

RATTLESNAKE CREEK LEMA

BIG BEND GROUNDWATER MANAGEMENT
DISTRICT NO. 5



BACKGROUND

- Spring 2013 – USFWS filed impairment
- June 17, 2016 – Final Report following public review and feedback
- September 9, 2016 – District submits augmentation proposal to the Service for review - Declined
- February 15, 2017– District submits 2nd augmentation proposal to the Service for review - Declined

QUIVIRA NATIONAL WILDLIFE REFUGE

- Water Right 7571
 - Priority: August 15, 1957
 - Auth AF: 14,632 AF
 - Auth rate: 300 cfs (~134,600 gpm)
- Final Impairment Report
 - Impaired 3000-5000 AF over 12-year period
 - Real-time administration will not work
 - GW reductions and/or Augmentation needed

BACKGROUND (CONT.)

- July 06, 2017 – KDA presents a strict administrative option as a remedy to the impairment
- August 11, 2017 – District proposes to pursue a LEMA to address the remedy
 - End gun removal
 - Augmentation implementation
 - Incentivize transfer of water through the CKWBA out of sensitive areas

WHERE ARE WE NOW?!

- In January the District formed the LEMA committee
 - Darrell Wood John Janssen
 - Fred Grunder Tom Taylor
- Several meetings with legal counsel and hydrologists to determine the best course of action that is based on sound science and is reasonable.
- The current plan is NOT finalized!
 - We need your input!!!

RSC LEMA GOALS

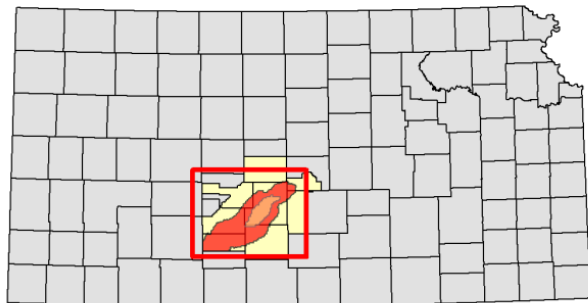
- To reduce water-use in the LEMA area to a degree that will temper the growth of future streamflow depletion, and
- To restore the useful supply to diversion points on the upper reaches of Rattlesnake Creek.

END GUN REMOVAL

- Definition: “any nozzle at the end of the center pivot system that has a larger bore diameter than the previous nozzle on the center pivot system.”
- There are approximately 1300 end guns installed throughout the LEMA area (see map).
- Effective December 31, 2018, all end guns will be removed.

PROPOSED LEMA BOUNDARY

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Index Map

By formal motion on August 11, 2017, Big Bend GMD#5 is pursuing a Local Enhanced Management Area (LEMA) within the area shown.

The map was created by combining the Zone A response area (>10%) and the Rattlesnake Creek subbasin.

The principle goal of the LEMA is to increase the efficiency and reduce waste of water within the region. Shown are the locations of the end guns as determined by District site inspections.

LEMA area
909,368 acres

Points of Diversion
1948 wells

End Gun Locations
1306 Center Pivots

Legend

- LEMA Boundary
- High Impact Area
- Subbasin Boundary
- County Boundary
- Township Boundary
- End Gun Location
- Point of Diversion
- Section Boundary



Coordinate System: NAD 1983
Projection: UTM Zone 14N
February 15, 2018

6 3 0 6 12 Miles
1 inch = 7 miles

This map was created using WIMAS data and represents water right conditions as of August 11, 2017. GMD#5 exercises great care in creating data presentations but, offers no guarantee of accuracy or completeness of the data.

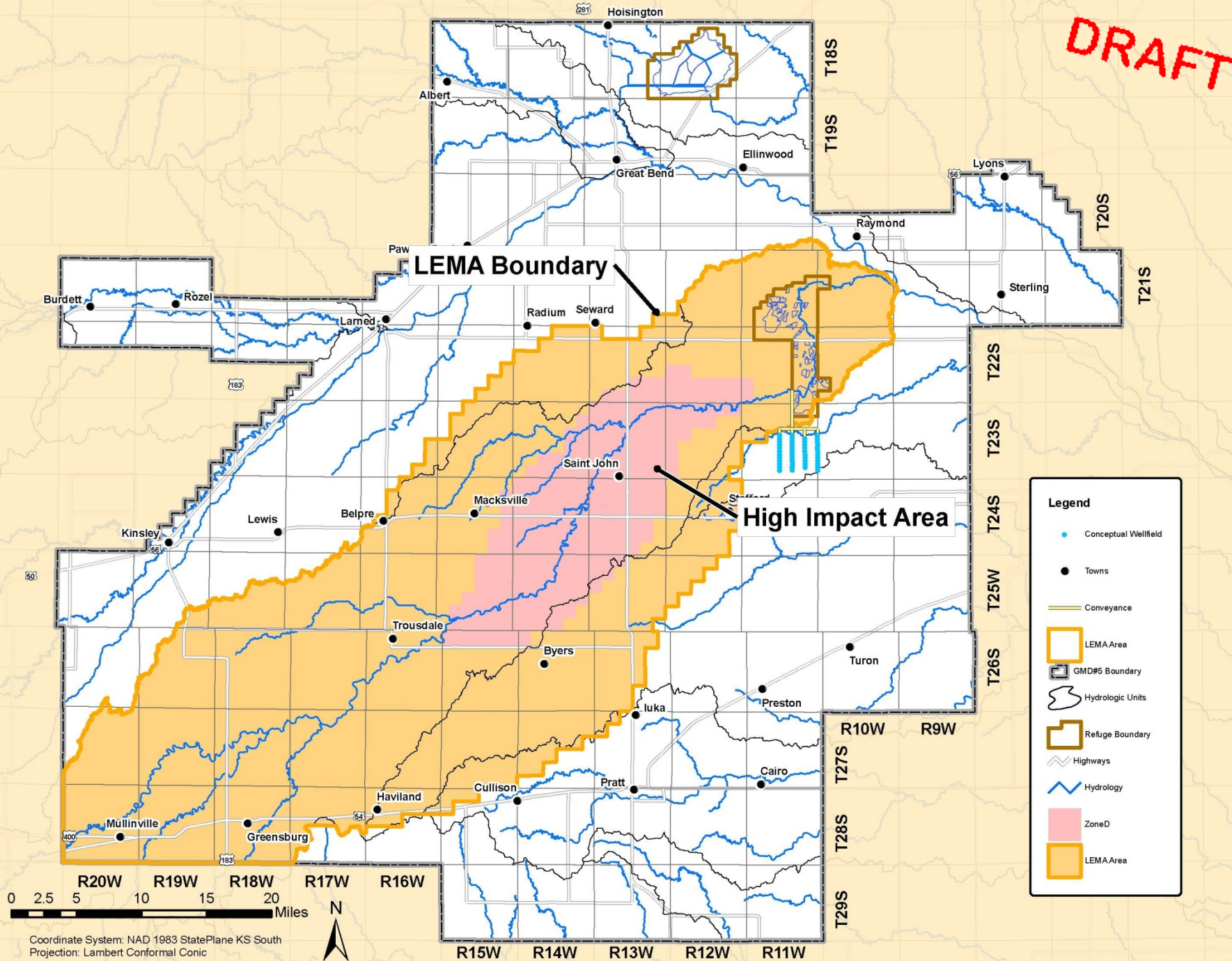
END GUN REMOVAL

- The District estimates 19,000 AFY will be conserved through this practice within the LEMA area.
- The certified acre-feet appropriation IS NOT being reduced at this point.
- KDA–DWR is requiring a method to track this water conservation effective January 1 , 2020.
- The LEMA committee and KDA–DWR are still working on this methodology.

HIGH IMPACT AREA

- Based on modeling, the District estimates that the 19,000 AFY savings will not achieve the effect that KDA-DWR is requiring for a sufficient remedy.
- Modeling indicates that an additional 4,000 AFY will need to be conserved in the High Impact area (see map).

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Date: 2/14/2018

HIGH IMPACT AREA

- No allocation adjustments required at this point.
- Implementation of secondary objectives:
 - Permanent retirement of water rights through the expansion of the Conservation Reserve Enhancement Program ("CREP") and the Water Transition Assistance Program ("WTAP")
 - Permanent purchase and retirement of water rights by the District
 - Permanent movement of water from hydrologically sensitive areas to less sensitive areas
 - Temporary water leases through the Association

AUGMENTATION

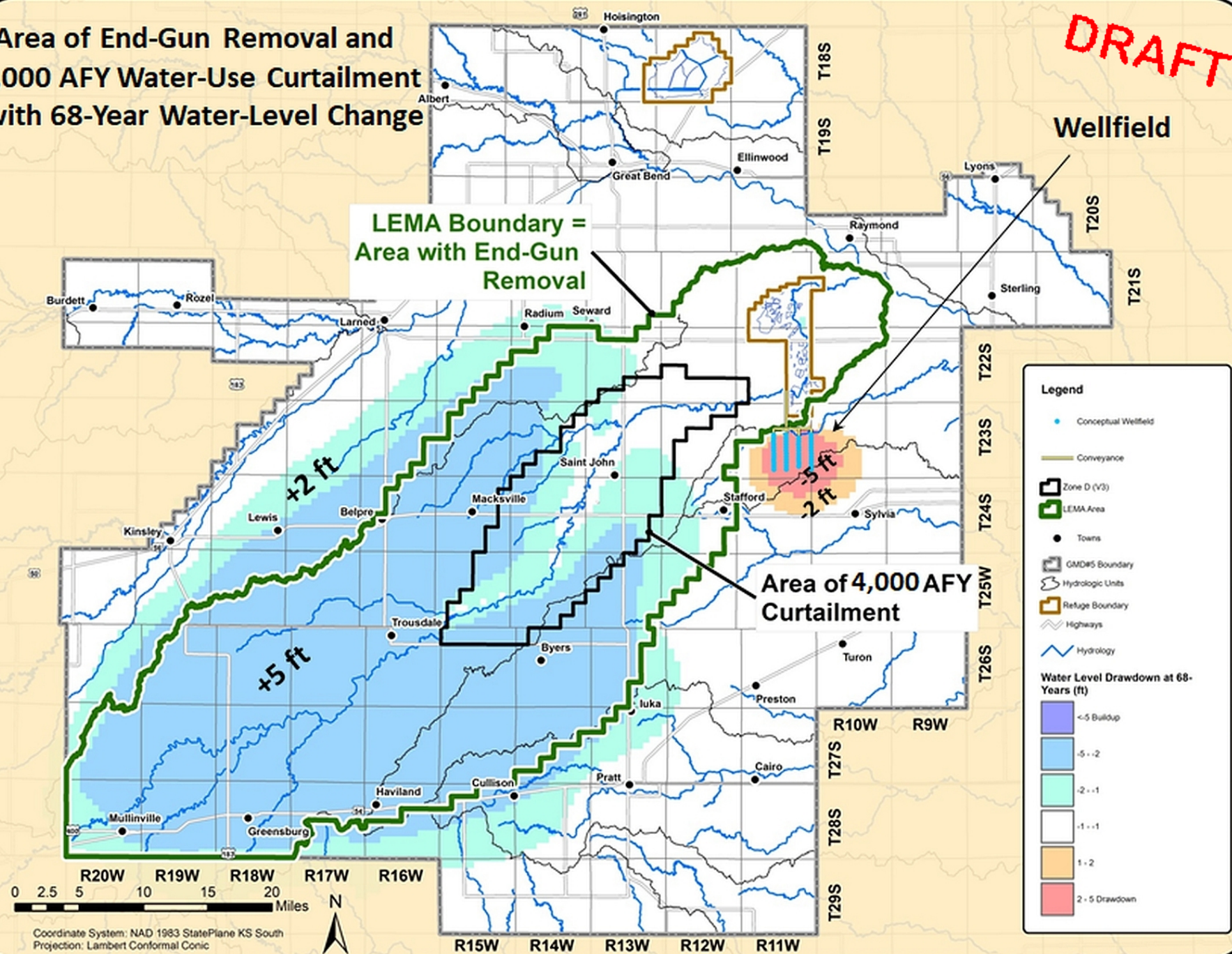
- Following a study by an engineering firm and acquisition of water appropriation from KDA, the District will implement the augmentation project.
- Deliver up to 15 cfs capacity to the Rattlesnake Creek stream channel.
- Provide suitable water quality for Quivira NWR's habitat and in compliance with KDHE requirements.
- The implementation timeframe is still being developed.

AQUIFER EFFECTS

- Balleau Groundwater has estimated that the effects of the LEMA and augmentation project are a net gain to the area.
- The area that has historically seen declines in water table will see a net gain in storage of water.
- The area immediately surrounding the augmentation will see negligible change in water table and water quality.

Area of End-Gun Removal and 4,000 AFY Water-Use Curtailment with 68-Year Water-Level Change

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CORRECTIVE CONTROLS

- The water conservation the District estimates will be evaluated in 2025.
- If the water use goals are met at that time, there will be NO change in status.
- If the water use goals are not met, there will be required water allocations in order to meet the goals by 2029.

CORRECTIVE CONTROLS

- The methodology for these controls is still being determined.
- Items for consideration by stakeholders:
 - Water Right Priority
 - Stream Response
 - Appropriation vs NIR vs Water Use History
- The District is asking YOU, the stakeholders:
 - What should be of higher ranking?
 - Items that should not be considered?
 - Accounting for past conservation?
 - Other items for consideration?

WHAT'S NEXT?

- The draft LEMA document is NOT finalized!
- The LEMA committee has been working to get the document to this point for public review and suggestions.
- The District board will review all of those comments and suggestions before taking the next step of submission to the Chief Engineer.
- That will then trigger the LEMA process outlined earlier.

QUESTIONS / COMMENTS



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