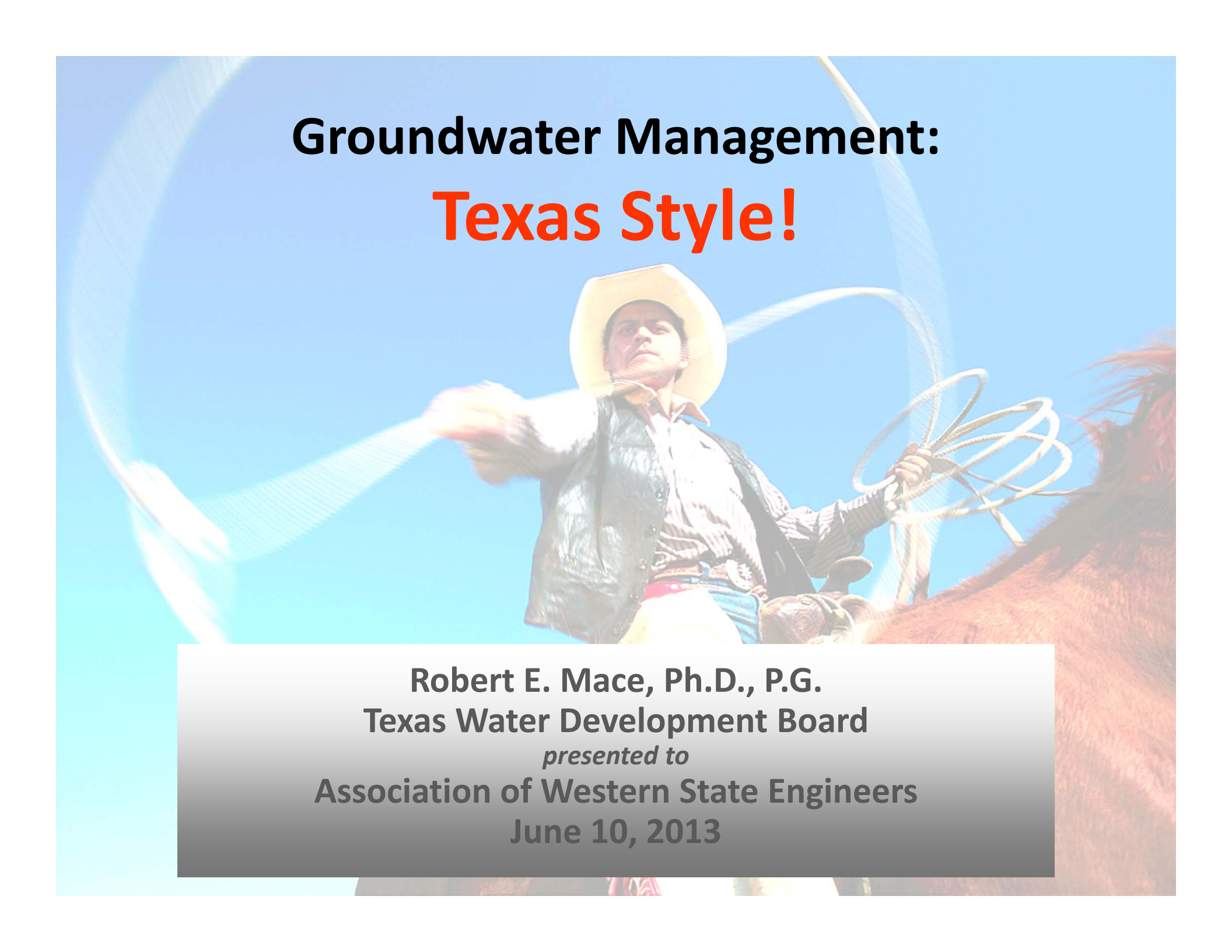




Groundwater Management: **Texas Style!**

Robert E. Mace, Ph.D., P.G.
Texas Water Development Board
presented to
Association of Western State Engineers
June 10, 2013

Texas Water Development Board



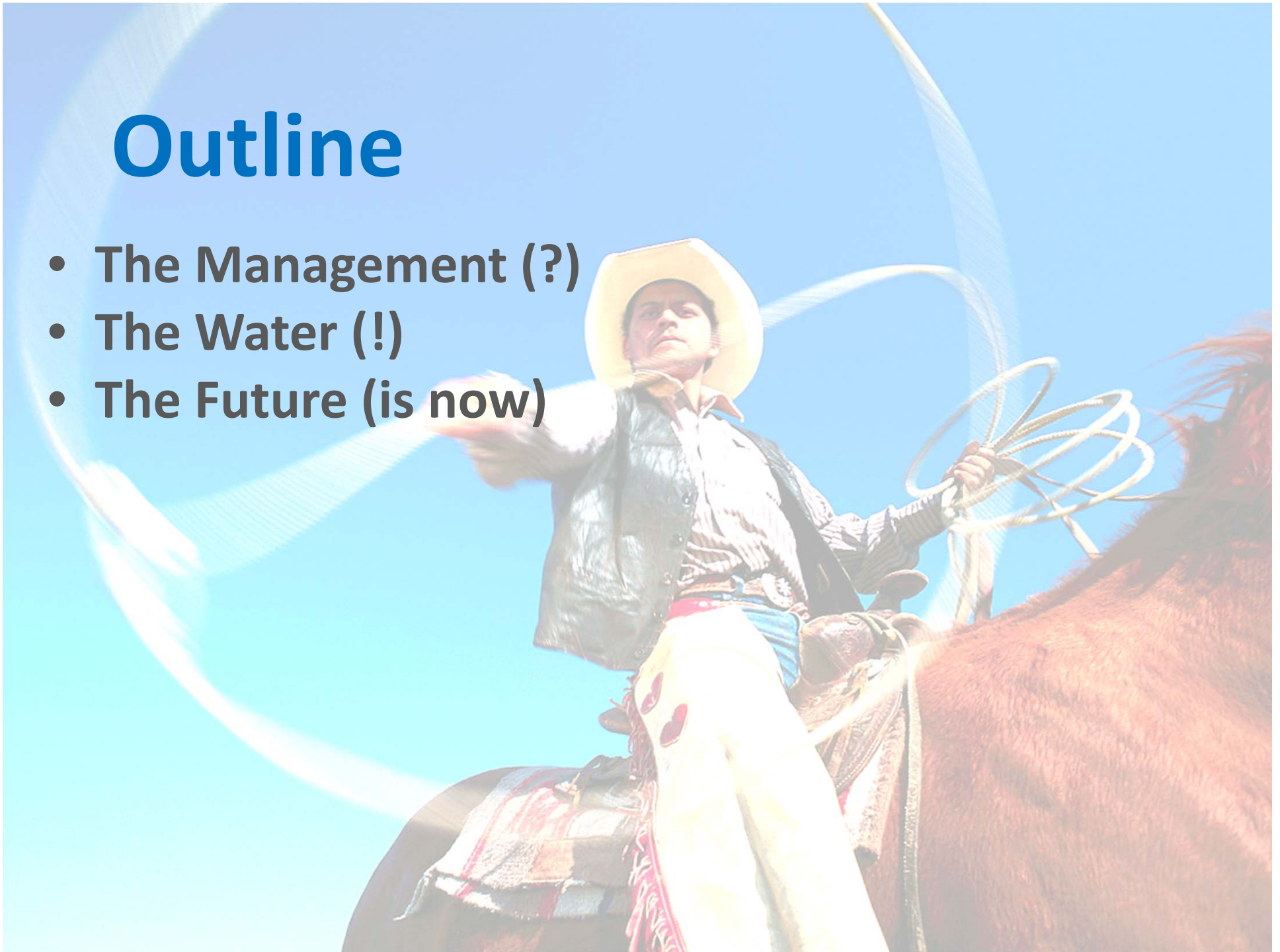
data

planning

financing

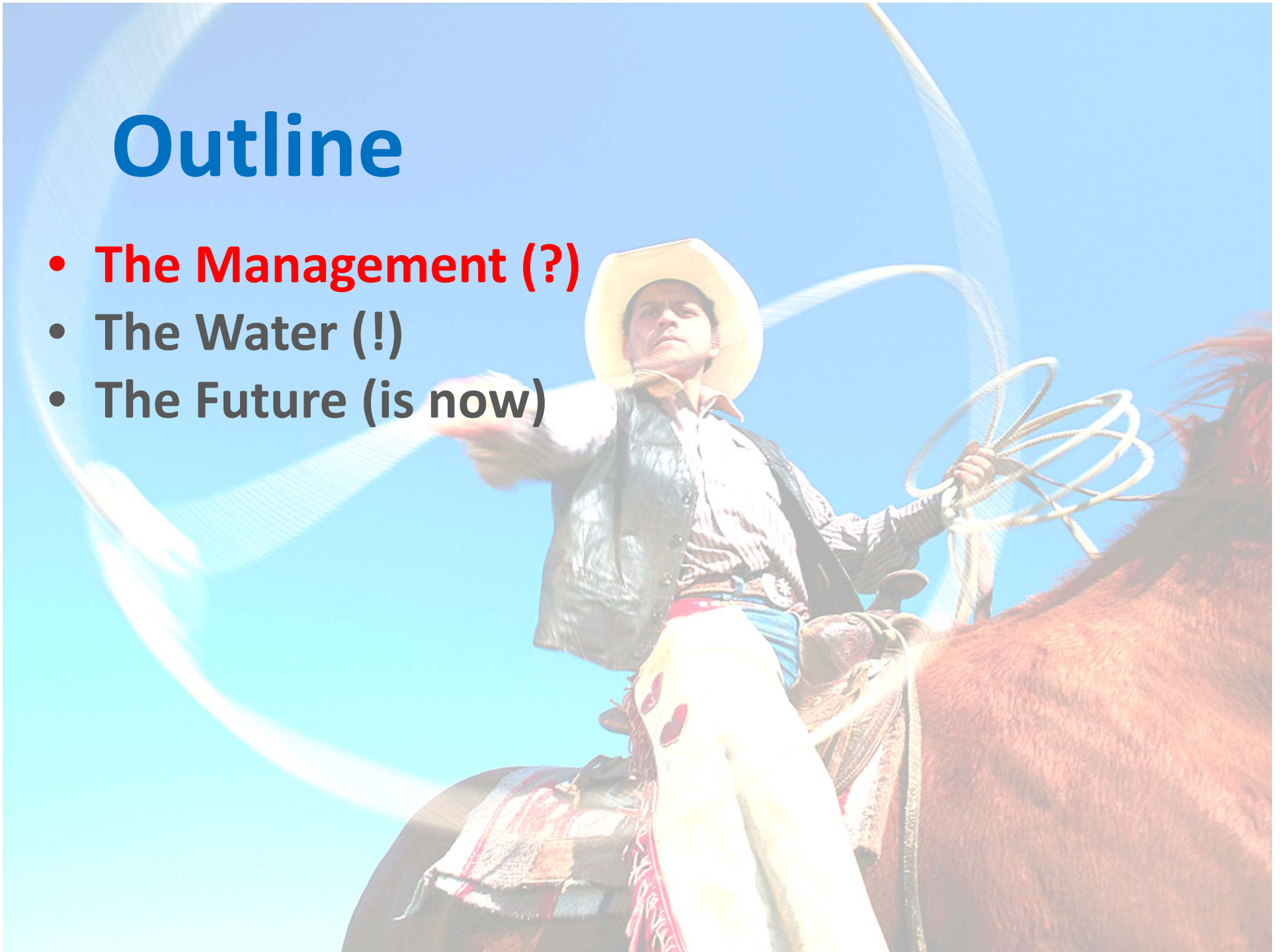
Outline

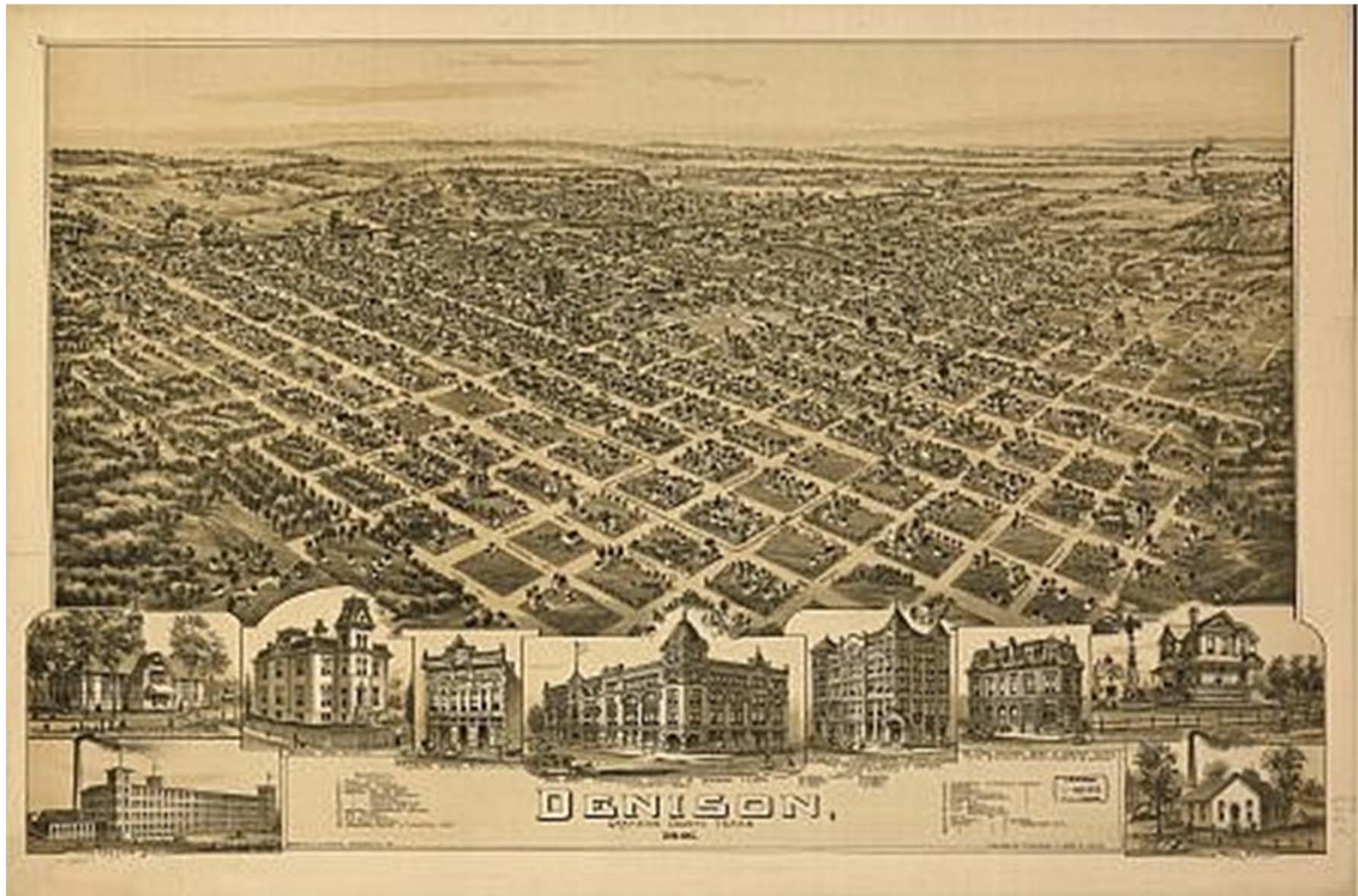
- The Management (?)
- The Water (!)
- The Future (is now)



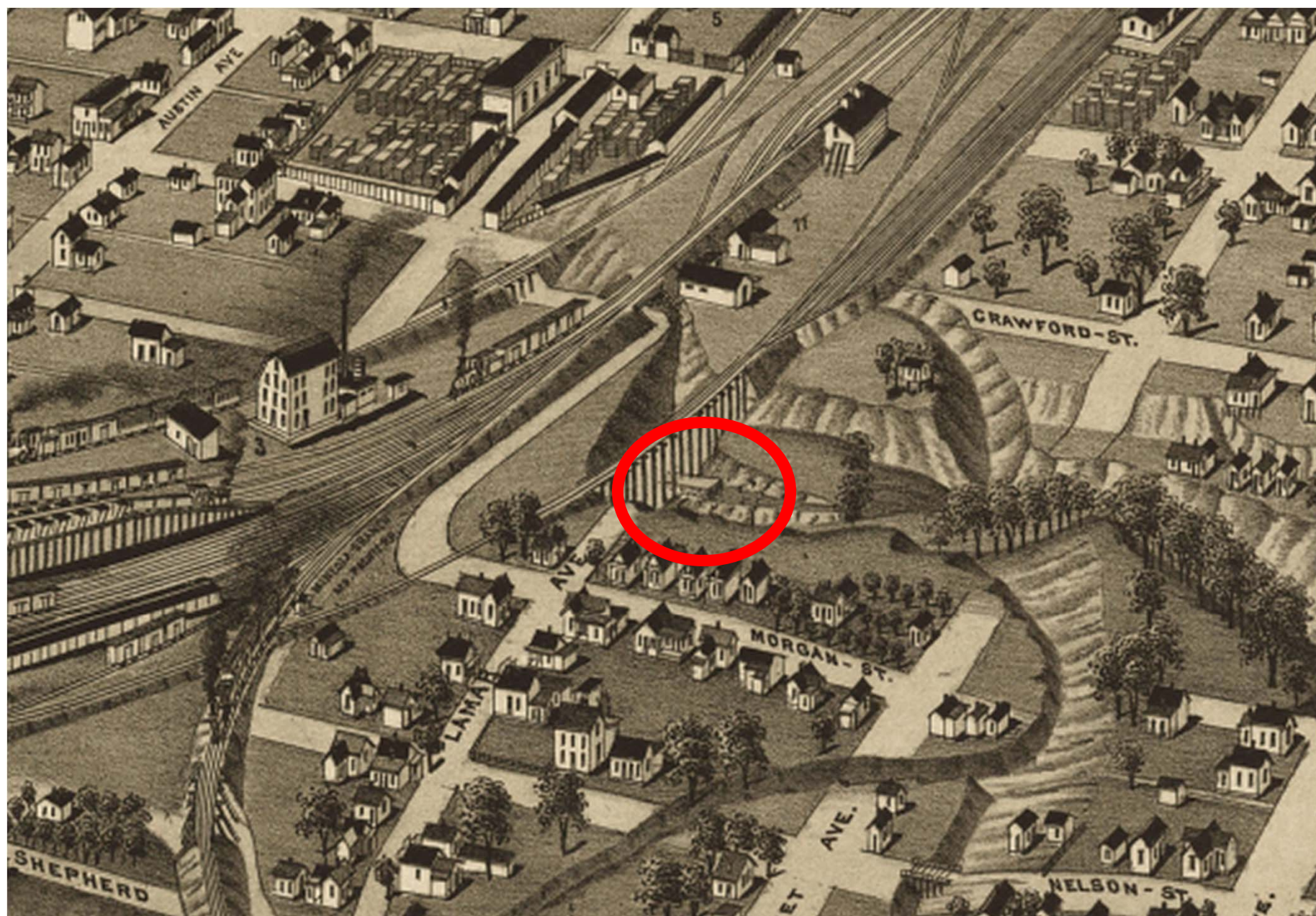
Outline

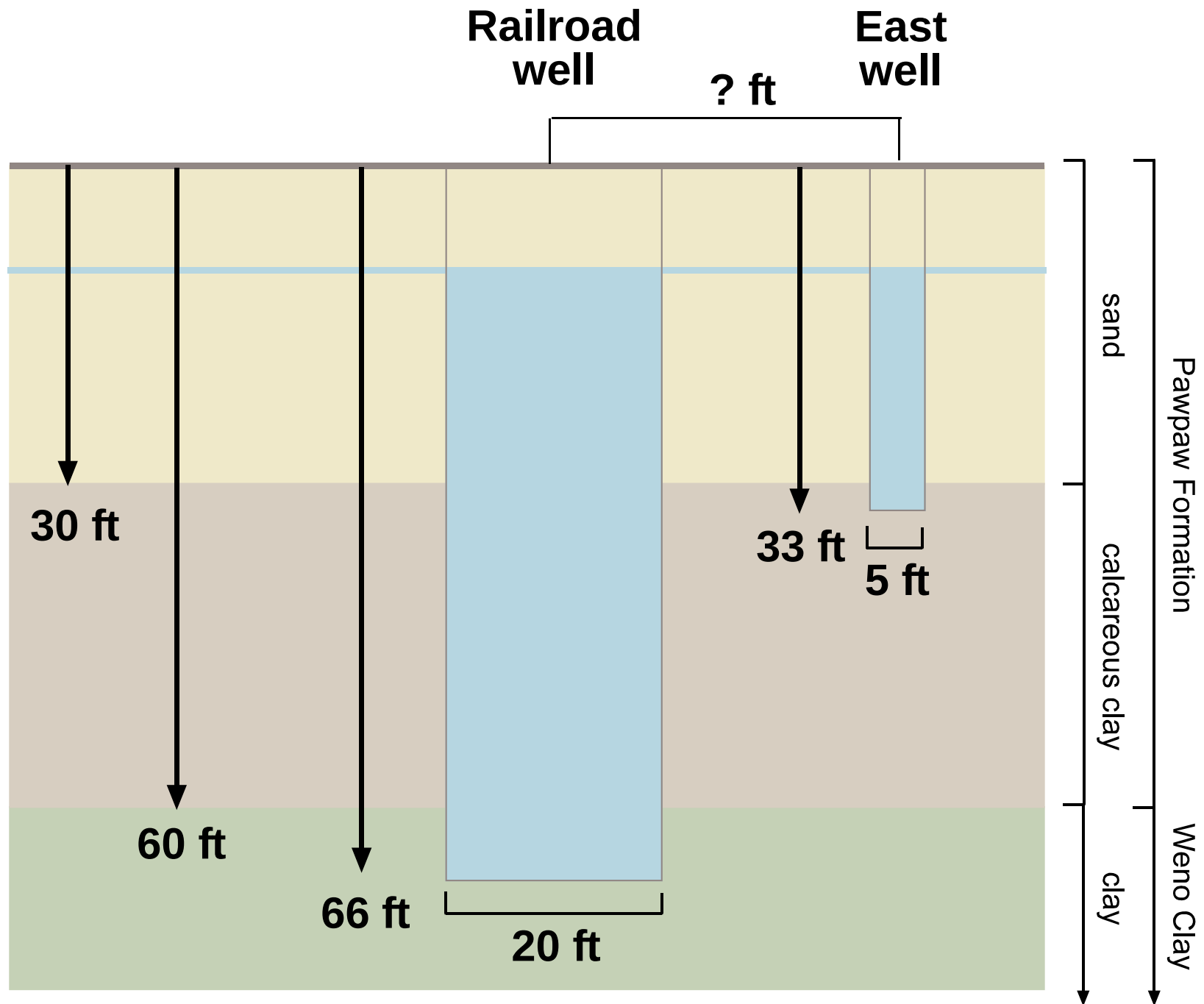
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Denison, Texas





Rule of Capture

1904

No. 74. Densy Printing Co., Stationers, Printers and Binders, Dallas-1281300. Class 2.

No. No. 1333, 5th Dist

No. 4018 No. 1333

W. A. East
Appellant's Distinctive in Error.

H. I. C. R. R. Co.
Appellee's Defendants in Error.

From the District Court of Grayson Co.

Applied for by Mesley & Epstein Attorneys
for Appellant on the 12th day of Janu.
1903 and delivered to Mesley & Epstein
on the 30th day of January 1903

C. Arnold
Clerk District Court Grayson County.

Filed in Court of Civil Appeals, at Dallas
the 2nd day of April 1903

George B. Cair Clerk.
Court of Civil Appeals 5th Supreme District of Texas.

Attorneys for Appellant.
P. O. Address.

Attorneys for Appellee.
P. O. Address.

5th Dist
Filed in Supreme Court
May 18, 1904
By J. J. Edwards, Clerk
By J. J. Edwards, Deputy
Appeal reversed
June 13, 1904
District Court affirmed

...so secret, occult and concealed...

Artesian Well. One of More Than 250 in Pecos, Tex.

Burges-Glasscock Act

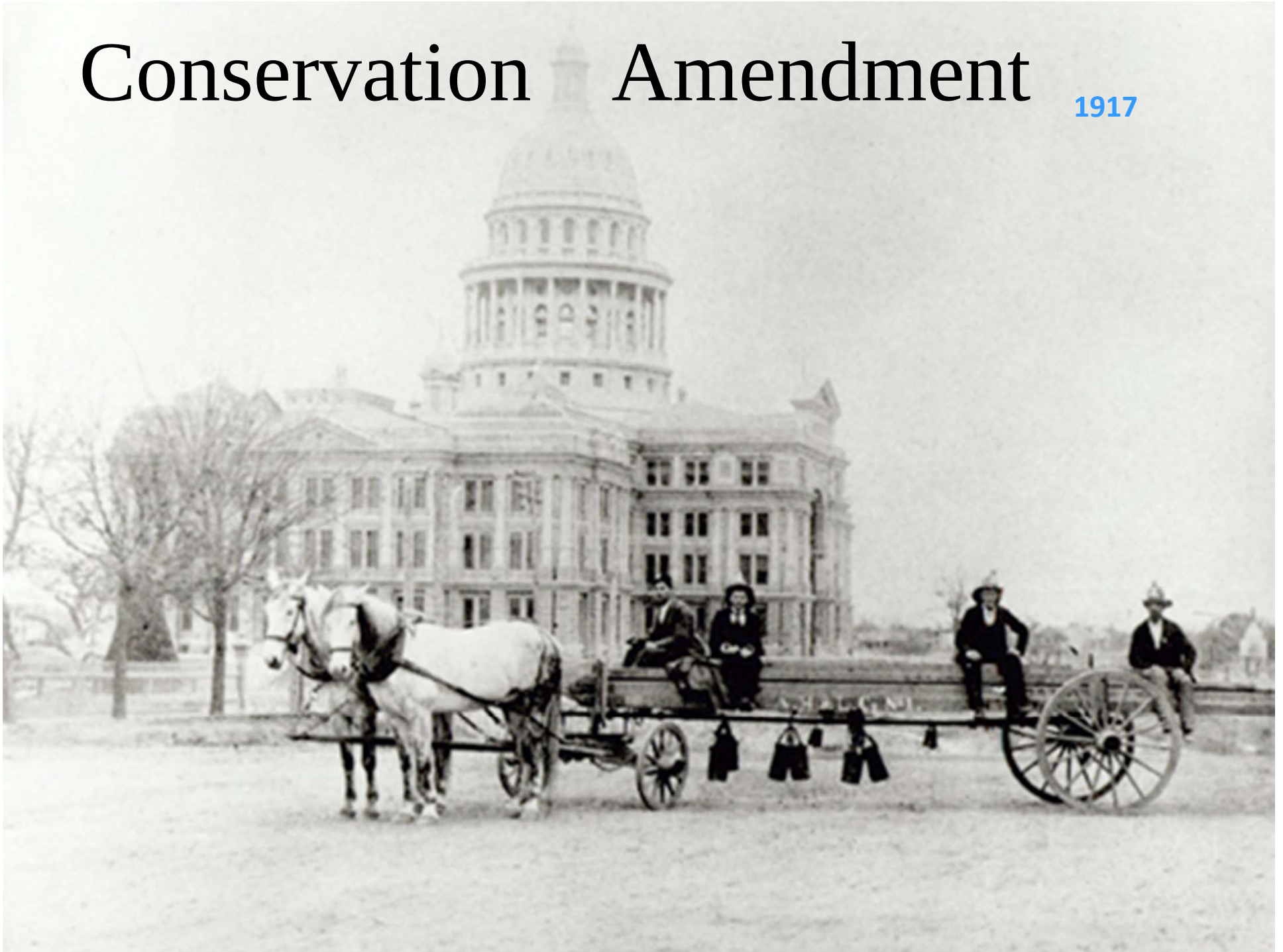
1913



W. B. HOPKINS, PHOTOGRAPHER

Conservation Amendment

1917





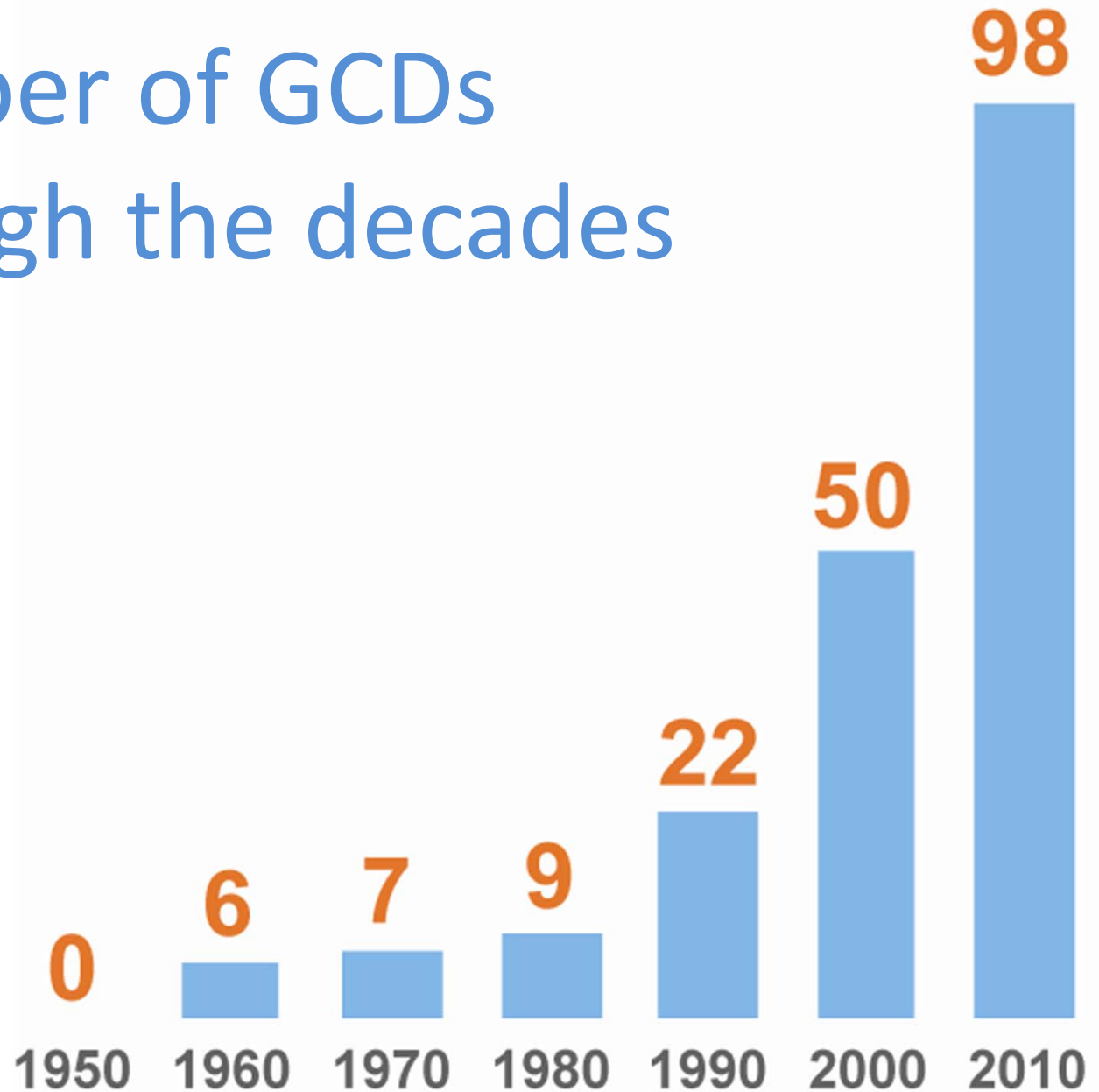
Stratford, Texas; April 18, 1935

Groundwater conservation districts 1949



February 2012

Number of GCDs through the decades



Powers of a groundwater conservation district

In general, districts:

- Register wells
- Regulate well spacing
- Regulate pumping

To know the powers:

- Chapter 36, Texas Water Code
- Enabling legislation
- Amendments to enabling legislation
- Rules



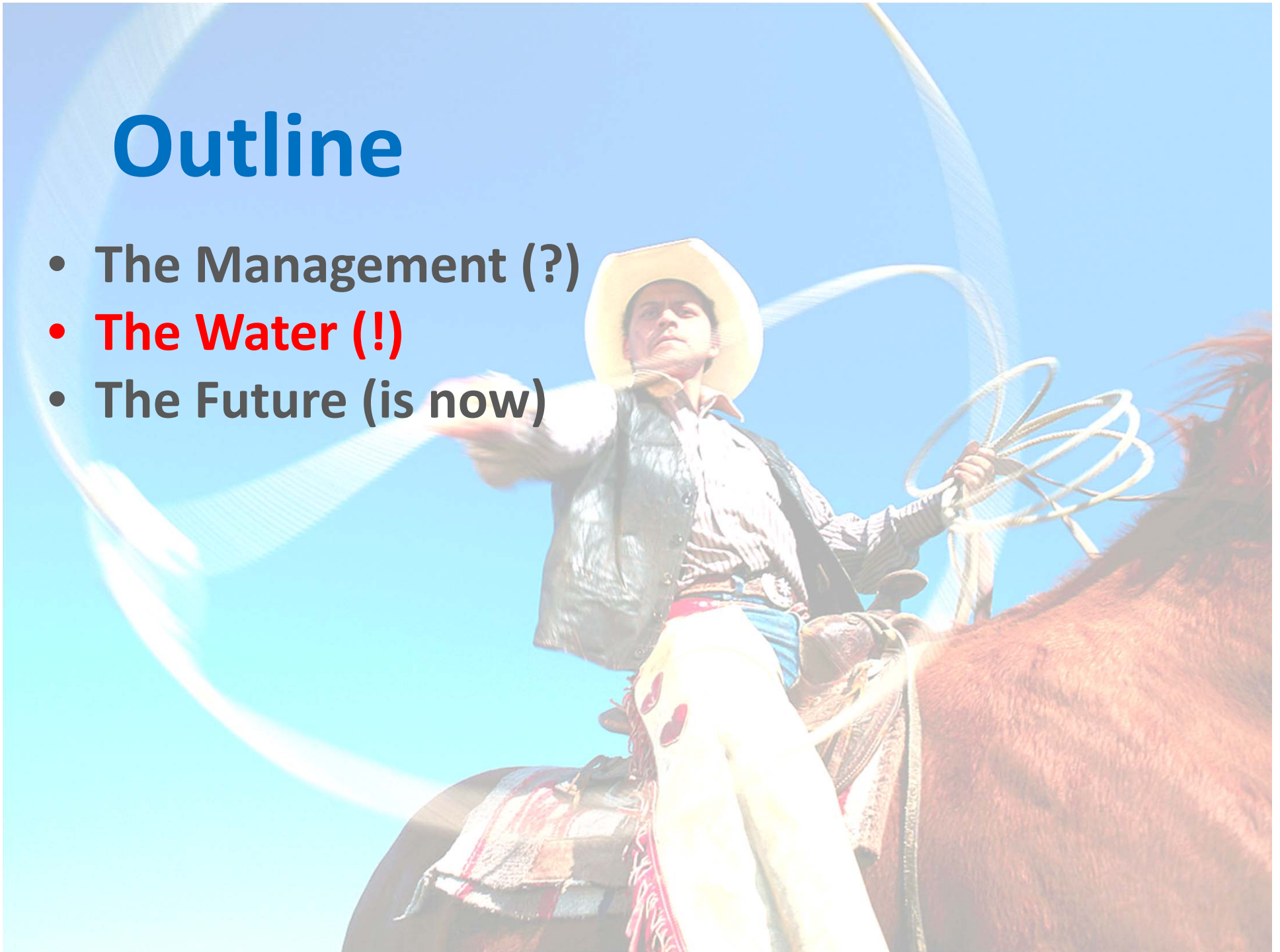
The Burrell Day and Joel McDaniel Well



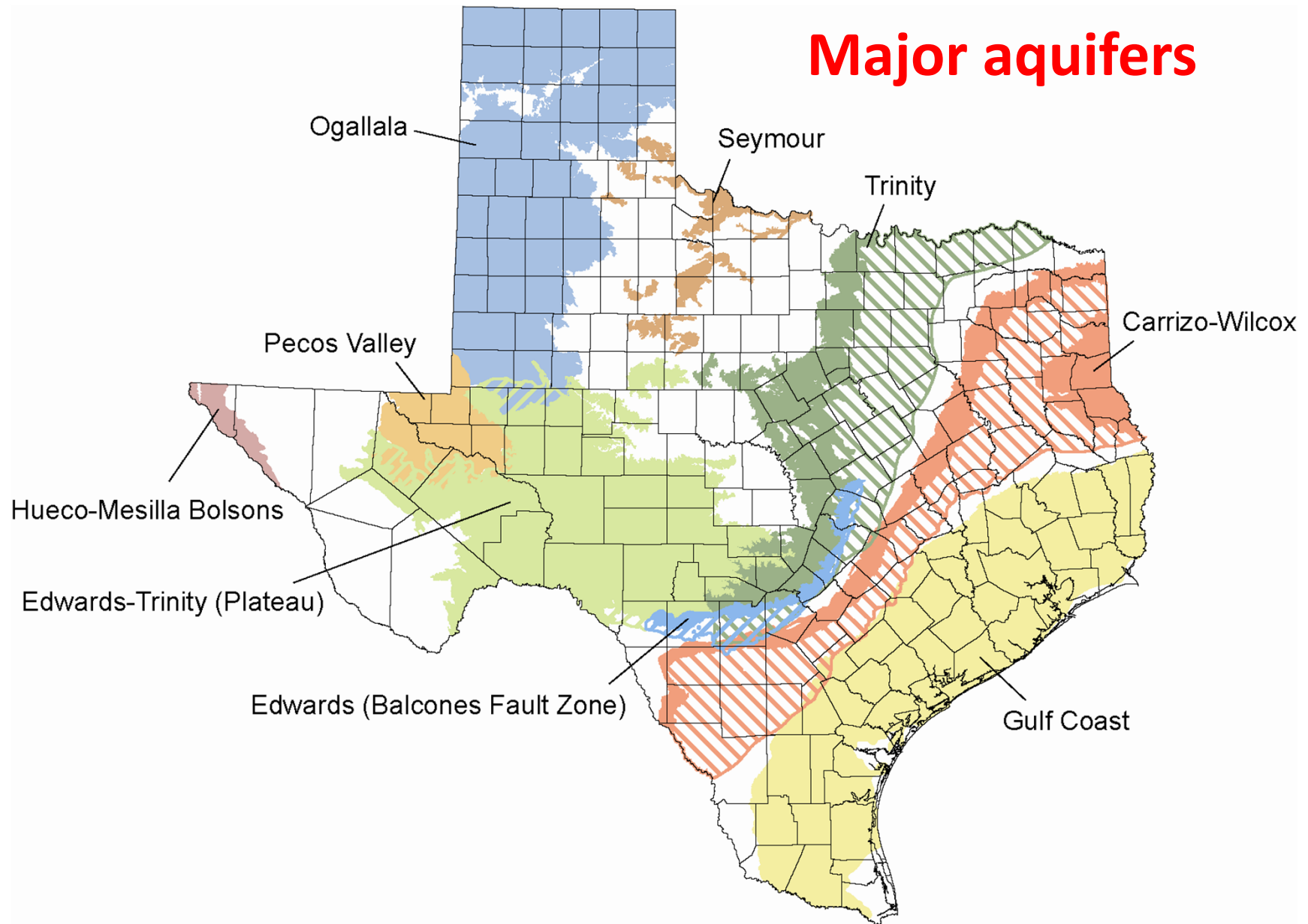
photo by Kemp Smith

Outline

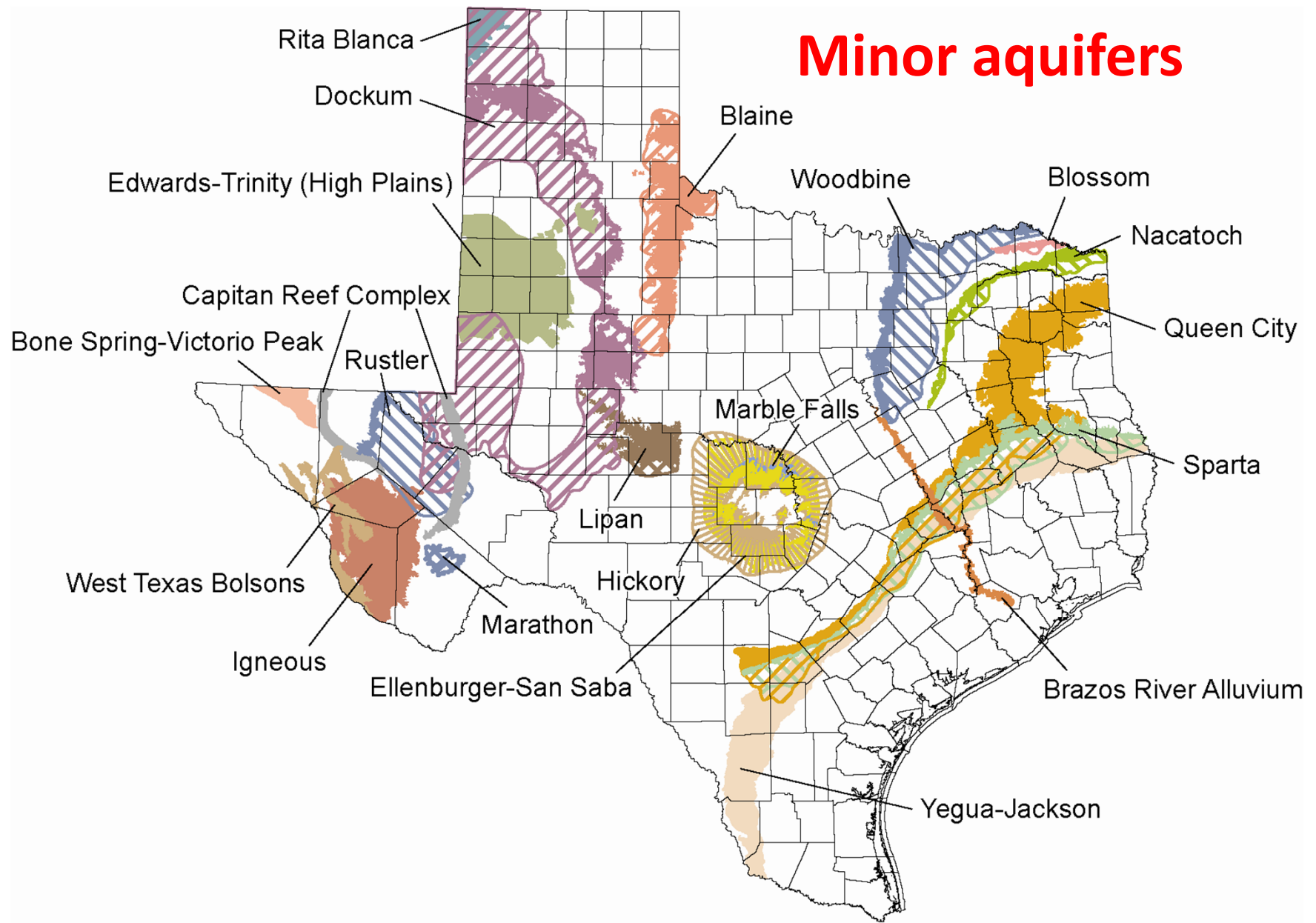
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Major aquifers



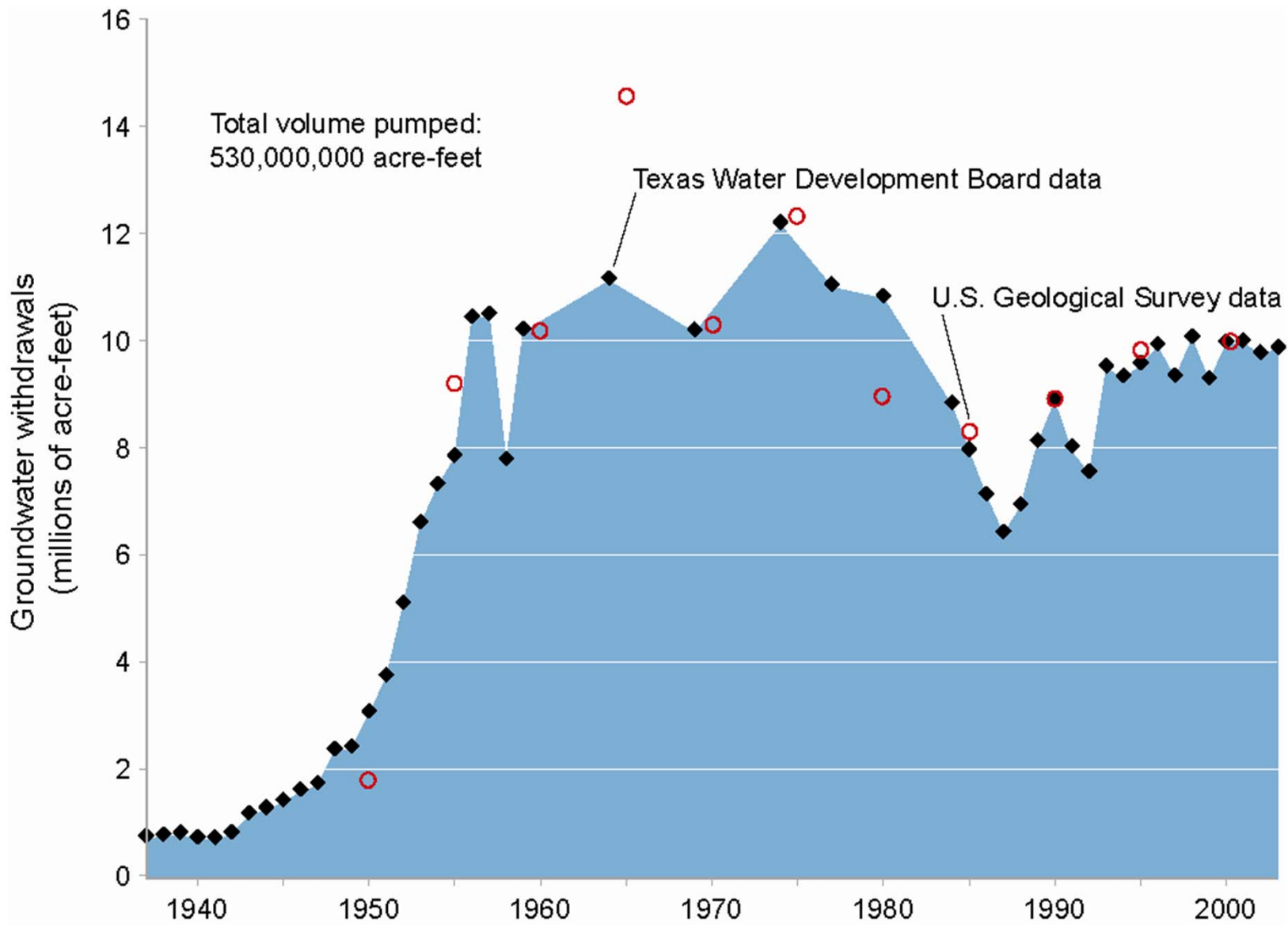
Minor aquifers

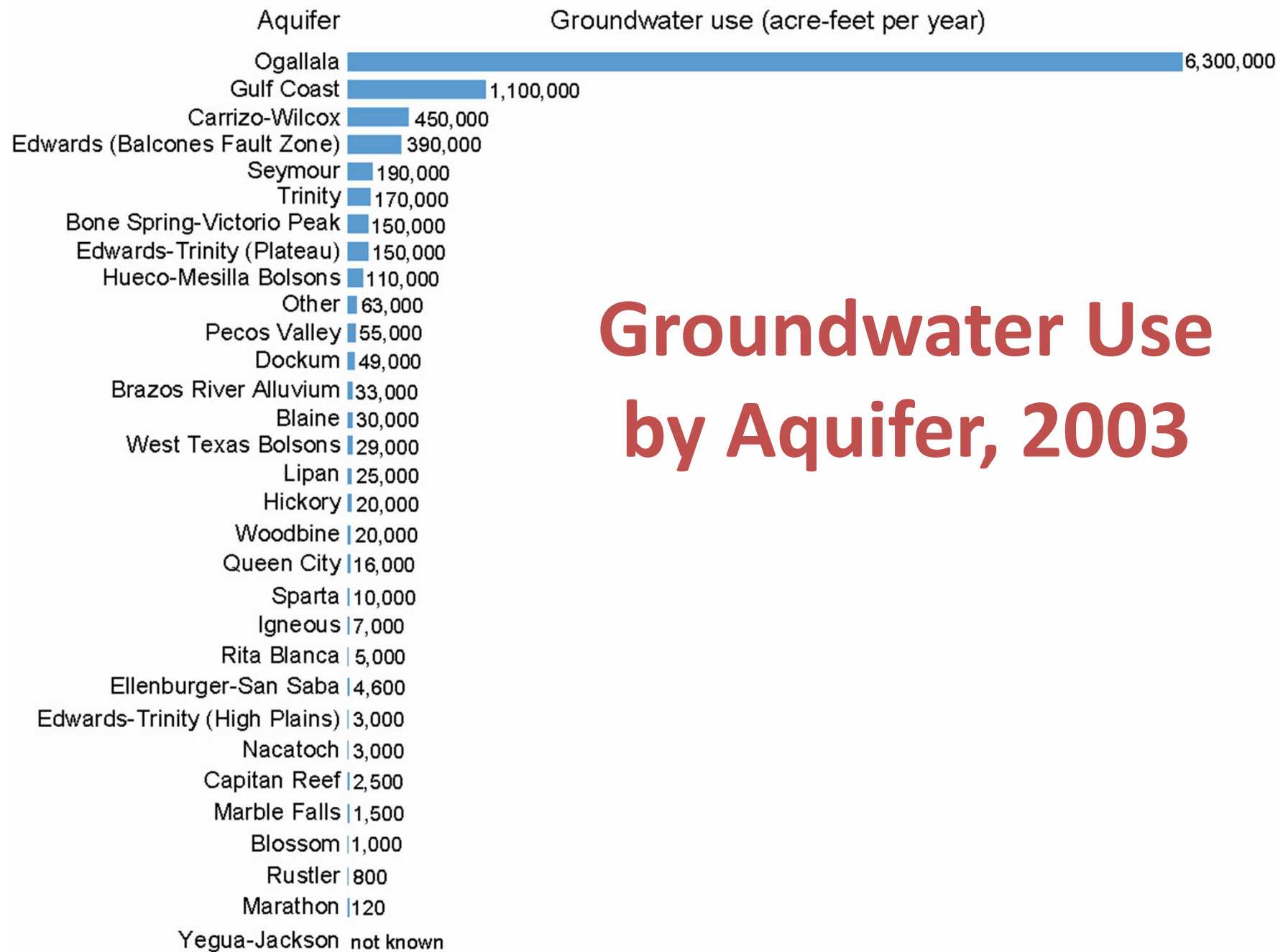




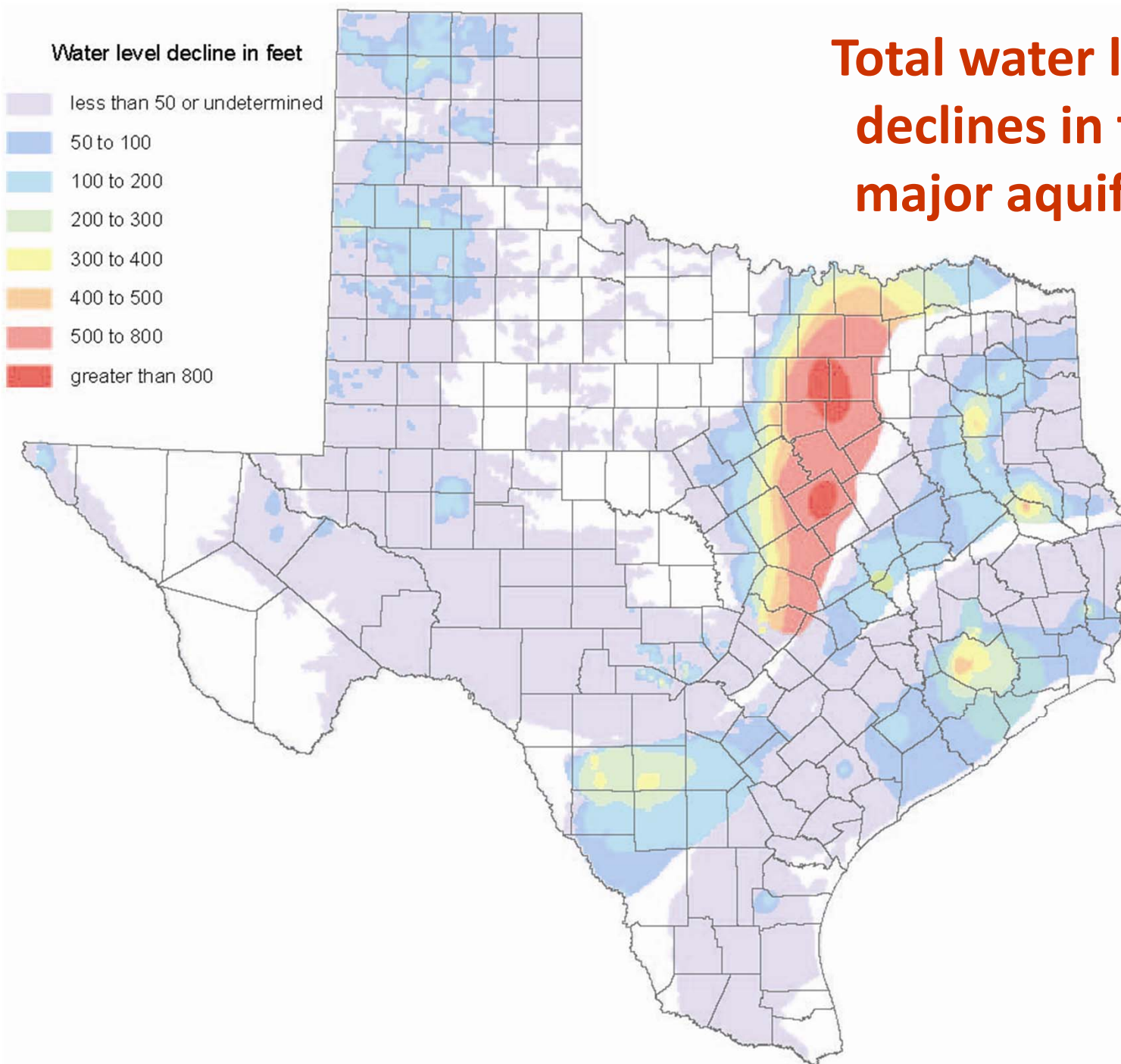
McDonald Irrigation Well, 1200 Gallons per Minute, Hereford, Texas.

groundwater use in Texas (1937 to 2003)





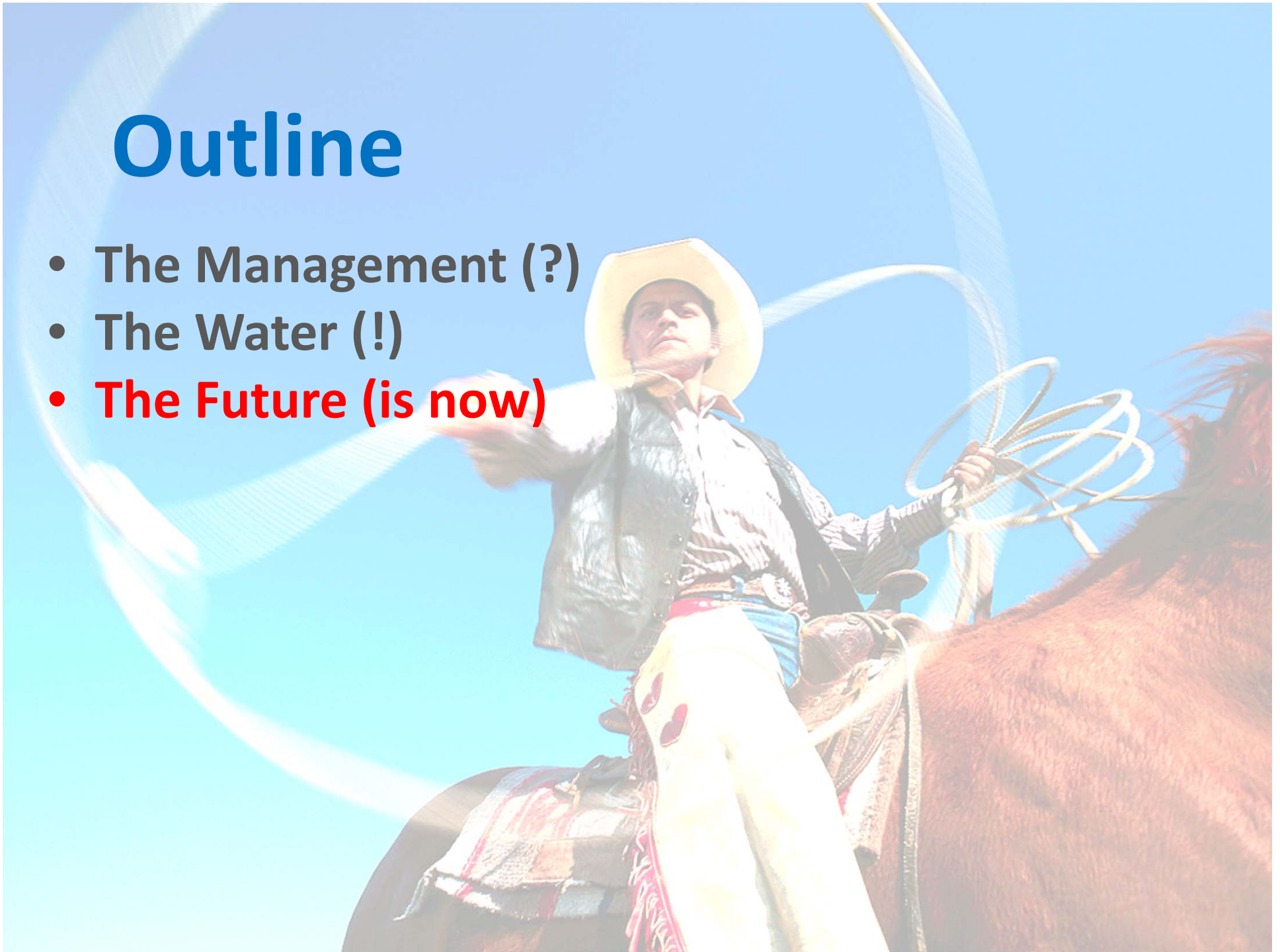
Groundwater Use by Aquifer, 2003



**Total water level
declines in the
major aquifers**

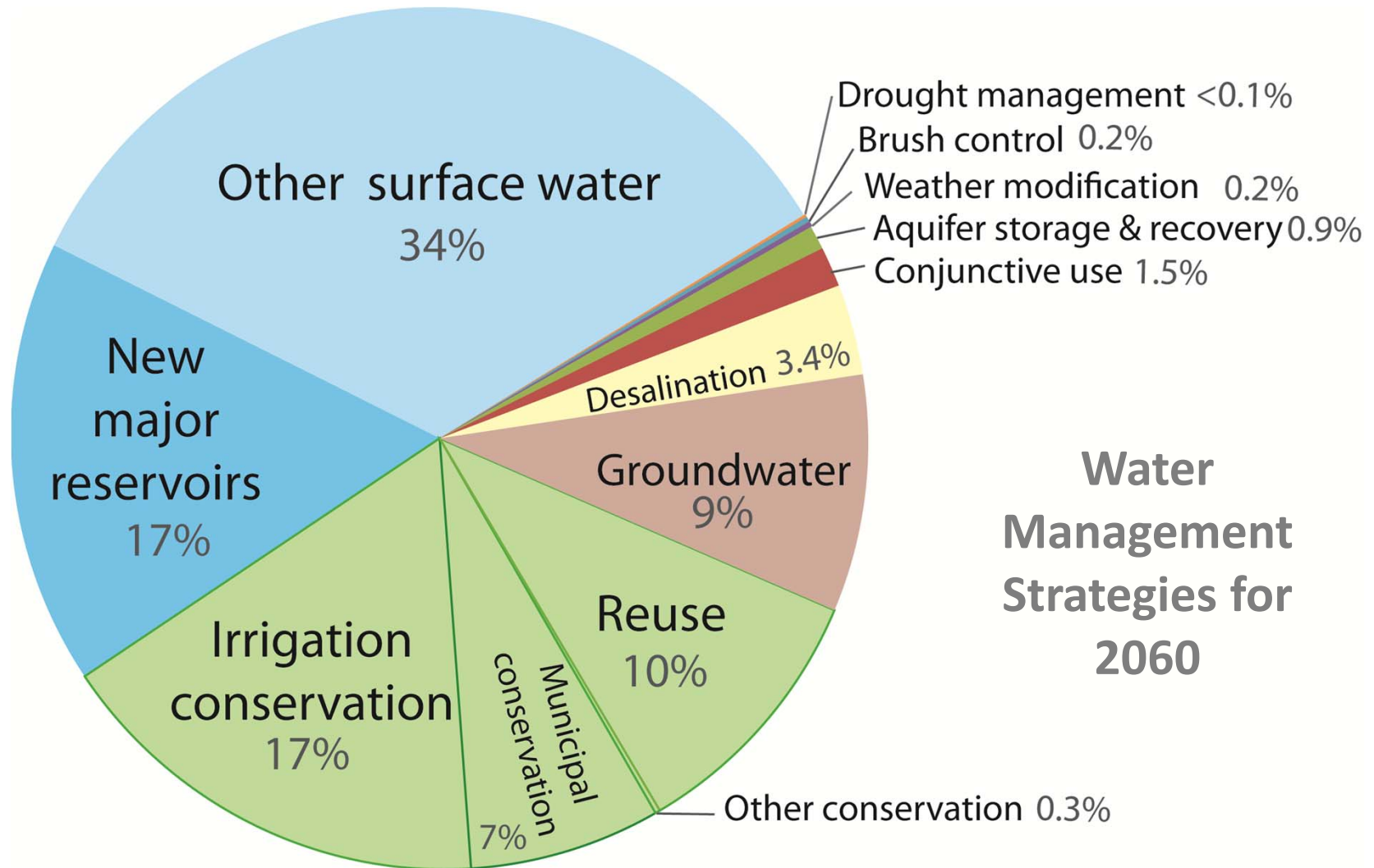
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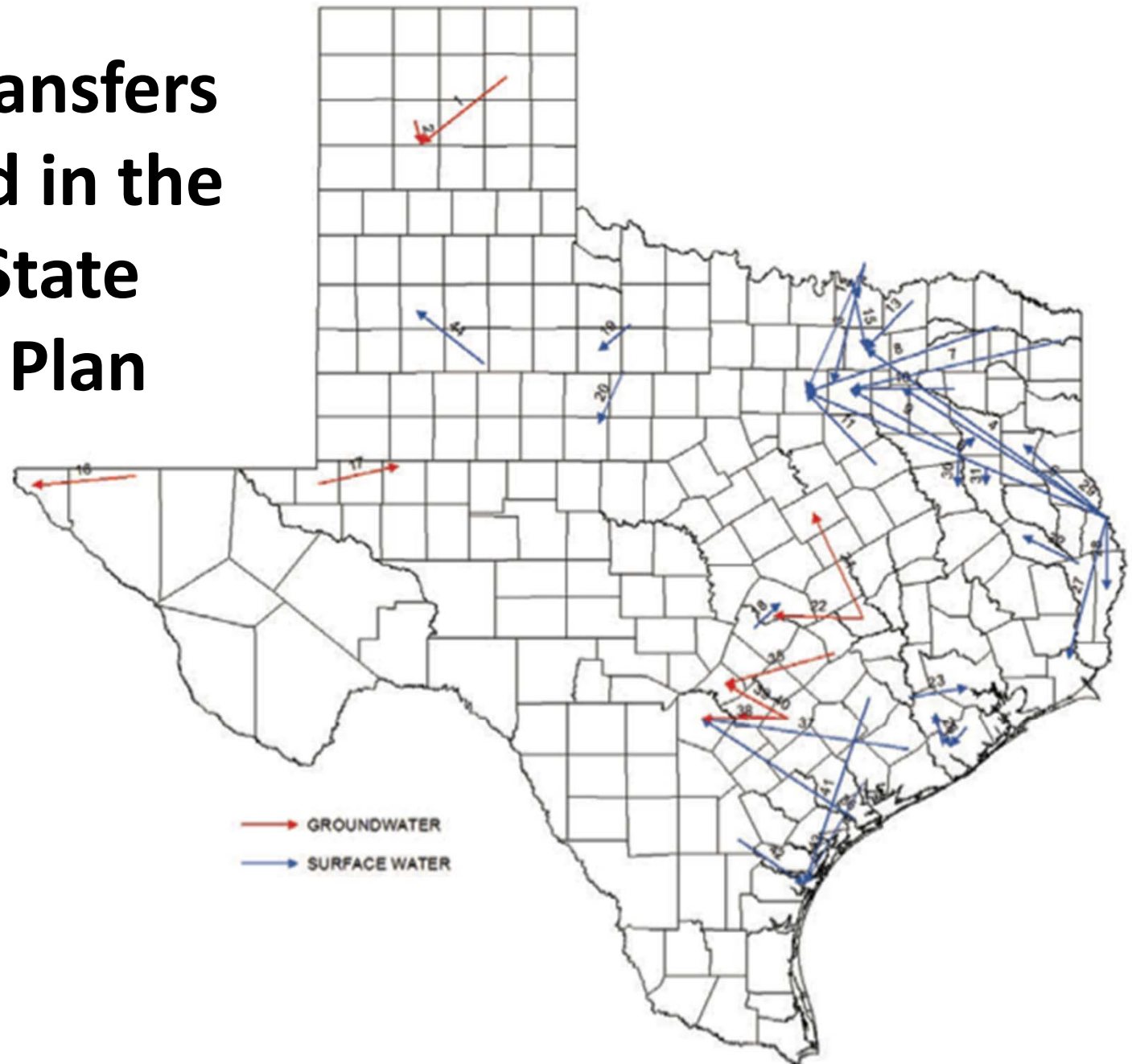




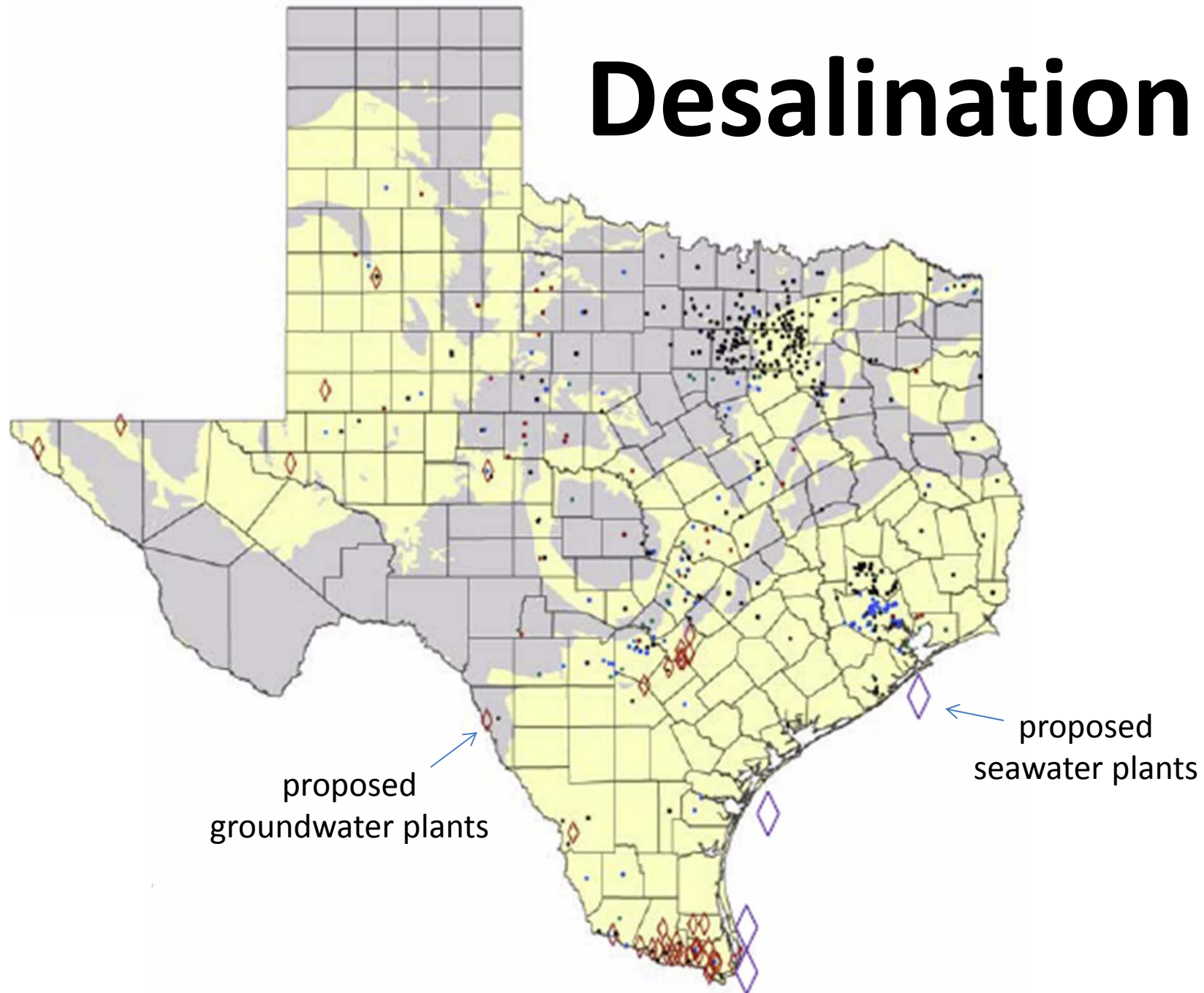
Where will our water come from?

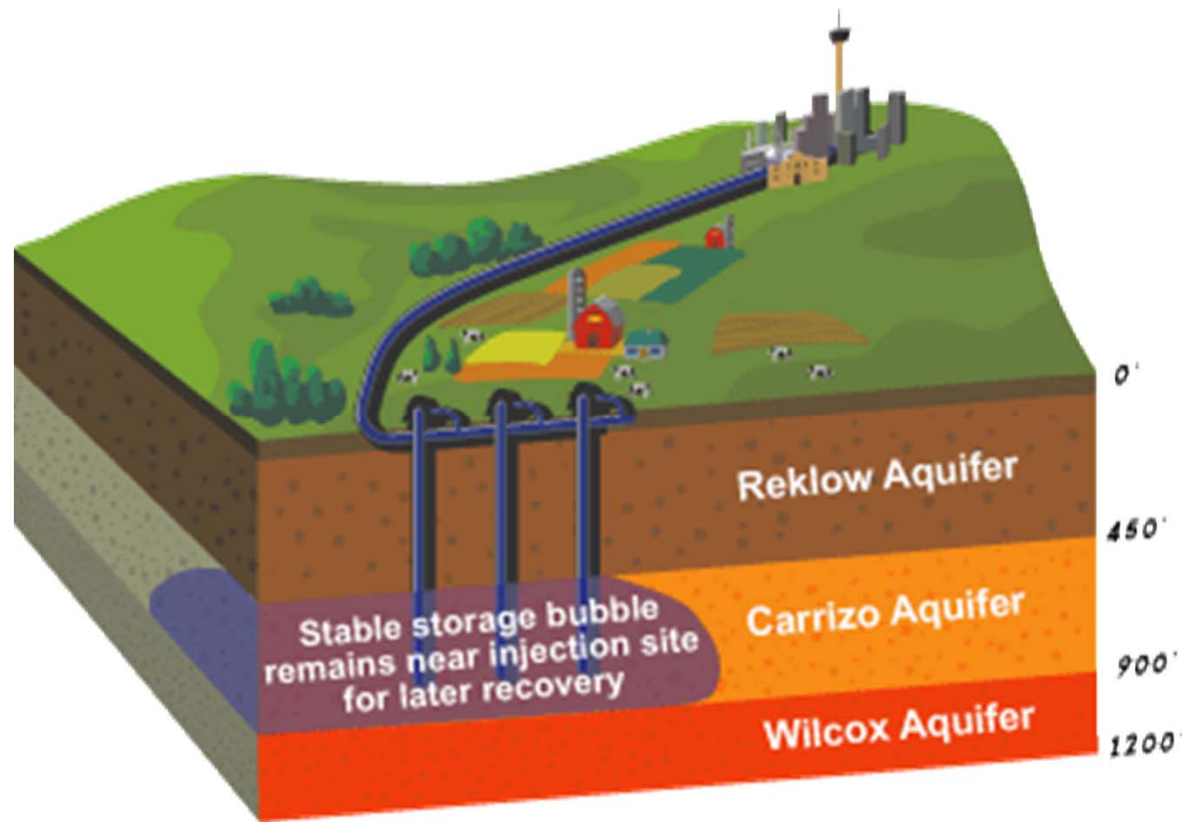


Water transfers proposed in the 2012 State Water Plan



Desalination

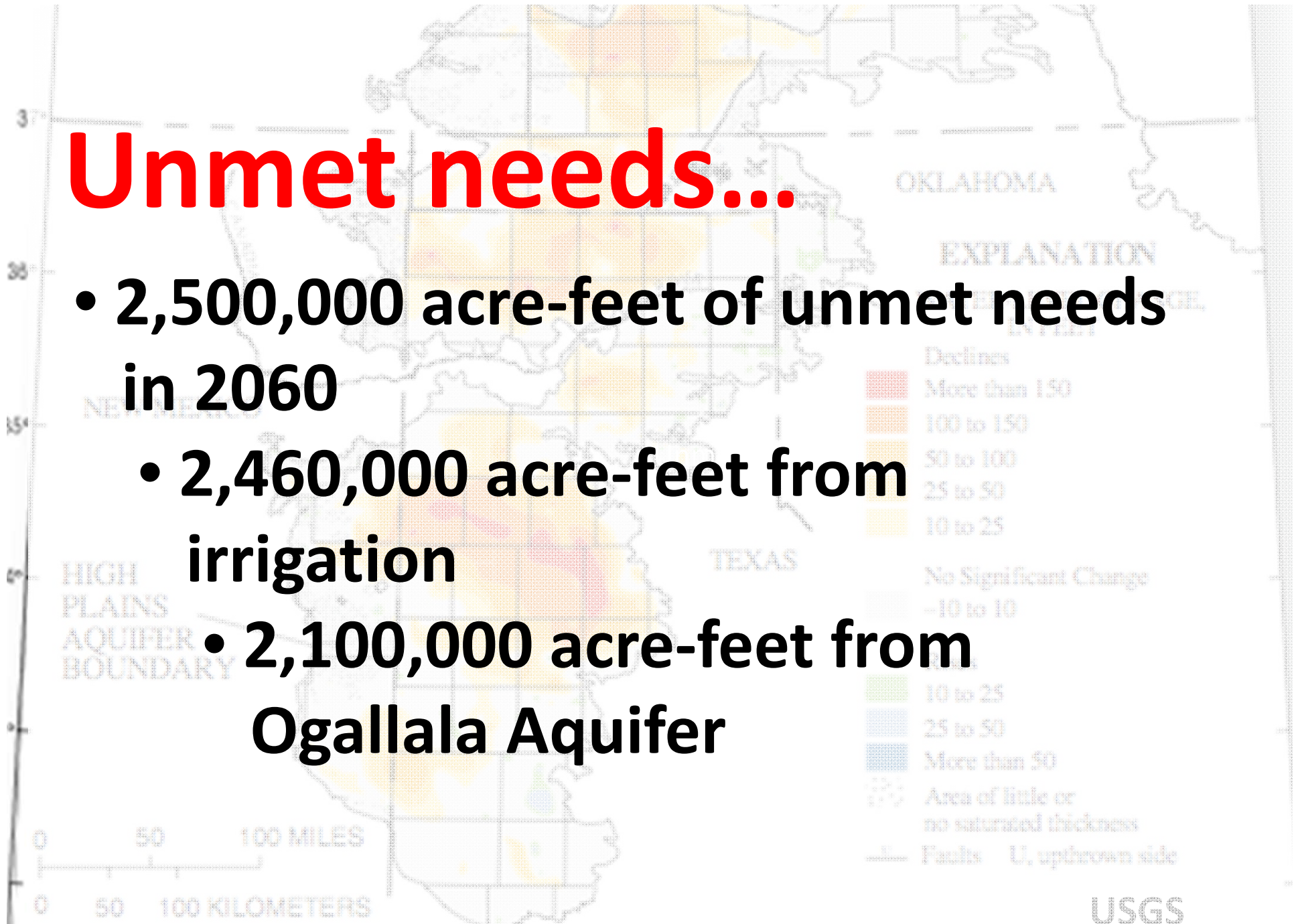




aquifer storage and recovery

Unmet needs...

- 2,500,000 acre-feet of unmet needs in 2060
- 2,460,000 acre-feet from irrigation
- 2,100,000 acre-feet from Ogallala Aquifer





Conclusions

- Groundwater governed by Rule of Capture with an overlay of local management
- But stay tuned: We're still writing groundwater law...
- Lots of groundwater available
- Lots of groundwater pumped
- Lots of opportunity for the future

Robert E. Mace, Ph.D., P.G.

(512)936-0861

robert.mace@twdb.texas.gov

www.twdb.state.tx.us

Texas Water



Development Board