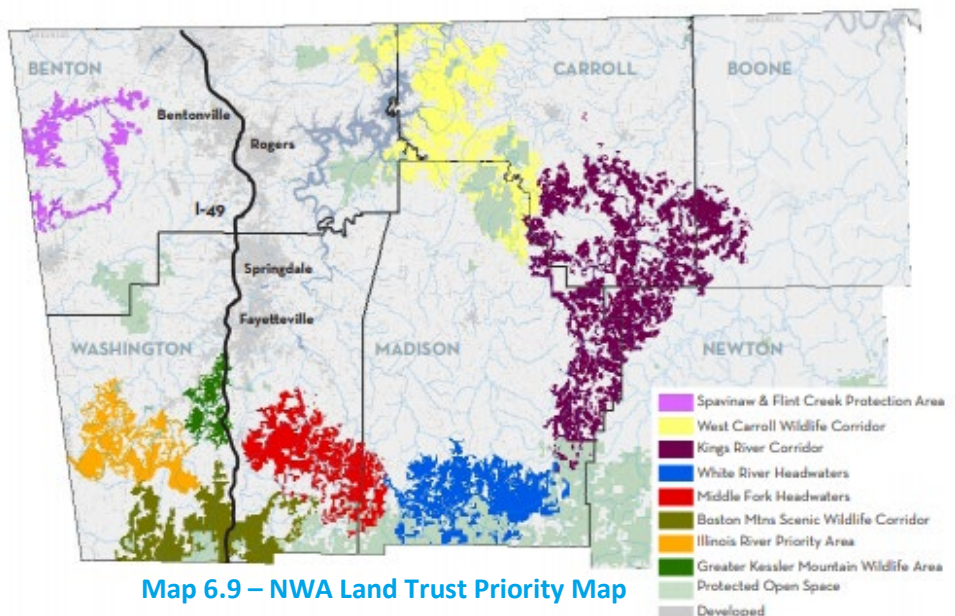
Founded in 2003, NWALT is a non-governmental, nonprofit 501(c)(3) conservation organization dedicated to forever protecting the special places and landscapes that define our region. The mission of the Northwest Arkansas Land Trust is to preserve and enhance the quality of life in Northwest Arkansas through the permanent protection of land. The service area of the Northwest Arkansas Land Trust includes the greater Northwest Arkansas Region, with a core focus on Benton and Washington counties, where development pressure drives the greatest need for land conservation. The vision and promise of the Northwest Arkansas Land Trust is to work collaboratively and tirelessly to ensure that our region's abundant scenic beauty, clean air, clean water, wildlife habitat, outdoor recreation opportunities, local food supply and natural heritage are permanently protected for the benefit and prosperity of current and future generations.

NWALT Strategic Plan 2020

After months of research, data analysis, and collaboration, we are excited to roll out our new Strategic Land Protection Plan. Many hours were spent establishing these highest priority areas that, if kept natural, will do the very most for preserving clean water, protecting wildlife habitat corridors, and creating a more climate-resilient future for our developing NWA region. This Plan is designed to provide the land trust with a strategic, science-driven, landscape-scale focus for our work that complements the work and priorities of our partners while providing the region's first wildlife corridor and climate-forward conservation plan.



Eight different priority regions have been identified in the plan. Though these areas have distinct characteristics, each of the identified landscapes serve as an important piece of the greater whole. The priority areas complement each other, expanding existing protected habitat anchors and connecting undeveloped, resilient lands in our region. They also provide vital links to important habitat areas throughout Arkansas and into surrounding states.



Map 6.9 – NWA Land Trust Priority Map

Clean Energy and New Technology

Emerging trends, new technologies and new innovations are bringing a major transformation to transportation, which is being dominated by vehicle electrification, autonomous vehicles, micro-mobility, shared mobility, and drones. According to the EPA, transportation was responsible for 28.5% of U.S. greenhouse gas emissions in 2016, representing the largest share of greenhouse gas emissions in the nation. Over 90 % of the fuels used in transportation are petroleum based, mainly gasoline and diesel being burned in internal combustion engines. Electric Vehicles (EVs) are widely seen to curb these impacts by shifting away from the use of fossil fuels in motor vehicles to those that will be less impactful. Energy efficiencies and pollution control are on the minds of many planners in NWA.

A presidential executive order was signed on January 27, 2021 to develop plans to convert all federal, state, local and tribal fleets to "clean and zero-emission vehicles." Auto manufacturers are planning to build more electric vehicles, General Motors announces to produce all electric vehicles by 2035 for certain lines.

Advancements in NWA include:

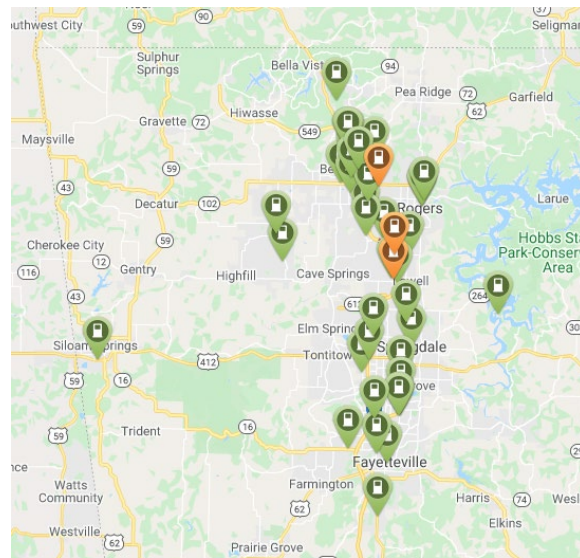
- City of Fayetteville adopted an [Energy Action Plan](#) in January in 2018 that expresses a goal of reducing Greenhouse Gas Emissions (GHG) for critical activities occurring in Fayetteville. The plan outlines strategies, goals and actions in the critical activities of transportation, energy, buildings and waste. The Plan states that transportation activities account for 27% of Fayetteville's Green House Gas emissions between the 2010 and 2016 inventory years. The Plan includes goals of 1)Reduce total housing and transportation costs to 45% of area median income 2)Reduce per capita vehicle miles traveled to 2010 levels by 2030 and 3)Achieve 25% bike/walk/transit mode share by 2030.
- City of Fayetteville's bike share program offers e-bikes as part of the program in 2018.
- Walmart announced the rollout of electric car charging stations across Arkansas beginning in 2019.
- City of Fayetteville added Spin company as the scooter share program with 250 scooters in 2020.
- City of Pea Ridge approved Walmart drone delivery hub and Zipline International to do trial testing from Neighborhood Market to select people in the area according to dronelife.com in 2021.
- Walmart and Gatik finish a pilot program and are now implementing driverless autonomous vehicles in 2021.
- City of Fayetteville adopted standards for businesses installing electric vehicle charging stations. The city plans to start setting up chargers at public parking spaces in City lots and parking decks in 2021 and 2022.

US DOT Beyond Traffic 2045 Report

According to the US DOT Beyond Traffic 2045 report, the transportation sector is making major strides: with new fuels, new vehicles, and new policies that help to reduce emissions. New types of fuels promise to dramatically reduce emissions for automobiles, trains, planes, and vessels are emerging, sales of plug-in electric and hybrid vehicles are increasing, and the fuel efficiency of new vehicles is improving. The federal government issued joint fuel economy and greenhouse gas emissions standards for cars and light trucks, and fuel economy standards were set for medium and heavy trucks for the first time ever. These regulations are expected to increase the fuel efficiency of vehicles by approximately 50 percent over the next decade.

Future Planning

Local government and businesses should continue to identify priority locations to deploy technologies to best meet the region's specific needs through advance planning, pilot projects, and infrastructure investments.



Map 6.10 – PlugShare.com EV Charging Stations