PRODUCTIVE FORESTS PROTECTING WATER

ARKANSAS FORESTS & DRINKING WATER COLLABORATIVE

Arkansas SOURCE WATER PROTECTION

The Arkansas Forests and Drinking Water Collaborative is a loose collection of water utilities, forest industries, state and federal agencies and non-profit conservation associations. These entities work together to improve collaboration between the water and forest sectors for the benefit of both.

Through the work of the Collaborative, the Arkansas Forestry Commission received a $600,000 grant to establish the relative importance of watersheds (HUC-10 units) to local drinking water utilities and to provide technical assistance to private forest landowners in those watersheds for forest management planning.

The first step in implementing this grant was to prioritize watersheds for their importance to drinking water through GIS analysis.

GIS Data Analysis: Watershed Prioritization

Process:

1. Identify HUC-10s with Surface water intakes utilized for public supply or direct tributary watersheds.

2. Calculate % Forested land cover within identified HUC-10s.

3. Calculate value for population served by HUC10s.

4. Calculate Risk value within Identified HUC-10s (Wildfire, Insect, Development, Unpaved Roads)

5. Identify if each HUC-10 has stream or waterbody listed as impaired for nutrients or surface erosion in ADEQ's 303(d) list.

6. Perform final calculations with the prioritization formula using all values calculated through the GIS analysis.

7. Use other layers (Public Lands and AFC/NRCS program implementation data) to evaluate where implementation is most likely to be successful.

Data Layers:

- Drinking Water/Tributary Watersheds (HUC-10)

- Forest Land Cover (Cropland Data Layer)

- Risk Layers (Wildfire, Insect, Development, Unpaved Roads)

- ADEQ 303(d) Listed streams (Category 4)

- Other layers used to evaluate impact of implementation.

Prioritization Output:

- Three Priority areas identified:

    - Beaver Lake/Mulberry River

        (2 HUC-10s)

    - Hicks Creek/Middle White River

        (3 HUC-10s)

    - Ouachita Headwaters/Upper Ouachita River

        (2 HUC-10s)

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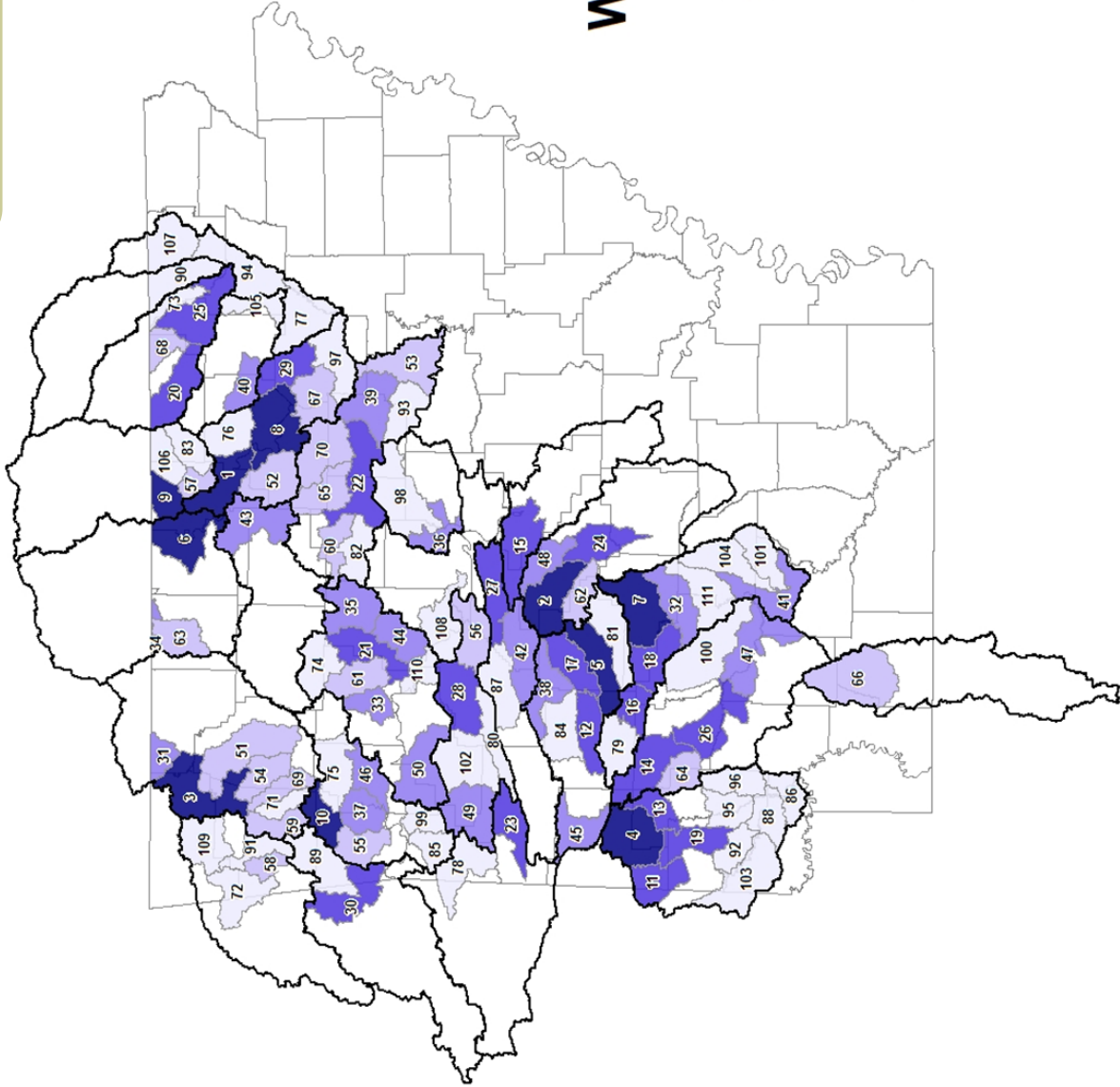
Watershed Prioritization by Rank

1 - 10	(Highest Priority)
11 - 30	
31 - 50	
51 - 70	
71 - 111	(Lowest Priority)