Arkansas Natural Resources Commission

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Asa Hutchinson
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Arkansas Natural Resources Commission's Development of the Middle White River Watershed Management Plan
Fourth Stakeholder Meeting
March 26, 2019 Calico Rock, AR
Meeting Summary

The Arkansas Natural Resources Commission (ANRC) recently sponsored a stakeholder meeting as part of the development of the watershed management plan for the Middle White River watershed. The meeting was held in Calico Rock on March 26, 2019. This was the last stakeholder meeting for development of this watershed management plan. The meeting agenda is included as Attachment 1. Approximately 20 individuals attended the meeting, including farmers and landowners, as well as individuals from conservation, recreational, and other interest groups, and employees from state and federal agencies.

The meeting was facilitated by FTN Associates, Ltd. (FTN), an engineering and environmental consulting firm headquartered in Little Rock. The ANRC contracted FTN to assist the agency with the development of the Middle White River Watershed Management Plan. The process will be completed by September 2019.

The meeting was opened by Dr. Kent Thornton of FTN, with a summary of the previous public meeting in Batesville (November 2018). The presentation is included as Attachment 2. This included a summary of presentations at that meeting by the Fulton County District Conservationist and two Fulton County producers telling about their experiences implementing stream exclusion and pasture management practices that reduce nonpoint source pollution, through an ANRC Nonpoint Source Pollution Management project (i.e., 319 project) in the Strawberry River watershed.

After the summary of the November meeting, Dr. Thornton presented the goals and desired outcome of the watershed management plan process; the subwatersheds recommended for initial management in the draft plan; management goals for the subwatersheds; and practices, information and education activities, and water quality studies recommended for those subwatersheds. This included explanation of changes in our understanding of water quality and regulations within the recommended subwatersheds that occurred as a result of analyses conducted after the November meeting. Cost estimates for management of unregulated nonpoint pollution sources were also presented along with an overview of potential funding sources. Dr. Thornton discussed elements of the 2018 Farm Bill that might assist watershed management down the road.

Dr. Thornton presented information on the science of influencing change. He explained the domains and subdomains of influence, and that the greatest success in creating change occurs when all or most of the domains of influence are used. He noted that some agency programs for implementing practices work in more than one domain of influence, which can make them more effective.

In closing, Dr. Thornton noted that water quality in the Middle White River watershed, with a couple exceptions, appears to be good right now. The key is to manage nonpoint source pollution so that good water quality is sustained or improved, not degraded, in the future. It is significantly more expensive to restore poor water quality than it is to protect good water quality and the quality of life associated with it.

After Dr. Thornton's presentation, the meeting was opened to questions and comments from the stakeholders. A summary of this discussion is included as Attachment 3. During this discussion, the Izard County District Conservationist, Monica Paskewitz, reported that they just finished a Mississippi River Basin Initiative (MRBI) project in the Philadelphia River watershed, which is around 8,000 acres. The Philadelphia River is a tributary of the Strawberry River. The Strawberry River is listed by the state as an impaired waterbody, which is why they were funded for an MRBI project. The practices implemented by the stakeholders participating in the project are the same ones recommended in this watershed management plan - rotational grazing, alternative water supplies, and restricting cattle access to riparian areas. The landowners who participated in the project experienced great benefits as a result of the practices they implemented and have been pleased with their experience. They also have data now that document the benefits of these practices. Monica also noted that, particularly for producers who are interested in implementing practices in smaller areas, it can be faster and easier to get funding assistance through Nonpoint Source Pollution Management projects (i.e., 319 projects) than through NRCS programs like EQIP.

Claire Whiteside, NRCS Grassland Specialist, Boone County, recommended the Grazing Lands Coalition as an excellent technical resource for producers, and encouraged those attending to pick up grazing factsheets she brought to the meeting.

The next step will be to submit the draft watershed management plan for review by ANRC, and then submit the revised Plan to EPA for their review and acceptance. Once the plan is accepted by EPA, it will be provided to the stakeholders in the watershed for implementation.

For additional information or to provide additional questions, contact:

- ANRC, Tony Ramick (Tony.Ramick@arkansas.gov) or (501) 682-3914 (ANRC is in the process of updating their email system. Until that is complete, response to emails may be slower.)
- FTN Associates, Terry Horton (twh@ftn-assoc.com) or (501) 225-7779

ATTACHMENT 1 – MEETING AGENDA
Middle White River Watershed Management Plan:
A Voluntary, Non-Regulatory Project
Arkansas Game & Fish Commission
North Central Regional Office
Calico Rock, AR
26 March 2019
Agenda

Time	Topic	Individual
1:00 pm	Welcome, Meeting Purposes: • Summarize the Batesville Meeting discussions • Discuss the recommendations for the Middle White River Watershed Management Plan • Identify ways to influence implementation • Elicit stakeholder input on the recommended practices and activities • Discuss next steps	K. Thornton, FTN
1:05	Summarize the 28 November Batesville Meeting • Watershed Management Plan and planning process • WQ goals, target loads, and estimated load reductions and costs associated with various management practices	K. Thornton, FTN
1:20	Recommended Watershed Management Practices & Activities • Recommended Management Practices • Recommended Monitoring • Recommended Studies • Recommended Awareness, Outreach and Education Activities • 2018 Farm Bill • Stakeholder Input, Comments & Questions	K. Thornton, FTN
2:35	Influencing Implementation • Personal Domain • Social Domain • Structural Domain	K. Thornton, FTN
3:00	Next Steps	K. Thornton, FTN
3:15	**Adjourn**	

ATTACHMENT 2 –

MIDDLE WHITE RIVER WATERSHED MANAGEMENT PLAN:

A VOLUNTARY, NON-REGULATORY PROJECT

4TH STAKEHOLDER MEETING

CALICO ROCK, AR

MARCH 26, 2019

POWER POINT PRESENTATION

Middle White River Watershed Management Plan: A Voluntary, Non-Regulatory Project

4th Stakeholder Meeting
Calico Rock, AR
26 March 2019

Meeting Purposes

- Summarize Nov. Batesville meeting
- Discuss draft recommendations for the Middle White WMP
- Discuss influences on implementation
- Receive your feedback
- Discuss next steps

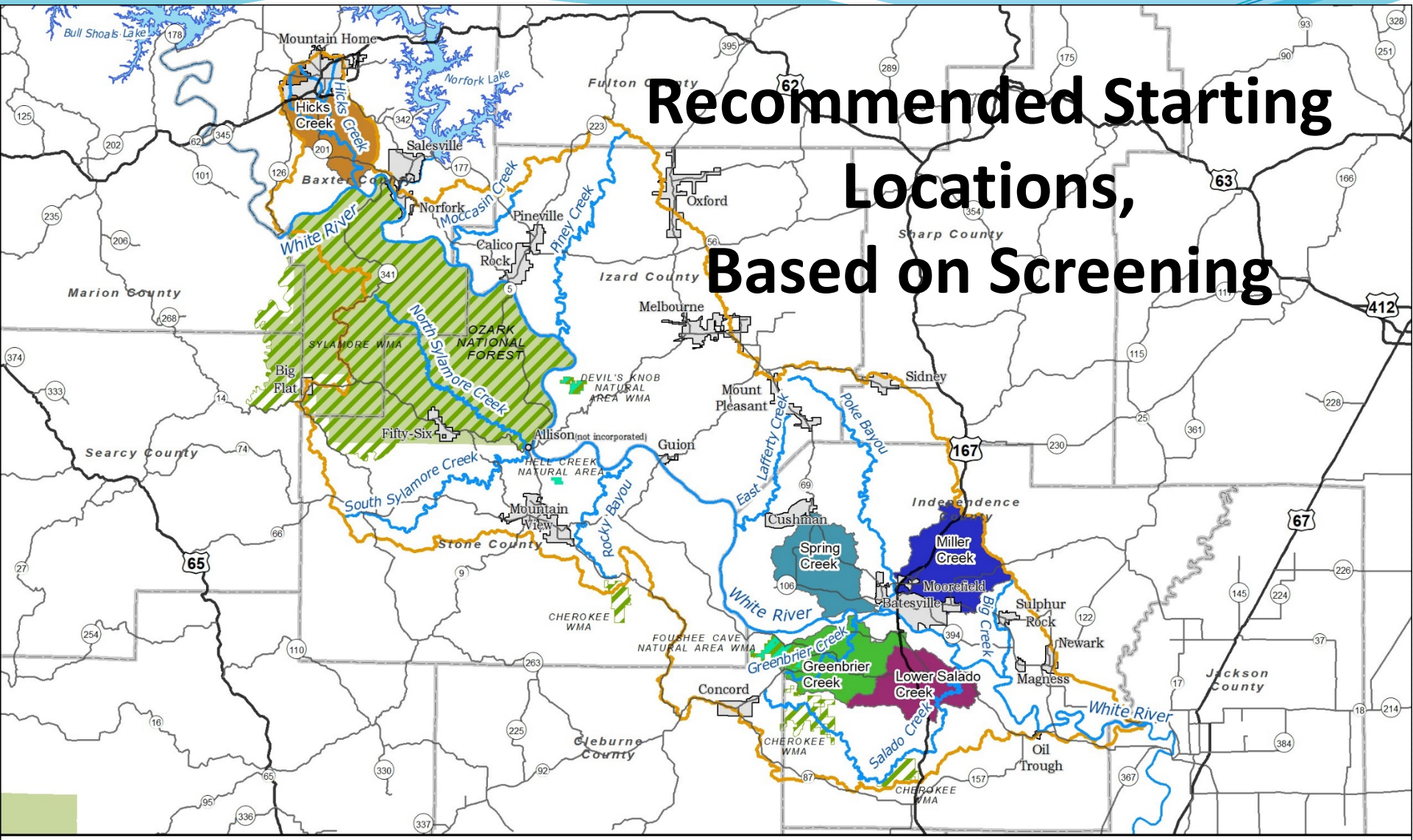
27 November Batesville Meeting

- **Watershed Management Plan**
  - **Water Quality Emphasis**
  - **Nonpoint Sources – non-regulatory**
  - **Voluntary participation**

Batesville Meeting

- **Stakeholder Presentations**
  - **Carroll Prewett – Cow/Calf**
  - **Logan Stone – Cow/Calf & Goats**
- **Discussed:**
  - **Desired outcomes & goals**
  - **Target load process**

Recommended Starting Locations, Based on Screening



Batesville Meeting

- **Discussed:**
  - Suggested practices/recommendations for 5 subwatersheds
  - Potential funding sources
  - Previous/on-going activities
- **Next Steps**

Today's Meeting

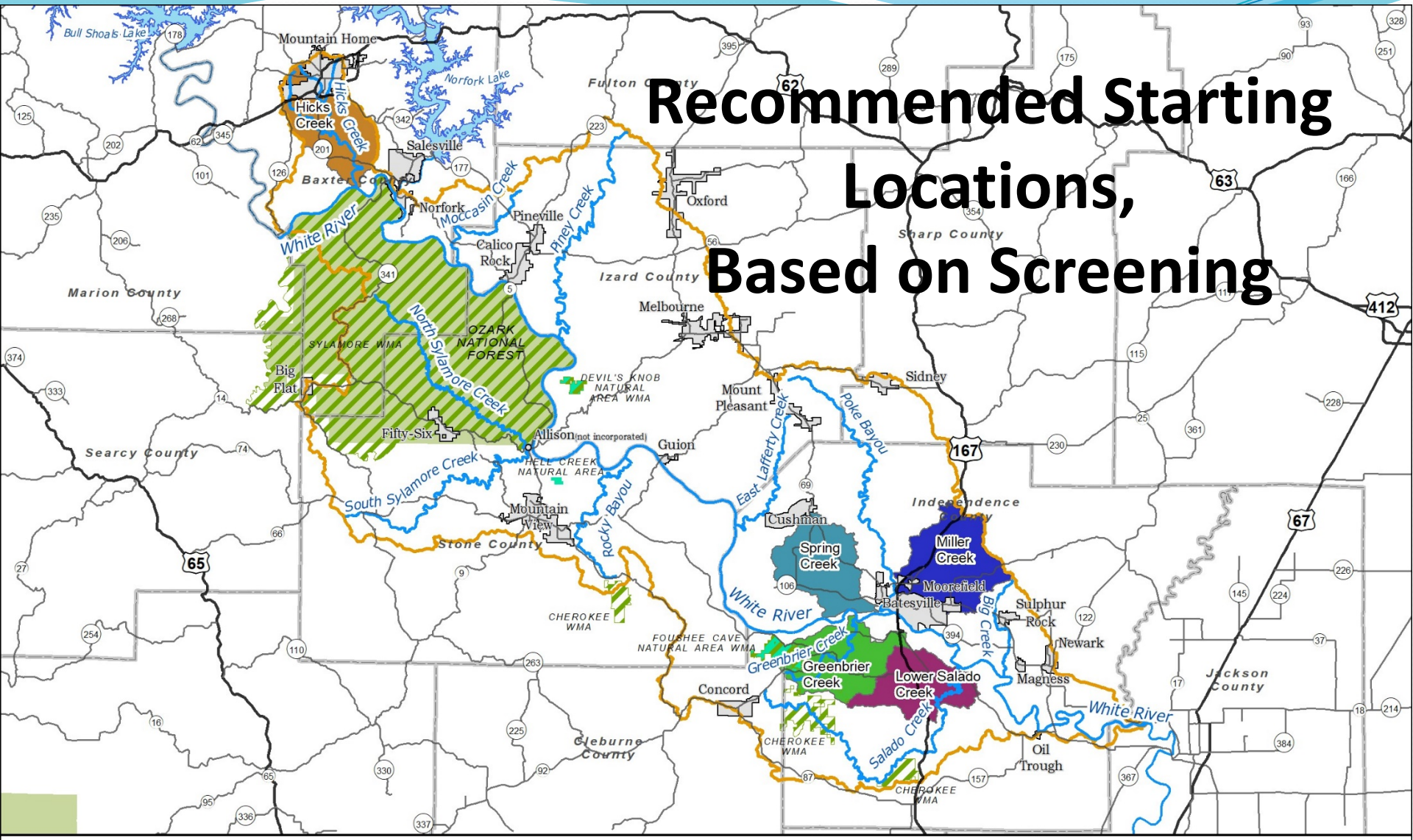
- Reiterate Desired Outcomes & Goals
- Suggested Practice Revisions & Additions to Those Presented in Batesville
  - Hicks Creek
  - Greenbrier and Lower Salado Creeks
  - Miller and Spring Creeks
- Information and Outreach Opportunities
- Influencing Implementation
- Funding/Assistance Opportunities
- Next Steps

Desired Outcome:

Sustain, improve water quality

- **Four Goals:**
  1. **Restore stream uses currently not being attained,**
  2. **Sustain those uses that are being attained,**
  3. **Keep pollutants out of both the surface and groundwater, and**
  4. **Minimize activities that disturb the stream bed and its banks.**

Recommended Starting Locations, Based on Screening



Target Load Process

- **Two Criteria Being Exceeded – Primary Focus**
  - **Pathogens (Indicator bacteria)**
    - **Attain primary contact criteria (410 cfu/100mL)**
  - **Dissolved oxygen**
    - **Attain critical season DO criteria (6 mg/L)**
    - **Regress organic N with DO (6 mg/L)**

Recommended Activities

Subwatershed	Target Issues	Target Activities
Hicks Creek	E. coli impairment, high nutrients	Load reductions through management of regulated sources
Miller Creek and Spring Creek	Suspect high nutrients	Water quality sampling
Greenbrier Creek	Low DO impairment	Remove from impaired list
Lower Salado Creek	Low DO	Reduce nutrient load

Emphasis

- Vegetative enhancement
- Soil health
- Streambank stabilization
- Filter media/buffer areas
- Runoff passive treatment

Management Practice Efficiency

- **Estimated Practice Efficiency**
  - Arkansas BMP Tool II
  - NRCS Conservation Practice Standards
  - National Pollutant Removal Performance Database
  - International Stormwater BMP Database
  - Chesapeake Bay Program BMPs

Ag Practices Expected Reductions

Practice	Nitrogen Reduction	Coliform Reduction	Sediment Reduction	Phosphorus Reduction
Stream Exclusion/ Controlled Access	18-60%	30% - 95%	18%-83%	18-76%
Off-stream Water Source	13% - 77%	51 - 94%	30% - 96%	30% - 97%
Forested stream buffer	37% - 89%	30%	45% - 95%	30% - 80%
Non-forest stream buffer	31% - 76%	21% - 100%	23% - 84%	50% - 89%

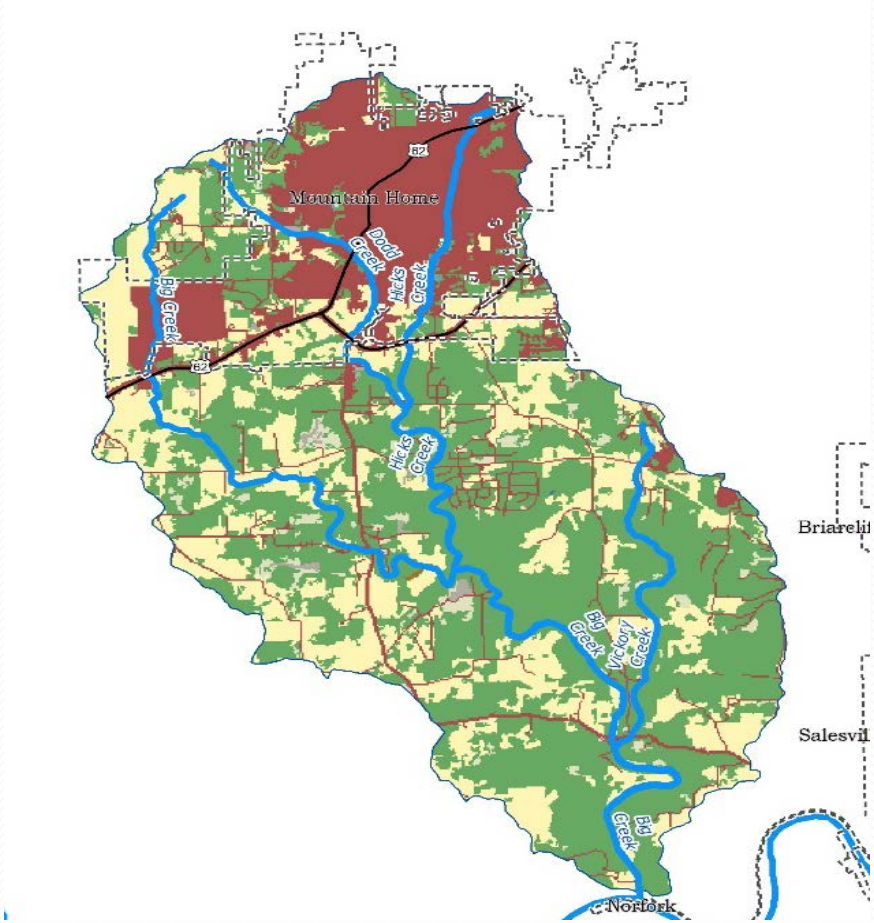
Developed Area Practices Expected Reductions

Practice	Nitrogen Reduction	Coliform Reduction	Sediment Reduction	Phosphorus Reduction
Constructed wetlands	0-98%	0-100%	0-100%	0-100%
Detention ponds	0-86%	0-100%	0-100%	0-92%
Stormwater filters	0-94%	0-100%	0-100%	0-99%
Porous pavement	0-85%	Unknown	0-99%	0-100%

Hicks Creek

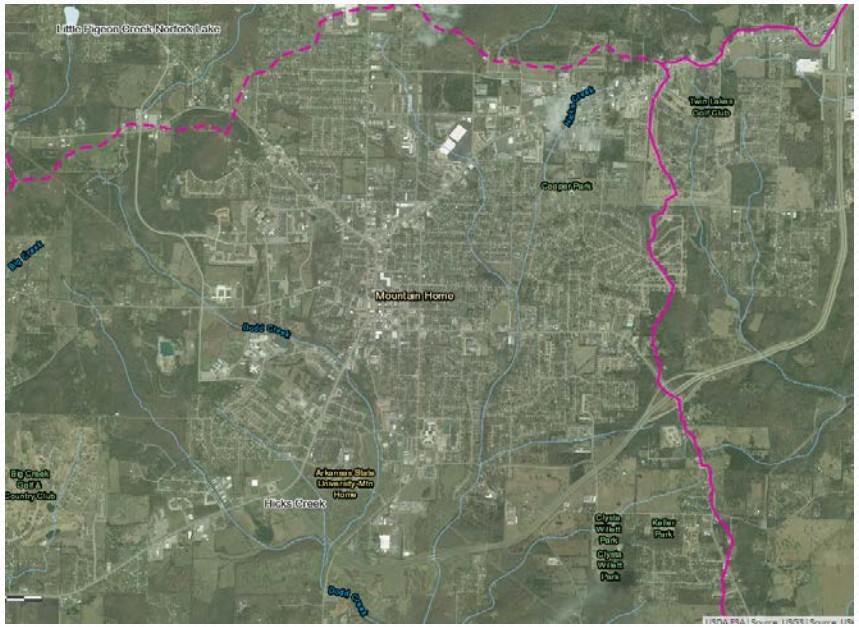
26,175 acres

- 49% Forested
- 23% Developed
- 28% Pasture



Hicks Creek Urban/Suburban

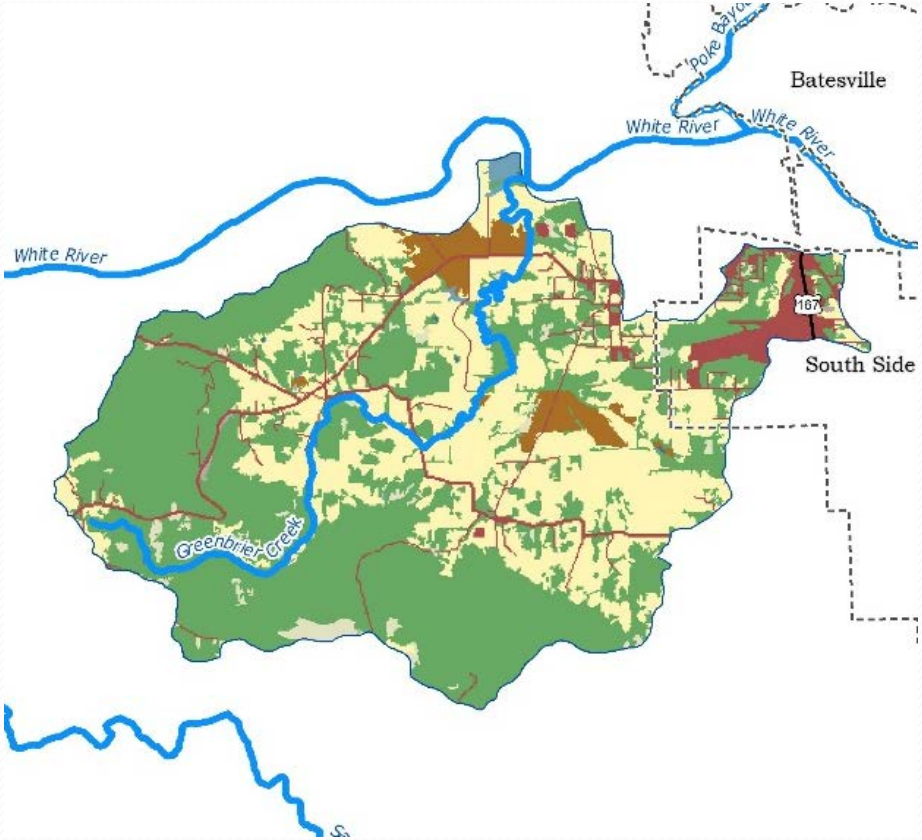
- Pathogens
  - E. coli emphasis
- ADEQ Monitoring
  - Upstream of WWTP
  - Urban runoff
- Municipal Separate Storm Sewer System (MS4)
  - Regulatory Program
  - Runoff to impaired streams falls under MS4 jurisdiction



Greenbrier Creek

21,650 acres

- 54% Forest
- 7 % Developed
- 35% Pasture
- 3 % Cropland



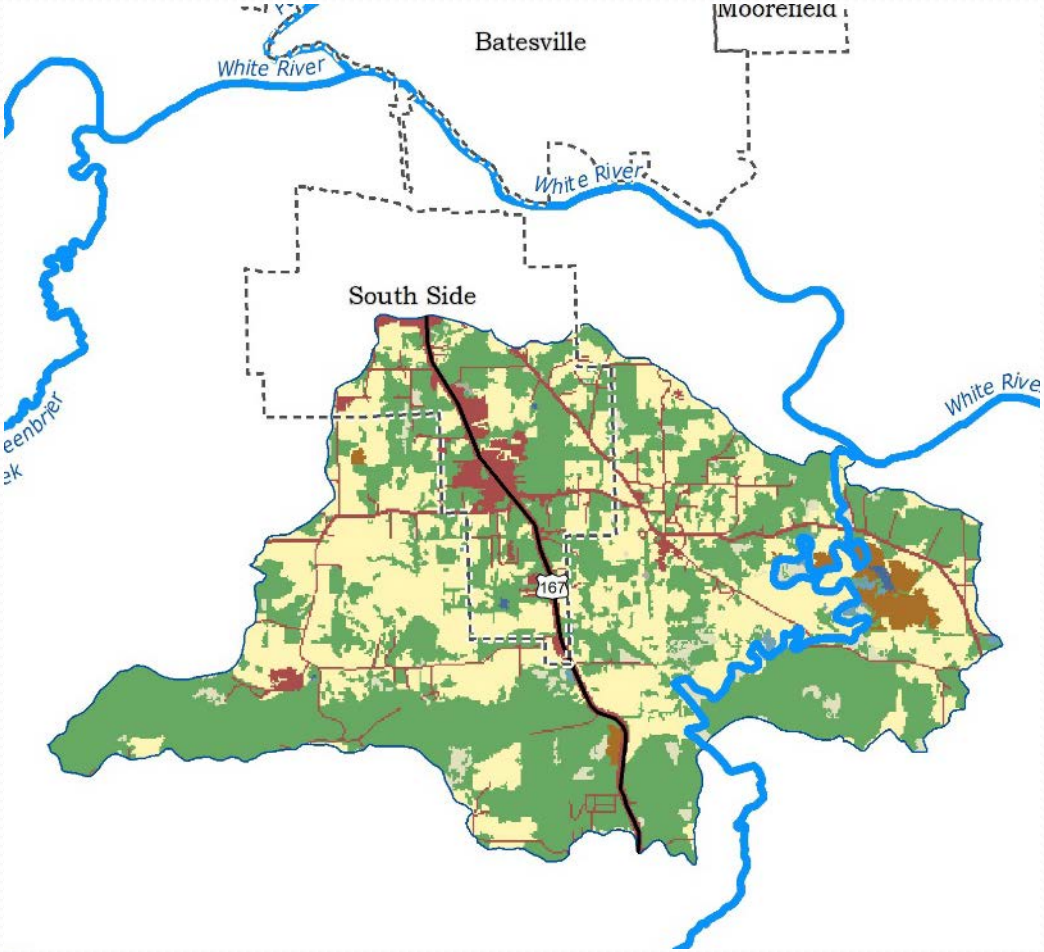
Greenbrier Creek

- Assessed as impaired stream
  - DO < 6 mg/l during Critical Season
- ADEQ modified assessment
  - Delta Ecoregion DO criteria - 3 mg/L Critical Season
- Not enough data to assess
  - Continuous DO monitoring

Lower Salado Creek

18,446 acres

- 51% Forested
- 8 % Developed
- 38% Pasture
- 2 % Cropland



Lower Salado Creek

- Not enough data to assess
  - Continuous DO monitoring
- Synoptic nutrient survey
  - 6 locations
  - 2 seasons – high flow spring/low flow summer

Estimated Cost*

Lower Salado Cr Watershed: 250 ac impervious (44,000 cu m runoff from 2.54 cm (1 inch) rainfall)

Practice	Cost/cu m treated**	Volume to treat (cu m)	Cost ($ 1,000)
Constructed wetland	$15	44,000	$660
Detention ponds	$7	42,000	$290
Stormwater filters	$18	37,000	$660
Porous pavement	$5	23,000	$120

* Independent BMP Implementation **2016 dollars

Estimated Reduction & Cost*

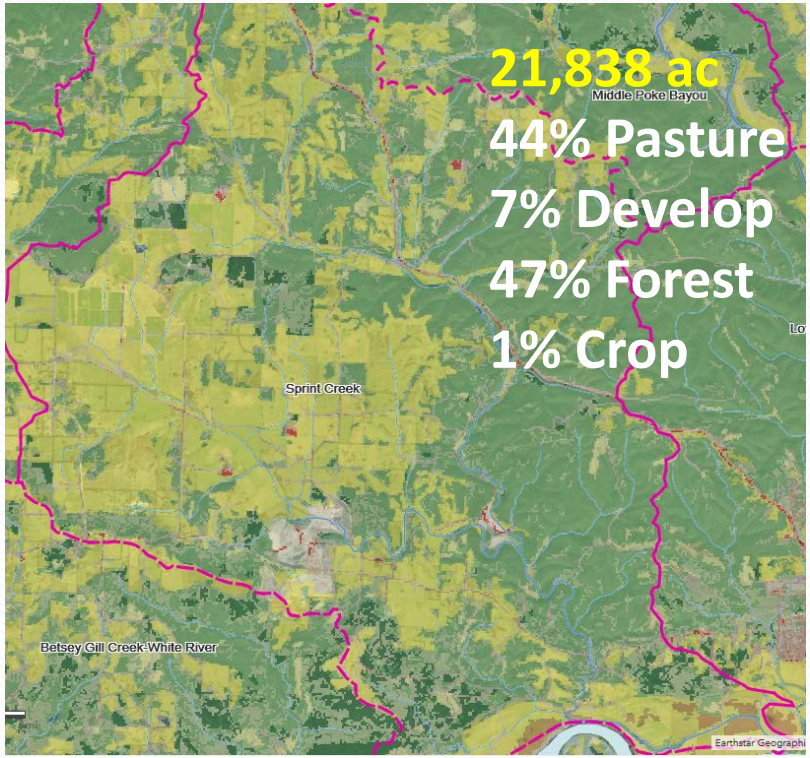
Lower Salado Cr Watershed: 7,009 ac pasture

Practice	Amount	Unit cost**	Cost ($ 1,000)
Restrict stream access	99,000 feet of fence	$1.75/foot	$170
Alternate water source	99 tanks	$1,500/tank	$150
Prescribed grazing	7,000 acres	$70/acre	$490
Forest buffer	49 acres	$2,000/acre	$98
Non-forest buffer	68 acres	$400/acre	$27

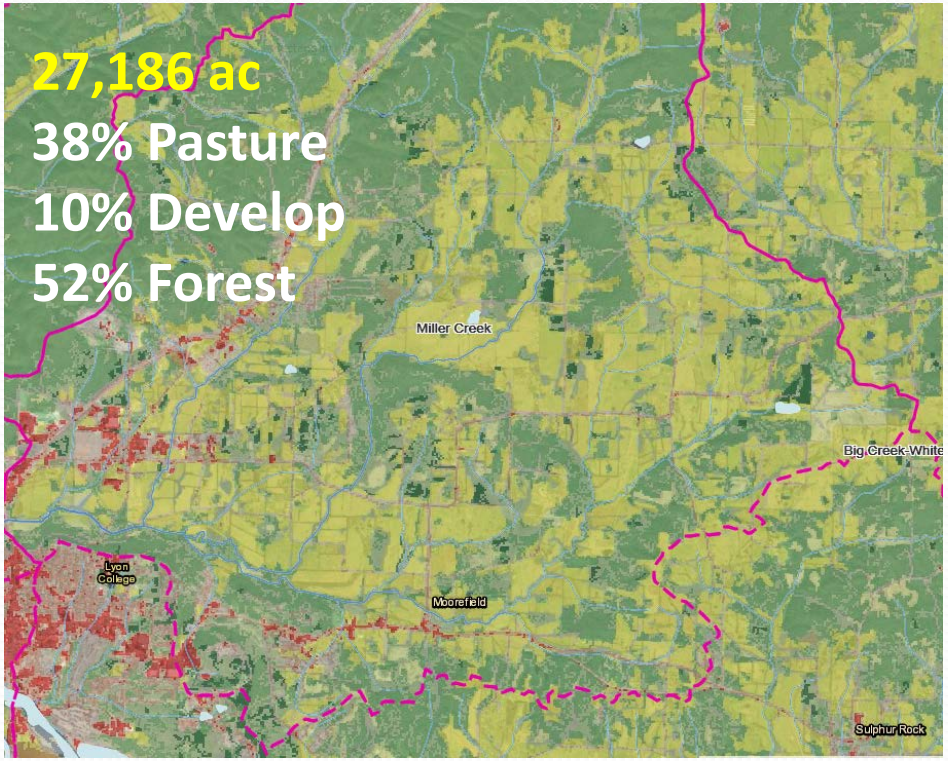
* Independent BMP Implementation **2019 EQIP

Spring and Miller Creek

Spring Creek Subwatershed



Miller Creek Subwatershed



Miller & Spring Creeks

- Land Use Criteria Indicate WQ Issues
- NO Water Quality Data
- Therefore, Collect WQ Data to:
  - Determine if WQ issues exist and develop target load reductions, or
  - Identify management practices that are preventing WQ issues from developing

Additional Recommendations

- **Ecosystem services valuation**
  - Market value – tourism, etc.
  - Non-market valuation methods
- **Social media platform**
  - Links to NRCS, ANRC, Cooperative Extension, Conservation Districts
  - Links to other sources – Friends of the North Fork and White Rivers, TNC, etc.

Additional Recommendations

- **2018 Farm Bill Opportunities**
  - **Integrate ANRC watershed management programs with USDA watershed-level focus**
  - **Emphasis on soil health, carbon sequestration, and environmental markets**
  - **Increased emphasis on Conservation Practice Standard technologies and standard practices**
  - **RCPP emphasis on Gulf of Mexico**

Influencing Implementation

Influencing Implementation*

Domain	Motivation	Ability
Personal	Links to Values and Personal Benefits	Training, Skill Building
Social	Peer Pressure	Social Support
Structural	Rewards, Accountability	Change The Environment

* Grenny et al. 2013. Influencer: The New Science of Leading Change

Pasture Management Practices*

Domain	Motivation	Ability
Personal	•Better pasture/forage quality •Increased rate of gain •Reduced hay feeding •Sustain water supply •Cost-share programs	• Grazing land conf. •Field days •YouTube/other videos •Grazing stick • NRCS tech assistance • AR Coop Ext.
Social	•Leaders implementing practices •Cattleman of the Year Award	•Grazing land coalition •Field days •Rancher to rancher exchanges •Conferences

Pasture Management (Con't)*

Domain	Motivation	Ability
Structural	•EQIP funding •RCPP funding •319 funding •USFWS CALF funding	•Grow grass, not algae campaign •Grazing stick •Promote 2 strand electric fence •4-5 forage paddocks •Stockpile paddock •Alternative water supply

*Simultaneous actions, not either-or.

Potential Funding Sources

- ANRC 319 Program – Conservation Districts
- NRCS EQIP – Individual Landowner
- FSA CRP – Individual Landowner
- NRCS MRBI – Individual Landowner
- NRCS RCPP – Conservation Districts
- USFWS Controlled Access Livestock Fencing (CALF) Program – Individual Landowner
- TNC – Individual Landowner
- AP&T – Small municipalities
- AFC – municipalities, organizations

Not Starting From Scratch

- County Conservation Districts & NRCS
  - Izard County
    - Nutrient management plans
    - Pasture/hay planting
    - Prescribed grazing
  - Stone County
    - Pasture/hay planting
    - Stream access with alternate water
    - Pasture aerator

Not Starting From Scratch

- County Conservation Districts & NRCS
  - Baxter County
    - Nutrient management plans
    - Stream access with alternate water
  - Marion County
    - No-till drill
  - Independence County
    - RCPP project

Next Steps

- Meeting Summary – distributed to everyone attending and on email list (or address)
- Continue to elicit your input
- Submit final draft plan to ANRC
- ANRC submits final draft plan to EPA for acceptance
- Address EPA comments
- Implement the Middle White River WMP

Middle White River Watershed

- **Excellent Candidate for Watershed Management**
  - **Good condition overall**
  - **Known management practices to address specific issues**
- **Cost of Protection << Cost of Restoration**
  - **Valuable ecosystem services**
  - **Quality of life**

Questions
&
Comments

Points of Contact

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Thank You

ATTACHMENT 3 – SUMMARY OF MEETING DISCUSSIONS, QUESTIONS, AND RESPONSES

Calico Rock, AR March 26, 2019

Comment: Suggest agencies consider providing tax cuts to landowners and producers who implement practices that provide ecosystem service benefits to people downstream and society at large, to acknowledge their contribution.

Response: There are some programs that give credit, to a degree, to practices implemented outside of funding programs, such as the NRCS Conservation Security Reserve program. ANRC programs also provide tax credits for some activities like restoring or creating wetlands, and switching from groundwater to surface water for irrigation in the Delta. Emphasis on source water protection under the 2018 Farm Bill, and the ecosystem services study recommended in the plan also address acknowledging the benefits of practices already in place, to a degree. Creating new tax credit programs is outside the purview of this plan.

Comment: Suggest tax credit programs be included in the plan.

Response: They are (Section 6.4.3.7).

Question: There is funding to install practices like fencing and alternative water supplies, but what happens when a flood comes through and washes all of that away? Is there funding to replace them?

Response: Ms. Whiteside, NRCS Grassland Specialist, stated there usually is not enough funding to replace structures. NRCS tries to take things like floodplains into account when designing and siting structural practices. For example, two-strand electric fencing usually suffers less damage from flooding, and alternative water supplies can often be installed outside of floodplains, or can possibly be constructed of heavier materials less likely to wash away or be damaged. NRCS is aware that this can be an issue.

Question: When do you expect the monitoring recommended in the plan to begin?

Response: Once the plan is accepted by EPA, the recommendations in the plan, including monitoring, can begin. ADEQ is expected to monitor roving stations in the Middle White River watershed in 2024. The ANRC FY2019 proposed funding package, which is not yet approved, has funds allotted for Arkansas State University (ASU) to conduct water quality monitoring at six sites in this watershed, collecting 10 – 14 samples per year, over 3 years. The purpose of this monitoring is to establish a water quality baseline, so it will be possible to evaluate if practices implemented through the plan have an effect on water quality. The Middle White River watershed has fewer water quality monitoring stations than the other watersheds for which ANRC has prepared management plans. As a result, ANRC is allocating roughly 1/3 of the Nonpoint Source Management Program budget to collecting water quality data for this watershed.

Question: Where will these water quality stations be located?

Response: Specific locations have not been decided yet. We want the stations located on White River tributaries, at the pour point, i.e., as close to where the tributary runs into the White River as is feasible. Accessibility has to be considered. ANRC will be working with Dr. Bouldin at ASU to settle on monitoring locations.

Question: You have to monitor water quality for 3 years before you can determine the water quality?

Response: There can be a lot of variability in water quality from year to year, and season to season due to weather and flow variations. So, collecting data for 3 years, we hope to measure water quality over a variety of conditions to establish our baseline. To be able to see if water quality is changing takes a longer period of water quality monitoring. In as little as 7 years, you may be able to see changes in a water quality record. However, there are locations where ANRC has been managing water quality monitoring for 10 to 20 years, and only recently are water quality trends (i.e., changes) becoming apparent.

Question: Good to hear that more water quality monitoring is planned in this watershed. Can stakeholder monitoring, such as Stream Teams, help? Perhaps stakeholder data could act as a coarse filter to indicate where there could be an issue and agency monitoring is needed?

Response: Yes, information from stakeholder monitoring is helpful. However, data from Stream Teams is not qualified for use in officially assessing whether water quality standards are being met. That being said, there are some very important stakeholder monitoring programs in the state, for example the annual Secchi survey on Beaver Lake conducted largely by stakeholder volunteers. Stakeholder volunteers with the Illinois River Watershed Partnership have participated in important water quality and habitat surveys in the Illinois River watershed.