5-28-20 Steve Walthour email

From: Steve Walthour
Sent: Thursday, May 28, 2020 12:20 PM
To: Suzanne Schwartz
Cc: Temple McKinnon
Subject: Interstate development of water resources

Suzanne and Temple,

Thank you for adding Interstate cooperation and development to our list this morning. The attached letter is North Plains GCD's position on developing interstate water resources. Since I am new to this state-wide council process, I am not sure if this is appropriate to share or the best method of moving this ball forward on interstate cooperation. I would certainly appreciate your perspective.

According to the 2017 Texas Water Development Board State Water Plan, "Texas' existing water supplies—those that can already be relied on in the event of drought—are expected to decline by approximately 11 percent between 2020 and 2070, from 15.2 million to 13.6 million acre-feet per year. Water user groups face a potential water shortage of 4.8 million acre-feet per year in 2020 and 8.9 million acre-feet per year in 2070 in drought of record conditions. Approximately 5,500 water management strategies recommended in this plan would provide 3.4 million acre-feet per year in additional water supplies to water user groups in 2020 and 8.5 million acre-feet per year in 2070.

The estimated capital cost to design, construct, and implement the approximately 2,500 recommended water management strategy projects by 2070 is $63 billion. If strategies are not implemented, approximately one-third of Texas' population would have less than half the municipal water supplies they will require during a drought of record in 2070. If Texas does not implement the state water plan, estimated annual economic losses resulting from water shortages would range from approximately $73 billion in 2020 to $151 billion in 2070." I do not anticipate that all 2500 recommended water management strategy projects will be implemented by 2070. Texas should be looking outside our box for water supply solutions.

Over the last few months I have been communicating with my counterparts in Kansas, Colorado, and Nebraska, regarding a 2015 update of the Six-State High Plains-Ogallala Aquifer Study for Alternate Route B from the Missouri River near St. Joseph, Missouri; route, southwestward through Kansas to terminal storage on the Arkansas River near Dodge City, Kansas. (http://www.gmd3.org/2019/09/27/updated-1982-high-plains-study-on-water-transfer-element/).

In January, the North Plains GCD Board and the Groundwater Management Districts Association (districts from most of the above mentioned states) are advocating for Congress to fund and direct reassessment of the 1982 Study and seek new opportunities to

address water supply needs for the six state High Plains region. Attached is my correspondence and the board agenda item.

In 1976, Congress directed the Army Corps of Engineers to work with the six high plains states to complete a comprehensive water resource study to address the problem of depleting the High Plains Ogallala aquifer. The Six-State High Plains- Ogallala Aquifer Regional Resources Study (High Plains Study) was completed in 1982. The study included state-level research completed in Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas. These state efforts addressed regional economic and policy assessments, and a study of interbasin water transfers for supplying irrigation water. The Corps studied four alternative interbasin transfer routes including reconnaissance level designs and cost estimates for ranges of transfer quantities

The 2015 Update concluded that the original project purpose was to supply irrigation water to western Kansas with no additional users along the canal alignment. A re-assessment of the route reveals that proposed canal alignment follows the ridge line. There are multiple communities along the route that are down gradient from the canal route. These communities could be customers for some of this water. Turn-outs could be constructed along the canal alignment to provide water to these communities for public drinking water or industrial water supply. The turn-outs could be aligned with existing streams or new pipelines could be constructed. Since these demands are much lower than irrigation demands, a pipeline could be feasible. The water supply could either be the primary supply or could be used to enhance water supply reliability and resiliency.

When looking at the 2015 Update, it occurs to me that the terminal storage for Route B is only 200 miles from the terminal storage of another proposed route near Lake Meredith (one of two other routes that pass through or end in Texas). One of the routes passes near the Dallas -Ft. Worth area (one of the predicted highest municipal water needs in Texas). An issue is the cost of lifting water about 1750' to reach the Texas High Plains. In some places we are already lifting water almost 600 feet from the aquifer and compared to 1982 energy costs the use of natural gas, wind or solar may be more economically feasible today or in the future than in 1982.

I anticipate that some of the information from the 1982 study may have since been used in smaller water supply projects in the six-state area. I wonder if it is possible to get Congress to be a driving force to reassess the work done in 1982? Since 1982, the need for water in Texas and the other states has continued to accelerate while energy costs and other projected costs to move the water have changed. I think the original 1982 project should be reevaluated for all of the routes mentioned above. This reassessment should include the feasibility of using the water for municipal and industrial purposes, aquifer recharge storage and recovery, flood mitigation, interstate compact issues, as well as irrigation. There may be potential for multiple public – private partnerships to develop and construct the water supply routes.

I see working across state boundaries like cooperating on a proposed reassessment as truly planning for the long term (long after we are gone). Who knows, by the time someone

is thirsty enough in the next 40 years to construct a project, the information from the reassessment could be critical in kickstarting construction.

Have a good day!

Steve Walthour
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NORTH PLAINS GROUNDWATER Conservation District

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Mission: Maintaining our way of life through conservation, protection, and preservation of our groundwater resources.

NORTH PLAINS GROUNDWATER Conservation District

Memorandum
January 20, 2020

Subject: 1982 Six State High Plains-Ogallala Aquifer Regional Resources Study Reassessment

According to the 2017 Texas Water Development Board State Water Plan, Texas' existing water supplies are expected to decline by approximately 11 percent between 2020 and 2070. Unless the water plan is fully implemented (5,500 recommended strategies) the estimated annual economic losses resulting from water shortages would range from the $73 billion in 2020 to $151 billion in 2070.

The Water Resources Development Act of 1976 authorized the Six-State High Plains-Ogallala Aquifer Regional Resources Study (High Plains Study) to address the problem of depleting High Plains Ogallala aquifer water supplies. The U.S. Department of Commerce, in coordination with the U.S. Army Corps of Engineers (Corps) and other federal, state and private entities, examined the feasibility of various alternatives to provide adequate water supplies to "assure continued economic growth and vitality of the High Plains region." The High Plains study included state-level research completed by each of the six states (Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas), regional economic and policy assessments and a study of interbasin water transfers. The Corps studied four potential transfer routes and prepared designs and cost estimates.

The need for water in the High Plains and across Texas has continued to accelerate since the 1982 Study was completed. A comprehensive reassessment of the study may provide new insights and potential solutions to this almost certain shortfall in Texas (and other States') water supply. This reassessment could include evaluation of the transfer routes, the feasibility of using the water for municipal and industrial purposes, aquifer recharge storage and recovery, flood mitigation, irrigation and an updated evaluation of water supply infrastructure.

North Plains Groundwater Conservation District supports Texas advocating that Congress fund and direct reassessment of the 1982 Study and seek new opportunities to address water supply needs for the six state High Plains region.

Sincerely,

Steven D. Walthour, PG
General Manager

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