

Water Resources in the Wichita Falls Area

Sam Marie Hermitte
Drought Outlook and Assessment Forum
June 24th, 2014

Conditions beyond Wichita Falls

Wichita Falls Conditions

Alternative Supplies

CONDITIONS BEYOND WICHITA FALLS

North American Drought Monitor

May 31, 2014

<http://www.ncdc.noaa.gov/nadm.html>

Released: Tuesday, June 10, 2014

Analysts:

Canada - Trevor Hadwen*
Brianna Kelly

Mexico - Reynaldo Pascual
Adelina Albanil

U.S.A. - Richard Tinker

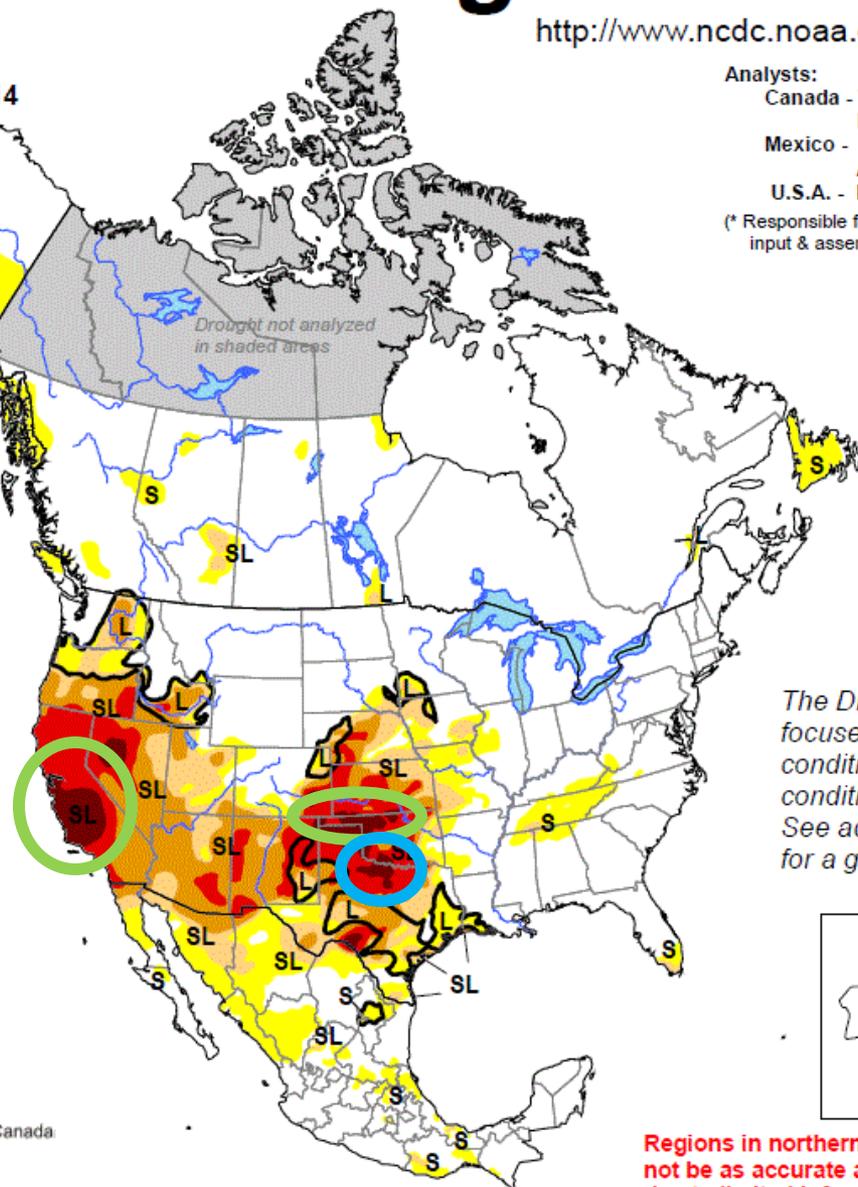
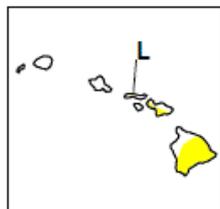
(* Responsible for collecting analysts' input & assembling the NADM map)

Intensity:

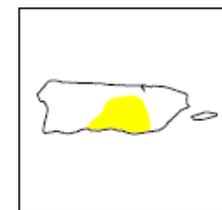
-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months (e.g. hydrology, ecology)



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for a general summary.



Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada
Environment Canada
Environnement Canada

Regions in northern Canada may not be as accurate as other regions due to limited information.

U.S. Drought Monitor

Texas

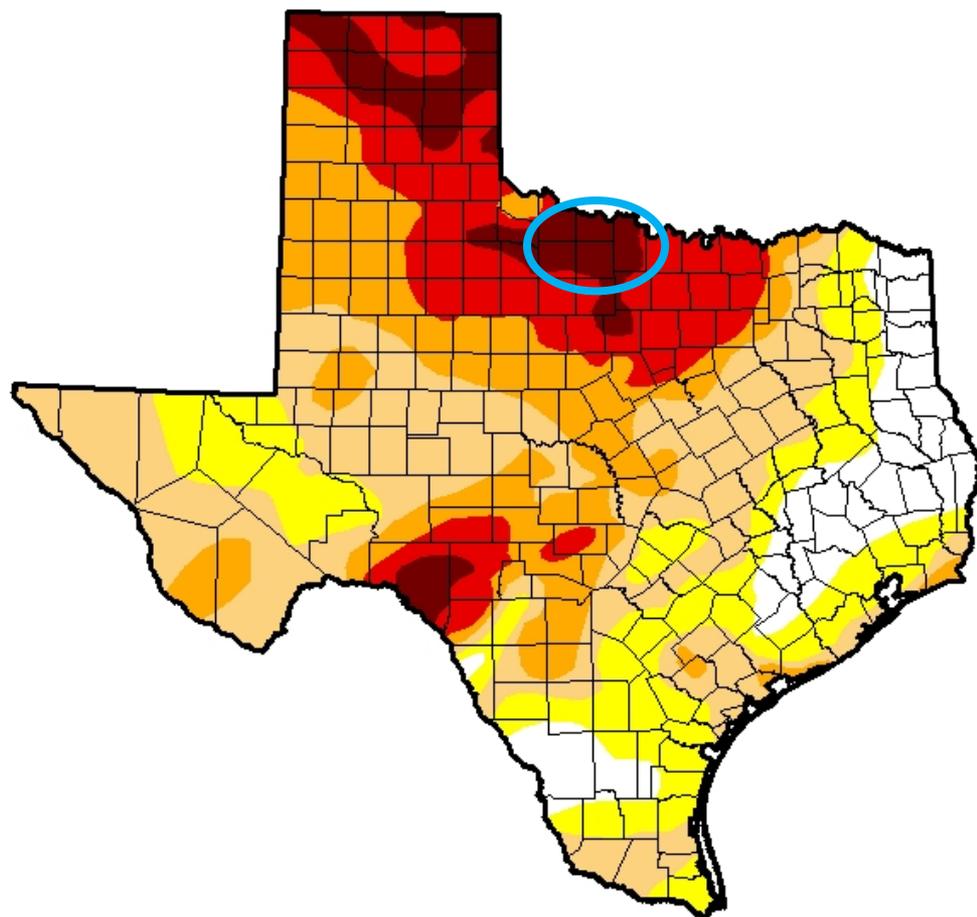
June 17, 2014

(Released Thursday, Jun. 19, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.45	89.55	70.95	41.30	21.50	6.56
Last Week <i>6/10/2014</i>	11.28	88.72	69.16	45.18	23.23	6.68
3 Months Ago <i>3/18/2014</i>	15.24	84.76	64.20	33.18	14.06	1.41
Start of Calendar Year <i>12/31/2013</i>	28.48	71.52	43.84	21.15	5.82	0.79
Start of Water Year <i>10/1/2013</i>	6.62	93.38	70.95	25.08	4.01	0.12
One Year Ago <i>6/18/2013</i>	4.76	95.24	84.82	58.48	29.43	11.83



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

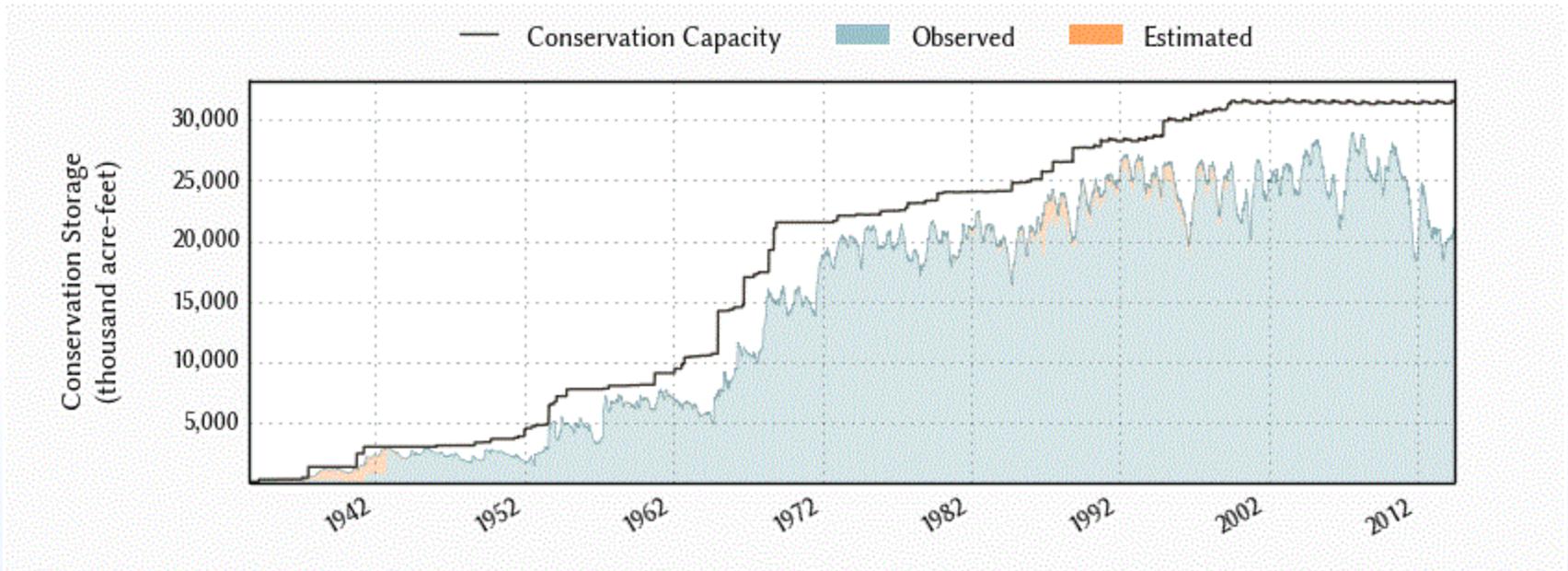
Author:

*Eric Luebehusen
U.S. Department of Agriculture*



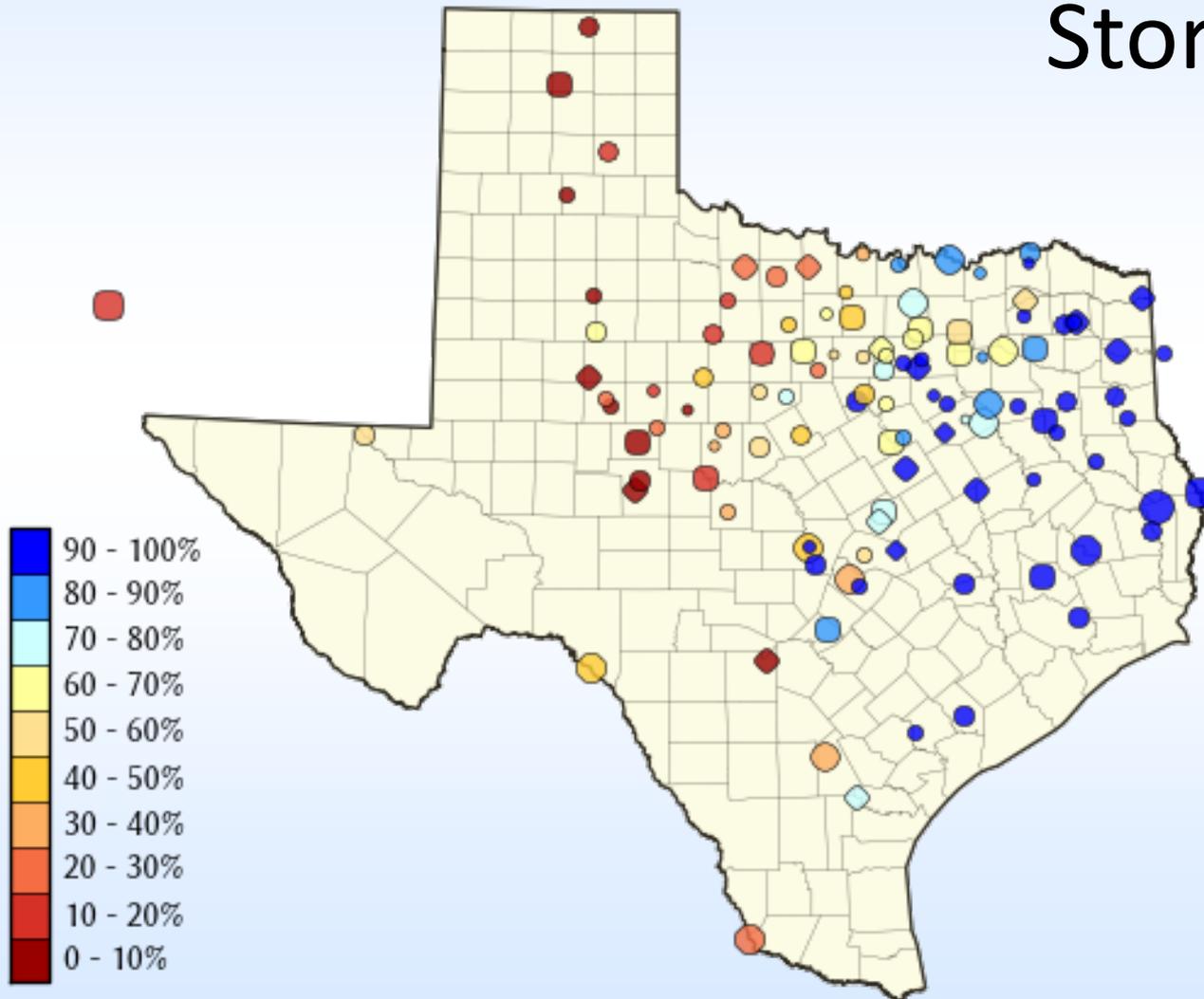
<http://droughtmonitor.unl.edu/>

Statewide Reservoir Storage



67.0% Full

Statewide Reservoir Storage

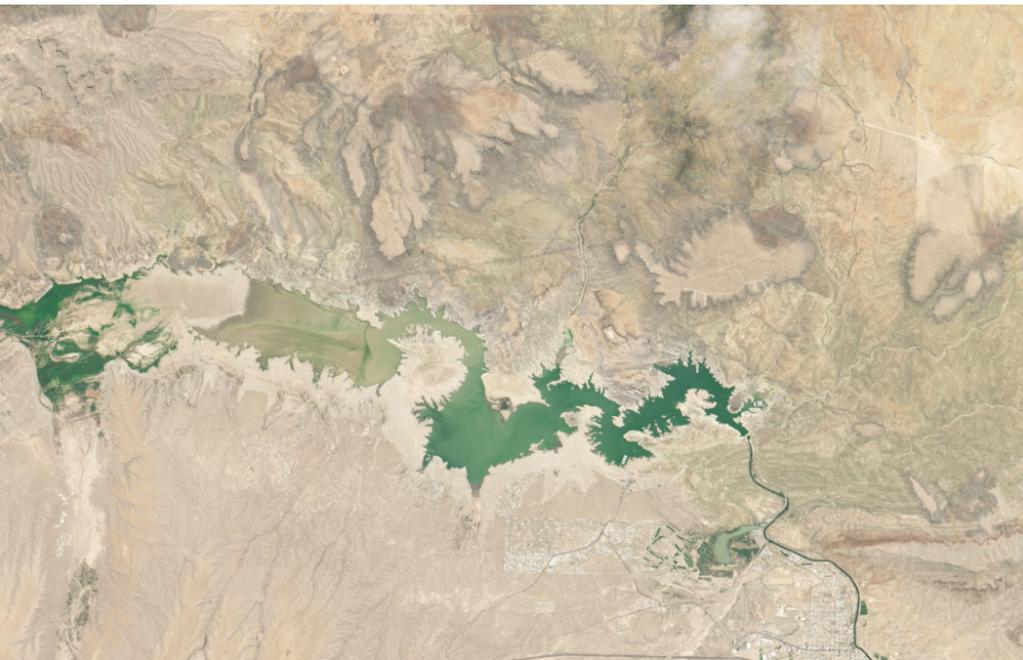


June 19, 2014



June 2, 1994

Elephant Butte Reservoir



July 9, 2013

via Albuquerque Journal

Lake Meredith



October 2011

Big Spring

The New York Times

U.S.

WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION
POLITICS EDUCATION TEXAS

THE TEXAS TRIBUNE

Water-Reuse Ideas Go Forward, Despite 'Toilet to Tap' Concerns



Brandon Thibodeaux for The Texas Tribune

The Cypress Water Treatment Plant in Wichita Falls.

San Angelo

San Angelo success story: Hickory Aquifer development

February 2013



WICHITA FALLS CONDITIONS

news ▶ science ▶ environment

Drought-Stricken Texas Town Turns To Toilets For Water

by SHELLEY KOFLER

May 06, 2014 3:35 AM ET



NBC NEWS

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Drought Has Wichita Falls Running Dry



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Drought in Wichita Falls 'Nothing Short of a Natural Disaster'



Photo: Lucy Park

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Drought Management Stages 1-5

Water Conservation Tips

Employment



Online Services



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Home > Departments > Public Information > Drought News

Drought News

City is Now Under a Stage 5 Drought Catastrophe. Conserve Water in Every Way Possible

Water Newsletter Has Latest News

The City has release a special edition of the City Newsletter covering the latest news and issues related to the drought. [Read the Newsletter](#)

Important Links

- [Drought FAQ's](#)
- [Direct Potable Reuse Project Details](#)
- [Water Rationing Zone Map](#)
- [Drought Management Stages 1-5](#)
- [Water Conservation Tips](#)
- [Water Ordinance-Conservation-Drought Residential Water Zone Map](#)

Learn More About Cloud Seeding

City leaders recently held an informative public meeting to discuss the process and science of cloud seeding. [See the video](#)



Contact Us [view all >](#)

Contact Information

Wichita Falls Public Information Office
1300 7th Street Suite 109
Wichita Falls, TX 76301

Phone: (940) 761-7477
[Email](#)

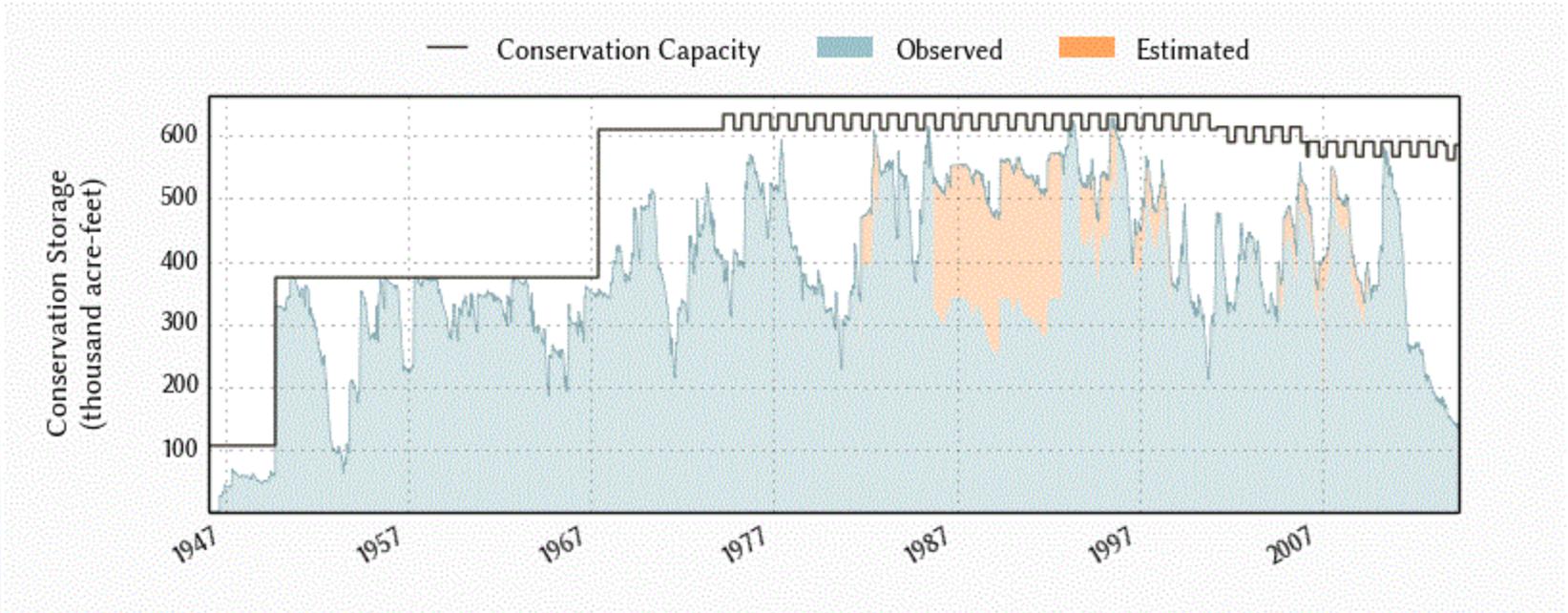
Hours

Monday - Friday
8:00 a.m. - 5:00 p.m.

FAQs [view all >](#)

- What is the latest news on the Temporary Water Reuse Project?
- Is the long term reuse project still going to be built?
- Did the City ever decide to try cloud seeding?

Wichita Falls Area Reservoirs



22.4% Full

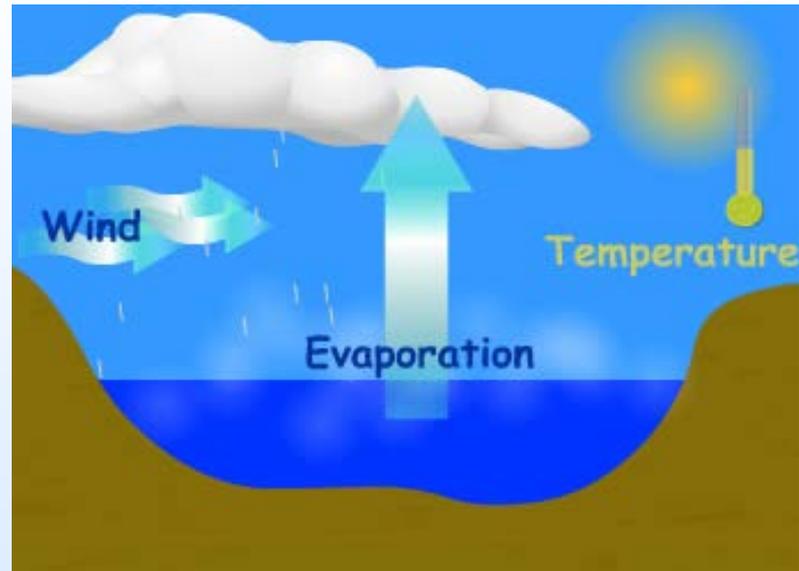
Wichita Falls Area Reservoirs

- Lake Arrowhead: **21.4%**
 - Lake Kemp: **21.9%**
- Lake Kickapoo: **26.4%**



Reservoir Declines

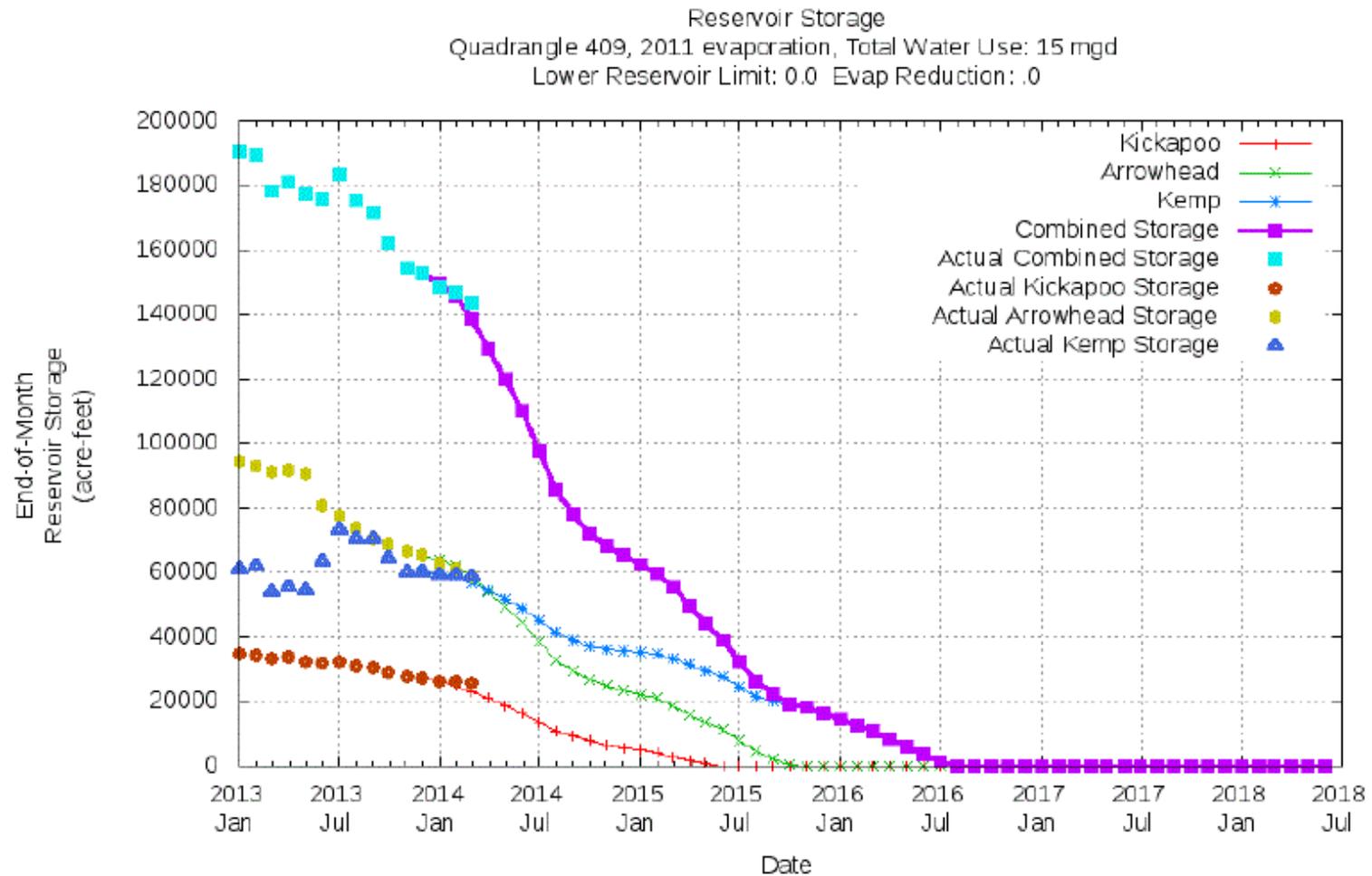
- Use = Decline
- Lack of precipitation = Decline
- Evaporation = Decline
 - More than **double** use



Worst-Case Scenario

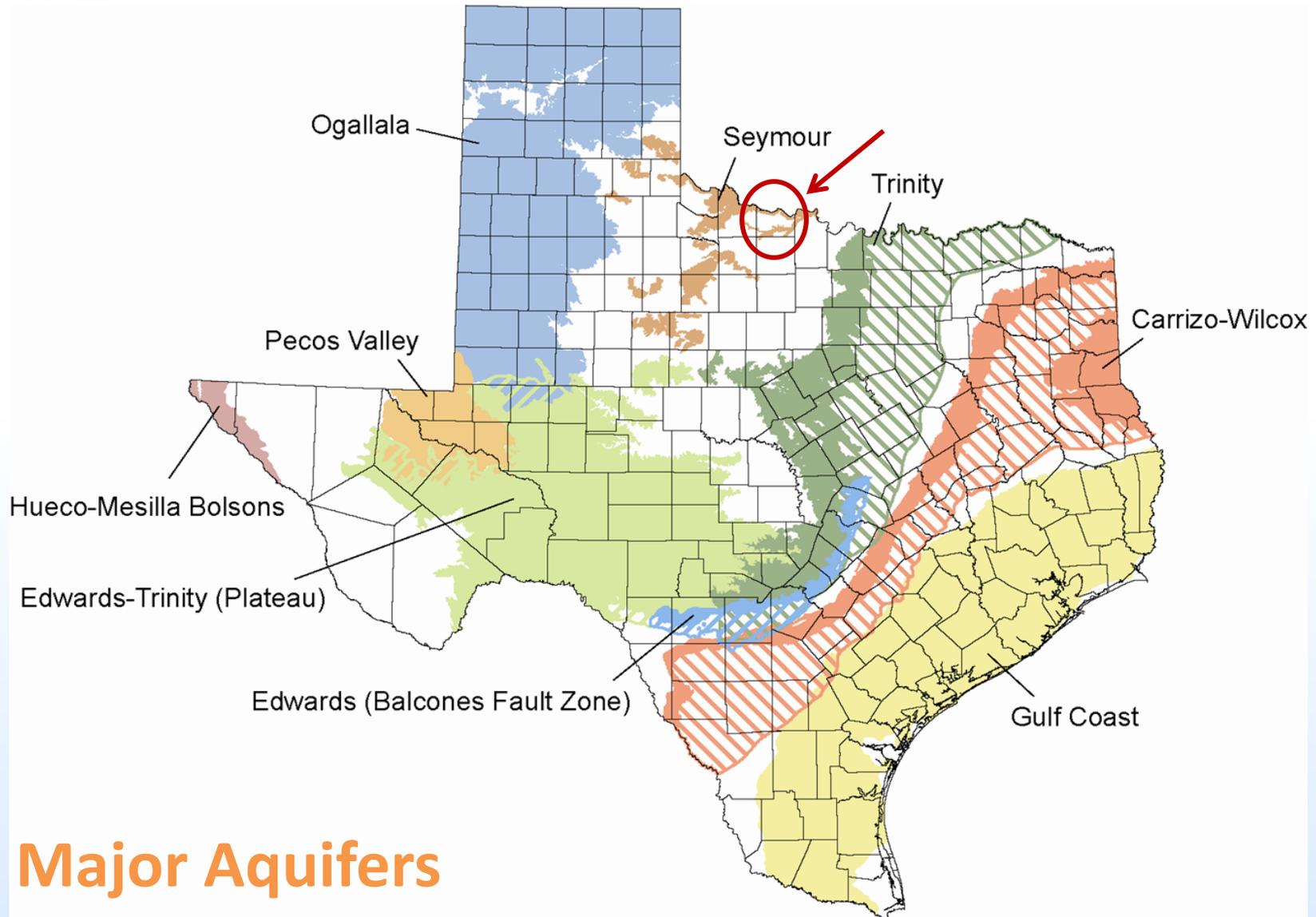
- Assume 2011 evaporation rates
- Assume use of 15 million gallons per day
- Precipitation assumed to be 0
- River inflows assumed to be 0
- Based on December 2013 reservoir conditions

Worst-Case Scenario

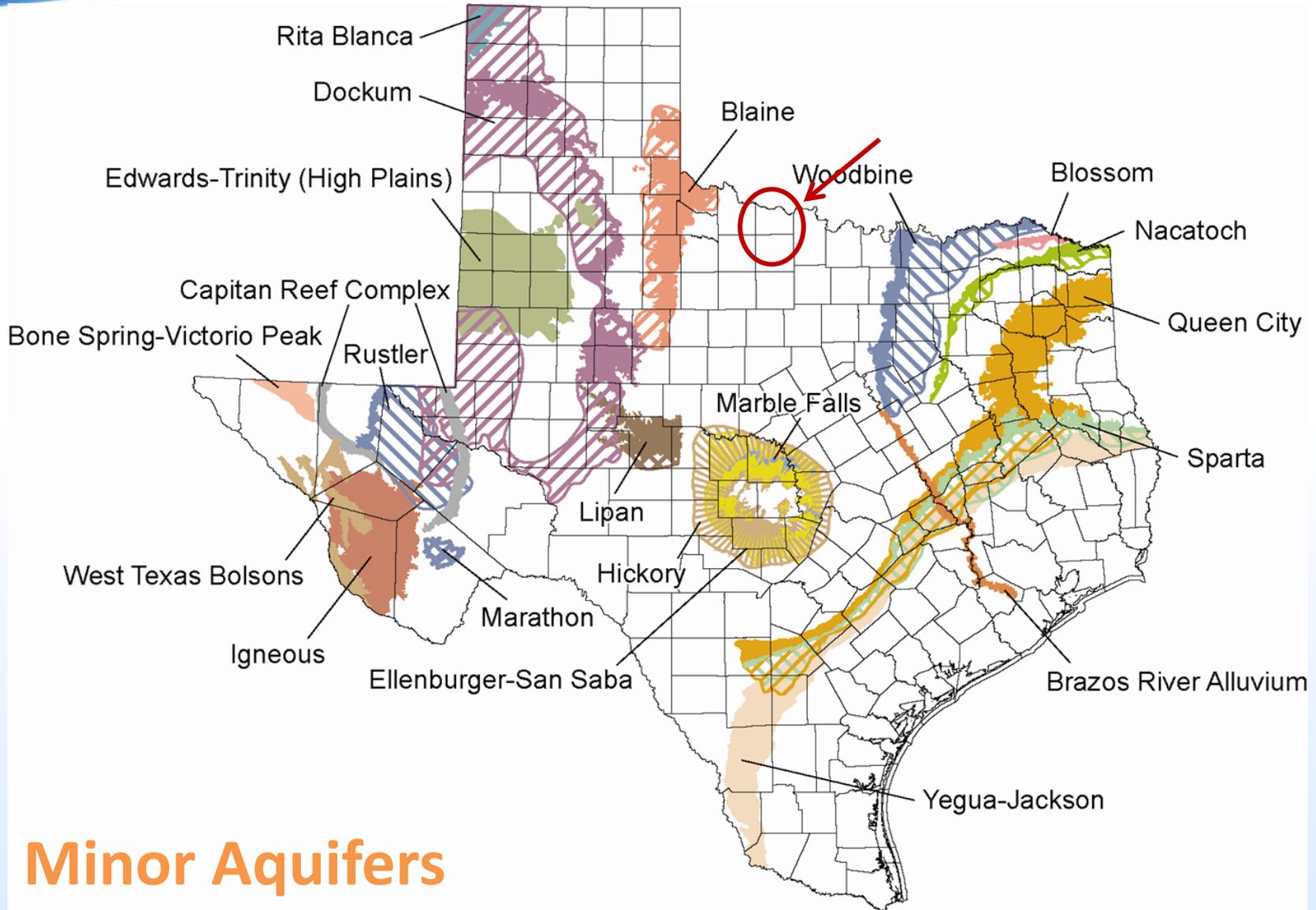


ALTERNATIVE SUPPLIES

Groundwater Supplies

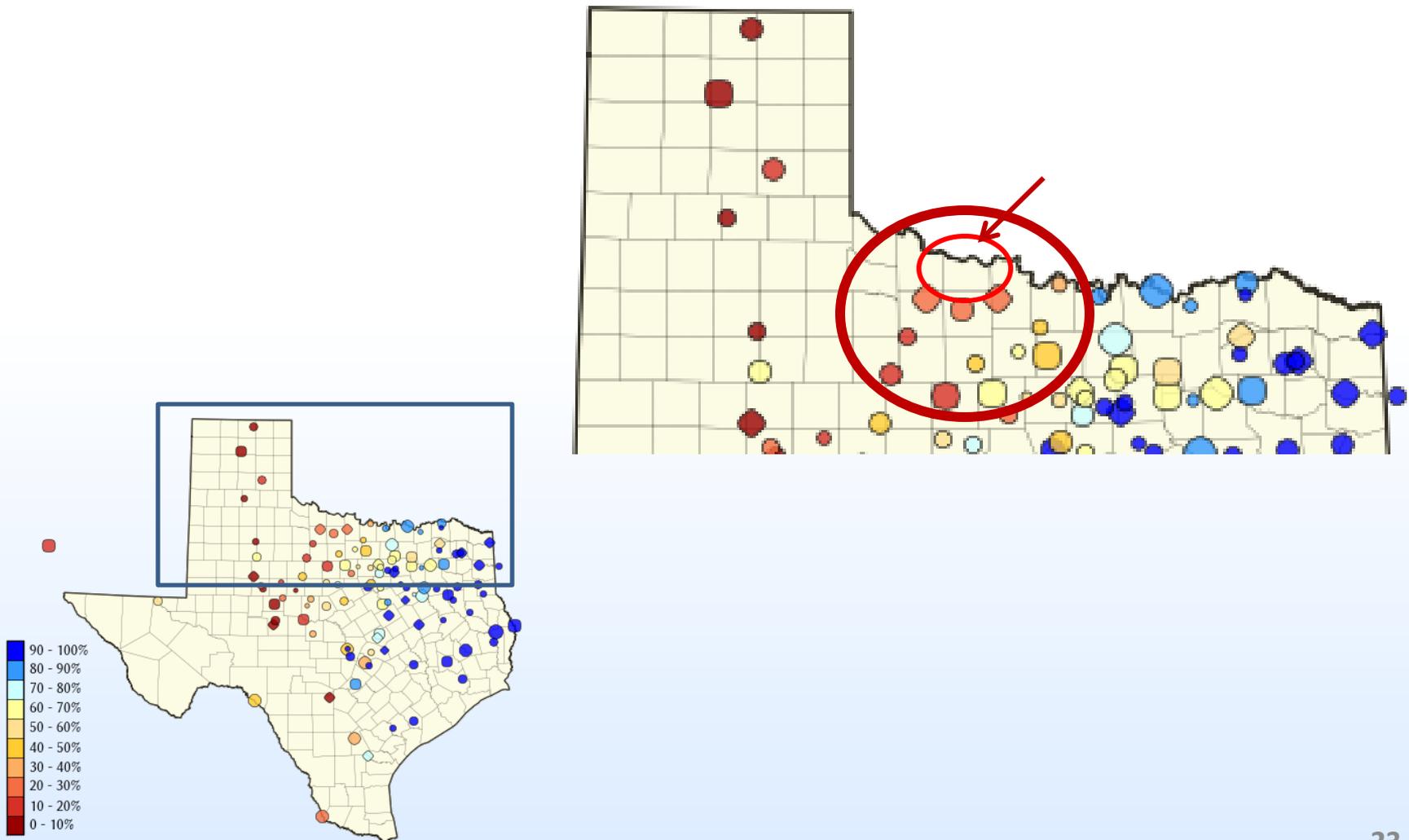


Groundwater Supplies



Minor Aquifers

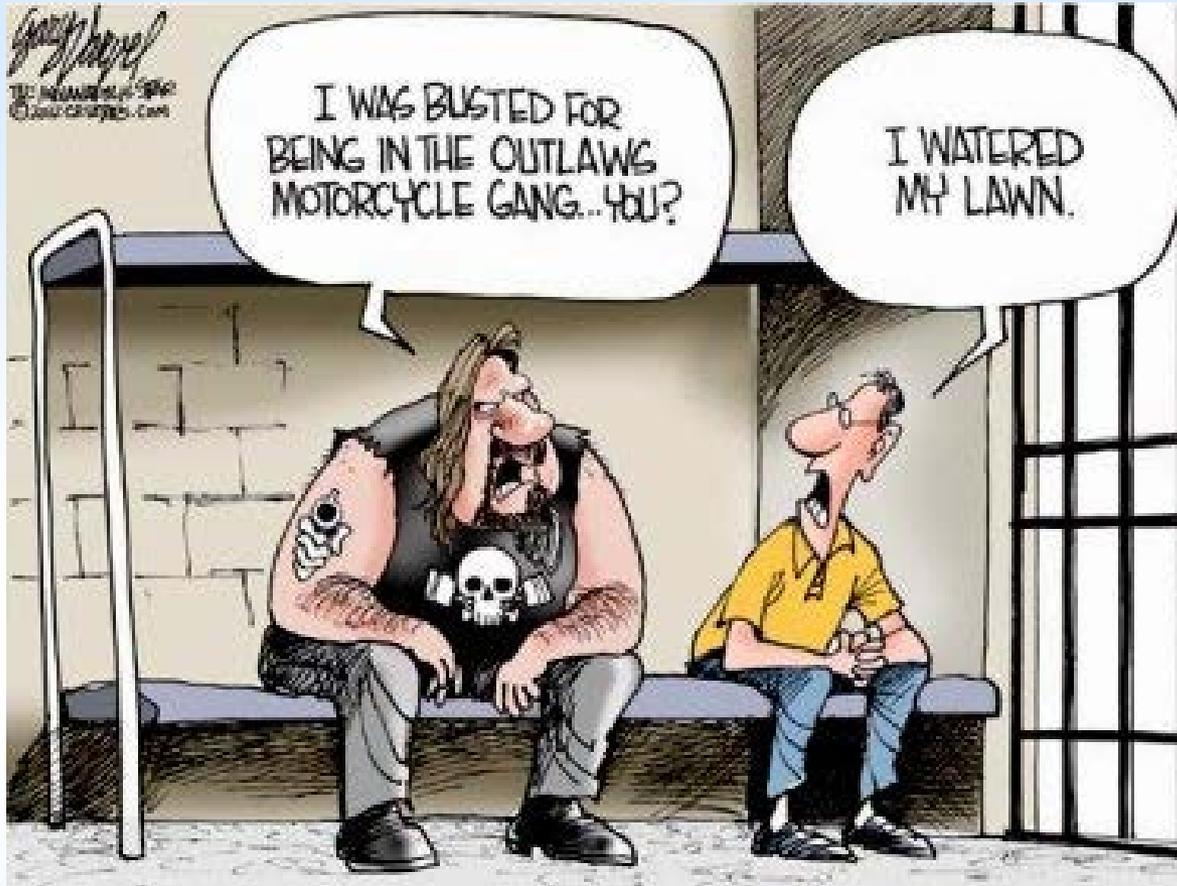
Surface Water Supplies



Other Potential Sources of Supply

- Advanced conservation
- Evaporation suppression
- Cloud seeding
- Reuse
- Desalination
- Aquifer storage & recovery





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