



# Arkansas Water Plan Update



## MEMORANDUM

**DATE:** 21 January 2014  
**TO:** Issues and Recommendations Work Group Members  
**FROM:** Arkansas Water Plan Planning Team  
**SUBJ:** Combined Issues Raised at the 14 January Statewide Meeting

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1. On 14 January, a statewide meeting was held to identify issues affecting the use of water within 5 planning regions across the state by different sector users. The sector groups that identified these issues included:
  - a. Agriculture – Irrigation + Livestock/Poultry/Aquaculture
  - b. Fish and Wildlife + Recreation
  - c. Thermoelectric + Industry
  - d. Public Water/Wastewater Providers
  - e. Municipal + County Government
  - f. Navigation
  - g. Conservation Districts
2. The attached is a combined list of water issues identified by these different sectors. This combined list will provide the foundation for discussion and prioritization in each of the five regions in February. Meeting dates and geographic location for these meetings are:
  - a. East Region – Jonesboro – 18 February
  - b. North Region – Mountain View – 19 February
  - c. West-Central Region – Russellville – 20 February
  - d. South-Central Region – Hot Springs – 24 February
  - e. Southwest Region – Texarkana – 25 February
3. An agenda with specific locations in each city will be provided in early February.
4. Each Issues and Recommendations Work Group member is asked to share these issues with their colleagues, identify any other issues, and bring these to the February meeting in your region.
5. If you have any questions or need more information, please contact:  
[ArkansasWater@cdmsmith.com](mailto:ArkansasWater@cdmsmith.com).  
or  
[tw@ftn-assoc.com](mailto:tw@ftn-assoc.com)
6. Additional information on the water plan can be found at:  
[www.arwaterplan.arkansas.gov](http://www.arwaterplan.arkansas.gov)

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Agricultural Irrigation + Livestock/Poultry/Aquaculture Sectors**

#### **Overarching Issue**

1. What is the best way to eliminate groundwater decline and move toward sustainable groundwater management?

#### **Water Quantity**

2. How will areas with surplus water be protected from losing their water to areas with a deficit?
3. Who has the right to use this surplus water?
4. Is there a map that shows the areas with surplus water vs areas with a deficit?
5. How is excess or surplus water defined? Where did the 25% come from for defining excess water? Can this percentage be changed?
6. Can the percentage used to define excess water be changed?
7. How can use of surface water over groundwater be made a priority?
8. Critical groundwater areas have been defined. Have groundwater surplus areas been defined, and if so, how?
9. How were minimum streamflows historically set for fish and wildlife and have these been changed?

#### **Economics**

10. What are the economic impacts of water use restrictions on agriculture, particularly groundwater restrictions?
11. What are the economic implications of changes in groundwater quality on agriculture?
12. What are the economic consequences of increased energy costs associated with drilling deeper wells to access groundwater for agriculture? When do you reach a point where it's too expensive to pump?
13. How will short term economic benefits be considered as part of the long-term economic consequences of some of these decisions?

#### **Funding and Incentives**

14. Will projects that are already on the books have priority for funding?
15. How will funding and priorities for capturing more surface water be determined?
16. Could regulations be tied to funding levels? If the funds aren't provided, could regulations be deferred until funds are available?
17. Will alternative funding approaches, such as bonds, be made available to fund agricultural water projects?
18. Will incentives for reducing water use be part of the plan instead of regulations?

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

19. Will funds be available for additional research on conservation practices, such as side-inlets or intermittent flooding that have significantly reduced water use for rice production?

### **Regulations**

20. Will practical, common sense considerations be used when making decisions on regulations, considering the importance of agricultural production in feeding the world?
21. Will we be proactive in proposing new water law or let the courts decide how we manage water?
22. How will agreements with other states affect the water plan? Not just for water quantity, but also water quality?
23. How will current statutory regulations be used in defining critical vs non-critical groundwater areas based on the modeling results?
24. Will the plan have an emphasis on non-regulatory approaches for reducing withdrawals?
25. How can the regulations impeding the creation of more surface water reservoirs (storage) be relaxed? Water shortages are a national issue.

### **Water Storage & Conservation**

26. What can be done to capture more surface water to increase supply? (We have spent ~ \$200 million on Grand Prairie et al and haven't seen a drop of water)
27. How can more above ground storage projects be constructed from on-farm storage reservoirs to other reservoirs of all sizes?
28. Can floodwaters in one area (e.g., urban/suburban areas), be stored for use in surrounding agricultural areas?
29. Will the plan emphasize the importance of on-farm storage for all agricultural practices, including livestock and poultry practices? There are significant economic savings for poultry producers that use surface vs groundwater.
30. Other states use aquifer storage and recovery to store water during high flows for reuse during low flows. Will AR do the research to see if this is feasible?
31. Water use does not equal water disappearance. How will return flow be estimated in the water plan in considering water availability?
32. What have we learned from other states, particularly TX, on how to handle droughts?
33. How can the gap analysis be used to increase public awareness of the importance of conservation in saving water?
34. How much consideration in the Water Plan has been given to advanced technology and genetically engineered crops in conserving water?
35. Would it be possible to identify areas where some conservation practices, such as fencing to exclude livestock from streams, will be affected by floods, and acknowledge these practices aren't effective in these areas?

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Water Quality**

36. How will water quality considerations (particularly nutrients) be incorporated in the Water Plan?
37. What effect will declining groundwater levels have on groundwater quality?
38. How will forest restoration and forestry BMPs be considered in protecting stream quality?
39. How will nutrient management areas be considered in the updated Water Plan? These were not considered in the 1990 plan.
40. Has there been an effect of fracking on agricultural water use – quantity or quality?

### **Measurement and Assessment**

41. Will better, more quantitative measures be considered for estimating water usage? The current practice of using crop acreage and specific crop times a conversion factor for estimating water use is not adequate.
42. Need a streamflow gaging network that is maintained over the long-term. Many gages have been removed and not replaced. Long-term flow records are missing in many areas.
43. It has been over 20 years since we revised the water plan. Should there be more frequent assessments and updates of the water plan for making mid-course corrections than every 20 years?
44. Should we be updating the plan every 3-5 years?

### **Process**

45. How do we know the groundwater modeling results for the areas east of Crowley's Ridge are factual? (Were told these areas would never run out of water because of recharge from MS River?)
46. Will the regional meetings be a place where the groundwater modeling results can be explained? Particularly for the area east of Crowley's Ridge, where it was assumed there would never be a groundwater problem because of MS River recharge.
47. Will there be additional information used in making decisions on groundwater usage other than the modeling results? Serious questions about the groundwater modeling results east of Crowley's Ridge.
48. Will there be greater resolution of modeling results than on a county by county basis?
49. Could an on-line, interactive program be developed to provide greater spatial resolution for groundwater modeling results?
50. How was climate change factored into the considerations of available water in the Water Plan reports?
51. Will political implications be considered in preparing the Water Plan? Many legislators are from agricultural communities.

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

52. Will the Water Plan consider regional differences when it considers recommendations and costs? Ozark streams are different from Delta streams. Would it be possible to consider subregions within the major planning regions as well?
53. The water plan update should be a plan that is best for state, rather than political expediency.
54. Agricultural needs to speak with one voice on their approaches to water management.

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Fish and Wildlife + Recreation Sectors**

#### **Overarching Issue**

1. Need to focus on stream flows that sustain the ecology of the river , not just minimum flows, because more than minimum flows are needed to sustain stream biology.

#### **Water Quantity**

2. Focus on directing large water users to areas with larger rivers instead of damming tributaries to these rivers.
3. Flows for wildlife should be explicitly recognized in water calculations, just as fisheries flows are considered in excess water estimates.
4. Water management needs to take into account wetland and bottomland forest hydrology and ecology.
5. Radial wells in sandy alluvial aquifer along the Arkansas River should be considered to provide water supply for communities.
6. Percent of water (25%) for “excess water” should not be one size fits all; some streams may need more water to sustain fish communities, while other streams might need less water.
7. Adequate flows (fish, wildlife, recreation) will benefit other uses; especially riparian landowners, groundwater recharge, navigation, water quality and economic growth; there is overlap and synergy among sectors.
8. AWP should not kick the can down the road with respect to groundwater use – the plan has to deal with aquifer depletion; there has to be a contingency plan for when we hit the wall
9. Providing adequate surface water quantity for fish and wildlife will address many of the other quantity and quality issues.

#### **Water Quality**

10. There needs to be an increased awareness of mercury contamination in fish
11. Nuisance aquatic species are being transported from one stream or lake to another on boats, waders, etc.
12. Outstanding natural resource water streams need special protections
13. Low DO below Bull Shoals and North Fork and other USACE dams is continuing to affect the fish communities
14. Fluoride impacts fish, aquatic life, and timber
15. Responsibility for water quality is not clear – which state agency is responsible for what water quality issues on which streams is uncertain. Need schematic showing issues connected to state agencies with responsibility

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

16. There should be solutions for impairments, not just an identification of the source of the impairments
17. Debris, logs, and trash affects navigability and access to stream and lakes for recreation
18. Bank erosion is a natural process in some situations and should not always be “corrected”. Focus on erosion directly resulting from human activities.
19. There are wildlife impacts (e.g. feral hogs, beaver and nutria) on water quality
20. Fluoride levels are an issue in Norfolk Lake.

### **Water Storage & Conservation**

21. Agricultural practices that use less groundwater need to be put in place
22. On-farm storage should be increased. Goals for on-farm storage should be met for large irrigation projects (i.e. Grand Prairie Irrigation Project).
23. Off-channel storage of water is important for meeting needs of municipalities, industry and agriculture and should be increased to capture abundant water during the winter and spring for use throughout the year.

### **Regulation**

24. There is a perception that T&E species block water development projects. The ESA has never been the cause of a water project in AR not going forward. Better communication and understanding of the ESA and critical habitat designations are needed to break down fear and misunderstanding.
25. Avenues for changing water law need to be included
26. ADEQ Regulation 2 protects instream flows of Outstanding Resource Waters and should be included in the water plan.
27. CAFO general permits do not address location specific factors which leads to CAFOs in inappropriate areas
28. ADEQ staffing should be increased for enforcing regulations
29. Enforcement and penalties should be increased to prevent illegal dumping; more outreach about the impacts of illegal dumping
30. It should be a goal to reduce the miles of impaired streams and acres of impaired lakes.
31. Fluoride can be addressed by existing laws (e.g. Nuremburg)
32. More enforcement is needed for both point and non-point sources
33. Protecting the riparian zone is important for water quality.
34. Arkansas water law has shortcomings in addressing the impacts from timbering and mining. Greater enforcement is needed.

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Funding and Incentives**

35. Increased funding is needed to incentivize the construction of on-farm reservoirs
36. Water enterprise zones can be an incentive to large water users to locate in areas with excess water.
37. Incentives should be offered for returning unused agricultural fields to wetlands
38. There is a connection between stream bank erosion and stream bank restoration. A state process is needed to provide funding because it protects water quality (e.g. nutrients, sediments)
39. Healthy flows are a revenue generator for the state by improving quality of life and bringing in tourists.
40. There need to be incentives for stream bank restoration to protect water quality.

### **Measurement and Assessment**

41. Additional stream gauging and monitoring are required throughout the state to improve water management.
42. Flooding around reservoirs (i.e. Felsenthal NRW) causes tree mortality; there is a need for better understanding of relationship between tree mortality and flooding
43. The value of water quantity and quality needs to be determined.
44. 25% for determining “excess water” is arbitrary – needs study and further work to develop
45. Physical water diversions effects fish/wildlife flows and sedimentation, which causes river instability. Need better design and engineering. Fragmented authority over regulating and permitting large water projects needs addressing

### **Awareness, Outreach, and Education**

46. Need more education to promote understanding of riparian zones and watersheds
47. Healthy flows are important to fish/wildlife and recreation. Education on value of healthy flows is important
48. Level of knowledge/experience varies in this group, but all issues need to be on the table for consideration.

### **Process**

49. Demand for waterfowl habitat management water should not be considered a constant throughout the demand projection period from 2009 to 2050. Duck/waterfowl habitat changes annually.
50. Groundwater modeling is needed for the interior highlands aquifers – need quantitative models
51. Fish/wildlife flows need to account for seasonality and timing of flows

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

52. Settle on standard terminology for flows – minimum, healthy, fish/wildlife, ecological, environment, seasonal
53. The Red River Compact states are working together to address problems of dams causing erosion, which need to be removed; log jams that block flow and navigability have to be removed continuously; wetlands need to be restored
54. Water planning and management has to be on a continuous basis; regional groups need to keep working after 2014
55. Plan for groundwater use needs to keep going past 2050
56. Planning needs to be informed by science-based modeling and reliable stream data.

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Thermoelectric + Industry Sectors**

#### **Water Quantity**

1. Not all available water supply is spoken for or committed in some Corps reservoirs.

#### **Economics**

2. How to address the situation when a water supply project is not paid off in time and the water contractor/provider goes into default because the water supply is not completely sold or spoken for.
3. Lack of funding for locks and dams will cause reduced pool levels which will affect available water downstream causing industries to increase their use of ground water
4. Quantifying economic impact for minimal water improvement (spending millions on water treatment for minimal improvement).

#### **Regulation**

5. Need to address interagency inconsistencies and conflicting rules and regulations.
6. How will interagency inconsistencies be addressed in the Water Plan?

#### **Measurement and Assessment**

7. For some sectors the water reported should be water consumed and not water withdrawn. One generic report should not cover every sector.
8. Returned water should be included in the calculations of available water. Diversion of water is not as important if returned to the stream as the amount of water consumed.
9. The needs to be a single location for all available data.
10. What mechanisms will be included to address the domino effects of multiple issues?

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Public Water and Wastewater Providers Sector**

#### **Regulations**

1. Rules/designations of what water is available for use as water supply seem arbitrary, and there is no process for providing input or changing at least some of these, e.g., one utility is frustrated by the designation of a water resource as “emergency only”.
2. It is very difficult, almost impossible, very time consuming to try to get approval to construct additional impoundments, with all of the regulations and red tape that must be worked through.
3. We are about to reach the limit of available discretionary water allocations in all of the Corps reservoirs in the state. Any further change to allocations would require congressional action. Appealing to Congress would take a long time.
4. Power company allocations limit available water.
5. We are concerned that the drinking water designated use is being removed from some streams, decreasing the pool of potential future drinking water sources.
6. Two big issues in water quality regulations now are phosphorus limits and ecoregion minerals standards. These are being played out in the political arena, so there is little to do at this time except wait and see what happens.
7. There are concerns about what it will cost to upgrade treatment facilities to implement new water quality regulation and/or meet demand.
8. It seems to happen a lot that developments install a package plant, but do not make any real, lasting provision for its operation and maintenance, neither in terms of personnel, nor funding. How do we keep these systems from being forgotten and falling into disrepair? There is a lack of governance to keep this from happening.
9. Regulations do not protect groundwater supplies for drinking water.

#### **Water Quantity**

10. Utilities are unclear what water resources are available for drinking water use.
11. Concerned about high volume agriculture and industrial users taking water from the Sparta aquifer, a premier drinking water source. The Sparta aquifer needs to be conserved as a drinking water source.
12. Utilities are experiencing the limits of groundwater as a resource in terms of quantity and quality. Surface water is the future, but it also is limited.
13. There is concern that high quality water resources, that could supply drinking water needs, are being wasted on uses that do not require that level of water quality. High quality water resources need to be conserved for current and future drinking water use.
14. Want to have multiple sources/options for providing drinking water, e.g., local and regional, groundwater and surface water.
15. There is concern about neighboring states trying to take water from Arkansas to supply their growing populations, e.g., Dallas.

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

16. There are impoundments where stream maintenance flows/releases are required even when there is no inflow to the impoundment, which uses up water needed by other users, including drinking water suppliers. This is not appropriate.

### **Water Quality**

17. Development/growth/land use changes cause water quality issues.
18. Oil and gas production and transmission lines are potential threats to drinking water sources.
19. We must protect the water quality of our water supply sources, and potential future water supply sources, from both point sources, and nonpoint sources of pollution.
20. Contaminants of emerging concern
21. Unsewered areas near water supplies are a potential water quality threat. Many of the systems installed in these areas are aging to the point of failure, and often these systems were installed in inappropriate locations.
22. There is inconsistency in the regulations of the Health Department and ANRC in terms of installation of septic systems. How do we keep septic systems away from water supplies, and out of locations/soils/geologic settings that are not appropriate?
23. Saltwater intrusion threatens the quality of some groundwater drinking water resources.
24. What treatment changes are going to be required to address emerging contaminants and changes in regulations?

### **Infrastructure/Operations**

25. Wastewater and drinking water treatment facilities are aging, not having the capacity to meet demand, and not having the technology to meet new water quality regulations.
26. In rural areas, where water and wastewater operators often have multiple jobs, these people are often not as able or well equipped to lobby for realistic water rates to support their systems.
27. Many utilities experience high turnover of operators.
28. There seems to be a lack of an adequate personnel pool for operators, particularly in rural areas.
29. Continuing operator training needs to be more varied and relevant, keeping operators up to date on changes in their fields. Particularly the training offered for smaller utilities. It seems pointless for operators to go yearly to the exact same class to meet their training requirement.
30. There are areas in the state where declining populations are making it harder to keep small facilities operating – the declining user base reduces the available budget, and the smaller population reduces the personnel pool.
31. Operators are aging and younger people are not coming in to the field.
32. Single-purpose water districts often work better than water utilities managed by municipalities, where they compete with many other issues for attention and funding.

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33. For wastewater infrastructure the issues generally are (in priority order): age, lack of capacity, changes in treatment requirements and required changes in treatment technology.
34. For drinking water infrastructure the issues generally are (in priority order): age, changes in treatment requirements, and lack of capacity.
35. Water loss/waste in the distribution system can be significant.

### **Financing/Funding**

36. Funds are not available to repair and replace aging infrastructure.
37. Water users are unwilling to pay for drinking water and wastewater treatment.
38. When utilities cut budgets, maintenance is the first to go. But maintenance is necessary to keep the systems running effectively.
39. Utilities feel pressured to forgo maintenance to reduce their annual budget.
40. Utility rates are usually set by some political entity, rather than the utility. Especially in smaller communities. As a result, setting utility rates is political, rather than based on realistic operating and maintenance costs. The users and those who set water rates do not understand what it really costs to operate and maintain water and wastewater treatment facilities and distribution systems.
41. There is no funding for maintaining infrastructure.
42. Utilities need to be able to stop service when they don't get paid.

### **Planning**

43. Comprehensive, big picture planning is needed, considering availability of groundwater and surface water sources, and all of the uses/demands that need to be met. Drinking water needs to be considered a high priority use when prioritizing needs/allocating water resources to users.
44. Need to be forward-thinking, pro-active in planning for meeting drinking water demands. Start planning now, before you have issues with drinking water sources.
45. Planning is not the answer, the plan must be implemented to achieve change.
46. It is very difficult to work with and/or change water planning and sewer area boundaries.
47. Small, rural systems are where a lot of problems occur with politics, lack of rate base, etc.

## **Combined Set of Issues Raised at the 14 January Statewide Meeting**

### **Municipal + County Government Sectors**

#### **Water Quantity and Quality**

1. Competition with agriculture for groundwater has become a problem. Water providers are seeing lower yields and lower water quality.
2. The loss of the Sparta aquifer as a public water source would be catastrophic.
3. In some cases, low groundwater quality and quantity has forced treatment plant shutdowns. It is very expensive to lose infrastructure and have to replace it elsewhere.
4. We fail to use our abundant surface water sources to their full potential, especially to address agricultural groundwater demand.
5. Low water quality, especially high mineral content in some groundwater, sometimes limits business and industrial recruiting.
6. Economic growth depends on abundant, high-quality water.

#### **Regulations**

7. There are advantages to regionalizing water and sewer projects, but there are impediments in existing federal and state law and policy.
8. Arkansas, through ANRC, needs enforceable building standards for water system construction to ensure adequate capacity, the ability to connect to emergency supplies, and general compatibility between systems.
9. The Endangered Species Act and other federal regulations are not only difficult for counties and cities to deal with because they are complicated, but often prevent or make prohibitively expensive maintenance, replacement, and building of roads, drainage facilities, water and sewer infrastructure. One mayor said that the issue is that these laws may be “out of balance with the needs for human consumption.”
10. Gray water reuse presents a conservation opportunity that is not being taken advantage of fully because of awareness and regulatory concerns

#### **Financing**

11. Federal financing of water systems has limited plant capacities and line sizes in areas where there will be growth or annexation. This often prevents development of housing, municipal annexation, and business and industrial growth. One example in rural areas is the inability of USDA-financed water systems to provide the large volumes of water now required for poultry production.
12. There are few other alternative financing sources to build systems that can sustain growth.

#### **Coordination**

13. Counties may have the opportunity to coordinate water and sewer service issues between their municipalities (without getting into the water and sewer business themselves). This

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could include using existing (or improved) intergovernmental cooperation statutes, GIS mapping of systems, and generally breaking down the silos mentioned above.

14. Counties may be able to provide coordination for stormwater issues as well.
15. Various jurisdictions and agencies have their “silos” and do not reap the benefits of greater cooperation.

### **Infrastructure**

16. Infrastructure operated by improvement districts is threatened if the districts are not in good operational and financial health.
17. Infrastructure deterioration is very, very expensive and robs water and sewer systems of opportunities for capital improvements and expansion. Constant stop-gap repair work is not a good use of resources.
18. There are opportunities to cooperate and to use technology to map infrastructure problems such as line leaks and to plan to make comprehensive repairs.

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### **Navigation Sector**

#### **Overarching Issue**

1. How can the state provide additional support to maintain and/or develop the navigation projects on the Arkansas, Mississippi, Ouachita, Red, and White Rivers to continue or begin to reap the ancillary benefits from these projects:
  - Recreation
  - Water Supply – Municipal and Agricultural
  - Environmental - Felsenthal
  - Hydropower
  - Water Quality – the pools trap sediment loads and improve water quality
    - o Arkansas River water is more useable for irrigation since the navigation project was developed

#### **Infrastructure**

2. 3 rivers problem – cutoff threatened at Arkansas-White-Mississippi that would shut down navigation for at least 100 days (6 months?). Could be a \$1B impact on AR if it shuts down. Funding will be required from the State, but need to coordinate with the COE to get the best deal for the state.
  - a. Environmental Restoration – State 65%/ Federal 35%
  - b. Navigation – 50%/50% could be done with COE and Inland Waterway Trust Fund (from navigation fuel tax)
3. Need the COE to complete the White River Study so that the project can be implemented – 25 counties affected. The project would reduce the need for dredging and maintaining the White River navigation channel. If the project is not completed it will reduce navigation causing increases truck traffic and expenses – higher costs to farmers and infrastructure. The fracturing sands could also be moved by barge instead of local disposal or trucking it away.
4. Developing navigation on the Red River up to Index, AR would provide benefits to SW Arkansas
5. Ouachita River – COE changing to remote control of locks from Monroe upstream. Limited lockages are putting the viability of maintaining the navigation project in jeopardy – vicious cycle, less traffic leads to limited lockages, which in turn limits traffic, etc.

#### **Water Quantity**

6. Lower Arkansas River is losing water to groundwater therefore the downstream portion of the river is experiencing low levels more often. No direct impacts yet, but as groundwater is depleted, more will be pulled from the river
7. Need to consider the Mississippi River in the calculations – a lot of industries count on the MS River for their water intake and discharge

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## Conservation District Sector

### High Priority Issues

1. The interface between rural and urban areas with regard to surface water and its impacts
  - The group acknowledged a changing land use dynamic in Arkansas, with an “urban sprawl” occurring and a “battle” being a potential issue between urban and rural areas.
  - Some issue with protected forests vs. unprotected forests and their requirements during development and other situations was mentioned, but not elaborated upon.
2. Training for district staff, public, farmers, others is needed
  - District Staff: Need better understanding of goals, district practices
    - Need more training regarding management practices – water, soil, forestry
    - Need to know what/why of practices; programs available
    - Need to be better able to represent, outreach to public
    - Acknowledged that lack of understanding by some staff makes them scared to pursue issues, solutions
  - Land owners/farmers: provide education and outreach regarding management practices, technology, available resources, etc.
    - Field training and demonstrations should be further pursued.
    - The Phaucet Program was specifically mentioned as a program that should be further advertised.
    - Importance of pump use and management (make sure to turn off, etc)
    - Technology available – wet sensors that turn off pumps automatically
    - Recovery systems and their use, management
  - Urban users: Further training, outreach should be pursued for urban land owners. Emphasis should be put on ability for everyone to practice good water management.
    - Water reuse, non-potable water
    - Example of El Dorado and its reuse of water for golf course irrigation
    - The suggestion was made to invite speaker(s) with experience in water management problems and solutions, perhaps from the West
3. Interstate source sharing of aquifers
  - More emphasis should be put on a possible interstate compact between Arkansas, Tennessee, and Mississippi with regard to shared aquifers of the Mississippi Valley.
4. Reliability of well data
  - Irrigation well data validity is unknown. The process of determining/acquiring data is not uniform or not accurate.
  - It has been found that some well users overreport, while others underreport
  - The person who enters this data (staff of conservation district, county, or other) should have knowledge or training in subject to better determine

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- whether given data makes sense
  - Suggestion for validity checks for depth, location, installation method of wells
5. Need more planning to move streams off the 303(d) list
    - More concentration needed on water quality issues and management plans
    - Annual, 5-year plans needed for streams in Arkansas
  6. Need for more advertisement of the conservation districts, their purpose, their success
    - Would like a way to account for success in districts
    - Gave example of UA Extension Service book on what agriculture means to Arkansas
  7. Inconsistencies among districts
    - Some do not participate as actively as others in meetings, programs
    - Good to have fresh perspectives, get outside comfort zone
    - Some districts lack funding and time to generate new ideas (some have part-time employees only)

### Medium Priority Issues

8. Lack of information being provided to conservation districts by other entities
  - The group stated the desire for more information from water boards, municipalities, others with regard to decisions, plans, and other events.
  - Better communication of well locations from state to districts (some receive this information already, while others stated that they did not)
9. Lack of management, upkeep of aging dams
  - Some dams in the state are district sponsored, but many are not being managed and monitored. Also, many as-built plans have been lost, and the condition of many dams is unknown. This is a potentially hazardous situation.
10. Lack of information and records
  - Information on contacts for water systems, dams, other infrastructures needs to be better kept
  - Would like conservation districts to be a repository for information and plans, specifically for water and sewer information
  - A suggestion was made that it should be required to place location wires, especially for small parts (the group was unsure if this was already a requirement or not)
11. Incentives for water reuse should be better pursued, advertised
  - Water users who reuse and capture surface water instead of drawing from wells should receive incentives; outreach for this should be intensified
12. Need for water management plans
  - Joint effort between agencies, private sectors, conservation districts
    - ANRC, districts, extension service, farm bureau, state, counties, cities
  - Goals for water management should be defined, as well as plan of action
  - Need everyone “on the same page”, with the same information

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13. Need for local person with knowledge, information on water management, water use as a resource for districts, agencies, public
  - It was suggested that a jointly funded position be created for this

### **Low Priority Issues**

14. Turnover in board members, volunteers – hard to be consistent, stable

### **Other Sector Considerations**

15. Aging water systems
  - Lack of upkeep, funding for aging systems; decline in population and funding
16. Need for water sources, particularly for municipal use, in some areas of the state
  - West-Central Arkansas in particular has the need for new water sources, with some water providers searching for waterbodies from which to withdraw.