

# Wichita County Water Improvement District No. 2

## Dealing with Drought

Texas Clean Rivers Program  
Red River Basin

March 26, 2013

# Wichita County Water Improvement District No.2

## Dealing with Drought



# Lake Kemp

- Original Construction (1921-1923)
- Lake Kemp Embankment built on the Wichita River
- Original Storage 190,000 acre-feet
- 15,590 surface acres
- 1144 MSL- conservation pool
- 245,434 acre-feet

# Lake Kemp

Conservation Pool-1144.00 MSL

Seasonal Pool- 1145.50 MSL

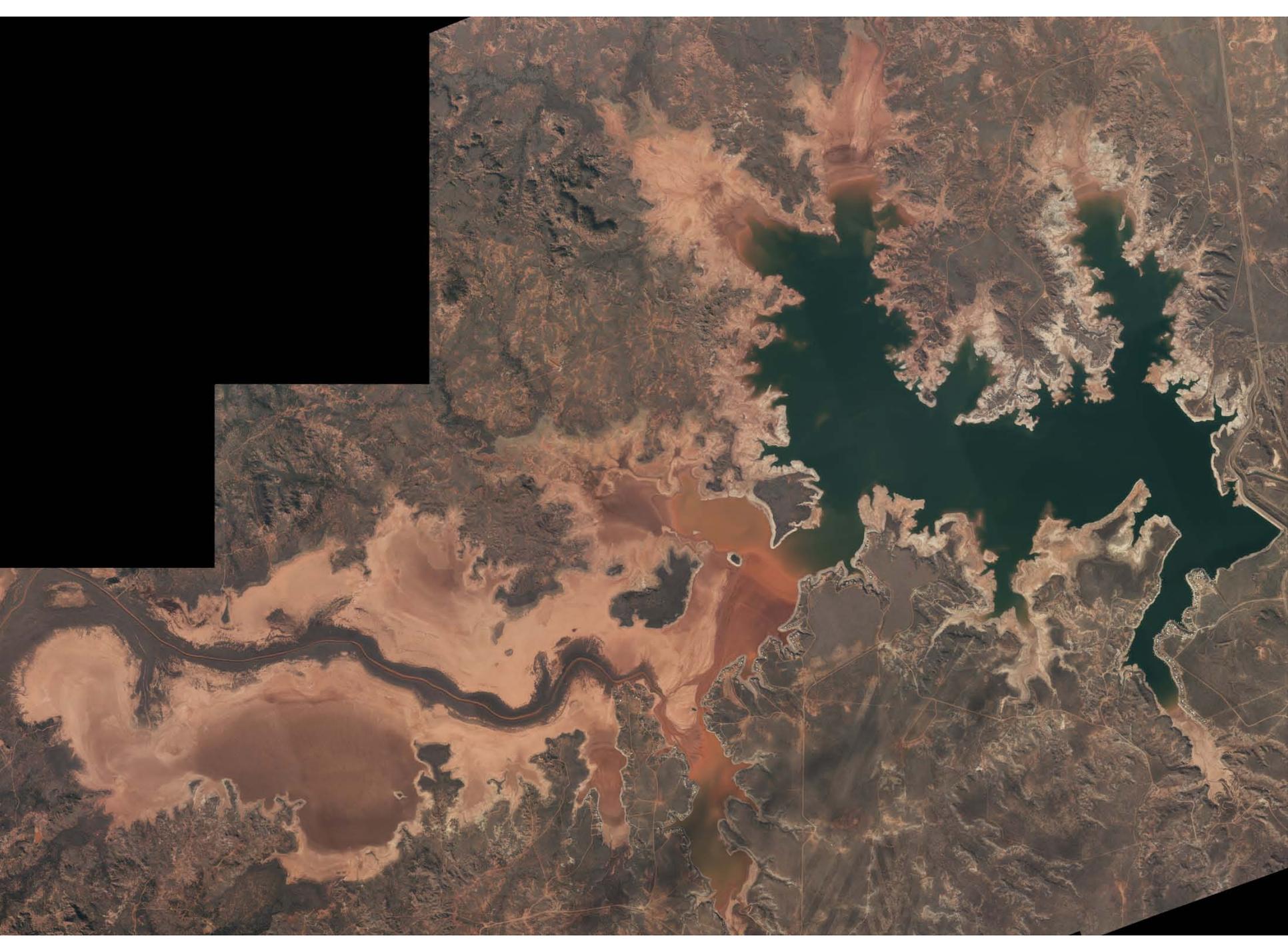
April 2012

Seasonal Pool Deviation 1147.00 MSL









# Rain @ Lake Kemp

	2011	2012
JAN	0.04	1.01
FEB	0.48	0.80
MAR	0.06	1.89
APR	trace	1.21
MAY	1.34	2.19
JUN	0.08	2.31
JUL	0.11	0.40
AUG	0.31	2.36
SEP	0.62	3.39
OCT	4.74	0.49
NOV	0.70	0.10
DEC	2.01	0.47
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Total	10.49	16.62

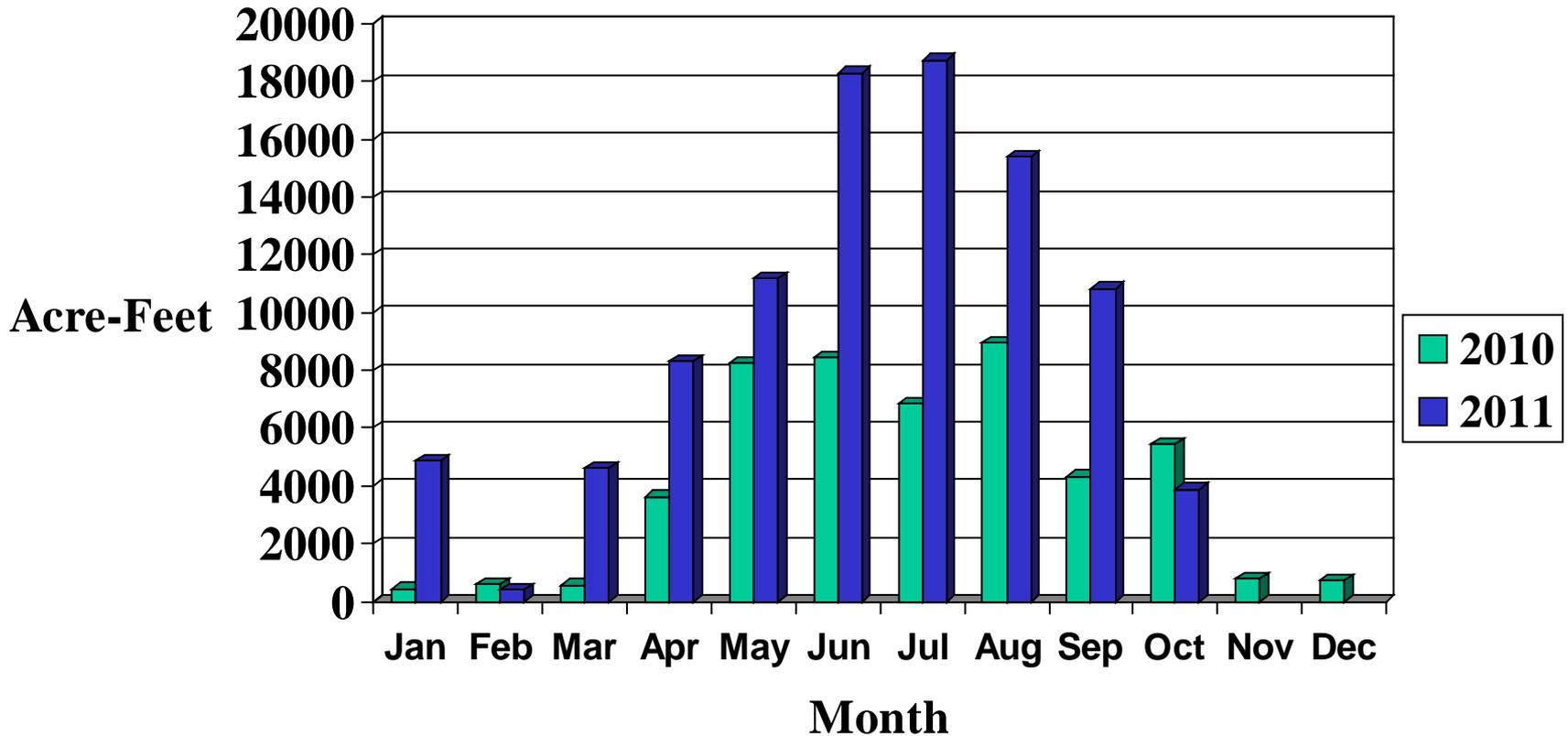
# 2011-12 Evaporation

<u>Month</u>	<u>2011</u>	<u>2012</u>
March	7.55	7.17
April	12.88	10.23
May	14.88	13.47
June	22.29	12.98
July	20.06	16.29
August	20.30	14.4
September	11.90	11.17
October	8.02	6.76
<b>Total</b>	<b>117.88</b>	<b>92.47</b>

# Lake Diversion

- Construction (1922-1924)
- Embankment built 18 river miles downstream on the Wichita River
- Storage - 40,000 acre-feet
- March 2013 – Volumetric Survey (TWDB)
- Purpose - water for irrigation, electric power generation, municipal water supply & state fish hatchery

# Water Usage South Side Canal





WCWID No.2 Partnerships  
Drought 2011- 2012  
2013 ???

- Irrigation users/producers
- City of Wichita Falls – Municipal water supply
- American Electric Power – Industrial electrical power generation
- Texas Parks & Wildlife- Dundee State Fish Hatchery





# City of Wichita Falls

- Co-owners
- Lake Kemp, Lake Diversion, Canal System
- Water Rights (193,000 acre-feet)
- Water delivery to Reverse Osmosis
- Cost share O&M
- Utilize expertise and teamwork

# City of Wichita Falls Microfiltration Reverse Osmosis

2011

- 1,340,029,000 gallons
- 4112.39 Acre Feet

2012

- 576,436,000 gallons
- 1769.10 Acre Feet



# American Electric Power Oklahoma, TX

- 60 year contract beginning 1977
- Furnish water to Oklahoma Electric Generation Power Plant
- 20,000 acre feet per year (State Permit)
- 2010 usage = 2,038,155,000 gallons
- 2011 usage = 2,382,426,333 gallons
- 2012 usage = 1,954,486,883 gallons





11/14/2011

# Water Conservation Policy and Planning

- Drought Contingency & Water Allocation
- Rules and Regulations for Water Delivery

Adopted - November 2001

Revised - July 2005, July 2008, August 2009

July 2011



# Current Drought Contingency

## Drought Response Stages

Stage 1 Moderate Water Shortage – Lake Kemp elev. below 1135 MSL

Volume = 141,977 acre feet

Stage 2 Severe Water Shortage – Lake Kemp elev. below 1132 MSL

Volume = 120,906 acre feet

Stage 3 Critical Water Shortage – Lake Kemp elev. below 1125 MSL

Volume = 80,408 acre feet

Stage 4 Emergency Water Shortage – Lake Kemp elev. below 1116 MSL

Volume = 42,941 acre feet

Stage 5 No Irrigation – Lake Kemp elev. 1109 MSL

Volume = 22,244 acre feet







05/02/2012



EMERGENCY ON  
NO OBSTRUCTION