

MEMO



DATE: October 17th, 2016
TO: Kansas Water Authority
FROM: Katie Mitchell and Earl Lewis
RE: Vision Implementation

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The Kansas Water Authority Budget Committee had a conference call on October 17th, 2016. Primary topics of the call included:

1. Kansas Water Authority and Blue Ribbon Funding Task Force roles
2. Funding target for use in Task Force Discussions
3. Dedicating a portion of future funding to regional areas
4. Information needed to support future requests
5. Timeline for the remainder of the current year.

Karma Mason (chair), Gary Harshberger, Brad Loveless, Mark Fischer were present on the call along with the agency representatives.

The Committee consensus was to affirm that as the standing statutory body, the Kansas Water Authority should retain budget recommendation responsibility for water plan and vision implementation funding. This would include recommendations associated with any additional funding developed through the Blue Ribbon Funding Task Force.

Also discussed was the target funding for the Vision implementation. The committee reviewed and discussed the attached Vision implementation spreadsheet. The Committee consensus was that an overall funding of approximately \$55 million would be required on an annual basis to implement the Vision and associated regional goal action plans. It is recognized that the projects that will be funded will vary from year to year, but the overall need will remain the same. Focusing funding to the highest priority projects and reprogramming funding once projects are completed will be key in maintaining credibility of the Vision process and the Kansas Water Authority role in budgeting.

The Committee did not reach final conclusion on the questions of whether to dedicate funding to the regional areas. The general discussion was in support of some funding being dedicated to regions, subject to the final recommendation of the Task Force. In any case, if funding is dedicated to regional activities, it should be guidance provided by the KWA rather than defined in statute. Further, the funding dedicated to a particular region should be associated with the fees that were derived in that region.

The KWA Budget Committee had a lengthy discussion about the Kansas Water Authority leadership and decision making on the Vision Implementation Funding. The Kansas Water Authority Budget Committee tasked the Kansas Water Office in coordination with other agencies with the goal of developing Project Sheets with detail to be included along with the Annual Report. The Kansas Water Office along with the other agencies will provided a comprehensive program analysis including program objectives, proposed activities, additional funding sources and consequences of not funding. Included in the detail would be RAC action plans, success stories and best management practice. Example project sheets are attached. If members of the KWA believe other information would be helpful in deciding prioritization of projects or for the members to better understand the proposal, those suggestions should be passed along to the Kansas Water Office.

Finally, the Committee discussed the need to coordinate a five year proposed budget with the Task Force recommendations. The Committee will work with the agencies to develop the budget and supporting documentation by the December KWA meeting. This will enable the KWA to address the overall budget and specifics that should be included within the annual report.

Vision Implementation

Water Conservation	FY2018	FY2019	FY2020	FY2021	FY2022
Strategic Education Plan	\$ 2,000,000	\$ 4,200,000	\$ 4,250,000	\$ 4,250,000	\$ 4,250,000
Watershed BMP Implementation	\$ 8,000,000	\$15,500,000	\$15,500,000	\$15,500,000	\$15,500,000
Streambank Stabilization	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
Construction of Watershed Dams	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Water Management					
Kansas River Stream Aquifer Model	\$ -	\$ 100,000	\$ 100,000	\$ 50,000	\$ -
Kansas River Alluvial Index Well Network	\$ 40,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Kanapolis Reallocation Feasibility Study	\$ 100,000	\$ 50,000	\$ -	\$ -	\$ -
Planning & Technical Assistance for PWS	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Technology and Crop					
Stream Gaging Network	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
LiDAR Aquisition	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
Bathymetric Surveys	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
Sediment Coring	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
In-stream Sediment Monitoring	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
Expand High Plains Index Well Network	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000	\$ 140,000
Less Water Intensive Crop Research	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000
Livestock Water Supply Research & Implementation	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
Extension Systems Ag Research Programs	\$ 1,000,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
Maintenance of hydrogeologic models	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Irrigation Technology Adoption	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
Additional Sources					
Identify additional reservoir sites & Feasibility	\$ -	\$ 200,000	\$ -	\$ -	\$ -
Model to Assess Chloride Remediation of Equus Beds	\$ 200,000	\$ -	\$ -	\$ -	\$ -
Expand models of aquifers containing brackish water	\$ -	\$ 30,000	\$ -	\$ -	\$ -
Research Treatment of Lower Quality Water	\$ 120,000	\$ 120,000	\$ -	\$ -	\$ -
Call into service storage at Milford and Perry	\$ 2,750,000	\$ 2,750,000	\$ 2,750,000	\$ 2,750,000	\$ 2,750,000
Construct MPSL reservoirs	\$ -	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000
Minimum Pool Agreements in the Solomon-Republican	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Sediment Removal	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000
Nitrate Removal/Remediation in PWS	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000
Projects to remediate brackish water	\$ 500,000	\$ 500,000	\$ 750,000	\$ 1,000,000	\$ 1,000,000
Demand Total	\$37,960,000	\$50,275,000	\$50,175,000	\$50,375,000	\$50,325,000
Estimated Revenue - Sales Tax	\$37,968,810	\$46,747,849	\$47,933,126	\$49,118,403	\$50,303,680
Remaining Balance	\$8,810	(\$3,527,151)	(\$2,241,874)	(\$1,256,597)	(\$21,320)

Education and Public Outreach

Program Objective

Many Phase I Action Items in the *Vision for the Future of Water Supply in Kansas* relate to education and outreach — critical aspects to creating a long-term commitment to the future of our state's water resource needs. The Education and Public Outreach Supplement has identified specific strategies to address each of the action items in the *Vision* which relate to water education across the state.

Proposed Activities

Develop and enhance a statewide marketing campaign to include brand recognition within our state's residential households.

- Conduct a statewide assessment of Kansans' knowledge and awareness of water resources.
- Develop a media plan and campaign message maps.

Establish a brand recognizable centralized website to serve as a source of statewide water-related resources and information for all Kansans.

- Collect and incorporate existing materials and resources.
- Include interactive user engagement opportunities.

Increase awareness and knowledge of Kansas youth on water-related issues through K-12 education and beyond-the-classroom opportunities.

- Coordinate collaboration between organizations currently involved in water education for youth.
- Develop a grant program to provide professional development, curriculum and resources.
- Provide recognition and awards.

Provide opportunities for Kansans of all ages to increase their awareness of local water issues.

- Hire a Community Outreach Specialist to coordinate community education opportunities.
- Develop a grant program to raise awareness and engage communities.
- Establish water conservation measures and targeted improvements for Regional Planning Areas.

Develop partnerships between industry, community, and educational institutions that will promote and train for water-related careers.

- Coordinate workshops and professional development opportunities.
- Develop a grant-sponsored internship/mentorship program.
- Collaborate with higher education institutions to analyze and improve water-related academic degree programs.

Additional Funding Sources

None.

Consequences of not funding

Education and public outreach is a critical component for long-term success of the *Vision* and will have a significant impact on changing the culture and conversation of the role of water in the state. Funding for the educational components of the *Vision* will support the overall success of all strategies across the *Vision* as a whole.

Watershed Dam Construction

Program Objective

Provides financial cost-share assistance to organized watershed districts, drainage districts or other special purpose districts - the program is driven by demands of reducing sedimentation above federal reservoirs with water supply component.

Created by the Legislature in 1977 for the construction of new flood control dams, a new chapter was created in 2006 for the rehabilitation of existing flood control dams.

Since FY 2012, DOC has also state cost-shared on the breach mapping of 17 flood control dams.

Proposed Activities

- Continue with needed rehabilitation projects as funds will allow. Current applications for rehabilitation projects are exceeding the available budgeted financial resources by more than 2 to 1.
- The DOC is currently working on the department qualification with the Corps of Engineers to hold third party easement for mitigation resulting from new construction of new flood control dams. The department qualification may help reduce the cost associated with acquiring a third party easement holder.
- The DOC is currently working as part of an interagency review team to develop recommendations for the COE to consider as part of the Kansas Stream Mitigation Guidelines review process.

Additional Funding Sources

- At least 30% of the costs are paid by local sponsors (watershed districts).

Consequences of not funding

Loss of life, infrastructure and farmland could occur if flood mitigation is not adequately addressed by dam construction / rehabilitation, and from failing to use inundation mapping of dam breach areas in planning.

Kanopolis Reallocation Feasibility Study

Program Objective

The Smoky Hill-Saline Regional Advisory Committee (RAC) has developed a draft action plan to help put in place a strategy to increase available water supply and water supply storage within the Smoky Hill-Saline Regional Planning Area. The desired outcome of implementation of this action plan is to ensure water supply available from reservoir storage exceeds demand by at least 10% through the year 2060. One of the action steps identified to help meet this outcome is pursuit of conservation pool rise efforts at Kanopolis Reservoir, a U.S. Army Corps of Engineers reservoir. Recent conversations have taken place between the Kansas Water Office and the U.S. Army Corps of Engineers, and feedback provided by the Corps indicates that proceeding forward with evaluation of reallocation at Kanopolis can occur. A reallocation feasibility study for Kanopolis will allow for the reallocation process to progress.

Proposed Activities

- Conduct meeting(s) to solicit public input on potential reallocation of flood pool to water supply storage at Kanopolis.
- Develop an updated water supply needs analysis.
- Perform lake elevation modeling using different pool raise scenarios.
- Develop a comprehensive list of alternative to reallocation of flood pool to water supply storage at Kanopolis.
- Conduct a detail evaluation of alternative sources of water supply of users of water supply from Kanopolis.
- Perform a detailed evaluation of potential impacts (technical, environmental, economic) of reallocation of flood pool to water supply storage from Kanopolis.
- Evaluate Kanopolis lake management options.

Additional Funding Sources

- U.S. Army Corps of Engineers

Consequences of not funding

- Efforts to secure additional water supply storage in Kanopolis Reservoir for regional use do not proceed forward.

Less Water Intensive Crop Varieties

Program Objective - Increase adoption of less water intensive crop varieties in Kansas.

Proposed Activities - The Vision identifies the following action items related to less water intensive crop research:

- Form a collaborative stakeholder team to set sorghum research priorities and develop research and funding strategy and present strategy to potential funding partners, including the Kansas Legislature
- Encourage state universities to expand engagement in development of teaching, research and extension programs related to less water intensive crop varieties
- Improve adoptability of feed wheat, along with other alternate crops, through marketing, commodity segregation, research and education
- Develop a strategy that supports research on the role of less water intensive forage and grasses such as triticale
- Provide needed research and education that leads to increased adoption of cover crops
- Evaluate profitability, prices and water use of alternative crops
- Support additional pesticide product and seed variety development that improves opportunities for cotton growth in Kansas
- Develop recommendations based on research related to corn and cotton rotation

Activities within this program area will work towards implementing these action items from the Vision and seek to integrate programmatic and research efforts focused on crops such as sorghum, cotton, and forage alternatives such as feed wheat and triticale.

Funding could be directed to, but is not limited to, the Great Plains Sorghum Improvement and Utilization Center, the Wheat Genetic and Genomic Resources Center, and to water conservation research and extension efforts in western Kansas.

Additional Funding Sources

Existing funding sources for the current level of research is provided through a mix of federal grants, private funds, and other state resources.

Consequences of not funding

Research in the area of less water intensive crops will continue to be a priority and some level of research activities will continue. However, the absence of enhanced funding may result in delays in identifying suitable hybrids and varieties to economically viable cropping choices for growers with access to limited water supply.

Extension specialists with knowledge of the Ogallala Aquifer and the on-the-ground experience with successfully growing the less water intensive crop varieties are already over-extended in demand.

Model to Assess Chloride Remediation of Equus Beds

Program Objective

Chloride contamination within the Equus Beds Aquifer resulting from previous oil field production has resulted in areas of groundwater which is unsuitable for most uses. Remediation of areas of high chloride concentrations within the Equus Beds would help generate an additional water supply source as well as help protect and prolong the useable lifespan of groundwater wells around areas of chloride contamination. Modeling efforts to assess potential chloride remediation activities within the Equus Beds will allow for selection of remediation activities which are most effective and efficient from a treatment and economic standpoint.

Proposed Activities

- Develop an inventory of known contamination sites within the Equus Beds Aquifer.
- Concurrent with development of contamination site inventory, identify data gaps associated with inventoried sites, this could include lack of definition regarding vertical or horizontal extent of contamination, concentration of contaminants or the source of contamination of an identified site.
- Prioritize sites for additional investigation utilizing development of prioritization criteria.
- Utilize and refine existing groundwater models to address site specific data needs associated with the performance of additional investigations.

Additional Funding Sources

- Equus Beds Groundwater Management District No. 2
- City of Wichita

Consequences of not funding

Progress will not take place or limited progress made towards:

- Completion of a remediation feasibility study for chloride remediation
- Completion of pilot studies to facilitate groundwater remediation feasibility
- Development of a process to address the contaminated sites within the Equus-Walnut Region

Drinking Water Protection Program

Program Objective

The objective of the Drinking Water Protection (DWP) program is ensure all Kansans have a source of clean, healthy, affordable drinking water by planning and implementing strategies to prevent and mitigate contamination.

Proposed Activities

Public Water Supplies (PWS) systems that show trends in increased nitrate or have occasionally violated the maximum contaminate level will be the focus of the DWP program. The process begins with an investigation of the drinking water source to identify potential and current contaminant sources, the operational history of the PWS, infrastructure evaluation, water quality data inventory, watershed and/or protection area land use assessment and other evaluations as needed. The results of the investigation will be evaluated and reviewed by a standing technical team of water resource experts to determine the best strategies for protection and restoration goals. The DWP plan is developed from the protection and restoration goals through scheduled actions steps. The actions steps or best management practices (BMPs) can include land use changes, behavior changes, information and education, and city/county ordinances. An implementation schedule, needed resources, targeted implementation area, and goal milestones are planned based on the BMPs.

The DWP process is locally driven for optimal participation. The PWS will gather local stakeholders, landowners, business owners, agency representatives, and other interested parties who will guide the planning, development, and implementation of the DWP plan. The Kansas Department of Health and Environment (KDHE) will facilitate the DWP process as well as provide technical support to the DWP local leadership team.

Additional Funding Sources

Limited technical assistance resources for the DWP process are provided through Safe Drinking Water act funding. These funds can be used for the investigation of the drinking water protection area. Other resources include planning technical assistance.

Consequences of not funding

No additional funding for the DWP program would prohibit the successful implementation of any developed DWP plans. The implementation of source water protection planning is a volunteer program with no current funding sources for the protection or restoration of Kansas PWS systems. Communities with nitrate contamination concerns and the potential of unaffordable treatment cost will greatly strain the ability to provide clean, safe drinking water as well as have negative economic consequences.