

Upper Arkansas Regional Advisory Committee Meeting
 9:00 am, Friday, April 12, 2019
 Finnup Center for Education, Lee Richardson Zoo, Garden City, KS

Members in Attendance:

Name	City	Category	Term	Present
Fred Jones (Chair)	Garden City, KS	Public Water Supply (cc)	2021	Yes
Michael MacNair	Jetmore, KS	Conservation/Environment (cc)	2019	Yes
Kyle Nelson	Holcomb, KS	Industry/Commerce (cc)	2019	Yes
Joe Jury	Ingalls, KS	Agriculture (cc)	2019	Yes
Hugh Brownlee	Syracuse, KS	At Large Public (cc)	2021	No
Ted Boersma	Cimarron, KS	Dairy	2021	No
Roy Dixon	Garden City, KS	Agriculture Industry	2021	Yes
Mike O'Brate	Ingalls, KS	Groundwater Management	2019	No
Titus Jaeger	Lakin, KS	Groundwater Irrigation	2019	Yes
Ray Slattery	Dodge City, KS	Public Water Supply 2	2019	Yes
Bill Simshauser	Lakin, KS	At Large Public 2	2021	Yes
Monte Morgan	Deerfield, KS	At Large Public 3	2021	No
VACANT		Surface Water Irrigation	2021	

Others in attendance:

Name	Agency
Randy Hayzlett	KWA
Kevin Salter	KDA-DWR
Mike Meyer	KDA-DWR
Matt Unruh	KWO
Armando Zarco	KWO
Alexandra Geisler	KWO
Jim Butler	KGS
Jason Norquest	GMD3
Mark Rude	GMD3
Greg Graff	KWA/GMD1
Jonathan Aguilar	KSRE
Gary Boldt	Public/Cimarron RAC
Emily VsetecKa	Sunflower Electric

Welcome and Introductions

Chairman Fred Jones began the meeting at 9:11am. With new faces in the room Chairman Fred Jones had everyone in attendance provide self-introductions. A quorum was present; eight of the twelve committee members were present.

Approval of Agenda

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Fred Jones added “Arkansas River Breach” as an agenda item between #7 and #8. Kyle Nelson motioned to approve the agenda. Joe Jury seconded. The agenda was approved with the addition.

Review & Approval of November & January Meeting Minutes

Titus pointed out four typos in the November meeting minutes on pages two and three. Bill Simshauser motioned to approve both sets of meeting minutes with the corrections. Roy Dixon seconded. The November and January minutes were approved as corrected.

KGS Arkansas River Water Quality – Jim Butler

Jim Butler started his presentation by giving an overview of the High Plains Aquifer (HPA), discussing the change in aquifer thickness since the onset of major pumping. He also reviewed the annual water level measurement program which looks at aquifer conditions once a year. What we are really interested in is how the aquifer responds when farmers turn on the pumps. The Index Well Program helps to do that with wells that measure year-round, seven of which are located within GMD3 in concert with annual water use data.

While the Arkansas River used to gain flow between the ditch diversions and Dodge City, it now recharges the HPA as pumping over time as created a closed basin. Evapotranspiration in Colorado from irrigation diversions and reservoirs decreases the river flow before it enters Kansas and the small irrigation ditches located here. Sulfate and Uranium concentrations increase from the Rocky Mountain front to the Colorado-Kansas line, remaining high in the river before disappearing in the HPA. Downstream near Kinsley the flow begins again and due to greater precipitation and dilution the sulfate and uranium concentrations are much lower.

Sulfate can be used for irrigation but yields diminish as levels increase past 1500 mg/L. Uranium concentrations exceed the limit for public supplies of drinking water below John Martin Reservoir past Deerfield where the river disappears. The source is primarily natural coming from the weathering of sulfides and other minerals in shales, however the high level of is due to human activities. This is due to evapotranspiration and extensive irrigation, and without human activities it would be 3-4 times less. Due to drawdown in the aquifer that makes it a closed basin everything gets dumped and doesn't go past Garden City.

There is no maximum contaminate level for Sulfate, but that is not same for Uranium which presents a major issue as it continues loading into the aquifer. It is estimated that 10 tons of Uranium came through the river in 2017. Don Whitamore and Jonathan Aguilar did a study to see how the high concentration of Uranium in irrigation wells effects the plants, and found high concentrations up to three times the EPA level in root systems. At this point Jim opened it up for questions, and the conversation proceeded as follows:

Titus asked if this a regional phenomenon or do you see is elsewhere? Anywhere you have a closed basin you see the buildup of pollution

The sources are natural, but Mark Rude brought up a study that farming practices in certain areas are increasing the release of these contaminates.

Roy: What incentives are out there to not farm a hotspot? Mark answered that right now there are none, they have tried but haven't been able to get Colorado to the table

Bill: Would you consider the entire aquifer a closed system, and will it be more contaminated as it depletes: Here it is different because you have surface water coming in which differs from other areas. On the sulfate map between Lakin and Garden City, is that concentration caused by the irrigation ditch system? Yes. Without the ditch system would it carry

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more downriver? Yes, it may get past the easternmost bridge but not much further, and the contamination would be less spread out.

Fred: Last week the city had a development, which was the second time they extended water outside the city to address radionuclide issues. The city has three wells that pump 2-million a day and go directly to a RO plant. Water quality has been a 100-year issue in some areas, anything north of the river is always dubious water quality. Jim added that over time the south wells will face some issues too.

Titus: You are saying it's always existed? It has increased over time

Fred: It has not gotten better. The city went into the sandhills in the 60's and didn't use the wells closer to the city until reverse-osmosis was put in. What is the tipping point on sulfate? It depends on the soil, in some it will increase quicker and decrease yields, we are flirting with problems now.

Randy: The reservoir was completed at the same time you see differences in flow between Syracuse and Dodge City adjusted for irrigation diversions.

Titus: Would imported water cause improvements? Yes, you could put in on field and let it percolate down, also reductions in pumping could benefit from diluting it.

Jonathan: From sulfate and the irrigation standpoint you need to apply more water to leach out the sulfates, but producers are applying less water with reductions in irrigation.

Bill: Eastern Colorado is developing more pivot irrigation vs. flood, will that help? Kevin answered yes. Hotspot just means the presence of that shale, with pivots not as much is going through the system and getting into the river. They have to meet flow requirements, so if that is reduced they will have to augment and not as much water will be going through that shale.

Fred: How large are those hotspots? If there are hotspot areas it is hard to argue that it is nonpoint source. Communities in this area are affected and it is not going to get better.

Kevin: The problem is with water right issues in Colorado and senior water rights.

Titus: Is this where the federal government needs to step in to bring water into the region? Fred responded saying that how they solve it is not for him to say. It seems odd that it has been completely silent on the federal level, and it has been hard to get Kansas on board.

Titus: What does it take to remove Uranium? Fred answered explaining that you filter it and run it through a Nano or RO membrane. The issue is that you are filtering it and rejecting some, losing it into the Arbuckle (deep injection).

Jim: Another area they are working on at KGS is the Arbuckle, and there is plenty of room out west to inject.

Titus: What is the process for sulfates? Fred answered that you can do an ion-exchange with a water softener, it isn't as difficult as the radio-nuclides. Kyle added that using RO takes care of both.

Titus: Could they be captured in the filtration process and used in another application? Yes.

Kyle: He is not sure how you point upstream and say "It's your problem". The irrigation is not adding the uranium, it is just flushing what is already naturally there.

Kevin: There are efforts being made in Colorado to limit that, such as implementation of BMPs. These are the same guys that are irrigating and farming just like we do on this side, and have been doing it for 100s of years.

Jonathan: Colorado is also concerned about it. He presented to them on uranium in corps and there were questions on how to get their own wells tested for levels.

Fred: The problem with Uranium is that it goes in you and doesn't come out. It will build up in your kidneys until they stop working. Drinking that water can increase/speed up endocrine and kidney issues. It is worth the investment to check your personal wells.

Mark: What tools might we pull together to make available to those drinking water concerns so health and safety of local citizens is ensured? It's not something you normally test for. What do we need to do to put something together, so individuals can become aware that they have a concern?

Water Technology & Field Days Update – Armando Zarco

Armando Zarco showed the committee where to access information about the Water Technology Farm Program on the Kansas Water Office website. In addition to an overview of the program and an updated map, the webpage includes information on each of the individual farms and access to the first annual Technology Farm Report covering 2018 harvest data. The report uses KWO data, which is not the same as what Jonathan from K-State hand collects and uses to look at the agronomy. The focus continues to be on the Ogallala and conservation programs, with KWO funding going to those areas and additional support and contributions coming from over 90 additional vendors and organizations.

There are 10 technology farms still in place and KWO is pursuing 5 additional farms. Feedback indicates that 3 years is not enough time to evaluate, so even the farms already through that first 3-year period will be continuing with the program. Everything ultimately depends on funding availability. Homeland Farm, one of the additional 5 added this year, is located within the Upper Smoky Hill Region. Geiger in the East will be the first dryland technology farm, and the other three additional are located in central Kansas. The next step is to have field days in the July/August timeframe, with dates selected by the end of May or early June. If anyone knows individuals in the area who may be interested in joining the program, put them in touch with Armando.

Industry Outreach – Kyle Nelson

Kyle didn't have much to share. Last Fall he worked with Armando and got industrial contact information for the region, narrowing down to just under 25 based on water use. He sent out a letter asking for feedback, reminding them of resources, and asking them to share any successes they've had. There was only one response in which changes were made on how they did flushing, and the source was switched to gray water. Industrial users are so diverse and have no real commonality with water use. He is interested if anyone on the committee or elsewhere have heard of good outreach programs, anything to make it more purposeful. It's best to stick with no more than one a year, in order to avoid desensitizing them.

Municipal: Bureau of Reclamation – Fred Jones

The city has been working with BOR for last couple of years on water reuse, and the feasibility study with Burns & Mac has been completed. On Tuesday May 7th the city will hear about the study and discuss where to go next from here. There are four alternatives looked at in the study. The first is to develop a secondary structure to pump effluent water, trying to offset irrigation demands in parks, schools, etc. The second is an industrial reuse structure, a basic treatment system to provide non-potable water for industry users. The final two are an indirect potable reuse options with potential for an aquifer storage/recovery component. One is high level treatment of water to drinking water standards, and determining a way to store it. The other is essentially a direct potable reuse into a water buffer, water treatment plant, and into the system.

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The next step for the city is a marketing activity to have discussions with stakeholders to determine what the appetite is for finding other sources of water. Direct potable reuse is something that won't happen immediately, but is more of a long-term solution for the city. Other reuse options are projects that can be done now and integrated into a more robust reuse project down the road. The resource is about a billion+ gallons a year going through the system, possibly 50% of that water could be reused sometime in the future (approximately 3,000+ acre/feet).

Action Plan Revision/KWO Report – Matt Unruh

We are wanting to do a coordinated effort with all 14 RACs, since we are at the 5-year benchmark on the initial establishment. Starting in June/July this will be one of the big agenda items at your meetings. Something to keep in mind with revisions or additions needed to the goals and action plan is that there could be more details between now and your next meeting. From a KWO standpoint we have heard your input on needing the opportunity to make changes and updates. Alexandra Geisler added that the committee is ahead of the game in this effort, and has already been working on what changes would be most beneficial for the RAC. Mark Rude asked if those changes in the goals have been posted. Alexandra explained that there have been no official changes made to the goals. The RAC has simply reviewed them and decided to start working on cutting down the action plan for goal #1 to make it more concise. The idea is that the content itself would be the same, just more clearly stated and easy to follow.

Matt continued explaining that SMART goals were used the first time around, and a similar approach should be taken with any new or revised goals. Greg Graff offered that another thing the RAC might want to look at when addressing goals is to split them into what you can do with funding and what you can do without. Fred Jones responded saying he doesn't agree with that because then anything that requires funding will be thrown out. But there is some support from KWO to develop a fiscal note on these. What are the consequences of not moving forward and funding, what is the result if we do? No portion of the state can relax when it comes to water, and we may miss opportunities before people get serious about it.

Joe Jury brought up flooding in neighboring states and that Tuttle Creek is about to open flood gates. When you think about the disaster money going to Nebraska, that money could be used earlier to mitigate, going back to fund augmentation/additional sources. We have to be proactive, and can't keep letting the Missouri River flood out in Nebraska and Missouri, down the Mississippi carrying all those nitrates and sediment. Naturalists are more worried about ducks and animals than food supply. We shouldn't be afraid to ask the Federal Government, and other states should be with us. We have a problem in the Midwest called flooding at times and drought at times, and we need to do something to move water where it is needed when it is needed. Interstates didn't go up without the Federal Government. This is a water problem and a federal problem, and we need to get on legislators to get this thing moved up. Right around Omaha it flooded out in 2011, they just got most of rebuilt and now it's gone again. We don't need water if they don't have enough, but only when there is excess. We have to quite looking at just Kansas's budget and go to neighboring states, and I'm sure we'd get a lot of cooperation from Nebraska. Don't be shy to call Washington, they say they know what is going on but they don't.

Mark Rude commented that this is why your time and dedication on these committees is important. He was in DC last week working with folks and getting to know them, and a Colorado member showed interest in working with Kansas on a transportation project. Titus Jaeger added that it is important to emphasize in relation to the goals that we need laser focus on the one thing that comes up in every single meeting, and that is water transportation to this region. There are so many issues that this one will take care of, we need to get rid of distractions. Mark responded that as Fred said it is good to take it one step at a time, and GMD3 is willing to help.

Greg Graff said that GMD1 and GMD4 have been quiet on this issue, but are starting to have conversations about bringing water in. Maybe we can start getting numbers together to make this point. Armando Zarco who has been

attending GMD4 meetings hasn't heard any talk about getting water transferred to their area. Greg responded saying that Ray said that it is something they need to start looking at long-term. The board has not looked at it, but Mark says it is included in their management plan. Titus pointed out that according to KGS we have 60ft of space to put this water in, and can put it to immediate reuse. Randy Hayzlett agreed saying that Kansas is going to have to step up, take the lead and get a right. Kyle Nelson expressed that from an engineering perspective on moving water that far up, it will take a staggering amount of energy and cost. We need to do the math and know the numbers, we don't want to come across as naïve. If only using it in times of excess you can't built it big enough to take in that water from a flood. Titus replied saying you need to consider the lift right now that is used to pull the water up out of the Ogallala. Just like with any project there are going to be restraints. Fred urged the committee to get back on topic.

Armando told the committee that the letter that they sent to the KWA regarding this issue will be addressed at the KWA meeting next week. Fred added that he will be there to present the letter and have Mark give background on the concept. The purpose won't be to go through all the details but to set the table to go into more detail at the July meeting. They want to specifically address the letter having conversation from KWA and other folks and move from there. That meeting now starts at 10am instead of 8am.

Arkansas River Breach

Fred Jones asked Mark Rude to give a brief update on what GMD3 is working on regarding this issue. Mark said he is not sure they are going to get there this round of grant proposals. There is a draft proposal under the small projects grant program that takes up to \$75,000 local and \$75,000 reclamation to address a small project in the west. The proposal is to plug a breach between Holcomb and Garden City that has been there since 2000 and runs into a pit rather than downstream. We would like to see the hole plugged, but the question is how to do it and who has the responsibility. We came up with a quick fix but there are still some questions that need to be answered such as will it hold, those kinds of things. It may be around for a couple more decades before it gets fixed. We want to try and do it right, but we're still trying to find funding and will continue to work to get partners to help get this done. Fred Jones asked the committee to refer to the memo from the Kansas Water Office about this same issue.

SOTR RAC Presentations & Outreach Efforts

Alexandra apologized for not having more work done on these by now. She plans to work with those volunteers in hopes of having a draft ready for the committee to review at the next meeting.

2019 Membership Drive

Alexandra Geisler asked everyone to look at the sheet included in the meeting materials that shows the membership drive timeline, and a table that highlights all members with a 2019 membership expiration. Those committee members, their official expiration date being 6/30/2019, should have received an email notification from her in March. The open call for applications will be during the month of May, and anyone interested in a position, including current members, will need to submit an application by May 31st. The KWA RAC Operations Committee will review candidates in June, and make recommendations for the full KWA to take action on at the July meeting in Goodland. Alexandra added that she can collect any completed applications at the end of the meeting, and has extra blank applications for anyone that needs one.

Fred Jones added that we are not sure whether Stevens position will be filled at the next KWA meeting or with the rest in June. It's open and Hal Scheuerman has applied, but it is up to the operations committee.

Agency Reports

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Mark Rude GMD3: The board met last Wednesday and continues to work on policy issues. We are still looking to and waiting on the Chief Engineer for comment on the draft management plan. We had a presentation on the CIG Grant 3 year wrap up and would like to make a report to the committee at a later time on that study. Last week we presented to NRCS to see if we can get a practice adopted for mobile-drip on inner snaps. Trevor would be glad to present if the committee wants to hear it.

In the name of conservation, we continue to be concerned about requests for additional wells and policy's that add wells to further access the aquifer in a depleting environment. In the management program it recognizes that as we deplete the aquifer and have more interactions changes to how water is pumped locally can have an effect on neighbors. The board has adopted a set of criteria, well evaluation criteria, to look at whether the effect will be beyond minimal. If those criteria aren't met a more direct well-to-well evaluation will be completed. Hopefully we will get more and more efficient at that kind of evaluation, as there is a wealth of information.

In regards to Jim's presentation about Arkansas River water quality, we have to start sometime. The trigger was Colorado pushing hard for change they had gotten through Congress in 2009. The Federal Government agreed to provide 60% of the cost, and the Colorado legislature has asked the Federal Government to pay up. The fear is if we don't speak up for Kansas that we will be left out. The legislature agreed, and we were able to get a resolution through both houses in two weeks with no dissenting votes. The committee should have a copy as it relates to all of you and this region. It basically recognizes the need, and points to providing funding to finish reclamation work. It directs KWO and GMD3 along with other state entities on both sides to work together to support that effort. In DC we went to Kansas and Colorado representatives to give them a heads up and make sure that they are aware of it. Hopefully in this process working with the Water Office we will see where we can go with it. We might be able to make some headway even though there has been concern and data for decades. We will see what happens.

Mike Meyer KDA-DWR: There is some incentive available through DOC-KDA to cost-share up to \$10,000 for irrigation technology, probes, remote monitoring, and mobile-drip. The funds are available for those enrolled in a WCA, and the deadline is April 30th. Water use reports were a huge success, with over 88% of people filing online. There were very few paper repots, and just a handful that are late. The benefit is that we have the data now and can already start reviewing it. In the past with paper repots it took months to get all the data from the reports entered. Our office has moved, it is now on old Highway 50 between Garden City and Holcomb.

Kevin Salter gave a report on Ark River supplies. He's been watching snowpack, and it is really good in the Ark Basin in Colorado. It appears that the peak occurs this year at April 5th, it is usually at April 11th. It is distributed evenly across the basin, and there is room in John Martin. Titus asked if the call for water was earlier than normal this year? Kevin answered no, there has been none but we are expecting that Colorado may request on the 15th.

Armando Zarco KWO: Asked how everyone felt about the joint RAC meeting in January. The reaction from the committee overall was good. They liked the sharing of information and ideas and thought it would be nice in the future to split time 50/50 between presentations and open roundtable discussion between the two. The Master Irrigator presentation the group agreed was beneficial, and Titus thought there were some outreach ideas that could be used to help with this years Bottom Line Conference. This year's conference will be on August 14th and 15th at the Kearny County Fairgrounds. The focus is on profitability in a dry environment, and there is space for both booths and presentations. The committee asked that the planners share information about the conference with other RACs. In regards to the Master Irrigators Mark Rude explained that GMD3 and KWO continue to work on it but are dealing with budgeting issues. Jonathan Aguilar added that Colorado and Oklahoma plan on implementing the program next year. To finish Armando passed around a sign-up sheet for anyone interested in going on a tour at the DFA plant. Even though it didn't work out at the joint meeting they will still let us tour but need notification and a list of names in advance.

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Upper Arkansas Regional Advisory Committee Meeting Notes

Other Business

Public Comments – Titus delivered a message from Monte Morgan who couldn't be here today. He has a well south of the river and since streamflow has been reestablished he has seen a 60ft increase in his static water level. It is located a couple miles south of the river, southwest of Deerfield by about 5 miles.

Messages to Kansas Water Authority – None

Future Meetings –

Kansas Water Authority – April 18th @ 8am – Abilene Civic Center

GMD3 Board Meeting – May 8th @ 9am – Garden City

Next RAC Meeting – Budget Review in June

Adjourn

The meeting was adjourned at 12:11pm.

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