July 21, 2016

The President
United States of America

The Honorable Asa Hutchinson, Governor
State of Arkansas

The Honorable Bobby Jindal, Governor
State of Louisiana

The Honorable Mary Fallin, Governor
State of Oklahoma

The Honorable Greg Abbott, Governor
State of Texas

Dear Mr. President and Governors:

The Red River Compact is an interstate agreement entered into by the States of Arkansas, Louisiana, Oklahoma, and Texas, with the consent of Congress, dealing with the water resources of the Red River Basin. The State of Oklahoma hosted the Thirty-fifth Annual Meeting on April 28, 2015, at Broken Bow, Oklahoma.

Pursuant to Section 10.02 paragraphs (d) and (e) of the Red River Compact, the Chairman and State Commissioners submit this report of the 2015 Annual Meeting of the RRCC. The report includes an accounting of all funds received and expended in the conduct of its work for FY 2014, and a budget covering the anticipated expenses of the Commission for Fiscal Years 2015 and 2016.

Pursuant to the previous agreements to rotate the office of Vice-Chairman and Secretary in connection with the rotation of the annual meeting host state, the State of Texas accepted the responsibility for both offices for FY 2016. The Office of Treasurer remained with the State of Arkansas.

Sincerely,

[Signature]

Gordon W. Fassett
Chairman and Federal Commissioner
Letter to President and Governors

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Minutes of the
RED RIVER COMPACT COMMISSION
35th Annual Meeting

Beavers Bend Lakeview Lodge
Broken Bow, Oklahoma
April 28, 2015
8:30 a.m.

I. CALL TO ORDER and II. WELCOME

The 35th Annual Meeting of the Red River Compact Commission was called to order at 8:30 a.m. on April 28, 2015, at the meeting room of the Beavers Bend Lakeview Lodge, Broken Bow, Oklahoma. Chairman Gordon “Jeff” Fassett presided as Federal Commissioner and Chairman. Chairman Fassett recognized there was a quorum of members present, recognized the presentation of credentials for appointments, and thanked Oklahoma for hosting the meeting. Chairman Fassett asked each person in attendance to make a self-introduction: (Attachment 1)

Red River Compact Commissioners
Gordon Jeff Fassett, Federal Chairman, Wyoming
J.D. Strong, Oklahoma
Charles Dobbs, Oklahoma
William A. Abney, Texas
Kevin McCalla, proxy for Richard Hyde, Texas
J. Randy Young, Arkansas
Wayne Dowd, Arkansas
Arthur Theis, Louisiana
Zahir “Bo” Bolourchi, proxy for Christopher Knotts, Louisiana

Representatives, Federal Agencies and Guests from Oklahoma
Julie Cunningham, Oklahoma Water Resources Board, Oklahoma City, OK (OWRB)
Mary Schooley, OWRB, Oklahoma City, OK
Robert Singletary, OWRB, Oklahoma City, OK
Yohannes Sugeng, OWRB, Oklahoma City, OK
Damon Mayhorm, Bureau of Reclamation, Oklahoma City, OK (USBOR)
Jason Lewis, US Geological Survey, Oklahoma City, OK (USGS)
Richard Lane, US Department of Agriculture, Natural Resources Conservation Service, Stillwater, OK (USDA, NRCS)
Russ Doughty, Oklahomans for Responsible Water Policy, Clayton, OK (ORWP)
Charlette Hearne, ORWP, Broken Bow, OK
Jimmy George, ORWP, Broken Bow, OK
Isaac Martin, USACE-Tulsa District, Sawyer, OK
Tye Baker, Choctaw Nation, Durant, OK

Representatives, Federal Agencies and Guests from Arkansas
Edward Swaim, Arkansas Natural Resources Commission, Little Rock, AR (ARNC)
Ken Brazil, ANRC, Little Rock, AR
III. APPROVAL OF THE AGENDA

Chairman Fassett stated the agenda had been previously circulated according to the rules of the Compact. He asked if there were any comments to the agenda, or a motion to approve the agenda, or further discussion.

Commissioner J.D. Strong moved to approve the agenda as circulated, and Commissioner Randy Young seconded.

The motion was unanimously approved.

(Attachment 2)

IV. APPROVAL OF THE MINUTES OF THE APRIL 2014 MEETING

Chairman Fassett stated the draft minutes of the 34th Meeting of the Red River Compact Commission, April 22, 2014, in Hot Springs, AR, had been previously distributed. He asked if there were any additions or deletions to the minutes.

There being no amendments, Commissioner Abney moved to approve the minutes, and Commissioner Dowd seconded. Chairman Fassett called for the vote, and the motion was unanimously approved.

V. REPORT OF THE CHAIRMAN

Chairman Fassett said that he reported to the Commissioners in January that following a lengthy process he had been re-appointed as chairman by the current federal administration. A check on his activities resulted in great comments from the states and federal agencies. There is no term; the chairman serves at the pleasure of the President; he had continued in the position—having been appointed in 2002—until re-appointment. He said that he appreciated communications via emails to stay connected and generally monitor activities. Chairman Fassett concluded his report.
VI. REPORT OF THE TREASURER

Chairman Fassett asked for the report of the Treasurer. Mr. Edward Swaim, ANRC, addressed the members and stated the balance of the compact account stands at $30,350.15 with both the checking account and CD balance. He said the audit expense each year is $275.00, and meeting expenses—expenses shown are for the New Orleans meeting. Interest payments are very low with $1.00 and $11.00. Mr. Swaim concluded the report.

There were no questions. Commissioner Young moved to accept the report of the Treasurer, and Mr. Bo Bolourchi seconded. The motion carried unanimously.

(Attachment 3)

VII. REPORT OF THE COMMISSIONERS

A. Arkansas—Commissioner Randy Young presented the report of the Arkansas Commissioners. He referenced the distributed written report, and highlighted the following programs. He reported completion of the 2014 Arkansas Water Plan Update under the leadership of Mr. Swaim and his team who performed an exceptional job, completed within the time frame and well under budget. He reviewed the provisions of the water plan which he said is adopted by rulemaking by the Arkansas Natural Resources Commission and ultimately approved by the General Assembly (new provision of state law). The 2,600-page plan which contains 10 major issues and recommendations is available on the agency website. Commissioner Young is most pleased that the plan contained a comprehensive review of the previous 20-year old plan which had addressed groundwater depletion in Eastern Arkansas. The state is currently implementing two recommendation of the 1990 plan regarding two significant water diversion projects from the White River system and the Arkansas River system to replenish the depleted areas, and the updated plan confirmed this course of action. Money saved by being under budget has allowed the implementation of three recommended projects regarding voluntary water use reporting in critical groundwater areas; addressing impacts of water quality from non-point sources of pollution through contracts in three priority watersheds to develop 9-point watershed plans—those within the RRCC basin include Reach II Subbasin 3; Little River watershed, and erosion impacts to Lake Millwood.

Commissioner Young noted other portions of the report including the state’s groundwater program and compact compliance. He said in regard to the previous day’s committee meetings and discussion about compact compliance on the stream between Arkansas and Louisiana, he is pleased with the progress with the Engineering Committee’s development of a methodology to compute the weekly runoff. He said there had been a lack of progress for the past 10 years, but he believed that with the help of Texas and Oklahoma, there has been substantial progress toward determining a procedure everyone can agree with that will compute weekly runoff. He assured the Louisiana Delegation that Arkansas is in complete agreement that it is Arkansas’s obligation to pay for the work that needs to be done to compute weekly runoff, but is hesitant until there is agreement particularly between Arkansas and Louisiana—better yet all four states—on the process to follow for computing weekly runoff. He said that discussions at the committee meeting indicated Louisiana was not supportive of the Compact paying for the development of the process, and he agreed. However, in the absence of an agreement about how to compute weekly runoff, he was not supportive of Arkansas paying for it and then having that challenged later. Chairman Fassett said there would time for further discussion under the report of the committee.

Commissioner Young continued his report noting information on the Safety of Dams Programs, and National Flood Insurance Program. He spoke to the status of the Southeast
Arkansas Feasibility Study with the Corps of Engineers which entails diverting Arkansas waters into the basin which has the potential to address the concerns of Louisiana about compact compliance. The State of Louisiana, and particularly the Morehouse Conservation District, has agreed to join with Arkansas and to work with the COE to revisit the scope of work and feasibility study for that project to address northeast Louisiana water needs as well. He said the State of Louisiana has committed, and has provided, one-half the money to do that work along with the Denzel Irrigation District in Arkansas. That is a $300,000.00 effort and the states will be signing the agreement with the COE this week.

Commissioner Young completed his comments, and invited Commissioner Wayne Dowd to speak to navigation issues in Arkansas. Commissioner Dowd said the Arkansas legislature captured funds previously used for navigation and used it for other purposes, so the agency is without funding to proceed with a feasibility study. Although the COE is interested in a feasibility study at a cost of $1 million, a previous study was conducted over 11 years and a $5.5 million cost but the state did not receive an answer because of the last minute loss of funds. A new feasibility study would have to start at the beginning, and the state legislature is not supportive and funding would only come from the federal government through the COE. He termed it, “dead in the water.”

Louisiana Commissioner Art Theis and Mr. Bo Bolourchi discussed with Commissioner Young the situation between the COE navigation feasibility study, the status of the Bayou Mason Watershed study, the operating plan for Lake Chico, and that the Arkansas Comprehensive Water Plan and state law recognizes the Red River Compact. (Attachment 4)

B. Louisiana – Mr. Bo Bolourchi, representing Commissioner Christopher Knotts, said he had made comments at the Engineering Committee which would be summarized at that discussion today. He presented the written report regarding recent activities in Louisiana. He noted specifically the stream flows at the Arkansas-Louisiana Stateline in relation to Reach IV and deficient flow conditions, for which weekly minimum flow is specified in the Compact. These streams are Ouachita River, Boeuf River, Bayou Bartholomew, and Bayou Macon, with Boeuf River posing the greatest concern. However, he said it should be noted that in 2014, based on data from the USGS discharge gages, Ouachita River and Bayou Macon flow across the AR-LA Stateline met the compact requirement. Flow of the Bayou Bartholomew was less than the specified 80 cfs for a total of 27 days, while flow for the Boeuf River was less than 40 cfs for 77 days. By comparison in 2013, the Boeuf River flow was deficient for 62 days. He said the report of discharge by the stream gaging program along the AR-LA Stateline is in good shape and details the gage flow data.

Regarding the J. Bennett Johnston Waterway navigation project, the waterway development project remained static at 93% complete due to funding deficiencies, and federal budget issues for the Corps continue to be a major concern in the area of dredging. Mr. Bolourchi said the Red River Waterway Commission continues to move forward with recreation and economic development on the Louisiana portion of the Red River. The Red River below the Denison Dam and the Red River Emergency Bank Stabilization projects are not supported by the President’s budget and with the earmark scenario in place, has not received funding since 2011. Mr. Bolourchi noted in the report statements about the Statewide Flood Control Program with approximately $328 million of state funds authorized since 1982 and $613 million of state funds committed to the Port Construction and Development Priority Program. Under the Dam Safety Program, 165 dams were inspected in 2014, and emergency action plans were developed for High and Significant Hazard dams, while $2 million in funds were allocated for the Rehabilitation and Repair of state-maintained dams with district offices designing remedial action plans. He said the Reservoir Development Program was funded for the construction of Bayou Dechanee Reservoir and phase one is complete; $1.7 million was provided for Lake
Bistineau’s erosion control and $400,000.00 for Bundicks Lake remediation project. Concluding his report, Mr. Bolourchi noted the federal projects: the Levee safety program and the Comite River Diversion Canal designed for the reduction of flood water within the Amite River Basin.

There were no other comments, nor questions to the Louisiana Commissioners.

(Attachment 5)

C. Texas – Commissioner Bill Abney presented the Texas Commissioner’s report and referred to the distributed written report. He began by announcing the State of Texas is in better shape this year as regards severe drought conditions having gone from 44% to 25% of severe drought, and from 17% to 52% of no drought, with most of the near-drought areas in the Red River Basin and east side of the Texas Panhandle. The Texas Commission on Environmental Quality received no priority calls on surface water, and there are no active priority calls at this time, except one he will discuss. The Texas Legislature required the TCEQ director to review streams in regard to Texas Watermaster Areas; there was a review of the Red River Basin but he believed those conditions were not met and there was no recommendation for an appointment. Commissioner Abney discussed the legal case involving Dow Chemical Company’s priority call for water in the Brazos River Basin, and junior water rights in the basin were suspended except for some municipal and power generation rights. A suit was filed and the court ruled the TCEQ did not have authority, which was upheld on appeal, but that ruling was appealed by the TCEQ and is currently in the Appeals Court.

Commissioner Abney spoke to groundwater in Texas being owned by the landowner and regulated by the local Groundwater Conservation District; there are eight districts in the Red River Basin. The 2007 Legislature required study of environmental flows but a schedule for consideration of environmental flows on the Canadian, Red, Sulphur or Cypress Creek basins has not been set. Commissioner Abney informed the members of pending legislation of interest regarding appointment of a Southwestern Water Commission to replace the Multi-State Water Resources Planning Commission (which is not funded) to advise the Governor and Legislature on cross-boundary water issues including initiating discussions with other states for the need for compacts. Although all interstate streams are covered by compacts, there is language which may affect Mexico. Another measure directs the Texas Department of Transportation to study the navigability of the Red River for commercial purposes from Shreveport, LA, to Denison Dam at Lake Texoma. He concluded the Texas report, and introduced Mr. Kevin McCalla who was present representing the Executive Director of the TCEQ, Mr. Richard Hyde. (Attachment 6)

D. Oklahoma – Commissioner J.D. Strong welcomed the attendees to Oklahoma, and presented the State’s report. A written report had been distributed, and he highlighted that despite recent rains in the southeast, the State is still very much in drought in other areas with 60% in some level of drought – the Lugert Altus Reservoir in southwestern Oklahoma which historically has a large cotton industry -- is going on perhaps the fifth year of not being to plant. Drought conditions continue to drive the water agenda including drought preparedness and management, drought-proofing communities and using the opportunity to get the population focused on water issues and water conservation, efficiency and reuse, recycling, brackish water desalinization, and other alternatives to using freshwater while meeting the growing demand for water over the next 50 years. He reminded the members of the 2012 Oklahoma legislation creating Water for 2060 initiatives whereby the Governor made available $1.5 million in drought grant funding awarded in 2015 to four dry communities that suffered from 50% water loss through leaking systems; the total saving is over 20 million gallons of water annually.

Commissioner Strong noted activities of other programs ongoing in Oklahoma that regard recommendations of the Oklahoma Comprehensive Water Plan (OCWP) initiatives of drought planning with local entities and the Bureau of Reclamation; Water for 2060 Advisory
Council’s final report due in November 2015 recommending educational programs and incentives to promote better conservation activities; and, the OWRB has partnered with the COE to conduct studies in the Hot Spot Basins identified in the OCWP -- 12 of the 82 basins which expect the greatest water challenges -- to look at these initiatives in three of the basins and explore how water conservation, reuse, and regionalization of water system, etc., may help with water savings and drought proof the communities. He said another OCWP recommendation was the Instream Flow Workgroup which is working on the eastern side of the State where there is a large recreation industry centered on water to determine how much water needs to be left in streams and springs to meet tourism and recreation and ecological needs. A pilot study is underway in northeast Oklahoma in the Illinois River watershed as to what an instream flow regime might look like within the State’s appropriation system.

Commissioner Strong noted water quality projects and monitoring and Water Quality Standards issues, saying the agency has implemented more robust surface water monitoring, and a first time monitoring and assessment program for groundwater as the result of additional appropriations in the 2012 legislative session. All of this information is available on the agency’s website. After ten years of work with sister agencies, the OWBR attempted implementing wetlands standards, but due to confusion over the U.S. Waters of the State rules (WOTUS) that became controversial and has been laid over.

The Dam Safety Program continues to offer free inspections of low hazard dams, has accomplished breach inundation maps for 15 high-hazard dams at no cost to the dam owners by working in concert with FEMA, as well as keeping protections in place through the Floodplain Management Program. He said the agency’s financial assistance program is strong and continues to maintain the AAA rating through the OCWP recommendation of a constitutional amendment to raise the state credit backing of the program, which has now loaned more than $3.2 billion in infrastructure financing saving ratepayers more than a $1 billion in interest costs which would have been paid through conventional financing. Commissioner Strong concluded his report noting the litigation update regarding the Chickasaw and Choctaw Tribes which affects the Red River Compact area saying the State continues to be engaged in mediation and is hopeful that will be resolved outside of the courtroom.

Commissioner Dowd asked about the purpose of Broken Bow Reservoir and Mr. Strong replied it is authorized for public water supply, as well as a few permits for irrigation downstream. It is the clearest lake in the State and a tourism Mecca, particularly for Texans. (Attachment 7)

There were no questions or other discussion concerning the state reports.

VIII. REPORT OF COMMITTEES

A. Budget Committee – Mr. Edward Swaim, ANRC, presented the Budget Committee Report. He said the total budget is $23,500.00 per year, consisting of three items, after simplifying the budget the previous year: (1) Meeting expenses of $5,000.00; (2) Office supplies/Expenses of $2,500.00; and (3) Contingency funds of $16,000.00. He said as reported under the Treasurer report, the Commission spends very little, and the Committee saw no reason to make any changes to the budget. The printed report indicated expenditures for FY 2014, the approved budget for FY 2015, and proposed budget for FY 2016.

Commissioner Young moved to approve the Budget Committee report, and Commissioner Abney seconded. The motion passed unanimously. (Attachment 8)
B. Legal Committee – Mr. Robert Singletary, OWRB and Committee Chairman, stated at the 2014 meeting, the Legal Committee reported there appeared to be several interpretations or versions of the rules for internal organization of the Red River Compact Commission being relied upon, and the Legal Committee recommended combining and updating the section that would reflect all previously approved rules. The Commission directed the Legal Committee to clean up the internal rules, and to also recommend other changes, if necessary. Copies of the proposed red-line version were provided.

Mr. Singletary stated that the Legal Committee, and primarily Ms. Jane Atwood and her staff of the Texas Attorney General’s Office, identified previously approved amendments to the rules that are not reflected in the versions that have been attached to the more recent annual reports. In addition, and in an effort to clean up the rules and include updates as necessary, the Committee identified several new amendments to propose for the Commission’s consideration which include slight formatting changes to be consistent with the outline format, changes to make the rules gender-neutral, clarification of ambiguous language—specifically paragraph 4.4 and 4.9—and several other general clarifications correcting spelling and insertion of two missing words. He indicated the red-line version of the Resolution to Adopt Rules for the Internal Organization of the Red River Compact Commission had been distributed, and said the proposal includes an historical notes statement regarding previous amendments to the rules.

Mr. Singletary stated it is the opinion of the Legal Committee that no action is necessary in regard to the clean up version as it reflects what has already been approved by the Commission and will be included in the annual report. In regard to the proposed changes in the red-line version, the rules require the Commissioners be given a 30-day notice prior to the meeting; however, these rules were not ready 30 days prior, but the Commission does have the authority under the rules by a unanimous vote to waive the rule of a 30-day requirement.

Commissioner J.D. Strong asked the result of the discussion at the committee meeting about “eminent” versus “imminent” and Mr. Singletary explained that there was some preference the word remain as it is, “eminent,” as there is a possibility that it was intended to mean “substantial” rather than “imminent” which would mean “immediate.” After some discussion and several opinions expressed, the Committee decided there was uncertainty and best to leave it as is. Commissioner Abney asked if the version distributed is all the changes that are recommended, typos, etc., nothing substantive, and the Committee requests an additional assignment to consider “eminent,” and Mr. Singletary stated that is correct.

Commissioner Abney moved the recommendation be adopted, and Commissioner Strong seconded.

Commissioner Strong asked if the unanimous consent motion to waive the 30-day requirement needed to be considered prior to adopting the insignificant changes, and Mr. Singletary concurred.

Commissioner Abney moved to waive the 30-day requirement, and Commissioner Strong seconded. Chairman Fassett repeated the motion to waive the 30-day requirement so that if there is a final vote which is unanimous, the rules can be adopted. He called for the vote on waiving the 30-day notice. The vote was unanimous; there were no nay votes.

Chairman Fassett stated Commissioner Abney had moved to adopt as presented the red-line changes shown from the Legal Committee work. The motion included that the Legal Committee present next year a recommendation about the word, “eminent.” Commissioner Strong seconded. Chairman Fassett said the red-line changes do not include changing that word.

Commissioner Dowd restated the motion is to continue the study of the use of that word and give a report next year, and Commissioner Strong added hopefully that will be presented within 30 days and not have to waiver. There was no further discussion, and Chairman Fassett called for the vote. The motion passed unanimously; there were no nay votes.
Mr. Bolourchi and Mr. Strong agreed the website should be updated to include today's changes, and included in the annual report. (Attachment 9)

C. Engineering Committee – Ms. Julie Cunningham, Oklahoma Water Resources Board and Committee Chairman presented the Engineering Committee report. She said the Committee had two items today – investigation of compact compliance evaluation methodologies, and “other” is something that can be addressed here or under New Business. Chairman Fassett stated the Commission would hear the full report of the Committee at this time.

Ms. Cunningham began the Committee report with the proposed update of the drainage area in item 6.A. and 7.A. and the proposed resolution provided in the meeting packet regarding Reach 1, Subbasin 1, Sweetwater Creek and North Fork Red River. She explained the USGS finalized several years ago the stream calculation for computing the monitoring area between the two watersheds, which had not been updated since 1970. With the updates by both the Oklahoma and Texas USGS, the Committee is now ready to incorporate those into the rules. There has been discussion the past two years, and she said what is distributed in not a red-line version, but noted that in item 6.A., all the square mile drainage area miles have been updated, and the same in 7.A. Commissioner Strong said that since this is not a red-line/strikeout version, he wanted to confirm the only changes to the rules and regulations for Reach 1 Subbasin 1 are simply to update drainage area numbers, nothing else is changed in the rules of computation.

Ms. Cunningham stated that is correct.

Commissioner Abney stated he had a red-line version, and he enumerated the changes:
6.A.: (1) “...from the Oklahoma-Texas State Line.....” changed from 1,082 to “1,369 square mile drainage area of which” (2) changed from 379 to “552 square miles are ...non-contributing;” and “...downstream from the Oklahoma-Texas State Line.....” (3) changed from 2,337 to “2,652 square mile.....of which” (4) changed from 399 to “579 .....non-contributing; and (5) “...the North Fork Red River .....is computed as” changed from 1,229 to “1,968 .....of which” (6) changed from 379 to “572 ...non-contributing.” He said the changes in 7.A. are the same. Ms. Cunningham stated the Committee assessed the numbers and found no significant difference between the requirement and output as regards the scheduled required delivery, and both states are comfortable with the changes, which have been adopted by the USGS. Ms. Cunningham stated the Committee recommended approval of 6.A. and 7.A., and the Legal Committee suggested that the Commission vote on the 30-day waiver.

Commissioner Abney said he wasn’t sure it was needed, but a good idea to avoid question as it has been discussed for several years. Commissioner Abney moved that the 30-days be waived, and if that passes, the changes be adopted, and if passed unanimously, that will be the end of the Sweetwater Creek issue.

Commissioner Randy Young seconded the motion. Chairman Fassett restated the combined motion and second....and Commissioner Abney suggested separate votes. Commissioner Abney restated his motion to waive the 30-day notice on adding the proposed changes of the [Corps of Engineers on acreages] for Sweetwater Creek, Reach 1 Subbasin 1 rules.

Chairman Fassett stated there is a motion and second to waive the 30-day notice so the Commission may consider for approval the rules from the Engineering Committee.

Chairman Fassett called for the vote, and the motion passed unanimously; there were no nay votes.

Chairman Fassett said the Commission is ready for a motion on the resolution as presented by the Committee. Commissioner Abney moved to approve and adopt the resolution and the changes will be a part of the rules on Reach 1 Subbasin 1, Sweetwater Creek and North Fork Red River. Commissioner Young seconded. There was no discussion.
Chairman Fassett called for the vote. The motion was approved unanimously; there were no nay votes. He said this is a mapping accuracy issue. (Attachment 10)

Ms. Cunningham continued the Engineering Committee report presenting a resolution in regard to the USGS stream gages. She said the Committee recommended approval of the resolution supporting the USGS stream gaging network. She stated Ms. Suzy Valentine (Texas) did much of the work and it is the same resolution that has been presented in past years. She said the Committee recommended approval of the Resolution of the Red River Compact Commission regarding the Funding of Streamflow Gages.

Mr. Bo Bolourchi moved approval of the resolution, and Commissioner Strong seconded. Chairman Fassett stated that as was mentioned at the committee meeting, with this action the Commission also supports the effort led by the Interstate Council on Water Policy (ICWP) to fund gages where 40 organizations and compact commissions -- in addition to this compact's resolution -- go to Congress; it is an aggressive effort and has been successful. Ms. Cunningham added the proposed language was sent to the committee members to provide to the Commissioners.

Commissioner Abney clarified that Mr. Bolourchi's motion is to adopt the streamflow resolution as has been done every year, and to support the ICWP funding effort.

There was no other discussion and Chairman Fassett called for the vote. The motion passed unanimously; there were no nay votes. (Attachment 11)

Another item of business of the Engineering Committee regarded the Red River Compact website update. Ms. Cunningham said last year the Commissioners agreed the states should send links associated with the Red River to include in the website, which has been updated with these additions. There was discussion at the committee meeting to create a link to the USGS.

The last item for consideration regards the assignment on Reach IV, Subbasin 2. Ms. Cunningham explained that Louisiana had been wrestling with calculations for weekly runoff to determine compact compliance. At the 2014 meeting, the Engineering Committee continued its investigation on the estimated total weekly runoff and to develop a plan of action to identify calculation methodology and a timeframe for implementation. She discussed the Louisiana apportionment of water originating in Arkansas should be equal to 40% of the total weekly runoff. In the past, Arkansas used a simple runoff estimation, but both states agreed that is not a good system and the Commission directed Oklahoma and Texas to get involved. Staff have met eight times by conference call researching various approaches, met with USGS officials in Louisiana, as well as the States of Arkansas and Louisiana met with the USGS, which is conducting a study that may be able to assist in moving forward in deducing the derived numbers into weekly numbers. She stated Mr. Ken Brazil (Arkansas) drafted a scope of work which has several criterion used to reach out to engineering firms. There is a summary in the meeting packet entitled, “Summary of Proposals for Estimating Weekly Runoff Methodology.” Oklahoma staff summarized the information and met with the companies, and she described the scope of work proposed by the USGS developing reference streams/sites which the Engineering Committee felt would be an understandable approach, and they will present that to the Commission later in the meeting under federal reports. She described the other proposals received by the Committee from firms in Arkansas and Oklahoma with estimated costs of $50-$143,000, and annual costs. She said the Committee had not had time to fully investigate the proposals, but the Committee is prepared to continue meetings and looking at those considerations and “hone” the criteria further. Texas and Oklahoma are committed to stay involved and continue to the work.
Commissioner Abney asked Mr. Bolourchi if Louisiana was prepared to identify which of the three proposals are acceptable, and Mr. Bolourchi responded he is not. Commissioner Abney stated it is most important that Louisiana feel assured to accept or not accept a company for whatever reason, and to be committed to the methodology. He said since Arkansas has committed to pay, Arkansas should be able to accept what Louisiana approves. He said if Louisiana believes the Engineering Committee is able to get to that, and Arkansas accepts, that is the purpose of the Compact and it can move forward. Mr. Bolourchi stated another part regarded implementation and enforcement. Ms. Cunningham stated a lot of good work has been done, and the States are willing to continue to work on those issues.

Ms. Cunningham concluded her report noting ongoing work by the USGS and Bureau of Reclamation which will be presented under the agenda item for federal reports.

There was no further business of the Engineering Committee. As a final comment regarding the work on Reach IV, Subbasin 2 issues, the Commissioners and Chairman agreed the Engineering Committee will continue to work on the issues in the interim, and the Committee should feel free to report back prior to the next meeting, if necessary. The Commissioners commended the Committee on its work. (Attachment 12)

D. Environmental and Natural Resources Committee – Ms. Cunningham presented for the Environmental and Natural Resources Committee. She said there were no assignments, and there is no report. The States presented written information at the committee meeting regarding 303(d) compliance which was distributed to the Commissioners. (Attachment 13)

There were no questions.

Chairman Fassett announced the Commission would take a break at 10:00 a.m. The Chairman called the meeting back to order at 10:20 a.m.

IX. FEDERAL AGENCY REPORTS

Chairman Fassett invited representatives of the federal agencies to make comments to the Commissioners about the work their agency is performing in the basin.

A. U.S. Army Corps of Engineers

Mr. Mark Ellison, Operations Project Manager for the Red River area, U.S. Army Corps of Engineers Southwest Division-Tulsa District, addressed the Commission and introduced Mr. Isaac Martin, Assistant Lake Manager for Pine Creek, Sardis, and Broken Bow Lakes who was also in attendance. Mr. Ellison made a PowerPoint presentation on District activities in the Red River watershed which total drainage area is 52,336 square miles and there are 15 projects managed for flood risk, seven Corps of Engineers’ projects, eight projects owned by others, and one Chloride Control Project; he manages 10 of the projects. He discussed the dredge project and pipe installation in partnership with the Waurika Master Conservancy District. Under the Water Resources and Reform and Development Act of 2014, the COE may reassign storage for municipal and industrial water supply for state or local interest that has entered into an agreement for water supply storage prior to the date of enactment of the Act, which the District has petitioned for but no decision made. Additionally, Mr. Ellison reviewed authorization, purpose, conditions, current issues and actions in regard to lake levels and repairs for the following reservoirs in the basin: Lake Texoma, Pine Creek, Hugo Lake, Sardis Lake, and
Broken Bow Lake (Oklahoma); and, Lake Kemp, Truscott Brinc Lake, and Pat Mayse Lake (Texas), well as the Red River Chloride Control Plan.

Mr. Ellison responded to questions about lake management during the high levels due to recent rainfall. (Attachment 14)

B. U.S. Bureau of Reclamation

Mr. Damon Mayhorn, Bureau of Reclamation, Oklahoma, presented a written report, “Summary of Current and Recently Completed Activities” including planning, construction assistance and grant programs within the Oklahoma-Texas Area Office purview and reviewed the Native American Affairs Program, and Water Conservation Field Services Program grants of 2013-2014. He provided a separate written report on the Upper Red River Basin Study which kicked off on April 15 in Altus, Oklahoma. He also reviewed the Water and Energy Efficiency Grant projects involving a water reuse project, and discussed the Research and Development program, including the North Texas Municipal Water District blending of water from Texoma. He highlighted the Desalination and Water Purification Research and the Drought Response Program and availability in May 2016 of $100,000 for drought mitigation planning and project funding activities of the member states.

Commissioner Dowd and Mike Rickman, NTMWD, commented about the Wichita Falls feasibility study. (Attachment 15)

C. U.S. Geological Survey

Mr. Ben McGee, Louisiana District of the USGS, addressed the members and stated he operates gages along the Louisiana and Arkansas border and he also works closely with his counterpart in Arkansas to ensure the network remains operational, and works with the Sabine River Compa as well. He reported that in recent years new gages have been installed on the border streams to enhance information. He thanked the Commission for its support of the USGS stream gaging program and the resolution approved today supporting the cooperative program as it is a very important program to the USGS and the backbone to the monitoring in the states.

Mr. Jason Lewis, Oklahoma District of the USGS, addressed the members and provided a written report. He said the report – the summary sheet for Arkansas, Louisiana, Oklahoma and Texas Water Science Centers -- contains information regarding conditions from last year, compared to the previous year. (Attachment 16)

Mr. Jaysson Funkhauser, Arkansas District of the USGS, spoke to the Commission about his District’s monitoring program in the Red River basin summarizing the data collection program noting they had changed some water quality monitoring and added stream gages working closely with Louisiana on the state boundary gages.

Additionally, he reported the USGS had approached Louisiana about a study to better analyze stream flow in the entire Mississippi Alluvial Plain which included parts of Mississippi, Arkansas, Louisiana and Tennessee and had received a letter of support from the Red River Compact Commission which ultimately led to the funding of the project. He said the study is ongoing, and looked at natural monthly flows. He introduced other members of the study team, Brian Breaker and Rheannon Hart, and said they now have results and are moving to the publication phase. Mr. Brian Breaker presented the project he and Ms. Hart have been conducting which looked at the degree of hydrologic alteration in the Mississippi Alluvial Plain and discovered there is a lack of unaltered sites in the Plain which he described. He said they
decided to assess stream flow by looking back in time to pre-1960 at 128 sites, which has been narrowed to 83 sites looking at the pre-regulation phase, and further narrowed to 68 sites based on model performance. They looked at flood frequency, high flow durations, low flow duration, frequency of low flow cold spells, and the monthly mean flow, which he focused on in today's presentation—he talked about observed and expected flow value results at three sites: Bayou Bartholomew, Boeuf River State Line, and further south Boeuf River in Louisiana. Climate data was also reviewed for the time period. He presented a written draft project update, which was not available for publication.

Ms. Kristine Blickenstaff, US Geological Survey, Fort Worth, Texas, presented to the Commission the planning efforts to date in regard to an upcoming study expected to begin in 2016 and conclude in 2018 entitled, "Red River Focus Area Study," a joint project between USGS Water Science Centers of the four compact states, funded by the SECURE Water Act of 2007 through the National Science and Technology Council and BOR WaterSMART funding mechanism. She presented a PowerPoint detailing the USGS strategic direction and the study goals (same as WaterSMART): bring current BOR and USGS studies and legislation together under one strategy, focus on water availability, and evaluate if there is enough quantity of water of sufficient quality to meet human and ecological present and future needs. She described the study area, issues to be addressed including increasing water demand, drought, disruption of aquatic ecosystems, and water quality (salinity and natural chloride). Ms. Blickenstaff reviewed the planned activities of the study which will refine 2010 and 2015 USGS water-use estimates, develop surface water models and research groundwater/surface water interaction, estimate daily streamflows, and summarize existing aquatic ecological data. The named select stakeholders include the Red River Compact Commission, Red River Valley Association, Texas Water Development Board, Oklahoma Water Resources Board, Arkansas Soil and Water Conservation Commission, Louisiana Department of Transportation and Development, Natural Resource Conservation Service, US Bureau of Reclamation, US Department of Agriculture, US Fish and Wildlife Service, US Army Corps of Engineers, and the Choctaw and Chickasaw Tribes. She said the initial workplan will be completed in July and Stakeholder meetings will be conducted in each state for review and input.

Ms. Blickenstaff responded to questions by Commissioner Abney that the study area will be conducted by basin, with a 50/50 funding split i.e. the OWRB; it will not tell states what to do with the water but what water use has been historically and what is available. However, the BOR may recommend how to move forward and balance use in the future. Mr. Russ Doughty (ORWP) asked about the inclusion of climate modeling and Ms. Blickenstaff responded that would not be included in the study by the USGS as it will look at historical data and the BOR will project the future. Mr. Breaker added it is not in the scope of work at this time.

Commissioner Strong stated he had received his first briefing on the project a few weeks earlier and asked the USGS to present the study to the Commission. He noted the goals of the study regards water availability and each state has its own method for calculating water availability and he was initially concerned calculations might be made and competing numbers about how much water is available for compact compliance and water rights allocation. He emphasized the need for the states to stay tuned to the process to make sure the results are agreeable. Ms. Blickenstaff responded the initial water use data will be provided by the states and the USGS methodology will be transparent if there are differences, and hopefully, have a consensus on how to come up with water use estimates.

There were no further questions. (Attachment 17)
D. Natural Resource Conservation Service

Mr. Richard Lane, NRCS Planning and Water Resources, Stillwater, Oklahoma, addressed the members and presented program updates regarding the 2014 Farm Bill Program highlighting changes between the 2008 and 2014 bill with the attempt to improve on previous versions. The effort currently is to concentrate on areas where there is “more bang for the buck,” and includes financial assistance programs such as the EQUIP and CSP. The Easement program includes wetland, grassland, and farming and ranch land protection; and Partnership programs including wildlife protection and water management, and technical service providers. Mr. Lane reviewed the grant programs for financial assistance to improve habitat, emergency watershed protection involving storm events, and watershed rehabilitation of 19 projects.

Mr. Lane concluded his report noting the information is available on the NRCS website.

X. DISCUSSION TOPICS

Chairman Fassett stated he was not aware of any Discussion Topics. There were no requests or comments by the Commissioners.

XI. NEW BUSINESS

A. Annual Report - Chairman Fassett noted the Oklahoma Water Resources Board will publish the 2015 report. Arkansas will be publishing the 2014 annual report.

B. and D. Commission Assignments to Committees and Appointment to Committees – Chairman Fassett stated the States are familiar with the rotation of committee responsibilities. There were no assignments to the Committees.

Mr. Bo Bolourchi asked that Mr. Ed Knight be appointed to the Engineering Committee representing Louisiana.

C. and E. Election of Officers and 36th Annual Meeting – The 36th Annual Meeting will be hosted by the State of Texas.

Commissioner Abney stated he would serve as Vice Chairman, and his Executive Assistant Donna Shell will serve as Secretary.

Commissioner Young so moved, and Commissioner Strong seconded. The motion carried unanimously.

Commissioner Abney stated the compact instructs the meeting would be held the fourth Tuesday of April, which would be April 26, 2016, and asked for notification if there are conflicts. He anticipated the location would be Austin, Texas.

There was no other New Business for the Commission's consideration.
XII. RED RIVER VALLEY ASSOCIATION

Mr. Richard Brontoli, Executive Director of the Red River Valley Association, distributed a written report and noted the information is available on the RRVA website. He highlighted the following items:

The Corps of Engineers’ appropriations received a $735,000,000.00 cut from FY 2015, but the Energy and Water Bill raised it, and while there are no earmarks, there are other “pots of money” for studies, construction, and operation and maintenance which provides opportunity to seek funding. There will not be additional funding for studies except for the Sulphur River Basin, and he is working on funding for the Arkansas Feasibility Study to increase the depth to 12 foot. The report included an update on funding requests for FY 2016 and appropriations in the President’s budget and House and Senate markup; the President’s budget included an increase to the Bureau of Reclamation for projects in the Red River and funding to the NRCS to look at impacts of climate change. He reviewed navigation issues which included the President’s budget reduction on the Red River for dredging, the IMTS Reduced Lock Service Mandate, and he noted the Benteler Steel project at the Caddo-Bossier Port, and the Cool Planet Bio-Fuel and an aluminum manufacturing plant at the Alexandria Regional Port. He updated the group regarding the navigation in Arkansas Feasibility Study adding to Commissioner Dowd’s comments and Arkansas’s efforts to acquire funding, and he said there has been no action on the Chloride Control Projects other than securing private funding for the solar pond initiative.

Other issues Mr. Brontoli highlighted concerned The Waters of the United States rulemaking, and increasing federal flood standards to a 500-year flood and the concerns of impacts to economic development. Mr. Brontoli concluded his report.

Commissioner Dowd and Commissioner Young asked about the markups on the President’s budget and the House and Senate markups. Mr. Brontoli explained the lack of earmarks and the additional “pots of money” where states compete for money, and there is additional money where the categories may change somewhat. Mr. Brontoli said he will concentrate on the areas where there is an opportunity to receive funds. (Attachment 18)

There was no other business for the Commission.

XIII. PUBLIC COMMENT

Mr. Russell Doughty, representing Oklahomans for Responsible Water Policy, addressed the Commissioners and commented about the scientific and sustainable management of water in Oklahoma and the importance of relationship with neighboring states, in particularly in regard to the transfer of water and effects on the ecosystem, as well as the benefits of regional economics and the impact to life and future of the area. He emphasized the need for changes in water management in the state and strategies needed to preserve water resources. He said his organization strives to be a voice not only for southeastern Oklahoma, but for people across Oklahoma who recognize the need for changes in water management strategies to secure our future.

Commissioner Strong thanked Ms. Charlette Hearne for hosting the group for dinner on April 27. Ms. Hearne thanked the group for conducting the meeting in Broken Bow.
XIV. ADJOURNMENT

There being no further business, Commissioner Abney moved and Commissioner Strong seconded to adjourn the meeting. Chairman Fassett adjourned the 35th Annual Meeting of the Red River Compact Commission at 11:58 a.m., April 28, 2015.

Gordon "Jeff" Fassett, Chairman

Mary Schooley
Oklahoma Water Resources Board
2015 Secretary to Commission
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# ATTENDANCE
RED RIVER COMPACT COMMISSION
BROKEN BOW, OKLAHOMA

PLEASE WRITE CLEARLY AND COMPLETE MAILING ADDRESS AND EMAIL ADDRESS, AND TELEPHONE INFORMATION

**Meeting:** Engineering Committee  
**DATE:** April 27, 2015  
**TIME:** 2:00 P.M.

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Priscilla Hubenak
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Bureau of Reclamation

Texas

Oklahoma

PRICE-Claim

OWNERS
PROXY

RED RIVER COMPACT COMMISSION

THIS IS TO CERTIFY that I have designated and do hereby authorize MR. ZAHIR "BO" BOLOURCHI, Director of Water Resources Programs, Public Works & Water Resources Division to serve as my proxy for the Red River Compact Commission meetings and any committee meetings held in connection with the Red River Compact Commission, with full authority to act on my behalf as a voting member of the Commission.

SIGNED at Baton Rouge, Louisiana, this 21st day of April 2015.

CHRISTOPHER P. KNOTTS, P.E.
DEPUTY ASSISTANT SECRETARY
PUBLIC WORKS & WATER RESOURCES DIVISION
LOUISIANA COMMISSIONER, RRCC
Mr. Gordon W. "Jeff" Fassett  
Chairman and Federal Representative  
Red River Compact Commission  
Fassett Consulting LLC  
1720 Carey Avenue, Suite 612  
Cheyenne, Wyoming 82001

Dear Chairman Fassett:

I regret that I am unable to participate in the 2015 annual meeting of the Red River Compact Commission on April 27-28, 2015, in Beaver's Bend State Park in Oklahoma, due to state legislative obligations. In my absence, I grant my support and proxy vote as Commissioner of the Compact Commission for any considerations of the Commission to Kevin McCalla, J.D., Special Counsel, Texas Commission on Environmental Quality Office of Water, who plans to attend as representative from the TCEQ.

My best wishes to the Commission for a successful meeting. I look forward to working with you on future Commission issues.

Sincerely,

[Signature]

Richard A. Hyde, P.E., Executive Director  
Texas Commission on Environmental Quality  
Commissioner, Red River Compact Commission

cc: Kevin McCalla, J.D., Special Counsel, Office of Water  
Suzy Valentine, P.E., Interstate River Comacts Engineer Advisor  
William A. Abney, Commissioner, Red River Compact Commission
AGENDA
RED RIVER COMPACT COMMISSION
35TH ANNUAL MEETING

BEAVERS BEND LAKEVIEW LODGE
BROKEN BOW, OKLAHOMA
APRIL 28, 2015
8:30 A.M.

Monday, April 27, 2015
2:00 p.m.  Engineering Committee
3:30 p.m.  Environmental and Natural Resources Committee
3:30 p.m.  Legal Committee
4:00 p.m.  Budget Committee
6:30 p.m.  Dinner at Abendigos (on your own)

Tuesday, April 28, 2015

8:30 a.m.  Red River Compact Commission Meeting

I. Call to Order – Chairman Jeff Fassett

II. Welcome and Introductions

III. Approval of the Agenda

IV. Approval of the Minutes of the April 22, 2014, RRCC Annual Meeting held in Hot Springs, AR

V. Report of Chairman Fassett

VI. Report of the Treasurer – Edward Swaim, Arkansas

VII. Report of the Commissioners
    A. Arkansas
    B. Louisiana
    C. Texas
    D. Oklahoma

VIII. Report of the Committees
    A. Budget Committee – Edward Swaim
    B. Legal Committee – Rob Singletary
C. Engineering Committee – Julie Cunningham
   1. Investigation of compact compliance evaluation methodologies in Reach IV, Subbasin 2
   2. Other
D. Environmental and Natural Resources Committee – Derek Smithee

IX. Federal Agency Reports
   A. U.S. Army Corps of Engineers
   B. Bureau of Reclamation
   C. U.S. Geological Survey
   D. Natural Resources Conservation Service

X. Discussion Topics

XI. New Business
   A. Annual Report – Schedule and Assignments
   B. Commission assignments to Committees
   C. Election of Officers
   D. Appointments or Changes to Committees
   E. 36th Annual Meeting – Texas to host

XII. Red River Valley Association – Rich Brontoli
   A. Navigation Issues
   B. Chloride Control Projects
   C. Congressional Legislation/Budget
   D. Annual Meeting of RRVA

XIII. Public Comment

XIV. Adjournment
Report of the Treasurer
July 1, 2013 – June 30, 2014
Red River Compact Commission
April 27, 2015

Bank Balance as of 7/1/2013  $15,776.00

**RECEIPTS**
- Member Assessments  $2,200.00
- Dividend Income  $1.00
- **TOTAL**  $2,201.00

**EXPENSES**
- Audit  275.00
- Meeting Expense  762.00
- **TOTAL**  $1,037.00

Bank Balance as of 7/1/2014  $16,940

Certificate of Deposit Balance as of 7/31/2013  $11,198.00

**RECEIPTS**
- Dividend Income  $11.00

Certificate of Deposit Balance as of 7/1/2014  $11,209.00

**TOTAL BALANCE 5/30/2014**  $28,149.00

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**ASSESSMENTS ARE UP TO DATE**  $2,200.00
Interest from 7/1/2014 to date is  1.15

**TOTAL BALANCE 4/27/15**  $30,350.15

ATTACHMENT 3
ARKANSAS WATER PLAN UPDATE
The 2014 Arkansas Water Plan update is complete and available at: arkansaswaterplan.org.

The update consists of a series of reports, from water demand and supply, to special issues, such as agricultural water conservation and infrastructure condition and financing. The full update is over 2,600 pages, with a 100-page “main report” containing an overview of the data, science, engineering, and policy in the Plan.

The 10 major issues and recommendations are summarized in the attached draft rules. Governor Hutchinson is reviewing the proposed rules. After that review, we will proceed through rulemaking under our Administrative Procedure Act, which now includes a formal legislative review at the end.

In the meantime, we are incorporating the Plan’s lessons into our water use, non-point source, development, and other programs within ANRC.

Three reports done in cooperation with the USGS and the Corps of Engineers should be of interest to the Compact:

Runoff from 1951 to 2011:

Precipitation, streamflow, and reservoirs from 1951 to 2011:

“Aquifers of Arkansas”

NONPOINT SOURCE (NPS) POLLUTION MANAGEMENT PROGRAM
The Water Plan update recommended more state emphasis on non-point source issues. Immediately after the update was completed, ANRC entered into three contracts to produce “9-element” watershed plans, which EPA has emphasized are necessary for successful project grant applications. These will be complete in about one year and include one watershed in Reach II, Subbasin 3 of the Compact. The Little River watershed management process has begun with a
series of public meetings, and will result in a plan to reduce non-point source pollution in the area that drains primarily into Lake Millwood.

ANRC has identified 10 priority watersheds using its stakeholder-driven Risk Assessment matrix. Priority watersheds in the Compact area include: Bayou Bartholomew, Lower Ouachita - Smackover, and Upper Saline.

Our workplan to fund administration of the NPS program has been approved by EPA for a period of three years.

GROUNDWATER PROGRAM
The Groundwater Section of the ANRC is responsible for statewide groundwater resources planning, management, and conservation activities, water-level measurements, analysis and reporting of data, and administration of some portions of the Arkansas Water Well Construction Commission (AWWCC) program.

A landmark Report, “Aquifers of Arkansas,” was published by USGS in cooperation with ANRC. The 334-page document is an encyclopedic collection of information on all Arkansas aquifers and the data, reports, and models that have been compiled. It is “SIR 2014-5149” and available at http://pubs.usgs.gov/sir/2014/5149/.

In the Red River Compact area, we see continued declines in the alluvial and Sparta aquifers. Several counties in the Compact area in Southeast Arkansas have asked ANRC to consider declaring them to be “Critical Groundwater Areas,” eligible for enhanced tax credit and other assistance for agricultural and industrial water conservation.

Each year ANRC staff works closely with the US Geological Survey (USGS) and the Natural Resource Conservation Service to collect water-level data from a network of approximately 1500 wells and springs statewide. This data is analyzed and reported in the annual Groundwater Protection and Management Report; a report generated as part of the Arkansas Water Plan activities since the early 1990’s. This section also provides data, presentations, and hydrogeologic evaluation to other agencies and the public as requested.

The Groundwater Section is also responsible for the licensing and registration of about 175 water well contractors, and over 280 drillers, with 270 pump installers. Two water well construction inspectors perform water well inspections in response to complaints or routine area visits. All wells constructed in the state are required to meet standards as defined in the rules and regulations of the Arkansas Water Well Construction Act. The section also works with the USGS to update and maintain water well construction reports as part of the Arkansas Water Inventory System. This inventory provides data on well construction, locations and depths, driller’s logs, water use categories, yield, and pump information.

COMPACT COMPLIANCE
At the 2014 RRCC meeting, the Compact Commission asked the Engineering Committee to collect information regarding costs and potential methods to estimate "weekly runoff" in Subbasin II from third party consultants. In response, the Engineering Committee sent a "scope-of-work" requests to two consultants in Arkansas and Oklahoma. "Scope-of-work" proposals were received back from FTN Associates in Arkansas and Vieux & Associates, Inc. in Oklahoma. After review of these proposed methods, the Engineering Committee conducted
several conference calls to discuss methods and proposals with these consultants. In addition, USGS also presented data from streamflow studies that were deemed applicable to estimating "weekly runoff" in Subbasin II.

The Engineering Committee is currently assessing the scientific rigor and comparative costs of these potential methods and will report in further detail during the Engineering Committee report to the Commission.

In general, it was a relatively wet summer in 2014 and no sustained low flow conditions were identified on compact streams crossing the AR/LA state line. Releases from Lake Chicot maintained adequate stream flows during the summer months on Bayou Macon.

SOUTHEAST ARKANSAS BOEUF-TENSAS FEASIBILITY STUDY
The Vicksburg District in conjunction with the Boeuf-Tensas Regional Water Distribution District is studying the potential to introduce water from the Arkansas River through an 8-foot by 8-foot structure into Bayou Bartholomew and Deep Bayou. Water would gravity flow through the system and not be pumped. Arkansas has worked with the Louisiana Department of Agriculture and Forestry and they have agreed to become a "non-federal sponsor" with Arkansas.

This week, we will inform the Vicksburg District that the "contributed funds" have been collected from the Boeuf-Tensas District and from Louisiana through the Morehouse Parish Soil and Water Conservation District. The Corps will then re-scope the project, and will provide a revised project cooperation agreement that will bring in Louisiana through its soil and water conservation districts or an entity made up of cooperating districts.

It is our hope that the project will prove feasible and will succeed in bringing more surface water to Southeast Arkansas and Northeast Louisiana to support agriculture, fish and wildlife, and other needs.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)
The Arkansas Natural Resources Commission (ANRC) is the State Coordinating Agency for the NFIP in the State of Arkansas. The Commission maintains a database of 577 communities in Arkansas, which includes 75 counties and 502 cities and towns. Sixty-five counties and 353 cities and towns participate in the NFIP. Each participating community has a local floodplain administrator. Local floodplain administrators are required by State law to attend eight hours of training per year. Training may take the form of 10 or more State-sponsored one-day workshops or other approved training provided by the State or other qualified provider. A growing number of communities have at least one Certified Floodplain Manager (CFM).

SAFE DAMS PROGRAM
In the counties lying in the Red River Compact area, the Arkansas Natural Resources Commission (ANRC) permits 104 dams.

ANRC manages the Safe Dams Program for the State of Arkansas. At present ANRC has 411 active permitted dams that it inspects on a routine basis. Of the 411 active permit dams, 114 are high hazard, 92 are significant hazard, and 205 are low hazard.
There are a total of 1,340 dams in ANRC’s database. Of the total, the State regulates 411, 61 of these dams are regulated by Federal agencies, and the remainder do not meet size or hazard criteria for regulation.

**RED RIVER NAVIGATION STUDY**
Four alternatives are being evaluated by the US Army Corps of Engineers, Vicksburg District. Plan A contains two lock and dams above Shreveport to provide a nine-foot channel to the vicinity of Garland at U.S. Highway 82. Plan B is a three lock and dam system. Plan D anticipates a two lock and dam system to provide navigation to Fulton, Arkansas. Plan E is a three lock and dam plan to Index, Arkansas. Because the transportation benefits for extending navigation from Fulton to Index are minimal, the Corps is not evaluating Plan E as intensely as the other alternatives. Current “freight rates” must be reevaluated to update benefit-cost ratio. The Red River Commission is working to survey potential shippers to show a positive benefit-cost ratio for the alternatives.
# The Arkansas Water Plan

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Subtitle I. The Arkansas Water Plan

Section 2401.1 The Arkansas Water Plan.
The Arkansas Natural Resources Commission will prepare, develop, formulate, and engage in a comprehensive program for the orderly development and management of the state's water and related land resources, to be referred to as the "Arkansas Water Plan." The first edition of the Arkansas Water Plan was published by the Commission in 1975 and updated in 1990 and 2015.

Section 2401.2 Mission of the Arkansas Water Plan.
The Arkansas Water Plan is the state's comprehensive planning process for the conservation, development, and protection of the state's water resources, with a goal of long-term sustainable use for the health, well-being, and environmental and economic benefit of the state.

Section 2401.3 Enabling and pertinent legislation.

Section 2401.4 Commission adoption of the Arkansas Water Plan.
A. The Arkansas Natural Resources Commission shall publish an Arkansas Water Plan, which shall from time to time be revised, updated, and amended as new information, projects, and developments shall occur.
B. Through the planning process, the Commission will identify priority water issues and adopt policy approaches for the orderly development and management of the state's water and related land resources.
C. Priority issues, goals, and recommendations are effective upon adoption by the Commission pursuant to the rulemaking provisions of the Arkansas Administrative Procedure Act.

D. Technical reports supporting the planning process are not binding policy or rule.

Section 2401.5 Publishing the Arkansas Water Plan.
The Commission will maintain an electronic version of the planning documents and supporting technical studies available to all interested state agencies, departments, commissions, and individuals.

Section 2401.6 Ongoing supporting technical studies.
The Arkansas Natural Resources Commission will gather, compile, and analyze information on both the use of water in this state and the needs of the citizens of this state and will make the information available to officials of this state and to its citizens.

Section 2401.7 Definitions.
As used in these rules:

A. “Agricultural Irrigation Science Technical Workgroup” means a voluntary group of technical experts and stakeholders who will assist the commission in ensuring the best possible data and science is used to support agricultural water policy decisions. The Commission’s Executive Director will empanel the members.

B. “Arkansas Method” means the methodology used to determine instream flow needs for fisheries when calculating the amount of water that is legally available for nonriparian use. The Arkansas method divides a year into three seasons based on physical processes that occur in the stream and critical life cycle stages of fish and other aquatic organisms. The mean monthly flow (MMF) of a stream is determined from the gauging network and records. From November to March, the Arkansas Method specifies that 60% of MMF is required; from April to June, 70% of MMF is needed, and from July to October, 50% of MMF is necessary. (Steve Filipek, William E. Keith, and John Giese, The Status of the Instream Flow Issue in Arkansas, Proceedings of Arkansas Academy of Science, 1987, 43-48).

C. “Conjunctive Water Management” means use of surface water and groundwater in combination to improve water availability and reliability.

D. “Water Resources Planning Region” means one of five regions of the state with similar hydrology, economy, and geography. See map attached as Appendix A.

E. “Integrated Irrigation Water Conservation Practices” means irrigation practices that meet crop production needs while conserving surface and groundwater, energy, and cost, and reducing sediment and nutrient runoff.
F. "Irrigation Water Use Efficiency" means the overall efficiency of obtaining, distributing, and using water for crop production.

G. "Nutrient management plan" means a documented record of how nutrients will be managed on a nutrient management unit prepared in accordance with United States Department of Agriculture Natural Resources Conservation Service conservation practice standards for Arkansas to guide and assist landowners and operators in the use of fertilizers, litter, sewage sludges, compost and other nutrient sources for soil fertility and protection of the waters within the state.

H. "Priority issues" means water resources issues identified during the planning process and selected by the Commission as having long-term, statewide, application requiring further work to ensure water availability and quality.

I. "Sustainable yield" is development and use of ground water resources in a manner that can be maintained for an indefinite time without causing unacceptable environmental, economic, or social consequences. (William M. Alley & Stanley A. Leake, The journey from safe yield to sustainability, 42 Ground Water 1, 12-16).

J. "Target efficiency" is a goal for irrigation water use formulated to conserve surface and groundwater, save energy, and lower crop production cost.

K. "Technical reports" are any documents or data helpful to the planning process.

Subtitle II. Issues and Recommendations

Section 2402.1 Conjunctive water management and groundwater decline.

A. Arkansas must reduce groundwater withdrawals and move toward sustainable groundwater use, provide sustainable yield protection for the Sparta aquifer, and ensure water is available to satisfy irrigation uses through conjunctive water management.

B. The Commission will seek opportunities to purchase, install, and read meters on selected alluvial wells.

C. The Commission will develop and implement conjunctive water management strategies based on storing surface water during months when excess water is available, for use during the summer irrigation months when excess surface water is not available. Groundwater use would supplement surface water use, rather than being the primary irrigation water source.

Section 2402.2 Tax incentives and credits for integrated irrigation water conservation.

A. Tax incentives and credits are needed to encourage the implementation and management of integrated irrigation water conservation practices.
B. The Commission will determine the current irrigation water use efficiency for various crops and subwatersheds in the East Arkansas Region and establish a goal or target efficiency to be achieved for integrated irrigation water management and conservation practices.

C. The Commission will evaluate the effectiveness of the existing tax credits and incentives and, based on this assessment, consider recommending that the General Assembly:
   1. Increase the percentage of the total project cost available for tax credits based on applicants improving their irrigation water use efficiency compared with the goal or target efficiency,
   2. Extend the period for claiming tax credits for implementing water conservation practices, and
   3. Increase the annual cap on tax credits so additional tax credits can be claimed.

D. The Commission will track the acreage on which water conservation practices have been implemented.

Section 2402.3 Funding water resources development projects.

A. State-issued general obligation bonds are vital to finance and refinance the development of water, waste disposal, pollution control, abatement, and prevention; drainage, irrigation, flood control, wetlands, and aquatic resources projects to serve the citizens of the State of Arkansas.

B. As current bond authorization is exhausted, the Commission will pursue authorization of an additional $300 million under the Water, Waste Disposal, and Pollution Abatement Facilities General Obligation Bond Program.

C. Additional bond authorization will be requested as needed to finance and refinance the development of water resources projects.

D. The Commission will seek the authority to merge water or sewer systems where necessary in order to bring them into economic viability.

Section 2402.4 Infrastructure condition.

A. Public water and wastewater infrastructure is failing and in need of repair and replacement throughout Arkansas.

B. Public entities operating water and wastewater infrastructure or flood control and drainage projects should develop sustainability plans that evaluate:
   1. Current infrastructure status and historical trends in status,
   2. Needed infrastructure repairs, replacement, and maintenance and associated schedules,
   3. Federal and state programs available to support infrastructure projects, and
   4. Contingency plans, including the potential for regionalization or privatization (including the usage of private water wells, septic systems, or decentralized systems), if the utilities are assessed to be unsustainable.

C. The Commission may initiate receivership proceedings for public water and wastewater providers that have defaulted on loans.
D. The Commission will develop training programs for utility boards of directors on sustainability planning and how these plans relate to the operation of their facilities and infrastructure.

E. The Commission may provide lower loan rates to any utility that submits a sustainability plan with its financing application.

Section 2402.5 Excess water for nonriparian withdrawal and use.

A. The statutory definition of excess water should be based on sound science.

B. A deficit of legally available water has been identified within certain basins in the East Arkansas Water Resource Planning Region. The General Assembly should consider raising the 25 percent limitation for permitting excess surface water within these basins for nonriparian transfer upon completion of scientific studies in East Arkansas validating the need for an increase and confirming water is seasonally available to protect and sustain instream, riparian, and other uses specified in state law.

C. Similar scientific analyses should be conducted in the remaining planning regions in this order: South-central, West-central, North, and Southwest. These studies will be conducted in collaboration with the Arkansas Game and Fish Commission, the Arkansas Department of Environmental Quality, the Arkansas Department of Health, and other state, regional and local agencies with constitutional and statutory water management duties.

D. Continue to use the Arkansas Method in estimating the proportion of total available water needed to satisfy fish and wildlife flow needs in estimating excess water for nonriparian withdrawals and transfers.

E. Through adaptive management, the Commission will evaluate and assess alternative methods for estimating fish and wildlife flows, or other instream needs and uses, as more accurate, scientifically reviewed, and defensible methods become available.

F. The Commission will engage stakeholders in the planning regions through an open and transparent process as scientific studies are conducted and as better scientific approaches become available and are proposed for use.

Section 2402.6 Drought response.

A. Planning for allocation during drought is needed before droughts occur.

B. The Commission will develop a coordinated drought contingency response network among state, regional and local agencies with constitutional and statutory water management duties, federal agencies; drinking water utilities, organizations, and institutions; and the private sector for alerting the public about impending droughts, sharing consistent messages and information, and providing information on voluntary conservation measures to reduce water use.

C. The Commission will seek financing and ensure stream gaging networks throughout the state are adequate to provide streamflow information needed to make informed decisions about impending or advancing droughts statewide and within each planning region.
Section 2402.7 Reallocation of water storage in federal reservoirs.

A. Reallocation of water storage in United States Corps of Engineers reservoirs is needed to increase available water for existing and new uses.

B. Reallocation of water storage in reservoirs, based on the revised 1977 Water Supply Act guidance manual, should be sought if there is a documented need for additional water for domestic, municipal, or industrial water supply.

Section 2402.8 Improving water quality through nonpoint source management.

A. Water quality is affected by nonpoint sources of pollutants and nonpoint source management projects need state funding in addition to federal funding.

B. The Commission will propose legislation to designate funding specifically for financing nonpoint source pollution management programs and implementing nonpoint source management practices.

C. The Commission will collaborate with the Arkansas Department of Environmental Quality, the Arkansas Game and Fish Commission, the Arkansas Natural Heritage Commission, the Arkansas Department of Health, the United States Geological Survey, and other state, regional, and local agencies and organizations that engage in or have water quality management interest through:

1. The biennial Clean Water Act water quality review processes, and
2. The water quality criteria review to determine the attainment or nonattainment of water quality standards in streams and identify the sources and causes of nonattainment.

D. The Commission will encourage the General Assembly to require nutrient management plans for the application of poultry litter and animal manure throughout the state.

E. The Commission will leverage funding from multiple sources such as Source Water Protection under the Safe Drinking Water Act, administered through the Arkansas Department of Health, to address nonpoint source pollution in watersheds with drinking water sources.

Section 2402.9 Public awareness and education.

A. Public awareness and education are critical for water planning in Arkansas.

B. The Commission will collaborate with the Arkansas Water Foundation, the Arkansas Association of Conservation Districts, the University of Arkansas Cooperative Extension Service, and others to develop and disseminate public information. This information should focus on water conservation practices being implemented by agriculture in Arkansas; the contributions of agriculture to the economy, food security, and the quality of life in Arkansas; advances in water conservation technology; and trends in groundwater and surface water use.

Section 2402.10 Water use reporting.

A. The accuracy of water use reported for agricultural irrigation has been questioned because most water use is not measured or metered.
B. The Commission will form an Agricultural Irrigation Science Technical Workgroup to:
   1. Review the water use reporting process for agricultural irrigation,
   2. Modify the ranges for accepted water use by crop type, if needed for greater accuracy,
   3. Evaluate various quality assurance criteria and approaches for confirming crop type and acreage,
   4. Assess the adequacy of the surface water and groundwater monitoring network in providing confirmation of the aggregate or cumulative withdrawal of groundwater and surface water for agricultural irrigation,
   5. Propose incentives for agricultural users to report water use more accurately, and
   6. Periodically review advances in technology for measuring and estimating water use and water use reporting and provide recommendations to the Commission on incorporating these advances in water use reporting programs.
C. The Commission will continue and improve awareness and education programs, in conjunction with conservation districts, to explain and promote the water use reporting program currently in place and any future improvements.

Subtitle III. Continuous Planning

Section 2403.1 Continuous planning.
The Arkansas Water Plan shall be altered, amended, or repealed to the extent necessary for the proper administration of the state's water resources.

Section 2403.2 Implementation teams and workgroups.
A. The Executive Director of the Commission will empanel issue-specific implementation teams and workgroups recommended in the Arkansas Water Plan.
B. Participation in workgroups empaneled by the Commission will be open to all interested parties acting in good faith, with the Commission retaining its statutory responsibility to make final policy determinations.

Section 2403.3 Updating the Arkansas Water Plan.
A. The Commission will compile water demand and supply data continuously and improve its collection and analysis methods.
B. Gap analyses for non-population-driven uses, such as agriculture, industry, and thermoelectric power generation, will be conducted on approximately five-year cycles, or when the Commission determines that emerging issues warrant more frequent study.
C. After release of the decennial United States Census, the Commission will update population-based water demand, supply, and gap analyses for public water and wastewater services. The Commission may determine that conditions require a more frequent interval.
D. Regionally, the Commission will foster efforts to involve the public in water studies, revised estimates of water demand and availability, gap analysis, and planning.
E. The Commission will continue its Water Plan education and awareness efforts through all practical means, including presentations, participation in water conferences, social media and internet tools, and publications.

F. Full public involvement is necessary for successful implementation and future updates.
Appendix A

Water Resources Planning Regions
RED RIVER COMPACT COMMISSION

State of Louisiana Commissioners’ Report
Beavers Bend Lakeview Lodge
Broken Bow, Oklahoma

April 28, 2015

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STATUS OF STREAM FLOWS AT AR/LA STATELINE WITH RELATION TO THE REQUIREMENT OF THE RED RIVER COMPACT

Sections 7.02 and 7.03 of the Compact dealing with Reach IV- ARKANSAS and LOUISIANA, defines the stream flows at the Stateline. There is also a general requirement of 40% of the weekly natural runoff in Arkansas for streams crossing the AR/LA Stateline.

Louisiana continues to be concerned with deficient flow conditions of the streams in Reach IV, for which weekly minimum flow is specified in the Compact. These streams are Ouachita River, Boeuf River, Bayou Bartholomew, and Bayou Macon. Of the four streams mentioned, Boeuf River continues to be the greatest concern to Louisiana at this time.

It should be noted that in 2014, based on data from the USGS discharge gages, Ouachita River and Bayou Macon flow across the AR-LA Stateline met the compact requirement. However, flow of the Bayou Bartholomew was less than the specified 80 CFS for a total of 27 days, and flow for Boeuf River was less than 40 CFS for 77 days. By comparison in 2013, the Boeuf River flow was deficient for 62 days.

Louisiana continues to be concerned that future demands for water are likely to produce even more serious flow deficiencies at the Stateline. Therefore, we again request that Arkansas implement effective and real-time withdrawal control measures to provide the “equitable apportionment of such waters” at the Stateline, as is stated in the Preamble to the Red River Compact.

STREAM GAGING IMPROVEMENT ALONG THE AR – LA STATE LINE

In an effort to improve the accuracy and reporting of discharge along the Arkansas – Louisiana State line, the U.S. Geological Survey in cooperation with the Louisiana Department of Transportation and Development, previously relocated an existing stream gage on the Boeuf River and installed a new stream gage on Bayou Macon. These streams, in addition to Bayou Bartholomew and the Ouachita River, are named in the Red River Compact, Article VII, Section 7.03, with their associated minimum discharges.

Historically, discharge on the Boeuf River was measured at the Boeuf River near the AR-LA State line gage (07367700), which was located 2.4 miles south of the state line. The reach of the Boeuf River between this gage and the state line contains several low-water “dams” used to impound
water for irrigation (fig. 1). At low stages, these “dams” impede flow and do not allow for the accurate measurement of discharge.

As a result, the gage (07367700) at the Boeuf River near AR-LA State Line was relocated on September 15, 2011 to a new location just downstream of the state line. The new gage is Boeuf River at the AR-LA State line (07367690).

The new gage allows for the measurement of discharge at low stages as no low-water “dams” exist between the state line and the gage. Initially, both gages were operated concurrently for the purpose of comparison and continuity of data. That being accomplished, the Boeuf River near AR-LA State line gage (07367700) has been discontinued in favor of the Boeuf River at AR-LA State line gage (07367690).

Also in an effort to improve the accuracy and reporting of discharge along the Arkansas – Louisiana State line, a new gage was established on Bayou Macon near Kilbourne, LA (07369700). The gage on Bayou Macon was established on November 12, 2011 and has associated historical stage and discharge data. Both gages record stage continuously and transmit those data to the Internet. Data associated with these gages may be viewed at:

http://waterdata.usgs.gov/la/nwis/current?multiple_site_no=07364078%2C07364200%2C07367690%2C07369700&index_pmcode_STATION_NM=1&index_pmcode_DATETIME=2&index_pmcode_72020=3&index_pmcode_00060=4&group_key=basin_cd&sitefile_output_format=html_table&column_name=agency_cd&column_name=site_no&column_name=station_nm&format=html_table&sort_key=station_nm&html_table_group_key=NONE&rdb_compression=file&list_of_search_criteria=multiple_site_no%2Crealt ime_parameter_selection
According to the Corps of Engineers-Vicksburg District (Corps), the overall project development of the J. Bennett Johnston Waterway remains static at approximately 93% complete because of funding deficiencies. Much of the remaining work includes refining the revetment and dike system to provide a safe and reliable navigation alignment and to reduce maintenance cost, development of the remaining recreation features as per the Master Plan and completion of the required mitigation portions of the overall project.

Federal Budget issues for the Corps continue to be a major concern, especially in the area of maintenance dredging. Channel reliability is a cornerstone of business growth and economic development progress and, without the resources for the Corps to maintain the channel, our growth momentum of the last few years could be impacted.

It is critical that Congress continue to fund the Corps above the $5.5 billion level, as they have the past two fiscal years. The $700 – 800 million increase, over the President’s budget, allows for ‘additional pots’ of funding. Under the current “no earmark” policy, these additional funds are our only opportunity for construction and dredging funding.

The Red River Waterway Commission (RRWC), the local project sponsor, continues to move forward with recreation (without Corps cost sharing) and economic development on the Louisiana portion of the Red River. Funding assistance with port development is a major priority. The Commission continues to be involved with the port commissions of the District allowing them to bring construction projects to fruition faster to help the local economy with job creation and other benefits.

The Inland Marine Transportation System (IMTS) has mandated lock service levels on all locks and dams based on the metric of annual commercial lockages. This mandate could have impacts to the systems reliability. However, with the flexibility built into the plan, the RRWC and Red River Valley Association (RRVA) worked in conjunction with the Vicksburg District to provide ample positive data which allowed the District to waive the mandate for 2015. This process will undergo an annual review. This waiver was critically important for a fledging waterway, such as the J. Bennett Johnson Waterway.

Red River below Denison Dam (levees) and Red River Emergency Bank Stabilization projects are not supported by the President’s budget, and with the earmark scenario in place, have not received funding since FY 2011.

Chloride Control Project: The previous WRDA Bill clarified that 100% of construction AND operations & maintenance is at full federal expense. After a long delay, the Corps of Engineers can now continue with construction of the next features of this project in Texas (on the Wichita River), while the re-evaluation study continues on the Oklahoma sites. However, budget cuts have eliminated construction funding for the JBJ Waterway, Red River below Denison Dam, Red River Emergency and Chloride Control for fiscal year 2012, 2013 and 2014.
STATEWIDE FLOOD CONTROL PROGRAM

The final recommended construction program for FY 2015/16 was presented to and approved by the Joint Transportation Committee on April 13, 2015. The approved program has a total of 14 projects with a remaining balance of $37,851,767. The legislature appropriates approximately $10,000,000 per year for the Statewide Flood Control Program.

Approximately $328 million of state funds have been authorized through the Statewide Flood Control Program since its creation in 1982, funding 149 projects designed to bring about flood damage reduction. This represents a return of $10.8 in flood control benefits for every state dollar invested. So far 228 construction contracts have been completed. Most projects have more than one construction contract in this program.

PORT CONSTRUCTION AND DEVELOPMENT PRIORITY PROGRAM

On March 24, 2015, a Public Hearing was held by the Joint Transportation Committee whereby the Port Priority Program staff presented its FY 2015-16 Construction Program. This Program consists of 22 projects requiring $127 Million in State funding and with an estimated construction cost of $299 million. The Joint Transportation Committee approved the Port Priority Program list of construction projects on April 13, 2015. The funding level for FY 2015-16 is anticipated to be $19.7 million.

Approximately $613 million of state funds have been committed through the Port Construction and Development Priority Program since it was created in 1989, funding 193 projects. Most projects are constructed with more than one construction contract. When all of the funded projects are completed, they will produce over $4.3 billion in benefits and will have created or retained 12,498 permanent jobs. This represents a return of $7 in port-related benefits for every state dollar invested.

DAM SAFETY PROGRAM

Louisiana’s Dam Safety Program is approved by the Federal Emergency Management Agency (FEMA) under the Community Rating System (CRS), and has been awarded $86,559 grant for FY 2014-15. This year’s grant will be used to supplement the $500,000 State-funded dam safety inspection and emergency action plan (EAP) contract. The grant is also reimburses travel expenses related to in-house dam inspections, FEMA/ASASO training workshops and conferences. There are presently 549 inventoried dams of which 494 are regulated and inspected. In calendar 2014 a total of 165 dams were inspected, reports prepared and uploaded to the server. Hard-copy inspection reports were submitted to owners and stick holders for their information and use in remedial activities. Additionally, Breach Analyses and EAPs were prepared for 12 Significant Hazard (SH) potential dams throughout State.
REHABILITATION AND REPAIR OF STATE-MAINTAINED DAMS

The Capital Outlay Program had previously provided $2 million of funds for Rehabilitation and Repair of the 20 State-maintained dams. A portion of these funds were used to retain a consultant to perform acoustic surveying, underwater inspections and evaluation, gate replacement, and spillway and other repairs on these dams. Presently, District offices in Alexandria, Chase and Shreveport are designing required remedial action for the repair of State-maintained dams in their Districts.

Also, Cheniere Dam is planned to be replaced by a new spillway and bridge which is presently being designed. The estimated construction cost for this project is about $5 Million.

BREACH ANALYSES AND EAPs FOR HIGH AND SIGNIFICANT HAZARD DAMS

Breach analyses, Emergency Action Plans (EAPs) and Table-top exercises had previously been completed for all 20 DOTD-maintained dams. Presently, all 43 High Hazard (HH) potential dams, public or privately owned, have EAPs (100%).

Development of EAPs for Significant Hazard (SH) potential dams (excluding 14 USACE Locks & Dams) is on-going. Presently 33 of the 41 SH dams have been completed (81%).

RESERVOIR DEVELOPMENT PROGRAM

The Capital Outlay Program for FY 2014-15 provided $6 Million for the construction of Bayou Dechene Reservoir in Caldwell Parish. Construction of phase one of the Bayou DeChene Reservoir is 66% complete. However, there has been no progress at the site since January 2015, due to flooding of the Ouachita River.

The Capital Outlay for this fiscal year reauthorized $1.7 Million for Lake Bistineau’s erosion control and remediation, including gate repair or replacement. Also, reauthorized $400,000 for the construction of a new spillway (Crest Gate) for Bundicks Lake at a cost of $5 Million. Approximately $450,000 will be used for the design and construction of safety/security measures as well as miscellaneous repair works in and around D’Arbonne Lake spillway. Design and permitting of the Washington Parish reservoir is continuing.

The Capital Outlay Program for FY 2014-15 also provided $1 million non-cash line of credit for the second phase of the Reservoir Development Master plan, including preparation and promulgation of applicable rules and regulations. The first phase, Reservoir Development Priority Program studies and procedures, have already been completed and posted on the DOTD-Public Works and Water Resources Division web site. Additionally $200,000 was provided for the Morehouse Parish Soil and Water Conservation District for a water transfer feasibility study to be conducted and cost shared by the USACE and the Arkansas Natural resources Commission (ANRC).
LEVEE SAFETY PROGRAM

DOTD’s Levee Safety Program was established to verify that all non-coastal levee districts are performing and documenting inspection and maintenance activities in north Louisiana. There are eight (8) non-coastal levee districts under DOTD jurisdiction, six (6) of which are located along the Red River and its tributaries with the other two (2) located along the Mississippi and Ouachita Rivers.

Since 2009, an automated data driven levee inspection/data management system is being utilized by the levee districts and DOTD staff. The system assists levee districts not only in their levee inspection and reporting responsibilities, as identified in 33CFR 208.10, but also inventory/asset management as well as maintenance management capabilities.

DOTD staff has accompanied Corp of Engineers in performing periodic inspections on Federal Levees in the Bossier, Red River, Atchafalaya and Bayou Boeuf (RRABB) and 19th Levee Districts. Additionally, DOTD has used the system for quarterly inspections of the non-coastal levee districts. Since July 2013, the total accumulative miles of all quarterly and semi-annual levee inspections are 2316 miles federal and 53 miles of non-federal levees, which have been inspected and documented.

FEDERAL PROJECTS

DOTD is currently the Non-Federal Sponsor with the US Army Corps of Engineers (USACE) in the planning, design, and construction of two flood control projects. These projects will provide protection from various storm events, including hurricane and tidal flooding, and flooding from high waters. The estimated total costs of these projects are currently projected to be over $3 billion over the next 20 years. The two projects are:

On the Mississippi River Levee raising project, DOTD is assisting US Army Corps of Engineers Vicksburg Division through acquisition of Right of Ways (ROW) along the Mississippi River. LA Hwy 131 and LA Hwy 603 are two road relocations that will accommodate the alignment of the levee. The LA 131 relocation was completed in November 2009, and LA Hwy 603 relocation was completed in October 2013. Currently, DOTD is coordinating with the 5th Levee District for ROW acquisition. This is an ongoing project raising the levees from the north eastern part of Louisiana to as far south as funds allow. Since 1994, Louisiana has received over $130 million in federal funds for the Mississippi River Levee Raising Project.

The Comite River Diversion Canal was designed for the reduction of flood water on the Comite River and within the Amite River Basin. The construction of the Lilly Bayou Outfall Structure has been completed. Working with Amite River Basin Commission, DOTD has been working to acquire both project right-of-way and mitigation land from willing sellers. As of April 2015, DOTD has acquired all of the necessary Right-of-Way for the US Highway 61 Bridge. USACE will advertise for the construction of the bypass road in early July.
FLOODPLAIN MANAGEMENT PROGRAM

The Floodplain Management Section of DOTD operates under a 75% / 25% Federal-State Cooperative Funding Agreement with FEMA to coordinate the National Flood Insurance Program (NFIP) regulations for the 312 participating communities which includes all 64 parishes. The Section also provides assistance to communities interested in participating in the Community Rating System (CRS), a program which reduces flood insurance premiums through more stringent development regulations than the minimum requirements of the National Flood Insurance Program (NFIP). Over 80% of the flood insurance policies in Louisiana are within the 41 communities participating in the CRS program resulting in an annual savings of over $36 million dollars in flood insurance premiums statewide.

The Floodplain Management Section traveled over 20,000 miles visiting approximately 100 Louisiana NFIP communities, offering a wide variety of post-disaster assistance, performing Community Assistance Visits (CAVs), providing CRS assistance, General Technical Assistance and NFIP training. With the completion of the HSDRSS, the updated Preliminary Flood Insurance Rate Maps were released for the Big five Parishes in the Greater New Orleans Area - Jefferson, Orleans, Plaquemines, St. Bernard and St. Charles Parishes, with Public Open Houses providing extra education and outreach information. The 2012 NFIP Reform Act is bringing significant changes to the Program and will require more emphasis on education and training. Katrina/Rita post-disaster NFIP assistance is still ongoing, as is Gustav, Ike and Isaac.

ZB/Bo 04/17/2015
Drought Conditions

Although rains in 2014 resulted in some improvement over this time year, as of April 20, 2015, the United States Drought Monitor continues to show about 35% of Texas in some of drought conditions, with much of extreme drought conditions occurring in the Panhandle and north Texas region including the upper reaches of the Red River Basin. According to the drought monitor, sunny skies, daytime highs approaching or topping 90°F, and occasionally gusty winds caused Moderate (D1) to Extreme (D3) Drought to intensify in northern Texas. About 25% of the State remains in severe drought conditions.

The NOAA Climate Prediction Center's Seasonal Drought Outlook is predicting that the drought conditions will persist or intensify in many areas of the State, including portions of the Red River Basin.

In Texas, enforcement of surface water right permits is guided by the priority doctrine, or “first in time, first in right.” If a water right holder is not getting water that they are entitled to, they can call upon the Texas Commission on Environmental Quality (TCEQ) to take action to enforce the priority doctrine – a priority or senior call. During 2014, the TCEQ received no priority calls on surface water, and there are no active priority calls at this time.

On April 9, 2015, Texas Governor Greg Abbott issued an emergency proclamation for counties affected by the extreme and exceptional drought conditions which “pose a threat of imminent disaster” due to the declining reservoir and aquifer levels, threatening water supplies and delivery systems in these areas. The disaster proclamation included 21 counties within Reach I of the Red River Basin.
Texas Watermaster Reviews

As a result of TCEQ's sunset legislation, at least once every five years, TCEQ's Executive Director (ED) will assess the need for a watermaster program in basins where programs do not currently exist. In 2015, the TCEQ is considering the Red and Canadian River basins. In 2016, the evaluations will consider the Sulphur and Cypress Creek basins.

The watermaster programs protect water rights in accordance with the priority doctrine by analyzing and evaluating diversion and storage requests, authorizing appropriate diversion amounts and curtailing illegal diversions. At this time, there are four watermaster areas: the Rio Grande Basin, the Concho River Basin, the Brazos River Basin and the South Texas Watermaster area.

In an effort to include the public and develop the best recommendations, TCEQ is soliciting input from stakeholders, including water right holders; domestic and livestock users; compact commissions; river authorities; agricultural, industrial, and environmental organizations; the general public; and other interested parties. Stakeholder meetings will be held in the spring to summer of this year.

TCEQ will consider the following criteria when evaluating a basin:

1. Has there been a court order to create a watermaster?
2. Has TCEQ received a petition requesting a watermaster?
3. Have senior water rights been threatened, based on either the history of senior calls or water shortages within the basin or the number of water right complaints received on an annual basis in each basin?

Legal Issues

Drought Rules Challenge

In June 2012, Dow Chemical Company made a priority call for water in the Brazos River Basin. The TCEQ responded by suspending junior water rights in the basin, except for some municipal use and power generation. The Texas Farm Bureau filed a lawsuit
challenging TCEQ’s Drought Curtailment Rules, which allowed TCEQ to consider public health and safety when making curtailment decisions. On June 6, 2013, the Texas 53rd Civil District Court issued an order concluding that the TCEQ Drought Curtailment Rules are invalid and exceed TCEQ’s statutory authority. TCEQ appealed the decision, and the District Court’s ruling was suspended during the appeal.

**Update:** On April 2, 2015, the 13th Court of Appeals in Corpus Christi upheld the lower court’s ruling.

**Endangered Species Act Litigation Update**

A lawsuit was filed in Federal District Court in 2011, in Corpus Christi, Texas, by The Aransas Project (TAP) versus the TCEQ under the Endangered Species Act (ESA) alleging that TCEQ’s actions led to a reduction in freshwater inflows into the San Antonio Bay ecosystem resulting in the deaths of twenty-three cranes and a “taking” of an endangered species. In March 2013, the Corpus Christi Federal District Court judge found in favor of the plaintiffs (TAP), holding that the TCEQ violated the ESA, and the court issued an injunction prohibiting any new permits from being issued for water diversion from the river. TCEQ appealed the decision to the federal Fifth Circuit Court of Appeals and asked for an emergency stay. The appellate court granted the stay, and the decision was put on hold. Oral arguments were heard in New Orleans on August 8, 2013, by the Fifth Circuit three-judge panel which reversed the lower court decision. A majority of the appellate court voted in December 2014 not to reconsider the case, in effect leaving the panel’s ruling in place. TAP has appealed to the U.S. Supreme Court.

In two survey flights in December at the Aransas National Wildlife Refuge, spotters observed favorable signs of the cranes making a comeback, including larger-than-average groupings of more than eight birds. Final results of a survey by the Fish and Wildlife Service are expected by spring.

**Groundwater**

Groundwater ownership has been at the forefront of water issues in Texas for the past few years. In 2011, the Texas Legislature passed legislation (SB 332) recognizing that a landowner owns the groundwater below the surface of the landowner’s land, subject to regulation by groundwater conservation districts (GCDs). As of April 2014, a total of 101 GCDs have been created, covering all or part of 179 of the State’s 254 counties. There are currently eight GCDs in the Red River Basin in Texas.
GCDs are authorized with powers and duties that enable them to manage groundwater resources. The three primary GCD legislatively-mandated duties include: permitting water wells; developing a comprehensive management plan; and adopting the necessary rules to implement the management plan.

GCDs are granted broad power by the Texas Legislature to accomplish their purposes. GCDs develop both rules and have eminent domain power. All GCDs develop a groundwater management plan that outlines the GCD’s goals to provide the most efficient use of groundwater, controlling and preventing groundwater waste, controlling and preventing subsidence, addressing conjunctive surface water management issues, addressing natural resource issues, drought conditions, conservation, recharge, and desired future aquifer conditions. When a permit is filed, a GCD must determine whether the permit should be granted and makes that decision based on whether the proposed usage unreasonably affects existing groundwater and surface water resources or existing permit holders, whether the water will be put to beneficial use, whether the applicant has agreed to avoid waste and practice conservation, and whether a proposed use is consistent with the district’s management plan. GCDs are allowed to impose reasonable limitations upon the production of groundwater and may do so by setting spacing and tract size requirements, regulating production, and allocating a given share of water in an aquifer to a landowner on a proportionate basis.

In 2012, the Texas Supreme Court’s decision in Edwards Aquifer Authority (EAA) v. Day held that a groundwater regulation permit could constitute a “taking” of private property for public use. A subsequent decision from the San Antonio Court of Appeals in Bragg v. Edwards Aquifer Authority, makes clear that if a GCD’s regulations go too far; however, a landowner may recover just compensation for the taking of his private property based on a monetary impact of the regulation.

Environmental Flows

Senate Bill 3 (SB 3) from the 2007 legislative session changed the process for incorporating environmental protection into water rights permits for new appropriations of water. The legislation set out a schedule and TCEQ adopted environmental flow standards for the scheduled basins.

The Environmental Flows Advisory Group of the Texas legislature has not set a schedule for consideration of environmental flow standards in the Canadian, Red, Sulphur or Cypress Creek basins.
In 2013, Texas voters approved Proposition 6 for $2 billion to help finance projects in the State Water Plan. This original investment in the State Water Implementation Fund for Texas (SWIFT) is designed to fund close to $27 billion in water supply projects over the next 50 years to ensure that Texas communities have adequate supplies of water during drought. The TWDB manages the administration and disbursement of funds and ensures they are used to finance needed water supply projects as defined in the Texas Water Plan.

TWDB has established a scoring system, rules and criteria to prioritize the water projects applying for SWIFT funding. Criteria will consider things like how many people will be served by the project, whether the project will serve a diverse urban and rural population, and the ranking by the region. Other considerations include the local financial contribution, emergency needs for water, and the project’s impact on conservation.

The funds available through SWIFT will help Texas communities of all sizes—from small rural towns to large metropolitan areas—develop drought-proof water supplies. Projects range from conservation and reuse, to desalting groundwater and seawater, to building new pipelines and developing reservoirs and well fields, to many more. Grants are specifically prohibited. By legislative mandate, at least 20 percent of SWIFT funds must be used for conservation and reuse projects, and at least 10 percent must go to projects serving rural communities and Texas farmers.

On February 3, 2015, the application period for the first round of SWIFT funding officially closed. The TWDB received 48 applications in 28 counties for more than $5.5 billion. So far, there are three project applications in two counties in the Red River Basin. See more information on the projects at: http://texaswaters catech.com/blog/swift-abridged-applications-received.

It is anticipated that the first round of loan closings will occur in November or December 2015. For more general information on the program, see: http://www.twdb.texas.gov/swift/.
OKLAHOMA COMMISSIONERS’ REPORT

Red River Compact Commission
Broken Bow, Oklahoma
April 28, 2015

CLIMATE

According to the U.S. Drought Monitor, 1,798,368 Oklahomans are being affected by drought (category D1-D4). The last 30 days brought much-needed precipitation to large portions of the state and region, however conditions remain extremely dry in the Oklahoma Panhandle and southwestern Oklahoma. In the Panhandle, 1-category degradation was made in the western Panhandle, as only 1.0-1.5 inches of rain fell during the past 30-days. There were reports of dust storms and dead dryland wheat across much of this area. In west-central Oklahoma, a swath of 4-8 inch rains prompted a 1-category in some areas while others did not receive good runoff rains, suggesting status quo for drought designation.

The percentage of Oklahoma classified as being in some level of dry conditions (D0-D4) stands at 61% of the state, but more than 37% of the state still remains classified in Extreme Drought or worse (D3-D4). Fortunately, the percentage of the state that is experiencing no drought has increased significantly in the last 3 months from 5% to over 25%. According to the seasonal drought outlook, forecasts out to 30-days favors above-median precipitation amounts for southeastern Oklahoma while drought conditions will likely persist or intensify in all of the western half of the state, and parts of north central and northeastern Oklahoma.

DROUGHT PREPAREDNESS AND MANAGEMENT

As the state of Oklahoma undergoes its fifth year of consecutive drought conditions, both the Governor and State Legislature have taken a number of steps to help communities and Oklahomans respond to current conditions and prepare for future drought-related issues. These steps have included the passage of legislation to bring grant funding to communities struggling with drought, the creation of multiple drought-related and water planning-related resources for citizens and public water systems, and the implementation of several drought-planning forums to foster better communication and understanding of sound drought preparedness and planning.

Drought Grants

In September 2014, Governor Mary Fallin announced the Water for 2060 Drought Grant Program, which made $1.5 million available in drought grants for cities, counties, water districts and other public entities to help fund projects that highlight responsible use of water. The OWRB announced 4 recipients of those grants at the February and March 2015...
board meetings. In addition to the Water for 2060 Drought Grant Program, separate legislation was approved in 2012 to create the Emergency Drought Commission and Relief Fund to provide funding for drought mitigation and related projects in conjunction with a formal gubernatorial drought declaration. As a result of Governor Fallin’s drought declaration in the fall of 2013, an additional $1.125 million in emergency drought relief grants were made available to struggling western Oklahoma communities. Specific assistance projects were limited to affected counties and were approved by the Oklahoma Emergency Drought Commission, consisting of the Secretary of Agriculture and Executive Directors of the Oklahoma Water Resources Board and Oklahoma Conservation Commission.

**Drought Planning**

The Oklahoma Water Resources Board has initiated several drought preparedness and planning programs over the last several months, as well as created several drought-related tools and resources for both citizens and communities in Oklahoma. For example, the Governor and the OWRB announced in 2014 the formation of drought.ok.gov as the state’s online tool for all Oklahoma drought-related information, programs, and funding opportunities. In addition, the OWRB recently finalized the Public Water Supply Planning Guide to assist public water supply systems in developing plans to meet their specific long-term water needs.

The OWRB, in partnership with the U.S. Bureau of Reclamation, hosted Oklahoma’s inaugural Drought Challenge on September 2014 at the National Weather Center in Norman. The Drought Challenge, also known as the Water Supply Reliability and Management Challenge, was an exciting new approach to promoting comprehensive drought mitigation, preparedness, and planning across Oklahoma. Using an engaging competition format, the Drought Challenge encouraged collaboration among water planners and other stakeholders from various backgrounds in Oklahoma by educating participants on the multidisciplinary and multi-sector implications of drought.

**OKLAHOMA COMPREHENSIVE WATER PLAN**

Considerable progress was made during 2013-2014 toward implementing the priority recommendations included in the 2012 Update of the Oklahoma Comprehensive Water Plan (OCWP), including Water Monitoring; Water Supply Reliability; Water Conservation, Efficiency, Recycling and Reuse; Water Infrastructure Funding; and Instream Flows. The OWRB has enhanced and expanded water monitoring activities and hydrologic studies, as well as revitalized financing of water and wastewater projects to meet the anticipated $82 billion dollar need over the next 50 years. In addition, the OWRB and contractors have facilitated initial meetings of the Water for 2060 Advisory Council and the Instream Flow Advisory Group, as well as agency collaboration on rule updates necessary to encourage water reuse, reclamation, and recycling throughout Oklahoma.

**Water for 2060 Advisory Council**

With passage of House Bill 3055 (the Water For 2060 Act) in 2012, Oklahoma became the first state in the nation to establish a bold, statewide goal of consuming no more fresh water in 2060 than was consumed in 2010. The OWRB has partnered with the U.S. Army Corps of Engineers to begin preliminary work required to support the new Water for 2060 Advisory Council, chaired by OWRB Executive Director, J.D. Strong. The Water for 2060 Advisory Council, a 15-member group appointed to develop recommendations aimed at stabilizing Oklahoma’s water use through improved conservation and efficiency, held its first four meetings in 2013-2014. Each successive meeting focused on the major water use sectors and stakeholders in Oklahoma including: public water supply systems, crop irrigation, and the power generation and energy production sectors. The Council’s final report of findings and recommendations will be submitted to the Governor, Speaker of the House, and President Pro Tempore by late 2015.
"Hot Spot" Basin Studies

Officials and planning specialists from the OWRB continue work on three in-depth studies focused on reviewing specific strategies to prevent future water supply shortages in three of the state’s twelve “Hot Spot” basins located in western Oklahoma. The three water basins include the following: Basin 26, part of the Beaver-Cache Watershed Planning Region located near Duncan; Basin 38, part of the Southwest Watershed Planning Region located near Altus; and Basin 51, part of the Central Watershed Planning Region located between Yukon and Watonga (see Figure 1). The three studies will focus on how water conservation, marginal quality water supplies, and public water supply system regionalization strategies might address the needs of hot spot basins on a local implementation level as examples for water users statewide.

Instream Flow Workgroup

The OCWP Instream Flow Workgroup met several times during 2014-2015. Most recently on January 22nd, the OWRB hosted a public forum in Tahlequah, OK to kick off the Scenic River Instream Flow Pilot Study. The pilot study was developed to incorporate a process for evaluating economic and environmental impacts that could result from establishment of instream flow requirements in Oklahoma. The Workgroup—commissioned during the OCWP update process to conduct an independent technical, legal, and policy analysis of a potential instream flow program in Oklahoma—continues to craft recommendations for the most efficient, feasible method for balancing the water needs of consumptive users with those that rely upon water flowing in streams and lakes for economic development, recreation, and quality of life.

Water Reuse Regulatory Collaboration

The OWRB continues to work with the ODEQ, and several engineering and consulting firms to facilitate and promote reasonable wastewater reuse as the drought deepens. Because the WQS provide additional protection to several municipal sensitive water supplies (SWS) around Oklahoma, the agencies are partnering to explore how the protection measures can be blended with both direct and indirect potable reuse. With the drought expected to last several more years, utilizing treated wastewater more effectively is becoming more and more important.

WATER RESOURCES TECHNICAL STUDIES

Hydrologic studies, another primary initiative of the OCWP, are ongoing throughout the state. OWRB Technical Studies staff continues to focus on completion of the statutorily-required hydrologic studies, 20-year updates, and stream water allocation studies, including the completion of pending maximum annual yield determinations for at least four prioritized aquifers. In April 2015, the OWRB and the Bureau of Reclamation commenced the three-year Upper Red River Basin Study with a public meeting in Altus, OK. The study will build upon existing planning efforts in the area; update information on groundwater and surface water demands and supplies; assess risks to the long-term reliability of reservoirs during drought periods; and evaluate adaptation strategies that address water supply challenges. The Rush Springs Aquifer Study was initiated in 2011 in conjunction with a hydrologic investigation and stream water allocation model of the Upper Washita River Basin. Staff have been drafting the hydrologic investigation report and designing a steady-state groundwater model for the Rush Springs aquifer study. OWRB has also been completing a 20-year hydrologic study update for the Enid Isolated Terrace and has been preparing the hydrologic investigation report.
In addition, the OWRB entered into an agreement with the USGS to begin a 20-year update of the Washita River Reach I alluvium and terrace aquifer.

**WATER QUALITY PROJECTS & MONITORING**

The first iteration of the “new and improved” Beneficial Use Monitoring Program (BUMP) report was recently released on the website. The BUMP report can be found at the Oklahoma Water Resource Board’s Monitoring & Assessment website (http://www.owrb.ok.gov/quality/monitoring/monitoring.php). This report now also includes the Groundwater Monitoring and Assessment Program, or GMAP, as well as the results of our updated and enhanced stream, river and lakes monitoring work. The next round of sampling for the GMAP has begun as well as groundwater sampling efforts to assist the Oklahoma Department of Agriculture, Food & Forestry.

Routine sampling as part of the BUMP is ongoing. In addition, a Nutrient Limited Watershed (NLW) Pilot Study at Crowder Lake is currently underway. This study is designed assess water quality on the reservoir and streams in the watershed to determine which beneficial uses are impacted and if the lake is impaired due to elevated nutrients. Also near shore bathymetric mapping of Grand Lake (via a contract with the Grand River Dam Authority) is nearing completion. Lastly, field efforts as part of the National Rivers and Streams Assessment have been completed for 2014.

**OKLAHOMA WATER QUALITY STANDARDS**

OWRB Water Quality staff continue to refine and improve Oklahoma’s Water Quality Standards, and prepared several projects for rulemaking that began in the Fall of 2014. One major project is a revision to clarify existing dissolved oxygen criteria. The objective of this revision is not to make the criteria more stringent, but to clarify the application of the dissolved oxygen criteria for use in 303(d) assessments and TMDL analyses. Other projects in progress and/or anticipated include updating Human Health Criteria to reflect new science on body weight and water consumption rates, as well as potential updates to ammonia and selenium criteria.

Another project underway is the development of wetland water quality standards (WQS). Currently, Oklahoma’s wetlands are protected by default WQS that were developed for lakes and streams and are often not suitable for wetlands. As a result, there have been both scientific and regulatory challenges with applying the default standards to wetlands. Developing WQS specifically for wetlands will provide a scientifically sound foundation for the state’s wetland programs and regulatory relief by providing clarity for all regulated stakeholders going forward.

The OWRB’s/WQPD WQS staff presented the proposed rules relating to the Water Effect Ratio and Dissolved Oxygen Proposal to the Board on February 17, 2015, and they were subsequently approved. However, OWRB staff recommended withdrawal of the Wetlands WQS provisions at that time in order to conduct an additional year of work on refining and clarifying language associated with wetlands.

**DAM SAFETY PROGRAM**

In 2013, and again in 2014, the OWRB introduced a free inspection program for low hazard-potential dams in Oklahoma. In addition, inspection and maintenance training was conducted for private and municipal dam owners, and breach inundation maps were developed for 15 high hazard-potential dams (provided to dam owners at no cost) and integrated into site-specific Emergency Action Plans to assist emergency managers in the event of dam failure. Staff has also been generating hydrologic and hydraulic reports for these dams, if not in existence, to ensure that the design flood requirements are met. OWRB's Dam Safety Program has also conducted free Emergency Action Plan (EAP) in 2014 to emphasize the importance of the EAP and its regular maintenance, defining emergency processes and related actions, roles of NRSC and NWS in improving or simplifying the emergency action plan, and reviewing OWRB rules and regulations.
FLOODPLAIN MANAGEMENT

The OWRB continues to participate in FEMA's RiskMAP program, an innovative approach to fostering working partnerships between FEMA and participating National Flood Insurance Program (NFIP) communities, regional agencies, state agencies, tribes, and universities in identifying and communicating risk throughout local watersheds. To date, the OWRB has initiated seven FEMA RiskMAP Discovery projects throughout Oklahoma. The OWRB continues to train and accredit floodplain administrators in Oklahoma's 396 participating NFIP member communities.

WATER RESOURCES FINANCING

The OWRB administers the State Financial Assistance Program (FAP), backed by the Statewide Water Development Revolving Fund, which awards loans and grants for the construction and improvement of water and sewer facilities. In all, through the OWRB’s five loan and grant programs, more than $3 billion in financing has been provided for water and sewer projects in Oklahoma with a total estimated savings of more than $1 billion to Oklahoma communities.

The new Water Infrastructure Credit Enhancement Reserve Fund—a $300 million pledge of credit from the state enabled through an OCWP priority recommendation and subsequent passage of State Question 764—was instrumental in Standard and Poor's rating upgrade to AAA of the State Revenue Bond Loan Program. The upgrade allows municipalities and rural water/sewer districts to receive loans from the program at lower interest rates than what they could receive through conventional financing.

<table>
<thead>
<tr>
<th>PROGRAM</th>
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<tr>
<td>FAP Loans</td>
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<tr>
<td>CWSRF Loans</td>
<td>285 for $1,295,449,409</td>
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<tr>
<td>DWSRF Loans</td>
<td>174 for $916,958,300</td>
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<td>Emergency Grants</td>
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<tr>
<td>Drought Response Grants</td>
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<tr>
<td>Water for 2060</td>
<td>4 for $1,500,000</td>
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LEGAL MATTERS

Chickasaw and Choctaw Nations v. Gov. Fallin, OWRB, and Oklahoma City

On August 18, 2011, the Chickasaw Nation and Choctaw Nation of Oklahoma filed a lawsuit in the U.S. District Court for the Western District of Oklahoma. The lawsuit names as defendants Gov. Mary Fallin, the members and Executive Director of the OWRB, the City of Oklahoma City and the Oklahoma City Water Utility Trust (OCWUT). The lawsuit alleges the Indian Nations have federally-protected rights to the water within a 22-county territory in southeastern Oklahoma. Among other things, the lawsuit seeks: (1) declaratory judgments against any action by the OWRB on a pending application by Oklahoma City and OCWUT for a permit to use stream water from Sardis Reservoir in southeastern Oklahoma, or any other withdrawal or export of water from the area at issue, unless and until there is initiated a general stream adjudication that satisfies the requirements of the federal law known as the McCarran Amendment; and (2) permanent injunctions against any such action unless and until a general stream adjudication that satisfies the McCarran Amendment is completed. On February 10, 2012, the Oklahoma Attorney General filed on behalf of the OWRB to initiate such McCarran Amendment adjudication proceedings to protect and accurately determine all rights to the use of water in the Kiamichi, Clear Boggy, and Muddy Boggy stream systems and moved to dismiss the Tribes' federal court action as a premature effort to have federal courts usurp Oklahoma's management of waters of the State. However, on March 12, 2012, the United States filed a Notice of Removal with the federal district court in Oklahoma City. Since that time, a joint motion to stay proceedings has been granted for both cases (Chickasaw Nation v Choctaw Nation v. Fallin and OWRB v. United States) and has been renewed on a continual basis to allow further efforts in mediation. The stay currently has been extended until May 12, 2015.
Red River Compact Commission  
FY – 2014, 2015, 2016 Budget

FY 2014: July 1, 2013 – June 30, 2014  
FY 2015: July 1, 2014 – June 30, 2015  
FY 2016: July 1, 2015 – June 30, 2016

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<th>FY 2015</th>
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<tr>
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</tr>
</tbody>
</table>

**State Assessments**
In accordance with Article IX, Section 9.04.C, of the Compact the amount of such budget shall be borne equally by the signatory states in an equal amount. Therefore, the FY 2015 and 2016 assessments are $550.00 per state.

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1 Now includes former “Personnel Services, Office Expenses, Rent, Travel (Mtg. Expenses)” and Audit items.
RESOLUTION TO ADOPT
RULES FOR THE INTERNAL ORGANIZATION
of the
RED RIVER COMPACT COMMISSION

THE COMMISSION HEREBY ADOPTS the rules set forth below to provide for the internal organization of the RED RIVER COMPACT COMMISSION in accordance with Article IV, §10.01(a) of the Red River Compact.

RULES FOR THE INTERNAL ORGANIZATION
of the
RED RIVER COMPACT COMMISSION


ARTICLE I
THE COMMISSION

1.1 The Commission is the “Red River Compact Commission,” which is referred to in Article X of the Red River Compact.

1.2 The credentials of each Commissioner shall be filed with both the Chair and the Secretary of the Commission. When the credentials of a new Commissioner are received, the Secretary shall promptly notify each of the other Commissioners of the name and address of the new Commissioner.

1.3 Each Commissioner shall advise in writing the office of the Commission as to the address at which all official notices and other communications of the Commission shall be sent. Any change of address shall be promptly communicated in writing to the office of the Commission.

1.4 Persons designated to substitute for duly appointed Commissioners at meetings of the Compact Commission shall present the Commission with credentials of authority by letter, or other form of appointment acceptable to the Commission, which states the scope or limitations of the appointment together with a copy of the state or federal law or Attorney General’s opinion which authorizes the appointment.

ARTICLE II
OFFICERS

2.1 The officers of the Commission shall be a Chair, a Vice-Chair, Secretary and a Treasurer.

2.2 The Commissioner representing the United States shall be the Chair of the Commission. The Chair or the designated representative of the Chair, shall preside at meetings of the
Commission. The duties of the Chair shall be those usually imposed upon such officers and as may be assigned by these rules or by the Commission from time to time.

2.3 The Vice-Chair shall be elected at the annual meeting from the Commissioners of the host state for the coming year as reflected by the minutes, and shall hold office for a term of one year, beginning on July 1 following the election, or until a successor is elected. The Vice-Chair shall serve as Chair in the event the President of the United States fails to appoint a Federal Commissioner, or in the absence of the Federal Commissioner or the designated representative of the Federal Commissioner.

2.4 The Secretary shall be selected at the annual meeting by the Commission from the state designated to host the next annual meeting as reflected in the minutes. The Secretary shall serve for the term of one year, beginning on July 1 following the selection, and perform the duties as the Commission shall direct. In case of a vacancy in the office of the Secretary, the Commission shall select a new Secretary as expeditiously as possible.

2.5 The Treasurer shall be selected by the Commission for a term of one year, beginning on July 1 following the selection. The Treasurer shall furnish a fidelity bond, the cost of which shall be paid by the Commission. The Treasurer shall receive, hold and disburse all funds which come into the hands of the Treasurer.

2.6 The Secretary and Treasurer may be members of the Commission, and their offices may be combined by the Commission. Any one person may hold both offices.

ARTICLE III
PRINCIPAL OFFICE

3.1 The principal office the Commission shall be either the office of the Chair or the Secretary, as the Commission shall direct.

3.2 Official books and records of the Commission shall be kept at the principal office.

ARTICLE IV
MEETINGS

4.1 The annual meeting of the Commission shall be held on the last Tuesday of April of each year.

4.2 (a) Special meetings of the Commission may be called by the Chair at any time. Upon the written request of each of the Commissioners of two states setting forth the matters to be considered at such meeting, the Chair shall call a special meeting.

(b) Individual members of the Commission, consistent with laws of the respective signatory state that may apply to the individual members, may participate in special meetings of the Commission by any means of electronic or telephonic communication through which all members and other participants may simultaneously hear one another during the meeting.
Members who participate in a special meeting by such means shall be considered present for all purposes, including the presence of a quorum. Such meeting shall constitute a valid special meeting of the Commission even though members participate through electronic or telephonic means, provided:

(1) The Commission complies with other applicable provisions of these rules, including quorum and voting requirements.

(2) Arrangements are made so that any member of the public desiring to attend the meeting may attend at the same location as any Commission member attending the meeting by electronic or telephonic means, and the meeting notice informs the public of the arrangements.

(3) Arrangements are made so that a member of the public attending the meeting as set forth in subparagraph (2) above may simultaneously hear the members and other participants.

(4) The Commission may not meet in executive session by electronic or telephonic means.

4.3 Reasonable notice of all special meetings of the Commission shall be sent by the Chair, to all members of the Commission by ordinary mail at least ten days in advance of each meeting and notice shall state the purpose thereof.

4.4 Emergency meetings of the Commission may be called by the Chair at any time upon the concurrence of at least two states and such meetings may be conducted by long-distance telephone conference call or other electronic means. Any such long-distance telephone conference call or other electronic communication shall be recorded and made available for public inspection in accordance with the laws of the respective signatory states. Each of the signatory states shall be represented by at least one Commissioner during such an emergency conference and each state concur in any emergency action taken during an emergency meeting. An emergency is defined as a situation involving an eminent threat of injury to persons or damage to property or eminent financial loss when the time requirements for public notice and travel to a special meeting would make such procedure and travel impractical and increase the likelihood of injury or damage or eminent financial loss.

4.5 Notice to the public shall be given of all Commission meetings. Except as otherwise provided, the Chair shall furnish notice of all meetings to the Commissioners of each signatory state, whose responsibility it shall be to give said notice to the public in accordance with the laws of their respective states. In the event of an emergency meeting held by telephone or other electronic communication, no advance notice is required. All meetings of the Commission shall be held at the principal office unless another place shall be agreed upon by the Commissioners.

4.6 Minutes of the Commission shall be preserved in suitable manner. Minutes, until approved, shall not be official and shall be furnished only to members of the Commission, its employees and committees.
4.7 Commissioners from three of the signatory states shall constitute a quorum. However, if an emergency meeting is conducted as provided for in rule 4.4, or if a proposed action of the Commission affects existing water rights in a state, and that action is not expressly provided for in the Compact, eight concurring votes shall be required. Any other actions concerned with the administration of the Compact or requiring compliance with specific terms of the Compact shall require six concurring votes.

4.8 At each regular or annual meeting of the Commission, the order of business, unless agreed otherwise, shall be as follows:

Call to Order,
Approval of Agenda,
Approval of the minutes,
Report of Chairman,
Report of Secretary,
Report of the Treasurer,
Report of the Commissioners,
Report of Committees,
Unfinished business,
New business,
Adjournment.

4.9 All meetings of the Commission, except executive sessions and except as otherwise provided by law in each Signatory State as it may apply to the individual members, shall be open to the public. Executive sessions shall be open only to members of the Commission and such advisers as may be designated by each member and employees as permitted by the Commission; provided, however, that the Commission may call witnesses before it when in such sessions. The Commission may hold executive sessions only for the purposes of discussing:

(a) The employment, appointment, promotion, demotion, disciplining or resignation of a Commission employee or employees, members, advisers, or committee members;

(b) Pending or contemplated litigation, settlement offers, and matters where the duty of the Commission's counsel, pursuant to the Code of Professional Responsibility, clearly conflicts with the public's right to know; or

(c) The report, development, or course of action regarding security, personnel, plans, or devices.

No executive session may be held except on a vote, taken in public by a majority of a quorum of the members present. At least one Commissioner from each of the signatory states must agree to the holding of an executive session. Any motion or other decision considered or arrived at in executive session shall be voidable unless, following the executive session, the Commission reconvenes in public session and presents and votes on such motion or other decision.
4.10 In the absence of a Chair and Vice-Chair, all of the Commissioners from any two (2) states may call an emergency or a special meeting of the Compact Commission.

ARTICLE V
COMMITTEES

5.1 There may be the following standing committees:

(a) Budget Committee,
(b) Engineering Committee,
(c) Environmental and Natural Resources Committee, and
(d) Legal Committee.

5.2 The committees shall have the following duties:

(a) The Budget Committee shall prepare the annual budget and shall advise the Commission on all fiscal matters that may be referred to it.

(b) The Engineering Committee shall advise the Commission all engineering matters that may be referred to it.

(c) The Environmental and Natural Resources Committee shall advise the Commission on all environmental and natural resource matters that may be referred to it.

(d) The Legal Committee shall advise the Commission on all legal matters that may be referred to it.

5.3 Commissioners may be members of committees. The number of members of each committee shall be determined from time to time by the Commission. The Commissioners of each state shall designate the member or members on each committee representing the State, and each State shall have one vote.

5.4 The Chair may appoint a non-voting member of each committee.

5.5 The Chair of each committee shall be designated by the Commission from members of the committee; however, in the event a Chair is unable to perform assigned duties, the committee shall appoint an Interim Chair.

5.6 The Commission may from time to time create special committees and assign it tasks. The Commission may also determine the composition of the special committees.

5.7 Formal committee reports shall be made in writing and filed with the Commission.
ARTICLE VI
RULES AND REGULATIONS

6.1 So far as is consistent with the Compact, the Commission may adopt rules and regulations and amend them from time to time. Rules and regulations to be adopted shall be presented by resolution and approved by a quorum as set out in Rule 4.7. Copies of the proposed resolutions for rule adoption shall be presented in writing to each of the Commissioners at least thirty days before the meeting upon which they are to be voted. However, at its meeting, by unanimous vote, the Commission may waive this notice requirement.

6.2 Rules and regulations of the Commission may be compiled and copies may be prepared for distribution to the public under such terms and conditions as the Commission may prescribe.

ARTICLE VII
FISCAL

7.1 All funds of the Commission shall be deposited in a depository or depositories designated by the Commission under the name of the “Red River Compact Commission Fund”.

7.2 Disbursement of funds in the hands of the Treasurer, for items included in the approved budget, shall be made by check signed by the Treasurer and the Vice-Chair or by such person as may be designated by the Commission. Disbursement of funds for non-budgeted items shall be made by check signed by the Treasurer and Vice-Chair upon voucher approved by at least six of the Commissioners, four of whom shall be from different signatory states.

7.3 At the annual meeting of each year, the Commission shall adopt a budget covering an estimate of its expenses for the following two fiscal years.

7.4 The payment of expenses of the Commission and of its employees shall not be subject to the audit and accounting procedures of the states.

7.5 All receipts and disbursements of the Commission shall be audited periodically as determined by the Commission by a qualified independent public accountant to be selected by the Commission and the report of the audit shall be included in and become a part of the annual report of the Commission.

7.6 The fiscal year of the Commission shall begin July 1 of each year and end June 30 of the next succeeding year.

ARTICLE VIII
ANNUAL REPORT

8.1 The Commission shall make an annual report and transmit it on or before the last day of May to the governors of the signatory states to the Red River Compact and to the President of the United States.
8.2 The annual report shall contain:

(a) Minutes of all regular, special or emergency meetings held during the year;
(b) All findings of facts made by the Commission during the preceding year;
(c) Recommendations for actions by the signatory states;
(d) Statements as to any cooperative studies made during the preceding year;
(e) All data which the Commission deems pertinent;
(f) The budget for current and future years;
(g) The most recent audit report or current financial statement of the Red River Compact Fund;
(h) Name, address and phone number of each Commissioner and each member of all standing committees; and
(i) Such other pertinent matters as the Commission may require.

Adopted by unanimous consent of the Commission on April 28, 2015, in Broken Bow, Oklahoma.

RED RIVER COMPACT COMMISSION

[Signature]
Gordon “Jeff” Fassett, Chairman

STATE OF ARKANSAS

[Signature]
J. Randy Young
Arkansas Commissioner

Wayne Dowd
Arkansas Commissioner

STATE OF TEXAS

[Signature]
William A. Abney
Texas Commissioner

Kevin McCalla for Richard A. Hyde, P.E.
Texas Commissioner

STATE OF LOUISIANA

STATE OF OKLAHOMA
Arthur R. Theis, P.E.
Louisiana Commissioner

J.D. Strong
Oklahoma Commissioner

Christopher Knotts, P.E.
Louisiana Commissioner

Charles L. Dobbs
Oklahoma Commissioner
RESOLUTION TO ADOPT
RULES AND REGULATIONS
TO COMPUTE AND ENFORCE COMPACT COMPLIANCE
REACH I, SUBBASIN 1-SWEETWATER CREEK AND NORTH FORK RED RIVER

THE COMMISSION FINDS:

1. that no projects or diversions have occurred in Texas from Sweetwater Creek or the NorthFork Red River above Lugert-Altus Reservoir as of this date which violate Article IV, §§4.01(b), 4.05(b) of the Red River Compact;

2. that in compliance with the Compact, Texas is entitled to 60% of the state line natural flow on an annual basis of Sweetwater Creek, and Oklahoma is entitled to 40% of the state line natural flow on an annual basis of Sweetwater Creek; and

3. that in compliance with the Compact Texas is entitled to 60% of the state line natural flow on an annual basis of the North Fork of the Red River and Oklahoma is entitled to 40% of the state line natural flow on an annual basis of the North Fork of the Red River.

THE COMMISSION HEREBY ADOPTS the rules set forth below to compute and apportion the waters of Sweetwater Creek and the North Fork of the Red River between Texas and Oklahoma in accordance with Article IV, §4.01(b) of the Red River Compact.

RED RIVER COMPACT RULES AND REGULATIONS
To Compute and Enforce Compact Compliance
REACH I, SUBBASIN 1 - SWEETWATER CREEK AND NORTH FORK RED RIVER

1. General.
These rules and regulations to be used to compute and enforce Compact compliance for Sweetwater Creek and North Fork Red River in Reach I, Subbasin 1 of the Compact are adopted subject to the following conditions and assumptions:

A. It is fully understood that these rules and regulations should be modified as new or improved gaging stations are constructed, whenever experience or detailed studies demonstrate the need for modification, or if the Commission should modify its interpretation of the Compact provisions relating to this Subbasin.

B. Texas is apportioned 60% of the annual flow of Sweetwater Creek and Oklahoma is apportioned 40% of the annual flow of Sweetwater Creek. Texas is apportioned 60% of the annual flow of the North Fork of the Red River and Oklahoma is apportioned 40% of the annual flow of the North Fork of the Red River.
2. **Management of Compact Compliance Computations.**

**A. Management Using State Centers:**

(1) Texas and Oklahoma representatives will establish State Computation and Control Centers.

(a) State representatives will gather data, exchange data, and meet prior to the annual Commission meeting to discuss computation results.

(b) The Engineer Advisory Committee will report to the Commission on compliance with the Compact.

**B. Management Period for Compact Compliance Computations**

(1) Computation will be on the calendar year basis.

(2) Water data for a calendar year should be exchanged prior to March 15 of the following year.

(3) Compact Compliance Computation for a calendar year should be completed by April 15 of the following year.

3. **Enforcement of Compact Compliance Requirements.**

**A.** Texas will be responsible for insuring that the sum of Texas uses does not exceed the total Texas water use authorized by the Red River Compact, and Texas will be responsible for establishing legal authority within Texas forenforcing the restrictions imposed by the Red River Compact.

**B.** Oklahoma will be responsible for insuring that the sum of Oklahoma uses does not exceed the total Oklahoma water use authorized by the Red River Compact, and Oklahoma will be responsible for establishing legal authority within Oklahoma forenforcing the restrictions imposed by the Red River Compact.

**C. Annual Accounting:** Pursuant to Section 2.11 of the Compact, accounting for apportionment purposes is not mandatory until Texas or Oklahoma deem the accounting necessary.

4. **Data Reporting Procedures.**

**A. Streamflow Gauging Station Records:** The Engineer Advisory Committee will make arrangements with federal and state agencies, as required, to collect calendar year data as needed, and forward to the Texas and Oklahoma Computation Control Centers.

**B. Archived Records:** Records will be archived by the Commission Chairman.

5. **Compact Provisions.**
A. **Sec. 4.01, Subbasin 1-Interstate streams-Texas, prescribes:**

(a) This includes the Texas portion of Buck Creek, Sand (Lebos) Creek, Salt Fork Red River, Elm Creek, North Fork Red River, Sweetwater Creek, and Washita River, together with all their tributaries in Texas which lie west of the 100th Meridian.

(b) The annual flow within this subbasin is hereby apportioned sixty (60) percent to Texas and forty (40) percent to Oklahoma.

B. **Section 4.01 is modified in part by Section 4.05, Special Provisions, as follows:**

(a) Texas shall not accept for filing, or grant a permit, for the construction of a dam to impound water solely for irrigation, flood control, soil conservation, mining and recovery of minerals, hydroelectric power, navigation, recreation and pleasure, or for any other purpose other than for domestic, municipal, and industrial water supply, on the mainstem of the North Fork Red River or any of its tributaries within Texas above Lugert-Altus Reservoir until the date that imported water sufficient to meet the municipal and irrigation needs of Western Oklahoma is provided, or until January 1, 2000, whichever occurs first.

6. **Compact Compliance North Fork Red River Watershed**

A. **Gauges** - USGS streamflow gauge on the North Fork of the Red River near Shamrock, Texas (07301300) is approximately 16 miles from the Oklahoma-Texas State Line and measures flow from a 1,369-square mile drainage area, of which 552 square miles are probably non-contributing. USGS streamflow gauge near Carter, Oklahoma (07301500) is approximately 30 miles downstream from the Oklahoma-Texas State Line and measures flow from a 2,652-square mile drainage area, of which 579 square miles are probably non-contributing. The drainage area of the North Fork Red River at the Oklahoma-Texas State line is computed as 1,968 square miles of which 572 square miles are probably non-contributing.

B. **Actual Delivery** - The actual annual delivery at the Oklahoma Texas State line shall be computed using the USGS streamflow gauge North Fork Red River near Shamrock (07301300) and the USGS streamflow gauge North Fork Red River near Carter, Oklahoma (07301500) as follows:

1. The annual flow at the Shamrock gauge,

2. Minus channel losses to Shamrock gauge flows between the gauge and State line (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),

3. Plus Texas’ flow between Shamrock gauge and the State line. (This flow will be computed by subtracting the flow of the Shamrock gauge from the flow at the Carter gauge. Then based on the intervening drainage area
between the Shamrock and Carter Gauges, adjusted for both Texas and Oklahoma man-made depletions to determine the runoff per square mile of contributing drainage which will be applied to the contributing drainage area in Texas below the Shamrock gage.), and

(4) Minus Texas' man-made depletions downstream from the Shamrock gage.

C. **Scheduled Delivery** - The scheduled annual delivery at the Oklahoma Texas Stateline is 40 percent of the natural flow at State line without diversions or impoundments, and shall be computed as 40 percent of the following:

(1) The actual annual delivery at Oklahoma State line (above),

(2) Plus man-made depletion in Texas, and

(3) Minus the increased channel losses in Texas which would have occurred if Texas had not depleted the flows (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

D. **Compact Compliance** - Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.

7. **Compact Compliance Sweetwater Creek Watershed in Texas**

A. **Gauges** - USGS streamflow gauge on Sweetwater Creek near Kelton, Texas (07301410), is about 8 miles upstream from the Oklahoma Texas State line and measures flow from a 297 square mile drainage area, of which 16 square miles is probably non-contributing. USGS streamflow gauge on Sweetwater Creek near Sweetwater, Oklahoma (07301420) is located near the Oklahoma Texas State line and measures flow from a 437 square mile drainage area, of which 27 square miles is probably non-contributing. The drainage area of Sweetwater Creek at the Oklahoma Texas State line is computed as 392 square miles with 20 square miles being non-contributing. The actual annual delivery at Oklahoma Texas State line shall be computed using the USGS streamflow gauge on Sweetwater Creek near Kelton (07301410) and the USGS streamflow gauge on Sweetwater Creek near Sweetwater, Oklahoma (07301420) as follows:

B. **Actual Delivery** - The actual annual delivery at the Oklahoma Texas State line shall be computed as follows:

(1) The annual flow at the Kelton gauge,

(2) Minus channel losses to Kelton gauge flows between gauge and State line (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),

(3) Plus Texas' flows between the Kelton gage and the State line. (This flow will be computed by subtracting the flow of the Kelton gauge from the flow at the Sweetwater gauge. Then based on Texas' drainage areas between the
Keltongauge and the Sweetwater gauge, adjusted for both Texas and Oklahoma-man-made depletions determine the runoff per square mile of contributing drainage which will be applied to the contributing drainage area in Texas below the Kelton gauge.), and

(4) Minus Texas' man-made depletions between the Kelton gauge and the Stateline.

C. **Scheduled Delivery** - The scheduled annual delivery at the Oklahoma Texas Stateline is 40 percent of the natural flow at the State line without diversions or impoundments, and shall be computed as 40 percent of the following:

(1) The actual annual delivery at State line (above),

(2) Plus man-made depletions in Texas, and

(3) The Compact compliance calculations will be made ignoring this channel loss adjustment.

D. **Compact Compliance** - Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.

Adopted by unanimous consent of the Commission on April 28, 2015, in Broken Bow, Oklahoma.

**RED RIVER COMPACT COMMISSION**

Gordon "Jeff" Fassett, Chairman

STATE OF ARKANSAS

J. Randy Young
Arkansas Commissioner

Wayne Dowd
Arkansas Commissioner

STATE OF LOUISIANA

Arthur R, Theis, P.E.

STATE OF TEXAS

William A. Abney
Texas Commissioner

Kevin McCalla for Richard A. Hyde, P.E.
Texas Commissioner

STATE OF OKLAHOMA

J.D. Strong
RESOLUTION
OF THE
RED RIVER COMPACT COMMISION
REGARDING
THE FUNDING OF STREAMFLOW GAGES
April 28, 2015

WHEREAS, the Red River Compact, signed May 12, 1978 and approved by Congress apportions the waters of the Red River basin between the States of Arkansas, Oklahoma, Texas and Louisiana;

WHEREAS, the four states have worked cooperatively together to develop and maintain the streamflow gaging network necessary to administer the provisions of the Compact;

WHEREAS, the cooperation and the establishment of this gaging network has resulted in the administration of this Compact with minimal controversy and no interstate litigation;

WHEREAS, the apportionment and calculations required to administer the Compact necessitate the maintenance of streamflow gages along the Red River and its tributaries at critical locations to measure the flow of water;

WHEREAS, it is critical for the administration of the Red River Compact that these streamflow gages be maintained;

WHEREAS, the U.S. Geological Survey (USGS) has historically entered into cost share agreements with cooperators to maintain a nationwide streamflow gaging network through the Cooperative Water Program (CWP);

WHEREAS, the CWP has served for over 110 years as a federal/non-federal partnership which historically was funded through a 50/50 cost share agreement. Today, the majority of the funding for the CWP comes from non-federal sources;

WHEREAS, the ability to maintain this network of national gages to meet long term federal goals has declined due to a loss of cooperators because of the increased costs of funding which prompted Congressional establishment of the National Streamflow Information Program (NSIP);

WHEREAS, the USGS established goals to satisfy minimum national streamflow information needs with the intent to support these gages entirely with federal funds;

WHEREAS, a priority goal of NSIP is to “meet legal and treaty obligations on interstate compacts and international waters;”

WHEREAS, the streamflow gages necessary to administer the Red River Compact qualify under this priority goal for full federal funding under NSIP.
NOW, THEREFORE, BE IT RESOLVED that, the Red River Compact Commission requests that Congress fully fund the NSIP gages associated with the Red River basin and Red River Compact and the USGS place a priority on funding these gages under NSIP.

BE IT FURTHER RESOLVED that, federal funding for the CWP be restored to ensure the historical partnership match of 50/50.

BE IT FURTHER RESOLVED that, a copy of this resolution be sent to the members of the congressional delegations for the States of Arkansas, Oklahoma, Texas and Louisiana, the Secretary of the Interior, and the Director of the USGS.

Gordon W. “Jeff” Fissett
Federal Commissioner and Chairman
Red River Compact Commission

[Signature]

4/28/15
Date Executed
April 28, 2015

Concurred to and supported by:

Wayne Dowd
Commissioner for Arkansas

[Signature]

J. Randy Young, P.E.
Commissioner for Arkansas

[Signature]

Arthur R. Theis, P.E.
Commissioner for Louisiana

[Signature]

Christopher P. Knotts, P.E.
Commissioner for Louisiana

[Signature]

Charles Lynn Dobbs
Commissioner for Oklahoma

[Signature]

J. D. Strong
Commissioner for Oklahoma

[Signature]

William A. Abney
Commissioner for Texas

[Signature]

Kevin McCalla for Richard A. Hyde, P.E.
Commissioner for Texas
Red River Compact Reach IV Subbasin 2

Comparison of Proposals for Estimating Weekly Runoff Methodology

April 27, 2015

U.S. Geological Survey

Method: Phase I of this study developed explanatory variables to model expected streamflow characteristics at stream flow gaging stations. The expected (E) streamflow characteristics were compared to observed (O) streamflow characteristics calculated from daily mean streamflow data at streamflow gaging stations. The degree of hydrologic alteration is estimated by the ratio of O/E. Where little or no hydrologic alteration occurs, the ratio of O/E should be approximately 1. Regression models were developed and have been used to predict E values of streamflow characteristics at gages with current data ("contemporary data") at monthly and pre/post alteration intervals within the Mississippi Alluvial Plain (MAP). O/E was calculated for select gages in the MAP where sufficient contemporary data were available.

Because of the lack of contemporary reference sites within the MAP and Red River Basin, reference sites were chosen temporally. To conduct the ongoing study, the USGS chose reference sites from the MAP and adjacent ecoregions, based on the presence of adequate streamflow data collected prior to 1960 and similar relations of precipitation and evapotranspiration to sites. To address the effects of agriculture on streamflow, the USGS used streamflow data prior to a substantial agricultural presence.

The streamflow characteristic regression models for monthly mean flow have been developed. Values of E can be predicted for any stream reach within the MAP, including sites within the MAP that contribute flow to the Red River Basin. In order to make these streamflow characteristic regressions applicable to the Red River Compact, the USGS can perform further data analyses to test the validity of transformation of the regression model to predict weekly mean flows using available daily climate data. The resultant weekly outputs will include observed and expected values of streamflow for select streams for a recent time period.

Cost/Logistics: The work would be conducted by hydrologists from the Little Rock and Baton Rouge USGS offices at a price of $64,000.

Potential Pros:
- One of the most cost effective option
- Captured streamflow characteristics in the specific region within a certain time period.
- Could provide an easy to use tool with the development of a catalogue to predict the expected streamflow based on the specific hydrologic events in the area

Potential Cons/Questions:
- The current USGS regression models were developed for MAP region, not the RR basin so the question of how these relate remains.
- How will this model capture development such as new diversions, new dams, or new permits in the area?

FTN Associates
Method: This study would research and evaluate several analytical tools and/or models that can be used for developing weekly runoff estimates. Summaries of input data requirements, method limitations and constraints for the tools and models will be presented to the RRC engineering committee. Work would include evaluating the Beouf River watershed and identify subbasin(s) that may be suitable for demonstration of recommended/selected methodology. Evaluation will include assessment of data gaps/needs required for demonstration. Concurrent with site selection, the engineer will compile a comprehensive list of currently available data and its sources that may provide model input (NEXRAD, land use, soil data, gages) and prepare technical memorandum presenting the findings of the study that will include a recommended methodology.

Cost: $48,700

Potential Pros: Cannot determine.
Potential Cons/Questions: Currently unknown methodology; phase II cost unknown.

Vleux and Associates
Method: This proposal would build a hydrometerological network using measurements from radar and rain gauge to compute weekly runoff in areas without stream gauges at necessary locations. Gauge adjusted radar rainfall (GARR) can be an accurate means of characterization rainfall over large areas at high resolution. Runoff at gauged locations will be evaluated based on observations from stream gauges operated mainly by the USGS and USACE. Runoff at ungauged locations along the State Line can be computed by 1) hydrologic modeling, or 2) proportional volumes based on drainage area and precipitation. Watersheds would be modeled using physics based hydrologic simulation of rainfall runoff. The model would be setup using Vflo, a gridded physics-based model capable of integrating the diverse geospatial data, land use/cover, soils, and terrain, affecting runoff.

Cost: $143,000 initial; $72,000 annual

Potential Pros: The result of the study could be available fairly quick. The pilot study completed at Beouf River shows fairly good result without much QA/QC and completed within a week.
Potential Cons/Questions: upfront and ongoing expense
Reservoir Levels

Recent rainfall and runoff totals across the State have varied widely, relieving some areas of the extreme drought conditions, primarily in the eastern subbasins, while intensifying the drought conditions in the central and western regions of the basin. In the Red River Basin in Texas, there are 13 reservoirs tracked by the Texas Water Development Board on its website at: http://waterdatafortexas.org/reservoirs/basin/red. Currently basin-wide, the reservoirs are at about 70% full, ranging from 0% in Reach I, Subbasin 3, to 100% in Reach II, Subbasin 2. As of April 20th, Lake Texoma is about 94% full. All the reservoirs in the Sulphur and Cypress basins are full due to recent flooding conditions in East Texas.

Recent Conditions

<table>
<thead>
<tr>
<th>Reservoir</th>
<th>Percent Full</th>
<th>Water Level (ft)</th>
<th>Height Above Conservation Pool (ft)</th>
<th>Reservoir Storage (acre-ft)</th>
<th>Conservation Storage (acre-ft)</th>
<th>Conservation Capacity (acre-ft)</th>
<th>Surface Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrowhead</td>
<td>19.7</td>
<td>906.66</td>
<td>-19.34</td>
<td>45,339</td>
<td>45,339</td>
<td>230,359</td>
<td>5,398</td>
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<tr>
<td>Bonham</td>
<td>99.0</td>
<td>564.90</td>
<td>-0.10</td>
<td>10,933</td>
<td>10,921</td>
<td>11,027</td>
<td>1.047</td>
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<tr>
<td>Crook</td>
<td>99.8</td>
<td>175.98</td>
<td>-0.02</td>
<td>9,189</td>
<td>9,174</td>
<td>9,195</td>
<td>1.057</td>
</tr>
<tr>
<td>Electra</td>
<td>0.0</td>
<td>n.a.</td>
<td>n.a.</td>
<td>0</td>
<td>0</td>
<td>5,676</td>
<td>n.a.</td>
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<tr>
<td>Greenbelt</td>
<td>12.6</td>
<td>2,619.80</td>
<td>-41.20</td>
<td>8,002</td>
<td>7,579</td>
<td>59,968</td>
<td>498</td>
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<tr>
<td>Hubert H Moss</td>
<td>100.0</td>
<td>715.32</td>
<td>0.52</td>
<td>24,720</td>
<td>24,058</td>
<td>24,058</td>
<td>n.a.</td>
</tr>
<tr>
<td>Kemp</td>
<td>25.2</td>
<td>1,122.36</td>
<td>-23.14</td>
<td>67,885</td>
<td>67,759</td>
<td>268,811</td>
<td>4,497</td>
</tr>
<tr>
<td>Kickapoo</td>
<td>27.9</td>
<td>1,030.03</td>
<td>14.97</td>
<td>24,070</td>
<td>24,070</td>
<td>86,345</td>
<td>2,581</td>
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<tr>
<td>Mackenzie</td>
<td>7.0</td>
<td>3,088.94</td>
<td>-91.66</td>
<td>3,272</td>
<td>3,272</td>
<td>46,450</td>
<td>175</td>
</tr>
<tr>
<td>Nacoma</td>
<td>33.6</td>
<td>813.94</td>
<td>13.46</td>
<td>7,504</td>
<td>7,200</td>
<td>21,444</td>
<td>733</td>
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<tr>
<td>North Fork Buffalo Creek</td>
<td>3.3</td>
<td>1,299.05</td>
<td>-18.95</td>
<td>504</td>
<td>504</td>
<td>15,400</td>
<td>146</td>
</tr>
<tr>
<td>Pat Mayse</td>
<td>100.0</td>
<td>411.85</td>
<td>0.85</td>
<td>122,675</td>
<td>113,683</td>
<td>113,683</td>
<td>n.a.</td>
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<tr>
<td>Texoma</td>
<td>94.2</td>
<td>614.98</td>
<td>-2.02</td>
<td>2,369,958</td>
<td>1,184,991</td>
<td>1,258,113</td>
<td>59,805</td>
</tr>
</tbody>
</table>

1 Lake Texoma straddles the border of Texas and Oklahoma, Texas has rights to 50% of Lake Texoma's total conservation capacity. Percent full, conservation storage and conservation capacity are based on the Texas share.
Water Use Permitting Activity

In the Red River Basin in Texas, there are 278 active water rights permits for irrigation, municipal, mining, industrial, recreation and other uses. During 2014-2015, there has been one temporary water use permit amendment issued for irrigation in Fannin County, one water use amendment to move a diversion location in Wichita County, one amendment to add agricultural uses to an existing permit in the Sulphur River basin, and two reservoir permit abandonments in Reach I, Subbasin 1.

There are 13 water use permits or amendments pending. These include several applications in the Wichita Falls area to address drought conditions and the North Texas Municipal Water District’s application for the proposed Lower Bois d’Arc Creek Reservoir. The Red River Authority has also applied to maintain an inflatable weir across the North Wichita River to create a sump to impound water during high-saline low-streamflow conditions and to divert water to the Truscott Brine Reservoir where the water will be impounded until it evaporates, preventing chlorides in the water from contaminated downstream water. If you would like to find additional information regarding a specific pending application, the applicant list and project manager’s name are provided on the TCEQ website at: www.tceq.texas.gov/permitting/water_rights/pending.html.
Zebra Mussels in Texas

The presence of live zebra mussels, or veligers, their larvae, has now been confirmed in seven Texas water bodies: Lakes Texoma, Ray Roberts, Lewisville, Bridgeport, Belton, Lavon and now, Waco. On isolated occasions, they have also been found in the Red River below Lake Texoma, the Elm Fork of the Trinity River below Ray Roberts, and Sister Grove Creek. A boat with zebra mussels attached was also found in Ray Hubbard. Boaters are now required to drain all water from their vessel, including live wells, bilges, motors and any other receptacles, before approaching or leaving a water body. The zebra mussel regulations were extended to all of Texas for all types and sizes of boats used on fresh waters, effective July 1, 2014. Possession or transportation of zebra mussels in Texas is a Class C misdemeanor for the first offense, punishable by a fine of up to $500. Repeat offenses can be elevated to a Class B misdemeanor, punishable by a fine of up to $2,000, jail time up to 180 days, or both.

Sign at Lake Waco

Buck Creek Watershed Protection Plan

The Red River Basin in Texas includes 29 classified segments and 11 major reservoirs covering 145,169 acres. Buck Creek, also known as Spiller Creek, is a small waterbody within the Red River Basin and is located within a subwatershed to the Lower Prairie Dog Town Fork of the Red River (Texas Water Quality Monitoring Segment 0207A). Small streams within this region are typically characterized by widely varying flows and high levels of dissolved salts, generally originating from saltwater seeps and springs. Buck Creek is situated within a predominantly rural and agricultural landscape in the panhandle region of Texas.
The State of Texas requires that water quality in Buck Creek be suitable for fishing, swimming, wading, and a healthy aquatic ecosystem. However, data obtained from periodic water quality monitoring indicated that bacteria levels were sometimes elevated in the creek. In 2000, Buck Creek was added to the State’s Clean Water Act Section 303(d) List of impaired water because of the creek’s high levels of bacteria.

In July 2014, the U.S. Environmental Protection Agency accepted the Buck Creek Watershed Protection Plan as meeting the agency’s guidelines for watershed-based plans and effectively outlining a strategy to reduce nonpoint source pollution in the watershed, according to a Texas Water Resources Institute official. Through improved understanding of watershed function, water quality and landowners’ efforts to implement effective measures, Buck Creek is no longer impaired. Thanks to work done through the partnership of AgriLife Research, Texas Water Resources Institute, Texas State Soil and Water Conservation Board and local stakeholders, E. coli levels decreased by 90 percent, well below the state’s water quality standards. The watershed plan is currently available for download at: http://buckcreek.tamu.edu/.

**Texas Integrated Report for Clean Water Act Sections 305(b) and 303(d)**

The *Texas Integrated Report for Clean Water Act, Sections 305(b) and 303(d)* is a statewide report on the status of state surface waters and is prepared and submitted to the U.S. Environmental Protection Agency (EPA) every two years. A new version was produced and has received public comments in 2014. It is being updated and will be submitted to EPA for approval. The Draft 2014 Integrated Report includes a comprehensive water quality evaluation of 1214 classified and unclassified water bodies throughout the State (freshwater streams, reservoirs, tidal streams, bays, estuaries, and the Gulf of Mexico). In 2014, there were seven new segments listed in the Red, Sulphur and Cypress river basins and eight segments de-listed as compared to 2012.

For more information, the 2012 and draft 2014 Texas Integrated Reports for Clean Water Act Sections 305(b) and 303(d) are compiled and published on the TCEQ Web site page at: http://www.tceq.texas.gov/waterquality/assessment/305_303.html.
Surface Water Quality Monitoring

The TCEQ surface water quality monitoring (SWQM) programs provide for an integrated evaluation of physical, chemical, and biological characteristics of aquatic systems in relation to human health concerns, ecological condition, and designated uses. The SWQM program coordinates the collection of physical, chemical, and biological samples from more than 1,800 surface water sites statewide. This data may be used by TCEQ to:

- characterize existing conditions or identify emerging problems,
- evaluate the effectiveness of water quality control programs, or
- identify trends.

SWQM data provide the basis for establishing effective TCEQ water quality management policies that promote the protection, restoration, and responsible use of Texas surface-water resources. These data may also be used to determine compliance with the Texas Surface Water Quality Standards through the Texas Integrated Report.

Data Management

The TCEQ Surface Water Quality Monitoring Information System (SWQMIS) is a Web-based application that allows TCEQ staff to enter, manage, track, and report on water quality-related data. It also allows non-TCEQ staff limited access to view or provide data. The system is organized by modules or categories of features that are grouped by the type of tasks you want to perform using the system. For example, if you are creating stations, you would use the Monitoring Stations module. If you are TCEQ staff collecting samples, you would use Sampling Events module to create the RFA form. Access these modules from the SWQMIS Main Menu, which lists them all.
Clean Rivers Program

Established in 1991, the Clean Rivers Program (CRP) is a very successful partnership between the TCEQ, regional water authorities, and the public. The CRP has become one of the most successful cooperative efforts between federal, state, and local agencies and the citizens of the State of Texas. Fifteen regional water authorities manage the program in 23 river and coastal basins. The CRP is a hub for water quality information and coordination of monitoring efforts and public participation, for each river basin. CRP partners collect more than 60% of water quality data used by TCEQ.

The Red River Authority of Texas is the partner agency for both the Red and Canadian River Basins. The most recent draft Basins Highlights Report which gives an overview of the water quality throughout the basins can be found at the following link:
Red River Authority link: http://www.rra.texas.gov/
Report of the Louisiana Representative to the Environmental and Natural Resources Sub-Committee, RRCA, meeting of April 27, 2015.

LOUISIANA:

1. The 2012 303D listing has been approved and the 2014 303D listing is in review and is available online at the following link:  http://www.epa.gov/region6/region-6/la/la_303d.html

2. TMDL activity in the Red River basin is as follows:
   a. There is no recorded activity

3. Status of water quality conditions:

   OUACHITA RIVER — The water quality for the Ouachita River in Louisiana (based on the near-stateline LDEQ station at Sterlington, La.) was acceptable. A scan of DO samples taken from January 7, 2014 to January 6, 2015 show 13 of the 14 samples with DO greater than the appropriate standard (5 mg/l). The minimum DO was 4.88 mg/l (May 6, 2014) and the maximum was 11.22 mg/l (February 4, 2014). The maximum chloride concentration for the 13 samples was 22.1 mg/l (December 2, 2014).

   Water quality standards of DO in the Ouachita River (Stateline to Columbia Lock and Dam) are: 3.0 mg/l; for June and July; 4.5 mg/l for August; and 5.0 for September through May. It is understood that these standards may not be reachable during and following high flow events when washout of backwater areas may occur. For the reach downstream of Columbia Lock and Dam, the year-round standard is 5.0 mg/l.

   RED RIVER — The water quality of the Red River in Louisiana (based on the near-stateline LDEQ station north of Shreveport) is also acceptable. A scan of DO samples taken from the period January 7, 2014 to January 15, 2015 showed ALL samples above 5.0 mg/l (min. 5.9 mg/ October 14, 2014). The maximum chloride concentration from the same period for the 13 samples taken was 52.1 mg/l (February 6, 2014). The presence of no chloride value above 250 mg/l is notable, as chloride has long been the constituent of interest for this river.

Edward Knight, P.E.
Southwestern Division
Tulsa District
Red River Area

Mark Ellison
Operations Project Manager
April 28, 2015
15 projects managed for flood risk
- 7 Corps of Engineers Projects
- 8 Projects owned by others
1 Chloride Control Project
Waurika Lake
**Waurika Lake**

**Current Situation**
- Water supply for 250,000 (Fort Sill, Lawton, Duncan, Waurika, and others)
- Conservation pool at elevation 931.96 (down 19.44’) Drought Level 4, (932.60-910.00 Level 4)
- 28% conservation pool

**Concerns**
- Marina and courtesy docks on dry ground
- Impacts to local economy
- Sedimentation limiting access to remaining water supply storage
- Ability to provide water supply - 2 years of storage remaining - Only 1 year of storage accessible (925.00)

**Way Ahead**
- Interagency Drought Management Committee held on April 15, 2014
- Section 408 submittal (95% review) to dredge channel and install new intake pipe pending

**U.S. Army**

**Building Strong**
Water Resources and Reform and Development Act of 2014

- Red River Basin. In the case of a reservoir located within the Red River Basin for which the Department of the Army is authorized to provide for municipal and industrial water supply storage and irrigation storage, the Secretary may reassign unused irrigation storage to storage for municipal and industrial water supply for use by a State or local interest that has entered into an agreement with the Secretary for water supply storage at the reservoir prior to the date of enactment of the Act.
Lake Kemp
Lake Kemp


- Lake Kemp Dam is located on the Wichita River at river mile 126.7, about 40 miles southwest of Wichita Falls in Wichita County, TX.

- Construction began in May 1970 and was completed in March 1974.

- 15,590 surface acres encompassed by private land (Waggoner Ranch).

- Purpose: Flood control and conservation.

- WCWID #2 and City of Wichita Falls utilize for irrigation and water supply, O&M cost-shared with USACE.

- FY15 Budget $261,170.00
Lake Texoma
Lake Texoma

**History**

- Construction began in August 1939 and completed in February 1944
  - First hydropower unit operational on March 1945, second in September 1949.
- Denison dam is the 12th largest in volume in the United States
- Purpose: Flood control, water supply, hydropower, regulation of Red River flows, improvement of navigation & recreation* (added in 1988*)

<table>
<thead>
<tr>
<th>Current Issues &amp; Actions</th>
<th>Project Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>$36M CF Powerhouse rehab</td>
<td>10- Campgrounds 742- Campsites</td>
</tr>
<tr>
<td>Master Plan update initiated March 2015</td>
<td>2 State parks &amp; 2 USFWS Refuges</td>
</tr>
<tr>
<td>Needed funds to initiate lake-wide EIS &amp; SMP update</td>
<td>22 Marinias = 6364 wet slips</td>
</tr>
<tr>
<td>LTA legislative proposal – Raise con pool 2ft/limit hydropower (614)</td>
<td>660 shoreline management (SM) boathouses</td>
</tr>
<tr>
<td>Spillway erosion repair – In House $10k (IGE $57K)</td>
<td>6.4 Million annual visitation</td>
</tr>
<tr>
<td></td>
<td>FY13 -$777,242 user fees collected</td>
</tr>
<tr>
<td></td>
<td>$220M economical impact to the region</td>
</tr>
<tr>
<td></td>
<td>1680 Jobs supported</td>
</tr>
<tr>
<td></td>
<td>FY15 Budget $12,078,943.00</td>
</tr>
</tbody>
</table>

*Building Strong®*
Red River Chloride Control Projects
Chloride Control Projects

**History**

- Overall Project was authorized by the Flood Control Act of 1966 and has since been modified.

- Overall mission of the projects is to reduce the amount of chloride content from natural emissions that ultimately flow into the Red River.

- Constructed areas that are currently operating: Area V (Estelline Springs), Area VIII (Bateman Dam), Truscott Brine Lake.

- Area X (Lawrence Area) inflatable dam and pump station completed, but not connected to transport pipeline.

---

**Estelline Springs**

- Estelline Springs prevents an estimated 240 tons/day of salt from entering the Red River. Total control to date: 3.6 million tons.

- FY15 Budget $40,834.00
Truscott Brine Lake
Truscott Brine Lake

- Truscott Brine Lake is located at river mile 3.6 on Bluff Creek, a tributary of the North Fork of the Wichita River, about 3 miles northwest of Truscott, in Knox County, TX.

- Construction was awarded in September 1979 and was completed in December 1982.

- Purpose: Water quality control.

- Destination containment for brine water pumped through 23 mile pipeline from Bateman pump station. Prevents an estimated 165 tons/day from entering the Red River.

- Project is responsible for ~13,000 ac of mitigation land near Crowell, in Foard County, TX.
Pine Creek Lake
Pine Creek Lake

History

- Pine Creek Dam is located 6 miles northwest of Wright City, OK in McCurtain County on the Little River.
- 3,750 surface acres, 22,429 acres of land and 90 Miles of Shoreline.
- Purpose: Flood control, water supply, recreation and fish and wildlife

<table>
<thead>
<tr>
<th>Contract Actions</th>
<th>Project Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Creek Dam Safety Construction Project - $22 million award October 2014</td>
<td>4- Campgrounds 161- Campsites</td>
</tr>
<tr>
<td>Low Flow Valve Repair – In House $41k (IGE $300k)</td>
<td>FY15 Budget $1,933,505.00</td>
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<tr>
<td>Spillway Bridge Deck Joint Repair - $405k</td>
<td></td>
</tr>
</tbody>
</table>

BUILDING STRONG®
Hugo Lake
Hugo Lake

**History**

- Hugo Lake Dam is located 7 miles east of Hugo, OK on the Kiamichi River.
- Construction began Sept 1968 was completed in January 1974.
- There are 13,250 surface acres of water: 22,286 acres of land: 110 miles of shoreline
- Purpose: Flood control, water supply, water quality, recreation and fish and wildlife

<table>
<thead>
<tr>
<th>Contract Actions</th>
<th>Project Numbers</th>
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<tbody>
<tr>
<td>Site construction for bulkhead rehab contract $885,000.00</td>
<td>3 campgrounds with 151 campsites.</td>
</tr>
<tr>
<td>Sustainability Geothermal HVAC Installation at Project Office</td>
<td>FY15 Budget $2,734,148.00</td>
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<tr>
<td>- Contract awarded 27 Aug 2014</td>
<td></td>
</tr>
<tr>
<td>Replacement of aging infrastructure within PUA</td>
<td></td>
</tr>
<tr>
<td>- Quail road electric primary</td>
<td></td>
</tr>
</tbody>
</table>
Sardis Lake
Sardis Lake

**History**


- Located on the Jack Fork Creek 2.5 miles north of Clayton, OK in Pushmataha County. Construction began in August 1975 and became operational in December 1982.

- 14,360 surface acres: 6,499 of land: 117 miles of shoreline.

- Purpose: Flood control, water supply, recreation, and fish and wildlife

<table>
<thead>
<tr>
<th>Contract Actions</th>
<th>Project Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Gate Replacement Contract $1,000,000.00</td>
<td>- 3 campgrounds with 155 campsites.</td>
</tr>
<tr>
<td>- All gates are currently in operation</td>
<td>- FY15 Budget $1,039,990.00</td>
</tr>
<tr>
<td>- Sustainability Geothermal HVAC Installation at Project Office</td>
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</tr>
</tbody>
</table>
# Pat Mayse Lake

## History

- Pat Mayse dam is located 1.5 miles southwest of Arthur City on Sanders Creek.
- 5590 acres of surface water: 67 miles of shoreline.
- Purpose: Flood Control, water supply, recreation and fish and wildlife.

## Contract Actions

- Shoreline Protection - Pat Mayse West PUA.
  - 4 prime sites have been closed due to shoreline erosion. Work is in progress to re-shape, protect and re-open these sites.
- Seal leaks in discharge conduit $354,000.00
- Revise Project Master Plan $30,000.00

## Project Numbers

- 3 campgrounds with 163 campsites
- FY15 Budget $1,402,932.00
## Broken Bow Lake

### History
- Construction began in 1961 and impoundment began in 1968.
- Purpose: Flood Control, hydroelectric power, water supply, recreation and fish and wildlife.

### Contract Actions
- Construction of Spillway Bulkhead & Mooring System O&M $2,958,702 un-awardable, funds moved to fully award other contracts. Remaining funds to study and re-scope.
- Repair Power Plant Penstock Expansion Joint & Paint Penstock $882,000.00 projected award 30 Sept 2014
- Power Plant Asbestos Removal - $200,000.00
- Investigate/Seal Diversion Tunnel $500,000.00
- Replacement of the Power Plant Un-watering System $350,000.00 projected award 26 Sept 2014
- Analyze/Construct new Bulkhead $1,190,000.00

### Project Numbers
- All Parks and Recreation are leased to Oklahoma Tourism and Recreation Dept.
- FY15 Budget $4,747,161.00

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BUILDING STRONG®
Summary of Current and Recently Completed Activities
Planning, Construction Assistance, and Grant Programs
Oklahoma-Texas Area Office
Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.
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Introduction

The Bureau of Reclamation (Reclamation) is an agency within the Department of the Interior with a primary mission designated to manage, develop, and protect water and related resources in an environmentally and economically sound manner within the 17 western states. The Oklahoma-Texas Area Office (OTAO) is responsible for administering 11 reservoir projects and associated water distribution systems in southern Kansas, Oklahoma, and Texas. The combined water delivery is more than 680,000 acre-feet (ac-ft) of Municipal and Industrial (M&I) water annually to approximately three million water users, providing additional fish and wildlife, recreation, and flood control benefits. The OTAO supports two Irrigation Districts, one in Oklahoma and one in Texas.

Reclamation works in conjunction with other federal and state agencies, Indian Tribes, and local entities in performing these responsibilities. Significant areas of activity include providing oversight of operations and maintenance of existing facilities and water resources planning along with construction assistance.

The purpose of this activity report is to provide a summary of current and recently completed activities under the Planning, Construction Assistance, and Grant Programs.

Native American Affairs Program

Four projects were initiated in FY14 totaling $177,500 in Federal funding.

Two projects are complete:
- Chickasaw Nation - Viability of Direct Non-potable Reuse for Sulphur Regional Rural Water Plan
- South Central Tribes Training - Environmental Assessment and Problem Solving with GIS Training (by USGS)

Two projects are ongoing:
- Cherokee Nation - Engineering Study on Cherokee County Rural Water District No. 9
- Muscogee (Creek) Nation - Agricultural Plan for Hanna Farms and Creek Nation Ranch, Oklahoma

Two new projects have been initiated in FY 15 totaling $110,000 in Federal Funding:
- Cherokee Nation - Hydraulic and Water Loss Study, Adair County Rural Water District #1
- Cherokee Nation - Viability Assessment for Regionalization of Rural Water Systems in Western Cherokee County, OK
Water Conservation Field Services (WCFS) Program

WCFS Grants

One grant was awarded in FY 14 to the Arbuckle Master Conservancy District, Arbuckle Project, for Design and Installation of a Supervisory Control and Automated Data Acquisition (SCADA) System. The grant awarded $87,879 in federal funds.

Two on-going grants were awarded in FY 13 for a total of $200,000 in federal funds:

- Foss Reservoir Master Conservancy District, Foss Division, Washita Basin Project, OK: Design and Installation of Isolation Valves on the Foss Aqueduct and Distribution System.
- Foss Reservoir Master Conservancy District, Foss Division, Washita Basin Project, OK: The Demonstration Test of a Microfiltration and Reverse Osmosis System for Foss Reservoir Water Treatment Plant.

Training

Reclamation, in partnership with the Oklahoma Water Resources Board, provided a one-day training exercise on September 17, 2014 that challenged participants with developing drought mitigation/action plans to address a set of simulated, real-world drought conditions specific to Oklahoma.

The Water Supply Reliability and Management Challenge, facilitated by AMEC Environment & Infrastructure, had the following objectives:

1. Educate participants on various technical, regulatory, institutional, and financial issues associated with drought in the context of real-world conditions observed in Oklahoma.
2. Enhance participant preparedness and response capabilities tied to ongoing drought conditions.
3. Encourage a fun, engaging, and spirited competition among participants, which ultimately facilitates collaboration of multiple water user groups at various Federal, state, and local levels.
WaterSMART Program

Reclamation's WaterSMART (Sustain and Manage America's Resources for Tomorrow) Program aims to leverage federal (up to 50 percent cost-share) and non-federal funds to improve water management, increase energy efficiency in water delivery, facilitate water marketing projects, protect threatened and endangered species, and carry out activities to address potential climate-related impacts on water resources. Eligible entities include irrigation and water districts, river authorities, tribes, states and other entities with water or power delivery authority.

Basin Study Program

This program addresses water needs on a basin-wide scale through development of future supply/demand projections that include state-of-the-art data on climate variability; an analysis of how infrastructure and operations will perform in the face of changing realities; and development of mitigation strategies and management solutions. Studies are cost-shared on a 50/50 basis with willing state, tribal, and local partners and generally take two years to complete. Reclamation's share of study costs are used to support work done by Reclamation or its contractors.

Lower Rio Grande Basin Study
Reclamation and the Rio Grande Regional Water Authority (RGRWA), with the 53 member entities making up the RGRWA, in collaboration with other Texas water and environmental agencies and the International Boundary and Water Commission (IBWC), completed a Basin Study to evaluate the impacts of climate variability and change on water supply imbalances within an eight county region ("Region M") along the U.S./Mexico border in south Texas. A brackish groundwater desalination facility design was developed and three generalized locations for future desalination plants were recommended, which were analyzed using the Texas Water Development Board's Unified Costing Model, and an affordability analysis. The study cost $412,798 (52 percent RGWRA; 48 percent Federal cost share) and was completed December, 2013.
Upper Washita Basin Study
A Basin Study on the Upper Washita Basin in Oklahoma was awarded $350,000 in FY 12 Federal funds to partner with the Oklahoma Water Resources Board (OWRB) and Fort Cobb and Foss Reservoir Master Conservancy Districts to identify sustainable solutions to infrastructure issues and existing and projected imbalances between water supply and demand. The study is estimated at a cost of $900,000 upon completion. The study is expected to be completed in May 2016.

OWRB is in the process of completing the surface water and groundwater modeling for the study area. These tools will be used by OWRB and Reclamation to complete a system reliability and impact analysis in the summer 2015. The Fort Cobb Reservoir Master Conservancy District has been working closely with Reclamation to develop conveyance alternatives to address aging infrastructure issues. Designs and cost estimates are under development.
Upper Red River Basin Study
A Basin Study on the Upper Red River Basin in Oklahoma was awarded $640,000 in FY 14 Federal funds to partner with the OWRB, Lugert-Altus Irrigation District, and Mountain Park Master Conservancy District to identify sustainable solutions to infrastructure issues and existing and projected imbalances between water supply and demand. The study will evaluate infrastructure and permitting options that help ensure long-term reliability of water supplies during critical drought periods. The study is estimated at a cost of $1,400,000. A kick-off public meeting is scheduled for April 2015 in Altus, Oklahoma. The study is expected to be completed in 2017.
Arkansas River Plan of Study

A Plan of Study for a Basin Study on the Arkansas River in southwest Kansas and eastern Colorado was awarded $100,000 in Federal funds to partner with the Kansas Water Office (KWO), Kansas Department of Health and Environment (KDHE), and Southwest Kansas Groundwater Management District No. 3 (GMD3) to develop a scope of a study which would cooperatively develop strategies to address the water quality issues in the Arkansas River from John Martin Reservoir in Colorado to Garden City, Kansas. Through the Basin Studies Program, Reclamation solicits state and local partners to conduct comprehensive water supply and demand studies of river basins in the Western United States. This selection provided funding to Reclamation to assist GMD3 in the preparation of this work plan.

GMD3 and Reclamation are currently in the process of developing a work plan which describes the objectives and study tasks for a Basin Study. It is expected that the work plan will be complete in June 2015. The work plan will serve as a guide to inform future management decisions in the basin.
Water and Energy Efficiency Grants

This program seeks to conserve and use water more efficiently, increase the use of renewable energy, improve energy efficiency, benefit endangered and threatened species, facilitate water markets, carry out activities to address climate-related impacts on water or prevent any water-related crisis or conflict. To date, Reclamation has awarded about $6.3 million to 30 projects in Texas with a cumulative project cost of $21 million. The estimated total amount of water saved or better managed is about 55,650 acre-feet per year.

Cameron County Irrigation District #2 - Water Control Improvement Project
Cameron County Irrigation District No. 2 (District) in San Benito, Texas, was awarded $300,000 in FY 2013 to install nine automatic gates located at strategic points throughout the District's distribution system to replace manual wooden slide gates. These gates will be sized to best accommodate flows in delivery laterals and will consist of seven flume gates and two slide gates. The gate structures include remote flow measurement and control features that are fully compatible with the existing SCADA system in the District. This project will allow for the accurate metering of water flow and level. The project will reduce the amount of water lost from the system due to spills into nearby drains and provide the District with the ability to measure water use in the system.

Rio Grande Regional Water Authority - Surge Valve Collaborative
Rio Grande Regional Water Authority (RGRWA) was awarded $77,000 in FY 2013 for the purchase of 64 surge valves and training in the use of surge valves to be provided to irrigators within RGRWA. Irrigators would use surge valve technology to increase water conservation.
United Irrigation District
The United Irrigation District in Mission, Texas was awarded $1,333,901 in FY 2013 to conduct water conservation and energy efficiency improvements. The project consists of seven separate components, including:

- Lining 4-1/2 miles of canal to conserve water and energy
- Improvement of the main flume with a new double barrel siphon
- Lining of suction lines to conserve energy and improve reliability
- Addition of a wind powered pump to utilize renewable energy
- Installation of SCADA remote units to conserve and better manage water
- Construction of an outlet to the National Wildlife Refuge to benefit the Ocelot as well as other endangered species
- Conversion of agricultural rights to municipal rights and marketing the converted rights to a municipal user

Title XVI - Water Reclamation & Reuse Program

Reclamation can provide a 50 percent cost-share, totaling no more than $150,000 per study, evaluating the feasibility of desalination, water reuse and recycling, or any project that otherwise evaluates the reclamation of an impaired water source for beneficial use. To date, $3.3 million has been awarded to 7 studies in within the Oklahoma-Texas Area Office, four of which are still active.

Guadalupe-Blanco Water Authority (GBRA) – Integrated Water and Power Project
GBRA was awarded a $450,000 grant for a multiple-year feasibility study of integrated seawater desalination and power facilities to provide significant regional water and power supplies in Texas. Seawater is an abundant but impaired water resource that can help meet rapidly growing industrial and municipal demands in the South Central and Coastal Bend regions. This study is being completed in partnership with the State of Texas General Land Office and the Texas Sustainable Energy Research Institute at the University of Texas at San Antonio.

Gulf Coast Waste Disposal Authority - Feasibility Study of Industrial Water Management and Reclamation for Permian Basin
Gulf Coast Waste Disposal Authority was awarded $150,000 to exam the feasibility of reducing the challenges of both supply and disposal by reclaiming industrial wastewaters including those from oil and gas exploration and production, and municipalities and providing those waters for reuse on a regional basis.

Laguna Madre Water District (LMWD) – Feasibility Study Port Isabel Water Reclamation for Indirect and Indirect Potable Reuse
LMWD was awarded a $150,000 grant to investigate the feasibility of utilizing the effluent from the 1.1 mgd Port Isabel Wastewater Treatment Plant to offset potable uses and/or supplement its water supply. This study will identify the highest and best use for the effluent from this facility. The proposed alternative uses are: 1) Non-potable

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irrigation, or 2) potable reuse supplying advanced-treated effluent to the District's existing raw water Reservoir to augment current surface water supply.

Tarrant Regional Water District (TRWD) – Feasibility Study of Augmenting Water Supply with Impaired Groundwater Supplies
TRWD and the City of Wichita Falls were awarded a $150,000 grant to study the feasibility of adding impaired groundwater supplies to the regional water supply. The study will investigate existing groundwater quality information of potential locations of impaired groundwater. The study will also consider surface water quality in the two focus areas. Feasible options of mixing surface water with impaired groundwater aquifers will provide TRWD and Wichita Falls the information they need to determine the feasibility of using impaired groundwater to supplement surface water supplies.
Research and Development Program

Reclamation’s R&D Program provides technical and financial assistance to internal and external research projects that help Reclamation accomplish its mission of developing water supplies in a sustainable manner.

Science and Technology Program

Internal research is funded under Reclamation’s Science and Technology (S&T) Program. Through S&T, Reclamation can investigate new and innovative solutions on important issues where there may be a unique or unknown risk and for which capital investment may not occur otherwise. Recent research priorities have focused on addressing challenges associated with climate change, invasive zebra/quagga mussels, and advanced water treatment. Over the last 7 years, the R&D program has awarded $50 million to more than 800 research projects. To date, about $875,000 has been awarded to research activities in Texas. Active projects are listed below:

An Innovative Constructed Wetland Design for Attenuating Endocrine Disrupting Compounds from Reclaimed Wastewater
The TWDB’s Texas Water Reuse Research Agenda identified understanding the role of environmental buffers, specifically wetlands, in surface water indirect potable reuse projects as one of the highest priority research projects for Texas. Reclamation is partnering with the USGS, TWDB, Waco Water Utilities Services Department, and Baylor University to design, construct, and monitor an innovative wetlands design to reduce endocrine disrupting compounds which may be found in reclaimed wastewater, and which might affect ecological or human health. Final designs are complete, along with funds to monitor the site. Construction began in January 2015 and will be completed in late spring. Monitoring will occur over a three-year period.

Developing a Deterministic Model for Predicting Cleaning Frequency due to Inorganic Scaling on Reverse Osmosis Membranes
One of the major limitations of reverse osmosis membranes is inorganic scaling, which causes deterioration of membrane performance. A need exists to further understand and characterize challenges related to high mineral content with the tendency to form sparingly soluble salts. Formation of these salts causes decreased flux, increased operating pressure, and increased plant downtime due to cleaning requirements. Reclamation is working with TWDB staff to gather water chemistry and membrane operation data from desalination plants to determine cleaning requirements based on projected fouling curves to develop a mathematical model that will predict cleaning frequency for reverse osmosis systems in brackish groundwater desalination plants.

Development of Methodologies to Evaluate the Environmental, Financial and Social Benefits of Water Reuse Projects
The TWDB’s Texas Water Reuse Research Agenda (2011) identified “triple bottom line” analyses as a top priority research area for Texas. Both water providers and rate payers alike often question whether reuse is worth the financial investment relative to other
strategies. In fact, many water reuse projects in Texas have been halted due to a lack of funding or inability to justify the required capital expenditures. Reclamation is coordinating with TWDB and other state and local water suppliers to evaluate the state-of-the-science of TBL analyses, and to develop a clear, well-defined economic and financial evaluation approach that can be used by entities to evaluate the merits of water reuse projects.

**Literature Review of Desalination Research Priorities**

This effort identified and summarized desalination-related research and priorities at various organizational levels both nationally and internationally. It was spearheaded as a means of helping inform an update of Reclamation’s agency-wide desalination roadmap, which aims to prioritize desalination-related needs and guide allocation of agency resources. The roadmap is expected to be completed by 2017.

**Concentrate Management Toolbox and Selected Case Studies**

Concentrate management is an important component driving the cost and feasibility of desalination. The understanding necessary to optimize inland desalination facilities and associated concentrate management solutions is still being improved through detailed assessments, especially as technology advances and provides more flexibility in treatment. A wide variety of concentrate management methodologies exist, and many water purveyors are overwhelmed when considering which technology is the best for their situation. This Concentrate Management Toolbox will inventory existing technologies and identify practical and economical strategies to optimize concentrate management based on various feed water quality parameters, so water planners can more rapidly assess concentrate management options. Reclamation is partnering with the North Texas Municipal Water District in Texas and the Eastern Municipal Water District in California to then apply the Toolbox to a set of site-specific saline source waters and recommend an optimal array of concentrate management technologies.

**Desalination and Water Purification Research**

External research is funded under Reclamation’s Desalination and Water Purification Research Program (DWPR). DWPR was established to facilitate partnerships with academia, private industry, and local communities to develop more cost-effective, technologically efficient means by which to desalinate water. To date, $2.9 million has been awarded to 23 projects in Texas. Two new research projects were funded in Texas in 2014 and one continuing multi-year pilot study was awarded second year funding.

**City of Corpus Christi Desalination Pilot Study**

The City of Corpus Christi, Texas, was awarded $200,000 in FY 2013 and an additional $200,000 in FY 2014 for a Desalination Pilot Study. Corpus Christi has been dealing with drastic drought conditions over the last decade and this pilot project will aid in exploring a variety of options to optimize the pre-treatment process. The results will form the basis of design for a full-scale facility including operating parameters, cost information and product water quality to assess feasibility of a seawater and/or brackish groundwater supply.
Advanced Pretreatment for Nanofiltration of Brackish Surface Water: Fouling Control and Water Quality Improvements
The University of Houston was awarded $150,000 in FY14 for a Desalination Research Laboratory-Scale Project. Brackish surface waters typically contain higher concentrations of pathogenic microorganisms, turbidity, natural organic matter and disinfection by-product precursors, in addition to carcinogenic or mutagenic organic chemicals, and toxic inorganic ions when compared to brackish groundwater. Membranes are amongst the best available technologies for treating brackish surface water, but fouling often limits membranes performance and increases cost. This study will provide necessary proof-of-concept to scale-up advanced pretreatment and nanofiltration membranes for treatment of brackish surface water to drinking water standards. Foss Reservoir in West-Central Oklahoma will be employed as model brackish surface water, since it already serves as the source water for many communities and is part of the Bureau of Reclamation’s Washita Basin Project.

Activated Sludge Aeration Waste Heat for Membrane Evaporation of Desalination Brine Concentrate
The University of Texas at San Antonio was awarded $86,000 in FY14 for a Desalination Research Laboratory-Scale Project. The topic of this study focuses upon membrane evaporation processes to reduce brine volume. The study will investigate the potential of coupling membrane evaporation with waste heat generated from activated sludge aeration blowers. The San Antonio Water System (SAWS) operated both the water treatment and waste water treatment facilities for the city of San Antonio. SAWS will be partnering with UT San Antonio for this work to assess the efficacy of this coupling.
Drought Response Program

Reclamation’s Drought Response Program is currently under development, and is expected to have a Funding Opportunity Announcement (FOA) in late April or May. This program aims to provide competitive grants for drought contingency planning, as well as mitigation actions that build long-term drought resiliency. This new program will focus on leveraging Reclamation funds to avoid drought-related crises in the short term, while laying a foundation for climate resiliency in the long term.

Summary of Programs and Funding Opportunities

All Reclamation program FOAs for Grants or Cooperative Agreements to utilize Reclamation funding are posted on the Grants.gov website: http://www.grants.gov/

The following is a list of specific weblinks for each of the Reclamation programs mentioned above:

Native American Affairs Program: http://www.usbr.gov/native/
Rural Water Supply Program: http://www.usbr.gov/ruralwater/
Water Conservation Field Services Program: http://www.usbr.gov/waterconservation/
WaterSMART Program: http://www.usbr.gov/WaterSMART/
WaterSMART Program - Title XVI: http://www.usbr.gov/WaterSMART/title/index.html
WaterSMART Program – Basin Studies: http://www.usbr.gov/WaterSMART/bsp/
Science and Technology Program: http://www.usbr.gov/research/science-and-tech/
Drought Response Program: http://www.usbr.gov/drought/

Contact Information

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Supervisory Program Coordinator
Bureau of Reclamation
Oklahoma-Texas Area Office
5316 Hwy 290 West, Suite 110
Austin, TX. 78735
Work: 512-899-4162; 899-4179 (fax)
Cell: 512-922-0525

RECLAMATION
Managing Water in the West
Upper Red River Basin Study

Contact Information: Collins Balcombe, OTAO, 512-899-4162; cbalcombe@usbr.gov

The Upper Red River Basin encompasses over 4,000 square miles and all or part of nine counties in southwest Oklahoma. The region includes tributaries to the Red River, the largest being the North Fork, the Salt Fork, and the Elm Fork of the Red River. The basin contains two Reclamation reservoirs, Tom Steed and Lugert-Altus Reservoirs. These two reservoirs provide 99 percent of the surface water supply sources in the study area to almost 45,000 people and irrigation water for 48,000 acres of land.

The water supply needs in the study area are both immediate and severe. This is due to water quantity and quality issues, as well as aging infrastructure. An extreme drought has stricken the area since 2011, and both Tom Steed and Lugert-Altus Reservoirs are at record lows. A large portion of the study area remains in exceptional drought. Groundwater depletions in the area are forecasted to be as high as 17,220 acre-feet per year by 2060, resulting in increased likelihood of localized impacts and potential effects on streamflow. Additionally, the 2012 Oklahoma Comprehensive Water Plan Update analysis identified six of the twelve subbasins within the study area as hot spot basins that have been forecasted to face significant water supply challenges within the next 50 years. These challenges prompted stakeholders to develop a Southwest Oklahoma Water Supply Action Plan (May 2014) that outlines short-, mid-, and long-term solutions in the area. Using the Southwest Action Plan as a guide, the Upper Red River Basin Study will:

- Characterize and quantify surface and groundwater resources;
- Conduct hydrologic investigations on the North Fork Red River Alluvium and Terrace, Elk City Sandstone, and Salt Fork of the Red River Alluvium and Terrace to determine the amount of groundwater available for future appropriations;
- Develop a surface water allocation model to evaluate various water management options, including protecting the future water supply capabilities of Tom Steed and Lugert-Altus Reservoirs;
- Assess the current and future capability of existing infrastructure and operations to meet demands, including operational risks and reliability of the system; and
- Evaluate alternatives to address infrastructure and water supply issues facing the study area, both now and in the future.

Stakeholders, including the direct beneficiaries of both Tom Steed and Lugert-Altus Reservoirs, along with the tribal, agricultural, municipal, industrial, and domestic users of surface and groundwater supplies, will be engaged throughout the study.

The total estimated study cost is $1,435,500. Reclamation is providing $640,000 (45 percent) and the non-Federal partners (Oklahoma Water Resources Board, Mountain Park Master Conservancy District and Lugert-Altus Irrigation District) are providing $795,500 (55 percent) of the total study cost.
## RED RIVER COMPACT COMMISSION

### 35th Annual Meeting

Beavers Bend Lakeview Lodge  
Broken Bow, OK  
April 28, 2015

### RED RIVER BASIN

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* AVERAGE DISCHARGE SINCE DENISON DAM IN OPERATION  
+ 81 TOTAL YEARS OF RECORD  
++ 82 TOTAL YEARS OF RECORD  
+++ 76 TOTAL YEARS OF RECORD
RED RIVER BASIN TRENDS IN STEAMFLOW

Red River near Burk Burnett, TX
07308500

Red River near Gainesville, TX
07316000

Red River near Index, AR
07337000

WATER YEAR

Prepared by US Geological Survey
U.S. GEOLOGICAL SURVEY SUMMARY SHEET
ARKANSAS, LOUISIANA, OKLAHOMA, TEXAS
WATER SCIENCE CENTERS

RED RIVER COMPACT COMMISSION
35th Annual Meeting

Beavers Bend Lakeview Lodge
Broken Bow, OK
April 28, 2015

RED RIVER BASIN

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* AVERAGE DISCHARGE SINCE DENISON DAM IN OPERATION
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++ 82 TOTAL YEARS OF RECORD
+++ 76 TOTAL YEARS OF RECORD

ATTACHMENT 16
Red River Focus Area Study

RRCC Meeting
April 28, 2015
Project Background

- USGS Water Science Centers Involved
  - Arkansas - 32
  - Louisiana - 50
  - Oklahoma - 25
  - Texas - 35
Project Background

- SECURE Water Act (2007)
  - National Science and Technology Council
- Ongoing water census
Project Background

- USGS – Strategic Direction

“A water census for the US: Quantifying, Forecasting and Securing Freshwater for Americas Future.”
Study Goals

• One Strategy
• Focus on Water Availability
• Answer the Questions:
  – Is there adequate quantity of water, with sufficient quality and timing-characteristics, to meet both human and ecological needs?
  – Will this water be present to meet both existing and future needs?
Study Area
Study Area

- Area - 93,200 mi²
- Population - 4.3 million
- Precipitation - 30”-50”
- USGS & Cooperators > $4 million
Issues

- Increasing Water Demands
- Drought in Texas
- Disruption of Aquatic Ecosystems
- Water Quality
  - Salinity
  - Natural Chloride
Planned Activities

1. Refine 2010 USGS Water-use Estimates
2. Groundwater/Surface Water Interaction
3. Estimate Daily Streamflows
4. Summarize Existing Aquatic Ecological Data
Planned Activities

1 - Refine 2010 USGS Water-use Estimates

- Downscale
- Irrigation
- Interbasin
- Consumptive use
Planned Activities

2 - Groundwater/Surface Water Interaction

- Develop a model (MODFLOW)
  - Upstream of Denison Dam
  - Additional withdrawals
  - Climate
Planned Activities

3 - Estimate Daily Streamflows
- Precipitation Runoff Modeling System (PRMS)
  - Predict flows in ungaged area
  - Future projections
  - Couple with GW model
Planned Activities

4 - Summarize Existing Aquatic Ecological Data

- Mainstem and select tributaries
- Compare to land-use changes
- Similar study on Canadian River
Questions?

Kristine Blickenstaff, PE
kblickenstaff@usgs.gov

U.S. Department of the Interior
U.S. Geological Survey
April 28, 2015

TO: Red River Compact Commissioners
FM: Richard Bruntoli, Executive Director, redriverva@hotmail.com

RE: Red River Valley Association Report to the Red River Compact, April 28, 2015

1. **Appropriations**: Congress passed the FY 2015 Omnibus Appropriation Bill, which had provisions for ‘Additional Funds’. We appreciate that the Corps allocated an additional $2,441,450 for FY 2015 O&M on the J. Bennett Johnston Waterway that will be used for dredging. We are disappointed that the President’s FY 2016 budget ($4.732 b) submission reduced the Corps of Engineers by $735,000,000; a 14% reduction from what Congress enacted in FY 2015. It is obvious the intent of Congress is to fund waterway projects. The House FY 2016 markup ($5.6 b) increases the President’s budget by $868,000,000 and includes ‘additional funding’ pots. The Red River civil works President’s budget are detailed in enclosure 1.

2. **Navigation O&M**: The FY 2016 budget proposal of $8,782,000, for O&M for the J. Bennett Johnston Waterway, is $394,000 more than the FY 2015 budget proposal, but still $1,919,450, less than enacted in FY 2015 ($10,701,450). This is far short of the $11 million basic, minimum requirement to maintain the Waterway at the authorized 9’ by 200’ channel. Reduced funding of this magnitude guarantees the waterway will be closed in FY 2016. This reduction will jeopardize dredging funds threatening the reliability of the Waterway and will impact industries. With the recent high water event all dredge funding will be used in FY 2015.

3. **IMTS Reduced Lock Service Mandate**: MG Michael Wehr, MVD Commander, Col. John Cross, Vicksburg District Commander and their staff for a meeting at the Caddo-Bossier Port on the development on the Red River. After an analysis, by the Vicksburg staff, Col Cross decided to allow our locks to remain operating 24/7/365 for CY 2015. We know there will be a re-evaluation each year and we must show increased activity. The public ports, State of Louisiana, Red River Waterway Commission, communities and private industries have invested approximately $2.8 billion in infrastructure. The Benteler Steel Pipe $900 million project will be operational August 2015 at the Caddo-Bossier Port, the Cool Planet Bio-fuel $112 million project broke ground at the Alexandria Regional Port and there was an announcement of a $2.4 billion project in Pineville, LA, which will have their own terminal on the Red River, enclosure 3.

4. **Navigation into Arkansas Feasibility Study**: The Arkansas Legislators took all the funds from the Arkansas Red River Commission trust funds in 2014. The State Legislative session that just concluded, passed SB 662 that would reinstate $1 million into the Red River Trust Fund; however, we will not know if it will be funded until July/August 2015. These funds will be provided for the Corps of Engineers to get the feasibility study to a decision point if the project should continue or be terminated. The Arkansas Red River Commission is also investigating private/private options other than a federal project.

5. **Chloride Control Project**: There has been no action on this project. The Administration will not fund this project. Construction on the Wichita River will not resume until the earmark ban is changed. GEM has not made progress on getting power contracts in order to secure private funding for their ‘solar pond’ initiative.

6. **Bureau of Reclamation & NRCS Appropriations**: Enclosure 2 is the FY 2015 & 2016 appropriation comparison of the President’s FY 2016 budget to what Congress enacted in FY 2015.

7. **Earmarks**: The no earmark policy, in the House and Senate, continues to be an issue. The Administration decides the funding level projects receive. Congress needs to take back their responsibility for the appropriation process. They also need to redefine the earmark definition, since civil works projects have been through an authorization, vetted process. Enclosure 4 is our position paper on earmarks.

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*A FOUR STATE ASSOCIATION DEDICATED TO THE DEVELOPMENT OF THE LAND AND WATER RESOURCES OF THE RED RIVER BASIN*
# RED RIVER VALLEY ASSOCIATION
## FY 2016 APPROPRIATIONS ($000)
### CIVIL WORKS

<table>
<thead>
<tr>
<th>I. Studies (GI)</th>
<th>FY 15 Enacted</th>
<th>RRVA FY 16 Request</th>
<th>Pres FY 16 Budget</th>
<th>House Mark Up</th>
<th>Sen Mark Up</th>
<th>Conf</th>
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<tbody>
<tr>
<td>1. Navigation into SW Arkansas: Feasibility</td>
<td>-0-</td>
<td>500</td>
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<td>2. Red River Waterway, LA - 12' Channel, Recon</td>
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<td>WRRDA</td>
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<td>3. Bossier-Parish, LA</td>
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<td></td>
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<tr>
<td>4. SE Oklahoma Water Resource Study: Feasibility</td>
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<td>5. Washita River Basin, OK</td>
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<td>6. SW Arkansas Ecosystem Restoration: Recon Study</td>
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<td>7. Cypress Valley Watershed, TX</td>
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<td>8. Sulphur River Basin, TX</td>
<td>500</td>
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<td>500</td>
<td>500</td>
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<tr>
<td>9. Wichita River Basin above Lake Kemp, TX: Recon</td>
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<tr>
<td>10. Red River Above Denison Dam, TX &amp; OK: Recon</td>
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<tr>
<td>11. Red River Waterway, Index, AR to Denison Dam</td>
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<tr>
<td>12. Mountain Fork River Watershed, OK &amp; AR; Recon</td>
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<td>13. Walnut Bayou, Little River, AR</td>
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<td>14. Little River County/Ogden Levee, AR, Recon</td>
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<td>15. Red River Waterway, Index to Denison, Bendway</td>
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<th>II. Construction General (CG)</th>
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<td>1. Red River Waterway: J. B. Johnston Waterway, LA</td>
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<td>21,100</td>
<td>-0-</td>
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<td>2. Chloride Control Project, TX &amp; OK</td>
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<td>9,293</td>
<td>7,200-TX</td>
<td>2,093-OK</td>
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<td>3. Red River Below Denison Dam; AR &amp; LA</td>
<td>90</td>
<td>12,000</td>
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<tr>
<td>a. Bowie County Levee, TX</td>
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<td>4. Red River Emergency Bank Protection</td>
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<td>20,200</td>
<td>-0-</td>
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<td>5. Pine Creek Lake, OK</td>
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<td>1,957</td>
<td>1,957</td>
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<tr>
<td>+6,082</td>
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<th>III. Continuing Authority Program (CAP)</th>
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<tbody>
<tr>
<td>1. Big Cypress Valley Watershed, TX: Section 1135</td>
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<td>2. Palo Duro Creek, Canyon, TX: Section 205</td>
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<td>3. Millwood, Grassy Lake, AR: Section 1135</td>
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<td>4. Miller County Levee, AR, Sec 1135</td>
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<td>500</td>
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<td>5. OK Comprehensive Water Plan, Sec 22</td>
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</tr>
</tbody>
</table>

Congress enacted in FY15: $5.467 Billion
President's FY16 Budget: $4.732 Billion
House Mark-up: $5.6 Billion

NOTE: The House markup has CG 'Additional Funding' pots:
- Flood & Storm Damage Reduction - $136,117,000
- Flood Control - $105,000,000
- Navigation - $49,500,000
- Other Authorized Project Purposes - $10,000,000
- Inland Waterway Trust Fund Projects - $108,000,000

House markup has GI 'Additional Funding' pots:
- Flood & Storm Damage Reduction: $6,500,000
- Navigation: $4,000,000
- Other Auth. Project Purposes: $2,000,000
## RED RIVER VALLEY ASSOCIATION

### CIVIL WORKS PROJECTS

#### OPERATIONS AND MAINTENANCE (O&M)

#### FY2016 ($000)

<table>
<thead>
<tr>
<th>Project</th>
<th>FY15 Enacted</th>
<th>RRVA FY16 Req.</th>
<th>President FY16</th>
<th>House Markup</th>
<th>Senate Markup</th>
<th>Conference</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeQueen Lake, AR</td>
<td>1,912 + 72</td>
<td>2,297</td>
<td>1,754</td>
<td>1,754</td>
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<td>Dierks Lake, AR</td>
<td>1,631 + 25</td>
<td>2,449</td>
<td>1,702</td>
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<td>Gillham Lake, AR</td>
<td>1,509 + 54</td>
<td>2,059</td>
<td>1,519</td>
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<td>Millwood Lake, AR</td>
<td>2,691 + 11</td>
<td>3,791</td>
<td>2,946</td>
<td>2,946</td>
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<tr>
<td>Bayou Bodcau Reservoir, LA</td>
<td>1,277 + 9.35</td>
<td>1,904</td>
<td>1,221</td>
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<td>Bayou Pierre, LA</td>
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<td>23</td>
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<tr>
<td>Caddo Lake, LA</td>
<td>204 + 12.5</td>
<td>402</td>
<td>209</td>
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<td>Wallace Lake, LA</td>
<td>217</td>
<td>916</td>
<td>226</td>
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<tr>
<td>J. Bennett Johnston Waterway, LA</td>
<td>8,260</td>
<td>26,002</td>
<td>8,782</td>
<td>8,782</td>
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<tr>
<td>Basic Annual O&amp;M</td>
<td>+ 2,400</td>
<td>10,500</td>
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<tr>
<td>Backlog Maintenance</td>
<td>+ 41.45</td>
<td>15,502</td>
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<tr>
<td>Old River, LA (MR&amp;T)</td>
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<td>9,246</td>
<td>9,246</td>
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<td>Broken Bow Lake, OK</td>
<td>3,275</td>
<td>4,713</td>
<td>2,213</td>
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<td>Hugo Lake, OK</td>
<td>1,828 + 5</td>
<td>2,496</td>
<td>1,996</td>
<td>1,996</td>
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<tr>
<td>Pine Creek Lake, OK</td>
<td>1,884 + 142</td>
<td>1,566</td>
<td>1,336</td>
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<td>Sardis Lake, OK</td>
<td>1,039 + 5</td>
<td>991</td>
<td>991</td>
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<td>Waurika Lake, OK</td>
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<td>2,472</td>
<td>1,662</td>
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<td>Chloride Control, Area VIII, TX</td>
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<td>1,660</td>
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<tr>
<td>Denison Dam &amp; Lake Texoma, TX</td>
<td>11,224 + 13</td>
<td>9,656</td>
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<tr>
<td>Basic Annual O&amp;M &amp; Backlog Shoreline Management Plan</td>
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<td>Estelline Springs, TX</td>
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<td>Lake Kemp, TX</td>
<td>260</td>
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<td>302</td>
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<td>Pat Mayse Lake, TX</td>
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<td>Jim Chapman Lake, TX</td>
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<td>2,000</td>
<td>1,466</td>
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<tr>
<td>Lake of the Pines, TX</td>
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<td>Wright Patman Dam &amp; Lake, TX</td>
<td>3,495 + 320</td>
<td>3,500</td>
<td>4,270</td>
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</table>

**NOTE:** The House markup has O&M 'Additional Funding' pots:

**House O&M:**

- Deep Draft Harbor & Channel - $234,000,000
- Small, Remote or Subsistence Navigation - $42,500,000
- Inland Waterways - $42,000,000
- Other Authorized Purposes - $35,100,000
Red River Valley Association  
FY 2016 Appropriations ($000)  

Natural Resources Conservation Service (NRCS)  

<table>
<thead>
<tr>
<th>Discretionary Accounts</th>
<th>FY15 Omnibus</th>
<th>RRVA Request</th>
<th>FY16 President Budget</th>
<th>FY16 House Markup</th>
<th>FY16 Senate Markup</th>
<th>FY16 Enacted</th>
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<tr>
<td>1. Conservation Operations</td>
<td>846,428</td>
<td>900,000</td>
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<td>Includes: Soil Surveys, Snow Surveys &amp; Plant Materials</td>
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<td>2. Watershed &amp; Flood Prevention Operation</td>
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<td>3. Watershed Rehabilitation</td>
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<td>4. Watershed Survey &amp; Planning</td>
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<td>5. Emergency Watershed Protection</td>
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<td>6. Mandatory Farm Bill Programs</td>
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<td>3,417,000</td>
<td>775,000</td>
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<td>** NRCS Technical Assistance</td>
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</table>

NOTE: 1. The Watershed & Flood Prevention Operation funding in the President’s budget is to ‘prepare the U.S. for the impacts of climate change’.  
2. Neither the House nor Senate have completed an Ag Appropriation markup.  

Bureau of Reclamation  

<table>
<thead>
<tr>
<th>Project Lake</th>
<th>FY 15 Omnibus</th>
<th>President FY 16 Budget</th>
<th>FY 16 House Markup</th>
<th>FY 16 Senate Markup</th>
<th>FY 16 Enacted</th>
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<tr>
<td>Arbuckle Project</td>
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<td>274</td>
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<tr>
<td>McGee Creek Project</td>
<td>886</td>
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<td>Mountain Park Project</td>
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<td>W.C. Austin Project</td>
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<tr>
<td>Washita Basin Project (Foss &amp; Cobb)</td>
<td>1,218</td>
<td>1,243</td>
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NOTE: Bureau of Reclamation figures represent only the Federal Funding appropriated.  

Additional Funds:  
Rural Water: $28,750,000  
Water Conservation & Delivery: $2,250,000
Alloys plant to bring 1,450 jobs to

Region getting boost from new $2.4B complex

By Jeff Matthews
Gannett Louisiana

PINEVILLE — A new, $2.4 billion aluminum-manufacturing complex will bring nearly 1,500 jobs to Pineville.

American Specialty Alloys will build its first production facility manufacturing aluminum alloy for the automotive and aerospace industries on the former site of an International Paper mill off La. Highway 107. ASA expects to break ground later this year, with a targeted completion date of all facilities in 2020.

The facility, as well as facilities for corporate partners to support the mill’s operations, are expected to employ a total of 1,450 people at an average salary of about $70,000.

Clarence Fields, President of ASA, said, “Obvi-
ously, we’re excited in Pineville.”

“Hopefully, we’ve positioned ourselves to be transformative for the region and would not have been possible without great partners.”

American Specialty Alloys is a startup that is counting on a highly trained workforce, robotic technology for efficient production, and advanced pollution control systems for an extremely low environmental footprint.

At the time, Mississippi was considered the favorite to land the project (ASA is headquartered in Columbus, Miss.). Pineville secured the project over competing sites in Mississippi, Alabama and Texas.

ASA announced plans in November 2014 to build a mill that would focus on creating a highly skilled workforce, robotic technology for efficient production, and advanced pollution control systems for an extremely low environmental footprint.

The state’s ASA an incentive package that included a $2.4 billion aluminum-manufacturing complex to offload infrastructure used for energy production and advanced pollution control systems for an extremely low environmental footprint.

“We spent a lot of time and effort to make sure it was the best place for the project,” said Pineville Mayor Jay Nehls. "We’re excited to be a part of this and we’re looking forward to seeing the benefits it brings to our community.”

The mill in Pineville is expected to produce about 1.5 billion pounds of aluminum annually, mainly for car and truck side panels, doors, hoods and unibody frames.
February 4, 2013

Position Paper
RE: Definition of a Civil Works Earmark

There are varying opinions on the definition of an ‘earmark’ in appropriation bills. This will have a great impact for the Civil Works portion of the Energy and Water Development Appropriation Bill. There is a major difference between an unauthorized earmark ‘parachuted’ into a bill and authorized earmarks.

1. **Formal Project Development/Authorization Process:** Civil Works projects go through a process; reconnaissance study, feasibility study, benefit to cost ratio test, EIS, peer review, review by agencies, public review and comment, final Chief of Engineer approval, authorization by both Houses of Congress in a WRDA bill and signed by the President. No other federal program goes through such a rigorous approval process. Each justified project ‘stands alone’, are proven to be of national importance and should be funded by project.

2. **Local Sponsor Cost-share:** For many projects there is a local sponsor cost sharing responsibility during the feasibility study, construction and for O&M. Those who have contributed, in most cases, millions of dollars to the process, must have the ability to have a voice for their projects to get funded. That voice is through their Congressional delegation.

3. **An Issue of Priorities:** With limited federal funding all authorized projects cannot be funded. The issue becomes one of priorities and the only way our delegation can express that is through ‘Congressional Requests’, which are considered earmarks. If Congress provides a lump sum appropriation, to the Corps, for GI, CG and O&M, OMB and the Administration will determine what projects get funded, with no input from Congress.

4. **Appropriation Process:** The appropriation process is the constitutional responsibility of Congress and they are turning it over to the Administration. They were elected to decide how to spend federal funds. The Budget Committee sets the funding levels and the Appropriation Committee allocates and prioritizes funding. It is not earmarks that ‘busts’ the budget, it is the lack of discipline to stay within the budget.

5. **O&M Funding Levels:** This is the most serious problem. If the Congressional delegation does not have input into funding levels the fate of our Waterway is left up to the Administration. All the economic development and industries created will be threatened if adequate O&M (dredging) funding is not received. Congress has a responsibility to the communities and local sponsors to keep their commitment to maintain a completed project.

6. **Recommendation:** The appropriation subcommittees should ask for ‘Member Requests’. It is then the responsibility of the subcommittee staff to determine what is an ‘earmark’, which should not be funded, and what is an authorized projects. Then the subcommittees can determine which projects are funded and at what funding level.

We believe that GI, CG & O&M Projects should be funded by line item project and are NOT earmarks, as long as they have gone through the authorization process. Civil Works projects are too important to leave up to OMB to prioritize. Congress must keep the ability to determine what projects get funded and be able to represent their constituents.

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RED RIVER COMPACT

ARKANSAS-LOUISIANA-OKLAHOMA-TEXAS

MAY 12, 1978
PREAMBLE

The States of Arkansas, Louisiana, Oklahoma, and Texas, pursuant to the acts of their respective Governors or Legislatures, or both, being moved by considerations of interstate comity, have resolved to compact with respect to the water of the Red River and its tributaries. By Act of Congress, Public Law No. 346 (84th Congress, First Session), the consent of the United States has been granted for said states to negotiate and enter into a compact providing for an equitable apportionment of such water; and pursuant to that Act the President has designated the representative of the United States.

Further, the consent of Congress has been given for two or more states to negotiate and enter into agreements relating to water pollution control by the provisions of the Federal Water Pollution Control Act (P.L. 92-500, 33 U.S.C. §§ 1251 et seq.).

The Signatory States acting through their duly authorized Compact Commissioners, after several years of negotiations, have agreed to an equitable apportionment of the water of the Red River and its tributaries and do hereby submit and recommend that this Compact be adopted by the respective Legislatures and approved by Congress as hereinafter set forth:
ARTICLE I

PURPOSES

SECTION 1.01 The principal purposes of this Compact are:

(a) To promote interstate comity and remove causes of controversy between each of the affected states by governing the use, control and distribution of the interstate water of the Red River and its tributaries;

(b) To provide an equitable apportionment among the Signatory States of the water of the Red River and its tributaries;

(c) To promote an active program for the control and alleviation of natural deterioration and pollution of the water of the Red River Basin and to provide for enforcement of the laws related thereto;

(d) To provide the means for an active program for the conservation of water, protection of lives and property from floods, improvement of water quality, development of navigation and regulation of flows in the Red River Basin; and

(e) To provide a basis for state or joint state planning and action by ascertaining and identifying each state’s share in the interstate water of the Red River Basin and the apportionment thereof.
ARTICLE II

GENERAL PROVISIONS

SECTION 2.01 Each Signatory State may use the water allocated to it by this Compact in any manner deemed beneficial by that state. Each state may freely administer water rights and uses in accordance with the laws of that state, but such uses shall be subject to the availability of water in accordance with the apportionments made by this Compact.

SECTION 2.02 The use of water by the United States in connection with any individual Federal project shall be in accordance with the Act of Congress authorizing the project and the water shall be charged to the state or states receiving the benefit therefrom.

SECTION 2.03 Any Signatory State using the channel of Red River or its tributaries to convey stored water shall be subject to an appropriate reduction in the amount which may be withdrawn at the point of removal to account for transmission losses.

SECTION 2.04 The failure of any state to use any portion of the water allocated to it shall not constitute relinquishment or forfeiture of the right to such use.

SECTION 2.05 Each Signatory State shall have the right to:

(a) Construct conservation storage capacity for the impoundment of water allocated by this Compact;

(b) Replace within the same area any storage capacity recognized or authorized by this Compact made unusable by any cause, including losses due to sediment storage;

(c) Construct reservoir storage capacity for the purposes of flood and sediment control as well as storage of water which is either imported or is to be exported if such storage does not adversely affect the delivery of water apportioned to any other Signatory State; and

(d) Use the bed and banks of the Red River and its tributaries to convey stored water, imported or exported water, and water apportioned according to this Compact.

SECTION 2.06 Signatory States may cooperate to obtain construction of facilities of joint benefits to such states.

SECTION 2.07 Nothing in this Compact shall be deemed to impair or affect the powers, rights, or obligations of the United States, or those claiming under its authority, in, over and to water of the Red River Basin.

SECTION 2.08 Nothing in this Compact shall be construed to include within the water apportioned by this Compact any water consumed in each state by livestock or for domestic purposes; provided, however, the storage of such water is in accordance with the laws of the respective states but any such impoundment shall not exceed 200 acre-feet, or such smaller quantity as may be provided for by the laws of each state.
SECTION 2.09 In the event any state shall import water into the Red River Basin from any other river basin, the Signatory State making the importation shall have the use of such imported water.

SECTION 2.10 Nothing in this Compact shall be deemed to:

(a) Interfere with or impair the right or power of any Signatory State to regulate within its boundaries the appropriation, use, and control of water, or quality of water, not inconsistent with its obligations under this Compact;

(b) Repeal or prevent the enactment of any legislation or the enforcement of any requirement by any Signatory State imposing any additional conditions or restrictions to further lessen or prevent the pollution or natural deterioration of water within its jurisdiction; provided nothing contained in this paragraph shall alter any provisions of this Compact dealing with the apportionment of water or the rights thereto; or

(c) Waive any state's immunity under the Eleventh Amendment of the Constitution of the United States, or as constituting the consent of any state to be sued by its own citizens.

SECTION 2.11 Accounting for apportionment purposes on interstate streams shall not be mandatory under the terms of the Compact until one or more affected states deem the accounting necessary.

SECTION 2.12 For the purposes of apportionment of the water among the Signatory States, the Red River is hereby divided into the following major subdivisions:

(a) Reach I - the Red River and tributaries from the New Mexico-Texas state boundary to Denison Dam;

(b) Reach II - the Red River from Denison Dam to the point where it crosses the Arkansas-Louisiana state boundary and all tributaries which contribute to the flow of the River within this reach;

(c) Reach III - the tributaries west of the Red River which cross the Texas-Louisiana state boundary, the Arkansas-Louisiana state boundary, and those which cross both the Texas-Arkansas state boundary and the Arkansas-Louisiana state boundary;

(d) Reach IV - the tributaries east of the Red River in Arkansas which cross the Arkansas-Louisiana state boundary; and

(e) Reach V - that portion of the Red River and tributaries in Louisiana not included in Reach III or in Reach IV.

SECTION 2.13 If any part or application of this Compact shall be declared invalid by a court of competent jurisdiction, all other severable provisions and applications of this Compact shall remain in full force and effect.
SECTION 2.14 Subject to the availability of water in accordance with this Compact, nothing in this Compact shall be held or construed to alter, impair, or increase, validate, or prejudice any existing water right or right of water use that is legally recognized on the effective date of this Compact by either statutes or courts of the Signatory State within which it is located.
ARTICLE III
DEFINITIONS

SECTION 3.01 In this Compact:

(a) The States of Arkansas, Louisiana, Oklahoma, and Texas are referred to as "Arkansas", "Louisiana", "Oklahoma", and "Texas", respectively, or individually as "State" or "Signatory State", collectively as "States" or "Signatory States."

(b) The term "Red River" means the stream below the crossing of the Texas-Oklahoma state boundary at longitude 100 degrees west.

(c) The term "Red River Basin" means all of the natural drainage area of the Red River and its tributaries east of the New Mexico-Texas state boundary and above its junction with Atchafalaya and Old Rivers.

(d) The term "water of the Red River Basin" means the water originating in any part of the Red River Basin and flowing to or in the Red River or any of its tributaries.

(e) The term "tributary" means any stream which contributes to the flow of the Red River.

(f) The term "interstate tributary" means a tributary of the Red River, the drainage area of which includes portions of two (2) or more Signatory States.

(g) The term "intrastate tributary" means a tributary of the Red River, the drainage area of which is entirely within a single Signatory State.

(h) The term "Commission" means the agency created by Article IX of this Compact for the administration thereof.

(i) The term "pollution" means the alteration of the physical, chemical, or biological characteristics of water by the acts or instrumentalities of man which create or are likely to result in a material and adverse effect upon human beings, domestic or wild animals, fish and other aquatic life, or adversely affect any other lawful use of such water; provided, that for the purposes of this Compact, "pollution" shall not mean or include "natural deterioration."

(j) The term "natural deterioration" means the material reduction in the quality of water resulting from the leaching of soluble from the soils and rocks through or over which the water flows naturally.

(k) The term "designated water" means water released from storage, paid for by non-Federal interests, for delivery to a specific point of use or diversion.
(l) The term "undesignated water" means all water released from storage other than "designated water."

(m) The term "conservation storage capacity" means that portion of the active capacity of reservoirs available for the storage of water for subsequent beneficial use, and it excludes any portion of the capacity of reservoirs allocated solely to flood control and sediment control, or either of them.

(n) The term "runoff" means both the portion of precipitation which runs off the surface of a drainage area and that portion of the precipitation that enters the streams after passing through the portions of the earth.
ARTICLE IV

APPORTIONMENT OF WATER – REACH I

OKLAHOMA - TEXAS

Subdivision of Reach I and apportionment of water therein.

Reach I of the Red River is divided into topographical subbasins, with the water therein allocated as follows:

SECTION 4.01 Subbasin 1 – Interstate streams - Texas.

(a) This includes the Texas portion of Buck Creek, Sand (Lebos) Creek, Salt Fork Red River, Elm Creek, North Fork Red River, Sweetwater Creek, and Washita River, together with all their tributaries in Texas which lie west of the 100th Meridian.

(b) The annual flow within this subbasin is hereby apportioned sixty percent (60%) to Texas and forty percent (40%) to Oklahoma.

SECTION 4.02 Subbasin 2 – Intrastate and interstate streams - Oklahoma.

(a) This subbasin is composed of all tributaries of the Red River in Oklahoma and portions thereof upstream to the Texas-Oklahoma state boundary at longitude one hundred degrees west, beginning from Denison Dam and upstream to and including Buck Creek.

(b) The State of Oklahoma shall have free and unrestricted use of the water of this subbasin.

SECTION 4.03 Subbasin 3 – Intrastate streams - Texas.

(a) This includes the tributaries of the Red River in Texas, beginning from Denison Dam and upstream to and including Prairie Dog Town Fork Red River.

(b) The State of Texas shall have free and unrestricted use of the water in this subbasin.

SECTION 4.04 Subbasin 4 – Main stem of the Red River and Lake Texoma.

(a) This subbasin includes all of Lake Texoma and the Red River beginning at Denison Dam and continuing upstream to the Texas-Oklahoma state boundary at longitude one hundred degrees west.

(b) The storage of Lake Texoma and flow from the main stem of the Red River into Lake Texoma is apportioned as follows:
(1) Oklahoma 200,000 acre-feet and Texas 200,000 acre-feet, which quantities shall include existing allocations and uses; and

(2) Additional quantities in a ratio of fifty percent (50%) to Oklahoma and fifty percent (50%) to Texas.

SECTION 4.05 Special Provisions.

(a) Texas and Oklahoma may construct, jointly or in cooperation with the United States, storage or other facilities for the conservation and use of water, provided that any facilities constructed on the Red River boundary between the two states shall not be inconsistent with the Federal legislation authorizing Denison Dam and Reservoir project.

(b) Texas shall not accept for filing, or grant a permit, for the construction of a dam to impound water solely for irrigation, flood control, soil conservation, mining and recovery of minerals, hydroelectric power, navigation, recreation and pleasure, or for any other purpose other than for domestic, municipal, and industrial water supply, on the main stem of the North Fork Red River or any of its tributaries within Texas above Lugert-Altus Reservoir until the date that imported water sufficient to meet the municipal and irrigation needs of Western Oklahoma is provided, or until January 1, 2000, whichever occurs first.
ARTICLE V

APPORTIONMENT OF WATER - REACH II

ARKANSAS, OKLAHOMA, TEXAS AND LOUISIANA

Subdivision of Reach II and allocation of water therein. Reach II of the Red River is divided into topographic subbasins, and the water therein is allocated as follows:

SECTION 5.01 Subbasin 1 - Intrastate streams - Oklahoma.

(a) This subbasin includes those streams and their tributaries above existing, authorized or proposed last downstream major damsites, wholly in Oklahoma and flowing into Red River below Denison Dam and above the Oklahoma-Arkansas state boundary. These streams and their tributaries with existing, authorized or proposed last downstream major damsites are as follows: Location Stream Site Ac-ft Latitude Longitude Island-Bayou Albany 85,200 33 51.5'N 96 11.4'W Blue River Dammt 147,000 33 55.5'N 96 04.2'W Boggy River Boswell 1,243,800 34 01.6'N 95 45.0'W Kiamicu River Hugo 240,700 34 01.0'N 95 22.5'W

(b) Oklahoma is apportioned the water of this subbasin and shall have unrestricted use thereof.

SECTION 5.02 Subbasin 2 - Intrastate streams - Texas.

(a) This subbasin includes those streams and their tributaries above existing authorized or proposed last downstream major damsites, wholly in Texas and flowing into Red River below Denison Dam and above the Texas-Arkansas state boundary. These streams and their tributaries with existing, authorized or proposed last downstream major damsites are as follows: Location Stream Site Ac-ft Latitude Longitude Shawnee Creek Randall Lake 5,400 33 48.1'N 96 34.8'W Brushy Creek Valley Lake 15,000 33 38.7'N 96 21.5'W New Bonham Bois d'Arc Creek Reservoir 130,600 33 42.9'N 95 58.2'W Coffee Mill Coffee Mill Creek Lake 8,000 33 44.1'N 95 58.0'W Sunny Creek Lake Crockett 3,900 33 44.5'N 95 55.5'W Sanders Creek Pat Mayse 124,500 33 51.2'N 95 32.9'W Pine Creek Lake Crook 11,011 33 43.7'N 95 34.0'W Big Pine Creek Big Pine Lake 138,600 33 52.0'N 95 11.7'W Pecan Bayou Pecan Bayou 625,000 33 41.1'N 94 58.7'W Mud Creek Liberty Hill 97,700 33 33.0'N 94 29.3'W KVW Ranch Mud Creek Lakes (3) 3,440 33 34.8'N 94 27.3'W

(b) Texas is apportioned the water of this subbasin and shall have unrestricted use thereof.

SECTION 5.03 Subbasin 3 - Interstate Streams - Oklahoma and Arkansas.

(a) This subbasin includes Little River and its tributaries above Millwood Dam.
(b) The States of Oklahoma and Arkansas shall have free and unrestricted use of the water of this subbasin within their respective states, subject, however, to the limitation that Oklahoma shall allow a quantity of water equal to forty percent (40%) of the total runoff originating below the following existing, authorized or proposed last downstream major damsites in Oklahoma to flow into Arkansas: Location Stream Site Ac-ft Latitude Longitude Little River Pine Creek 70,500 34 06.8'N 95 04.9'W Glover Creek Lukfata 258,600 34 08.5'N 94 55.4'W Mountain Fork River Broken Bow 470,160 34 08.9'N 94 41.2'W

(c) Accounting will be on an annual basis unless otherwise deemed necessary by the States of Arkansas and Oklahoma.

SECTION 5.04 Subbasin 4 - Interstate streams - Texas and Arkansas.

(a) This subbasin shall consist of those streams and their tributaries above existing, authorized or proposed last downstream major damsites, originating in Texas and crossing the Texas-Arkansas state boundary before flowing into the Red River in Arkansas. These streams and their tributaries with existing, authorized or proposed last downstream major damsites are as follows: Location Stream Site Ac-ft Latitude Longitude McKinney Bayou Trib. Bringle Lake 3,052 33 30.6'N 94 06.2'W Barkman Barkman Creek Reservoir 15,900 33 29.7'N 94 10.3'W Sulphur River Texarkana 386,900 33 18.3'N 94 09.6'W

(b) The State of Texas shall have the free and unrestricted use of the water of this subbasin.

SECTION 5.05 Subbasin 5 - Main stem of the Red River and tributaries.

(a) This subbasin includes that portion of the Red River, together with its tributaries, from Denison Dam down to the Arkansas-Louisiana state boundary, excluding all tributaries included in the other four subbasins of Reach II.

(b) Water within this subbasin is allocated as follows:

(1) The Signatory States shall have equal rights to the use of runoff originating in subbasin 5 and undesignated water flowing into subbasin 5, so long as the flow of the Red River at the Arkansas-Louisiana state boundary is 3,000 cubic feet per second or more; provided no state is entitled to more than twenty-five percent (25%) of the water in excess of 3,000 cubic feet per second.

(2) Whenever the flow of the Red River at the Arkansas-Louisiana state boundary is less than 3,000 cubic feet per second, but more than 1,000 cubic feet per second, the State of Arkansas, Oklahoma, and Texas shall allow to flow into the
Red River for delivery to the State of Louisiana a quantity of water equal to forty percent (40%) of the total weekly runoff originating in subbasin 5 and forty percent (40%) of undesignated water flowing into subbasin 5; provided, however, that this requirement shall not be interpreted to require any state to release stored water.

(3) Whenever the flow of the Red River at the Arkansas-Louisiana state boundary falls below 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall allow a quantity of water equal to all the weekly runoff originating in subbasin 5 and all undesignated water flowing into subbasin 5 within their respective states to flow into the Red River as required to maintain a 1,000 cubic foot per second flow at the Arkansas-Louisiana state boundary.

(c) Whenever the flow at Index, Arkansas, is less than 526 cfs, the States of Oklahoma and Texas shall each allow a quantity of water equal to forty percent (40%) of the total weekly runoff originating in subbasin 5 within their respective states to flow into the Red River; provided however, this provision shall be invoked only at the request of Arkansas, only after Arkansas has ceased all diversions from the Red River itself in Arkansas above Index, and only if the provisions of subsections 5.05 (b) (2) and (3) have not caused a limitation of diversions in subbasin 5.

(d) No state guarantees to maintain a minimum low flow to a downstream state.

SECTION 5.06 Special Provisions.

(a) Reservoirs within the limits of Reach II, subbasin 5, with a conservation storage capacity of 1,000 acre-feet or less in existence or authorized on the date of the Compact pursuant to the rights and privileges granted by a Signatory State authorizing such reservoirs, shall be exempt from the provisions of Section 5.05; provided, if any right to store water in, or use water from, an existing exempt reservoir expires or is cancelled after the effective date of the Compact the exemption for such rights provided by this section shall be lost.

(b) A Signatory State may authorize a change in the purpose or place of use of water from a reservoir exempted by subparagraph (a) of this section without losing that exemption, if the quantity of authorized use and storage is not increased.

(c) Additionally, exemptions from the provisions of Section 5.05 shall not apply to direct diversions from Red River to off-channel reservoirs or lands.
ARTICLE VI
APPORTIONMENT OF WATER - REACH III
ARKANSAS, LOUISIANA, AND TEXAS

Subdivision of Reach III and allocation of water therein. Reach III of the Red River is
divided into topographic subbasins, and the water therein allocated, as follows:

SECTION 6.01 Subbasin 1 - Interstate streams - Arkansas and Texas.

(a) This subbasin includes the Texas portion of those streams crossing the
Arkansas-Texas state boundary one or more times and flowing through
Arkansas into Cypress Creek-Twelve Mile Bayou watershed in Louisiana.

(b) Texas is apportioned sixty percent (60%) of the runoff of this subbasin and
shall have unrestricted use thereof; Arkansas is entitled to forty percent (40%)
of the runoff of this subbasin.

SECTION 6.02 Subbasin 2 - Interstate streams - Arkansas and Louisiana.

(a) This subbasin includes the Arkansas portion of those streams flowing from
subbasin 1 into Arkansas, as well as other streams in Arkansas which cross the
Arkansas-Louisiana state boundary one or more times and flow into Cypress
Creek-Twelve Mile Bayou watershed in Louisiana.

(b) Arkansas is apportioned sixty percent (60%) of the runoff of this subbasin
and shall have unrestricted use thereof; Louisiana is entitled to forty percent
(40%) of the runoff of this subbasin.

SECTION 6.03 Subbasin 3 - Interstate streams - Texas and Louisiana.

(a) This subbasin includes the Texas portion of all tributaries crossing the
Texas-Louisiana state boundary one or more times and flowing into Caddo
Lake, Cypress Creek-Twelve Mile Bayou or Cross Lake, as well as the
Louisiana portion of such tributaries.

(b) Texas and Louisiana within their respective boundaries shall each have the
unrestricted use of the water of this subbasin subject to the following
allocation:

1. Texas shall have the unrestricted right to all water above
   Marshall, Lake O' the Pines, and Black Cypress damsites;
   however, Texas shall not cause runoff to be depleted to a
   quantity less than that which would have occurred with the full
   operation of Franklin County, Titus County, Ellison Creek,
   Johnson Creek, Lake O' the Pines, Marshall, and Black
Cypress Reservoirs constructed, and those other impoundments and diversions existing on the effective date of this Compact. Any depletions of runoff in excess of the depletions described above shall be charged against Texas' apportionment of the water in Caddo Reservoir.

(2) Texas and Louisiana shall each have the unrestricted right to use fifty percent (50%) of the conservation storage capacity in the present Caddo Lake for the impoundment of water for state use, subject to the provision that supplies for existing uses of water from Caddo Lake, on date of Compact, are not reduced.

(3) Texas and Louisiana shall each have the unrestricted right to fifty percent (50%) of the conservation storage capacity of any future enlargement of Caddo Lake, provided, the two states may negotiate for the release of each state's share of the storage space on terms mutually agreed upon by the two states after the effective date of this Compact.

(4) Inflow to Caddo Lake from its drainage area downstream from Marshall, Lake O' the Pines, and Black Cypress damsites and downstream from other last downstream dams in existence on the date of the signing of the Compact document by the Compact Commissioners, will be allowed to continue flowing into Caddo Lake except that any man-made depletions to this inflow by Texas will be subtracted from the Texas share of the water in Caddo Lake.

(c) In regard to the water of interstate streams which do not contribute to the inflow to Cross Lake or Caddo Lake, Texas shall have the unrestricted right to divert and use this water on the basis of a division of runoff above the state boundary of sixty percent (60%) to Texas and forty percent (40%) to Louisiana.

(d) Texas and Louisiana will not construct improvements on the Cross Lake Watershed in either state that will affect the yield of Cross Lake; provided, however, this subsection shall be subject to the provisions of Section 2.08.

SECTION 6.04 Subbasin 4 - Intrastate streams - Louisiana.

(a) This subbasin includes that area of Louisiana in Reach III not included within any other subbasin.

(b) Louisiana shall have free and unrestricted use of the water of this subbasin.
ARTICLE VII

APPORTIONMENT OF WATER - REACH IV ARKANSAS AND LOUISIANA

Subdivision of Reach IV and allocation of water therein. Reach IV of the Red River is divided into topographic subbasins, and the water therein allocated as follows:

SECTION 7.01 Subbasin 1 - Intrastate streams - Arkansas.

(a) This subbasin includes those streams and their tributaries above last downstream major damsites originating in Arkansas and crossing the Arkansas-Louisiana state boundary before flowing into the Red River in Louisiana. Those major last downstream damsites are as follows: Location Stream Size Ac-ft Latitude Longitude Lake Ouachita River Catherine 19,000 34.26.6'N 93 01.6'W Caddo River DeGray Lake 1,377,000 34 13.2'N 93 06.6'W Little Missouri River Lake Greason 600,000 34 08.9'N 93 42.9'W Alum Fork, Saline River Lake Winnon 63,264 32 47.8'N 92 51.0'W

(b) Arkansas is apportioned the waters of this subbasin and shall have unrestricted use thereof.

SECTION 7.02 Subbasin 2 - Interstate Streams - Arkansas and Louisiana.

(a) This subbasin shall consist of Reach IV less subbasin 1 as defined in Section 7.01 (a) above.

(b) The State of Arkansas shall have free and unrestricted use of the water of this reach subject to the limitation that Arkansas shall allow a quantity of water equal to forty percent (40%) of the weekly runoff originating below or flowing from the last downstream major damsites to flow into Louisiana. Where there are no designated last downstream damsites, Arkansas shall allow a quantity of water equal to forty percent (40%) of the total weekly runoff originating above the state boundary to flow into Louisiana. Use of water in this subbasin is subject to low flow provisions of subparagraph 7.03 (b).

SECTION 7.03 Special Provisions.

(a) Arkansas may use the beds and banks of segments of Reach IV for the purpose of conveying its share of water to designated downstream diversions.

(b) The State of Arkansas does not guarantee to maintain a minimum low flow for Louisiana in Reach IV. However, on the following streams when the use of water in Arkansas reduces the flow at the Arkansas-Louisiana state boundary to the following amounts:

(1) Ouachita - 780 cfs
(2) Bayou Bartholomew - 80 cfs
(3) Boeuf River - 40 cfs
(4) Bayou Macon - 40 cfs the State of Arkansas pledges to take affirmative steps to regulate the diversions of runoff originating or flowing into Reach IV in such a manner as to permit an equitable apportionment of the runoff as set out herein to flow into the State of Louisiana. In its control and regulation of the water of Reach IV any adjudication or order rendered by the State of Arkansas or any of its instrumentalities or agencies affecting the terms of this Compact shall not be effective against the State of Louisiana nor any of its citizens or inhabitants until approved by the Commission.
ARTICLE VIII

APPORTIONMENT OF WATER - REACH V

SECTION 8.01 Reach V of the Red River consists of the main stem Red River and all of its tributaries lying wholly within the State of Louisiana. The State of Louisiana shall have free and unrestricted use of the water of this subbasin.
ARTICLE IX

ADMINISTRATION OF THE COMPACT

SECTION 9.01 There is hereby created an interstate administrative agency to be known as the "Red River Compact Commission", hereinafter called the "Commission". The Commission shall be composed of two representatives from each Signatory State who shall be designated or appointed in accordance with the laws of each state, and one Commissioner representing the United States, who shall be appointed by the President. The Federal Commissioner shall be the Chairman of the Commission but shall not have the right to vote. The failure of the President to appoint a Federal Commissioner will not prevent the operation or effect of this Compact, and the eight representatives from the Signatory States will elect a Chairman for the Commission.

SECTION 9.02 The Commission shall meet and organize within sixty (60) days after the effective date of this Compact. Thereafter, meetings shall be held at such times and places as the Commission shall decide.

SECTION 9.03 Each of the two Commissioners from each state shall have one vote; provided, however, that if only one representative from a state attends he is authorized to vote on behalf of the absent Commissioner from that state. Representatives from three states shall constitute a quorum. Any action concerned with administration of this Compact or any action requiring compliance with specific terms of this Compact shall require six concurring votes. If a proposed action of the Commission affects existing water rights in a state, and that action is not expressly provided for in this Compact, eight concurring votes shall be required.

SECTION 9.04 (a) The salaries and personal expenses of each state's representative shall be paid by the government that it represents, and the salaries and personal expenses of the Federal Commissioner will be paid for by the United States.

(b) The Commission's expenses for any additional stream flow gauging stations shall be equitably apportioned among the states involved in the reach in which the stream flow gauging stations are located.

(c) All other expenses incurred by the Commission shall be borne equally by the Signatory States and shall be paid by the Commission out of the "Red River Compact Commission Fund". Such fund shall be initiated and maintained by equal payments of each state into the fund. Disbursement shall be made from the fund in such manner as may be authorized by the Commission. Such fund shall not be subject to audit and accounting procedures of the state; however, all receipts and disbursements of the fund by the Commission shall be audited by a qualified independent public accountant at regular intervals, and the report of such audits shall be included in and become a part of the annual report of the Commission. Each state shall have the right to make its own audit of the accounts of the Commission at any reasonable time.
ARTICLE X
POWERS AND DUTIES OF THE COMMISSION

SECTION 10.01 The Commission shall have the power to:

(a) Adopt rules and regulations governing its operation and enforcement of the terms of the Compact;

(b) Establish and maintain an office for the conduct of its affairs and, if desirable, from time to time, change its location;

(c) Employ or contract with such engineering, legal, clerical and other personnel as it may determine necessary for the exercise of its functions under this Compact without regard to the Civil Service Laws of any Signatory State; provided that such employees shall be paid by and be responsible to the Commission and shall not be considered employees of any Signatory State;

(d) Acquire, use and dispose of such real and personal property as it may consider necessary;

(e) Enter into contracts with appropriate state or Federal agencies for the collection, correlation and presentation of factual data, for the maintenance of records and for the preparation of reports;

(f) Secure from the head of any department or agency of the Federal or state government such information as it may need or deem to be useful for carrying out its functions and as may be available to or procurable by the department or agency to which the request is addressed; provided such information is not privileged and the department or agency is not precluded by law from releasing same;

(g) Make findings, recommendations or reports in connection with carrying out the purposes of this Compact, including, but not limited to, a finding that a Signatory State is or is not in violation of any of the provisions of this Compact. The Commission is authorized to make such investigations and studies, and to hold such hearings as it may deem necessary for said purposes. It is authorized to make and file official certified copies of any of its findings, recommendations or reports, with such officers or agencies of any Signatory State, or the United States, as may have any interest in or jurisdiction over the subject matter. The making of findings, recommendations, or reports by the Commission shall not be a condition precedent to the instituting or maintaining of any action or proceeding of any kind by a Signatory State in any court or tribunal, or before any agency or officer, for the protection of any right under this Compact or for the enforcement of any of its provisions; and

(h) Print or otherwise reproduce and distribute its proceedings and reports.
SECTION 10.02 The Commission shall:

(a) Cause to be established, maintained, and operated such stream, reservoir and other gauging stations as are necessary for the proper administration of the Compact;

(b) Cause to be collected, analyzed and reported such information on stream flows, water quality, water storage and such other data as are necessary for the proper administration of the Compact;

(c) Perform all other functions required of it by the Compact and do all things necessary, proper and convenient in the performance of its duties thereunder;

(d) Prepare and submit to the Governor of each of the Signatory States a budget covering the anticipated expenses of the Commission for the following fiscal biennium;

(e) Prepare and submit an annual report to the Governor of each Signatory State and to the President of the United States covering the activities of the Commission for the preceding fiscal year, together with an accounting of all funds received and expended by it in the conduct of its work;

(f) Make available to the Governor or to any official agency of a Signatory State or to any authorized representative of the United States, upon request, any information within its possession;

(g) Not incur any obligation in excess of the unencumbered balance of its funds, nor pledge the credit of any of the Signatory States; and

(h) Make available to a Signatory State or the United States in any action arising under this Compact, without subpoena, the testimony of any officer or employee of the Commission having knowledge of any relevant facts.
ARTICLE XI

POLLUTION

SECTION 11.01 The Signatory States recognize that the increase in population and the growth of industrial, agricultural, mining and other activities combined with natural pollution sources may lead to a diminution of the quality of water in the Red River Basin which may render the water harmful or injurious to the health and welfare of the people and impair the usefulness or public enjoyment of the water for beneficial purposes, thereby resulting in adverse social, economic, and environmental impacts.

SECTION 11.02 Although affirming the primary duty and responsibility of each Signatory State to take appropriate action under its own laws to prevent, diminish, and regulate all pollution sources within its boundaries which adversely affect the water of the Red River Basin, the states recognize that the control and abatement of the naturally-occurring salinity sources as well as, under certain circumstances, the maintenance and enhancement of the quality of water in the Red River Basin may require the cooperative action of all states.

SECTION 11.03 The Signatory States agree to cooperate with agencies of the United States to devise and effectuate means of alleviating the natural deterioration of the water of the Red River Basin.

SECTION 11.04 The Commission shall have the power to cooperate with the United States, the Signatory States and other entities in programs for abating and controlling pollution and natural deterioration of the water of the Red River Basin, and to recommend reasonable water quality objectives to the states.

SECTION 11.05 Each Signatory State agrees to maintain current records of waste discharges into the Red River Basin and the type and quality of such discharges, which records shall be furnished to the Commission upon request.

SECTION 11.06 Upon receipt of a complaint from the Governor of a Signatory State that the interstate water of the Red River Basin in which it has an interest are being materially and adversely affected by pollution and that the state in which the pollution originates has failed after reasonable notice to take appropriate abatement measures, the Commission shall make such findings as are appropriate and thereafter provide such findings to the Governor of the state in which such pollution originates and request appropriate corrective action. The Commission, however, shall not take any action with respect to pollution which adversely affects only the state in which such pollution originates.

SECTION 11.07 In addition to its other powers set forth under this Article, the Commission shall have the authority, upon receipt of six concurring votes, to utilize applicable Federal statutes to institute legal action in its own name against the person or entity responsible for interstate pollution problems; provided, however, sixty (60) days before initiating legal action the Commission shall notify the Governor of the state in which the pollution source is located to allow that state an opportunity to initiate action in its own name.
SECTION 11.08 Without prejudice to any other remedy available to the Commission, or any Signatory State, any state which is materially and adversely affected by the pollution of the water of the Red River Basin by pollution originating in another Signatory State may institute a suit against any individual, corporation, partnership, or association, or against any Signatory State or political or governmental subdivision thereof, or against any officer, agency, department, bureau, district or instrumentality of or in any Signatory State contributing to such pollution in accordance with applicable Federal statutes. Nothing herein shall be construed as depriving any person of any rights of action relating to pollution which such person would have if this Compact had not been made.
ARTICLE XII

TERMINATION AND AMENDMENT OF COMPACT

SECTION 12.01 This Compact may be terminated at any time by appropriate action of the Legislatures of all of the four Signatory States. In the event of such termination, all rights established under it shall continue unimpaired.

SECTION 12.02 This Compact may be amended at any time by appropriate action of the Legislatures of all Signatory States that are affected by such amendment. The consent of the United States Congress must be obtained before any such amendment is effective.
ARTICLE XIII

RATIFICATION AND EFFECTIVE DATE OF COMPACT

SECTION 13.01 Notice of ratification of this Compact by the Legislature of each Signatory State shall be given by the Governor thereof to the Governors of each of the other Signatory States and to the President of the United States. The President is hereby requested to give notice to the Governors of each of the Signatory States of the consent to this Compact by the Congress of the United States.

SECTION 13.02 This Compact shall become effective, binding and obligatory when, and only when:

(a) It has been duly ratified by each of the Signatory States; and

(b) It has been consented to by an Act of the Congress of the United States, which Act provides that: Any other statute of the United States to the contrary notwithstanding, in any case or controversy:

i. which involves the construction or application of this Compact;

ii. in which one or more of the Signatory States to this Compact is a plaintiff or plaintiffs; and

iii. which is within the judicial power of the United States as set forth in the Constitution of the United States; and without any requirement, limitation or regard as to the sum or value of the matter in controversy, or of the place of residence or citizenship of, or of the nature, character or legal status of, any of the other proper parties plaintiff or defendant in such case of controversy:

The consent of Congress is given to name and join the United States as a party defendant or otherwise in any such case or controversy in the Supreme Court of the United States if the United States is an indispensable party thereto.

SECTION 13.03 The United States District Courts shall have original jurisdiction (concurrent with that of the Supreme Court of the United States, and concurrent with that of any other Federal or state court, in matters in which the Supreme Court, or other court has original jurisdiction) of any case or controversy involving the application or construction of this Compact; that said jurisdiction shall include, but not be limited to, suits between Signatory States; and that the venue of such case or controversy may be brought in any judicial district in which the acts complained of (or any portion thereof) occur.
RULES FOR THE INTERNAL ORGANIZATION
of the
RED RIVER COMPACT COMMISSION

ARTICLE I
THE COMMISSION

1.1 The Commission is the "Red River Compact Commission," which is referred to in Article X of the Red River Compact.

1.2 The credentials of each Commissioner shall be filed with both the Chairman and the Secretary of the Commission. When the credentials of a new Commissioner are received, the Secretary shall promptly notify each of the other Commissioners of the name and address of the new Commissioner.

1.3 Each Commissioner shall advise in writing the office of the Commission as to his address at which all official notices and other communications of the Commission shall be sent to him. Any change of address shall be promptly communicated in writing to the office of the Commission.

1.4 Persons designated to substitute for duly appointed Commissioners at meetings of the Compact Commission shall present the Commission with credentials of authority by letter, or other form of appointment acceptable to the Commission, which states the scope or limitations of the appointment, together with a copy of the state or federal law or Attorney General's opinion which authorizes the appointment.

ARTICLE II
OFFICERS

2.1 The officers of the Commission shall be a Chairman, a Vice-Chairman, Secretary and a Treasurer.

2.2 The Commissioner representing the United States shall be the Chairman of the Commission. The Chairman or the designated representative of the Chairman, shall preside at meetings of the Commission. His duties shall be those usually imposed upon such officers and as may be assigned by these rules or by the Commission from time to time.

2.3 The Vice-Chairman shall be elected at the annual meeting from the Commissioners of the host state for the coming year as reflected by the minutes, and shall hold office for a term of one year, beginning on July 1 following the election, or until a successor is elected. The Vice-Chairman shall serve as Chairman in the event the President of the United States fails to appoint a Federal Commissioner, or in the absence of the Federal Commissioner or the designated representative of the Federal Commissioner.

2.4 The Secretary shall be selected at the annual meeting by the Commission from the state designated to host the next annual meeting as reflected in the minutes. The Secretary shall serve for the term of one year, beginning on July 1 following the selection, and perform the duties as the Commission shall direct. In case of a vacancy in the office of the Secretary, the Commission shall select a new Secretary as expeditiously as possible.
2.5 The Treasurer shall be selected by the Commission for a term of one year, beginning on July 1 following the selection. The Treasurer shall furnish a fidelity bond, the cost of which shall be paid by the Commission. The Treasurer shall receive, hold and disburse all funds which come into his hands of the Treasurer.

2.6 The Secretary and Treasurer may be members of the Commission, and their offices may be combined by the Commission. Any one person may hold both offices.

2.7 Whenever there is a permanent change in the Commander of the Lower Mississippi Valley Division, Department of the Army Corps of Engineers, or its counterpart in any future reorganization of the Corps, the Vice-Chairman shall immediately request the President to appoint the new Commander as the U.S. Commissioner to the Compact Commission.

ARTICLE III
PRINCIPAL OFFICE

3.1 The principal office of the Commission shall be either the office of the Chairman or the Secretary, as the Commission shall direct.

3.2 Official books and records of the Commission shall be kept at the principal office.

ARTICLE IV
MEETINGS

4.1 The annual meeting of the Commission shall be held on the last Tuesday of April of each year.

4.2 Special meetings of the Commission may be called by the Chairman at any time. Upon the written request of each of the Commissioners of two states setting forth the matters to be considered at such meeting, the chairman shall call a special meeting.

4.3 Reasonable notice of all special meetings of the Commission shall be sent by the Chairman, to all members of the Commission by ordinary mail at least ten days in advance of each meeting and notice shall state the purpose thereof.

4.4 Emergency meetings of the Commission may be called by the Chairman at any time upon the concurrence of at least two states and such meetings may be conducted by long-distance telephone conference call or other electronic means. Any such long-distance telephone conference call or other electronic communication shall be recorded and made available for public inspection in accordance with the laws of the respective signatory states. Each of the signatory states shall be represented by at least one Commissioner during such an emergency conference and concur in the action.

An emergency is defined as a situation involving an eminent threat of injury to persons or damage to property or eminent financial loss when the time requirements for public notice and travel to a special meeting would make such procedure and travel impractical and increase the likelihood of injury or damage or eminent financial loss.

4.5 Notice to the public shall be given of all Commission meetings. Except as otherwise provided, the Chairman shall furnish notice of all meetings to the Commissioners of each signatory state, whose responsibility it shall be to give said notice to the public in accordance with the laws of their respective states.
In the event of an emergency meeting held by telephone or other electronic communication, no advance notice is required. All meetings of the Commission shall be held at the principal office, unless another place shall be agreed upon by the Commissioners.

4.6 Minutes of the Commission shall be preserved in suitable manner. Minutes, until approved, shall not be official and shall be furnished only to members of the Commission, its employees and committees.

4.7 Commissioners from three of the signatory states shall constitute a quorum. However, if an emergency meeting is conducted as provided for in rule 4.4, or if a proposed action of the Commission affects existing water rights in a state, and that actions is not expressly provided for in the Compact, eight concurring votes shall be required. Any other actions concerned with the administration of the Compact or requiring compliance with specific terms of the Compact shall require six concurring votes.

4.8 At each regular or annual meeting of the Commission, the order of business, unless agreed otherwise, shall be as follows:

- Call to order;
- Approval of Agenda;
- Approval of the minutes;
- Report of Chairman;
- Report of Secretary;
- Report of the Treasurer;
- Report of the Commissioners;
- Report of Committees;
- Unfinished business;
- New business;
- Adjournment;

4.9 All meetings of the Commission, except executive sessions and except as otherwise provided, shall be open to the public. Executive sessions shall be open only to members of the Commission and such advisers as may be designated by each member and employees as permitted by the Commission; provided, however, that the Commission may call witnesses before it when in such sessions.

The Commission may hold executive sessions only for the purposes of discussing:

1. The employment, appointment, promotion, demotion, disciplining or resignation of a Commission employee or employees, members, advisers, or committee members.

2. Pending or contemplated litigation, settlement offers, and matters where the duty of the Commission's counsel to his client, pursuant to the Code of Professional Responsibility, clearly conflicts with the public's right to know.

3. The report, development, or course of action regarding security, personnel, plans, or devices.

No executive session may be held except on a vote, taken in public by a majority of a quorum of the members present. At least one Commissioner from each of the signatory states must agree to the holding of an executive session.
Any motion or other decision considered or arrived at in executive session shall be voidable unless, following the executive session, the Commission reconvenes in public session and presents and votes on such motion or other decision.

4.10 In the absence of a Chairman and Vice-Chairman, all of the Commissioners from any two (2) states may call an emergency or a special meeting of the Compact Commission.

ARTICLE V
COMMITTEES

5.1 There may be the following standing committees:

(a) Budget Committee;
(b) Engineering Committee;
(c) Environmental and Natural Resources Committee;
(d) Legal Committee.

5.2 The committees shall have the following duties:

(1) The Budget Committee shall prepare the annual budget and shall advise the Commission on all fiscal matters that may be referred to it.

(2) The Engineering Committee shall advise the Commission all engineering matters that may be referred to it.

(3) The Environmental and Natural Resources Committee shall advise the Commission on all environmental and natural resource matters that may be referred to it.

(4) The Legal Committee shall advise the Commission on all legal matters that may be referred to it.

5.3 Commissioners may be members of committees. The number of members of each committee shall be determined from time to time by the Commission. The Commissioners of each state shall designate the member or members on each committee representing the State, and each State shall have one vote.

5.4 The Chairman may appoint a non-voting member of each committee.

5.5 The Chairman of each committee shall be designated by the Commission from members of the committee; however, in the event a Chairman is unable to perform his duties, the committee shall appoint an Interim Chairman.

5.6 The Commission may from time to time create special committees and assign it tasks. The Commission may also determine the composition of the special committees.

5.7 Formal committee reports shall be made in writing and filed with the Commission.

ARTICLE VI
RULES AND REGULATIONS

6.1 So far as is consistent with the Compact, the Commission may adopt rules and regulations and amend them from time to time. Rules and regulations to be adopted shall be presented by resolution and approved by a quorum as set out in Rule 4.7. Copies of proposed resolutions for rule adoption shall be presented in writing to each of the Commissioners at least thirty days before the meeting upon which they are to be voted. However, at its meeting, by unanimous vote, the Commission may waive this notice requirement.
6.2 Rules and regulations of the Commission may be compiled and copies may be prepared for distribution to the public under such terms and conditions as the Commission may prescribe.

ARTICLE VII
FISCAL

7.1 All funds of the Commission shall be deposited in a depository or depositories designated by the Commission under the name of the "Red River Compact Commission Fund".

7.2 Disbursement of funds in the hands of the Treasurer, for items included in the approved budget, shall be made by check signed by him and the Vice-Chairman or by such person as may be designated by the Commission. Disbursement of funds for non-budgeted items shall be made by check signed by the Treasurer and Vice-Chairman upon voucher approved by at least six of the Commissioners, four of whom shall be from different signatory states.

7.3 At the annual meeting of each year, the Commission shall adopt a budget covering an estimate of its expenses for the following two fiscal years.

7.4 The payment of expenses of the Commission and of its employees shall not be subject to the audit and accounting procedures of the states.

7.5 All receipts and disbursements of the Commission shall be audited periodically as determined by the Commission by a qualified independent public accountant to be selected by the Commission and the report of the audit shall be included in and become a part of the annual report of the Commission.

7.6 The fiscal year of Commission shall begin July 1, of each year and end June 30 of the next succeeding year.

ARTICLE VIII
ANNUAL REPORT.

8.1 The Commission shall make an annual report and transmit it on or before the last day of May to the governors of the signatory states to the Red River Compact and to the President of the United States.

8.2 The annual report shall contain:

1. Minutes of all regular, special or emergency meetings held during the year;
2. All findings of fact made by the Commission during the preceding year;
3. Recommendations for actions by the signatory states;
4. Statements as to any cooperative studies made during the preceding year;
5. All data which the Commission deems pertinent;
6. The budget for current and future years;
7. The most recent audit report or current financial statement of the Red River Compact Fund;
(8) Name, address and phone number of each Commissioner and each member of all standing committees;

(9) Such other pertinent matters as the Commission may require.
RED RIVER COMPACT INTERIM RULES AND REGULATIONS
To Compute and Enforce Compact Compliance
REACH II, SUBBASIN 5
(Adopted 4/30/87)

1. These rules and regulations to be used to compute and enforce Compact compliance within Subbasin 5 of Reach II, Red River Compact, are adopted subject to the following conditions and assumptions:
   a. It is fully understood that these rules and regulations should be modified as new or improved gaging stations are constructed, whenever experience or detailed studies demonstrate the need for modification, and if the Commission should modify its interpretation of Compact provisions relating to this Subbasin.
   b. Definitions:
      (1) "Diversion" as used in these rules and regulations, is the net loss to a water source from use by a diverter, and is computed as the diversion from the water source minus the part of the diversion which is returned to the water source. Normally, return flows must be measured to be considered; however, the EAC may consider and recommend exceptions. As used herein, "diversion" is equivalent to "net diversion" from a water source and to "depletion" or "consumptive use" of a water source.

   a. Management Using State Centers:
      (1) State EAC representatives will establish State Computation Control Centers
         (a) State representatives will gather data, exchange data and meet via conference call to check on computation results, if necessary.
         (b) EAC will determine compliance with Compact.
   b. Management Period for Weekly Flow and Diversions:
      (1) Next week's State diversions will be allocated based on last week's compliance computations.
      (2) It is each State's responsibility to limit its total State diversion allocation among its State diverters.
      (3) The weekly period for use and flow data will start and end at 8:00 a.m. on Tuesday of each week.
      (4) Data collection and dissemination will be completed on Tuesday of each week.
      (5) Computation of Compliance will be completed on Wednesday of each week.
      (6) Each State can request an update at any time.
   c. Management Improvement Studies: The EAC will monitor the effect on accounting management of the following factors, and will report thereon to the Commission whenever procedure changes appear desirable.
      (1) Errors caused by travel time.
      (2) Future restrictions computed from past week's data.
      (3) Failure to consider channel loss.
      (4) Failure to consider engaged return flows.
      (5) Failure to consider flow trends.
(6) Addition of needed gages.

3. Enforcement of Compact Compliance Requirements. Each State will be responsible for insuring that the sum of the diversions by State users does not exceed the total State diversion authorized by the Red River Compact. In this regard, each State will be responsible for establishing clear legal authority within its State for enforcing the restrictions imposed by the Red River Compact.

4. Data Reporting Procedures.
   a. Streamflow Gaging Station Records: The EAC will make arrangements with the Corps of Engineers, the U.S. Geological Survey and with States as required to collect daily and/or weekly data, as needed, and forward to the State Computation and Control Centers.
   b. Diversion Records: Each State will be responsible to collect daily and/or weekly data, as needed, and forward to the State Computation and Control Centers.
   c. Archived Records: Records will be archived by Commission Chairman.

5. General Compliance Requirements of Section 5.05, Red River Compact.
   a. Section 5.05 (b)(1):
      (1) The Compact prescribes: "The Signatory States shall have equal rights to the use of the runoff originating in subbasin 5 and undesignated water flowing into subbasin 5, so long as the flow of the Red River at the Arkansas-Louisiana state boundary is 3,000 cubic feet per second or more, provided no state is entitled to more than 25 percent of the water in excess of 3,000 cubic feet per second."
      (2) In computing the Subbasin 5 water allocation, when the flow of the Red River at the Arkansas-Louisiana State Boundary is 3,000 cfs or more and the total runoff and undesignated flow of Subbasin 5 is greater than or equal to 7,500 cfs but less than or equal to 12,000 cfs, Louisiana's allocation shall be 3,000 cfs and each of the three upstream states will equally share the runoff and undesignated flow in excess of 3,000 cfs.
      (3) When the total runoff and undesignated flow of Subbasin 5 is 12,000 cfs or more, each of the signatory states shall be entitled to 25% of the total runoff and undesignated flow.
      (4) State compliance with Section 5.05 (b)(1) does not need to be determined except when specifically requested by a Compact State.

   b. Section 5.05 (b)(2):
      (1) The Compact states: "Whenever the flow of the Red River at the Arkansas-Louisiana state boundary is less than 3,000 cubic feet per second, but more than 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall allow to flow into the Red River for delivery to the State of Louisiana a quantity of water equal to 40 percent of the total weekly runoff originating in subbasin 5 and 40 percent of undesignated water flowing into subbasin 5; provided, however, that this requirement shall not be interpreted to require any state to release stored water."
      (2) In computing the Subbasin 5 water allocation to Louisiana when flow of Red River at the Arkansas-Louisiana State Boundary is less than 3,000 cfs but more than 1,000 cfs, the Subbasin 5 runoff for each of the three upstream States and the undesignated water flowing into Subbasin 5 from each upstream State totaled, and the three upstream States should allow to pass to Louisiana 40 percent of the total or 1,000 cfs, whichever is greater.
(3) When the Subbasin 5 runoff plus undesignated water totals at least 2,500 cfs and not more than 7,500 cfs, each of the three upstream States are allocated 60 percent of its runoff plus undesignated inflow and the other 40 percent is to be allowed to flow into the Red River for delivery to Louisiana.

(4) When the Subbasin 5 runoff plus undesignated water totals at least 1,000 cfs but less than 2,500 cfs, the allocation to Louisiana is 1,000 cfs because of Compact Section 5.05 (b)(3). The total Subbasin 5 runoff plus undesignated water is compared to the Louisiana allocation of 1,000 cfs and a percentage is established. Each of the three upstream States will be entitled to divert and use a quantity computed using (100 percent minus the established percentage) times (the total of runoff from its Subbasin 5 areas plus undesignated water flowing into its Subbasin 5 areas).

(5) This Compact compliance determination should be made whenever the flow of the Red River at the Arkansas-Louisiana State boundary falls below 1,000 cfs and is more than 1,000 cfs.

c. Section 5.05 (b)(3):

(1) The Compact states: "Whenever the flow of the Red River at the Arkansas-Louisiana state boundary falls below 1,000 cubic feet per second, the States of Arkansas, Oklahoma, and Texas shall allow a quantity of water equal to all the weekly runoff originating in Subbasin 5 and all undesignated water flowing into Subbasin 5 within their respective states to flow into the Red River as required to maintain a 1,000 cubic foot per second flow at the Arkansas-Louisiana state boundary."

(2) In computing the Subbasin 5 allocation when the flow of the Red River at the Arkansas-Louisiana State boundary falls below 1,000 cfs, and when the Subbasin 5 runoff and undesignated water flowing into Subbasin 5 total 1,000 cfs or less, all flow must be passed to Louisiana.

(3) When the Subbasin 5 runoff and undesignated water flowing into Subbasin 5 total more than 1,000 cfs but less than 2,500 cfs, Louisiana is allocated 1,000 cfs. This 1,000 cfs Louisiana entitlement is compared to the total runoff plus undesignated water and a percentage is established. Each of the three upstream States will be entitled to divert and use a quantity computed using (100 percent minus the established percentage) times (its total State runoff and undesignated water inflow).

(4) See rules for Compact Section 5.05 (b)(2) when the Subbasin 5 runoff and undesignated water flowing into Subbasin 5 total 2,500 cfs or more up to 7,500 cfs.

(5) This Compact compliance determination should be made whenever the flow of the Red River at the Arkansas-Louisiana State boundary falls below 1,000 cfs.

d. Section 5.05 (c):

(1) The Compact states: "Whenever the flow at Index, Arkansas, is less than 526 c.f.s., the states of Oklahoma and Texas shall each allow a quantity of water equal to 40 percent of the total weekly runoff originating in Subbasin 5 within their respective states to flow into the Red River; provided however, this provision shall be invoked only at
the request of Arkansas, only after Arkansas has ceased all diversions from the Red River itself in Arkansas above Index, and only if the provisions of Sub-sections 5.05 (b)(2) and (3) have not caused a limitation of diversions in subbasin 5."

(2) In computing the Subbasin 5 allocation when flow of Red River at Index Arkansas is less than 256 cfs, the States of Oklahoma and Texas are to pass 40 percent of weekly runoff from respective Subbasin 5 areas.

(3) This Compact compliance determination will be made only when requested by Arkansas, only after Arkansas has ceased all diversions from the Red River, and only if the provisions of subsections 5.05 (b)(2) and (3) have not caused a limitation of diversions in Subbasin 5.


a. Oklahoma.

(1) Runoff plus Undesignated Inflows of Denison Dam to DeKalb Gage:

(a) Kiamichi River near Hugo, OK, Gage flow, plus Muddy Boggy Creek near Unger, OK, Gage flow plus Blue River near Blue, OK, Gage flow, plus

(b) Fifty percent of (DeKalb Gage flow, plus Texas and Oklahoma diversions, minus gaged flows at Kiamichi River near Hugo, OK, Muddy Boggy Creek near Unger, OK, Blue River near Blue, OK, and Sanders Creek near Chicota, TX, streamflow Gages).

(2) Runoff plus Undesignated Inflows, DeKalb Gage to Oklahoma-Arkansas State line. Fifteen and one-half (15.5) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma, Texas and Arkansas diversions downstream from DeKalb Gage).

(3) Runoff only, Denison Dam to Oklahoma-Arkansas State line.

(a) Fifty percent of (DeKalb Gage flow, minus Red River at Denison Dam Gage flow, plus Texas and Oklahoma diversions upstream from DeKalb Gage, minus Blue River near Blue, OK, Gage flow, minus Muddy Boggy Creek near Unger-Oka. Gage flow, minus Kiamichi River near Hugo-Oka. Gage flow minus Gage flow), plus

(b) Fifteen and one-half (15.5) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma, Texas and Arkansas diversions between DeKalb and Index Gages).

b. Texas.

(1) Runoff plus Undesignated Inflows, DeKalb Gage to Index Gage:

(a) Sanders Creek near Chicota Gage flow, plus

(b) Fifty percent of (DeKalb Gage flow, plus Texas and Oklahoma diversions, minus gaged flows at Kiamichi River near Hugo, OK, Muddy Boggy Creek near Unger, OK, Blue River near Blue, OK, and Sanders Creek near Chicota, TX, streamflow Gages).

(2) Runoff plus Undesignated Inflows, DeKalb Gage to Index Gage: Fifty (50) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma, Texas and Arkansas diversions downstream from DeKalb Gage).

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(3) Runoff plus Undesignated Inflows, Sulphur River Gage: One hundred percent of (Sulphur River near Texarkana Gage flow) minus (Texas diversions from river below gage) plus (Texas diversions below Texarkana Dam).

(4) Runoff Only, Denison Dam to Index Gage: Fifty percent of (Index Gage flow, minus Red River at Denison Dam Gage flow, plus Oklahoma and Texas and Arkansas diversions upstream from the Index Gage, minus Blue River near Blue, OK. Gage flow, minus Muddy Boggy Creek near Unger-Oklahoma Gage flow, minus Kiamichi River near Hugo-Oklahoma Gage flow, minus Sanders Creek near Chicota-Texas Gage flow).

c. Arkansas Runoff plus Undesignated Inflows.
   (1) Oklahoma-Arkansas State Line to Index Gage: Thirty-four and one-half (34.5) percent of (Index Gage flow, minus DeKalb Gage flow, plus Oklahoma and Texas and Arkansas diversions between DeKalb and Index Gages).
   (2) Index Gage to Hoston Gage:
      (a) Hoston Gage flow, plus Louisiana diversions above Hoston Gage, minus Index Gage flow, minus (Sulphur River near Texarkana Gage flow less Texas diversions from river below gage), plus Arkansas diversions downstream from Index Gage.

d. Louisiana Streamflow at Arkansas-Louisiana State Boundary.
   (1) Red River flow at Arkansas-Louisiana State boundary equals (Gage flow) plus (Louisiana diversions from Red River downstream from the State boundary and upstream from gage).
   (2) Data needed to make interim Louisiana calculations
      (a) For Red River flows up to 5,000 cfs - Hoston Gage flow, plus Louisiana diversions from Red River upstream from Hoston Gage.
      (b) For Red River flows of 5,000 cfs or larger - Shreveport Gage flow, plus Louisiana diversions from Red River upstream from Shreveport Gage, minus Twelvemile Bayou near Dixie-La Gage flow, plus Louisiana diversions from Twelvemile Bayou below Twelvemile Bayou near Dixie-La Gage.
   (3) Effect of Flow Trends, Scheduled Change of Reservoir Releases, and Other Events Certain to Significantly Change Flow at Arkansas-Louisiana State Boundary During Coming Week.
      In addition to the Arkansas-Louisiana State boundary flow estimated based on subparagraph (2) (a) or (b) above, the EAC will also advise the Commission of probable significant changes in State boundary flow which should result from flow trends, scheduled change of reservoir releases, and other such known events.

7. Procedures (Using Designated Flow Data) to Compute State Runoff plus Undesignated Inflows and Flow of Red River at Arkansas-Louisiana State boundary. Procedures outlined in paragraph 6 above will be followed except that designated inflows, designated outflows and diversion of designated flows will be accounted for whenever appropriate.
RED RIVER COMPACT RULES AND REGULATIONS
To Compute and Enforce Compact Compliance
REACH I, SUBBASIN I

(Adopted 4/30/87)

1. General. These rules and regulations to be used to compute and enforce Compact compliance within Subbasin I of Reach 1, Red River Compact, are adopted subject to the following conditions and assumptions.
   a. It is fully understood that these rules and regulations should be modified as new or improved gaging stations are constructed, whenever experience or detailed studies demonstrate the need for modification, and if the Commission should modify its interpretation of Compact provisions relating to this Subbasin.

   a. Management Using State Centers:
      (1) Texas and Oklahoma representatives will establish State Computation and Control Centers.
      (a) State representatives will gather data, exchange data and meet prior to the annual Commission meeting to check on computation results.
      (b) The EAC will determine compliance with Compact.
   b. Management Period for Compact Compliance Computations:
      (1) Computation will be on the calendar year basis.
      (2) Water data for a calendar year should be exchanged prior to March 15 of the following year.
      (3) Compact Compliance Computation for a calendar year should be completed by April 15 of the following year.

3. Enforcement of Compact Compliance Requirements. Texas will be responsible for insuring that the sum of Texas uses does not exceed the total Texas water use authorized by the Red River Compact, and Texas will be responsible for establishing clear legal authority within Texas for enforcing the restrictions imposed by the Red River Compact.

4. Data Reporting Procedures.
   a. Streamflow Gaging Station Records: The EAC will make arrangements with federal and State agencies, as required, to collect calendar year data as needed, and forward to the Texas and Oklahoma Computation Control Centers.
   b. Archived Records: Records will be archived by the Commission Chairman.

5. General Compliance Requirements of Section 4.01 Red River Compact.
   a. SECTION 4.01. Subbasin I - Interstate Streams - Texas:
      (1) The Compact prescribes:
         "(a) This includes the Texas portion of Buck Creek, Sand (Lebos) Creek, Salt Fork Red River, Elm Creek, North Fork Red River, Sweetwater Creek and Washita River, together with all their tributaries in Texas which lie west of the 100th Meridian."
         "(b) The annual flow within this subbasin is hereby apportioned sixty (60) percent to Texas and forty (40) percent to Oklahoma."
SECTION 4.01 is modified in part by SECTION 4.05. Special Provisions, as follows:

"(b) Texas shall not accept for filing, or grant a permit, for the construction of a dam to impound water solely for irrigation, flood control, soil conservation, mining and recovery of minerals, hydroelectric power, navigation, recreation and pleasure, or for any other purpose other than for domestic, municipal, and industrial water supply, on the mainstem of the North Fork Red River or any of its tributaries within Texas, about Lugert-Altus Reservoir until the date that imported water, sufficient to meet the municipal and irrigation needs of Western Oklahoma is provided, or until January 1, 2000, whichever occurs first."

(2) Pertinent extracts from the Supplemental Interpretive Comments of Legal Advisory Committee, as approved by the Red River Compact Commission on the 19th day of September 1978, are as follows:

Pages 9 and 10. "** The flow of interstate tributaries is generally divided 60 percent to the upstream State and 40 percent to the downstream State. Because flows in Reach 1 are primarily from flood flows, an annual basis of accounting was adopted."

"Section 4.05(b) reflects the compromise of a long-standing dispute between Oklahoma and Texas over the water of the North Fork of the Red River and Sweetwater Creek. ***"

"Under the Compromise Texas will limit development on North Fork and Sweetwater Creek to projects justified on the basis of municipal, industrial, and domestic needs until the year 2000. However, if sufficient imported water becomes available in Western Oklahoma before 2000, Texas will be free to pursue full development of its 60% of these interstate tributaries. ***"

(2) Until January 1, 2000 (assuming that imported water is not provided prior to that date in sufficient amounts to meet municipal and irrigation needs of Western Oklahoma) special restrictions apply to Texas water use in its North Fork Red River watershed upstream from the Lugert-Altus Reservoir. Therefore, some of the Compact compliance rules for the North Fork Red River watershed upstream from the Lugert-Altus Reservoir (para 5.f.(3) & (4) and g.(3) & (4) below) expire on January 1, 2000, if still in effect at that time.

b. Buck Creek Watershed in Texas. Buck Creek watershed covers about 300 square miles in Texas. There are no existing gaging stations on Buck Creek in Texas or in Oklahoma. Since neither the Texas nor Oklahoma use of flow from Buck Creek is significant at this time, it is not required to make an annual accounting of the flow in Buck Creek. It also appears that establishing gaging stations and channel loss values so that future annual accountings could be made is not economically justified at this time. Annual accounting procedures for this watershed should be developed to provide a 60:40 apportionment whenever requested by either Oklahoma or Texas.
c. Sand (Lebco) Creek Watershed in Texas: Sand Creek watershed covers about 65 square miles in Texas. There are no gaging stations on Sand Creek in Texas or in Oklahoma. Since neither Texas nor Oklahoma makes significant use of flow from Sand Creek, it is not necessary to make an annual accounting of the flow in Sand Creek, and it does not seem to be economically justified at this time to establish gaging stations and determine channel loss values so that future annual accountings could be made. Annual accounting procedures for this watershed should be developed to provide a 60:40 apportionment whenever requested by either Oklahoma or Texas.

d. Salt Fork Red River Watershed in Texas: Salt Fork Red River watershed in Texas covers about 1,380 square miles, of which 209 are non-contributing. The USGS streamflow gage number 07300000, Salt Fork Red River near Wellington, Texas, is about 16 miles upstream from the Oklahoma-Texas State line and measures flow from a 1,222 sq. mi. drainage area, of which 209 is probably non-contributing. The average annual discharge (1953-1966) was 52,600 AF/yr, and the average annual discharge since Greenbelt Reservoir was completed (1967-1977) has been 33,250 AF/yr.

The USGS streamflow gage 07300500, Salt Fork Red River at Mangum, Oklahoma, is about 29 miles downstream from the Oklahoma-Texas State line and measures flow from a 1,566 sq. mile drainage area, of which 209 is probably non-contributing. The average annual discharge (1937-1977) has been 62,450 AF/yr.

(1) The actual annual delivery at the Oklahoma State line is computed as follows:
   (a) The annual flow at the Wellington gage,
   (b) Minus channel losses to Wellington gage flows between gage and State line (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),
   (c) Plus Texas' flow between Wellington gage and the State line. (This flow will be computed based on intervening drainage area between Wellington and Mangum gages adjusted for both Texas and Oklahoma man-made depletions.), and
   (d) Minus Texas' man-made depletions downstream from the Wellington gage.

(2) The scheduled annual delivery at the Oklahoma State line is 40 percent of the natural flow at State line without diversions or impoundments, and would be computed as 40 percent of the following:
   (a) The actual annual delivery (para.5.d.(1) above),
   (b) Plus all man-made depletions in Texas, and
   (c) Minus the increased channel losses in Texas which would have occurred had Texas depletions not occurred (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

(3) Compact compliance is achieved as long as actual delivery exceeds scheduled delivery.

e. Elm Creek Watershed in Texas: Elm Creek watershed covers about 360 square miles in Texas which includes the North Elm Creek tributary. There is no streamflow gage on Elm Creek in Texas. The USGS gage number 07303400, Elm Fork of North Fork Red River near Carl, Oklahoma, is about 6
miles downstream from the Oklahoma-Texas State line, and was used to measure flow from a 416 square mile drainage area but discharge measurements at this site were discontinued in 1980. The average annual discharge (20 years) was 30,280 AF/yr. No Compact compliance accounts can be made until the Gage near Carl has been reestablished.

(1) The actual annual delivery at State line is computed as follows:
(a) Flow at the State line. (This flow will be computed based on the drainage area and on the flow measured at Carl gage, adjusted for both Texas and Oklahoma depletions.), and

(b) Minus Texas' man-made depletions.

(2) The scheduled annual delivery at State line is 40 percent of the natural flow at State line without diversions or impoundments and would be computed as 40 percent of the following:
(a) The actual annual delivery (para 5.e.(1) above),
(b) Plus man-made depletions in Texas, and
(c) Minus the increased channel losses in Texas which would have been incurred if Texas had not depleted the flow (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

(3) Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.

Washita River Watershed in Texas: There is no streamflow gage on the Washita River in Texas. The USGS streamflow gage number 07316500, Washita River near Cheyenne, Oklahoma, is over 21 miles downstream from the Oklahoma-Texas State line, and measures flow from a 794 square mile drainage area, of which about 441 square miles are in Texas. The average annual discharge at the Cheyenne gage (44 years) has been 20,720 AF/yr.

(1) The actual annual delivery at Oklahoma State line is computed as follows:
(a) The annual flow at the Cheyenne gage,
(b) Plus channel losses to the State line flow between the State line and the gage (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),
(c) Minus Oklahoma's flow between the State line and Cheyenne gage. (This flow will be computed based on the drainage area upstream from the Cheyenne gage, adjusted for both Texas and Oklahoma man-made depletions.), and
(d) Minus Texas' man-made depletions.

(2) The annual scheduled delivery at State line is 40 percent of the natural flow at State line without diversions or impoundments, and would be computed as 40 percent of the following:
(a) The actual annual delivery at State line (para 5.b.(1) above),
(b) Plus man-made depletions in Texas, and
(c) Minus the increased channel losses which would have occurred if Texas had not made any diversions (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

(3) Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.
RESOLUTION TO ADOPT
RULES AND REGULATIONS
TO COMPUTE AND ENFORCE COMPACT COMPLIANCE
REACH I, SUBBASIN 1-SWEETWATER CREEK AND NORTH FORK RED RIVER

THE COMMISSION FINDS:
1. that no projects or diversions have occurred in Texas from Sweetwater Creek or the North Fork Red River above Lugert-Altus Reservoir as of this date which violate Article IV, §§ 4.01(b)-4.05(b) of the Red River Compact;

2. that in compliance with the Compact Texas is entitled to 60% of the state line natural flow on an annual basis of Sweetwater Creek and Oklahoma is entitled to 40% of the state line natural flow on an annual basis of Sweetwater Creek; and

3. that in compliance with the Compact Texas is entitled to 60% of the state line natural flow on an annual basis of the North Fork of the Red River and Oklahoma is entitled to 40% of the state line natural flow on an annual basis of the North Fork of the Red River.

THE COMMISSION HEREBY ADOPTS the rules set forth below to compute and apportion the waters of Sweetwater Creek and the North Fork of the Red River between Texas and Oklahoma in accordance with Article IV, §4.01(b) of the Red River Compact.

RED RIVER COMPACT RULES AND REGULATIONS
To Compute and Enforce Compact Compliance
REACH I—SUBBASIN 1-SWEETWATER CREEK AND NORTH FORK RED RIVER

1. General.
   These rules and regulations to be used to compute and enforce Compact compliance for Sweetwater Creek and North Fork Red River in Reach I, Subbasin 1 of the Compact are adopted subject to the following conditions and assumptions:
   A. It is fully understood that these rules and regulations should be modified as new or improved gaging stations are constructed, whenever experience or detailed studies demonstrate the need for modification, or if the Commission should modify its interpretation of the Compact provisions relating to this Subbasin.
   B. Texas is apportioned 60% of the annual flow of Sweetwater Creek and Oklahoma is apportioned 40% of the annual flow of Sweetwater Creek. Texas is apportioned 50% of the annual flow of the North Fork of the Red River and Oklahoma is apportioned 40% of the annual flow of the North Fork of the Red River.

A. Management Using State Centers:

(1) Texas and Oklahoma representatives will establish State Computation and Control Centers.

(a) State representatives will gather data, exchange data, and meet prior to the annual Commission meeting to discuss computation results.
(b) The Engineer Advisory Committee will report to the Commission on compliance with the Compact.

B. Management Period for Compact Compliance Computations

(1) Computation will be on the calendar year basis.
(2) Water data for a calendar year should be exchanged prior to March 15 of the following year.
(3) Compact Compliance Computation for a calendar year should be completed by April 15 of the following year.

3. Enforcement of Compact Compliance Requirements.

A. Texas will be responsible for insuring that the sum of Texas uses does not exceed the total Texas water use authorized by the Red River Compact, and Texas will be responsible for establishing legal authority within Texas for enforcing the restrictions imposed by the Red River Compact.

B. Oklahoma will be responsible for insuring that the sum of Oklahoma uses does not exceed the total Oklahoma water use authorized by the Red River Compact, and Oklahoma will be responsible for establishing legal authority within Oklahoma for enforcing the restrictions imposed by the Red River Compact.

C. Annual Accounting: Pursuant to Section 2.11 of the Compact, accounting for apportionment purposes is not mandatory until Texas or Oklahoma deem the accounting necessary.
4 Data Reporting Procedures.

A. Streamflow Gauging Station Records: The Engineer Advisory Committee will make arrangements with federal and state agencies, as required, to collect calendar year data as needed, and forward to the Texas and Oklahoma Computation Control Centers.

B. Archived Records: Records will be archived by the Commission Chairman.


A. Sec. 4.01, Subbasin 1–Interstate streams—Texas, prescribes:

(a) This includes the Texas portion of Buck Creek, Sand (Lebos) Creek, Salt Fork Red River, Elm Creek, North Fork Red River, Sweetwater Creek, and Washita River, together with all their tributaries in Texas which lie west of the 100th Meridian.

(b) The annual flow within this subbasin is hereby apportioned sixty (60) percent to Texas and forty (40) percent to Oklahoma.

B. Section 4.01 is modified in part by Section 4.05, Special Provisions, as follows:

(b) Texas shall not accept for filing, or grant a permit, for the construction of a dam to impound water solely for irrigation, flood control, soil conservation, mining and recovery of minerals, hydroelectric power, navigation, recreation and pleasure, or for any other purpose other than for domestic, municipal, and industrial water supply, on the mainstem of the North Fork Red River or any of its tributaries within Texas above Longert-Altus Reservoir until the date that imported water sufficient to meet the municipal and irrigation needs of Western Oklahoma is provided, or until January 1, 2000, whichever occurs first.

6. Compact Compliance North Fork Red River Watershed

A. Gauges - USGS streamflow gauge on the North Fork of the Red River near Shamrock, Texas (07301300) is approximately 16 miles from the Oklahoma-Texas State Line and measures flow from a 1,082 square mile drainage area of which 379 square miles are probably non-contributing. USGS streamflow gauge near Carter, Oklahoma (07301500) is approximately 30 miles downstream from the Oklahoma-Texas State Line and measures flow from a 2337 square mile drainage area of which 399 square miles are probably non-contributing. The drainage area of the North
Fork Red River at the Oklahoma-Texas State line is computed as 1229 square miles of which 379 square miles are probably non-contributing.

B. Actual Delivery - The actual annual delivery at the Oklahoma Texas State line shall be computed using the USGS streamflow gauge North Fork Red River near Shamrock (07301300) and the USGS streamflow gauge North Fork Red River near Carter, Oklahoma (07301500) as follows:

(1) The annual flow at the Shamrock gauge,

(2) Minus channel losses to Shamrock gauge flows between the gauge and State line (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),

(3) Plus Texas' flow between Shamrock gauge and the State line. (This flow will be computed by subtracting the flow of the Shamrock gauge from the flow at the Carter gauge. Then, based on the intervening drainage area between the Shamrock and Carter Gauges, adjusted for both Texas and Oklahoma man-made depletions determine the runoff per square mile of contributing drainage which will be applied to the contributing drainage area in Texas below the Shamrock gage.), and

(4) Minus Texas' man-made depletions downstream from the Shamrock gage.

C. Scheduled Delivery - The scheduled annual delivery at the Oklahoma Texas State line is 40 percent of the natural flow at State line without diversions or impoundments, and shall be computed as 40 percent of the following:

(1) The actual annual delivery at Oklahoma State line (above),

(2) Plus man-made depletion in Texas, and

(3) Minus the increased channel losses in Texas which would have occurred if Texas had not depleted the flows (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

D. Compact Compliance - Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.
7. **Compact Compliance Sweetwater Creek Watershed in Texas**

A. **Gauges** - USGS streamflow gauge on Sweetwater Creek near Kelton, Texas (07301410), is about 8 miles upstream from the Oklahoma Texas State line and measures flow from a 287 square mile drainage area, of which 20 square miles is probably non-contributing. USGS streamflow gage on Sweetwater Creek near Sweetwater, Oklahoma (07301420) is located near the Oklahoma Texas State line and measures flow from a 424 square mile drainage area, of which 20 square miles is probably non-contributing. The drainage area of Sweetwater Creek at the Oklahoma Texas state line is computed as 371 square miles with 20 square miles being non-contributing. The actual annual delivery at Oklahoma Texas state line shall be computed using the USGS streamflow gauge on Sweetwater Creek near Kelton (07301410) and the USGS streamflow gauge on Sweetwater Creek near Sweetwater, Oklahoma (07301420) as follows:

B. **Actual Delivery** - The actual annual delivery at the Oklahoma Texas State line shall be computed as follows:

1. The annual flow at the Kelton gauge,

2. Minus channel losses to Kelton gauge flows between gauge and State line (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment),

3. Plus Texas' flows between the Kelton gauge and the State line. (This flow will be computed by subtracting the flow of the Kelton gauge from the flow at the Sweetwater gauge. Then based on Texas' drainage areas between the Kelton gauge and the Sweetwater gauge, adjusted for both Texas and Oklahoma man-made depletions determine the runoff per square mile of contributing drainage which will be applied to the contributing drainage area in Texas below the Kelton gauge.), and

4. Minus Texas' man-made depletions between the Kelton gauge and the state line.

C. **Scheduled Delivery** - The scheduled annual delivery at the Oklahoma Texas State line is 40 percent of the natural flow at State line without diversions or impoundments, and shall be computed as 40 percent of the following:

1. The actual annual delivery at State line (above),

2. Plus man-made depletions in Texas, and
(3) Minus the increased channel losses in Texas which have occurred if Texas had not depleted the flows (until this specific channel loss value is available, the Compact compliance calculations will be made ignoring this channel loss adjustment).

D. Compact Compliance - Compact compliance is achieved as long as the actual delivery exceeds the scheduled delivery.

Adopted by unanimous consent of the Commission April 22, 2008 at Marshall, Texas.

RED RIVER COMPACT COMMISSION

Gordon W. "Jeff" Fassett, Chairman

STATE OF ARKANSAS

J. Randy Young
Arkansas Commissioner

Earl Smith, Acting Arkansas Commissioner

STATE OF TEXAS

William A. Abney
Texas Commissioner

Hammer R. Settemeyer, Acting Commissioner

STATE OF LOUISIANA

Arthur R. Theis
Louisiana Commissioner

Zahir “Bo” Bolourchi, Acting
Louisiana Commissioner

STATE OF OKLAHOMA

Duane A. Smith
Oklahoma Commissioner

Charles Lynn Dobbs
Oklahoma Commissioner

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RED RIVER COMPACT RULES AND REGULATIONS
To Compute and Enforce Compact Compliance
REACH III, SUBBASIN 3
(as amended 4/25/89)

1. These rules and regulations to be used to compute and enforce Compact compliance within Subbasin 3 of Reach III, Red River Compact, are adopted subject to the following conditions and assumptions.
   a. It is fully understood that these rules and regulations should be modified whenever experience or detailed studies demonstrate the need for modification, and if the Commission should modify its interpretation of Compact provisions relating to this Subbasin.
   b. Definitions:
      (1) "Diversion", as used in these rules and regulations, is the net loss to a water source from use by a diverter, and is computed as the diversion from the water source minus the part of the diversion which is returned to the water source. Normally, return flows must be measured to be considered; however, the Engineering Committee may consider and recommend exceptions. As used herein, "diversion" is equivalent to "net diversion" from a water source and to "depletion" or "consumptive use" of a water source.
      (2) "Drawdown", as used in these rules and regulations, means that period commencing on the first day water ceases spilling over the existing Caddo Lake spillway (or the raised spillway, if Caddo Lake is enlarged), and continuing so long as the Caddo Lake surface elevation continues to fall, until the day when appreciable inflow reaches Caddo Lake, causing the Caddo Lake surface elevation to rise leading to a spill from Caddo Lake.

   a. Management Using State Centers:
      (1) State Engineering Committee representatives will establish State Computation Control Centers.
      (2) State representatives will gather data, exchange data and meet via conference call to check on computation results, if necessary.
      (3) The Engineering Committee will compute compliance with Compact.
   b. Management Period for Compact Compliance Computations:
      (1) Next week's State diversions will be allocated based on last week's compliance computations.
      (2) It is each State's responsibility to limit its total State diversion allocation among its State diverters.
      (3) The weekly period for use and flow data will start and end at 8:00 a.m. on Tuesday of each week.
      (4) Data collection and dissemination will be completed on Tuesday of each week.
      (5) Computation of Compliance will be completed on Wednesday of each week.
      (6) Each State can request an update at any time.
   c. Management Improvements Studies: The Engineering Committee will monitor the effect of accounting management of the following factors and will report thereon to the Commission whenever procedure changes appear desirable.
3. **Enforcement of Compact Compliance Requirements.** Each State will be responsible for ensuring that the sum of the diversions by State users does not exceed the total State diversion authorized by the Red River Compact Commission. In this regard, each State will be responsible for establishing clear legal authority within its State for enforcing the restrictions imposed by the Red River Compact.

4. **Data Reporting Procedures.**
   a. **Streamflow Gaging Station Records:** The Engineering Committee will make arrangements with Corps of Engineers, the U.S. Geological Survey and with States as required to collect daily and/or weekly data, as needed, and forward to the State Computation and Control Centers.
   b. **Diversions Records:** Each State will be responsible to collect weekly data, as needed, and forward to the State Computation and Control Centers.
   c. **Archived Records:** Records will be archived by the Commission Chairman.

5. **General Compliance Requirements of Section 6.03 Red River Compact.**
   a. **Section 6.03 (b)(1):**
      
      (1) The Compact states: "Texas shall have the unrestricted right to all water above Marshall, Lake O' the Pines, and Black Cypress damsites; however, Texas shall not cause runoff to be depleted to a quantity less than that which would have occurred with the full operation of Franklin County, Tim's County, Ellison Creek, Johnson Creek, Lake O' the Pines, Marshall, and Black Cypress Reservoirs constructed, and those other impoundments and diversions existing on the effective date of this Compact. Any depletions of runoff in excess of the depletions described above shall be charged against Texas' apportionment of the water in Caddo Reservoir."

      (2) Texas may use the bed and banks of the streams or tributaries available within this Subbasin to convey its developed water downstream from the aforesaid dam sites to specified authorized users. Such water would retain its identity and would not be subject to the Caddo Lake drawdown provisions of Section 5.3, of these rules until passing the designated point of diversion. Appropriate transportation losses will be approved by the Red River Compact Commission.

      (3) Until both Marshall Reservoir (with an estimated capacity of 782,300 acre-feet and yield of 325,000 acre-feet annually) and Black Cypress Reservoir (with estimated capacity of 824,400 acre-feet and yield and 220,000 acre-feet annually) have been constructed, it will be virtually impossible for Texas to deplete runoff in excess of that authorized. In the future, whenever potential Texas depletions above Marshall, Lake O' the Pines, and Black Cypress damsites become a concern to Louisiana, procedures to compute Texas depletion of runoff in excess of that authorized by Section 6.03 (b)(1) of the Compact should be developed by..."

   b. **Section 6.03 (b)(2):**
      (1) The Compact states: "Texas and Louisiana shall each have the unrestricted right to use fifty (50) percent of the conservation storage capacity in the present Caddo Lake for the impoundment of water for state use, subject to the provision that supplies for existing user do not water from Caddo Lake, on date of Compact, are not reduced."
(2) Whenever water is spilling over the existing spillway at 168.5 feet above mean sea level, each state may withdraw or divert water from Caddo Lake without restriction.

(3) Whenever Caddo Lake is not spilling over the existing spillway at 168.5 feet above mean sea level, the total consumptive use by each state shall not exceed 8,400 acre-feet during the drawdown period, provided that neither state shall divert more than 3,600 acre-feet during any one month or 4,800 acre-feet during any two consecutive months.

c. Section 6.03 (b)(3):
(1) The Compact states: "Texas and Louisiana shall each have the unrestricted right to fifty (50) percent of the conservation storage capacity of any future enlargement of Caddo Lake, provided the two states may negotiate for the release of each state's share of the storage space on terms mutually agreed upon by the two states after the effective date of this Compact."

(2) This Compact provision requires no separate computation procedures but other rules may be changed if enlargement of Caddo Lake occurs. If enlargement of Caddo Lake is authorized in the future, the Engineering Committee should review and modify as necessary Rule 5 (b) and Rule 6.

d. Section 6.03 (b)(4):
(1) The Compact states: "Inflow to Caddo Lake from its drainage area downstream from Marshall, Lake O' the Pines, and Black Cypress dams and downstream from other last downstream dams in existence on the date of the signing of the Compact document by the Compact Commissioners, will be allowed to continue flowing into Caddo Lake except that any manmade depletion to this inflow by Texas will be subtracted from the Texas share of the water in Caddo Lake."

(2) As indicated in paragraph 5 a. (2) above, it is virtually impossible for Texas at the present time to reduce inflow to Caddo Lake below that which would occur with both Marshall and Black Cypress Reservoirs constructed and operating. However potential Texas depletions become a concern to Louisiana, procedures to compute excess depletion by Texas on inflow to Caddo Lake should be developed by the Engineering Committee and presented for Commission Consideration.

e. Section 6.03 (c):
(1) The Compact states: "In regard to the water of interstate streams which do not contribute to the inflow to Cross Lake or Caddo Lake, Texas shall have the unrestricted right to divert and use this water on the basis of a division of runoff above the state boundary of sixty (60) percent to Texas and forty (40) percent to Louisiana."

(2) The Engineering Committee will review known Texas diversion data for the previous year and report to the Commission any Texas non-compliance with Compact Section 6.03 (c).

f. Section 6.03 (d):
(1) The Compact states: "Texas and Louisiana will not construct improvements on the Cross Lake watershed in either state that will affect the yield of Cross Lake; provided, however, this subsection shall be subject to the provisions of Section 2.08."
(2) The Engineering Committee will renew any known improvements on the Cross Lake watershed and report to the Commission any non-compliance with Compact Section 6.03 (d).

6. Caddo Lake Content Accounting Procedure During Drawdown Periods.
   a. Whenever water is spilled from Caddo Lake, both state's accounts are full and no accounting is necessary. Accounting shall start the first day of no-spill following each period of spilling and shall continue until the first day of spill in the next period of spilling. The accounting procedure for computing the quantity of water in Caddo Lake during periods of drawdown belonging to the States of Louisiana and Texas shall be as follows:
      (1) At the beginning of the drawdown, the Caddo Lake contents belong 50 percent to each state. Otherwise, begin with water ownership on Caddo Lake as shown in the most recent previous report.
      (2) Each State shall be credited with one-half of the inflow to Caddo Lake since the previous report.
      (3) Each State's account shall be reduced by its share of Caddo Lake evaporation losses during the period since the previous report.
      (4) Each State's account shall be reduced by its diversions from Caddo Lake since the previous report.
      (5) A State's account shall not exceed 50 percent of the capacity of Caddo Lake. If these accounting procedures result in a greater State content than 50 percent of the total capacity of Caddo Lake, the excess computed quantity shall be "spilled" into the other State's account as needed to bring the other State's account up, but in no case shall either State's account exceed 50 percent of the total capacity of Caddo Lake.
   b. Using a stage-area-capacity relationship concurred in by both States, the content of Caddo Lake at the end of each accounting period shall be determined and inflow for that period shall be computed as follows:
      (1) From the present content, as determined above, subtract the content determined at the end of the previous period.
      (2) Add to the figure resulting from Step (1) the total Texas and Louisiana diversions since the end of the previous period.
      (3) Add to the figure resulting from Step (2) the computed gross evaporation since the end of the previous period as determined in c. (2) below. This results in total inflow.
   c. Evaporation will be computed as follows:
      (1) The Weather Bureau's pan evaporation data shall be used to compute gross lake evaporation using a standard conversion coefficient agreed to by the engineer advisors of each State.
      (2) The average lake surface area for the accounting period shall be determined from the stage-area-capacity relationship concurred in by both States and multiplied by the gross lake evaporation as determined in Step (1) to determine the volume of evaporation for the period.

7. Availability of Diversion Records. Arrangements shall be made for all Texas and Louisiana diversers, during "drawdown" of Caddo Lake, to maintain daily diversion records open for inspection, and to provide weekly use data as required by Rule 2b. (3).