
Sangamon Desert: Decatur's Experience with the 2011-2012 Drought

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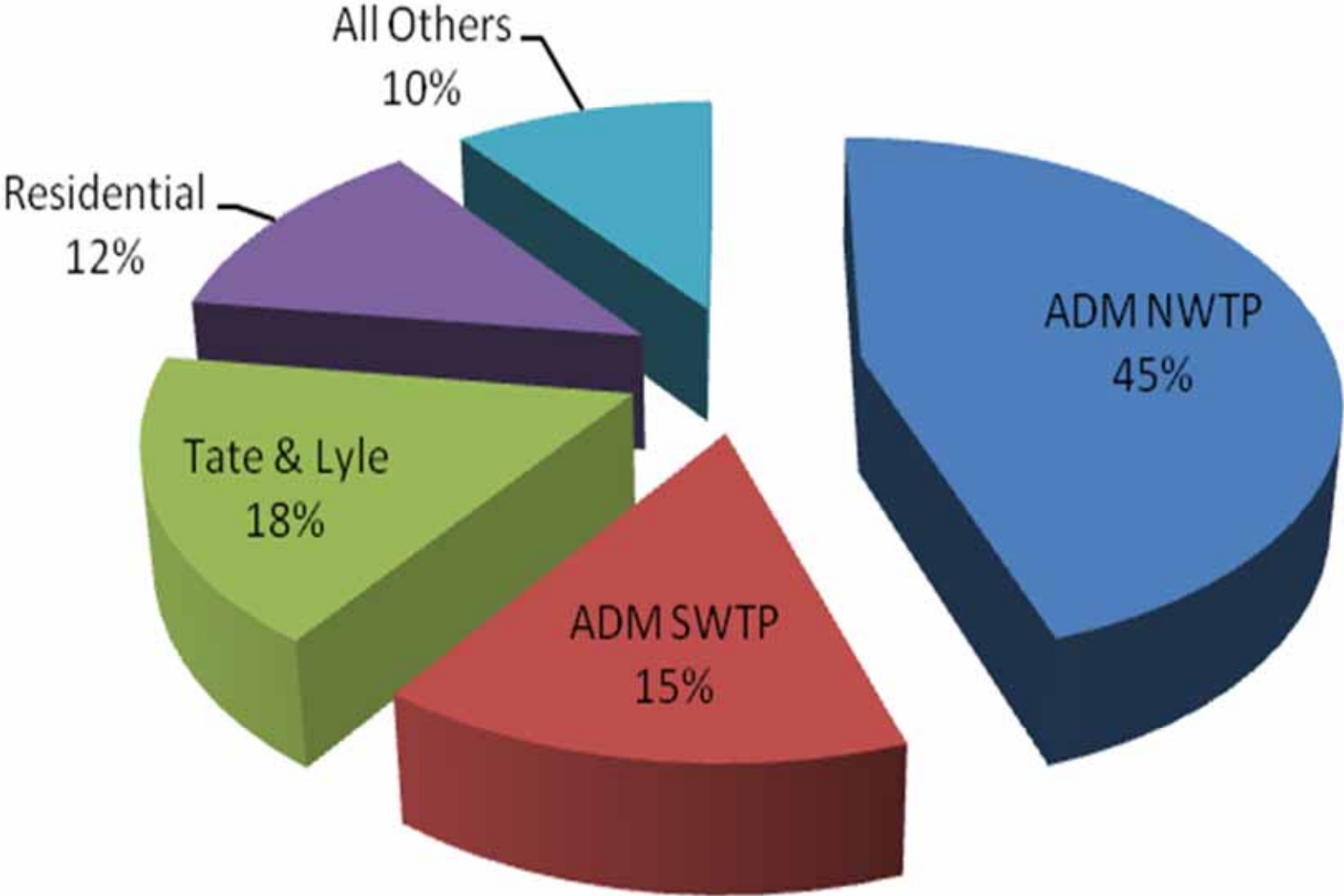




Decatur Water System Facts

- Lake Decatur is primary water supply
 - 925 square mile watershed
 - Almost 90% of watershed is row crop production
 - Provide water to 74% of Macon Co. residents
 - Two water treatment plants on Lake Decatur
 - Decatur purifies an average of 21 MGD
 - ADM purifies an average of 14 MGD
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Lake Decatur Water Use



Available Water Sources

- Lake Decatur
 - DeWitt Co. Well Field
 - Cisco Well
 - Former Sand & Gravel Pit
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1988 Drought



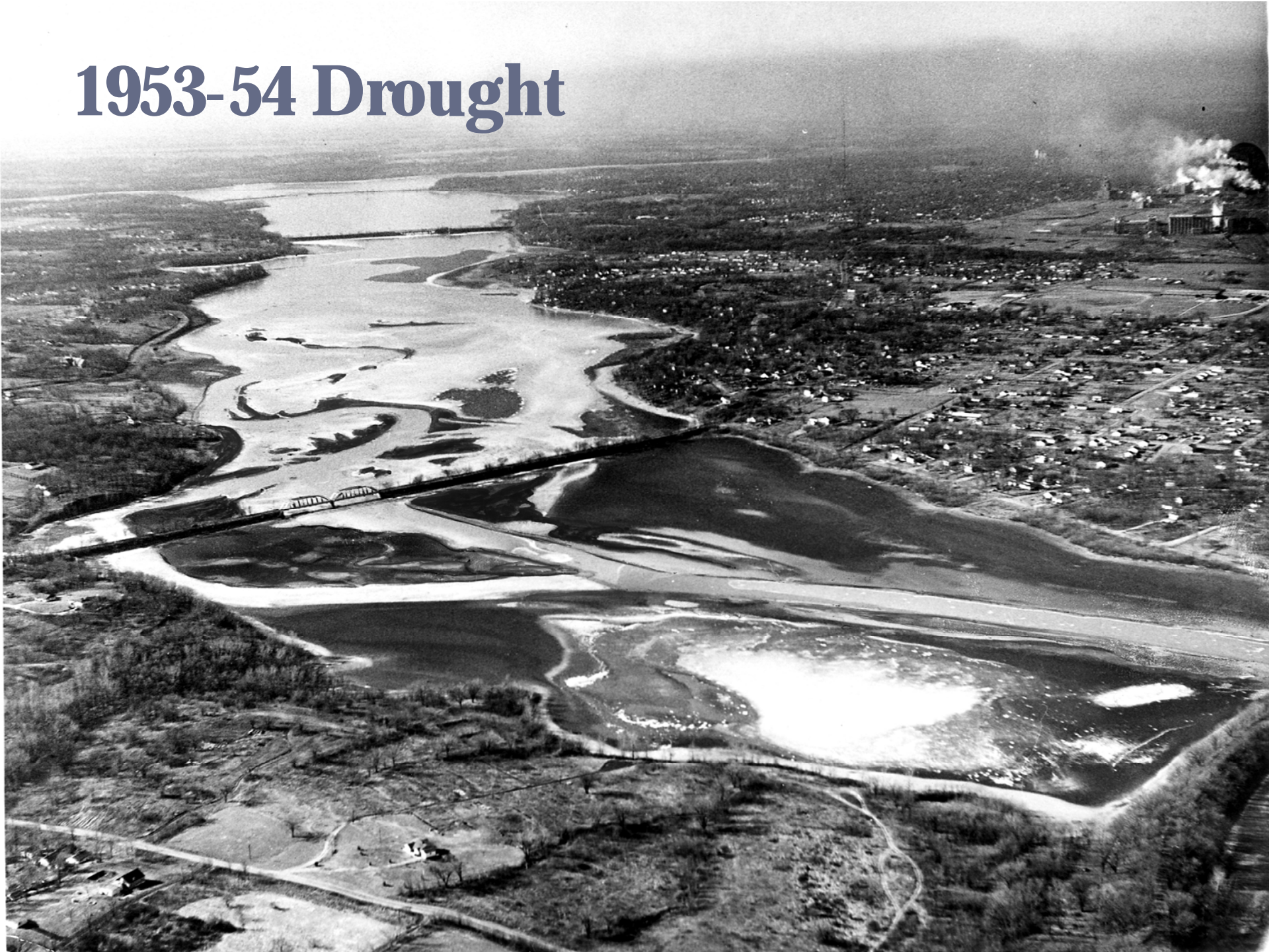


Sangamon River Basin

Worst Droughts

- #1 July 1930 – April 1931
 - #2 June 1914 – January 1915
 - #3 July 1953 – March 1954
 - #4 June 1963 – January 1964
 - #5 June 1988 – November 1988
 - 2012 ?
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1953-54 Drought



1988 Drought





2007 Dry Spell

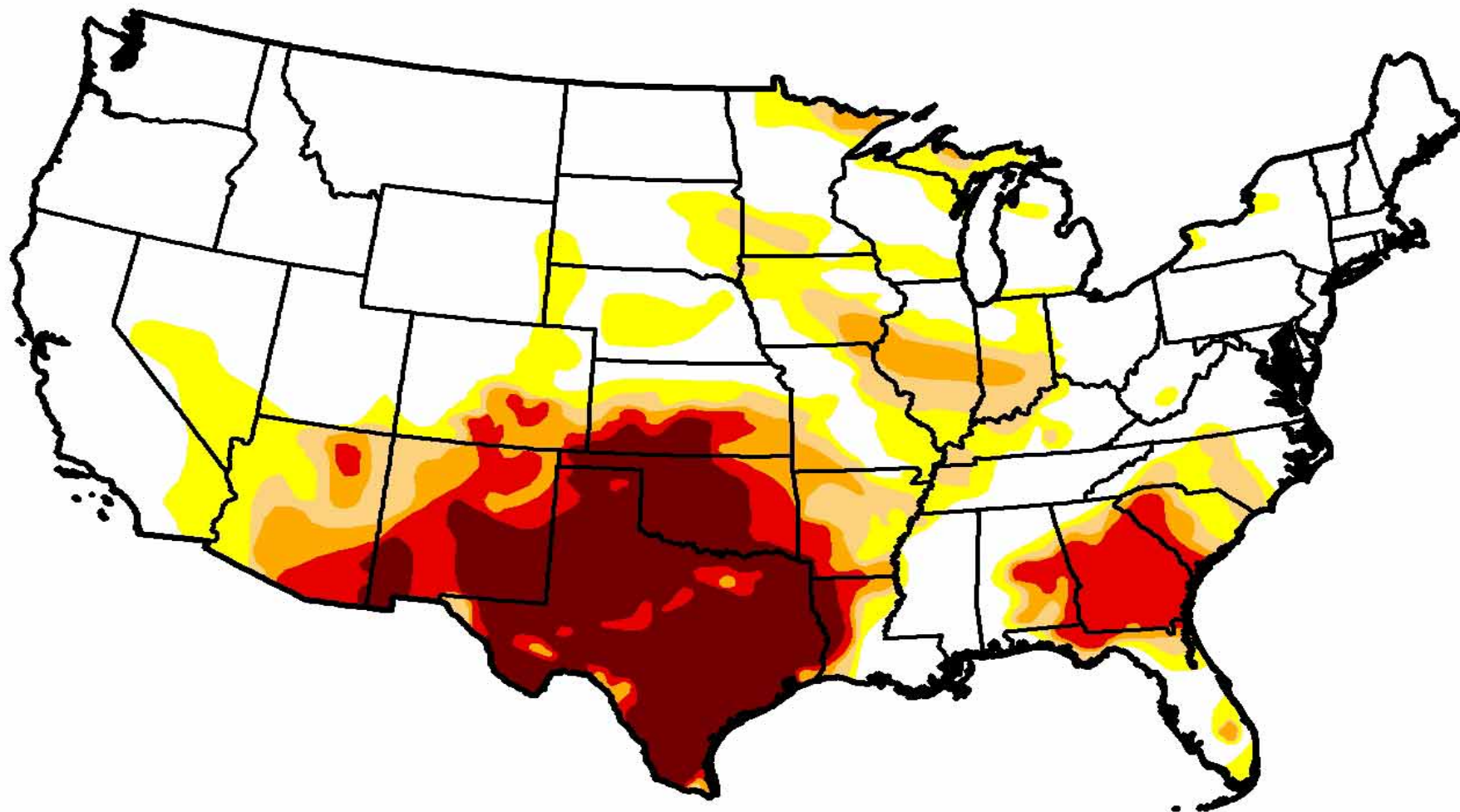




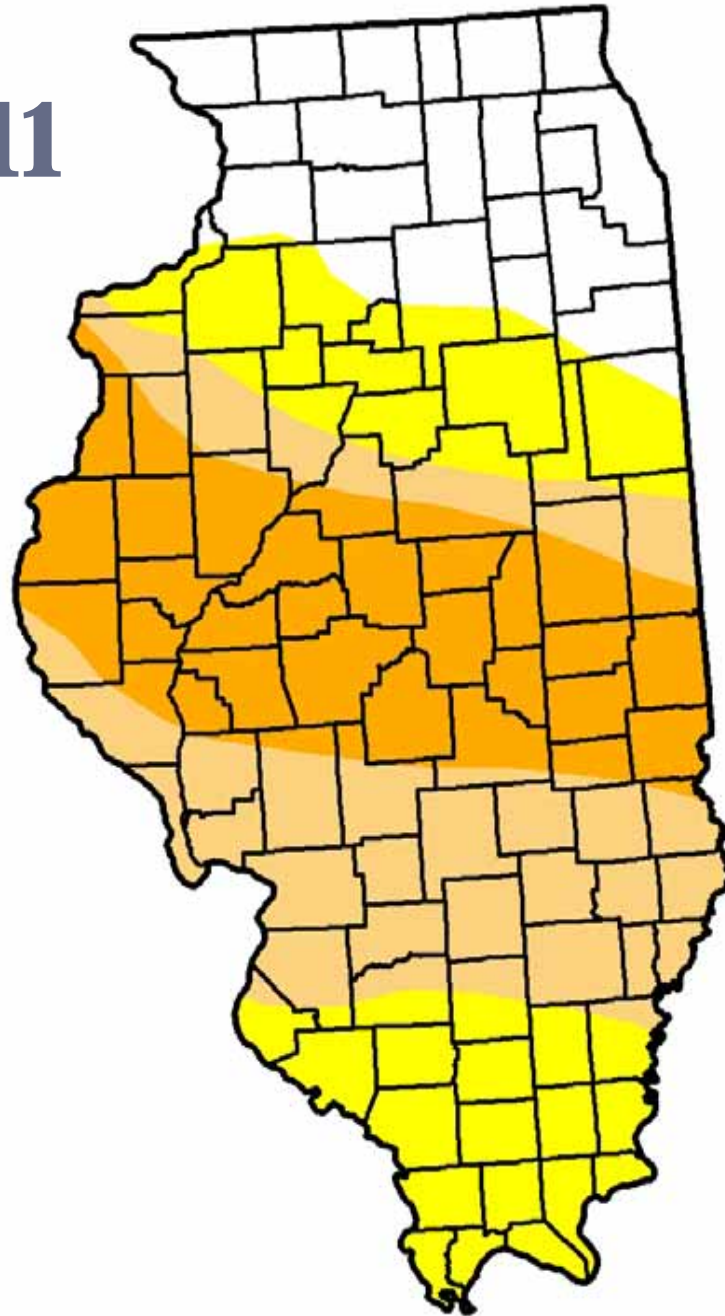
Sangamon Desert 2011

- Lake was full in July
 - Implemented voluntary conservation and Stage I mandatory water restrictions
 - Lowest lake level was on Nov. 26
 - 3.5 feet below the full summer lake level
 - The lake was only 58% full of water
 - Due to significant rain, by Jan. 26 the lake filled back up to normal winter lake level
 - 15% below normal precipitation
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September 13, 2011



September 13, 2011



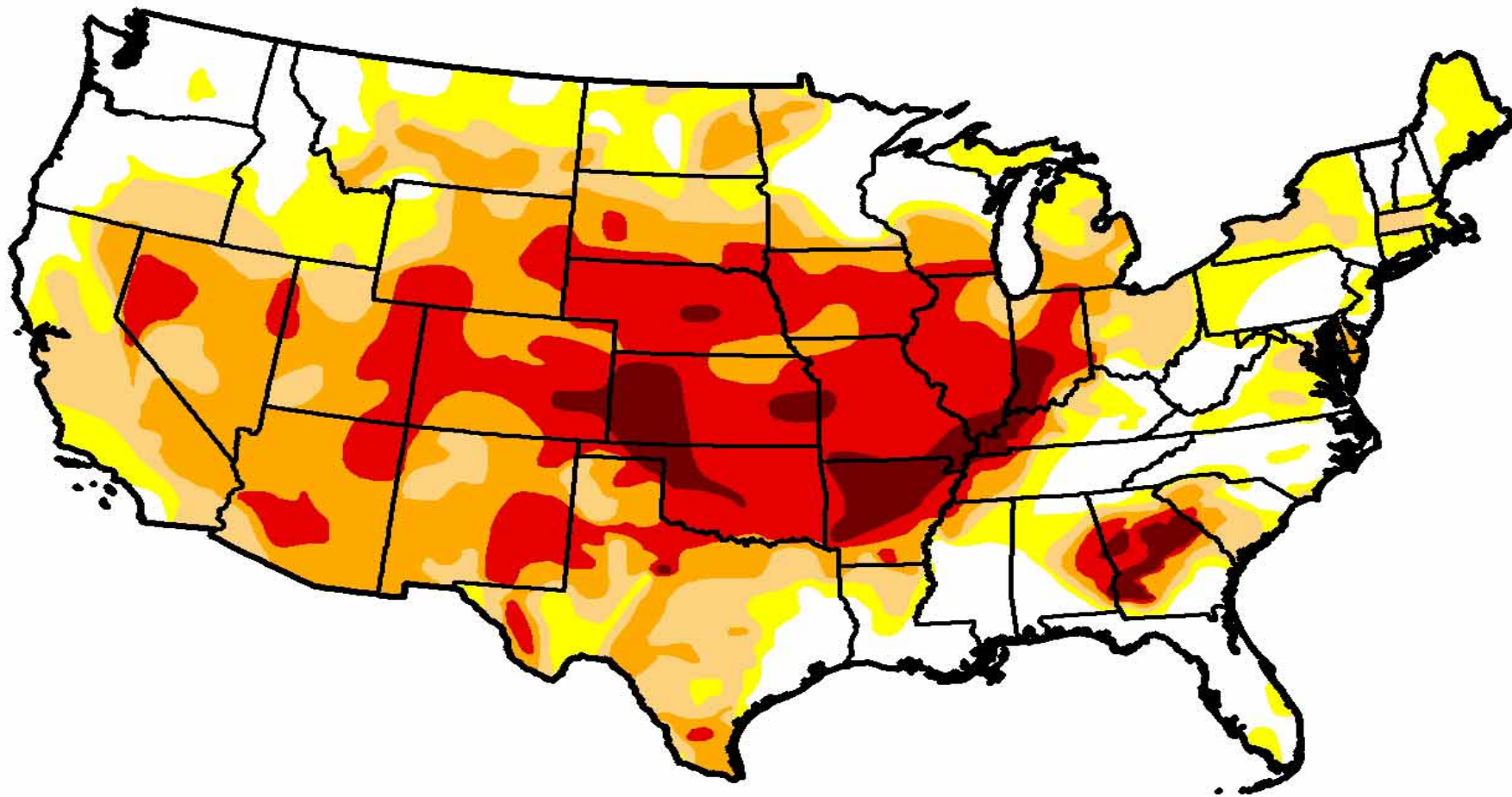
Sangamon Desert 2012

- Lake was full in June
 - Implemented voluntary conservation and Stage II mandatory water restrictions
 - 16 consecutive days with no Sangamon River flow at Monticello
 - Projected to run out of water from all sources in Feb. 2013
 - Searching for additional water everywhere
 - Worked closely with IEPA and ISWS
 - Came within a week of implementing Stage III mandatory water restrictions
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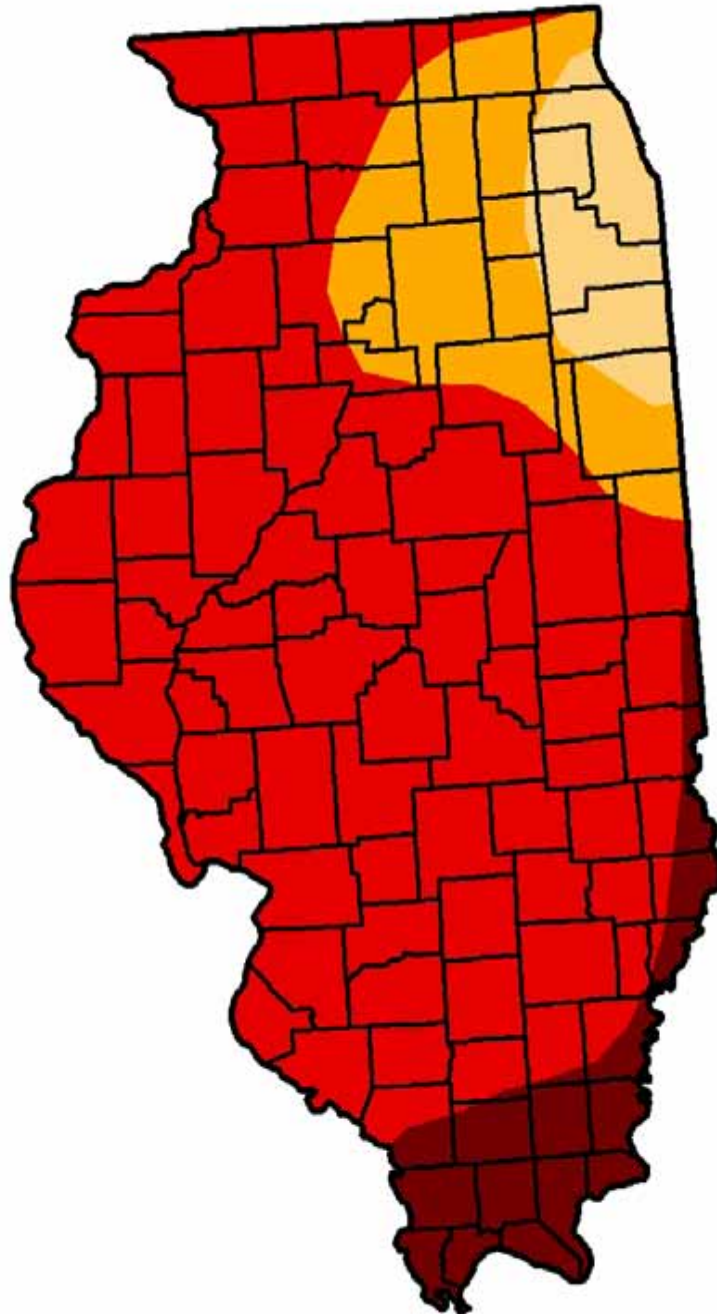
Sangamon Desert 2012 Continued

- Lowest lake level was on Oct. 13
 - 3.79 feet below the full summer lake level
 - The lake was only 54% full of water
 - Due to late fall rain, by Dec. 22 the lake filled back up to the normal winter lake level
 - 32% below normal precipitation
 - In 2012 the drought affected 55% of the continental US and 80% of US agricultural land
 - Worse US drought since 1956
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August 7, 2012



August 7, 2012



Lessons Learned

- Prepare a drought action plan NOW
 - Involve all major customers and stakeholders
 - Reach out to IEPA, ISWS, ISGS, USEPA, USGS, USACE, universities, etc.
 - Preach water conservation early and often until governing board members and all customers are converted
 - Don't hesitate to ask for voluntary conservation too soon
 - We directly contact our top 25 customers and the general public
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Mandatory Restrictions(Rationing)

- What is non essential water use?
 - New lawn & landscape projects, plant & tree sales facilities, fruit trees, fruit, vegetable and community gardens, golf courses, athletic fields, water fountains, bird baths, swimming pools, hot tubs, power washing, exterior painting, fire hydrant flow testing, car washing and car washes, construction sites, etc.?
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Lessons Learned Continued

- Compare your mandatory conservation strategies with other water utilities
 - How will you enforce mandatory conservation?
 - Don't hesitate to begin mandatory conservation too soon
 - Not allowing cars to be washed at home is a big deal
 - Be prepared for a white water roller coaster ride
 - Diversity your raw water supplies
 - Don't let a catastrophic event go to waste
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Hot Off the Press: Decatur Water Supply Improvement Plan

- Secure additional water for droughts and economic development
 - Dredge large areas of Lake Decatur – up to 6,500 acre feet
 - Rehab/replacement program for aging water system infrastructure
 - Compound 3 year water rate increase of 119%
 - Convert from quarterly to monthly billing
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Additional Water: How to Get at Least 15 MGD by 2030

- Continue preaching conservation
 - Continue aggressive distribution system leak detection and repair
 - Improve DeWitt Co. wellfield output
 - Significant Lake Decatur dredging
 - Utilize a second former sand and gravel pit
 - Shallow groundwater wells adjacent to Lake Decatur and Sangamon River
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