



## Arkansas Water Plan Update Navigation Technical Work Group Conference Call Summary January 29, 2013 from 10-11:45 CST

The following summary was prepared by CDM Smith and FTN Associates. The summary is intended to capture the general topics and discussion that was held; it is not intended to be a verbatim transcription of the conference call.

The purposes of the conference call were to:

- Go over the draft methodology for, and assumptions regarding, estimating water needs for navigation; and
- Get input from Corps of Engineers and other work group members on navigation and navigation water use/needs in the state under current conditions, and discuss any known/potential changes to include in the forecast for the Arkansas Water Plan update.

Work Group members on the call are listed below.

- Chris Soller and Laura Brown (representing Ed Swaim) from ANRC,
- Brian Rosenthal from Rose Law Firm representing Bunge North America, an agriculture business that ships materials on Arkansas rivers,
- Gary Young from the Corps of Engineers Vicksburg District,
- Mike Biggs from the Corps of Engineers Little Rock District
- Rick Brown from CDM Smith, contractor on the water plan update, and
- Linda Johnson and Christina Laurin from FTN Associates, Ltd, a subcontractor on the water plan update.

L. Johnson outlined the purpose for the call. R. Brown provided an overview of the context of the navigation water demand forecasting effort. The navigation water demand technical work group is one of several demand technical work groups (others include agriculture, industrial, power generation, and domestic water supply) that are part of the overall water demand working group. In addition to the water demand working group, there are also a supply/availability working group, and a “solutions” working group, the purpose of which will be to reconcile and identify gaps between supply and demand. The goal for demand working group is to provide input into the draft statewide water demand forecast. The draft forecast will then be presented at to a broader audience as part of the public information and stakeholder outreach process. There will be 7 stakeholder meetings across the state. The meetings are tentatively scheduled for May/June of this year.

### ***Approach and Assumptions related to state wide navigation water use and needs***

The conference call participants were reminded of the Draft Water Demand Methodology White Paper that was provide to them in December and discussed at the December 17, 2012 meeting at ANRC. The



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White Paper provided a very general overview of the proposed approach for addressing water needs for navigation in the state. L. Johnson outlined the following additional details and assumptions:

- There will be no significant change in flow and water level needs for navigation over the forecast period – to 2050.
- On the Arkansas River, the existing system of locks and dams will be adequate to maintain the minimum 9 ft depth for the navigation channel.
- On the Ouachita River, existing locks and dams will be adequate to maintain the existing navigation channel.
- There is currently no navigation on the Red River in Arkansas, although this is under study.
- There is navigation on the White River and the current operations require either additional flow or maintenance to help maintain channel depths. .

According to M. Biggs, assumptions regarding the Arkansas River are correct. He noted that there is 168,000 ac-ft of storage in Oolagah Lake available for emergency releases to maintain Arkansas River navigation.

M. Biggs stated that it is very unlikely that additional releases from the White River reservoirs would be made to improve navigation. Currently, all the water in those reservoirs is allocated. Congressional action would be required to change the allocations in the White River reservoirs. A long, expensive process would be required, which would include a reconnaissance study, then, if the reallocation was deemed feasible, a full study, which would include an EIS. M. Biggs anticipates that reallocation of water in any of the White River reservoirs would not meet the cost-benefit ratio requirement for federal project, and would likely meet considerable public opposition.

The main issue with navigation on the White River is the dredging required to maintain the navigation channel. M. Biggs noted that it is no longer possible to upland dispose of dredge spoil from the entrance of the White River. The current practice is to slurry the White River dredge spoil into the Mississippi River. Memphis District is also dealing with this issue on the White River.

B. Rosenthal asked about flow for maintenance. He also suggested that it will be important to consider what is required to ensure that dredging will continue so the navigation channels can be maintained and remain useable.

C. Soller noted that there may turn out to be a gap or shortfall between the amount of maintenance, i.e., dredging, needed to maintain navigation channels, and the current amount of maintenance occurring on the state navigable rivers.

G. Young agreed that he does not anticipate a need for changes in flow in Ouachita or Red River for navigation. He noted that reallocation of water from Ouachita River reservoirs would face the same challenges as White River reservoirs; navigation is not an authorized use for these reservoirs. However, a reallocation study of Ouachita Lake is expected to begin soon for water supply.

L. Johnson asked if navigation could also be considered in this reallocation study.



G. Young and M. Biggs replied that a separate study would be required. The WRDA bill requesting this study of the Ouachita Lake specified that reallocation to water supply would be studied. Navigation could not be considered a water supply use, so a separate WRDA bill requesting a study of reallocation for navigation would be required.

## ***Overview of information regarding Arkansas navigation***

The agenda includes a listing of information that has been collected to date regarding river navigation in Arkansas. L. Johnson reviewed this information, asking others on the call, primarily the Corps of Engineers folks, to confirm this information, or provide corrected or additional information.

## **White River**

Reservoirs on the upper White River release flow for hydropower, to maintain minimum flows, and to reduce flood damage. M. Biggs provided the information that the farthest upstream barge traffic, under appropriate flow conditions, is Batesville. However, Newport is typically the farthest upstream that navigation is usually economically viable. Historically barges also travelled a little way up the Black River, but M. Biggs is not sure if this happens now. ***He will check and get back to L. Johnson with that information.*** M. Biggs also informed the group that there are two recent hydropower projects upstream of Batesville on the White River. These are set up as run of the river systems developed on unused lock and dam structures, where the locks are filled in.

B. Rosenthal confirmed that Bunge conducts shipping on the White River, but he is unsure how far upstream they ship. L. Johnson requested information on Bunge shipping activities on the White River, including tonnage of materials shipped and where on the river these materials are shipped. B. Rosenthal said that information has been provided to ANRC in the past. ***He will contact Bunge regarding such information.***

L. Johnson asked about the high stages or flows where the White River is closed to barge traffic. M. Biggs noted that flood stage information for the White River is maintained on the National Weather Service website. Flood stage for the White River at Clarendon is 26 ft. M. Biggs' initial suspicion is that Montgomery Point would be where commercial barges would have difficulty under high water conditions, because of velocities and cross currents at Montgomery Point Lock & Dam (when the Mississippi River is above elevation 115 at the mouth of the White River, the crest gates are down and all navigation at Montgomery Point passes through the navigation pass, no lockages are required). In the lower White River, it is likely that navigability is more a function of flow than stage, because of backwater effects from the Mississippi River. When the Mississippi River backs up into the White River, it causes a high stage on the White River, but flow is low enough that barges can travel up the White River. The flow-stage relationship is not straightforward here.

B. Rosenthal cited the ANRC 2009 Rules for uses of surface water as a source for information on White River flows. Historically, when flows at Clarendon are less than 17,500 cfs, there is no navigation.

***B. Rosenthal will provide reference information for the rules to L. Johnson.***

L. Johnson asked about the status of the 1986 WRDA authorizing channel improvements on the White River. M. Biggs responded that the work was never funded, so the improvements were not implemented.



## Arkansas River

L. Johnson noted that flow in the Arkansas River is controlled by Tulsa District for the purpose of flood control. M. Biggs responded that the Little Rock District has an agreement with Tulsa District for bench and taper release of Arkansas River flood water to reduce navigation impacts. The bench and taper targets provide flows high enough to transport sediment preventing sedimentation in the navigation channel, and low enough to allow barge traffic. Barge traffic pretty much shuts down when flows at Van Buren are over 70,000 cfs. The percent system storage for the Tulsa District reservoirs that produce the target flows at Van Buren vary with the season, e.g., the target flow for the navigation bench is always 60,000 cfs. Once upstream storage is at 3%, Tulsa District tapers off releases over a 21 day period, reducing flow by 20,000 cfs each day. ***M. Biggs will provide the details of the bench and taper release operation to L. Johnson.***

M. Biggs also described the drought contingency plan for the Arkansas River. Although there is storage in Oologah Lake to supplement Arkansas River flow for navigation, he does not know of an instance when this storage was used. The plan target is to maintain a minimum flow of 35,000 cfs at Van Buren, and at least 3,000 cfs at Little Rock. Seven day averages are used to evaluate the minimum flow conditions. A Level 1 drought declaration requires additional monitoring. When a Drought Level 2 is declared for the Arkansas River, the Drought Board, which includes representatives from the states and industry, is convened. The board debates the need for action, and discusses possible actions with the Colonel. If Drought Level 3 should be declared, releases from Oologah would be arranged with Southwester Power Co. Most likely this would consist of timing generation releases to provide flow when barges would need it for navigation. A Level 4 drought declaration was noted but not discussed.

## Red River

L. Johnson noted that information she had found suggests that navigation on the Red River in Arkansas is no longer under consideration, and that there are no minimum flow requirements for the river.

G. Young responded that the feasibility of navigation on the Red River in Arkansas is still being considered. The Red River Valley Association is interested reevaluating the feasibility in light of updated Red River traffic forecasting/analysis. The original feasibility study found the cost-benefit ratio to be slightly too high. The Association thinks the new traffic numbers may improve the cost-benefit ratio.

In addition, C. Soller/R. Brown informed the group that he has been in touch with Waterways, and the question of navigation on the Red River is on their radar. They are working with Texas stakeholders to push the navigation feasibility study forward. ***He will follow up with G. Higginbotham on this.***

M. Biggs informed the group that there is a move to consider revising operation of Millwood Lake releases to maintain scour and navigability on the Red River. While all of the available Millwood Lake storage is allocated to the South Arkansas Water District, they are currently using about half of the allocation, and the water district will have to make a big payment for the water allocation to the Corps in five years. This situation provides a possible opportunity to buy some of the allocation from the water district to use for navigation. Wording of the project authorization for Millwood Lake would make reallocation from water supply to navigation much less challenging than for the reservoirs on the White River and the Ouachita River. Millwood Lake is subject to a 1954 Congressional ruling that authorizes



navigation as a use for all Corps of Engineers projects, and names navigation as a use to which project storage can be reallocated. In this case, Congress would have to approve the reallocation, but there would be no need for the EIS, which considerably shortens the time and reduces the amount of money required. While the 1954 ruling makes this kind of reallocation possible, it has not yet been done.

## **Ouachita River**

G. Young confirmed there is a 100 cfs minimum flow, but it is for water quality or wildlife support, rather than navigation. He also noted that the biggest issue with navigation on the Ouachita River is funding for dredging. There is not a lot of traffic, so appropriating funding for dredging on the Ouachita tends to be a lower priority. As a result, it is possible that service to the two locks on the Ouachita River in Arkansas may be limited.

G. Young is not aware of any navigation studies on-going or proposed for the Ouachita River. However, there has been a budget request for a watershed reconnaissance of the Ouachita River watershed. This reconnaissance would address all uses of water resources in the entire basin, including navigation, both in Arkansas and Louisiana. This study has not yet been funded.

## ***Other Discussion Items***

Other discussion items listed on the agenda include information on flow regimes and operational criteria.

***G. Young will provide factsheets on all Arkansas projects to L. Johnson.***

L. Johnson asked about the status of the Southwest Arkansas Navigation Study. M. Biggs responded that \$5.5 million was allocated to the study, which has been completed. The project is ready for implementation, however, they are waiting on construction funding for the implementation. ***G. Young will provide a factsheet on the study.***

L. Johnson asked about the proposed 12 ft navigation channel on the Arkansas River. M. Biggs responded that most of the Arkansas River navigation channel is already at 12 ft – from Dardanelle to the Mississippi River. There are a few areas, e.g., confluence of Fourche Creek, Pool 8, Pool 4, where it takes more work, and therefore funding, to maintain the 12 ft navigation channel. Currently, funding has not been allocated to address the additional maintenance needs at these locations.

L. Johnson asked about the White River Basin Comprehensive Report. G. Young responded that the study was nearly complete but was put on hold due to the Ivory Billed Woodpecker.

L. Johnson asked about the White River, Arkansas and Missouri Authorized Report. M. Biggs noted that he had not heard of it. ***He will check on it and let L. Johnson know.***

L. Johnson asked what impacts the interstate compacts have on navigation. R. Brown noted that Louisiana has requested ANRC to review flows entering the state from Arkansas, particularly allocations during low flow conditions. C. Soller added that the rivers of primary concern in this review are Bayou Macon and Bayou Beouff. Flows in the Ouachita River and Bayou Bartholomew are not at issue. R. Brown noted that there is a committee looking at the wording of the Louisiana compact – the current language may need additional clarification. C. Soller noted that there is a project under consideration that would put more water in Bayou Beouff.



# Arkansas Water Plan Update



In closing, L. Johnson and R. Brown advised the group that information on the update of the state water plan can be accessed on the ANRC website ([www.anrc.arkansas.gov](http://www.anrc.arkansas.gov)) or [www.arwaterplan.arkansas.gov](http://www.arwaterplan.arkansas.gov). L. Johnson will keep the Corps of Engineers apprised of work related to navigation water demands. R. Brown noted that in the update process, information is currently be evaluated based on major technical elements of the project and group members are welcome to participate in other areas that interest them. The folks managing the update realize that there is overlap of interest, purposes, and water needs.

L. Johnson and C. Laurin will prepare a summary of the call and distribute to the group, probably Friday February 1, or Monday February 4.

## ***Action Items***

M. Biggs will provide the following to L. Johnson:

- Information on the status of navigation on the Black River.
- Details of the Tulsa District bench and taper floodwater release program for the Arkansas River.
- Information on the White River Arkansas and Missouri Authorized Report.

B. Rosenthal will provide the following to L. Johnson:

- Reference for the ANRC Rules for the Utilization of Surface Water.

C. Soller will follow up with B. Higginbotham regarding Waterways interest and work on Red River navigation in Arkansas.

G. Young will provide L. Johnson factsheets on Corps of Engineers Vicksburg District projects in Arkansas, and on the Southwest Arkansas Navigation Study.

L. Johnson will:

- Follow up with Andy Gaines, Memphis District Corps of Engineers, regarding dredging; and
- Provide the group with a summary of this call.

All group members will further review the information provided on the agenda, and provide updates, or any additional information they think will be useful in characterizing and addressing water needs for navigation, to L. Johnson ([lsj@ftn-assoc.com](mailto:lsj@ftn-assoc.com)).

Please e-mail questions, comments, or suggestions to [ArkansasWater@cdmsmith.com](mailto:ArkansasWater@cdmsmith.com).