Southwestern Division
"Pacesetters"

2012 Water Resources Conference
Dallas Post, SAME

BG Thomas Kula

Southwestern Division Commander

7 May 2012

US Army Corps of Engineers
BUILDING STRONG®

Southwestern Division

Major Mission Areas

Civil Works

Military Programs

International &
Interagency Service

Civil Works Mission Areas

Little Rock District's MV Ted Cook positions the Crane Barge Mike Hendricks at Dam 2 during the flood of 2011

Navigation (Inland)
2 major waterways
(GIWW and MKARNS)

Water Supply
- 8.4 million acre-feet of water storage
- Water control contracts = water for 1.8 million households

Sardis Dam, Oklahoma

Hydroelectric Power
- 18 power plants in 6 states produce 6.7 billion kw hours
- 87% of regional capacity, third in the Corps

Bull Shoals Powerhouse, Arkansas

Flood Damage Reduction
- 74 flood damage reduction lakes/reservoirs
- 33.22M acre-feet of flood storage
- 760 miles of local flood protection projects
- $85 B in cumulative flood damage prevention

Dallas Floodway

Recreation
- 20 percent of the Corps' total recreation projects located within the regional boundary
- 83 million visitors at 90 operating projects located in five states

Moonshine Beach, Table Rock Lake, Mo.

Navigation (Ports and Channels)
- 4 of the Nation's "Top Ten" ports
- 32 channels (15 deep draft, 17 shallow draft)
- More than 500 M tons of commerce annually

Houston Ship Channel

Regulatory (work in waters & wetlands)
- Over 5000 permit decisions annually
- Protection of waters & wetlands

Regulators examine soils on a wetland delineation field visit.

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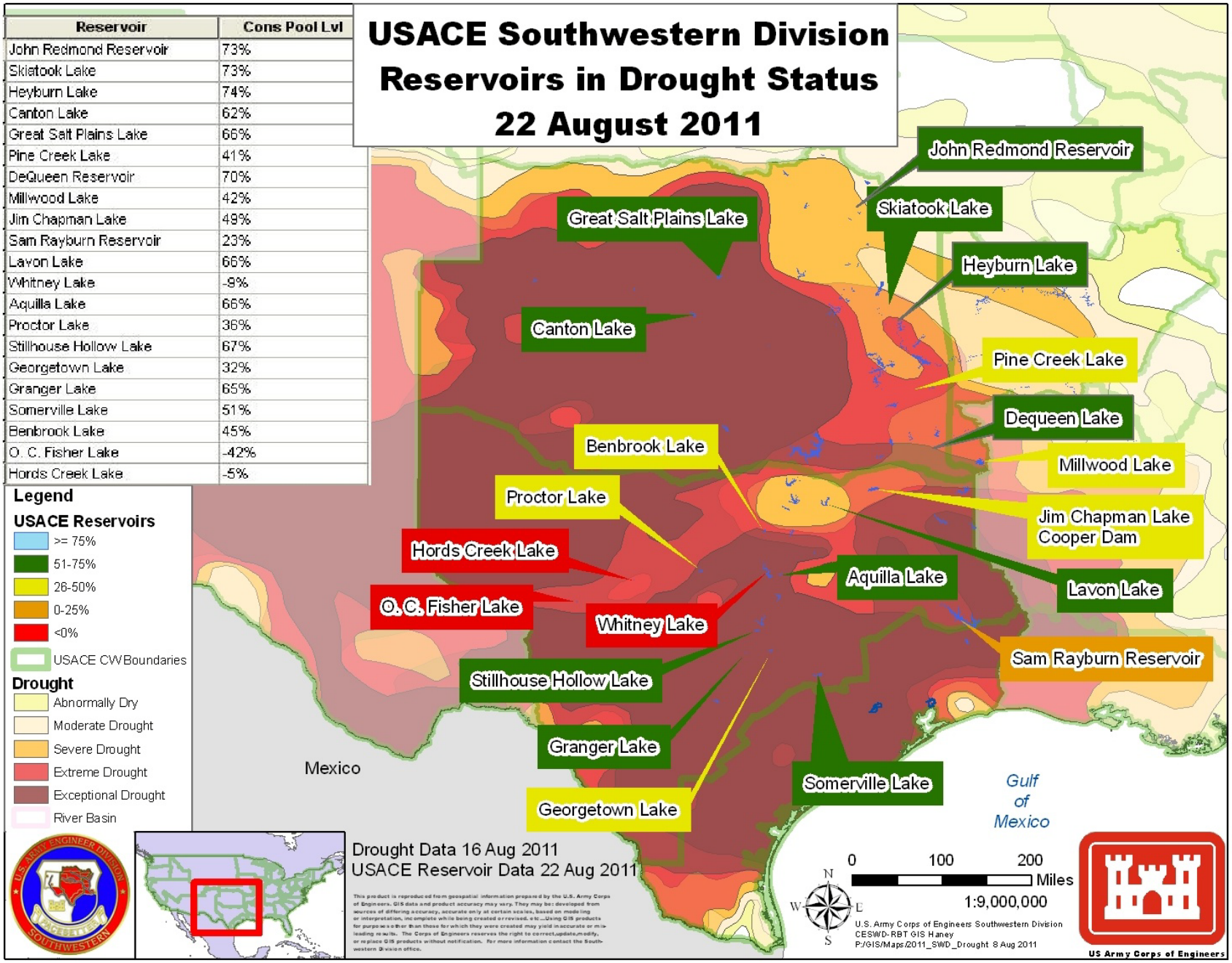
USACE Southwestern Division
Reservoirs in Drought Status
22 August 2011

Reservoir	Cons Pool Lvl
John Redmond Reservoir	73%
Skiatook Lake	73%
Heyburn Lake	74%
Canton Lake	62%
Great Salt Plains Lake	66%
Pine Creek Lake	41%
DeQueen Reservoir	70%
Millwood Lake	42%
Jim Chapman Lake	49%
Sam Rayburn Reservoir	23%
Lavon Lake	66%
Whitney Lake	-9%
Aquilla Lake	66%
Proctor Lake	36%
Stillhouse Hollow Lake	67%
Georgetown Lake	32%
Granger Lake	65%
Somerville Lake	51%
Benbrook Lake	45%
O. C. Fisher Lake	-42%
Hords Creek Lake	-5%



Water Supply in the SWD Region

- The Corps is the single largest water supplier in the region:
  - ►SWD reservoir projects currently contain ***8.4 million*** acre-feet of storage for municipal, industrial and agricultural use.
    - 36% of the potable water for Texas
    - 35% of the potable water for Oklahoma
    - 20% of the potable water for Kansas

"*Water, not oil, is the lifeblood of Texas...*" – James Michener in *Texas: A Novel*

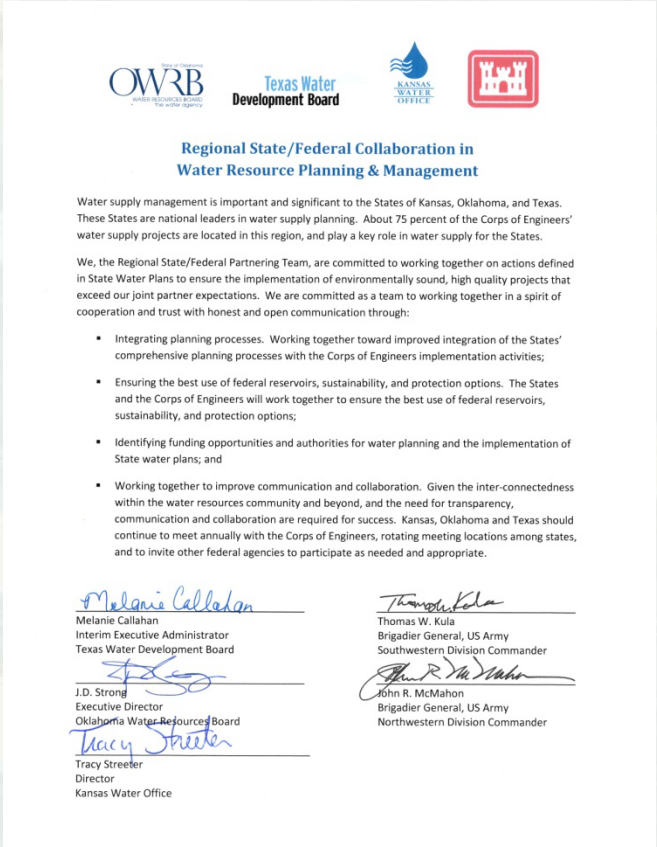
2011 & 2012 Regional Water Planning Summit

- Initiated with states to re-energize collaborative efforts
- Messages and needs from the states:
  - ► Water supply needs to be a higher priority for Corps
  - ► Streamlining Corps funding processes
  - ► Involve the States in establishing the Corps future strategies for infrastructure investment
  - ►Streamline the Corps' 404 permitting process

Charter for Regional Collaboration

Principles:

- Integrating planning processes.
- Ensuring the best use of federal reservoirs, sustainability, and protection options.
- Identifying funding opportunities and authorities for water planning and the implementation of State water plans.
- Working together to improve communication and collaboration.



OWRB Texas Water Development Board Kansas Water Office

Regional State/Federal Collaboration in Water Resource Planning & Management

Water supply management is important and significant to the States of Kansas, Oklahoma, and Texas. These States are national leaders in water supply planning. About 75 percent of the Corps of Engineers' water supply projects are located in this region, and play a key role in water supply for the States.

We, the Regional State/Federal Partnering Team, are committed to working together on actions defined in State Water Plans to ensure the implementation of environmentally sound, high quality projects that exceed our joint partner expectations. We are committed as a team to working together in a spirit of cooperation and trust with honest and open communication through:

- Integrating planning processes. Working together toward improved integration of the States' comprehensive planning processes with the Corps of Engineers implementation activities;
- Ensuring the best use of federal reservoirs, sustainability, and protection options. The States and the Corps of Engineers will work together to ensure the best use of federal reservoirs, sustainability, and protection options;
- Identifying funding opportunities and authorities for water planning and the implementation of State water plans; and
- Working together to improve communication and collaboration. Given the inter-connectedness within the water resources community and beyond, and the need for transparency, communication and collaboration are required for success. Kansas, Oklahoma and Texas should continue to meet annually with the Corps of Engineers, rotating meeting locations among states, and to invite other federal agencies to participate as needed and appropriate.

Melanie Callahan
Interim Executive Administrator
Texas Water Development Board

Thomas W. Kula
Brigadier General, US Army
Southwestern Division Commander

J.D. Strong
Executive Director
Oklahoma Water Resources Board

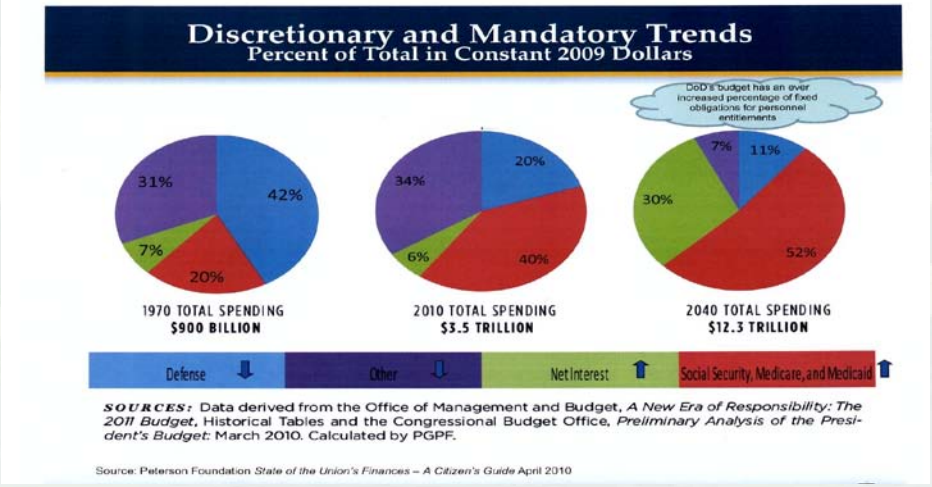
John R. McMahon
Brigadier General, US Army
Northwestern Division Commander

Tracy Streeter
Director
Kansas Water Office

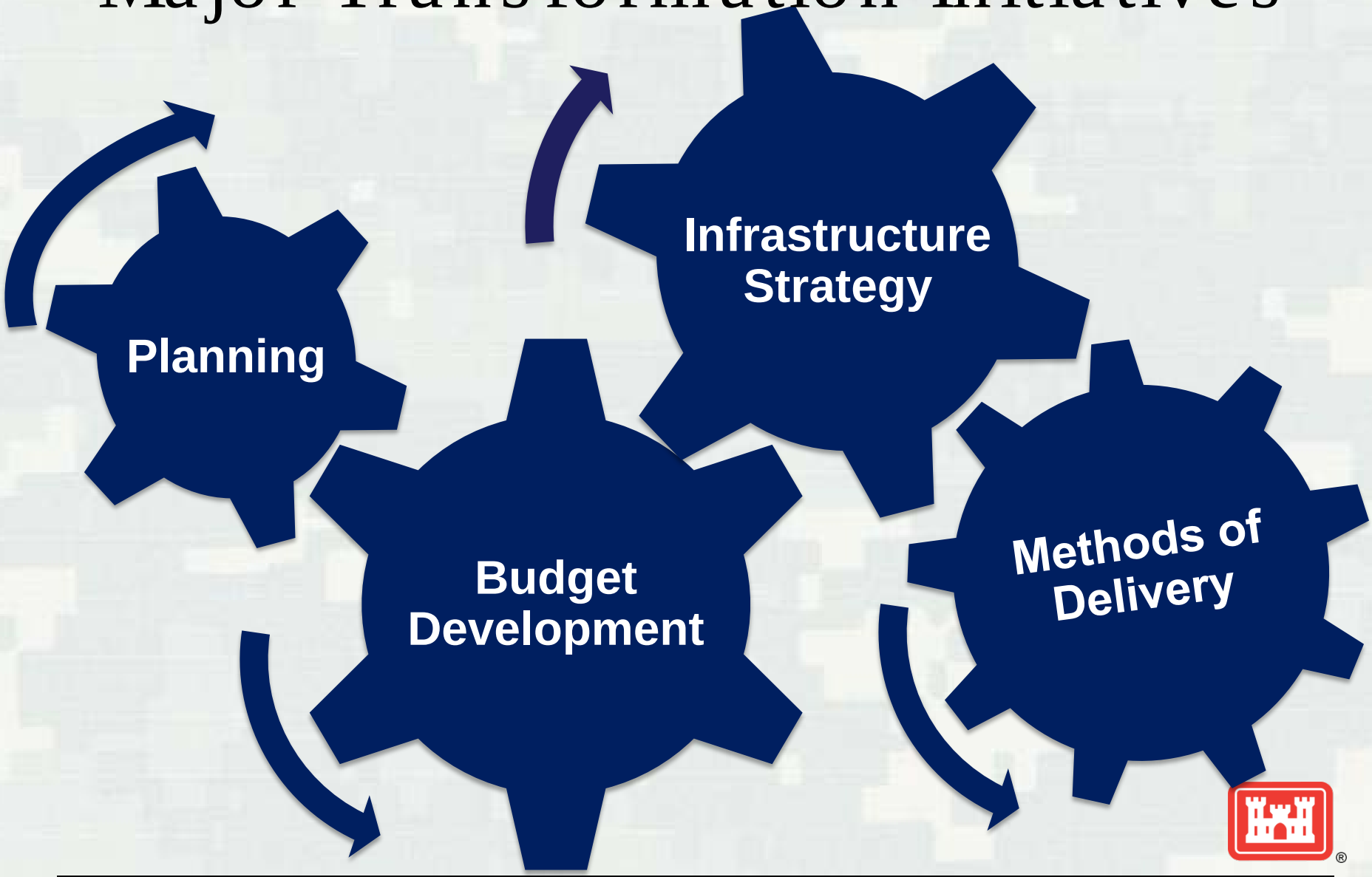
"The Perfect Storm" Hitting the CW Program

- Aging capital stock portfolio with program becoming unsustainable
- Underfunded CW budgets with anticipated future spending constraints
- Declining performance across all CW business lines
- Increasing demand and competition for water & water resources
- Climate Variability – increased frequency, intensity and location of extreme events
- Changing values of American people
- Under-appreciated value of the CW infrastructure with continuing challenges for communicating the "Value to the Nation" to American people & decision-makers

Mandatory Spending and Interest on Debt is Crowding out Domestic Discretionary Spending



Major Transformation Initiatives



Support for State Water Planning

- Regulatory Program coordination
  - Texas Environmental Resource Stewards (TERS)
  - Permitting process flowchart for Texas (draft)
  - Collaboration with TWDB on water plan
  - Permit Program outreach to organizations
  - Quarterly meetings with EPA Region 6
- Fully utilize existing planning authorities
  - Seek opportunities to move forward with priority watershed and reallocation studies
  - Assessments of existing projects to ensure we're best serving present needs
- Operational measures
  - Update and implement contracts and drought contingency plans
  - Perform critical OMRR&R to maintain conservation storage at our projects

Wichita River Basin Chloride Control Project

Dennis Duke

Tulsa District, Corps of Engineers

3 May 2012

How Much Salt?

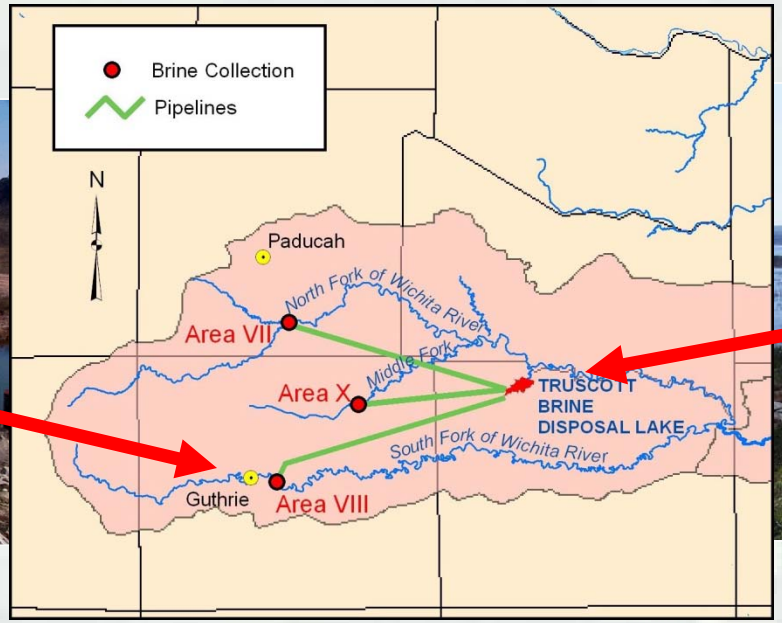
- Through about 1990, the estimated amount of natural salt emissions was about 3,300 tons per day in the Red River Basin.

- Studies after 1990 estimate about 4,400 tons per day of natural salt emissions.

- These estimates exclude brine emissions from other sources such as petroleum exploration. Emissions from early petroleum exploration brine pits have been significantly reduced through Federal legislation and States cleanup efforts.

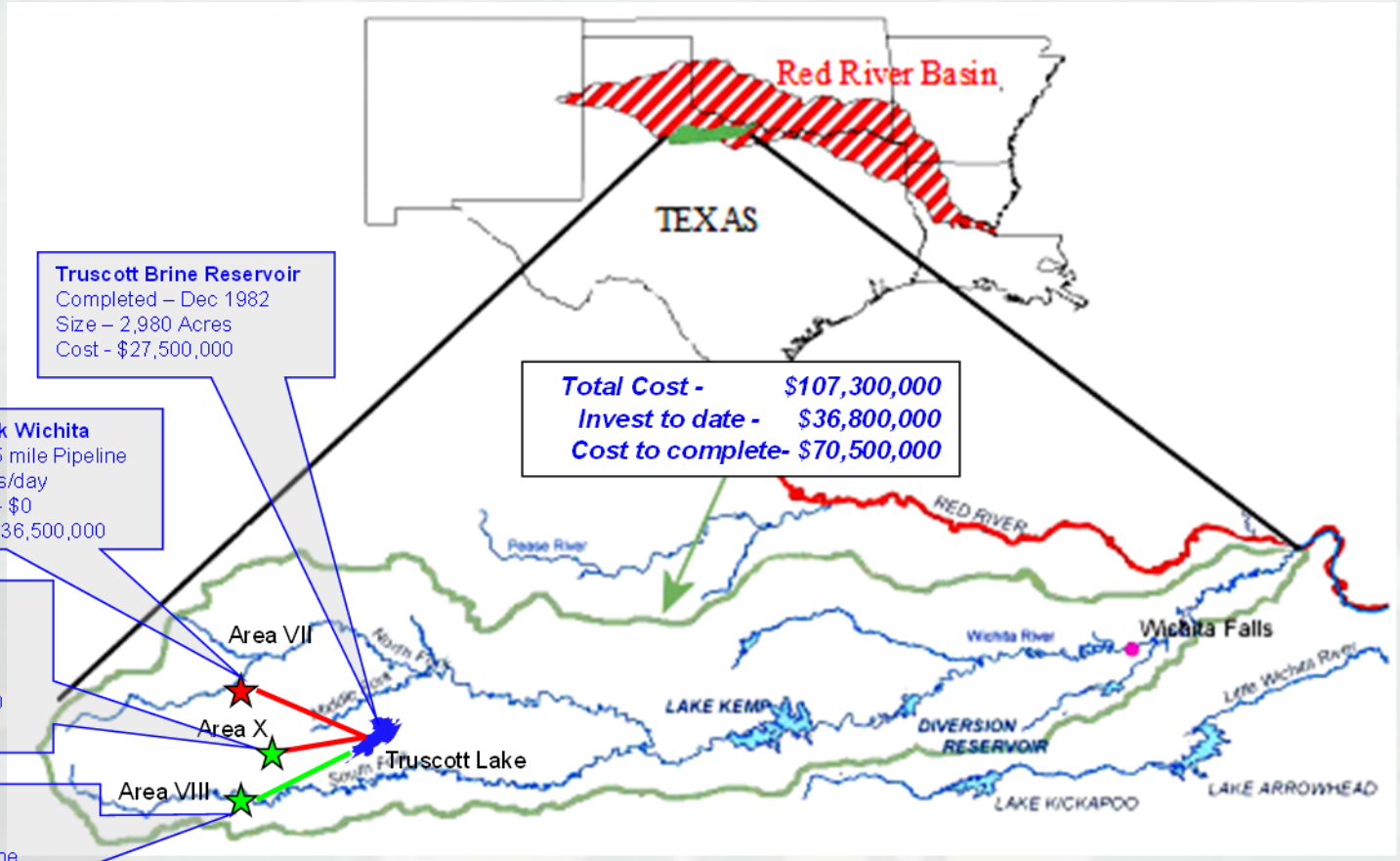
Continuing Effort

- The recommended plan for the Wichita Basin includes brine collection at Areas VII, VIII, and X.
- When operational they will prevent 409 tons of salt per day from entering the Wichita River and the Red River.
- The change in water quality will be significant in the Wichita River Basin.



Wichita Basin

Red River Chloride Control



Work Initiated

Remaining to Complete

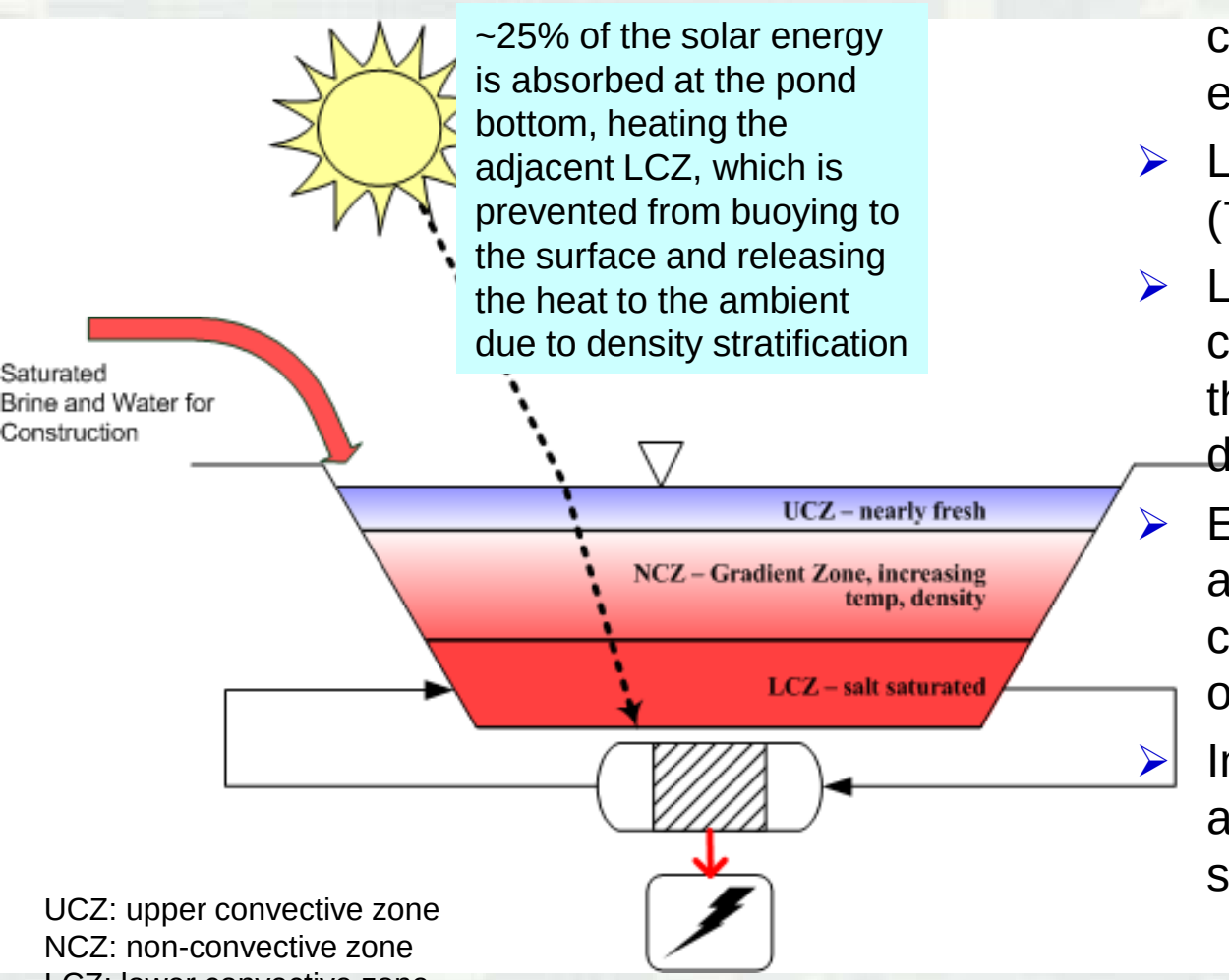

Area VIII


Truscott Lake


Lake Kemp

BUILDING STRONG®

Salinity Gradient Solar Pond (SGSP)



UCZ: upper convective zone
NCZ: non-convective zone
LCZ: lower convective zone

- Shallow, stratified body of water (9-12 ft deep) used to collect/store/recover solar energy
- Low to medium storage temps (70 ~ 90°C)
- Large inherent storage capacity, providing a solar thermal baseload energy delivery system
- Easily constructed over large area with low cost per unit collector area and low cost of operation
- Installed modularly, flexibly adaptable to a specific project's size and power requirements


EL PASO SOLAR POND

Selling the Vision

- We have the Salt.
- 200 tons per day since 1986
- We have the sunlight
- We have a 138KV Power line that crosses the lake.
- We have an impermeable basin
- We can bring in more salt from two other sources to complete the mission!!

Riding the Brand

Chloride Control/Truscott Team

Stakeholders and Partnering

- Leverage Efforts, preach Value to Nation
- Find consensus for Major Initiatives
  - Funding to Reach Outcomes
  - Time for WRDA?
  - Engage in Transformation
- Be mutually supportive
- Shared Messages
- Involve & Engage End-Users
- Seek to Influence Decision-Makers

Questions?

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