

Western Kansas GMD No. 1 Considerations of Additional LEMAs



GMD 1 Public Outreach Meetings 2022
May 19th-20th, 2022

Presented By:

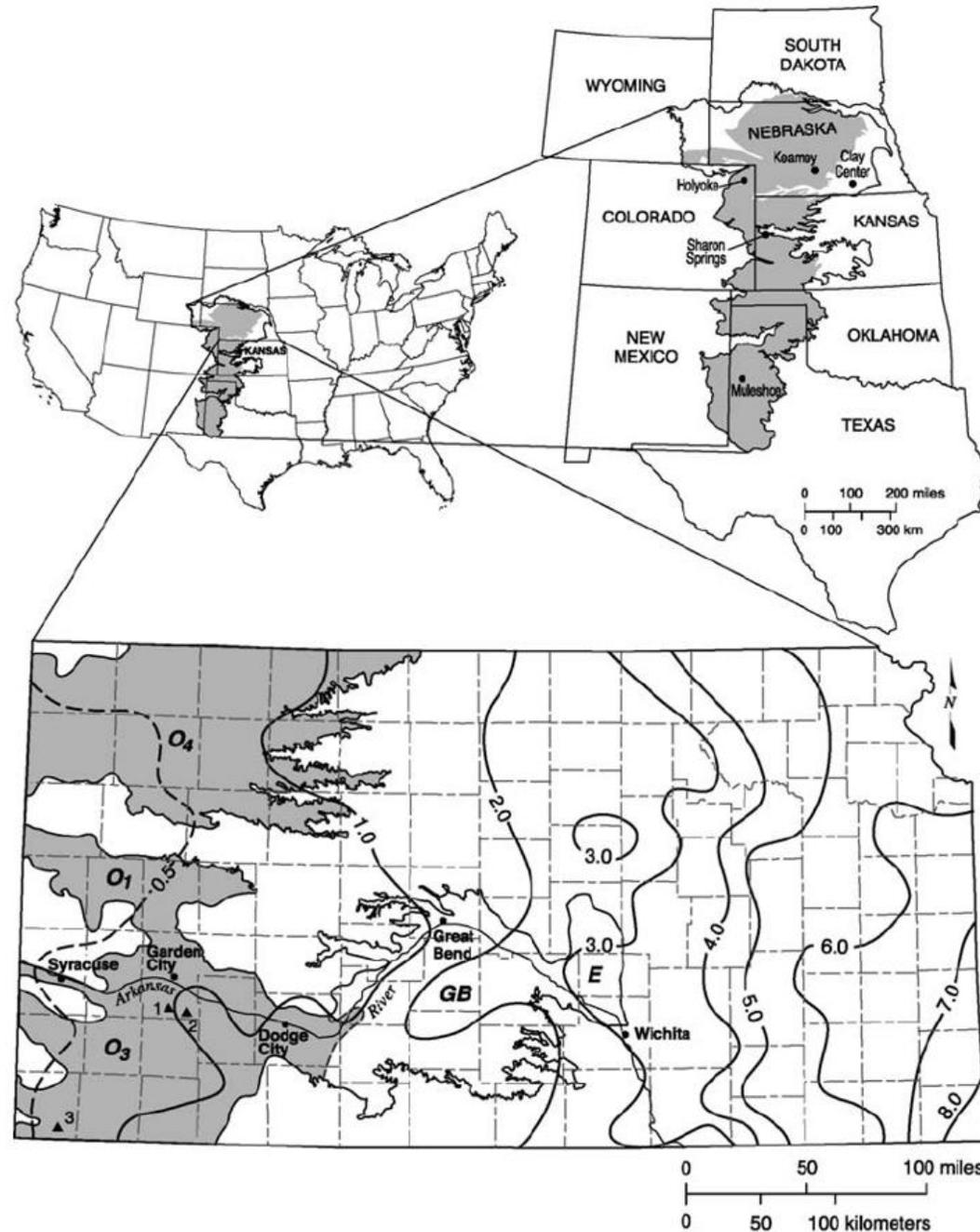
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GMD1 Board of Directors

Overview of the Ogallala Aquifer

- Covers Parts of 8 States Throughout the Country
- 174,000 square miles
- Approximately 30% of Irrigated Land in the USA is Supplied by the Ogallala



Western Kansas Groundwater Management District No. 1 Formation & History

- Groundwater Management in Kansas

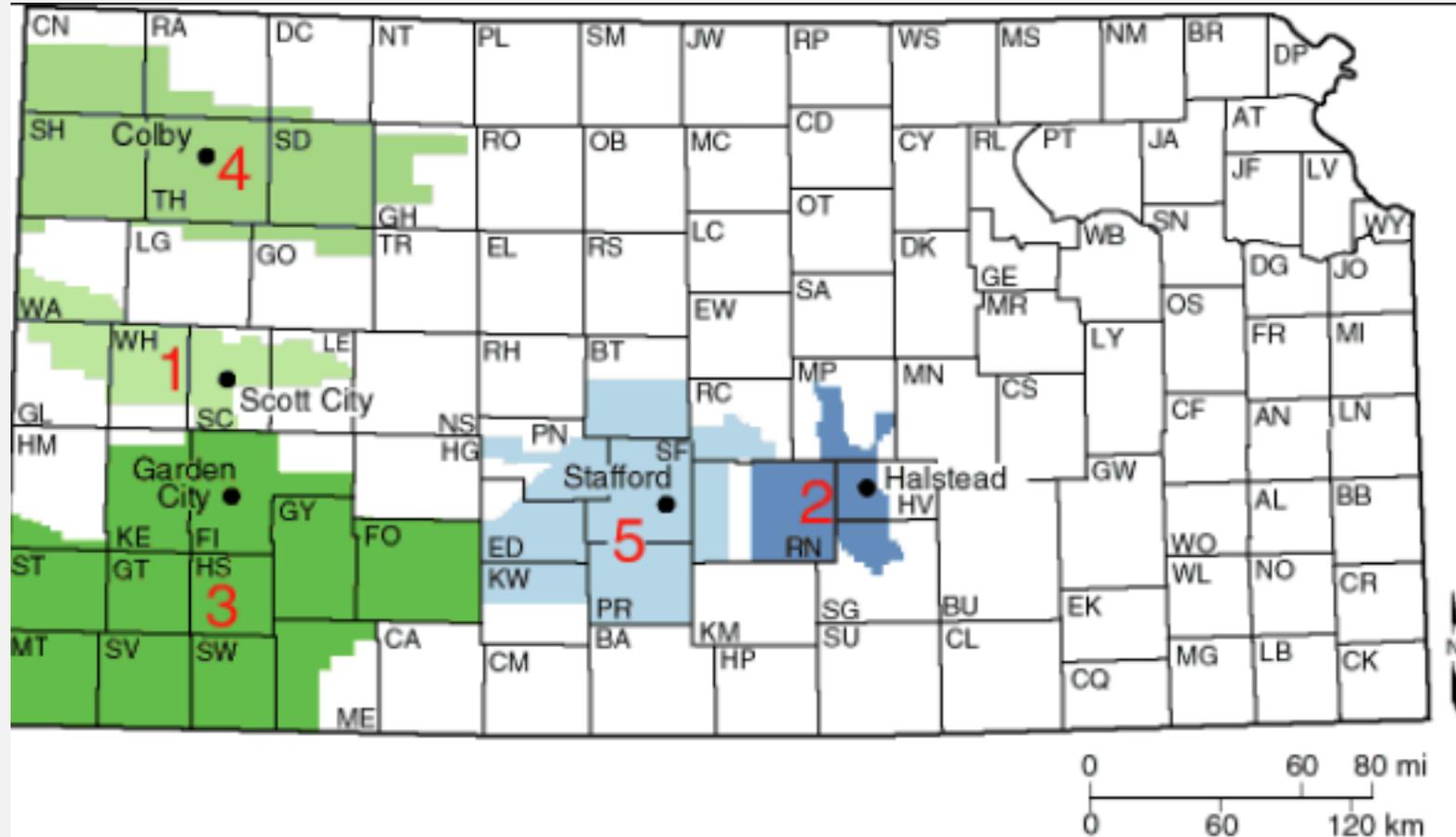
- Groundwater Management Act
 - 1972
- Five GMD's

- What is the Historic Role of the GMD's?

- GMD1 Programs
 - Weather Modification
 - Cost Share
 - LEMA Development

-GMD 1

- 1973
- Wallace, Greeley, Wichita, Scott & Lane
- 1.1 million acres



LEMA Statute – Process & Key Concepts

IGUCA – Limited to No Local Control

- Alternative a process to a LEMA where the Chief Engineer conducts hearing(s) to determine “corrective controls” to address ground water declines.

LEMA – Local Control

- In LEMAs, GMD develops a plan to address groundwater declines, including goals and proposed regulation to reduce use. The Chief Engineer conducts hearings to determine if the GMD’s plan should be adopted.

The heart of LEMAs is its “**corrective controls,**” typically water use **allocations** that works to achieve groundwater savings.

LEMA typically **provide flexibility** in use of allocations (multi-year, and at times, allowing allocations to be grouped or moved around)

Other elements: appeal process; enforcement

GMD 1 Efforts in Conservation & The History of the LEMA

The GMD 1 Board Has Long Supported Water Conservation

- Cost-share programs, education and research
- Support Wichita County WCA development

2012 Amendments to the GMD Act to allow for the creation of Local Enhanced Management Area (LEMAs).

- GMD 4 LEMA efforts in Sheridan 6
- **2013-2014:** District-wide LEMA development; total vote count showed insufficient support for the proposed plan
- **2016-2017:** Wichita County Water Conservation Area (WCA) developed
- **2018-2020:** The Board again discusses LEMAs for the District; decided to move forward with Wichita County LEMA first as it had the greatest support, the most urgent need, and to gain experience in LEMA processes.
- **2021: Approval and implementation of Wichita County LEMA for 2021-2025**

Proposed GMD 1 Four County LEMA

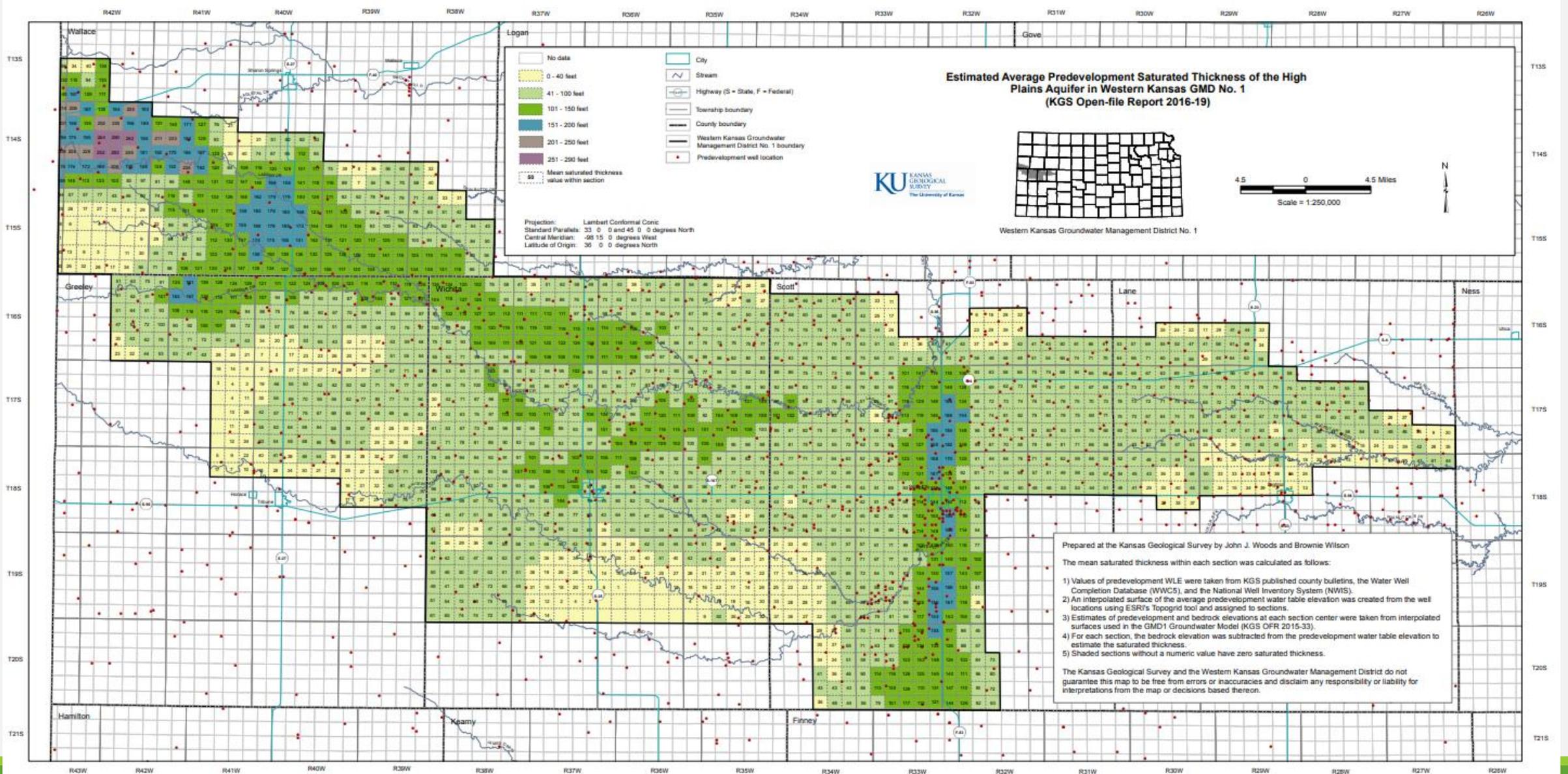
Wallace, Greeley, Scott, Lane Counties

Fall 2020: The GMD Board re-starts discussions on additional LEMA(s) to fulfill its mission to extend the useful life of the aquifer.

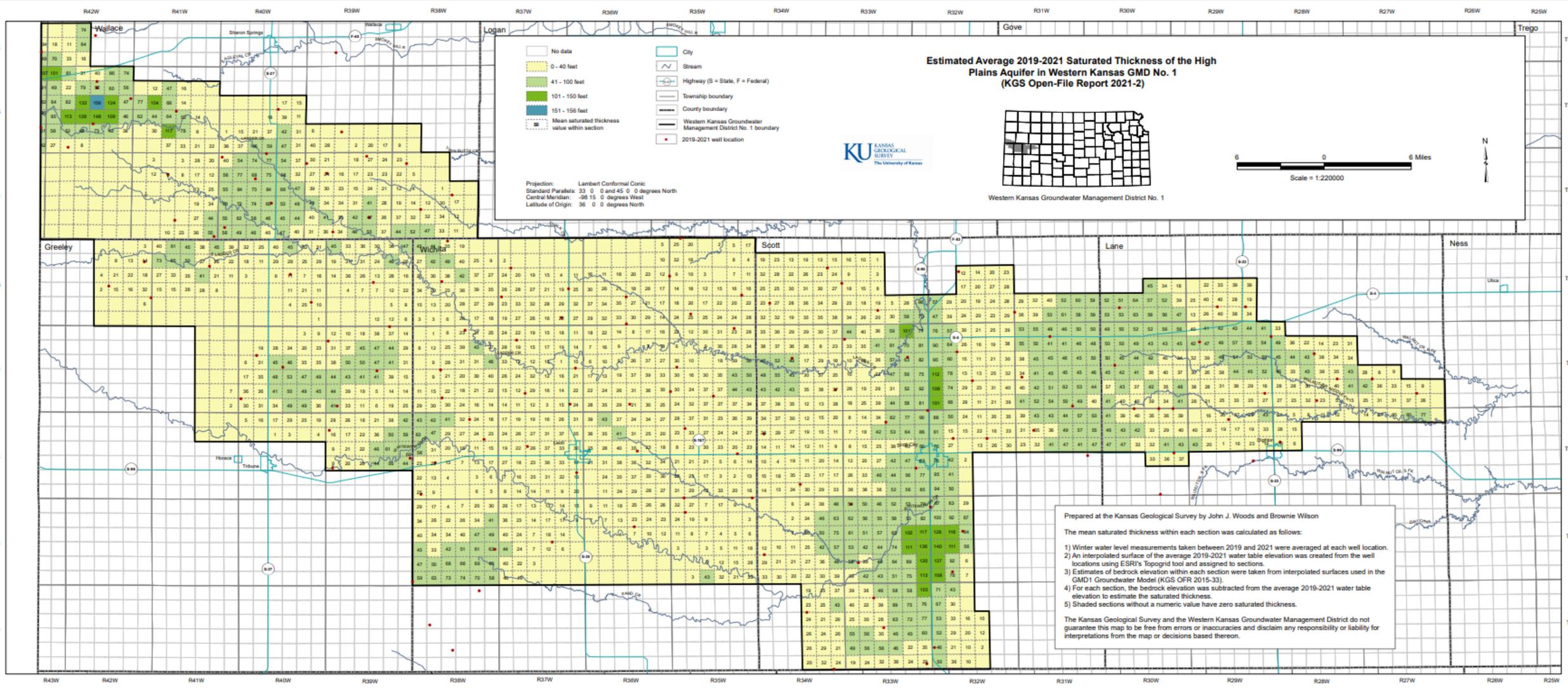
Current Methodology Behind Proposed LEMA:

- The goal is not sustainability, but a significant step to extend the life of the aquifer; encourage maximum economic benefit
- Overall goal savings of approximately 10%
- Maximum reduction of **25% from historic use** to individual waterusers; smaller reductions for those with limited water users
- Provide as much flexibility as possible: 5-year allocations, group allocations
 - “Group” Definition: Composed of all legally overlapping water rights by point of diversion, place of use or both.
- Robust allocation appeal process will be included in the LEMA plan

Predevelopment Saturated Thickness



2021 Remaining Saturated Thickness



Past LEMA Methodologies Explored

1. Allocations based on **fixed** percent of authorized quantity (ex. 25% District wide)
2. Allocations based inches per authorized acre
3. Allocations based inches per maximum acres of a recent period
4. Allocations based inches per average acres of a recent period

None of these were found suitable or fair as each method gives allocations greater than historic use to some; thus necessitating greater reductions of others to accomplish the overall reduction goal.

Subsequently, the Board reviewed **three Hybrid methods**, with allocations based on recent historic use, but varying reductions based on a “sliding scale” measure of historic use vs authorization. With an appeal process.

GMD 1 Board's Allocation Method – Proposed LEMA

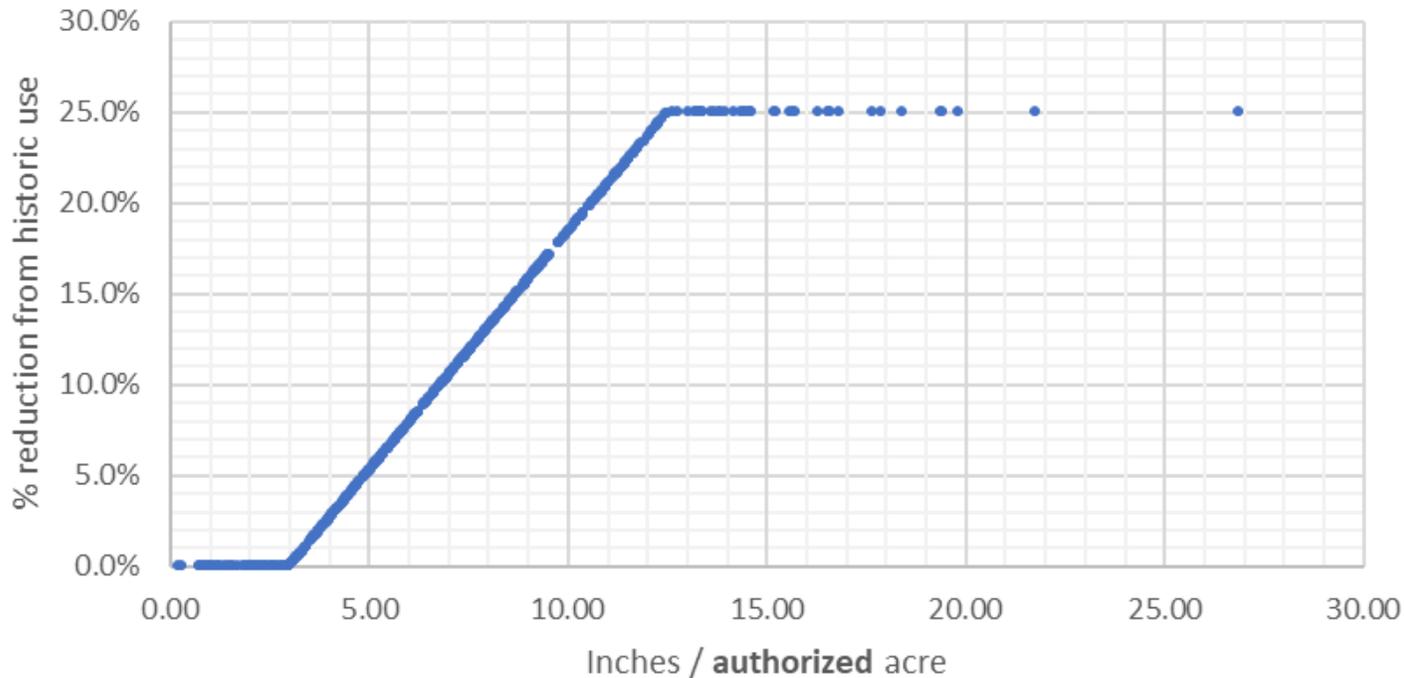
After carefully examining the three hybrid, the GMD 1 Board decided on the allocation method which reduces historic use (using years 2011-2020) based on use as **Inches/authorized acres**, as it more evenly and fairly distributes pumping reductions.

- Draft Allocation Sheets

Again, for **flexibility**, water users will be provided allocations as a **single, shared, 5-year, allocation among water right groups**. A water right group is composed of all legally overlapped water rights.

Allocation method selected: Reduction % based on Inches used per Authorized Acre

Preferred allocation method:
Sliding scale, 3-12 inches



-Average Non-0 use per authorized acres computed

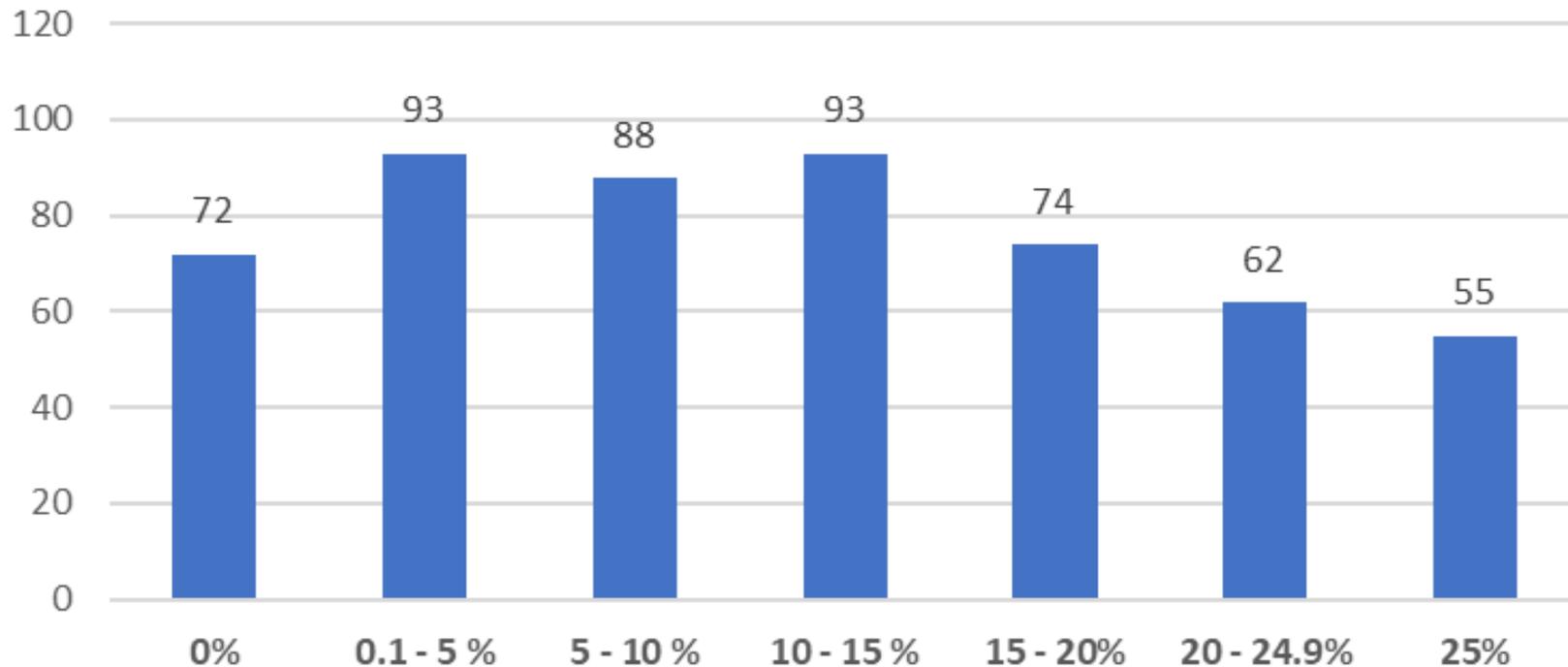
-When use is less than 3 inches/authorized acre, a 0% reduction

-When use is more than 12 inches/authorized acre, a 25% reduction

-In between, a sliding scale reduction creating a range

Effect of the Preferred Allocation Method

Preferred allocation method, inches/AA (3-12)
Percent reduction from historic use
Number of groups per reduction class



- Average total reduction of water use over the 4 counties (before appeal): **10.5 %**
- **13 %** of water rights have **NO** reduction
- **10 %** of water rights are reduced by 25%
- **76 %** in between on sliding scale

Explanation of Allocation Reports

Notes:

1. Allocations are draft and subject to change due to potential adjustments to the allocation methods by the Board, or an appeal, if filed.
2. Water Right Group definition - A Water Right Group is composed of all legally overlapped water rights (by place of use, point of diversion, or both)
3. Vested Water Rights (a Water Right which was put to beneficial use prior to June 28, 1945) are not restricted as part of this proposed LEMA.
4. LEMA allocations pertain only to irrigation water rights.
5. The average water use calculations below are for years 2011-2020, excluding years of no Group use.
6. Contact the GMD No. 1 office to request detailed water use at 620-872-5563, gmd1@wbsnet.org

Table 1A: Water Rights in Group 137

	Water Right Type	Point of Diversion	Correspondent Type	Average Water Use, Acre-Feet
	Appropriation			90.93
	Appropriation			72.52
	Appropriation			0.00

Table 1B: Water Rights Group 137, 5-Year Allocation Computation

Line	Description	Value	Units
1	Group Authorized Quantity (for reference only)	1000.00	Acre-Feet
2	Group Authorized Acres	476.00	Acres
3	Historic Average Water Use of Vested Rights, if applicable	n/a	Acre-Feet
4	Historic Average Water Use of Appropriation Rights	163.45	Acre-Feet
5	Total Historic Average Water Use: [Line 3] + [Line 4]	163.45	Acre-Feet
6	Historic Inches on Authorized Acres: [Line 5] / [Line 2] * 12	4.12	Inches
7	Group % Reduction from sliding scale	3.11%	%
8	Group 5-Year Allocation for Appropriation Rights: [Line 4 in AF] * (1 - [Line 7 in %]) * 5 years = Group Total Allocation Water Use in AF * % Reduction * 5 years = Group Total Allocation	791.81	Acre-Feet

Water Rights & The LEMA

Vested Water Rights: A water right which was put to beneficial use prior to June 28th 1945

- **Not** restricted under the Proposed LEMA.
- Water Right Numbers start with a two-letter county abbreviation.

Appropriation Water Rights: Developed after 1945 and have a priority number.

Water Right Type	In the Proposed LEMA
Irrigation	Yes
Stock	No
Municipal	No
Vested	No

Base Appeal Approach	New Owner/Operator Control With 3 or More Years of Record**	New Owner/Operator Control or Irrigation System Change With Less Than 3 Years of Record**	No Historic Use Appeal Approach*
<ul style="list-style-type: none"> • Appropriate for circumstances where there has <u>not</u> been a control/ownership change. • New owners/operators may utilize the Base Appeal Approach should they agree with and choose to use historical data provided by previous owner. • A minimum of three representative years of use data is required. • Years of demonstrated conservation will be excluded from averaging. • For example, if 2015 and 2016 had demonstrated conservation, then years 2011-2014 and 2017-2020 will be summed and divided by 8 to get the average water use to determine the required reduction. 	<ul style="list-style-type: none"> • Appropriate for circumstances where recent change of control/ownership <u>has</u> taken place with <u>3 or more</u> representative years of history This Appeal process requires written documentation proving such changes and must be deemed acceptable by the Board. (DWR/FSA Records) • Years of demonstrated conservation may be excluded from averaging. • Under new control, the new water use record may be used. • For example, the new ownership ownership/control was for the period 2017-2020, the water use in 2017-2020 will be summed and divided by 4 to determine the average for purposes of determining the required reduction and allocation. 	<ul style="list-style-type: none"> • Appropriate for circumstances where recent change of control/ownership <u>has</u> taken place with <u>less than 3</u> representative years of history. This Appeal process requires written documentation proving such changes and must be deemed acceptable by the Board. If a deficit in annual data is present NIR may be used to supplement data. Additional reductions will apply to years of historic data, and not to NIR. • A current owner who exceeds three years of data, but can provide proof that a new irrigation system change directly resulted in less than three years of reflective operational water use data shall qualify. • Years of demonstrated conservation may be excluded from averaging. • Under new control, the new water use record may be used. • For example, if a new owner only has 2 years of data they may supplement NIR data for the 3rd year. 	<ul style="list-style-type: none"> • Appropriate for circumstances of non-use for 2011-2020 or for a new owner/operator Jan 1st 2021 through Feb. 22nd 2022. NIR would be used for new owner/operator only. • Where the appeal is for Jan 1st 2021 through Feb. 22nd 2022, an allocation of NIR will be given where clear boundaries of irrigation can be demonstrated such as an irrigated circle or buried drip tape or consistent flood acres. Other cases will be reviewed if the boundary is not clear or clean, then the next option would be a pump test multiplied by 150 days.*** • Where a Group that has had use, but also has an individual point of diversion with non-use and is appealed, a pump test to demonstrate the ability to pump is required to provide an allocation of the pump test times 150 days.

Note: For all methods the Board reserves the authority to re-evaluate these methods in a future or current LEMA Appeals process within their discretion, and may address a special scenario in the current LEMA on a case by case basis.

*Where a non-use irrigation right is to be converted to a non-irrigation use, it will be processed according to DWR applicable regulations, which are not based on historic use.

1. Defining Voluntary Conservation

2. Appeals Process

Proposed Elements of the LEMA Plan

Vested Rights will be exempt from the LEMA. Other water rights in the group will be provided an allocation based on the same principle as non-vested groups.

Draft combined five-year allocation has been provided for each Water Right **Group**, composed of all legally overlapped water rights.

- While water rights would share the group allocation, each water right is limited each year to its annual authorized quantity, just as they are today.

Allocations based on a **sliding scale percent reduction** of historical use based on **inches applied** to a Water Right **Group's Authorized Acres** where:

- Historical Use Period: 2011 – 2020
- Non-use years will be excluded from the averaging
- Average use of less than 3" per authorized acre = No reduction
- Maximum reduction of 25% for average use greater than 12" per authorized acre
- A sliding scale between these values
- **Draft allocations were made available to the public**

KGS Stability Numbers for GMD 1

	Stability Numbers (%)	To Cut by Half (%)	% Reduction from LEMA
GMD 1 – District Wide	29	14.5	10.5
Wallace County	46	23	12.2
Greeley County	30	15	11.0
Wichita County	27	13.5	
Scott County	18	9	8.7
Lane County	16	8	9.7

Process Ahead & Implementation

- Continuous public outreach & correspondence
- Tentative schedule is to finalize the proposed LEMA plan and submit it to the Chief Engineer by July 1st, 2022
- When the LEMA plan is submitted, the Chief Engineer will hold two public hearings this fall on the LEMA Plan.
 - o These hearings will be noticed and made publically available

Upon approval, the LEMA Plan would take effect January 1, 2023.

What if a LEMA is not successfully completed & Implemented for GMD1?

Questions?
