WATER RESOURCES DIVISION

ORIENTATION 2018

MARCH 2018

John Harrington
Water Resources Division Director

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WHO WE ARE

GARBER-WELLINGTON ASSOCIATION

- A policy committee created in 1979 within the ACOG organization. One of the major purposes of the Association is "to determine the boundaries of the fresh water, recharge characteristics of the aquifer, production potential and safe withdrawal zones and rates, to identify pollution sources and recommend preventive measures." The Garber-Wellington Association meets every other month after the ACOG Board meeting.

208 Water Quality Management Agency

- Under the Clean Water Act Sections 208 and 303 Water Quality Management (208) plans describe comprehensive programs for controlling water pollution from point and nonpoint sources in a defined geographic area. Oklahoma DEQ reviews and updates, as necessary, the state's 208 Plan. Areawide Councils of Governments may act as the lead planning agencies preparing and approve the 208 Plan in their counties.

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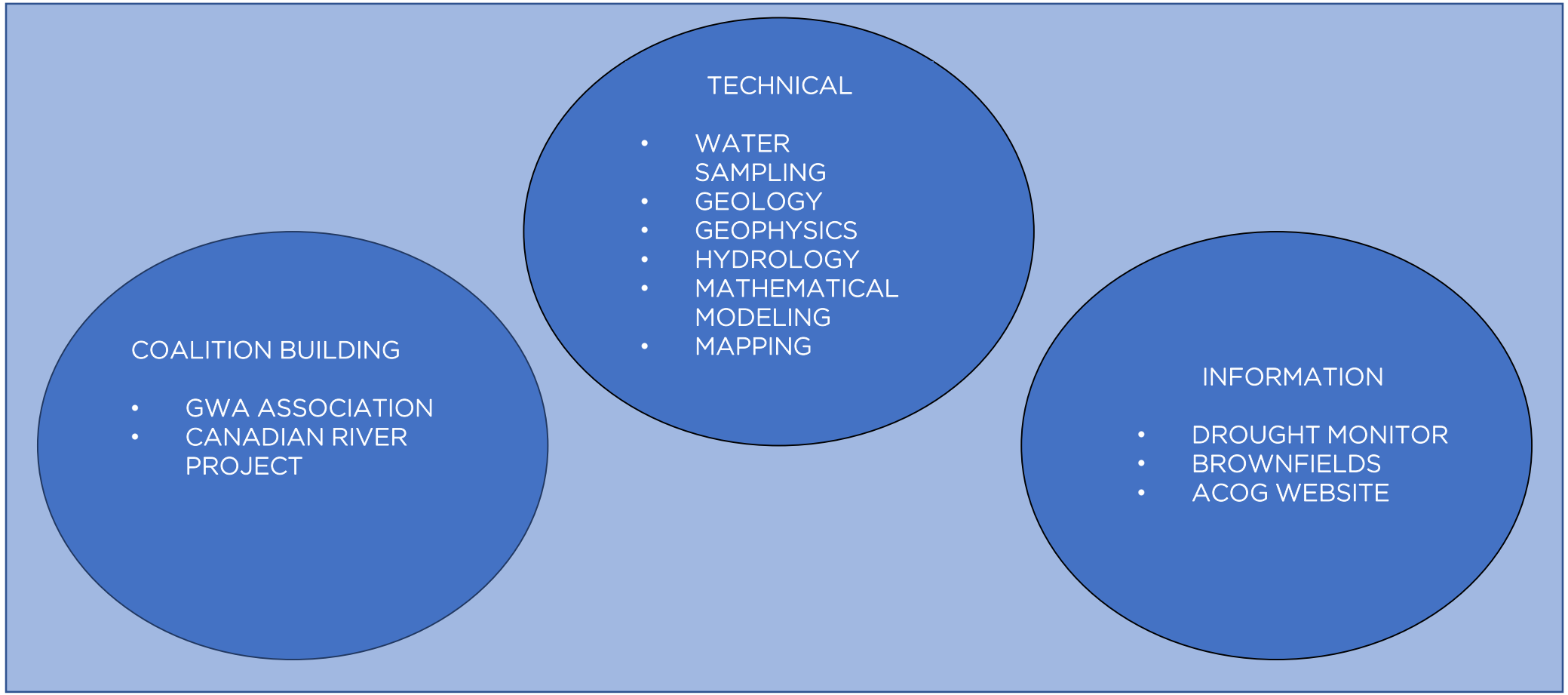
WHAT WE DO



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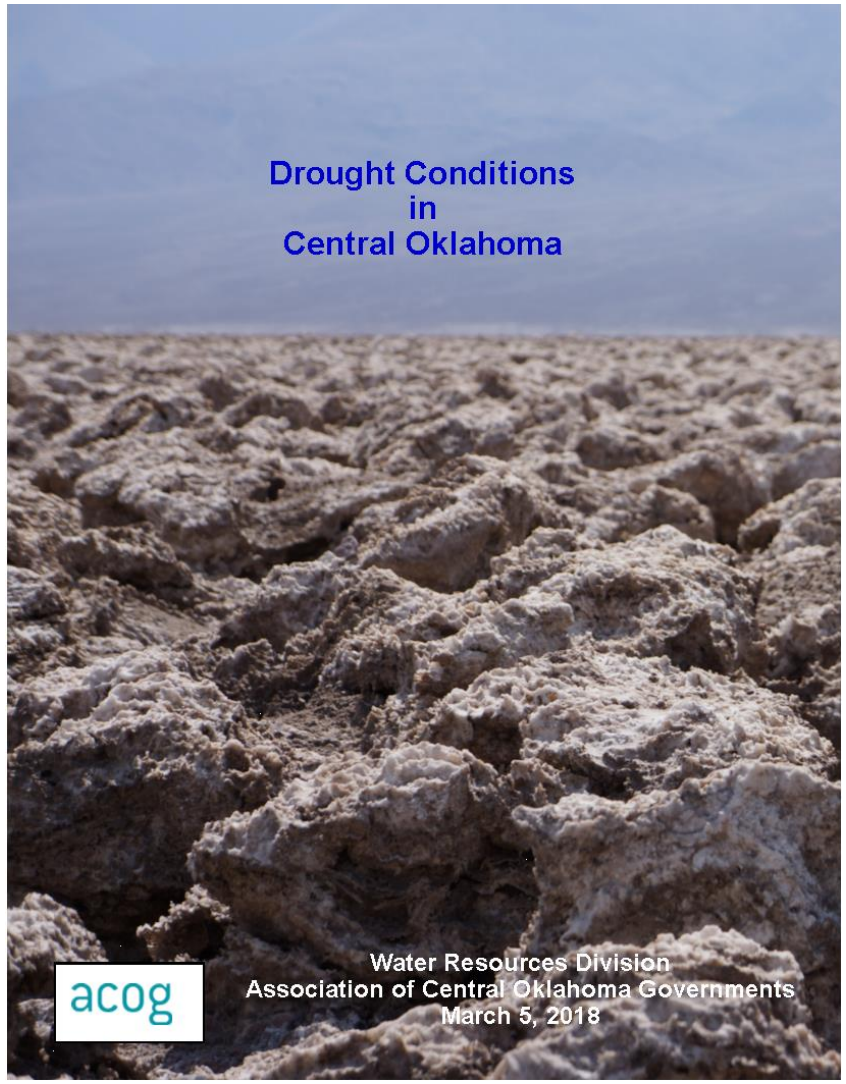
HOW WE DO IT

INFORMATION

- Our monthly drought monitoring report shows the state of water in Oklahoma, including surface and ground water conditions.
- This is a compilation of various information sources including weather, drought, reservoir levels, and groundwater information from a regional perspective.
- Visit: http://www.acogok.org/water/



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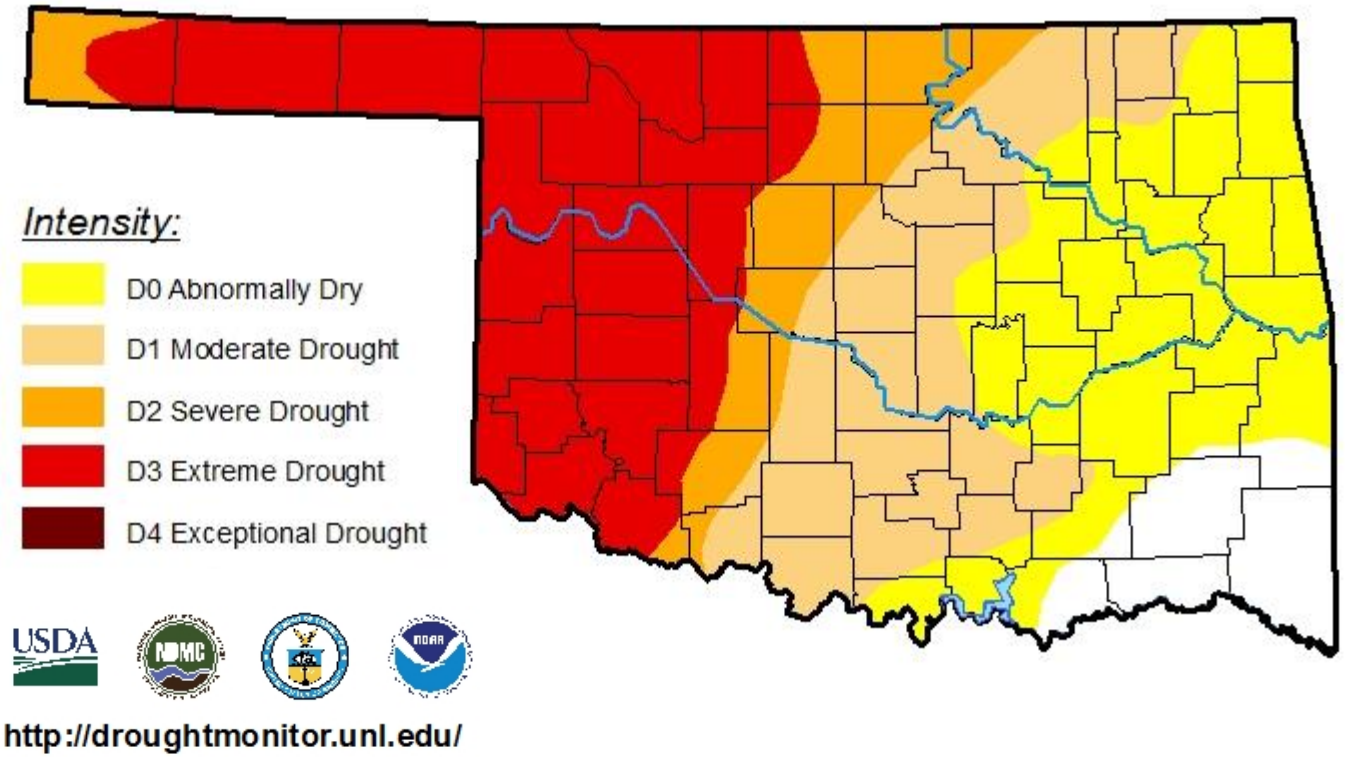
MORE ABOUT THE DROUGHT



As of March 1, 2018

- Estimated population affected: 2,237,418
- Estimated area of Oklahoma affected: 92.28%
- Estimated area of Oklahoma in severe drought: 32.91%

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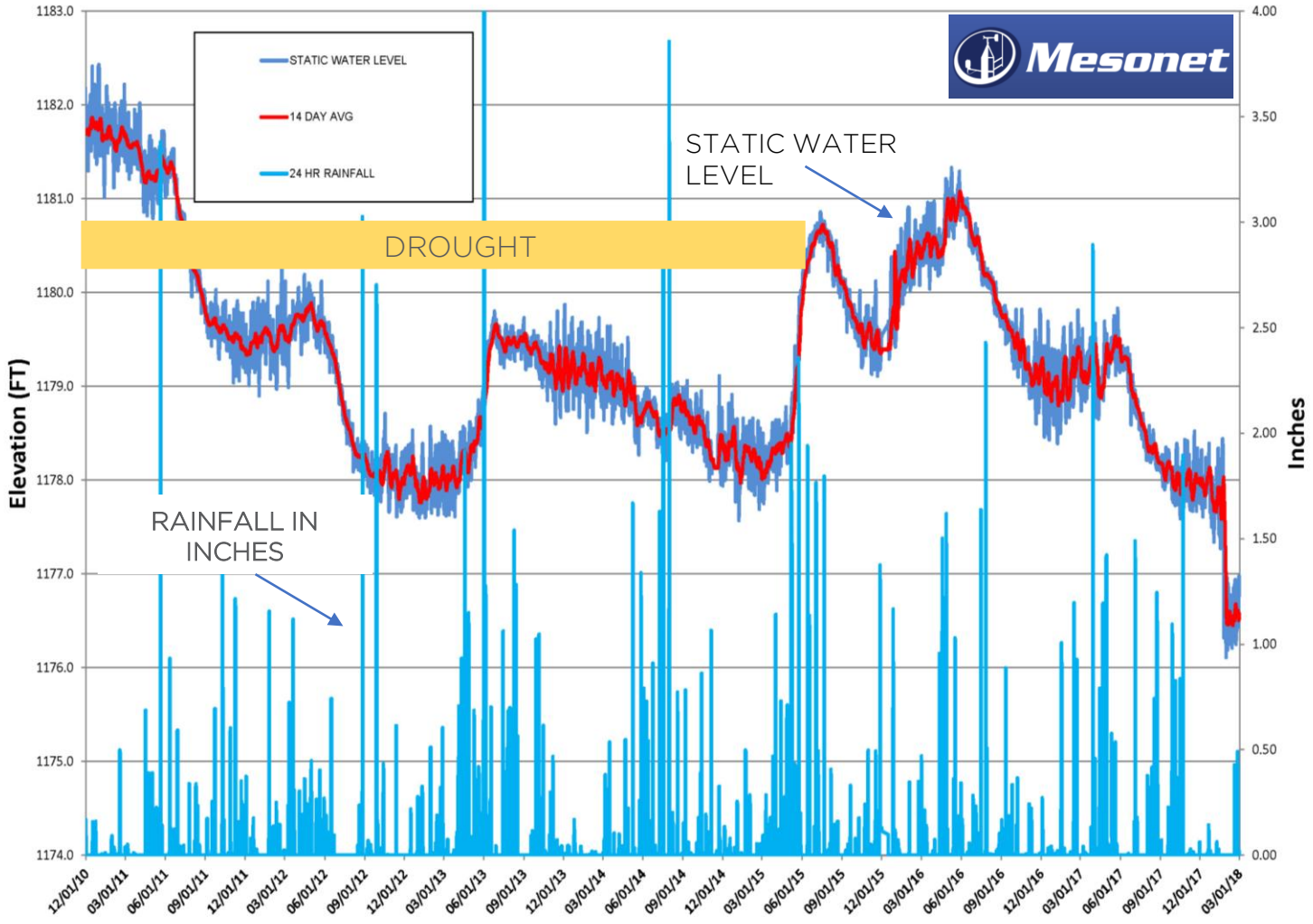
MORE ABOUT THE DROUGHT



Spencer Mesonet Site

As of March 1, 2018

- Raw data shows static water elevation is 1176.58
- During the 2010-15 drought, static water elevation was 1178.

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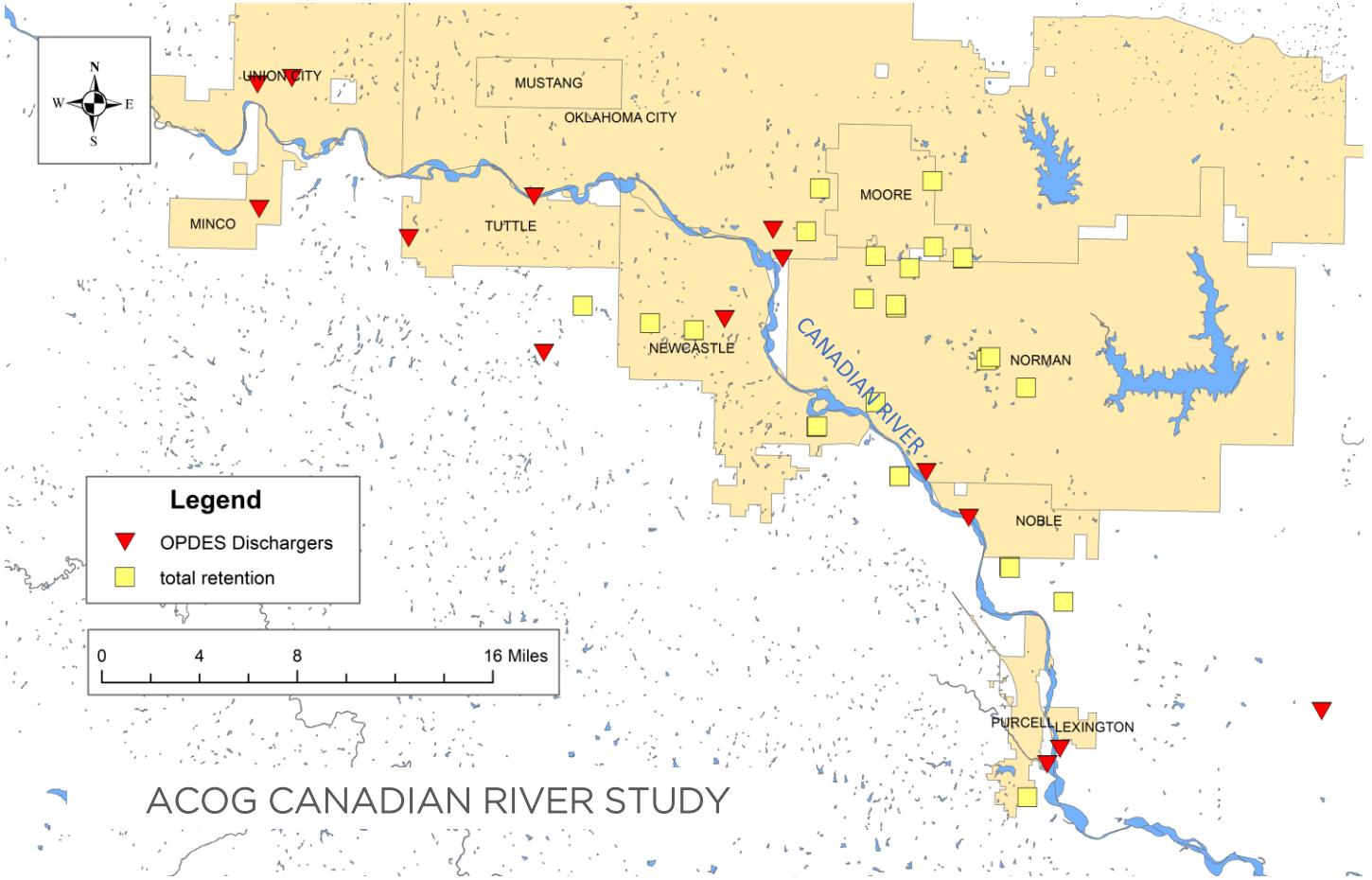
HOW WE DO IT

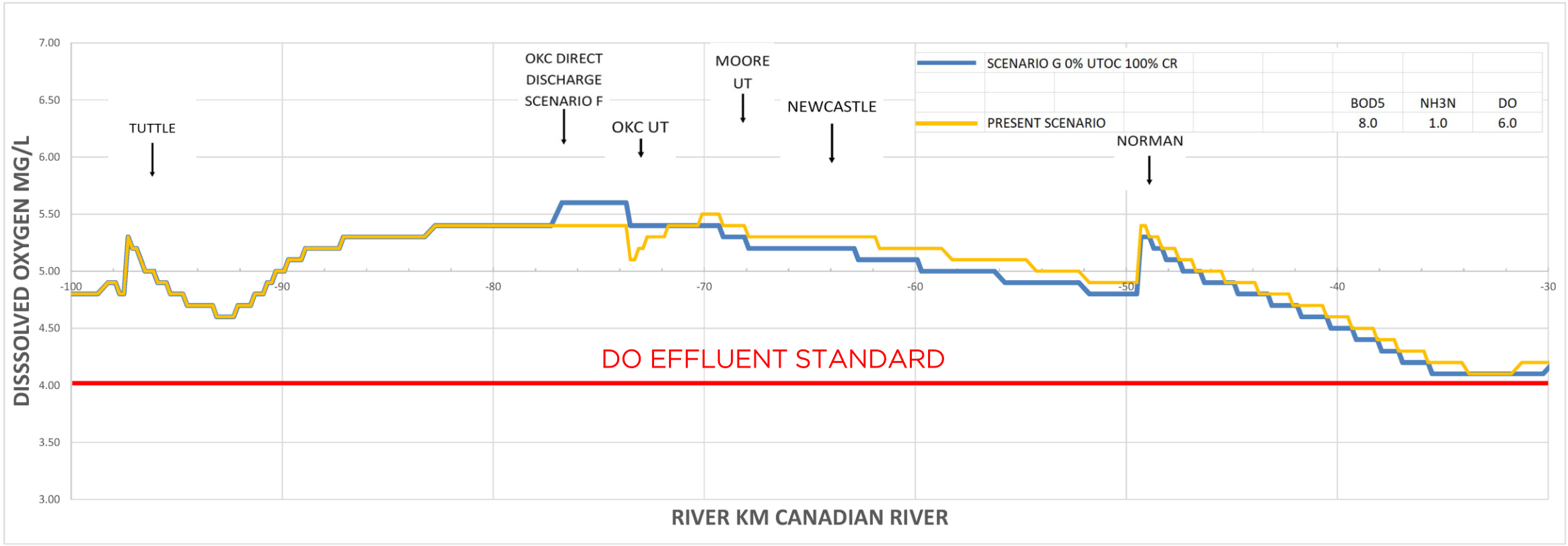
COALITION BUILDING

- From 2007-15, ACOG led a regional survey of ten municipalities to study the dissolved oxygen content of the Canadian River. This led to the regional revision of effluent standards along a 70 mile stretch of the river from Minco to Wayne, OK using a computer model.

- In 2018, we are using the model to plan more discharge points along the river.



HOW WE DO IT



WASP MODEL – CANADIAN RIVER STUDY

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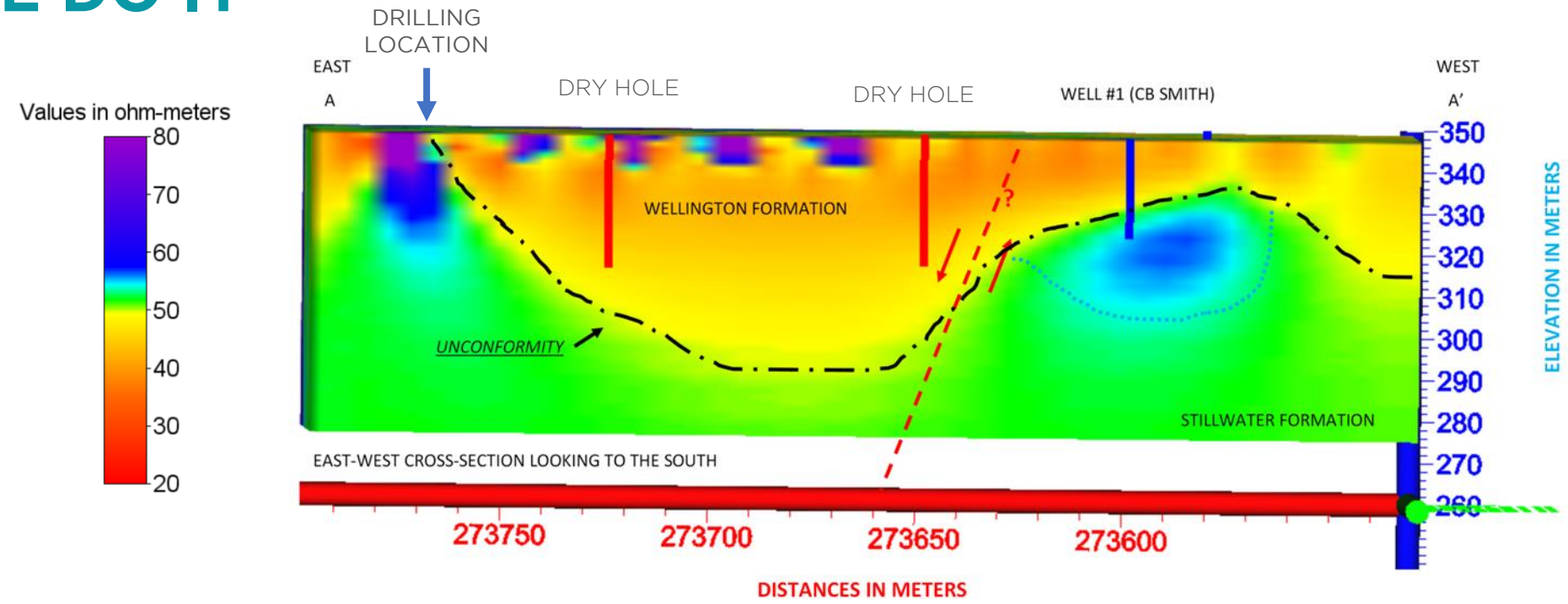
HOW WE DO IT



TECHNICAL GEOPHYSICS

GWA owns and operates an electrical resistivity system which images the subsurface and shows favorable locations for water well drilling. These electrical resistivity surveys are used by GWA members and rural water communities in central Oklahoma. One line generally costs about $4-5K.

GWA Mission Statement: "To determine the boundaries of the fresh water…"

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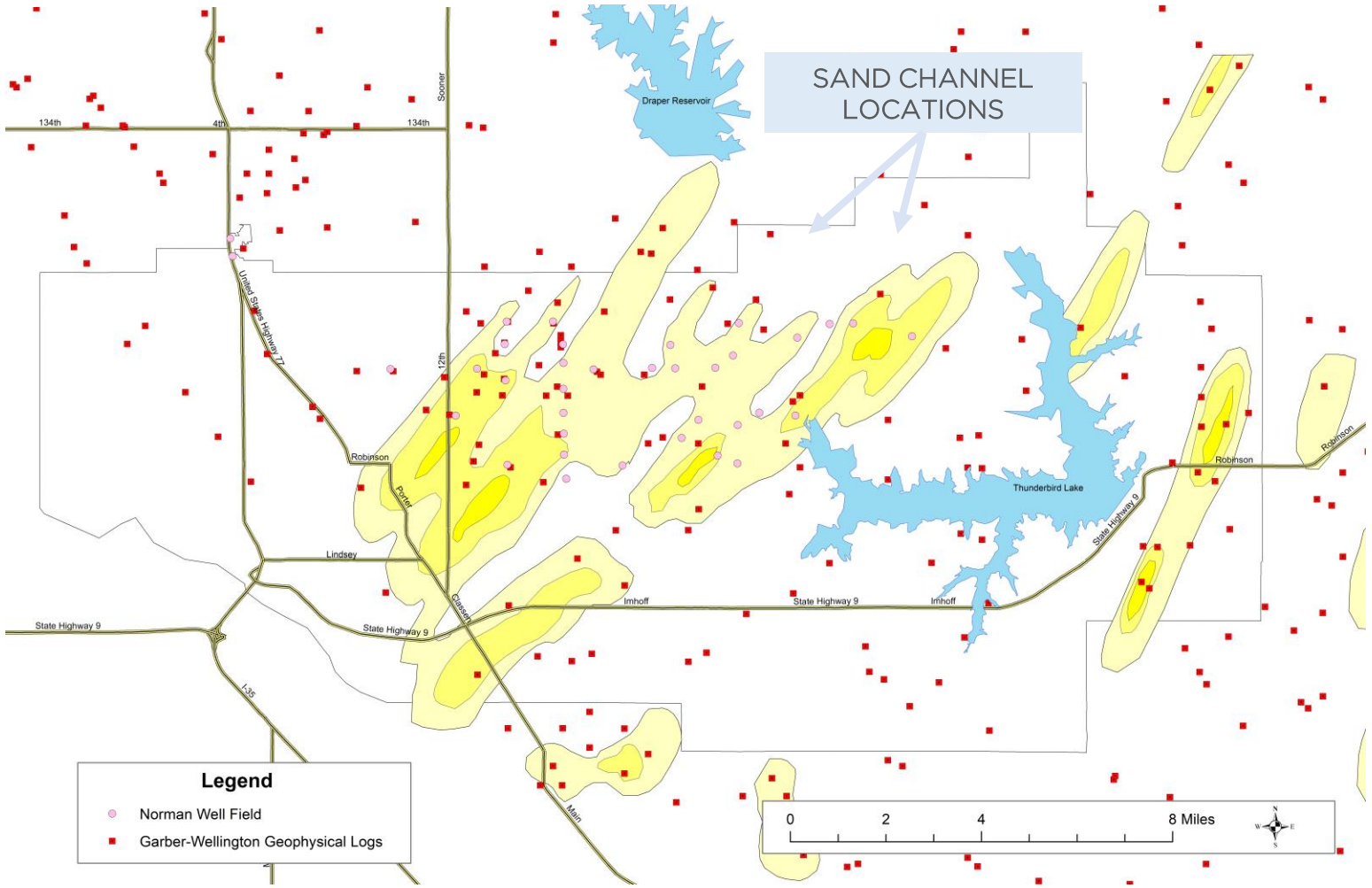
HOW WE DO IT

TECHNICAL GEOLOGY

- GWA has collected over 1500 geophysical well logs from its members and the oil and gas industry that are useful for mapping subsurface sand trends. Drilling in these sand trends will optimize water well production.

Preliminary Map Isopach Interval 09



GWA Mission Statement "to determine…production potential and safe withdrawal zones and rates…."

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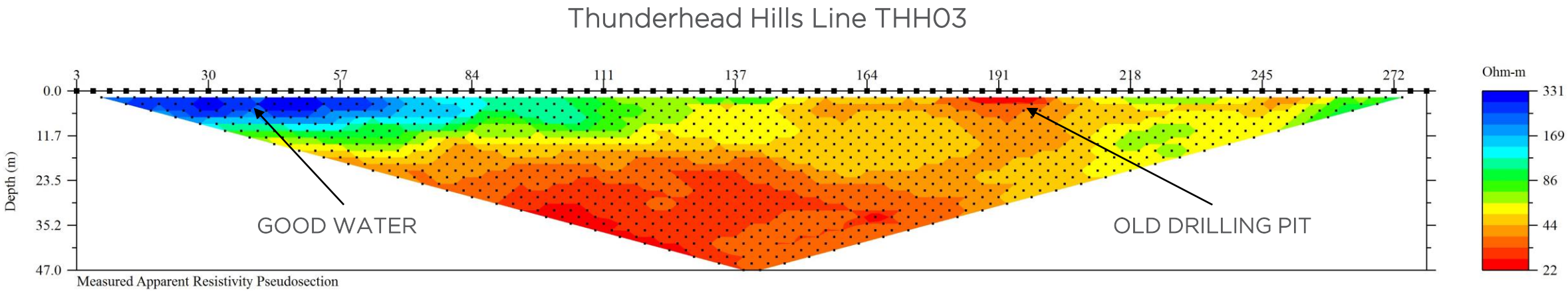
HOW WE DO IT



TECHNICAL GEOPHYSICS

GWA owns and operates an electrical resistivity system which images the subsurface and shows buried pits from old oil and gas operations. GWA has partnered with the Oklahoma Corporation Commission on several potential brownfields sites with this technology.

GWA Mission Statement

“to identify pollution sources and recommend preventive measures.”

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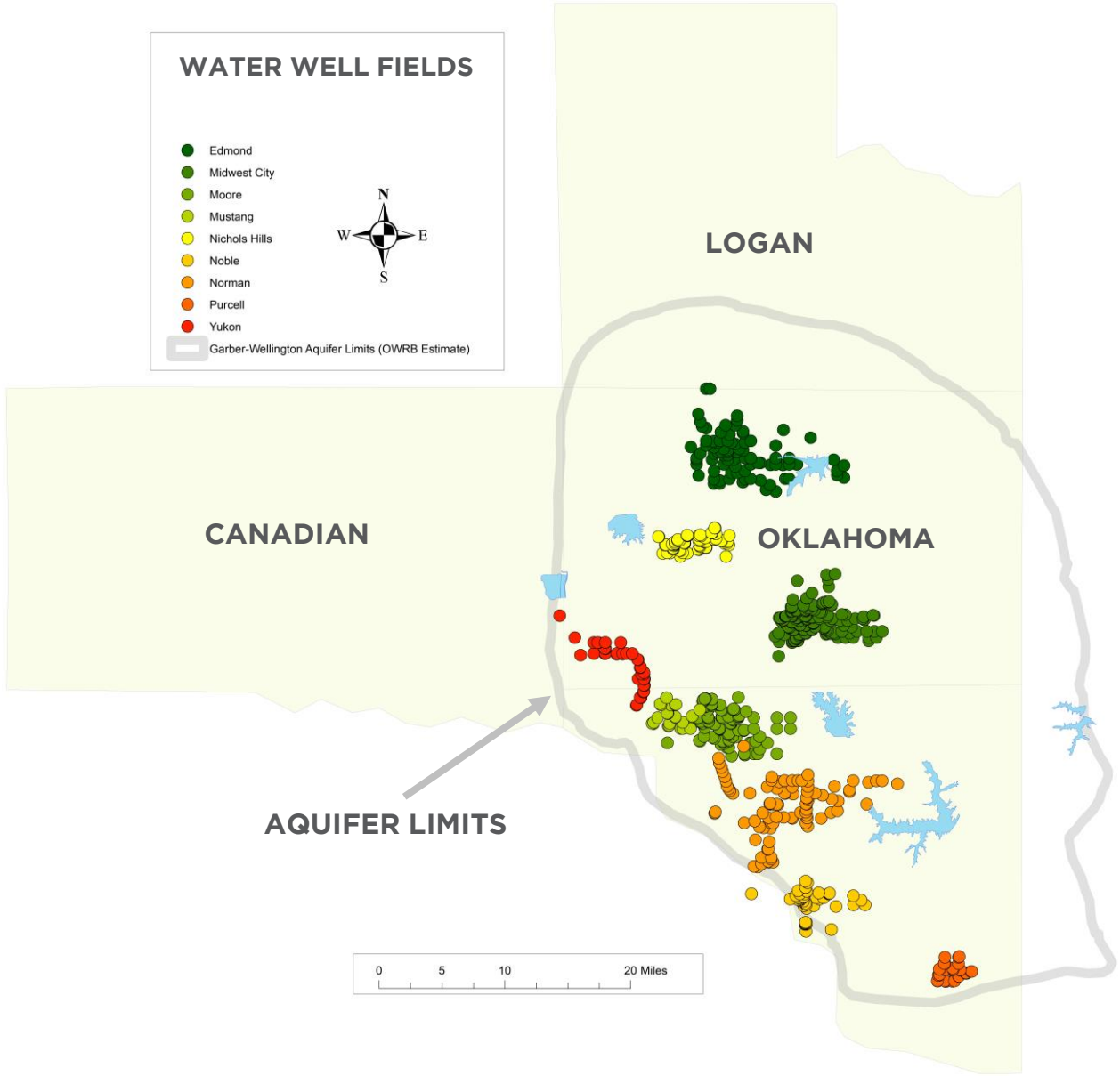
WHERE WE DO IT

- The Garber-Wellington Aquifer covers nearly 2,000 square miles in central Oklahoma.
- The Water Resource Division staff covers the ACOG counties (Logan, Oklahoma, Canadian, Cleveland).



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WHY WE DO IT

“Water is the most critical resource issue of our lifetime and our children's lifetime. The health of our waters is the principal measure of how we live on the land.“

Luna Leopold
Geomorphologist, USGS
Professor Emeritus, UC Berkley
Author “Fluvial Processes in Geomorphology” 1950

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QUESTIONS?

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