

**Upper Arkansas River Subbasin
Basin Management Team
Summary of Public Meetings**

March 17, 1998 (Finney County Fair Grounds, Garden City, Kansas)

Meeting Overview: First public meeting held for the Upper Arkansas project area. The agenda included presentations by Mark Rude, DWR Garden City Field Office Water Commissioner, Bruce Falk, DWR Stafford Field Office Water Commissioner, Jeff Lanterman and Shannon Rothchild, BMT staff members, Steve Frost, Director of GMD #3 and Richard Wenstrom, President of Water PACK. The Basin Management Team (BMT) approach to water management was highlighted as well as “What happened in Walnut Creek, status of the Rattlesnake Creek project, history of water issues related to the Arkansas River, and Q &A. BMT staff indicated that the Upper Arkansas subbasin was one of several subbasins in western Kansas that were selected for the inclusion of the program based on potential water right impairment, quality, and quantity issues identified through the state water planning process.. This meeting provided background on the program and to let folks know how they can participate and sign-up into the process.

September 10, 1998 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: The purpose of the meeting was to solidify individuals that want to participate in the working, explain the BMT process and how the working group will function. There was discussion on the hydrology, boundaries of the Upper Arkansas subbasin and Q &A. Tamarisk, streamflow, groundwater, flood damage, recreational areas and riparian concerns were also mentioned as issues in the subbasin. Steve Frost advocated that the issues in this subbasin needed to be put on the table. It was decided to hold a round table session at the next meeting so everyone could voice what they think the issues are and they can come up with a list they all agree upon.

November 5, 1998 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Dr. Don Whittemore, KGS and principal investigator for the Upper Arkansas River Corridor Study presented data at this meeting. The main emphasis of this research is water quality. The data shows that ht water quality is getting worse (saltier). He described the sampling and analytical process and the relationship between declining water levels and increases in water salinity in the deeper Ogallala aquifer. KGS is currently developing a model of the study area. KGS is working with BMT and will supply information to the working group as they need it to develop management alternatives. BMT presented streamflow data which shows a decreasing trend over the long term and groundwater data that shows the same trend. The working group requested information to be presented at the next meeting.

January 12, 1999 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: BMT provided a map with the working group members and their location in the subbasin. Don Whittemore, KGS gave an update on the water quality research he was conducting and an overview of the new TMDL process. Data requested at the last meeting was presented to the working group. There were a number of topics for future investigations and agenda items suggested. Updates on Tamarisk and structures were given. A handout on brainstorming and consensus was given to the group. No discussion on the information but the group was asked to read and be prepared to discuss the concepts at the meetings.

March 16, 1999 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: BMT provided an overview of the project area and the general goal. Specific issues identified by the working group should be evaluated in more detail. Anticipated work tasks and a timeline were provided to the group. A presentation was given to the group by BMT on streamflow and Bear Creek Fault. Several questions on the compact suggested that a presentation should be given at the next meeting. Jerry Hargadine, KWO provided an update on the Corps of Engineers Channel Capacity/Ordinary High Water Mark Study. Dan Faulkner presented on Tamarisk and its water usage. He also provided a poster session on terraces and structures. Don Whittemore provided an update on the water quality study in the corridor. Don requested input on recharge for the computer model. The group was encouraged to bring ideas such as potential management strategies, key areas affected by water quantity and quality issues, etc... to the meetings.

May 27, 1999 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Mark Rude presented information on the issues related to the Kansas vs. Colorado Arkansas River litigation. There was discussion about how the money from reimbursement would be distributed. Additional questions were asked about groundwater level declines and water quality, to which staff responded. A review of potential management strategies for the subbasin was conducted. One of the strategies was contested by the Southside Ditch Association requesting that it be removed from the list. It was proposed that an internet site be developed for the Upper Arkansas project area.

August 5, 1999 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Notebooks were provided to the working group members to organize handouts provided at meetings. Ervin Ploeger, President of the Associated Ditches Association provided a statement. BMT presented information on the seepage investigations they conduct and the overall interpretation of transit gains and losses in the subbasin. They also presented information on Hamilton County Lake and graphs showing KGS water quality along the Arkansas River. David Barfield, PE for DWR presented on the accounting system for John Marin Reservoir. An outline of potential management

strategies was presented to define a form or method for documenting and reaching a consensus on practicality. The website is being developed.

September 2, 1999 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: BMT presented to the working group the Thiessen Polygon Method for calculating precipitation data. This method is commonly used to correct for non-uniform distribution of precipitation stations. Information was also presented regarding climate data from NCDC and the Palmer Drought Severity Index (PDSI). There was a lengthy discussion about these items, and lead to a good explanation of the information. Additional items discussed were the KWO channel rehabilitation project, calculations for woody vegetation along the corridor and clean up sections of the river. Most of the discussions were budget related. Don Whittemore presented information on the Associated Ditches meeting. The ditches hired an engineer and a hydrogeologist to peer review the water quality data being collected and interpreted by KGS. David Bren offered additional comments on the meeting. Items were identified that needed to be worked on 1) update TMDL program; and 2) EPA representative attend the working group meeting.

November 18, 1999 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Water use data was presented. Colorado's storage study committee meeting document was handed out and discussed. It was suggested that we may need to do our own water use assessment feasibility study and look at construction of our own storage facilities, dams, recharge projects or diversion expansion projects. The BMT developed a issues document that is meant to start to get other working group members thinking about what the issues are in their area and in the subbasin as a whole. As a group they can make recommendations to the chief engineer on the assessment of the issues and potential management strategies or solutions. Issues that need to be worked on are responses to the Associated Ditches' consultant's questions.

December 16, 1999 (Finnup Conservation Center, Garden City, Kansas)

Meeting Overview: The first draft summary of water resource issues for the subbasin was presented. Topics were what areas of the subbasin should be the focus of future management recommendations, surface water, litigation payments, feasibility study, and alluvial aquifer (i.e. effects of groundwater pumping).

January 13, 2000 (KSU Office, Garden City, Kansas)

Meeting Overview: Discussions among the working group focused on additions, and modifications/revisions to the issues in Water Resource Issues document. BMT provided updates on the Rattlesnake Creek program, Ag-Vision 2000 conference, KGS interactive budget model, effects of sulfate salinity on various crop types, and the TMDL program. The working group added a new question for the document "What are the long and short-

term trends in alluvial groundwater sulfate levels upstream from Garden City, and downstream from Garden City”.

April 13, 2000 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Discussions among the working group focused on additions, modifications/revisions to the issues document. Additional answers to questions proposed by Wright Water Engineers were provided to the working group. Updates were provided on the Water Banking bill, description of the multi-level KGS monitoring well site at Garden City was provided by KGS, a memorandum with responses to the KWO on WWE comments to the proposed 2002 Kansas Water Plan, memorandum from WWE with responses to the water resource issues and Hal Scheuerman presented on Tamarisk removal utilizing the herbicide ARSENAL.

The final recommendations from KDHE to the EPA on proposed TMDL guidelines are due June 30, 2000. BMT staff is planning to attend a joint meeting between CO and KS over TMDL priorities. Working group expressed their views on the various water quality issues. Some members of the group were concerned about the fast pace in which everything was moving. BMT staff did stress that there was not a rush, but we should be thinking and begin the development of management ideas. There were discussions on whether there were concerns over impairment of senior rights in the subbasin during dry periods.

Mark Eisenbarth, Garden City Wastewater District, presented information to the working group on the proposed cheese factory and reverse osmosis plant to be located in Garden City. Working group members commented that they are not on municipal water but have to treat their own domestic well. Domestic wells along the river are treating water with 6-50lb bags of salt a month to run their water softener. They are also replacing their water heaters every 3-5 years due to lyme deposit buildup. It was suggested that KWO provide cost-share assistance to the water user for improving their domestic groundwater supply through better and more efficient treatment systems. Mr. Eisenbarth also presented information on the proposed Garden City Lake. The Corp of Engineers in previous discussions indicated that it would be difficult to justify with today's environmental standards and concerns a new reservoir construction.

It was decided to begin developing ideas for management of the water resources in the subbasin, specifically on water quantity concerns. The working group members are to come prepared with any and all ideas on what they want out of this process and how they could better manage the resource taking into account the current water administration system of water rights.

Updated list of water resource issues, ideas and projects underway in the subbasin: 1) Ecosystem Rehabilitation and Garden City Lake; 2) Channel Capacity Project; 3) Hamilton County Lake; 4) Northern Kearny/Finney County Recharge Project; 5) TMDL program; 6) Salt Cedar eradication; 7) Channel efficiency; 8) Municipal/Domestic water

supplies; 9) Specific conductance monitoring of surface water; 10) Potential losses to surface flow in Kearny County; and 11) Water management/efficiency.

Listing and prioritization of issues will be focal point of the next meeting.

June 1, 2000 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: BMT announced the installation of a USGS stream gage at Kendall in June. Update on the Channel Capacity Model is in its first phase and will be completed in late summer 2000. Results of the upper Arkansas BAC and TMDL meeting were provided to the group and KDHE is accepting comments.

The BMT developed a draft compilation of potential issues and management ideas that were gathered from comments and correspondence from working group members

- Minimize groundwater depletions all across the subbasin
- Minimize water quality impacts to the largest population sectors through river management, ditch improvement projects, and incentive based water quality correctional devices.
- Conduct stream recovery, habitat enhancement, and recreational opportunities
- Construct surface water storage devices
- Determine if transit losses are a function of excessive well pumping from junior water rights south of the river, hydraulic connection between the alluvium and High Plains aquifer and a combination of both.
- Evaluate recommendations by the US Army Corp of Engineers from their channel capacity study to restore the channel.

July 27, 2000 (KSU Agricultural Research and Experiment Station, Garden City, Kansas)

Meeting Overview: Updates on the KS v. CO litigation settlement, Channel Capacity study, USFWS Arkansas River Shiner critical habitat designation and the KGS groundwater volume and sulfate mass budget model. Governors 21st Century Task Force was held and focused on identifying the top 5 water concerns in Kansas. Federal bill proposed to help promote economic viability of the southern High Plains aquifer through sustainable groundwater management and incentive based programs. EPA is holding public meetings on proposed rules and regulations for designated uses of private water bodies in Kansas.

The BMT outlined the necessary steps in the process of taking issues and management recommendations and planning the next course of action for the program. The focus of the BMT will be on the alluvial corridor and ditch service areas.

A statement from the Associated Ditches was presented at this working group meeting. In summary, the statement expressed the Associated Ditches' concerns over the working groups' compilation of issues and ideas. In response, we asked the Associated Ditches to provide us a list of what issues they feel should be addressed in this process prior to the

adjournment of the meeting. The ditches presented the following issues: 1) river channel restoration; 2) interstate water quality issues; 3) mechanical treatment of water; 4) assess potential recharge zones and storage areas to be utilized during excess flows; and 5) encourage and support the funding of a full-time person to closely monitor Colorado's compliance with the compact. The ditches felt that these issues could be addressed by 2002.

David Pope, chief engineer, responded to the Associated Ditches on their five proposed recommendations. The letter stated that DWR and KWO support the BMT pursuing the 6 recommendations as outlined.

August 31, 2000 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Update on the Corp of Engineers Channel Capacity study. The working group reviewed the six recommendations as summarized in David Pope's letter. Comments were encouraged on the proposed recommendations. Associated Ditches plan to respond to the comments. A future meeting will be scheduled to discuss KGS mass budget conceptual and numerical models for the subbasin. A presentation was given on the changes in saturated thickness of the Ogallala in the ditch service areas of NE Kearny and NW Finney counties. The working group provided the following ideas:

- Advocate further research into alternative crops that use less water
- Recharge credits to surface water users
- Transit loss study on the irrigation canals
- Independent entity study, monitor, and document salinity/sulfate concentrations and salt loading in CO
- DWR develop a full time position to monitor CO compliance
- Review KGS conceptual and numerical hydrologic model

November 9, 2000 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: An overview of the teleconference with the Associated Ditches, WWE, KGS, DWR and KWO was provided to the working group. The teleconference was held to discuss KGS hydrologic model of the subbasin. The meeting was to discuss technical aspects and details of the model. BMT distributed a management idea development outline to function as an aid to encourage the working group to begin development of voluntary incentive based management ideas that address the six recommendations. The GMD #3 board approved to fund a study to assess the financial and engineering feasibility for construction of a storage facility on the Arkansas River that could assist in flood control, groundwater recharge, stream flow recovery, recreation enhancement, habitat restoration, water quality and irrigation management. They also want the water storage to be part of the Water Conservations Projects Fund. Kansas Water Authority approved funding for the Ogallala Aquifer Institute. The institute would provide a regional forum to facilitate education, communication, research, and conferencing.

An update was given on the Water Conservation Projects Fund. The results of the US Army Corp of Engineers Upper Arkansas Channel Capacity Model Phase I was presented.

February 1, 2001 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Various programs were presented to the working group as options for technical assistance, funding and water conservation. The Water Conservation Field Service Program, Water Rights Purchase Program, Water Banking, and the 5-year water right allocation program were mentioned. An irrigation survey was sent out and the response has been excellent in terms of number returned and the county representation. The final draft document for Phase I of the channel capacity study was distributed to KWO for approval. Phase II will begin. The website is up and running. The Ogallala two-pool management concept was discussed at great lengths by the working group. The proposed concept did raise numerous concerns and questions. The objective of the management idea evaluation worksheet was covered. Evaluation process should be completed by March 1, 2001. The next working group meeting will involve discussions of the results and possible revisions of management ideas.

A representative of GMD #3 prepared a written statement in regards to the concerns with the current proposals regarding zero-depletion and the two-pool idea, on behalf of the western GMDs. The Associated Ditches presented a memorandum acknowledging the idea evaluation worksheet is a good initial approach for comparing and contrasting specific management ideas. They expressed their concerns with the current overly-broad language of recommendation #6. The BMT will be coordinating with the Associated Ditches in the design and clarification of objectives for the irrigation canal loss study. Meetings will be scheduled to discuss.

March 22, 2001 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Ideas listed on the management idea evaluation worksheet were ranked according to estimated participation results. Working group provided their comments on why some of the management ideas ranked low on the estimated participation. Management ideas that ranked low were, subsurface drip irrigation, end gun removal, ditch lining and conversion of open ditch laterals to pipe, water quality, enhanced compliance and enforcement of water, five-year water right program, water rights purchase, irrigation land reserve program, aquifer conservation pool, and off-channel storage

Prior to the meeting, two documents were distributed to members of the working group, "A Draft Working Document of the Upper Arkansas Subbasin, Management Idea Proposals for the Upper Arkansas Alluvial Corridor and Ditch Service Area" and a proposal on the "Development of a Drought Management Strategy for the Upper Arkansas Alluvial Corridor and Ditch Service Area". The overall response of the working group was the management ideas document is satisfactory and provides a good summary of management ideas, but does need further revision. Discussion on the other

document pursued. BMT asked the Associated Ditches whether they anticipate a call for impairment by senior surface water rights in the future. A variety of responses were offered, not enough information, don't want to speculate to there could be a call. The working group did not reject the proposed drought management strategy, but did propose revisions. A letter will be submitted to the Associated Ditches with questions regarding their position on the issue of partial impairment. The Ditches agreed to develop a memo stating their position and questions they feel need to be answered.

Results of the irrigation survey will be presented at the next meeting.

April 13, 2001 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: The BMT sent a letter to the Associated Ditches asking two questions: 1) Do members of the Associated Ditches of Kansas anticipate filing a claim for impairment in the future; and 2) if indeed the members of the Associated Ditches of Kansas anticipate filing a claim for impairment in the future, would they support the corrective approach of traditional administration of water rights through the prior appropriations system, or use the BMT process as the vehicle to address this issue in the context of current water law.

May 24, 2001 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Discussion on recommendation #6 continued and the working group continued to oppose recommendation #6. Their concerns are that they did not add it and that it was added by DWR to address surface and groundwater interactions. A dry weather water conservation plan was discussed as a possible tool to use when surface water resources become scarce in periods of dry weather. The group requested an outline of the ideas generated this meeting. The irrigation survey results will be presented at the next meeting.

July 19, 2001 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: An update was given on the meter study. BMT completed the field work for the meter study and are in the process of analyzing data collected. An outline of the recommendations was presented. The working group decided to eliminate recommendation #6 and further develop recommendations 1-5. The Associated Ditches presented a memorandum. Hugh Brownlee, working group member, presented his ideas on salt cedar removal plan. He will draft his ideas for a future meeting. The working group determined that the irrigation canal seepage loss study is not a priority at this time and that the major loss is in the river, not the ditches. The working group was asked how long it would take them to complete the plan to submit to the chief engineer as the project was nearing completion deadline. Working group members stressed that a plan was not going to be developed and that the five recommendations will be submitted to the chief engineer.

October 25, 2001 (KSU Area Extension Office, Garden City, Kansas)

Meeting Overview: Updates were provided on the meter study, the Bingaman Bill and an article on appraisal values of water shares in Colorado ditches was shared with the group. BMT presented a document titled “Draft Recommendations for the Upper Arkansas Alluvial Corridor and Ditch Service Area” to the working group. The document contains background information and the five recommendations. The group was asked to take the document home to review and provide edits. The document will be reviewed at the next meeting and prepare a final draft. Deadline for submission to the chief engineer is June 2002.

January 7, 2002 (KSU Area Extension Office, Garden City, Kansas) –

Meeting Overview: Updates were given on the ARCA meeting and on the KWA meeting. The Ogallala Management Committee’s report was voted on and approved by KWA. The working group made revisions to the document. If there are not further revisions the document will be forwarded to the chief engineer.