



# Arkansas Natural Resources Commission



Bruce Holland  
Executive Director

101 East Capitol, Suite 350  
Little Rock, Arkansas 72201  
<http://www.anrc.arkansas.gov/>

Phone: (501) 682-1611  
Fax: (501) 682-3991  
E-mail: [anrc@arkansas.gov](mailto:anrc@arkansas.gov)

Asa Hutchinson  
Governor

## Arkansas Natural Resources Commission's Development of the Buffalo River Watershed Management Plan Second Stakeholder Meeting March 30, 2017: Jasper, AR Meeting Summary

The Arkansas Natural Resources Commission (ANRC) sponsored a second stakeholder meeting as part of the development of a voluntary, non-regulatory watershed management plan for the Buffalo River. The meeting was held in Jasper on March 30, 2017. The meeting agenda is included as Attachment 1. Approximately 65 individuals attended the meeting, including farmers, landowners, and political representatives, as well as individuals from agricultural, conservation, recreational, and other interests groups, and employees from state and federal agencies.

At the direction of Governor Asa Hutchinson, the Beautiful Buffalo River Action Committee was organized to establish an Arkansas led approach to identify and address potential issues of concern in the Buffalo River watershed, including the development of a voluntary, non-regulatory watershed management plan for the Buffalo River watershed.

The meeting was facilitated by FTN Associates, Ltd. (FTN), an engineering and environmental consulting firm headquartered in Little Rock. The Arkansas Natural Resources Commission contracted FTN to assist the agency with the development of the Buffalo River Watershed Management Plan. The process will be completed by June of 2018.

The meeting was initiated by summarizing the results of the December 2016 meeting in Marshall. A copy of the presentation can be found in Attachment 2 below. One of the primary outcomes of the Marshall meeting was stakeholder identification of water quality and other issues within the Buffalo River watershed. These issues served as a focus for stakeholder discussion of management practices that might be implemented to ameliorate these issues.

Following the summary presentation, attendees broke into two large groups to allow meeting participants to identify management practices that might be implemented within the Buffalo River watershed to address the issues identified in Marshall. The emphasis was on management practices to address water quality concerns or issues, but participants were free to also identify other management activities or actions to address other watershed issues. The two groups consisted of: Agriculture/Commerce/Local Communities, and Tourism/Recreation/Environment interests. Individuals could stay in one group or participate in both groups.

After about one hour of the group sessions, attendees came back together and FTN personnel reported on the management practices identified by each group. Management practices identified

by participants in the two groups are listed in Attachments 3 and 4. Attendees were also encouraged to provide information on other management practices, activities or actions in the watershed to FTN or ANRC any time after the meeting or at a later date. Contact information for FTN and ANRC project personnel was provided (See contact information below).

Following the stakeholder discussions of management practices, FTN discussed preliminary analyses that were conducted to help identify a set of subwatersheds within the Buffalo River watershed that currently appear to be susceptible to change or where changes have been occurring over the past 30 years and where the initiation of additional implementation of management practices could reduce this susceptibility and/or ameliorate these changes (See Attachment 2).

These analyses considered:

1. An Index of Biotic Integrity (IBI) for fish, and a Stream Condition Index (SCI) for macroinvertebrates (bugs) monitored by the National Park Service at 6 sites in the Buffalo National River and at 26 sites in its tributaries;
2. Water quality measurements over 30 years at 9 sites within the Buffalo National River and 20 of its tributaries (turbidity+nitrate+nitrite-N, ortho-phosphate-P, and fecal coliforms were the four constituents analyzed);
3. Nitrate, ortho-phosphate, and fecal coliform loadings for these same water quality sites;
4. Trend analyses considering three 10-year periods (1985-1994, 1995-2004, 2005-2015) for the water quality constituents;
5. 2016 USDA Natural Resource Conservation Service (NRCS) Resource Concern Assessment of the 37 subwatersheds within the Buffalo River watershed for 8 potential concerns (sheet/rill erosion, gully formation, streambank erosion, sedimentation, nutrients, pathogens, petroleum/heavy metals, and pesticides and herbicides); and
6. Percentage of the subbasin or subwatershed with underlying carbonate bedrock.

Subwatersheds were considered of higher interest for initiating additional management practices if:

1. IBI or SCI scores were less than a threshold score;
2. Median water quality constituent concentrations were in the upper quartile of the range over 30 years;
3. Water quality constituent loads were in the upper quartile over the last 10 years;
4. Statistically significant trends in water quality constituent concentrations were observed;
5. NRCS Resource Concern scores were in the upper quartile; and
6. Underlying carbonate bedrock constituted greater than 60% of the subwatershed.

Cumulative scores for each of the above mentioned criteria for each subwatershed were computed. The subwatersheds that received the highest cumulative ranking, listed in upstream to downstream order, were:

- Ponca & Whiteley Creek
- Mill Creek\*

- Davis Creek
- Calf Creek\*
- Bear Creek\*
- Brush Creek\*
- Tomahawk Creek
- Water Creek

\* Highest ranked subwatersheds.

The middle Big Creek subwatershed was analyzed using the same process, but it did not achieve the highest rankings, therefore it wasn't listed. Stakeholders attending the meeting expressed a strong interest in this subwatershed and requested it be included in the list of highly ranked subwatersheds. If there is stakeholder consensus, this subwatershed will be added to the list as a stakeholder-interest subwatershed. Several stakeholders also requested that dissolved oxygen and E. coli water quality parameters be included in the rankings of streams. These two constituents will be analyzed and used in screening subwatersheds.

There were two question and answer sessions: one during/after the summary presentation of the watershed management plan process during the first portion of the meeting; and a second after the preliminary screening analyses were presented.

A summary of the questions and responses is included in Attachment 5. Not all questions raised are listed because several questions addressed the same subject.

The information gathered at the Jasper meeting will be integrated with additional information obtained through analysis and research and used in developing a draft watershed management plan for the Buffalo River watershed. This process will occur over the next 8-12 months.

The next watershed meeting will be held in mid to late June and is currently scheduled to be in Marshall, AR. Its purposes will be to:

1. Summarize the results of the Jasper meeting;
2. Provide results from the additional analyses suggested by stakeholders at the Jasper meeting;
3. Present suggested management goals, costs and benefits of implementing the suggested, and additional, management practices in the highest ranked watersheds;
4. Provide information on agencies, organizations, and educational institutions that offer technical and financial assistance to stakeholders interested in voluntarily implementing management practices; and
5. Describe the next steps in the planning process.

For additional information or to provide additional questions, contact:

- ANRC, Tony Ramick ([tony.ramick@arkansas.gov](mailto:tony.ramick@arkansas.gov)) or (501) 682-1611); or
- FTN Associates, Terry Horton ([twh@ftn-assoc.com](mailto:twh@ftn-assoc.com)) or (501) 225-7779).

**Attachment 1**  
**Buffalo River Watershed Management Plan:**  
**A Voluntary, Non-Regulatory Project**  
**Carroll Electric Community Room**  
**Jasper, AR**  
**30 March 2017**  
**Agenda**

<b>Time</b>	<b>Topic</b>	<b>Individual</b>
1:00 pm	Welcome, Meeting Purposes: <ul style="list-style-type: none"> <li>• Summarize the Marshall Meeting and Watershed Issues</li> <li>• Elicit stakeholder input on management practices to address issues within the Buffalo River watershed</li> <li>• Describe a process to identify where to start implementation of management practices</li> <li>• Discuss next steps</li> </ul>	K. Thornton, FTN
1:05	Summarize the 8 December Marshall Meeting <ul style="list-style-type: none"> <li>• Watershed Management Plan and planning process</li> <li>• Issues raised by stakeholders</li> <li>• Questions</li> </ul>	K. Thornton
1:40	Breakout Groups <ul style="list-style-type: none"> <li>• Dialogue on watershed management practices to address issues</li> <li>• Two Groups <ul style="list-style-type: none"> <li>- Agriculture/Commerce/Local Communities</li> <li>- Tourism/Recreation/Environment</li> </ul> </li> </ul>	ALL
2:25	Report Out <ul style="list-style-type: none"> <li>• Agriculture/Commerce/Local Communities (10 min)</li> <li>• Tourism/Recreation/Environment (10 min)</li> </ul>	ALL
2:45	Process for Identifying Where to Initiate Management Practices, Considering: <ul style="list-style-type: none"> <li>• Biology</li> <li>• Water quality</li> <li>• Land use</li> <li>• Karst geology</li> <li>• Cumulative scores</li> </ul>	K. Thornton
3:25	Next Steps	K. Thornton
3:30	<b>Adjourn</b>	

**Contacts:**

Tony Ramick, ANRC – [Tony.Ramick@arkansas.gov](mailto:Tony.Ramick@arkansas.gov); Terry Horton, FTN – [tw@ftn-assoc.com](mailto:tw@ftn-assoc.com)

# **Buffalo River Watershed Management Plan: A Voluntary, Non-Regulatory Project**

**2nd Stakeholder Meeting  
Jasper, AR  
30 March 2017**

## **Meeting Purposes**

- **Summarize the Marshall Meeting**
- **Elicit Your Input On Management Practices to Address Issues Within The Buffalo River Watershed**
- **Describe the Screening Process for Identifying Places to Start**
- **Discuss Next Steps**

## 8 December Marshall Meeting

- **Beautiful Buffalo River Action Committee (BBRAC)**

- **Mission – Identify and address potential issues of common concern in the Buffalo River Watershed**
- **5 Agencies (ADEQ, ANRC – Co-Chairs)**
- **1<sup>st</sup> Year – Develop Watershed Management Plan**
- **Identify/implement early actions**

## 8 December Marshall Meeting

- **Watershed Management Plan**

1. **Water Quality Emphasis**
  - ❖ **Extraordinary Resource Water**
2. **Nonpoint Sources – non-regulatory**
3. **Voluntary participation**

## 8 December Marshall Meeting

- **Watershed Management Plan**

- **Focus on sustaining and improving water quality**
- **Does not address regulated/permitted facilities or operations (BBRAC Issue)**
- **No requirement to participate**
  - ❖ **Are benefits of participating**

## Watershed Planning Process

1. **Building partnerships**
2. **Characterizing the watershed**
3. **Mgt goals, practices, measures, actions**
4. **Design implementation program**
5. **Implement the WMP**
6. **Measure progress – adaptive mgt.**

## Stakeholder Input

- **5 Meetings:**
  1. **Watershed Issues (Marshall)**
  2. **Management practices, measures, actions, awareness, outreach suggestions (Today)**
  3. **Costs, financial/technical assistance, benefits,**
  4. **Draft plan recommendations, comments**
  5. **Final plan and implementation**
- **Correspondence, BBRAC, reports, studies, etc.**

## Marshall – WQ Issues

### In-Stream

- Excess nutrients (N, P)
- Algae
- Streambank erosion
- Sedimentation
- Gravel-mining
- Livestock in stream
- Bacteria
- Trash
- Invasive species
- Human waste (users)

### Watershed Contributions

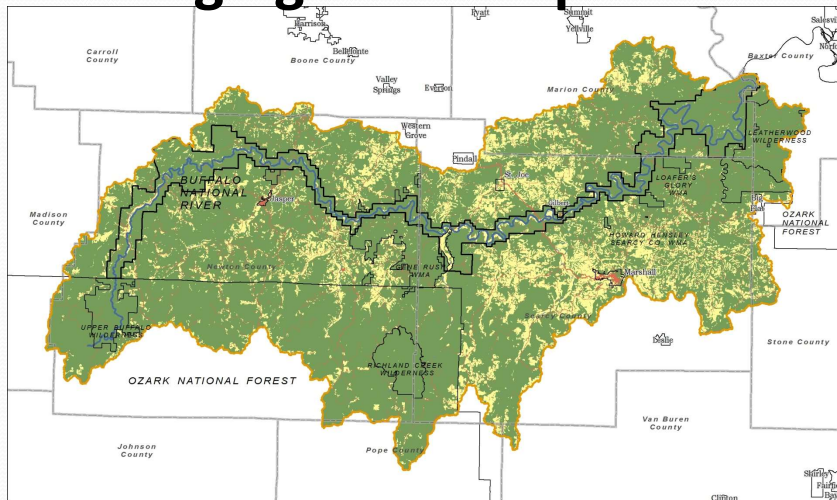
- Septic systems
- Manure/litter
- Fertilizer application
- Dirt/gravel roads
- Easement maintenance
- Timberland mgt
- Feral hogs
- ATV use
- Sawdust disposal
- Development



## Marshall – Other Issues

- Permitted CAFO
- Groundwater transfers
- Limited job opportunities, economic development
- Prescribed burns
- Respect for local culture, lifestyle
- Property rights
- Tourism infrastructure
- Education & communication - all
- Agency credibility
- Drug resistant bacteria
- Over-use
- Increased coop of fed. agencies & local gov't.
- New technology for waste mgt.

## Managing for Multiple Values



## Today's Activity

- **Watershed Management Practices**
  - **Emphasis on Water Quality Issues, But Other Thoughts Welcome**
- **Breakout Groups**
  - **Facilitated dialogue**

## Breakout Groups

- **Two Breakout Groups for Dialogue**
  - **Agriculture/Commerce/Local Communities**
  - **Tourism/Recreation/Environment**
- **Dialogue for 45 minutes**
- **Report out and discuss management practices**

## Meeting Ground Rules

1. One stakeholder at a time
2. Request acknowledgement
3. Listen first to understand, then to be understood
4. Please don't interrupt
5. Respect others ideas, thoughts
6. Ok to disagree – respectfully, openly
7. No side conversations

**Cell Phones off/on vibrate**

## Breakout Groups

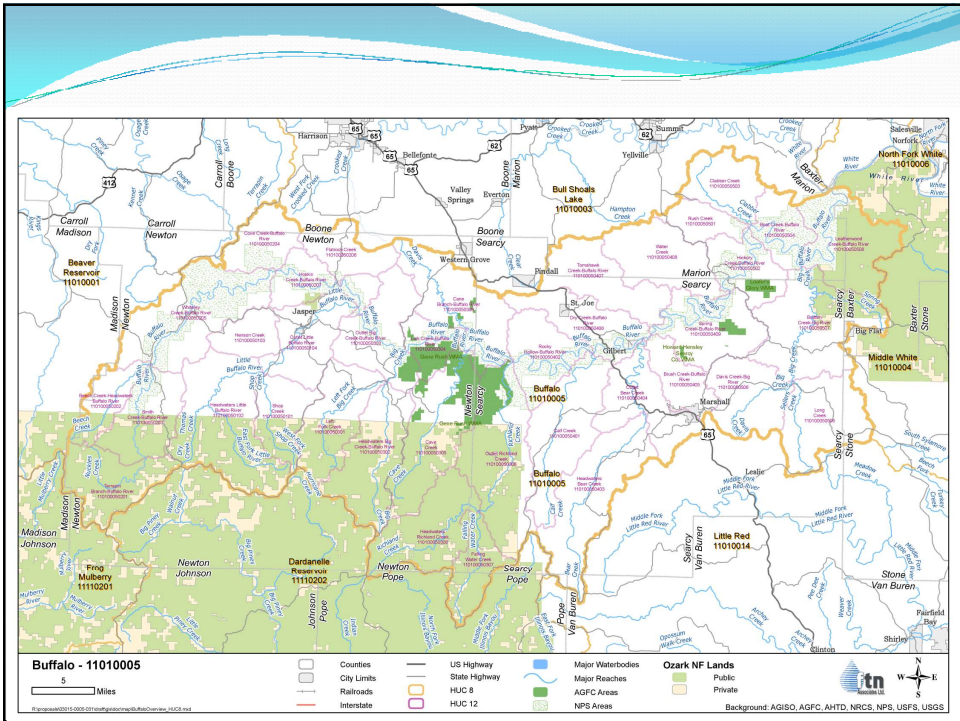
- **Agriculture/Commerce/Local Comm.**

**One Corner of Center**

- **Tourism/Recreation/Environment**

**Opposite Corner of Center**

# Report Out



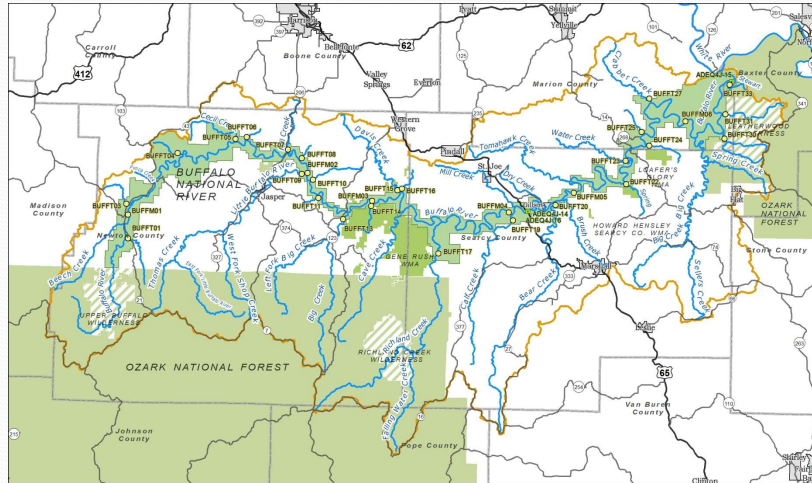
## Where To Start?

- **1<sup>st</sup> Principles:**
  - If everything's a priority; nothing's a priority
  - Water runs down hill
  - Streams reflect their watersheds
- **37 HUC12 subwatersheds => Smaller number**
  - Screening process and criteria

## Where To Start?

- **Screening Criteria – In Progression**
  - Stream biology – Integrators
  - Water quality – Affects biology
  - Land use – Affects water quality
  - Karst geology – Affects water quality
- **Intersection of multiple criteria – Both/And**

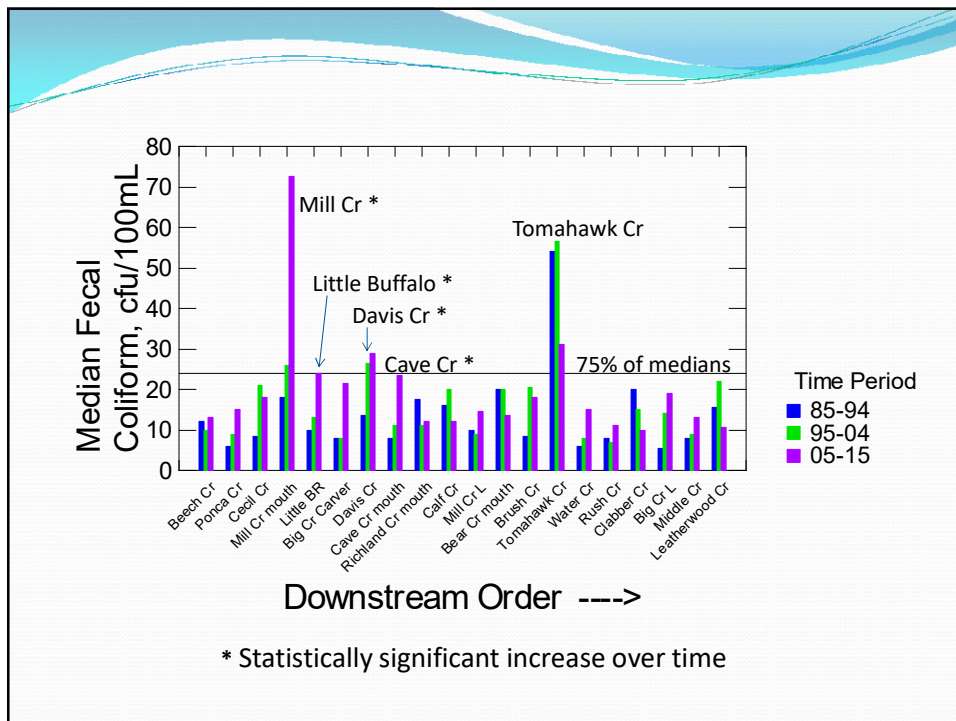
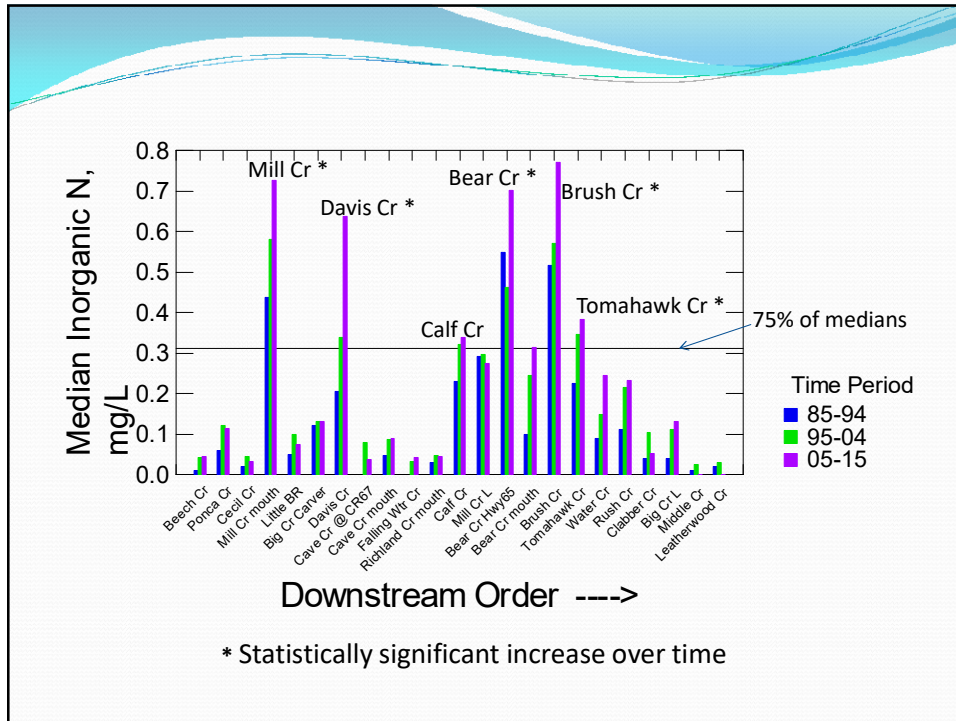
## Biological Monitoring Sites



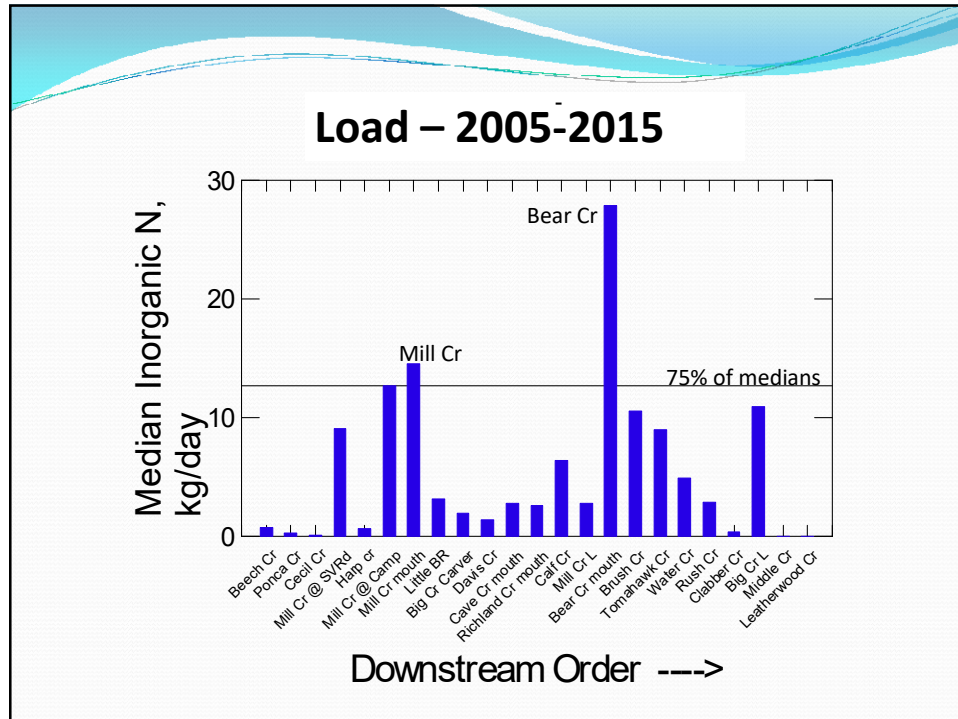
## Fish and Bugs

- **SCI < 16 (Benthic Bugs)**
  - Mainstem – None (2013)
  - Hoskin (Glade) Cr
  - Richland Cr
  - Davis Cr
  - Calf Cr
  - Water Cr
  - Hickory Cr
  - Clabber Cr
  - Middle Cr
  - Leatherwood Cr
- **IBI < 70 (Fish)**
  - Mainstem – Ponca
  - Whiteley (Ponca) Cr
  - Brush Cr
  - Hickory Cr
  - Middle Cr
  - Leatherwood Cr









## Sum WQ Scores

- **WQ (Upper 25%) + Load (Upper 25%)**
  - **Mill Creek**
  - **Cave Creek**
  - **Davis Creek**
  - **Calf Creek**
  - **Bear Creek**
  - **Dry Creek**

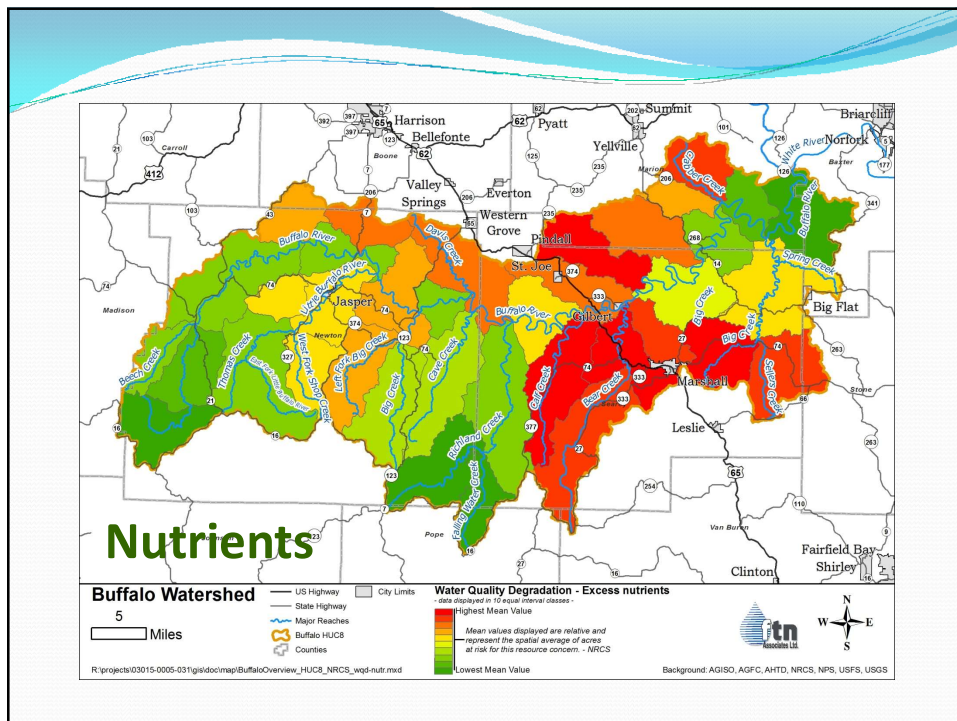
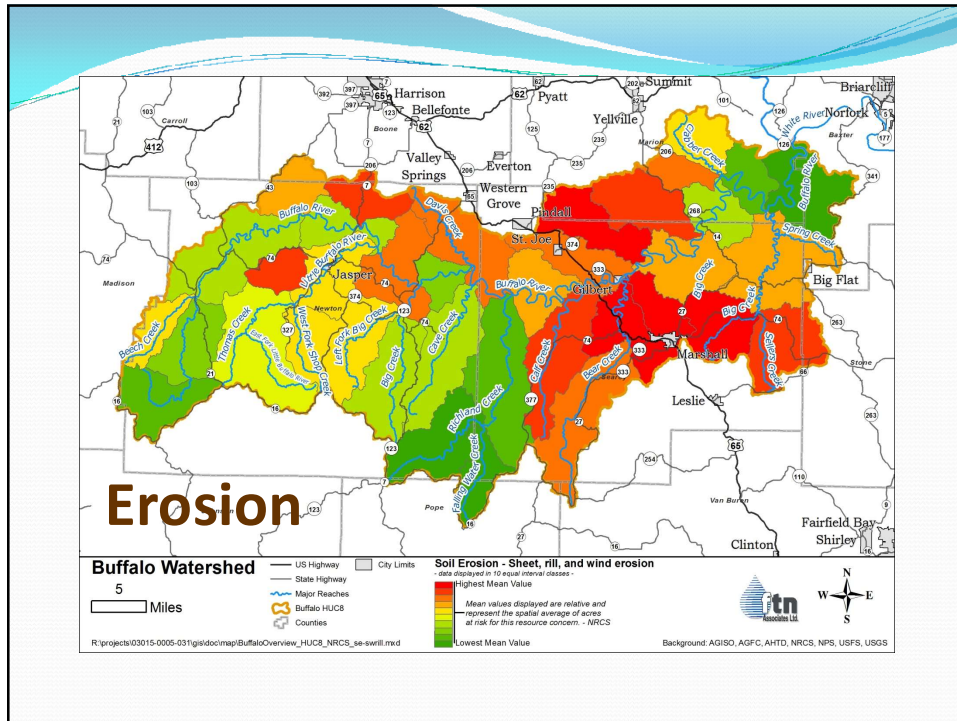
## Increasing Trends

- Little Buffalo River
- Smith Creek
- Whiteley Creek
- Mill Creek
- Cave Creek
- Davis Creek\*
- Bear Creek
- Brush Creek
- Tomahawk Creek
- Water Creek

\* 3 Constituents

## NRCS Resource Concerns Assessment

- Sheet and Rill Erosion
- Gully Formation
- Bank Erosion
- Sedimentation
- Nutrients
- Pathogens
- Pesticides
- Heavy Metals



## Sum Resource Concerns

### Upper 25% for $\geq 5$ concerns

- Mill Creek
- Calf Creek
- Bear Creek
- Brush Creek
- Tomahawk Creek
- Water Creek
- Clabber Creek
- Long Creek
- Big Creek (Lower)

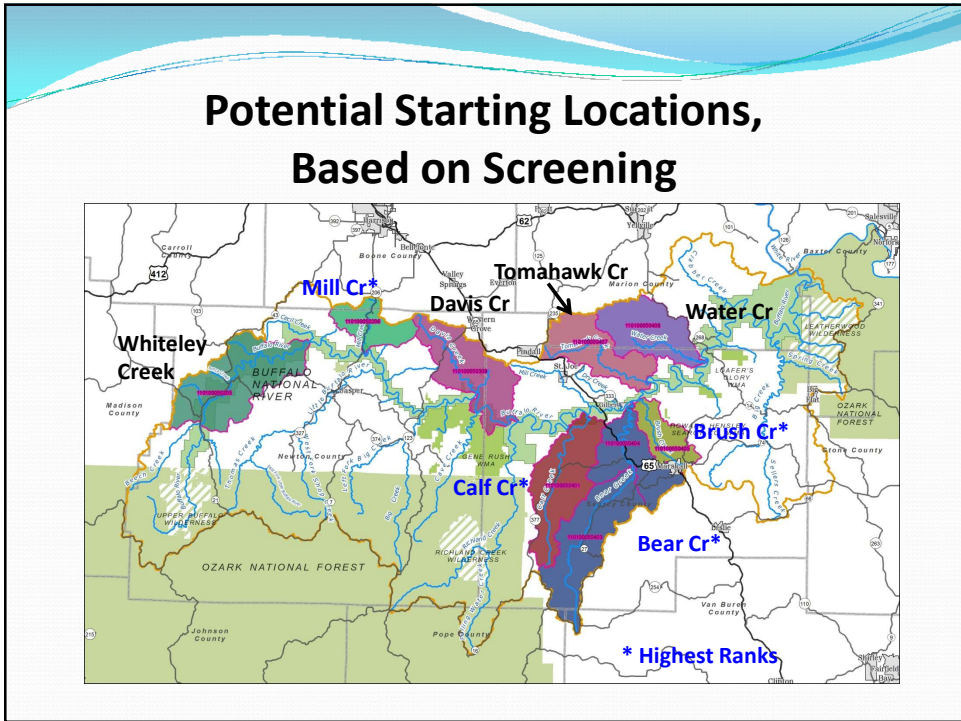
## Carbonate Bedrock - USGS

- Greater Than 60% of Subbasin
  - Mill Creek
  - Davis Creek
  - Brush Creek
  - Tomahawk Creek
  - Water Creek
  - Rush Creek

## Total Cumulative Scores – Initial Start

- **Subwatersheds – HUC12 Pour Point**
  - Ponca & Whiteley Creek
  - Mill Creek\*
  - Davis Creek
  - Calf Creek\*
  - Bear Creek\*
  - Brush Creek\*
  - Tomahawk Creek
  - Water Creek

\*Highest ranks



## Screening Process Caveats

- **Not Exclusionary**
  - Place to start **ONLY**.
  - Additional management practices positive, and encouraged, in any subwatershed
- **Continue to Evaluate**
  - Add new information as becomes available (e.g. SCI in April)
  - Sites could change with additional information

**Questions on the  
Screening  
Process?**

## Next Steps

- Meeting Summary – distributed to everyone attending and on email list (or address)
- Continue to elicit your input
- Cost/benefits – management practices
- Schedule next meeting; likely in June
- Next meetings topic
  - Integrated practices, estimated costs, financial and technical assistance available

## Points of Contact

Tony Ramick, ANRC  
Tony.Ramick@arkansas.gov  
(501) 682-3914

Terry Horton, FTN  
twh@ftn-assoc.com  
(501) 225-7779





## ATTACHMENT 3

### Agriculture/Commerce/Local Communities Break-Out Group Management Practices Mentioned by Participants

1. Consider soil depth in nutrient application
2. Investigate mass balance of nutrients, including:
  - Import or export of litter for use in the watershed
  - Consider 7 counties
3. Implement State Dirt Roads practices
4. Create greenbelt buffers between pasture/stream
5. Pave dirt roads, particularly Tomahawk Church Road
6. Determine how much litter is imported to Buffalo from Nutrient Surplus areas
7. Don't allow nutrients in excess of agronomic need
8. Encourage corporations to regulate their growers
9. Consider quotas on River use
10. Promote better timber management – prescribed burns
11. Create a State/Federal Task Force to control feral hogs
12. Conduct source tracking for E coli, etc.
13. Promote awareness and outreach for pasture management
14. Conduct an economic analysis of Park – cost vs benefits
15. Develop environmental stewardship programs for visitors
16. Donate to Project to help the Watershed
17. Prepare an economic development plan for basin
18. Practice erosion control on forested hillsides
19. Promote these forest management practices to smaller owners
20. Educate/cost share in replacing old septic systems
21. Promote a suite of BMP practices for land owners.
22. Create a mentorship program to promote small business
23. Create a Watershed COOP
24. Consider nutrient trading when regulations finalized.
25. Develop a tradeoff/offset or mitigation bank for development (e.g., parking lot ↔ natural area)
26. Develop Arkansas Eco-tours
27. Promote streambank restoration - /stabilization for small landowners; model after IRWP – mapped areas
28. Implement soil BMPs

## ATTACHMENT 4

### **Tourism/Recreation/Environment Break-Out Group** **Management Practices Mentioned by Participants**

1. Form a destination management organization for marketing the region.
2. Work with AGFC to control feral hogs
3. Don't publicize the Buffalo; promoting over-use
4. Develop more visitor contact centers,
5. Investigate ways of generating additional financial resources
6. Promote public – private business partnerships
7. Promote quail habitat management – benefits water quality and land owner
8. Capture real time data on campgrounds, rentals, etc. so can eliminate over-crowding
9. Market and manage visitor expectations and experiences
10. Construct farm ponds to control sedimentation and loading
11. Consider nutrient trading when regulations finalized.
12. Create mitigation bank for development
13. Create Economic “Zone” – fees, tags for counties, as source of revenue
14. Consider redistribution of funds (e.g., sales taxes) for infrastructure, wastewater, roads maintenance
15. Manage horse-use in watershed
16. Implement better road management, including paving, and maintain roads
17. Create a “Friends” group for the Buffalo National River
18. Approach legislature on license plate revenue – “Buffalo National Park” plate
19. Promote environmentally friendly businesses
20. Create an agri-tourism program
21. Respect all business interests, (Ag-tourism, etc.)
22. Promote Eco-tourism
23. Help local communities get grants/funds for decentralized waste treatment systems.
24. Promote carrying your own “portable potties” for larger groups on the river
25. Create incentives to remove abandoned septic systems
26. Map & prioritize needs in watershed by subwatersheds



# Arkansas Natural Resources Commission



**Bruce Holland**  
Executive Director

101 East Capitol, Suite 350  
Little Rock, Arkansas 72201  
<http://www.anrc.arkansas.gov/>

Phone: (501) 682-1611  
Fax: (501) 682-3991  
E-mail: [anrc@arkansas.gov](mailto:anrc@arkansas.gov)

**Asa Hutchinson**  
Governor

## ATTACHMENT 5

### Questions Raised at the Jasper Meeting and Responses

**Question:** Please explain point source vs non-point source

**Response:** We have used point vs non-point sources in the past, because most people relate to point sources being a discharge from a pipe (i.e., a specific point). It is more accurate to refer to permitted vs non-permitted sources. Some non-point sources can be permitted for only certain activities, which means they are regulated activities. The watershed management plan addresses only non-permitted activities, because it focuses on voluntary, non-regulatory participation.

**Question:** Who are the Stakeholders?

**Response:** We consider stakeholders to be people who live in, work in, or visit the area, and those who avail themselves of the amenities in the watershed.

**Question:** Why is the list of issues in the summary of the last meeting different from what is on the slide?

**Response:** The summary list was consolidated from each of the groups list to eliminate duplication.

**Question:** Will the results of this plan be used to avoid making the hard regulatory decisions?

**Response:** This plan is not intended to be regulatory in nature – it is a voluntary, non-regulatory plan to assist stakeholders with obtaining assistance (financial and/or technical) to improve things in the watershed.

**Question:** In the next meeting you will talk about funding sources – where would most of the funds come from?

**Response:** Funds for watershed management practices have typically been available from the USDA NRCS Environmental Quality Improvement Program (EQIP) and Farm Services Agency Conservation Reserve Program (CRP), EPA Section 319 program administered through ANRC, USFWS Confined Livestock Access Fencing (CALF), The Nature Conservancy through the

unpaved roads program, and similar agencies and organizations. In addition to funds, there are also technical assistance and educational opportunities available.

**Question:** You mentioned that there was only 1 stream segment listed on the 303d list, but there are three stream segments listed on the 2008 303d list – the latest official list?

**Response:** In the latest (2016) draft 303d list two of the streams segments are no longer listed because data collected from these stream segments since 2007 meet all numeric water quality criteria.

**Question:** What water quality data are you referring to for these analyses?

**Response:** We are using water quality data collected by US Geological Service (USGS), Arkansas Department of Environmental Quality (ADEQ), and National Park Service.

**Question:** What is the period of data that you are looking at?

**Response:** Three 10-year periods – 1985 – 1994, 1995-2004, and 2005-2015.

**Question:** It would be useful if you included a map of the density of humans and animals in each sub-watershed.

**Response:** These data are only available at the county level and not available at the sub-watershed level. There is population density available at the township level, but it is still difficult to apportion by subwatershed. In general, the population density throughout the Buffalo River watershed is relatively low. Livestock data are not available at the subwatershed level, only at the county level.

**Question:** Why did you not include E. coli and dissolved oxygen (DO) in the water quality parameters?

**Response:** DO concentrations vary throughout the day, so sampling time affects results. We initially did review the DO data, and did not see major changes in concentrations. We will conduct the DO analyses as we have with the other water quality constituents and include these results in our screening analyses. We did not include E. coli data because we had 30 years of fecal coliform, a similar indicator of bacteria. E. coli data have only been collected since about 2005 or 2006. We will include E. coli medians for the period of record and include these as part of our screening analyses.

**Question:** What nutrients were looked at? What was the last year included?

**Response:** The two nutrient species were nitrate+nitrite-N and ortho-phosphate-P. These data were considered from 1985 through 2015.

**Question:** Why did you use carbonate bedrock as an indication of karst topography, why not look at the Boone formation?

**Response:** We did not want to restrict the area to the Boone formation – there are other karst formations in the watershed. Most of the fractures of concern occur in carbonate bedrock, regardless of the formation.

**Question:** What biological data sets were used?

**Response:** We used the benthic (bug) and fish data collected through the NPS Heartland Inventory and Monitoring Network. This network includes not only the Buffalo River watershed, but also other watersheds in the MO and AR Ozarks

**Question:** Were most of the measurements taken during base flow? Most of the nutrient loading occurs during storm flow – that has been missed.

**Response:** Agreed. Most of the loading does occur during storm events. However, storm event data, except for very short periods, was not available. One of the recommendations might be to monitor some storms. Monitoring storm events in a watershed the size of the Buffalo River watershed, however, is labor and resource intensive.

**Question:** Were you aware of the problems and the lower detection limits for the ortho-phosphate data? In 2012 ADEQ raised the detection limits for some parameters. Can we ask the agency to change the detection limits for sampling on the Buffalo?

**Response:** We were aware of the lower ortho-phosphate detection limits prior to 2004, when ADEQ changed to another method. This is why we considered only ortho-phosphate data during the last 10 year period (2005-2015). We were not aware the detection limit was changed in 2012 and will investigate that change. We can certainly ask for a lower detection limit.

**Question:** Where is Big Creek on your list of watersheds to start with? The reason many people are here is because of the concern over Big Creek.

**Response:** Big Creek subwatershed did not rank as high as other watersheds based on the screening criteria we used. This is a stakeholder-driven watershed management plan. If Big Creek is a subwatershed that should receive higher consideration, we will add it for further consideration. We will list the subwatersheds of interest from upstream to downstream.

**Question:** Big Creek just became an issue recently. Therefore, it may not have the impacts showing up yet in the data.

**Response:** The watershed management plan is a living document. If issues with Big Creek or the Little Buffalo arise, these subwatersheds can be added. We indicated we would add Big Creek to the list for further consideration because of stakeholder interest

**Question:** Why did you not look at the data on a finer grid?

**Response:** The watershed management plans developed through ANRC have all focused on the 12-digit hydrologic unit code. The HUC12 subwatershed is consistent with implementing management practices at a scale that can make a difference in improving water quality, but also at a scale at which these results can be observed within a reasonable time frame. This is a voluntary program for land owners who are interested in implementing management practices, and does not highlight or target specific land parcels.

**Questions:** You said this is a starting point. Starting point for what?

**Response:** A starting point for where to consider the initial implementation of other management practices. This is not intended to be a restrictive or exclusionary list. Any management practices implemented can produce positive results. This is a voluntary program. The screening analyses were an approach for initially identifying subwatersheds that appear to be susceptible to future change or in which increasing trends in constituents are occurring. Voluntary implementation of management practices in these subwatersheds might help reduce these trends and/or susceptibility of change.

**Question:** Will any of the recommendations include source tracking? We would like to recommend source tracking including DNA tracking and source isotopes.

**Response:** If stakeholders are interested in source tracking, this study can be recommended. Source tracking, however, is fairly expensive and does require sophisticated analyses.

**Question:** Would source tracking testing be covered under 319 funding?

**Response:** Unfortunately, no.

**Question:** Can more sophisticated instruments be used?

**Response:** Yes, but more sophisticated instrumentation is also results in more expensive analyses.

**Question:** Where will the next meeting be?

**Response:** In Marshall near the end of June.

**Question:** Do you have experience with other WMPs? How did they work? Do you have any success stories?

**Response:** ANRC documents those management practices and watershed management activities that have made a difference and improved water quality. Check out [www.arkansaswater.org](http://www.arkansaswater.org) to find success stories from other watersheds that have management plans.

**Question:** Are questions here limited to the WMP or can we ask questions be passed along to the BBRAC?

**Response:** We have representatives from ANRC here. They are part of the BBRAC and questions can be provided to them for the BBRAC. Any comments we (FTN) receive concerning the BBRAC, we provide to ANRC.