

MEMO



DATE: September 19, 2017
TO: Equus-Walnut RAC and Agency Advisors
FROM: Matt Unruh, Kansas Water Office
RE: September 21, 2017 Meeting

900 SW Jackson, Suite 404
Topeka, KS 66612
Phone: (785) 296-3185
Fax: (785) 296-0878
www.kwo.org

The next meeting of the Equus-Walnut Regional Advisory Committee (RAC) is scheduled for **10:00 am Thursday, September 21, 2017, at the Wichita Art Museum, 1400 W Museum Blvd, Wichita, Kansas.**

The main items of discussion at the meeting will focus on the Wichita ASR operations permit, El Dorado regional water supply planning summit, the lower quality water summit as well as the State of the Resource reports and meetings.

Enclosed please find:

- Agenda
- Press Release
- May 2017 Draft Meeting Notes

Please let me know if you cannot attend, or have any questions or concerns regarding the meeting please contact, me at matt.unruh@kwo.ks.gov; or toll-free at (888) KAN-WATE(R).

Equus-Walnut Regional Advisory Committee
10:00 a.m., September 21, 2017
Wichita Art Museum
1400 W Museum Blvd, Wichita, KS

DRAFT AGENDA

- 1. Welcome and Introductions**
- 2. Regional Advisory Committee (RAC) Approval of Agenda**
- 3. Regional Advisory Committee (RAC) Approval of May 2017 Meeting Notes**
- 4. Kansas Water Authority Report**
 - a. May Garden City Meeting
 - i. Message to the KWA – IPM Suspension
 - ii. RAC Updates
 - b. August Pittsburg Meeting
 - i. RAC Membership Appointments
 - ii. RAC Updates – Equus-Walnut included
 - iii. GMD Assessment Fee Proposed Legislation
- 5. Regional Activities**
 - a. City of Wichita ASR Operations Permit Update
 - b. El Dorado Regional Water Summit
 - c. Low Quality Water Joint RAC Meeting
 - d. State of the Resource Meeting and Report
- 6. Other Business**
 - a. Agency reports not previously discussed and public comments
 - b. Questions and Future Issues from Members
 - c. Messages to the Kansas Water Authority
 - d. Future Meetings:
 - i. Governor’s Water Conference:
 - November 8-9, 2017; Manhattan
 - ii. Kansas Water Authority:
 - October 10, 2017; McPherson
 - iii. Equus-Walnut RAC: TBD
- 7. Adjourn**

Note: underlined items are action items for RAC



900 SW Jackson Street
Topeka, KS 66612

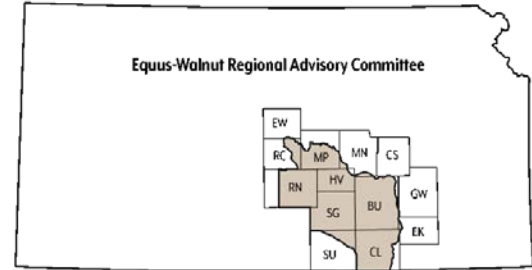
Tracy Streeter, Director

Phone: (785)-296-3185
Fax: (785)-296-0878
www.kwo.org

Sam Brownback, Governor

Meeting Notice:
September 12, 2017

For More Information:
Katie Patterson-Ingels
(785) 296-3185, katie.ingels@kwo.ks.gov



Equus-Walnut Regional Advisory Committee Meeting in Wichita *September 21, 10 a.m. at the Wichita Art Museum*

The Kansas Water Office's (KWO) Equus-Walnut Regional Advisory Committee (RAC) will hold a meeting to discuss current water issues affecting the basin as well as the state.

The meeting will be held Thursday, September 21 at 10 a.m., at the Wichita Art Museum, 1400 W Museum Blvd in Wichita, Kansas. The topics on the agenda will be the City of Wichita water resource planning, El Dorado Regional Water Summit and Lower Quality Water Summit. The State of the Resource reports will also be discussed at the meeting.

The agenda and meeting materials will be available at www.kwo.org or you may request copies by calling (785) 296-3185 or toll-free at (888) KAN-WATER (526-9283).

If accommodations are needed for a person with disabilities, please notify the Kansas Water Office at 900 SW Jackson Street, Suite 404, Topeka, KS 66611-1249 or call (785) 296-3185 at least five working days prior to the meeting.

Note to Editor: The Americans with Disabilities Act, (42 U.S.C. 12101) requires the Kansas Water Office to print the reasonable accommodations messages.

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As the state's water office, KWO conducts water planning, policy coordination and water marketing as well as facilitates public input throughout the state.

The agency prepares the KANSAS WATER PLAN, a plan for water resources development, management and conservation.



Equus-Walnut Regional Advisory Committee Meeting Notes

Equus-Walnut Regional Advisory Committee Meeting
1:00 p.m., May 11, 2017
BG Veterans Stadium
El Dorado, KS

Members Attendance:

Name	City	Category	Term	Present
Steve Hieger (Chair)	Wichita, KS	Industry/Commerce (cc)	2019	Yes
Roger Black	Arkansas, City, KS	Watershed Protection	2019	Yes
Kurt Bookout	El Dorado, KS	Public Water Supply 2	2017	Yes
Dan Haines	Leon, KS	Conservation/Environment 2	2019	Yes
Bob Seiler	Valley Center, KS	Groundwater Management	2019	No
Don Koci	Hutchinson, KS	Public Water Supply 3	2017	No
Jesse McCurry	Colwich, KS	Agriculture (cc)	2017	Yes
Brian Meier	Wichita, KS	Industry/Commerce 2	2017	Yes
Denise Middleton	Burden, KS	Agriculture 2	2019	Yes
Joseph Pajor	Wichita, KS	Public Water Supply (cc)	2019	No
Lewjene Schneider	Maize, KS	At Large Public (cc)	2017	Yes
Russell Tomevi	Winfield, KS	Integrated Planning	2019	Yes
Byron Warta	Newton, KS	Conservation/Environment (cc)	2017	Yes

Others in attendance:

Name	Affiliation
Sandy Koontz	Butler Co. Conservation District/El Dorado WRAPS
David Dillner	City of El Dorado
Vince Haines	City of El Dorado
David Bollenback	KCC
Cameron Conant	KDA - DWR
Calvin Kissick	Kansas Water Authority
John Bailey	Kansas Water Authority
Tim Boese	GMD 2
Ron Graber	KSU
Howard Miller	Cheney Lake Watershed
Isaac Broeckelman	Upper Timber/Grouse-Silver WRAPS
Mandy Stone	USGS
Julie Carey	US Army Corps of Engineers
Herb Graves	SAKW
Scott Satterthwaite	KDHE
Rich Basore	KDHE
Jeff Davidson	KSU/KCARE
Sarah Green	Public
Matt Unruh	KWO

Membership: Steve Hieger, Chair, Wichita, KS; Roger Black, Arkansas City, KS; Kurt Bookout, El Dorado, KS; Dan Haines, Leon, KS; Don Koci, Hutchinson, KS; Jesse McCurry, Colwich, KS; Denise Middleton, Burden, KS; Joe Pajor, Wichita, KS; Lewjene Schneider, Maize, KS; Bob Seiler, Valley Center, KS; Russell Tomevi, Winfield, KS; Byron Warta, Newton, KS;
KWO Planner: Matt Unruh, 785-296-3185; matt.unruh@kwo.ks.gov

1. **Welcome and Introductions:** Chair Steve Hieger welcomed those in attendance to the meeting. Everyone present provided introductions of themselves.
2. **Approval of Agenda:** Russ made the motion to approve the meeting agenda as presented, second provided by Byron Warta. Motion carried unanimously.
3. **Approval of February 2017 Meeting Notes:** Jesse McCurry made the motion to approve the February 2017 meeting notes, second provided by Brian Meier. Motion carried unanimously.
4. **Regional Activities**
 - a. Regional Goal Action Plan Discussion:
 - i. Members of the RAC discussed prioritization of Action Plan action items as a next step in the overall Action Plan implementation process. Results of a survey which RAC members participated in was shared at the meeting. This survey looked at each action step within the Regional Goal Action Plans and a score was assigned for that particular action step, with 5 being a high priority action step and 1 being a low priority action step. Survey results are included within attachment 1.
 - b. Low Quality Water Joint RAC Meeting:
 - i. Members of the RAC discussed the opportunity for a multi-RAC meeting on the topic of lower quality water in central Kansas. Agency representatives as well as members of the Red Hills, Great Bend Prairie, Equus-Walnut and Smoky Hill-Saline RACs would be invited to attend and discuss lower quality water and sources of contamination within central Kansas, current programs and resources available to address these areas of concern, and what the next steps for the RACs might be as action plans look to be implemented to address these issues. Overall, the Equus-Walnut RAC thought the opportunity for collaboration among the RACs was good.
5. **Other Business**
 - a. Agency reports on items not previously discussed & public comments:
 - i. Tim Boese (GMD2): Provided an update on proposed modifications to the City of Nickerson's waste water treatment lagoons. Tim provided a handout to which provided background information regarding GMD2's opposition to this modification and these materials are included within attachment 2.
 - ii. Cameron Conant (KDA-DWR) provided the following update:

Within the Equus-Walnut Region - DWR continues discussions with the City of Wichita in regard to their ASR project and how its permit conditions can be revised to meet the City's current objectives for the project in a manner that protects the public interest. We certainly hope to engaged the GMD and a broader group of stakeholders in the near future. We are having to focus on some technical issues before mid-June when one of my key staff members involved in the project retires.

Statewide rules – We have two upcoming hearings on amendments to our statewide rules. Those wishing to testify can participate at our Manhattan office or any of our field offices. Notice of the hearings and proposed changes are/will be posted on KDA's web site.

- May 22 at 10 will be a hearing on K.A.R 5-14-10 and 5-14-12 related to civil penalties for pumping more water than authorized
- July 27 at 10 will be a hearing on the following:
- K.A.R. 5-14-11, civil fines related to non-reporting of wateruse
- K.A.R. 5-5-9, 5-5-10 and 5-5-16, consumptive use in conversions from irrigation to another use.

Elsewhere:

- Quivira National Wildlife Refuge impairment complaint. GMD No. 5 made a second offer to resolve the impairment during January. The U.S. Fish and Wildlife responded during April that the offer was insufficient, with specific comments on needed reforms. Discussions continue.
- Hays change applications – DWR continues to review changes applications which would allow the City of Hays to change irrigation water rights on the R-9 Ranch south of Kinsley purchased by the City in 1993 to municipal use. We are drafting the proposed order for the change approvals. We will allow GMD 5 and area stakeholder to provide comments on the proposed approval. The water transfer process will also be required after contingent approval of the change applications.
- Local Enhanced Management Plans (LEMA)
 - o Northwest Kansas GMD No 4 has requested the Sheridan 6 LEMA be extended for another 5 years under the same terms, except for some carryover of unused allocations from the first 5 years. The hearing will be on May 31 in Hoxie. More on KDA's web site.
 - o Northwest Kansas GMD No 4 has also requested a new District-wide LEMA that is current under review by DWR. More on KDA's web site.
 - o A group of water users just northwest of Garden City in northern Kearney and Finney County are developing a LEMA proposal for their area. They have held two public meetings and are meeting monthly with GMD No. 3.
- b. Questions and Future Issues from Members: None provided
- c. Messages to the Kansas Water Authority: A motion was made by Denise Middleton and seconded by LewJene Schneider to pass along the following message to the KWA:

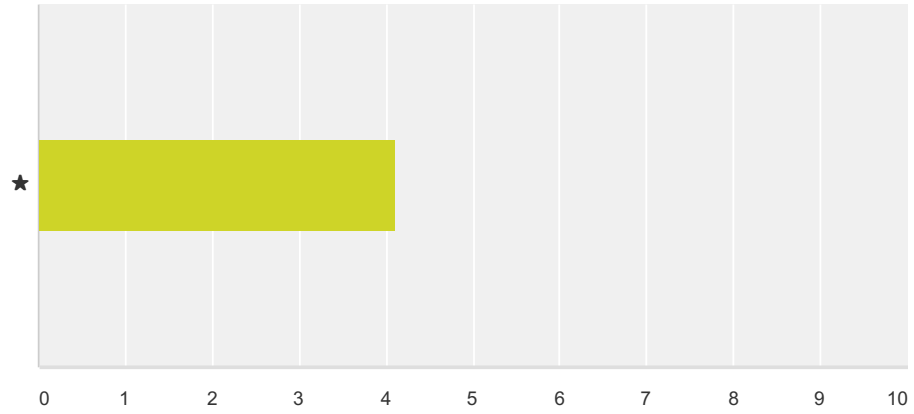
The Equus-Walnut RAC supports the one time suspension of the IPM relating to RAC chair term limits.

Motion carried unanimously.

6. **Adjourn:** Meeting adjourned at 3:48 pm.

Q1 Goal 1: Complete expansion of existing USGS Equus Beds MODFLOW Model to cover all of GMD2

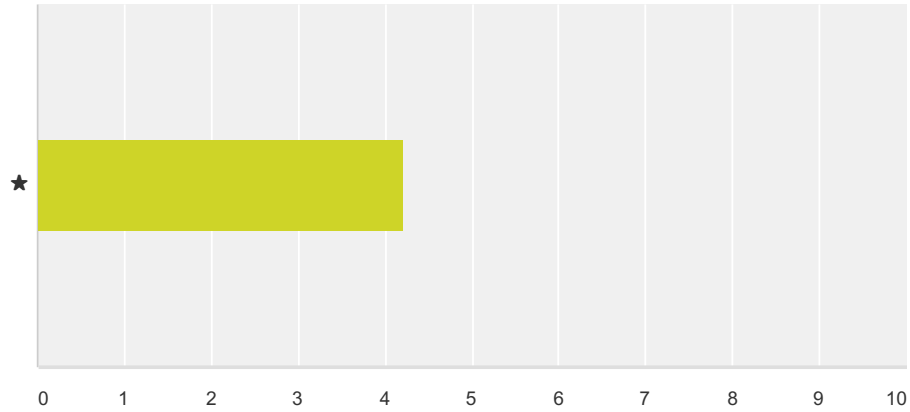
Answered: 9 Skipped: 0



	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	11.11% 1	0.00% 0	11.11% 1	22.22% 2	55.56% 5	9	4.11

Q2 Goal 1: Continue to encourage communication and collaboration between all responsible agencies and organizations tasked to implement this action.

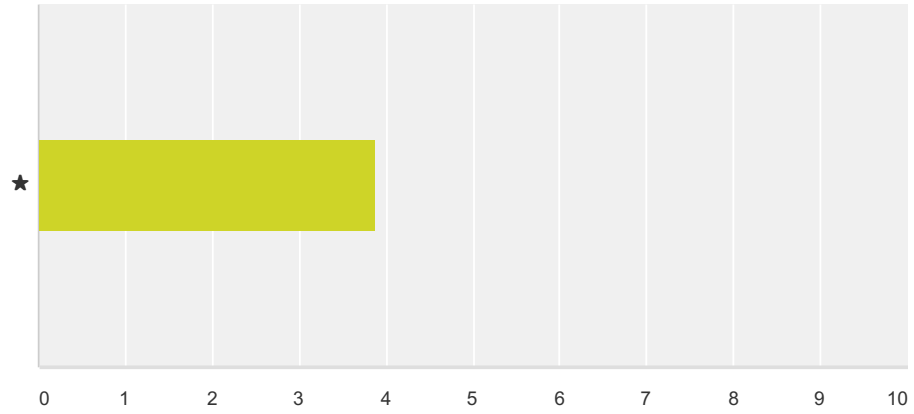
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	0.00% 0	0.00% 0	11.11% 1	55.56% 5	33.33% 3	9	4.22

Q3 Goal 1: Utilize modeling results to inventory areas of over-appropriation or within the Equus Beds Aquifer.

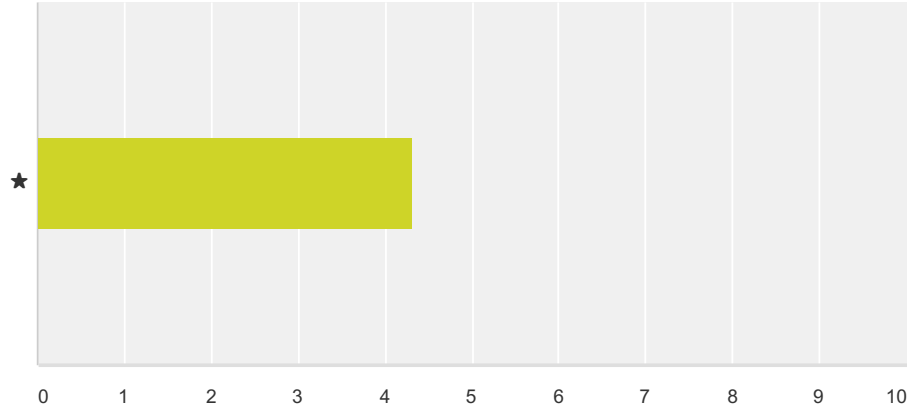
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	11.11% 1	0.00% 0	22.22% 2	22.22% 2	44.44% 4	9	3.89

Q4 Goal 1: Consider implementation of management strategies for over-appropriated areas identified by model within the Equus-Walnut Region.

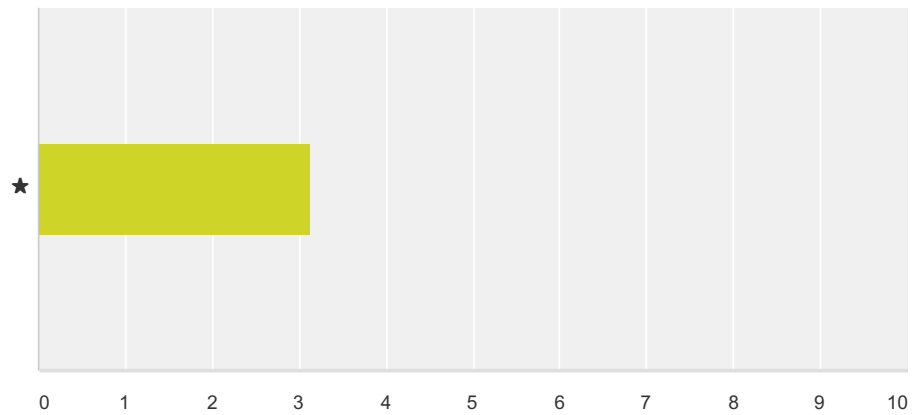
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	1	2	3	4	5	Total	Weighted Average
★	0.00% 0	0.00% 0	33.33% 3	0.00% 0	66.67% 6	9	4.33

Q5 Goal 2: The Kansas Water Office (KWO) will coordinate with the Kansas Department of Health & Environment (KDHE) -Bureau of Water and Kansas Department of Agriculture - Division of Water Resources (DWR) on a database of all public water suppliers within the Equus-Walnut Regional Advisory Committee (RAC) that includes contact information and chief responsible staff person and chief governance person for each supplier by December 31, 2016.

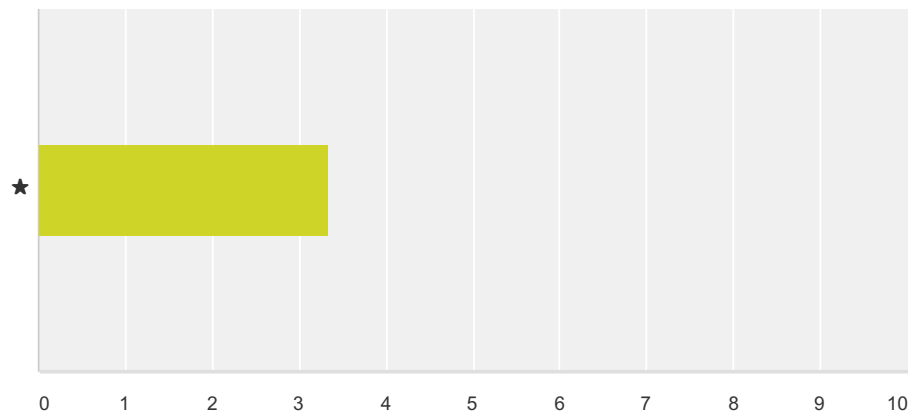
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	1	2	3	4	5	Total	Weighted Average
★	25.00% 2	0.00% 0	25.00% 2	37.50% 3	12.50% 1	8	3.13

Q6 Goal 2: The KWO will develop a survey document to ascertain the current state, practice, and plans of each public water supplier as to their long term water supply plan, including their consideration of non-potable water and existing water supplies by March 31, 2017. The results of this survey document will be made available to each public water supplier within the Equus-Walnut Planning Region.

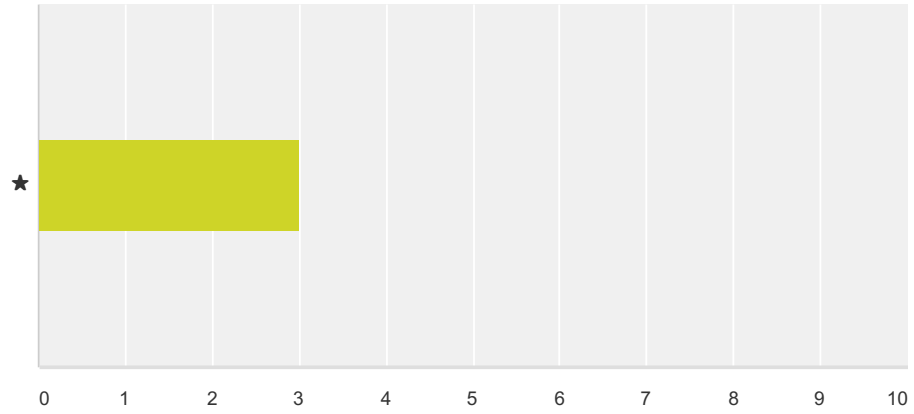
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	22.22% 2	11.11% 1	33.33% 3	22.22% 2	9	3.33

Q7 Goal 2: The KWO will communicate the planning survey to each public water supplier by June 30, 2017.

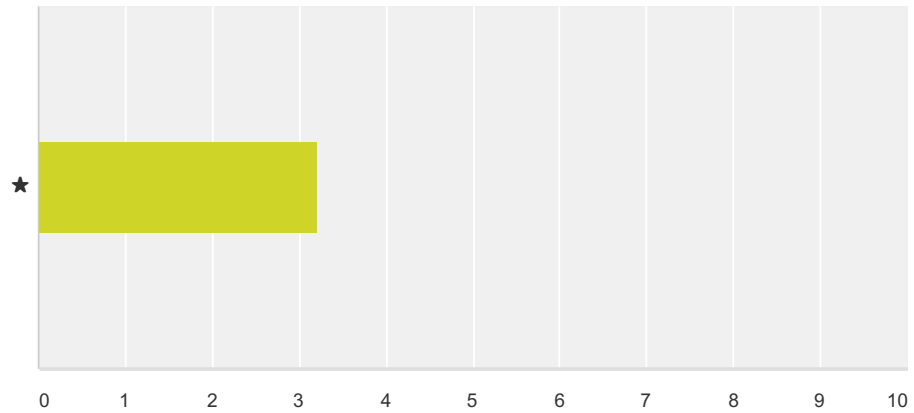
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	22.22% 2	0.00% 0	44.44% 4	11.11% 1	9	3.00

Q8 Goal 2: The RAC will work with the KWO to prepare a report to the Kansas Water Authority (KWA) that conveys the results of the survey and identifies any further actions that may be necessary in pursuit of the goal.

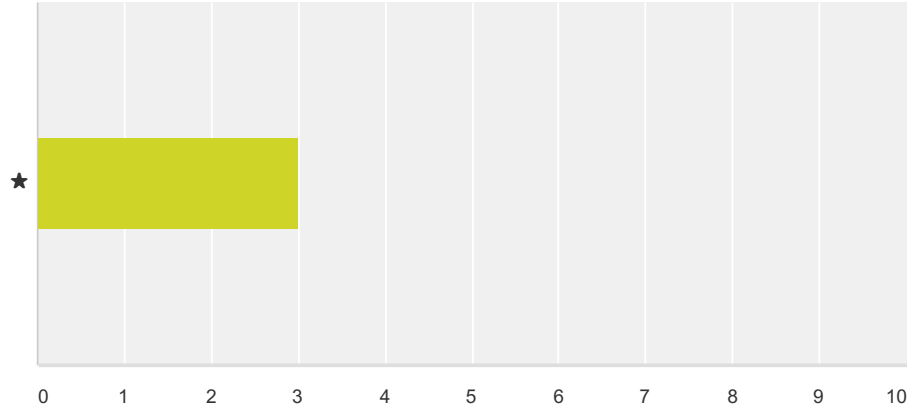
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	11.11% 1	11.11% 1	33.33% 3	22.22% 2	9	3.22

Q9 Goal 2: KWA will establish a 5-year frequency for submitting updated water plans by year end 2017

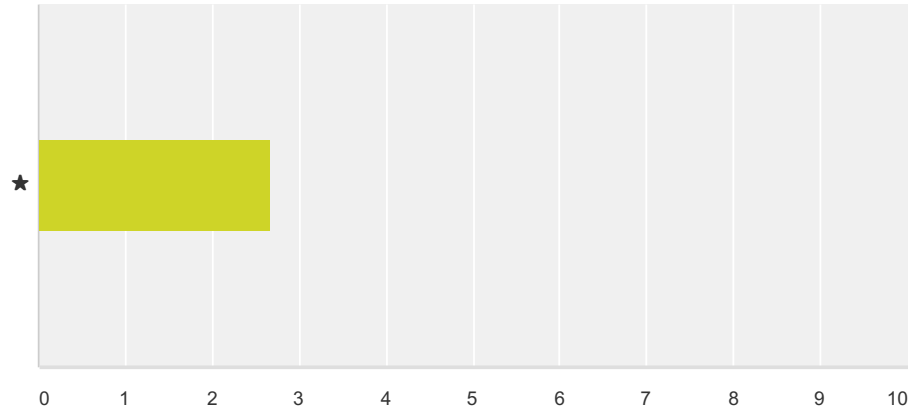
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	1	2	3	4	5	Total	Weighted Average
★	0.00% 0	33.33% 3	33.33% 3	33.33% 3	0.00% 0	9	3.00

Q10 Goal 2: Promote a regulatory framework for the use of graywater both on-site and off-site.

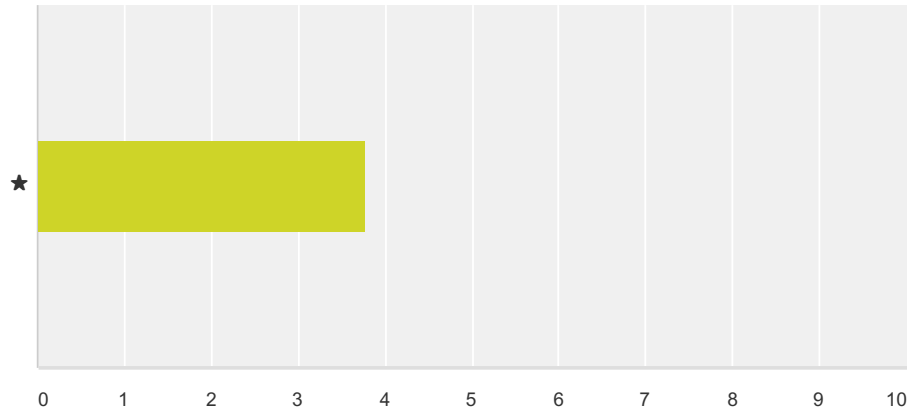
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	1	2	3	4	5	Total	Weighted Average
★	33.33% 3	0.00% 0	33.33% 3	33.33% 3	0.00% 0	9	2.67

Q11 Goal 2: Regulations governing the use of surface water and groundwater by water suppliers will be reviewed by the KWA to prioritize, depending upon local conditions, the use of excess surface water before ground water by 2018. Incentives and regulations should be in alignment with water resource conservation philosophy.

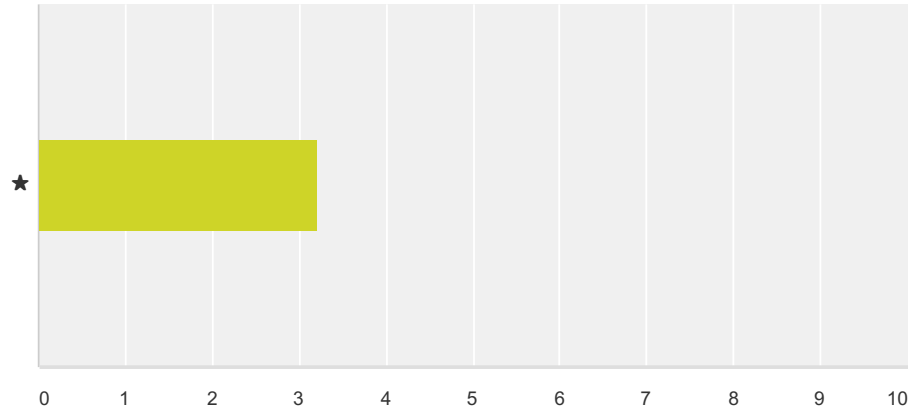
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	0.00% 0	44.44% 4	33.33% 3	9	3.78

Q12 Goal 2: The Equus-Walnut RAC, in conjunction with the KWA, will develop an over-arching water resource conservation strategy that prioritizes how water resources will be allocated.

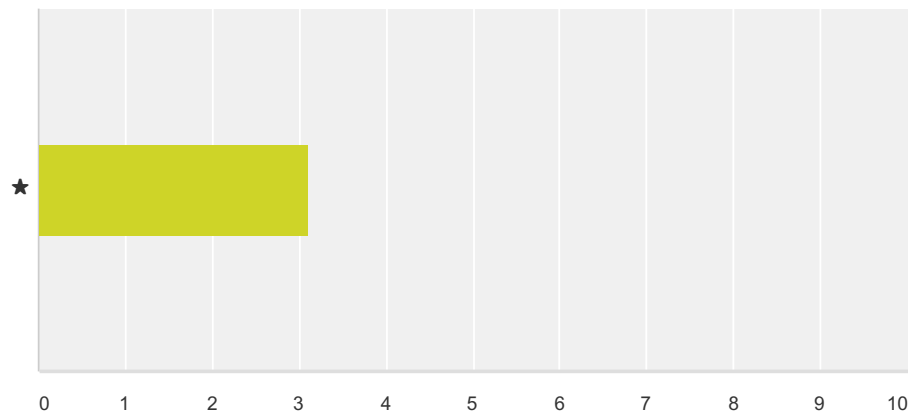
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	22.22% 2	55.56% 5	0.00% 0	9	3.22

Q13 Goal 3 & 4: Identify market based funding sources.

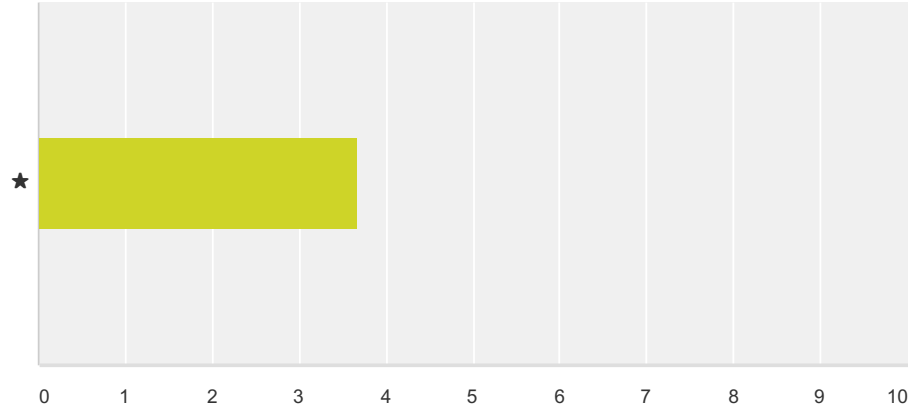
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	55.56% 5	0.00% 0	22.22% 2	9	3.11

Q14 Goal 3 & 4: Increase Information & Education activities which keep in mind human nature.

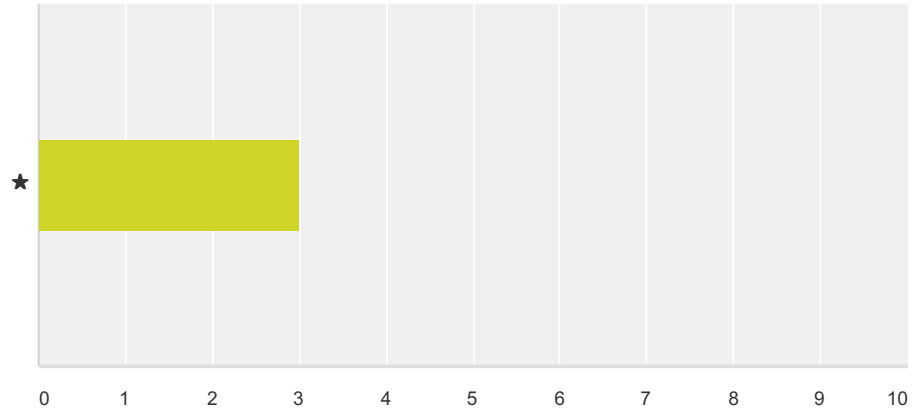
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	1	2	3	4	5	Total	Weighted Average
★	0.00% 0	11.11% 1	33.33% 3	33.33% 3	22.22% 2	9	3.67

Q15 Goal 3 & 4: Reestablish a Kansas buffer initiative program.

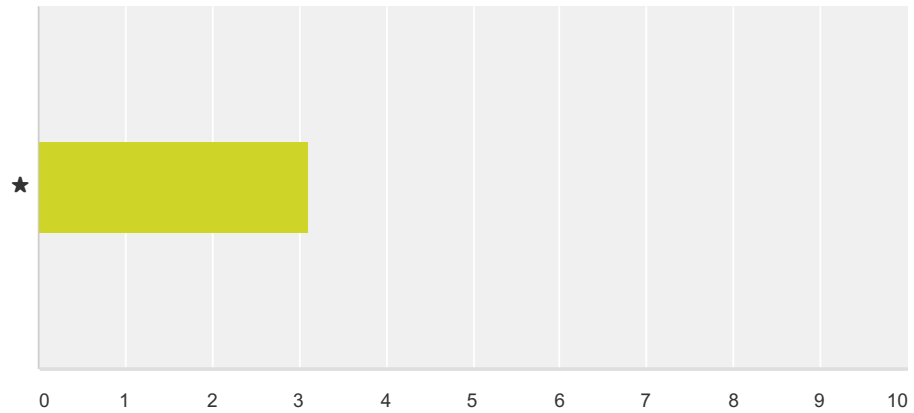
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	11.11% 1	33.33% 3	11.11% 1	22.22% 2	9	3.00

Q16 Goal 3 & 4: Property owners should be compensated for use of their property for implementation of BMPs through existing or enhanced conservation programs. Discourage shot gun approach to BMP implementation.

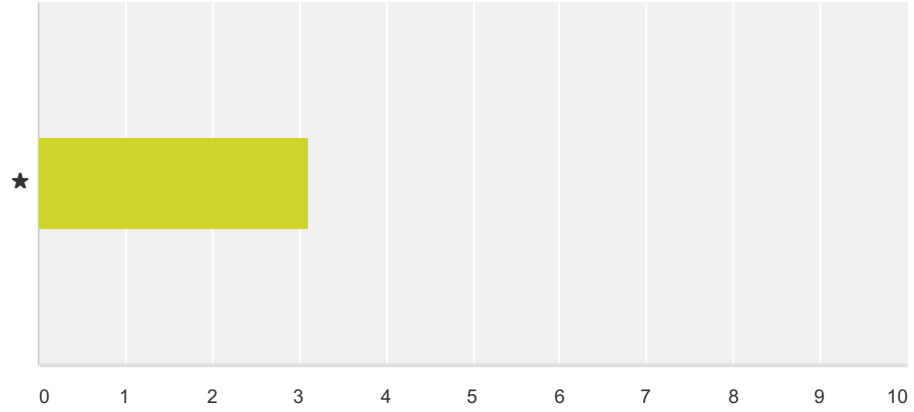
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	33.33% 3	11.11% 1	22.22% 2	22.22% 2	9	3.11

Q17 Goal 3 & 4: Maintenance payments for upkeep of conservation practices beyond their contract life.

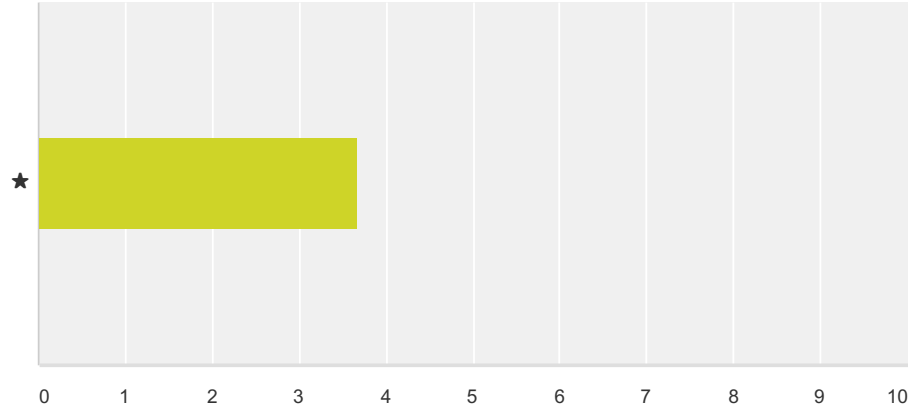
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	33.33% 3	11.11% 1	22.22% 2	22.22% 2	9	3.11

Q18 Goal 3 & 4: Conservation Farms demonstrating practices which reduce sediment runoff.

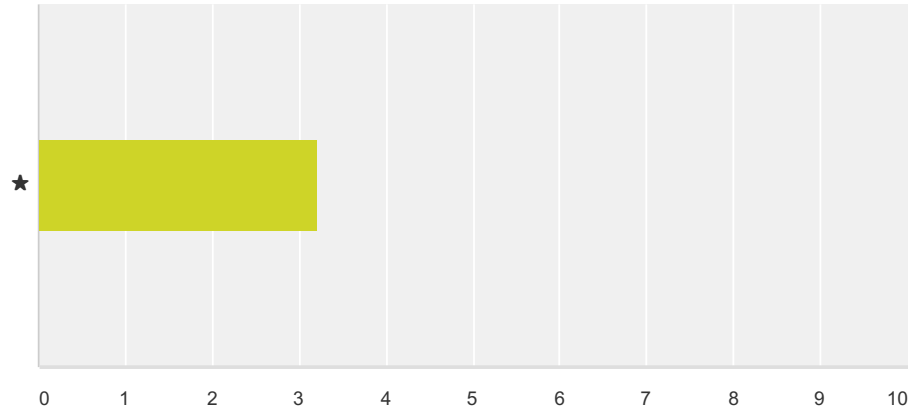
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	0.00% 0	33.33% 3	22.22% 2	33.33% 3	9	3.67

Q19 Goal 3 & 4: Let Corps of Engineers (COE) Water Storage Contract Holders use Operations & Maintenance (O&M) money for watershed practices to help reduce sedimentation.

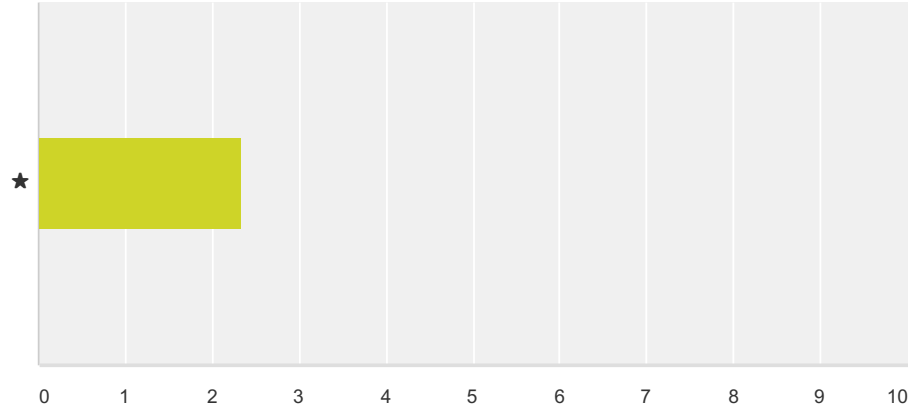
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	0.00% 0	33.33% 3	22.22% 2	22.22% 2	9	3.22

Q20 Goal 3 & 4: Add additional fees to water bills to be used for BMP implementation in watersheds.

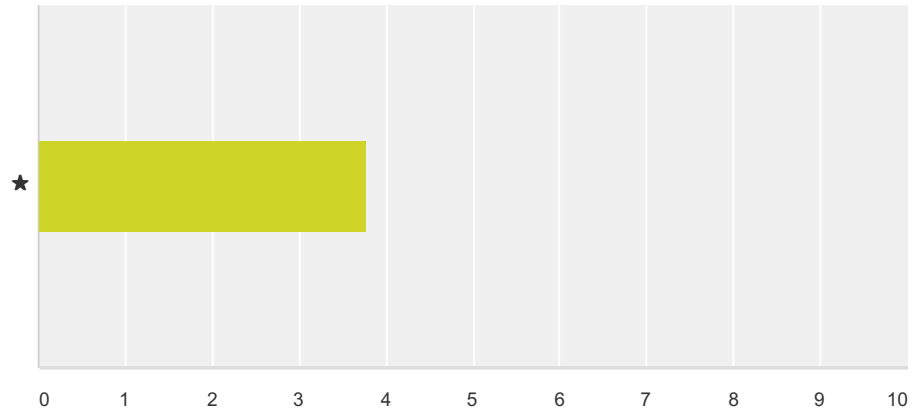
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	1	2	3	4	5	Total	Weighted Average
★	44.44% 4	11.11% 1	22.22% 2	11.11% 1	11.11% 1	9	2.33

Q21 Goal 3 & 4: Increase partnership between Natural Resource Conservation Service (NRCS), Kansas Department of Health and Environment (KDHE), Kansas Department of Agriculture - Division of Conservation & K-State Research & Extension (KSRE) to improve efficiency of BMP implementation.

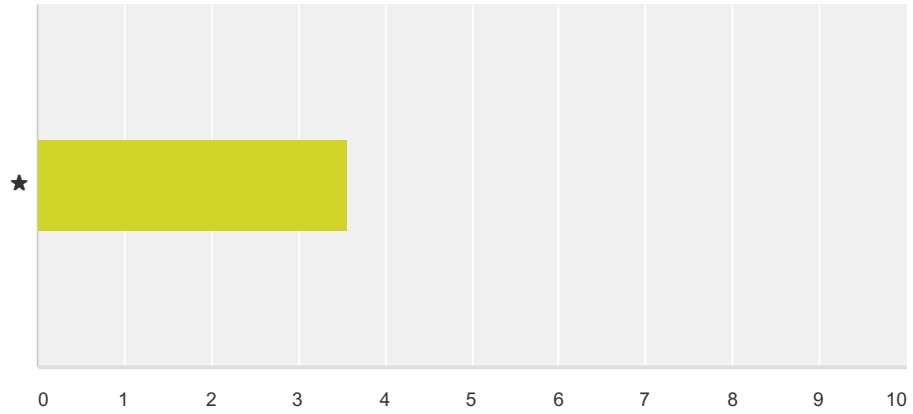
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	1	2	3	4	5	Total	Weighted Average
★	0.00% 0	11.11% 1	22.22% 2	44.44% 4	22.22% 2	9	3.78

Q22 Goal 3 & 4: Determine/define high priority areas. *Establish a "Streambank Stabilization Initiative" for priority areas.

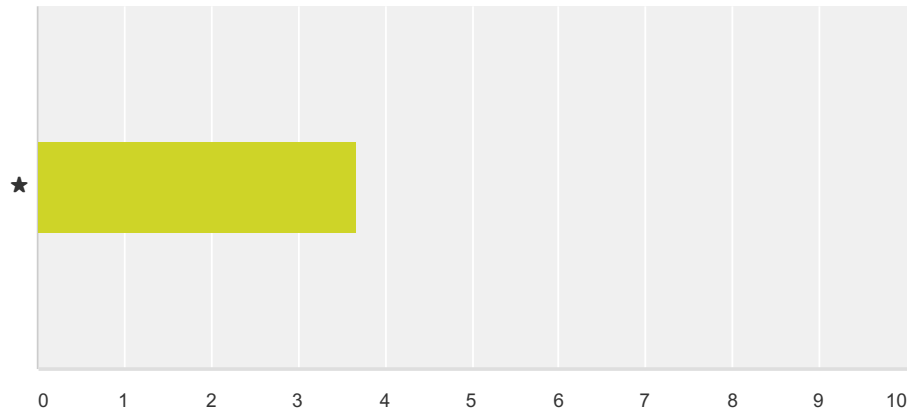
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	11.11% 1	44.44% 4	22.22% 2	9	3.56

Q23 Goal 3 & 4: Continue to focus on BMPs as highlighted within Watershed Restoration and Protection Strategies (WRAPS) 9 Element Watershed Plans as well as streambank stabilization and erosion control dams.

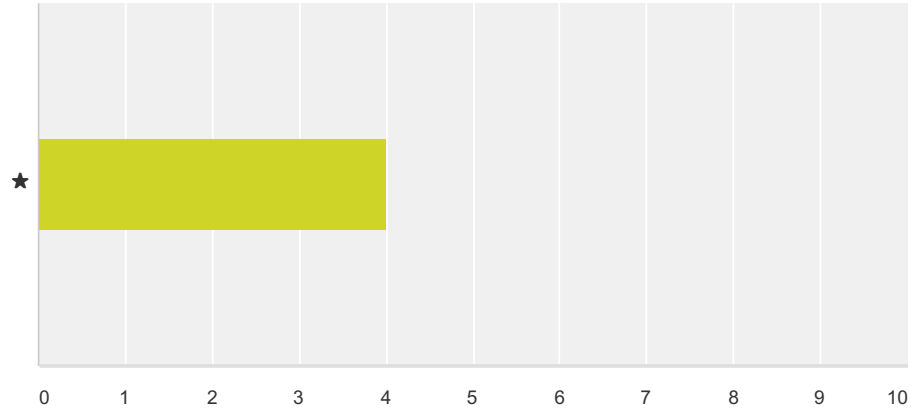
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	11.11% 1	33.33% 3	33.33% 3	9	3.67

Q24 Goal 3 & 4: Ensure revisions to WRAPS 9-Element Watershed Plans covering areas above regional water supply reservoirs to implement best management practices which lead to regional reservoir storage capacity for an additional 100 years beyond the design life.

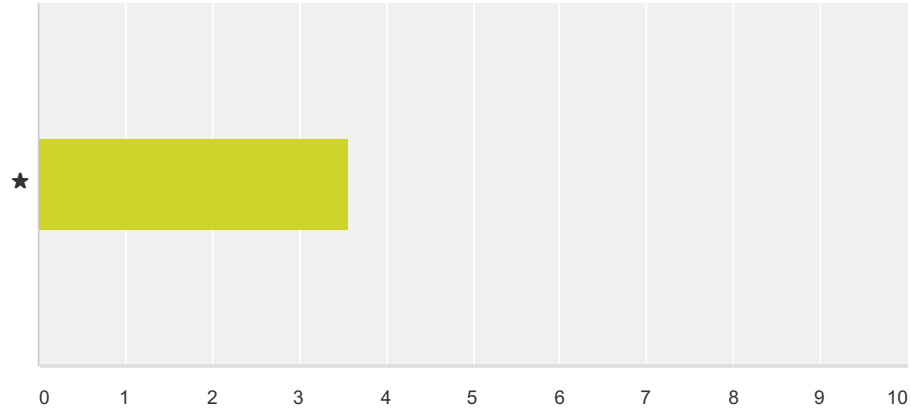
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	1	2	3	4	5	Total	Weighted Average
★	0.00% 0	22.22% 2	11.11% 1	11.11% 1	55.56% 5	9	4.00

Q25 Goal 3 & 4: Conduct sediment source analysis within watersheds above regional water supply reservoirs. Results of this analysis can lead to modifications of BMP implementation types (i.e. streambank stabilization or cropland/upland areas of focus).

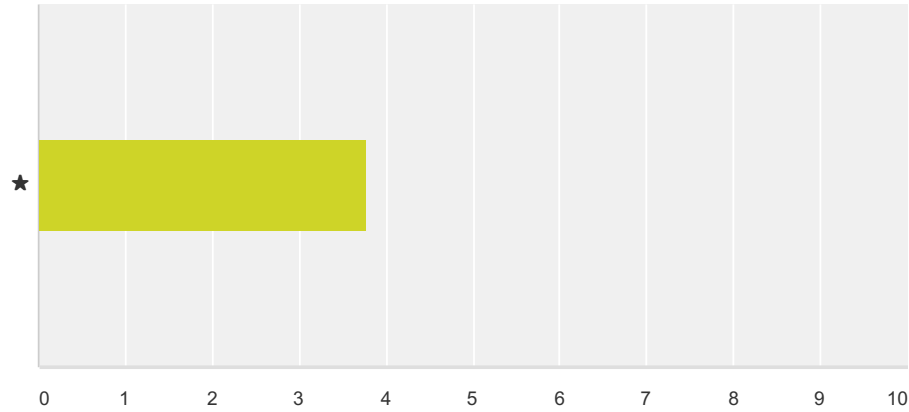
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	0.00% 0	11.11% 1	33.33% 3	33.33% 3	9	3.56

Q26 Goal 5: Develop an inventory of known contamination sites within the Equus Beds Aquifer. ⚡ *GMD2 to lead effort, anticipated completion by 12/2017

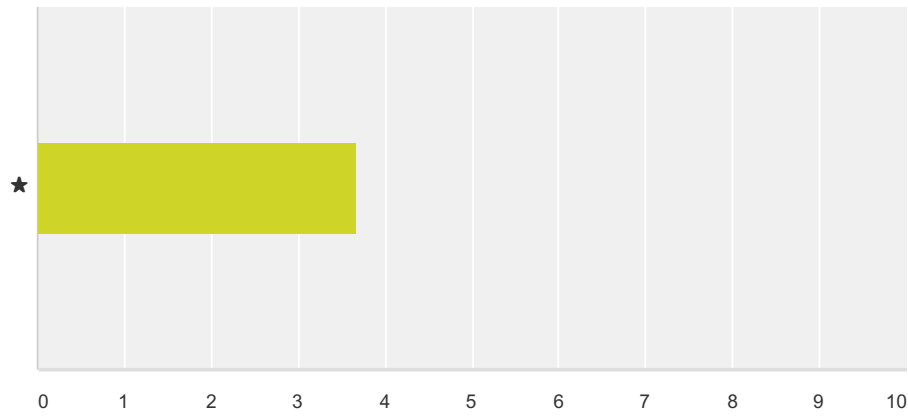
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	0.00% 0	44.44% 4	33.33% 3	9	3.78

Q27 Goal 5: 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. ⚡
***GMD2 to lead effort alongside collaboration with KCC and KDHE.**

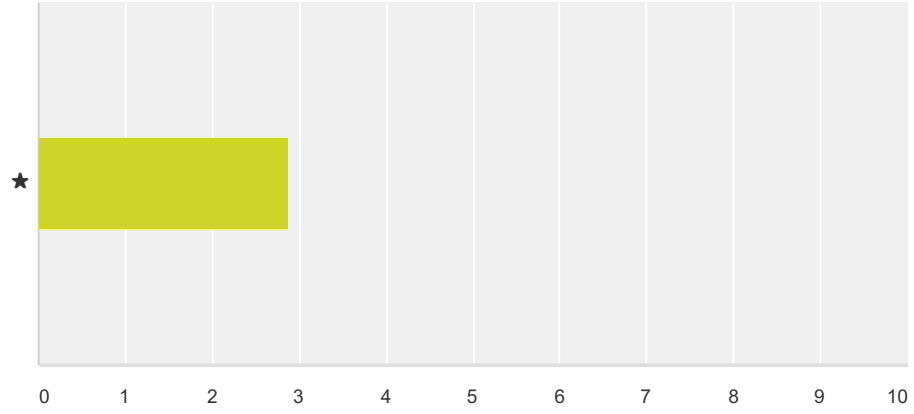
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	11.11% 1	33.33% 3	33.33% 3	9	3.67

Q28 Goal 5: Prioritize sites for additional investigation utilizing development of prioritization criteria.

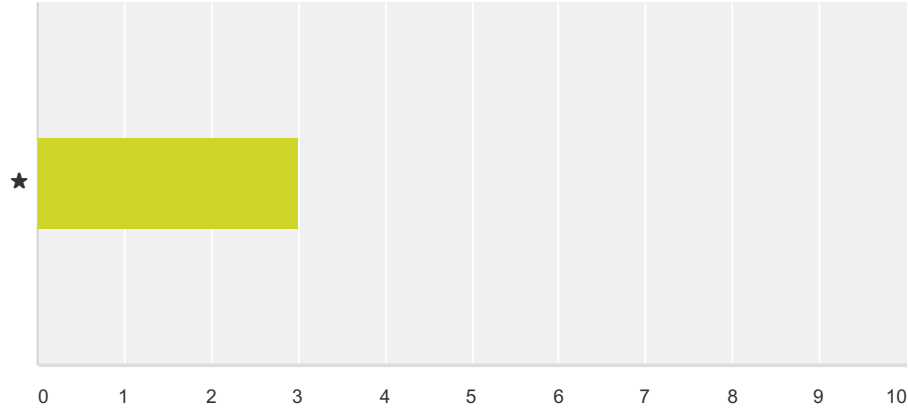
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	0.00% 0	44.44% 4	33.33% 3	0.00% 0	9	2.89

Q29 Goal 5: Utilize and refine existing groundwater models to address site specific data needs associated with the performance of additional investigations.

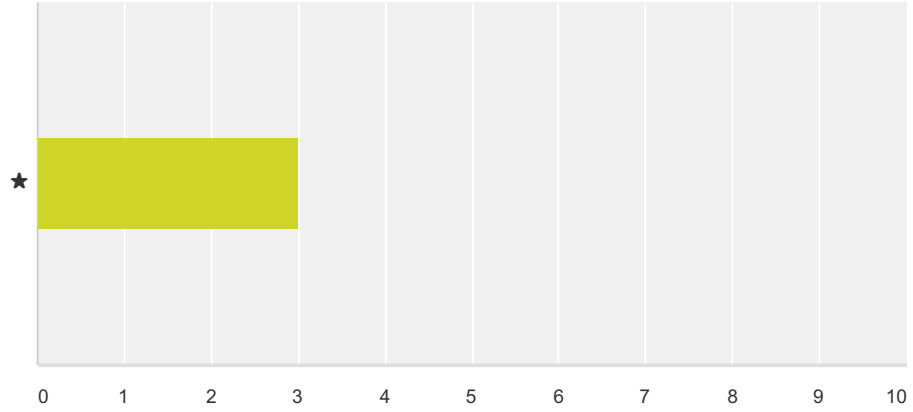
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	44.44% 4	33.33% 3	0.00% 0	9	3.00

Q30 Goal 5: Install additional monitoring wells and piezometers as necessary to collect data where needs are identified.

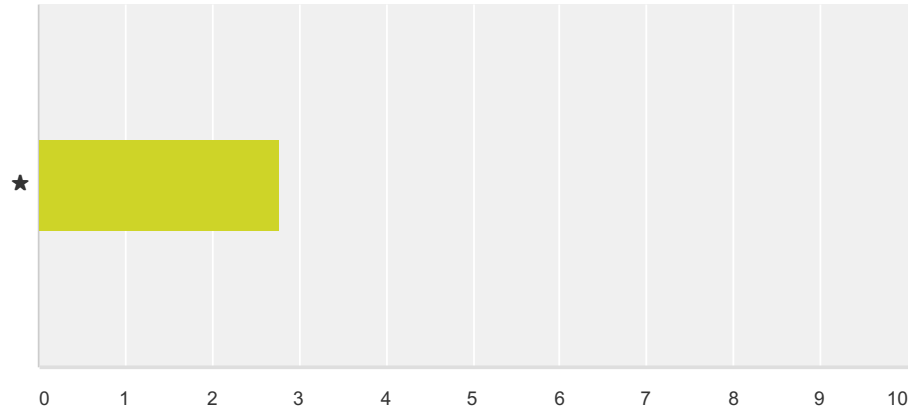
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	11.11% 1	22.22% 2	33.33% 3	11.11% 1	9	3.00

Q31 Goal 5: Complete a remediation feasibility study for the top three prioritized sites.

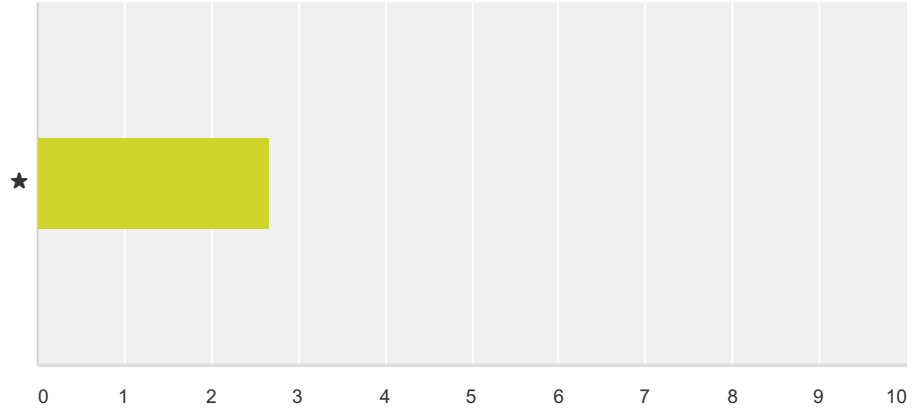
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	22.22% 2	44.44% 4	22.22% 2	0.00% 0	9	2.78

Q32 Goal 5: Complete pilot studies as required to facilitate groundwater remediation feasibility.

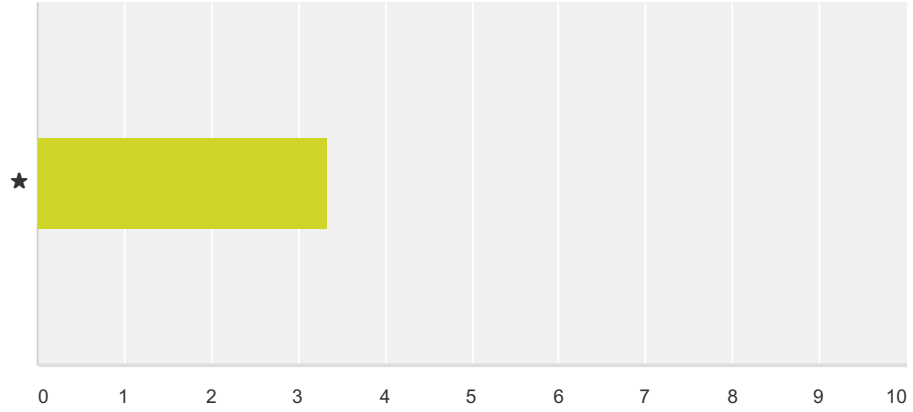
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	33.33% 3	33.33% 3	22.22% 2	0.00% 0	9	2.67

Q33 Goal 5: Develop a process to address the contaminated sites within the Equus-Walnut Region.

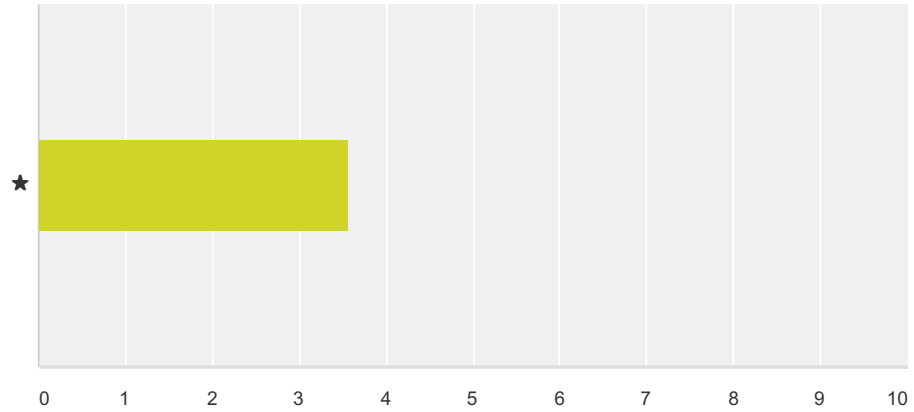
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	0.00% 0	22.22% 2	33.33% 3	22.22% 2	9	3.33

Q34 Goal 6: Preserve water resources and coordinate programs to develop less water-intensive crops. ⚡ *Develop 4 water demonstration farms which compare multiple less water intensive crops.

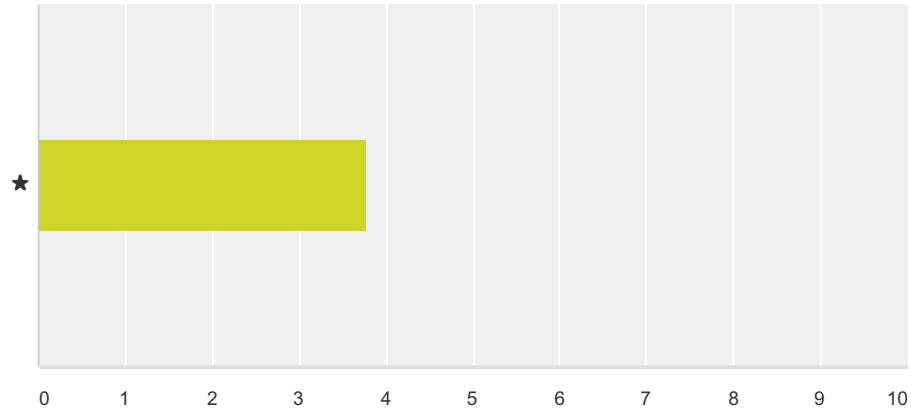
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	0.00% 0	33.33% 3	33.33% 3	22.22% 2	9	3.56

Q35 Goal 6: Coordinate public/private research and development for development of viable drought tolerant crops. *Invest in Center for Sorghum Improvement.

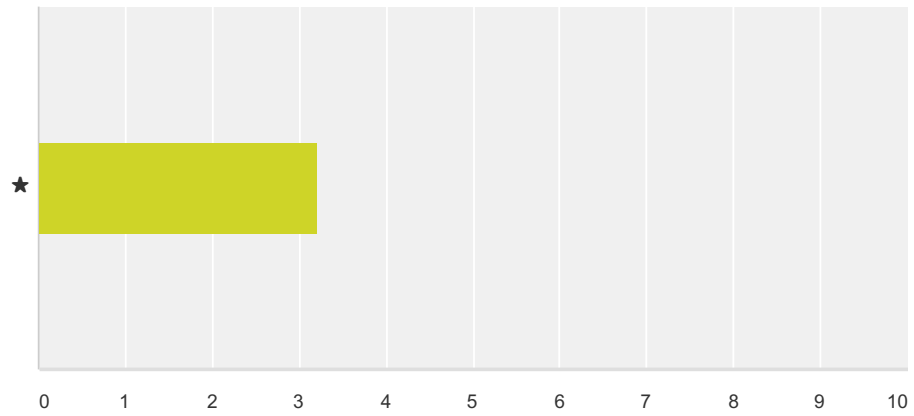
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	0.00% 0	22.22% 2	33.33% 3	33.33% 3	9	3.78

Q36 Goal 6: Identification and development of markets for alternative crops.

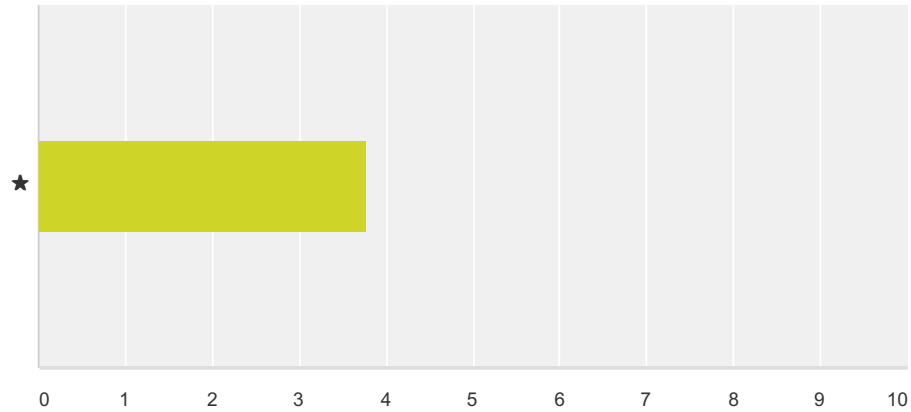
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	33.33% 3	33.33% 3	11.11% 1	9	3.22

Q37 Goal 6: Establish a technology farm within the Equus-Walnut Region where no-till, cover cropping systems and a rangeland management program can be evaluated. Rely on expertise of state and local experts to identify an appropriate location for technology farm within the Equus-Walnut Region.

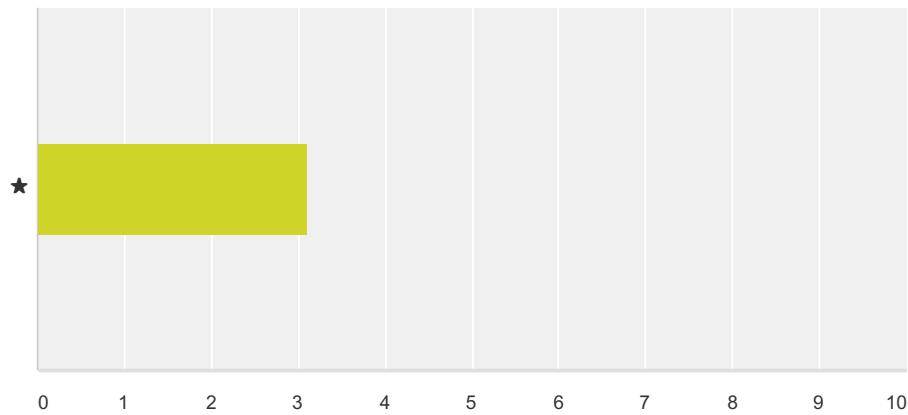
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★	11.11% 1	0.00% 0	22.22% 2	33.33% 3	33.33% 3	9	3.78

Q38 Goal 6: Provide and support workshops and field days starting in February/March 2017 in advance of annual burn season for fire management of invasive vegetation for improved rangeland management. *Outcome of these efforts and previously mentioned technology farm would be improved soil health, improved moisture holding capacity of soils, and increased groundwater recharge potential through increased education and awareness area residence

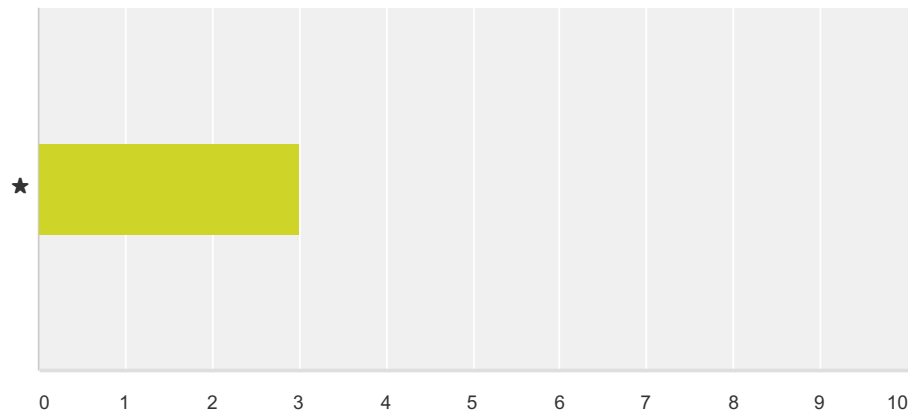
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	1	2	3	4	5	Total	Weighted Average
★	11.11% 1	11.11% 1	44.44% 4	22.22% 2	11.11% 1	9	3.11

Q39 Goal 7: The RAC will discuss the regional vs. statewide nature of this goal. If this discussion supports pursuing the goal on an Equus-Walnut RAC basis that will dictate a significantly different approach to outreach than if it becomes statewide in scope. This process needs to be completed before any further development of an action plan for this goal. Place this question on the May Equus-Walnut RAC meeting agenda for discussion and possible message to the KWA.

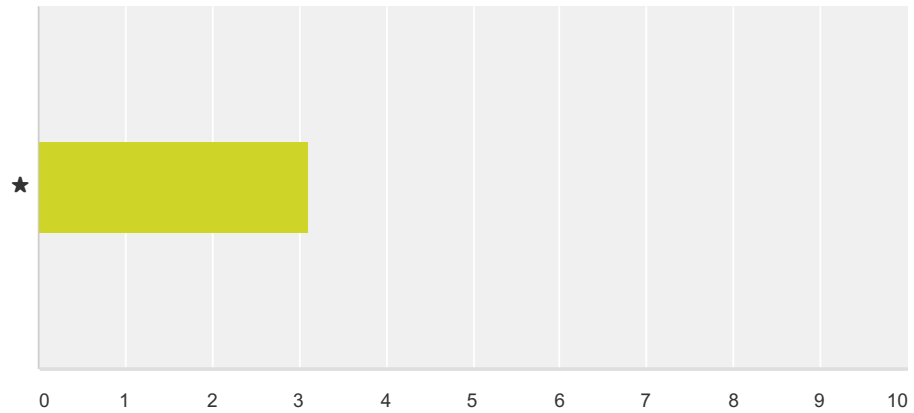
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	1	2	3	4	5	Total	Weighted Average
★	22.22% 2	0.00% 0	44.44% 4	22.22% 2	11.11% 1	9	3.00

Q40 Goal 7: By Q1 2017, identify a comprehensive list of major water users in each of the three categories (municipal, commercial, and industrial) for the RAC. Will need to decide on how small to go on commercial users.

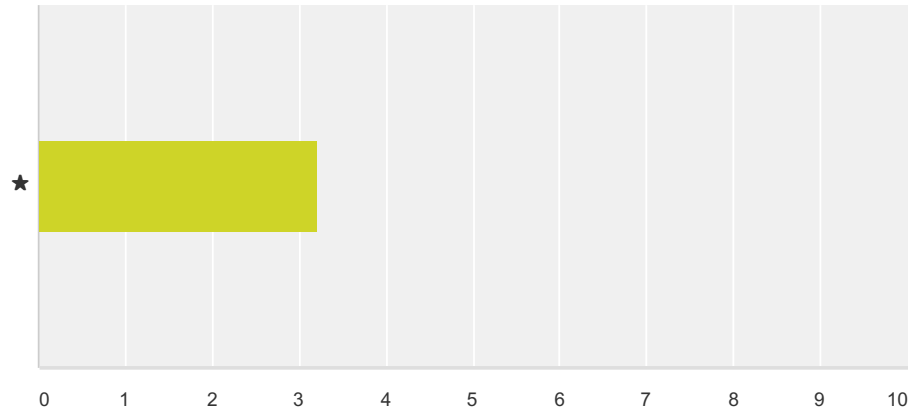
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	11.11% 1	11.11% 1	44.44% 4	22.22% 2	11.11% 1	9	3.11

Q41 Goal 7: Communicate with all of the targeted entities in each category to determine if they would be willing to attend a "brainstorming session" on the goal and how it might be effectively and efficiently implemented. Consider as a special session during the annual Governor's Water Conference in November 2017.

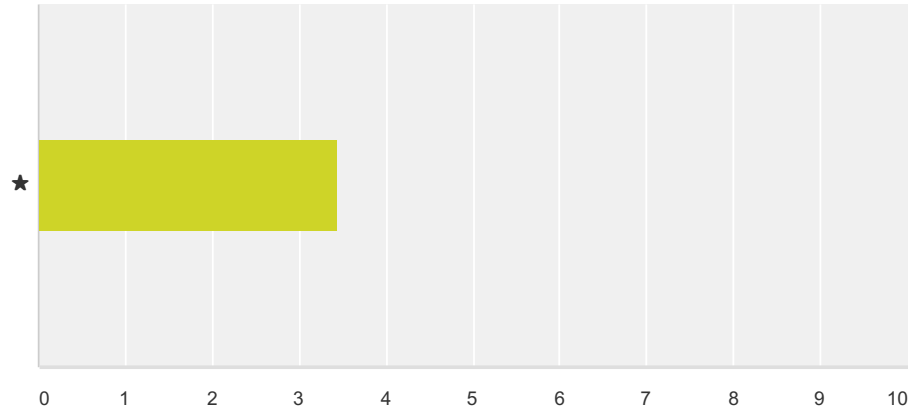
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	0.00% 0	11.11% 1	55.56% 5	33.33% 3	0.00% 0	9	3.22

Q42 Goal 7: Have entities that have recently implemented water efficiency projects to present their success to the attendees of the "brainstorming session".

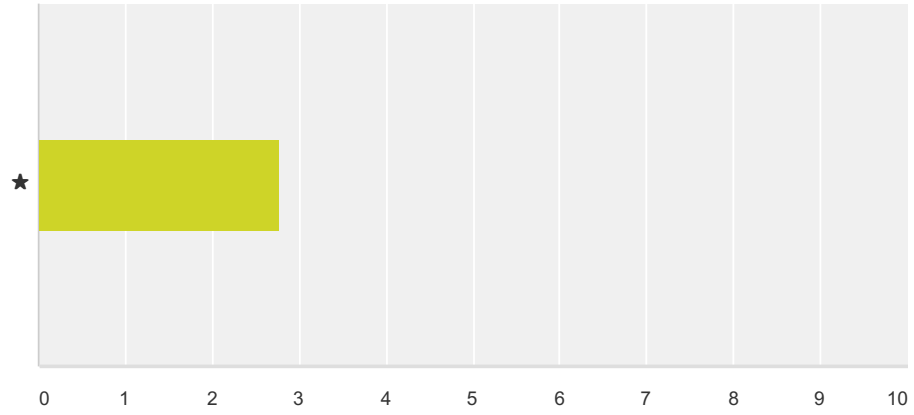
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★	0.00% 0	11.11% 1	55.56% 5	11.11% 1	22.22% 2	9	3.44

Q43 Goal 7: Analyze the results from Step 2 to determine a plan forward.

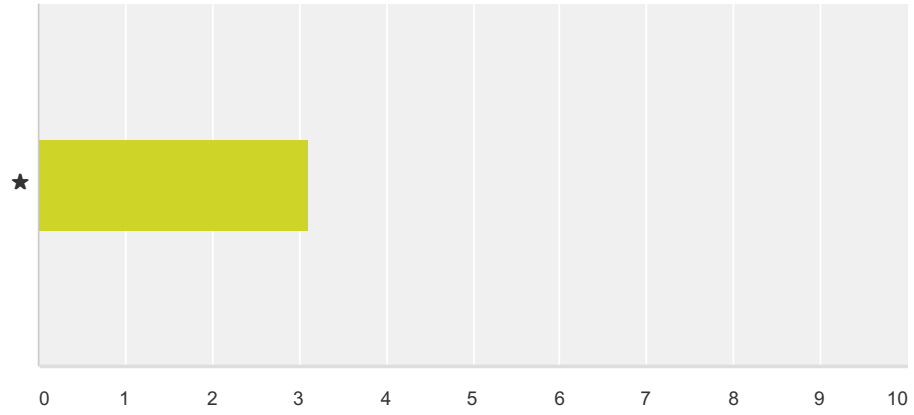
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	0.00% 0	33.33% 3	55.56% 5	11.11% 1	0.00% 0	9	2.78

Q44 Goal 7: Integrate action items of Goal 7 with Goal 2

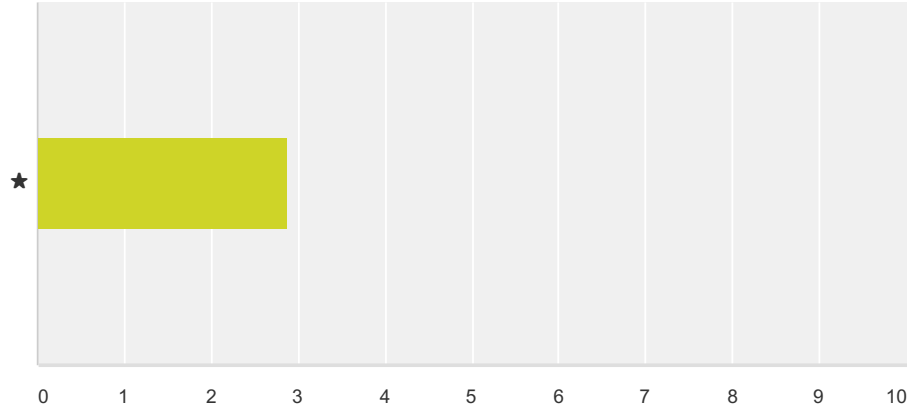
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	0.00% 0	22.22% 2	55.56% 5	11.11% 1	11.11% 1	9	3.11

Q45 Goal 7: Consider incentives that have been successful in other parts of the country that encourage water efficiency projects.

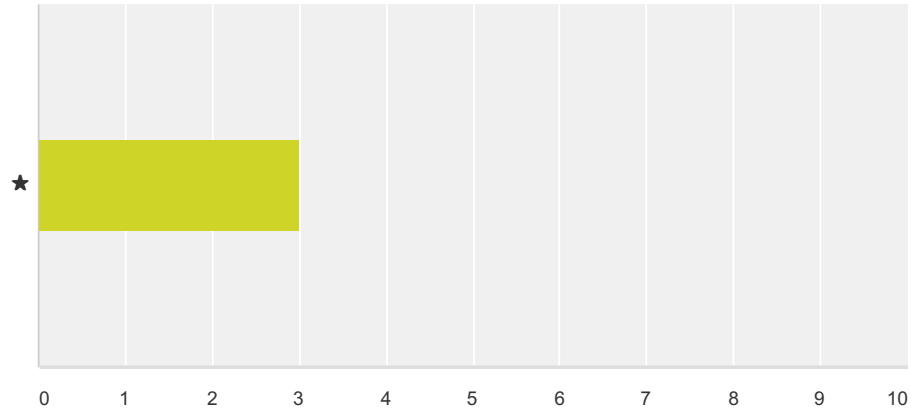
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	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	11.11% 1	22.22% 2	33.33% 3	33.33% 3	0.00% 0	9	2.89

Q46 Goal 7: By the end of 2017, ask major water users to include a 5% improvement in water use efficiency per decade in their annual goals.

Answered: 9 Skipped: 0



	Low Priority	(no label)	(no label)	(no label)	High Priority	Total	Weighted Average
★	11.11% 1	33.33% 3	22.22% 2	11.11% 1	22.22% 2	9	3.00

ATTACHMENT 2

FRED SEILER, PRESIDENT
VIN KISSICK, VICE PRESIDENT
JEFF WINTER, SECRETARY
MIKE MCGINN, TREASURER
TIM BOESE, MANAGER
THOMAS A. ADRIAN, ATTORNEY



DIRECTORS:
DAVID BOGNER
ALAN BURGHART
JOE PAJOR
BOB SEILER
DAVID STROBERG

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

313 SPRUCE STREET • HALSTEAD, KANSAS 67056-1925 • PHONE (316) 835-2224 • FAX (316) 835-2225 • equusbeds@gmd2.org • www.gmd2.org

May 3, 2017

Rance Walker, P.E.
Kansas Department of Health and Environment
1000 SW Jackson Street, Suite 420
Topeka, Kansas 66612-1367

RE: City of Nickerson Effluent Holding Cells KWPCRLF Project No. C20-1636-01
GMD2 File – 838.511

Dear Mr. Walker:

The referenced proposed project was reviewed by the Equus Beds Groundwater Management District No. 2, Board of Directors at the April 18, 2017, meeting. District staff presented information regarding the project. A copy of the District's Information and Fact Sheet is enclosed for your review.

Based on the District's water quality case findings, hydrologic and geologic data, and the proposed project design criteria, it was the decision of the Board of Directors to vigorously oppose the construction of Cell Nos. 4 & 5 as proposed and request that any proposed cell be lined with a synthetic membrane as required by K.A.R. 28-16-161(d). The District's primary concern is the contamination of the Equus Beds Aquifer that will occur as a result of the high chloride effluent that will infiltrate the groundwater due to the high soil permeability rate and shallow depth to groundwater at the site. Please see the enclosed report detailing the District's findings and concerns.

The District also requests that the Kansas Department of Health and Environment respond to the District's concerns within 30 days of the date of this letter. Additionally, the District would be glad to meet KDHE, the City of Nickerson, and/or EBH & Associates to discuss the District's concerns and options for modifying the proposed effluent cells expansion in such a manner as to eliminate or reduce the potential contamination of the Equus Beds Aquifer.

Please contact me should there be any questions regarding the District's findings or decision.

Sincerely,
EQUUS BEDS GROUNDWATER
MANAGEMENT DISTRICT NO. 2

Tim Boese
Manager
TDB/db

Enclosure

Pc: City of Nickerson
Tom Stiles, KDHE
Don Hellar, EBH & Associates, P.A.

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2
BOARD OF DIRECTORS INFORMATION AND FACT SHEET

CONCERNING KANSAS WATER POLLUTION CONTROL RLF PROJECT
NO. C20-1636-01 – CITY OF NICKERSON, KANSAS

May 3, 2017

Prepared by Tim Boese, Manager and Steve Flaherty, Hydrogeologist
Equus Beds Groundwater Management District No. 2 (GMD2)

ISSUE

The City of Nickerson proposes to expand the existing wastewater treatment facility currently consisting of synthetic membrane lined three-cell lagoon wastewater stabilization system with a total surface area of 14.11 acres. The expansion will include a soil/bentonite lined 2.99 acre 4th effluent cell and an unlined wetlands disposal 8.72 acre 5th cell (Figure 1). The expansion is needed due to effluent discharge non-compliance issues with the existing facility. In particular, the Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) effluent discharge limits have been exceeded in some samples.

The existing facility was approved by KDHE after granting the City variances from: a) K.A.R. 28-16-161(a), which requires a new or modified municipal wastewater treatment system lagoon to maintain a minimum separation distance of 10 feet from the bottom of the lagoon to the groundwater table and b) K.A.R. 28-16-163(b), which requires a minimum of one boring for each acre of wastewater lagoon, based on the top of the interior dike dimensions.

The proposed expansion cells do not comply with the Water Pollution Control Article 16 regulation K.A.R. 28-16-161(a), as the separation between the bottom of the cells and the groundwater is less than 10 feet. The proposed cells also do not to comply with K.A.R. 28-16-161(d), which requires a new or modified municipal wastewater treatment system lagoon constructed over the Equus Beds to employ a single impermeable synthetic liner, unless certain conditions are met. These conditions include: A minimum of 10 feet separation between the bottom of the cells and the groundwater; that the in situ soils exist to provide an effective barrier to protect the groundwater; and the soil liner's seepage rate will be less than 1/10 inch per day.

Cell No. 4 is proposed to have a soil/bentonite liner so constructed to have a seepage rate of less than 1/10 inch per day. However, that does not meet the requirement specified in K.A.R. 28-16-161(d)(1), which requires that the separation distance between the lagoon bottom and the groundwater table is greater than 10 feet.

Cell No. 5 is proposed to not have a liner. However, that does not meet the requirement specified in K.A.R. 28-16-161(d)(1) that the separation distance between the lagoon bottom and the groundwater table is greater than 10 feet and also does not comply with K.A.R. 28-16-161(d)(2) and (3), as the soil will not act as a barrier to contamination.

Kansas Department of Health and Environment has advised that the proposed cells are not considered to be part of the wastewater treatment system and therefore not required to comply with the noted regulations of the Water Pollution Control - Article 16, as the cells will be receiving treated effluent. The GMD2 disputes this claim, as the new cells are proposed to allow for additional treatment required due to the existing effluent discharge not complying with certain water quality limits.

Equus Beds Groundwater Management District No. 2

City of Nickerson

Proposed and Existing Sewage Effluent Holding Cells

Prepared By: Stephen Flaherty Date: 4/17/2017

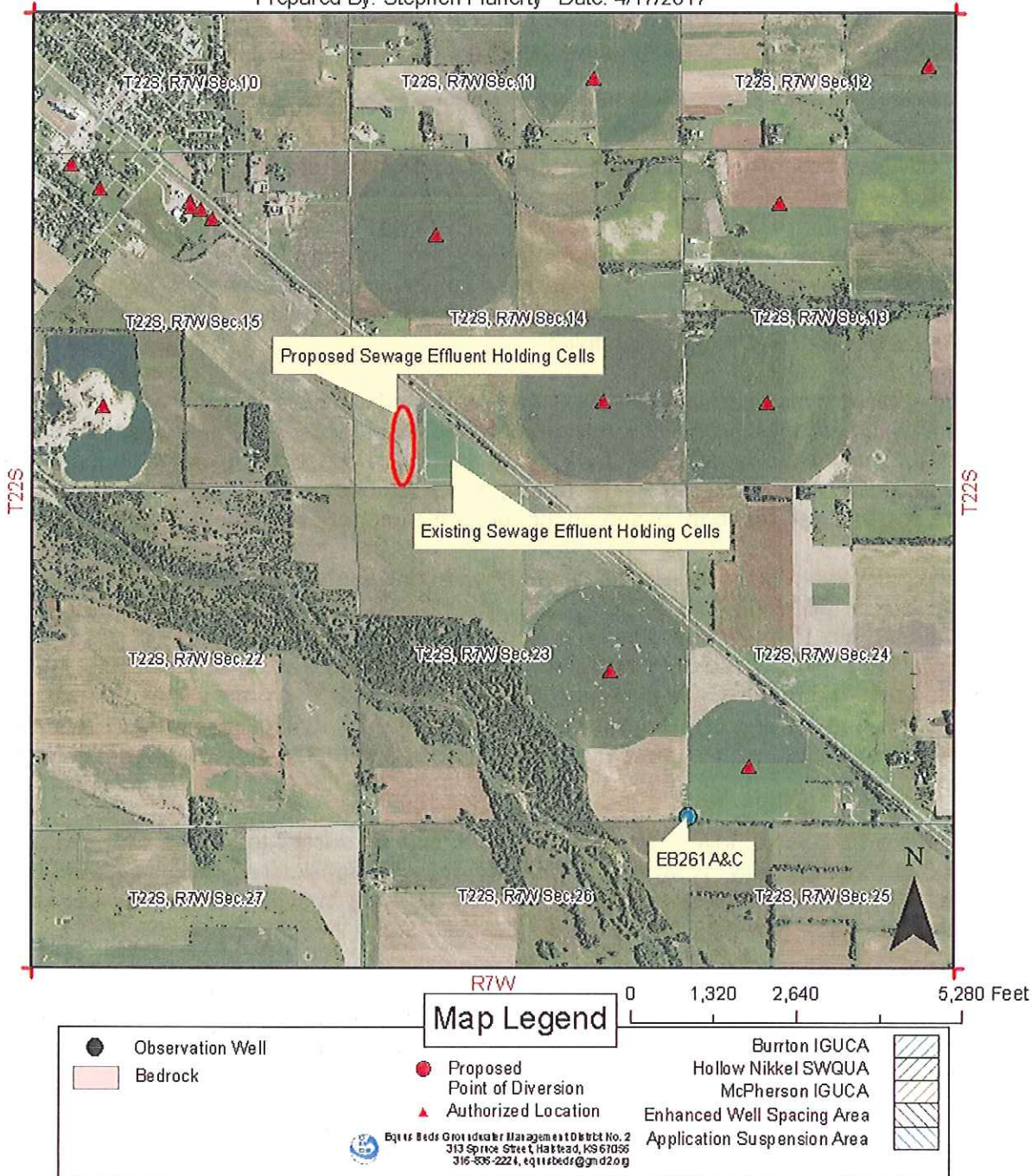


Figure 1.—Site Location Map. The existing and proposed holding cells are in the Southwest Quarter of Section 14, Township 23 South, Range 7 West. Note domestic and irrigation wells downgradient.

SITE LOCATION

The wastewater treatment facility is in the Southwest Quarter of Section 14, Township 22 South, Range 7 West, Reno County (Figure 1).

The site is within the Equus Beds Groundwater Management District and overlies a portion of the Equus Beds Aquifer.

The facility is located in a sensitive groundwater area and the flood plain of the Arkansas River.

SURFACE TOPOGRAPHY

Surface elevation at the site is approximately 1585 feet above mean sea level (Figure 2). Land surface is flat and gently slopes northwest to southeast. The Arkansas River is located about 2,300 feet southwest of the proposed effluent holding cells.

Soils at the proposed expansion site are Nickerson Loamy Fine Sand and Nickerson-Punkin Fine Sandy Loam. The soil consists of deep, moderately well-drained, highly permeable soils. Soil permeability ranges from 0.6 to 2.0 inches per hour. Three percolation tests in proposed Cell No. 5 were completed by Terracon Consultants, Inc. Average seepage rates in borings conducted by Terracon Consultants, Inc. ranged from 0.5 to 2.45 inches per hour.

Equus Beds Groundwater Management District No. 2

City of Nickerson

Proposed and Existing Sewage Effluent Holding Cells

Prepared By: Stephen Flaherty Date: 5/3/2017

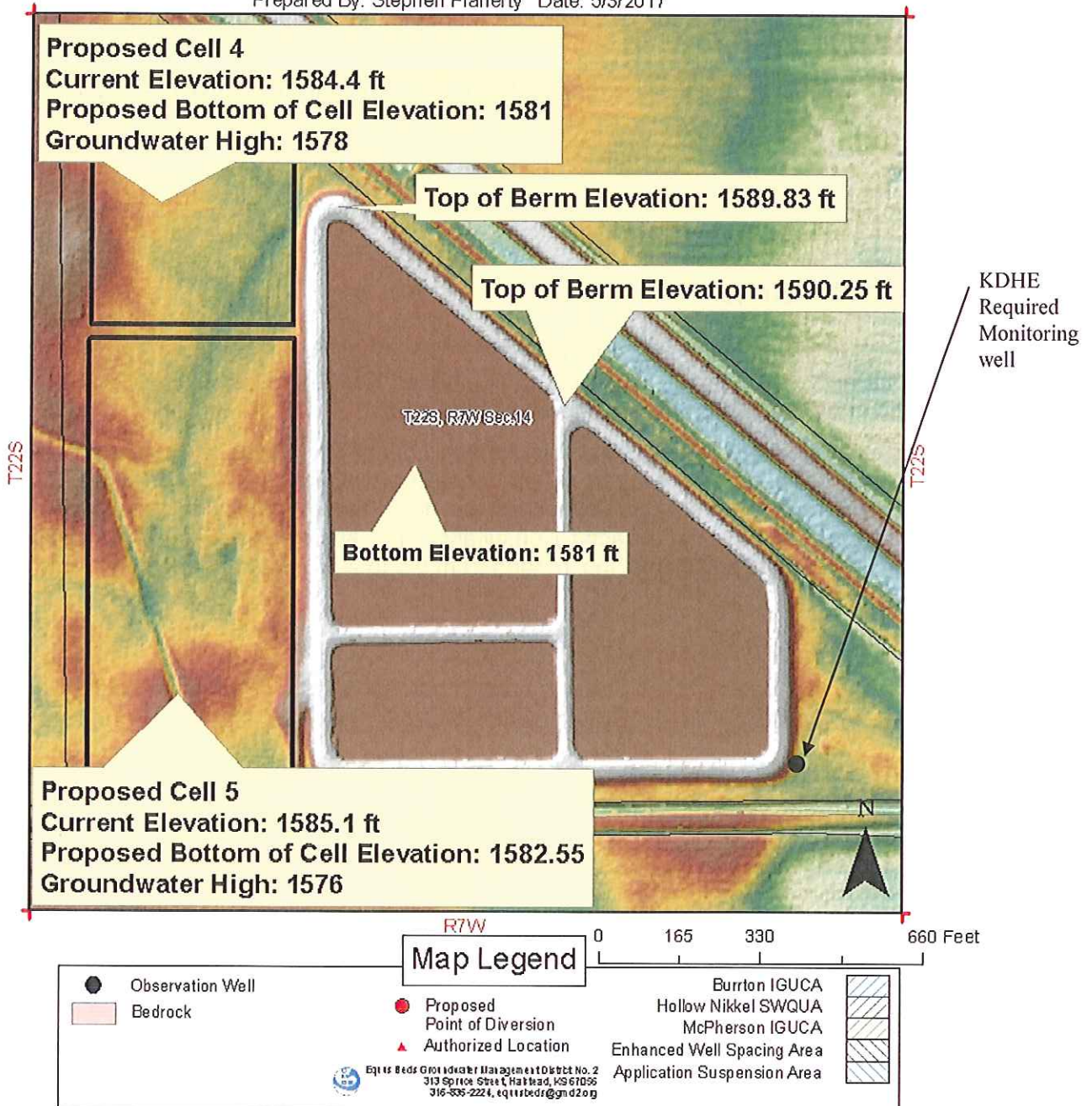


Figure 2. Elevation map of current and proposed holding cells with location of KDHE required monitoring well. Groundwater elevations collected from Logs supplied with Terracon Geotechnical Engineering Report. Land elevations collected from Reno County LiDAR dataset.

Hydrogeology

The proposed effluent holding cell site overlies the unconsolidated sand and gravel freshwater aquifer known as the Equus Beds Aquifer. The aquifer is the principal source of freshwater for water users within an area covering parts Reno, McPherson, Harvey, and Sedgwick counties.

At proposed holding cells 4 and 5, the saturated thickness of the aquifer is approximately 110 feet. Depth to bedrock (bottom of the aquifer) is approximately 120 feet below land surface. The regional slope of the water table and groundwater movement is east to southeast. The Arkansas River may temporarily influence and change the regional direction and movement of groundwater at the site.

Based on geologic and hydrologic data supplied with the applicant's Terracon Geotechnical Engineering report, depth to groundwater at the site was measured as high as 6 feet below land surface, as shown in Figure 2. The nearest GMD2 owned observation well site (EB261) is approximately 1.25 miles southeast of the site and indicates that depth to water is approximately 10 feet below land surface.

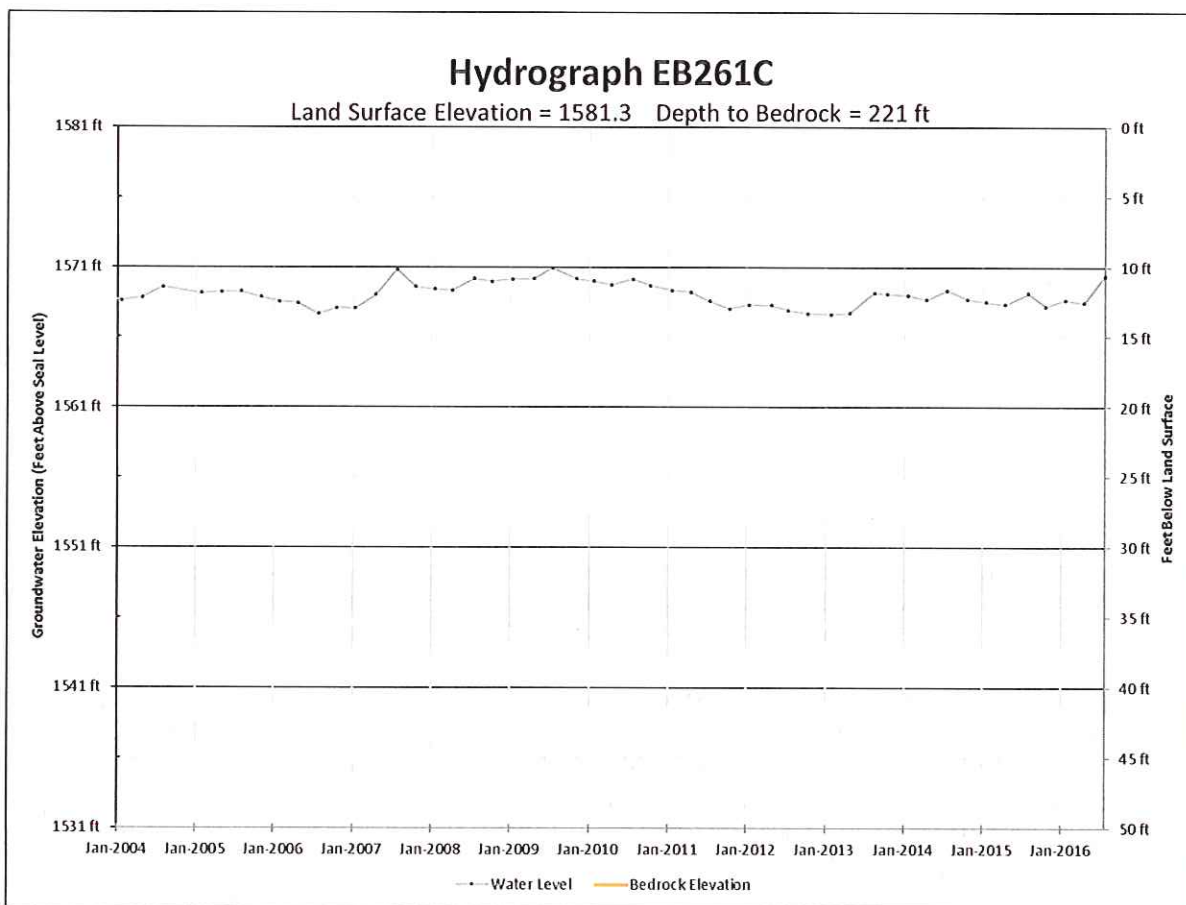


Figure 3. Groundwater monitoring well EB261C.

Chloride concentrations (indicator of salinity) increase with depth in this location. Samples collected between 1997 and 2011 at a depth of 76 feet below land surface in the upper (A) zone of the aquifer averaged 209 mg/L at monitoring well EB 261A. Chloride concentrations averaged 808 mg/L in the deeper (C) well (Figure 4). In general, groundwater quality in the upper (A) zone is described as good and suitable for most uses. A review of area water well drilling logs suggests that intermittent clay intervals separate the upper and lower aquifer in the area.

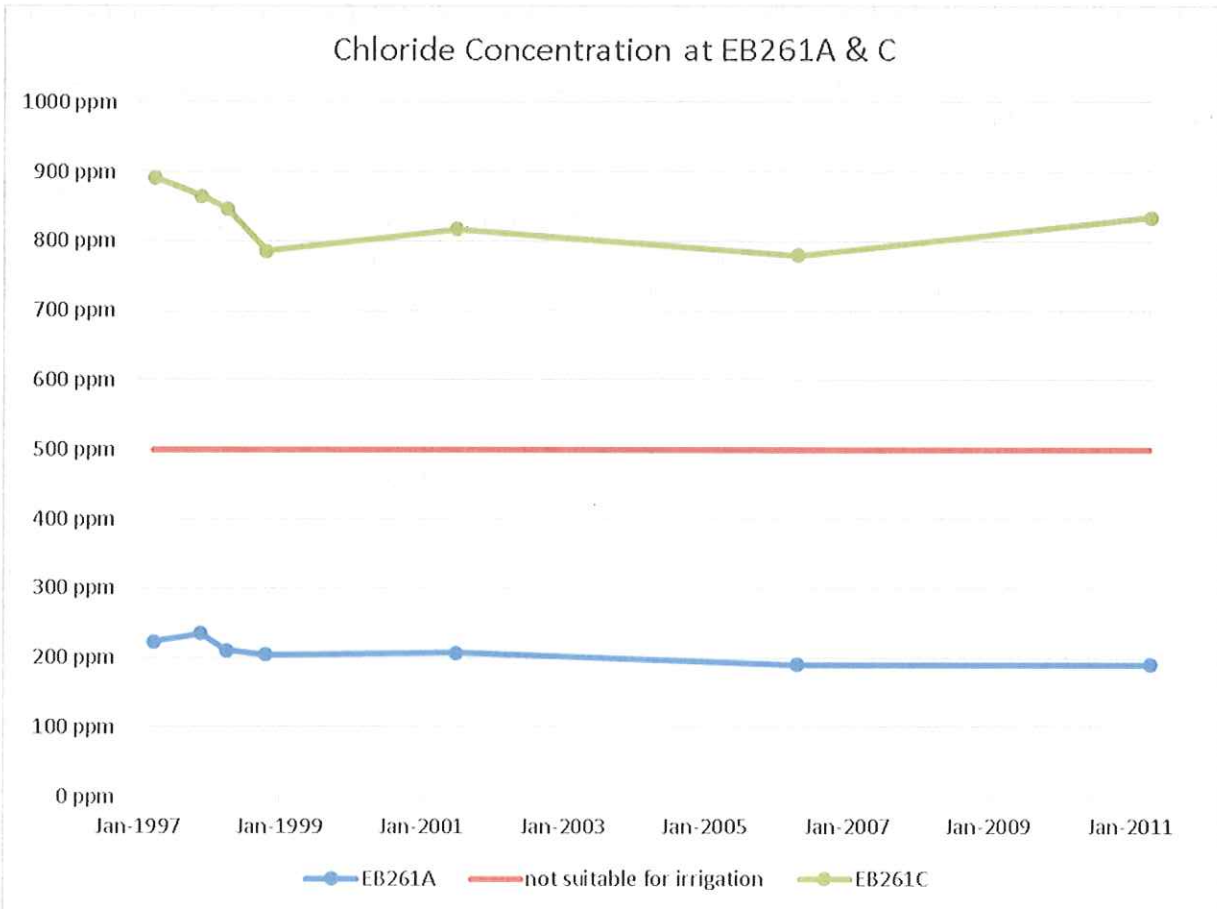


Figure 4. Chloride concentrations groundwater monitoring wells EB261A and EB261C. See Figure 1 for location. Generally, water with chloride levels exceeding 500 mg/L is unsuitable for crop irrigation. The secondary maximum contaminant level for drinking water is 250 mg/L Chlorides.

Water quality data from the KDHE required monitoring well located immediately downgradient of existing cells indicate chloride levels are below 150 mg/L (Figure 5) in the upper aquifer zone. The data further indicate increasing chloride levels through time, which may be the result of high chloride effluent being discharged from existing cells nearby. A review of water quality reports from samples collected in 2015, 2016, and 2017 from the existing effluent holding cells discharge indicates chloride levels typically exceed 500 mg/L. Chloride concentrations from 17 effluent discharge samples collected from January, 2015 through January, 2017 ranged from 487 mg/L to 674 mg/L, and averaged 544 mg/L. Some effluent samples show elevated sulfate and E. Coli bacteria levels.

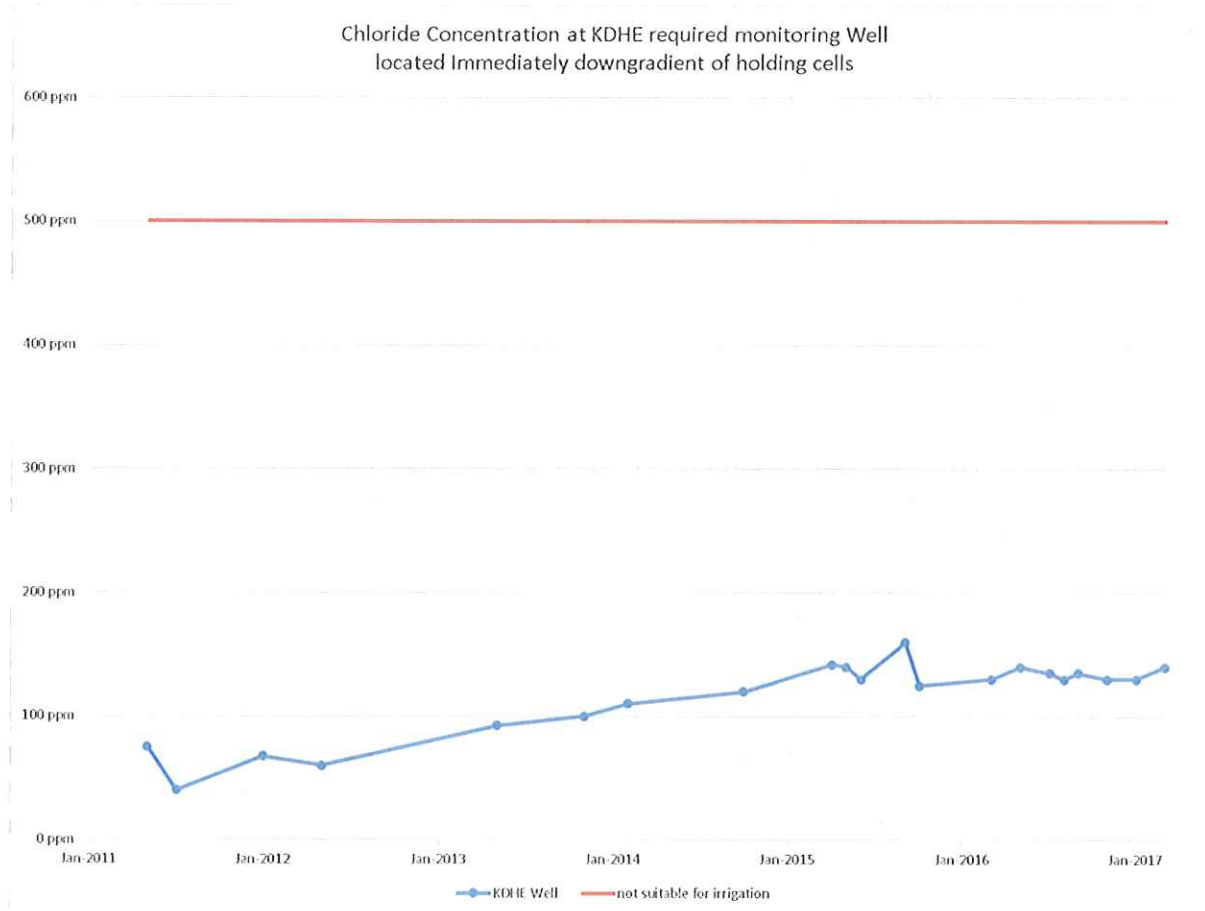


Figure 5. Chloride concentrations in groundwater monitoring well immediately downgradient of existing Cell No. 1. See Figure 2 for location.

Data from borings included in the applicant's Terracon Geotechnical Engineering Report indicate depth to groundwater ranges from 6 feet to 8 feet below land surface. Based on design plans and site water table data, the separation distance between the water table and the bottom of Cell No. 4 would be about 3 feet and about 4.5 feet in Cell No. 5.

Groundwater development downgradient of the holding cells in the area consists of domestic and irrigation uses. The nearest downgradient irrigation well is located approximately 2,100 feet east of the existing effluent holding cells and approximately 3,000 feet east of the proposed cells. The nearest domestic well is located approximately 4,300 feet east-southeast of the existing effluent holding cells and approximately 5,200 feet east-southeast of the proposed cells.

Cell No. 5 is classified as a "wetlands disposal" cell which indicates an intention to discharge into the aquifer from Cell No. 5. According to the Terracon Geotechnical Engineering report field percolation tests, approximately 118,000 – 580,000 gallons per hour could potentially infiltrate into the aquifer at this location. Wetland plants in Cell No. 5 will likely have a marginal impact on chloride remediation. It is widely accepted that plant life generally has a very low chloride tolerance. Additionally, high soil intake rates will prevent plant roots from capturing most effluent before it reaches the aquifer. Cell No. 4 is proposed to be constructed so as to not exceed 1/10 inch seepage per day, which is equivalent to approximately 8,100 gallons per day. Because depth to groundwater at this location is less than 5 feet, most effluent in the proposed expansion cells will enter the aquifer. If effluent is discharged into nearby ditches, it is unlikely to reach the Arkansas River before infiltrating into the aquifer.

RECOMMENDATIONS

The Equus Beds Groundwater Management District reviewed the proposed Kansas Water Pollution Control Permit RFL Project No. C20-1636-01 for the expansion of the City of Nickerson existing Effluent Holding Cells. Based on the following:

1. The City of Nickerson proposes to expand the existing wastewater treatment facility currently consisting of synthetic membrane lined three-cell lagoon wastewater stabilization system with a total surface area of 14.11 acres. The expansion will include a soil/bentonite lined 2.99 acre 4th effluent cell and an unlined wetlands disposal 8.72 acre 5th cell. The expansion is needed for additional wastewater treatment due to effluent discharge non-compliance issues with the existing facility. In particular, the Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) effluent discharge limits have been exceeded in some samples.
2. The proposed expansion cells do not comply with K.A.R. 28-16-161(a), as the separation between the bottom of the cells and the groundwater is less than 10 feet.
3. The proposed cells also do not comply with K.A.R. 28-16-161(d), which requires a new or modified municipal wastewater treatment system lagoon constructed over the Equus Beds to employ a single impermeable synthetic liner, unless certain conditions are met, including a minimum of 10 feet separation between the bottom of the cells and the groundwater, that the in situ soils exist to provide an effective barrier to protect the groundwater, and the soil liner's seepage rate will be less than 1/10 inch per day.
4. The bottom of proposed Cell No. 4 will only be approximately 3 feet above the groundwater level and is proposed to have a soil/bentonite liner so constructed to have a seepage rate of less than 1/10 inch per day.
5. The bottom of proposed Cell No. 5 will only be approximately 4.5 feet above the groundwater level and is proposed to not have a liner. Therefore, effluent discharged into Cell No. 5 will mostly seep into the aquifer.
6. Based on water samples from the effluent discharged from the current effluent holding cells, the effluent to be discharged into proposed Cell Nos. 4 & 5 will be poor quality with chloride levels exceeding 500 mg/L.

7. The ambient water quality of the upper aquifer zone at the site location is generally fresh and useable, with chloride values of less than 150 mg/L.
8. Soil permeability based on soil types at the site ranges from 0.6 to 2.0 inches per hour. Three percolation tests in borings in proposed Cell No. 5 completed by Terracon Consultants, Inc., had average seepage rates from 0.5 to 2.45 inches per hour.
9. Due to high soil intake rate and shallow groundwater level, most if not all effluent in the proposed expansion cells will enter the aquifer.
10. Discharging the high salinity effluent into the aquifer will contaminate the groundwater.
11. There are irrigation and domestic wells located within one mile downgradient of the site.

Staff recommends the proposed Cell Nos. 4 & 5 not be allowed to be constructed as proposed and that any proposed cell be lined with a synthetic membrane as required by K.A.R. 28-16-161(d).

