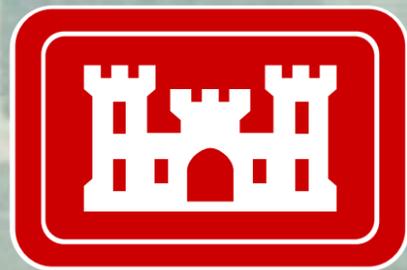


Federal Update: Tulsa District US Army Corps of Engineers

Oklahoma Governor's Water Conference & Research Symposium
The Foundation for Oklahoma's Water Future

COL Michael Teague
District Commander
Tulsa District
US Army Corps of Engineers



®

US Army Corps of Engineers
BUILDING STRONG



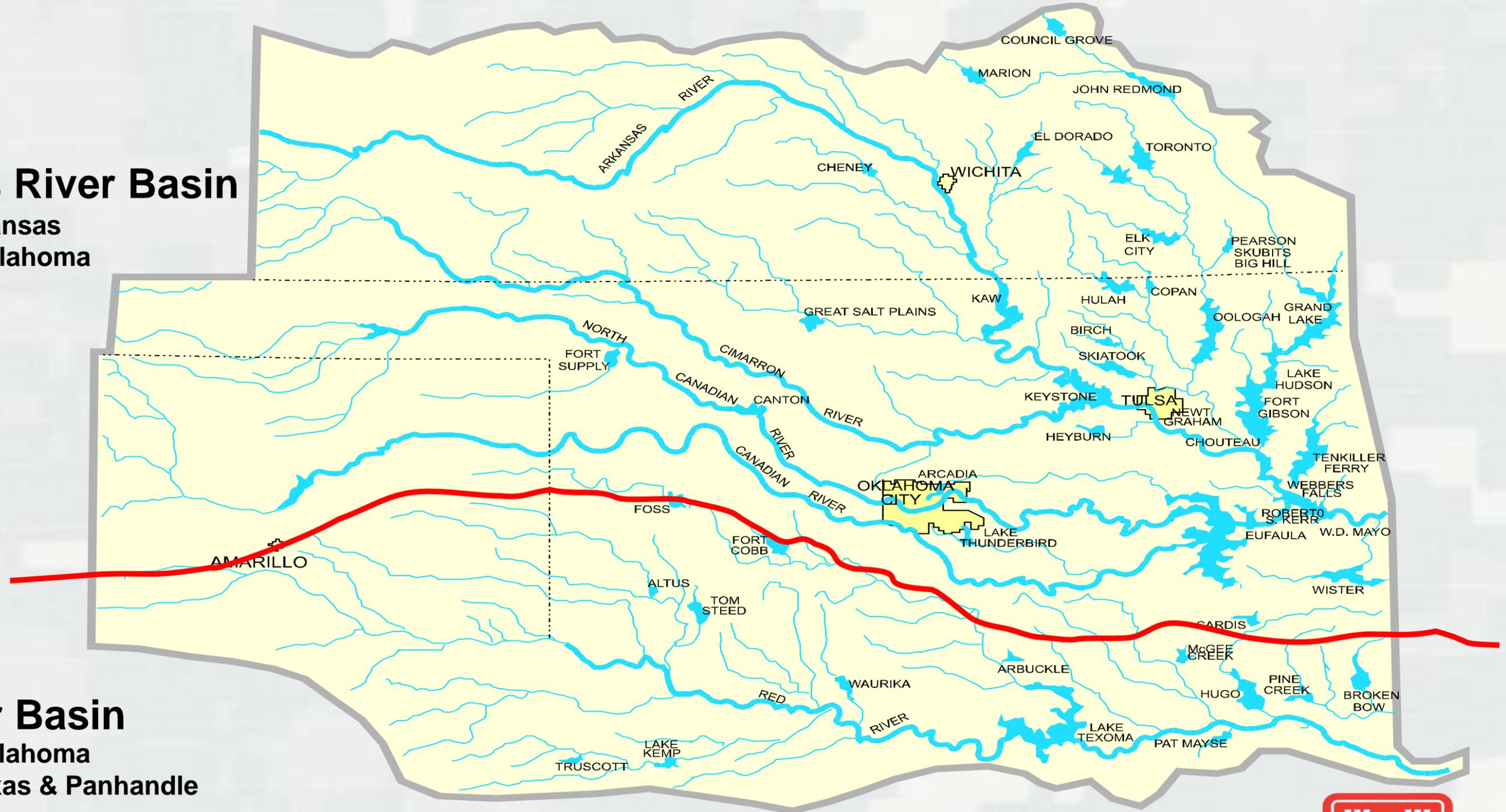
Water breakthroughs have fallen into four traditional categories of use - domestic needs, economic production, power generation, and transport or strategic advantage.

*“... societies that find the most **innovative** responses to the modern water scarcity crisis are most likely to come out as winners, while the others will fall behind...”*



Civil Works Boundary

Arkansas River Basin
Southern Kansas
Northern Oklahoma



Red River Basin
Southern Oklahoma
Northern Texas & Panhandle



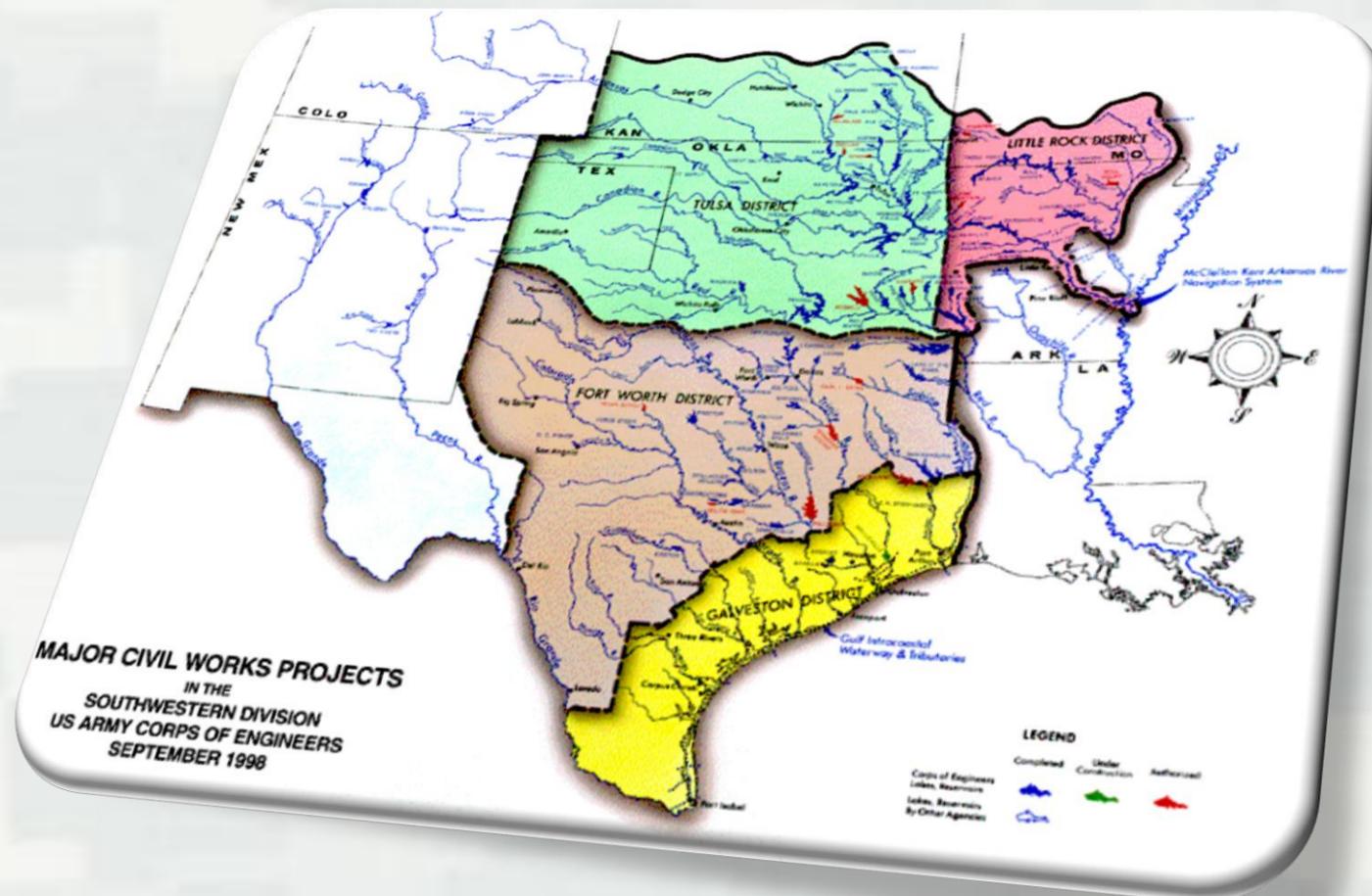
Maintaining a System Balance

Competing Water Resource Interests



Civil Works Revenues

District Budget: \$98,000,000



RECREATION: Revenues returned to US Treasury in FY 2010 were:

\$4,465,000

WATER SUPPLY: Revenues returned to US Treasury in FY 2010 were:

\$59,691,000

HYDROPOWER: Revenues returned to US Treasury in FY 2010 were:

\$55,000,000

TOTAL RETURNED TO US TREASURY:

\$119,156,000



Flood Risk Management

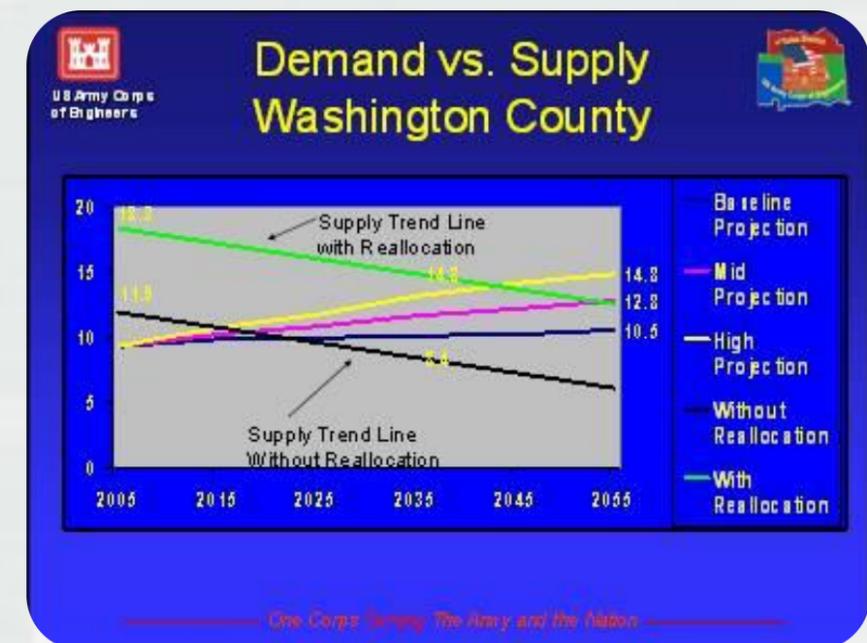


- Tulsa District has flood risk reduction projects in two river systems
 - ▶ Arkansas River System
 - ▶ Red River System
- Oklahoma flood damages prevented for 2010: \$188,300,000
- 27 reservoirs in Oklahoma
- Numerous levee systems and local protection projects
- Lifetime flood damages prevented in Oklahoma: \$11.4 billion



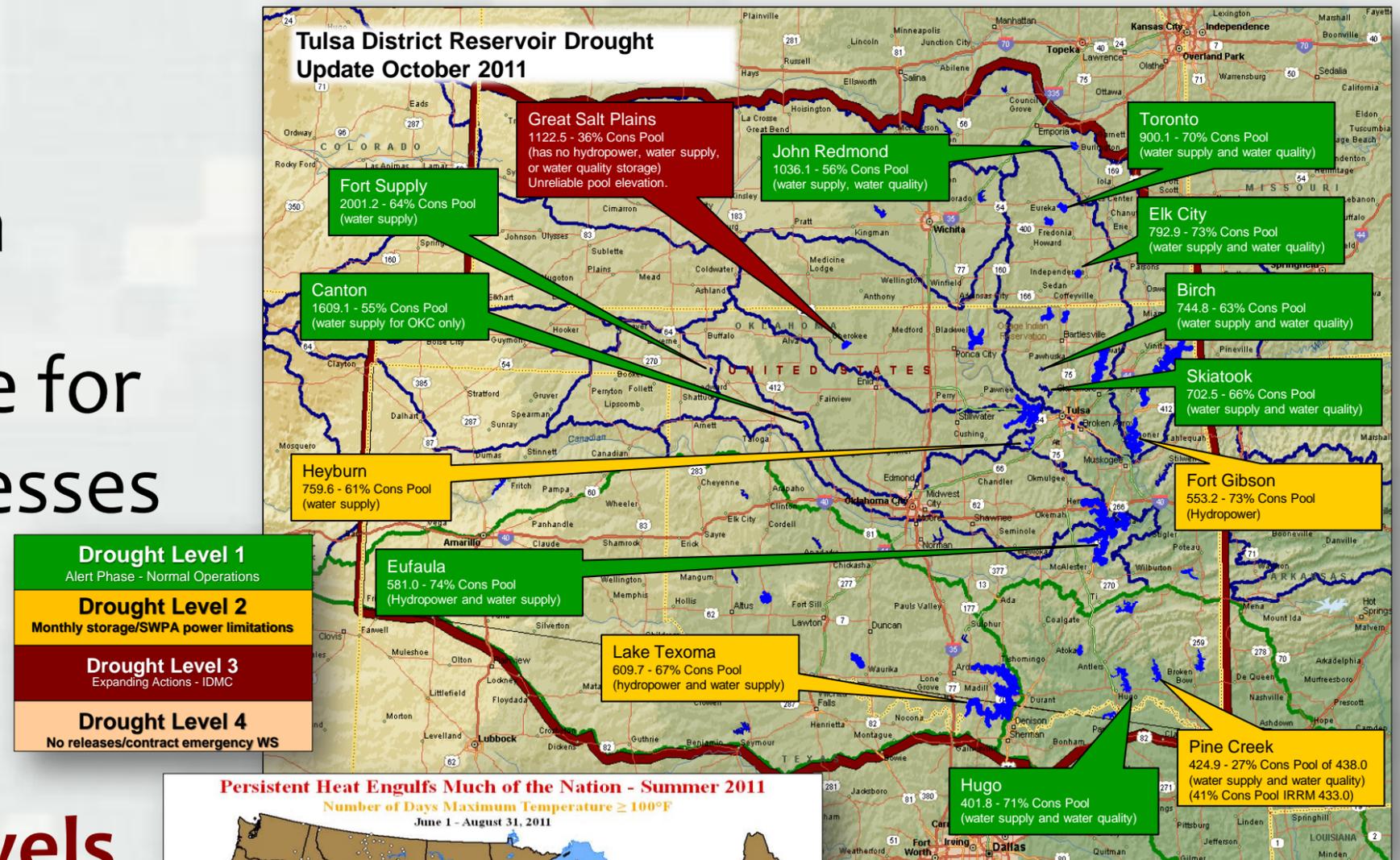
Water Supply

- Responsible for over 50% of all water supply contracts in the Corps of Engineers
- Customers include States, municipalities, rural water districts, electric plants, conservation districts, irrigators and individuals
- Provide water supply to over 3 million people, amounting to over 6 billion gallons/year
- 20 projects within Oklahoma provide approximately 1.8 million acre-feet of storage for water supply needs
- Careful management of the nation's water supply is critical to limiting water shortages and lessening the impact of droughts

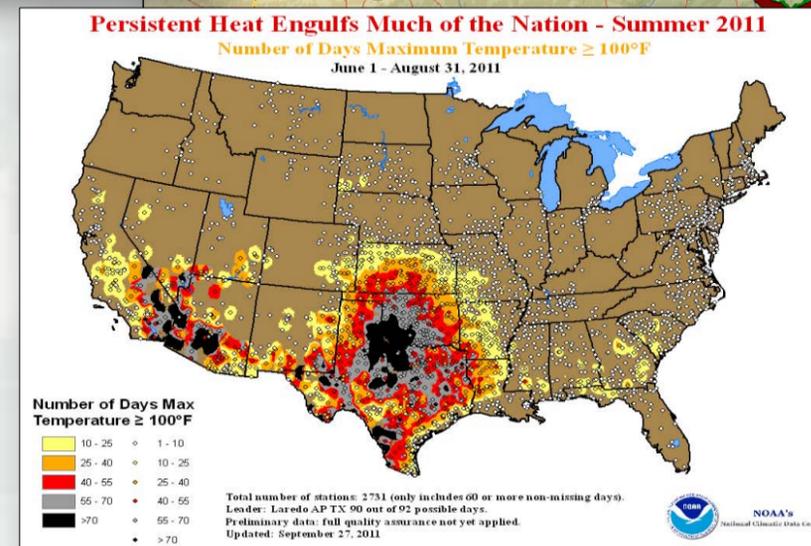


Drought Contingency Plans

- Each Corps project has a drought contingency plan
- Provides a basic reference for water management processes during a water shortage induced by drought
- The plans provide **four levels** of response that are progressively initiated as the drought intensifies



Drought Level 1	Alert Phase - Normal Operations
Drought Level 2	Monthly storage/SWPA power limitations
Drought Level 3	Expanding Actions - IDMC
Drought Level 4	No releases/contract emergency WS

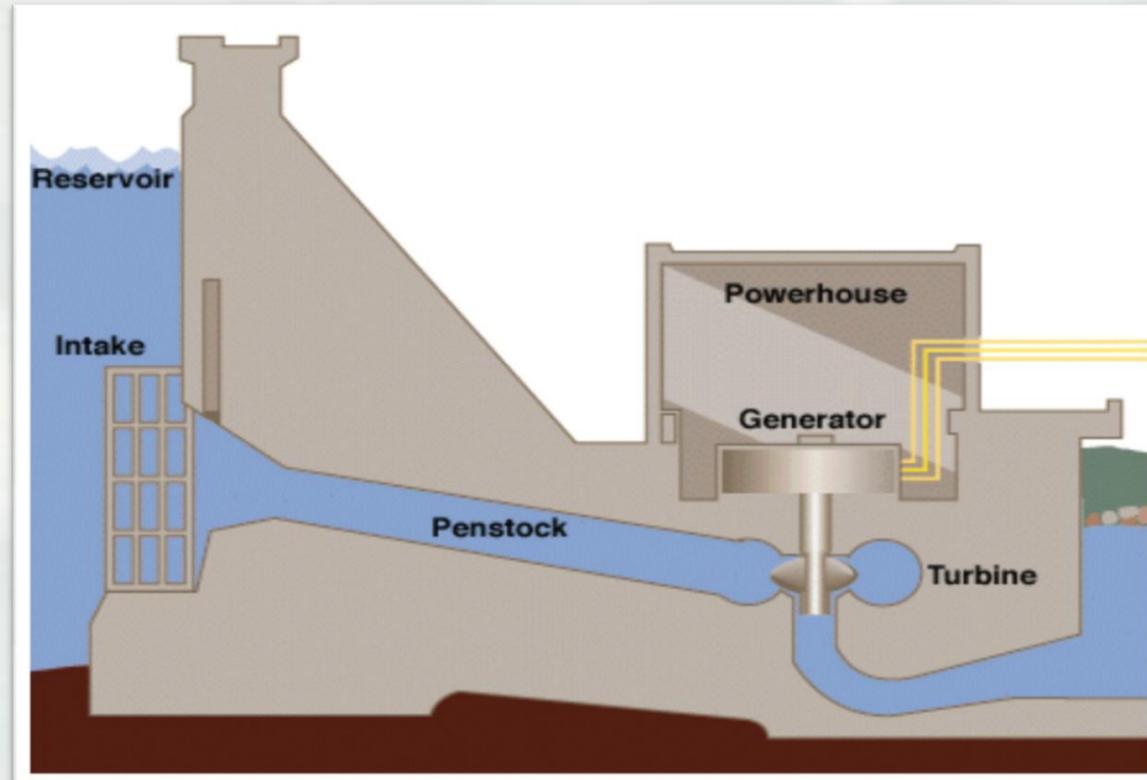


South-Central Climate Science Center Support

- Hosted by the University of Oklahoma
- Addresses how climate science programs may be used in water resource model assessments and risk management
- FY12 pilot study of Oologah Lake watershed
- Goal of pilot study to demonstrate a sustainable risk management process associated with climate change impacts to:
 - Reservoir yield and water quality
 - Soil and water conditions in the watershed
- Team : Federal, State, Tribal, and local agencies



Hydropower

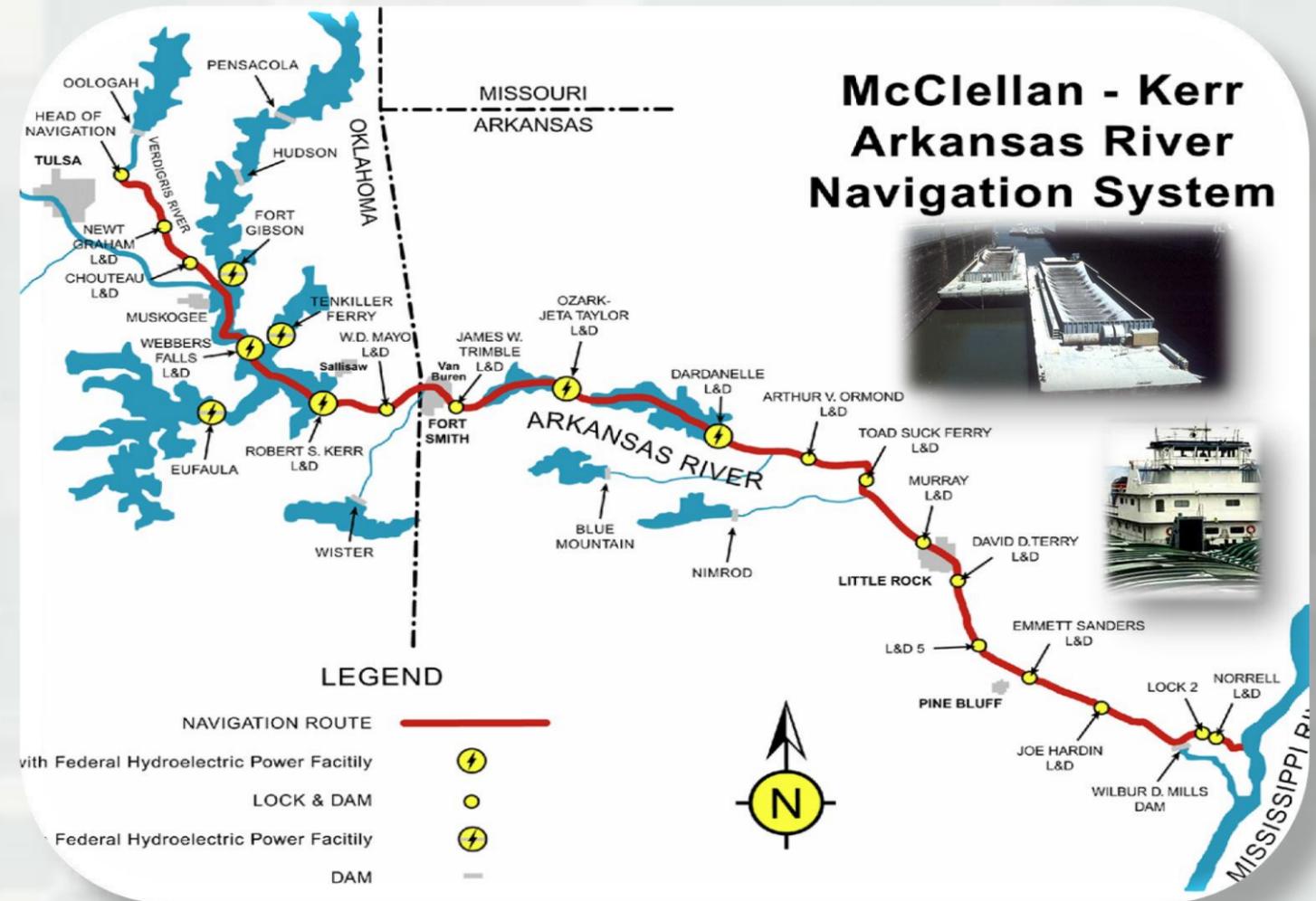


- Partner with SWPA to operate eight power plants in Oklahoma
- Total generating capacity 584,000 kilowatts
- Produces an average of 1,800,000,000 kilowatt hours annually
- Enough power for approximately 165,000 homes
- Average annual value of approximately \$162 million
- Hydropower Infrastructure O&M: Webbers Falls



Navigation

- The McClellan-Kerr Arkansas River Navigation System was completed in 1971
- Commerce on the system directly employs over 4,000 people in Oklahoma
- Generates a payroll of approximately \$85 million annually
- One barge can move as much as 15 rail cars or 60 tractor-trailer trucks
- An average of 13 million tons of cargo is transported annually

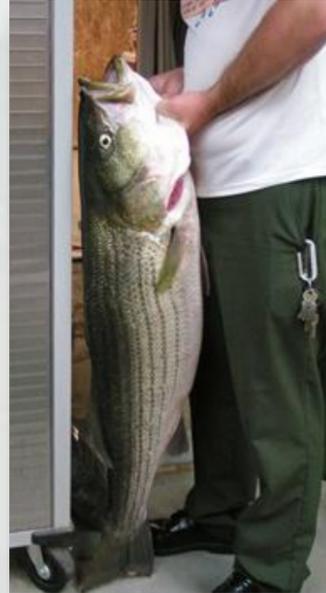


Environmental

- Reservoir Operations
 - ▶ Fish and waterfowl considerations
 - ▶ Endangered species
 - ▶ Least Tern monitoring program
 - ▶ Close Coordination with State and Federal resource agencies
- Regulatory permit program
- Ecosystem and aquatic ecosystem restoration



Recreation



- 241 Tulsa District parks; nearly 5896 campsites and more than 250 boat ramps
- 70 improved swimming beaches
- Almost 150 Tulsa District parks operated by other agencies and local government

- 2010 Visitation at District Lakes
 - ▶ Total Visitors: 25,364,185
 - ▶ In Oklahoma: 22,598,191
 - ▶ At Tenkiller: 3,274,803
 - ▶ At Eufaula: 2,295,601
 - ▶ At Texoma: 6,205,187



Dam and Levee Safety

- Areas of focus
 - ▶ Canton Lake
 - ▶ Keystone Lake
 - ▶ Pine Creek
 - ▶ John Redmond (Hartford Levee)

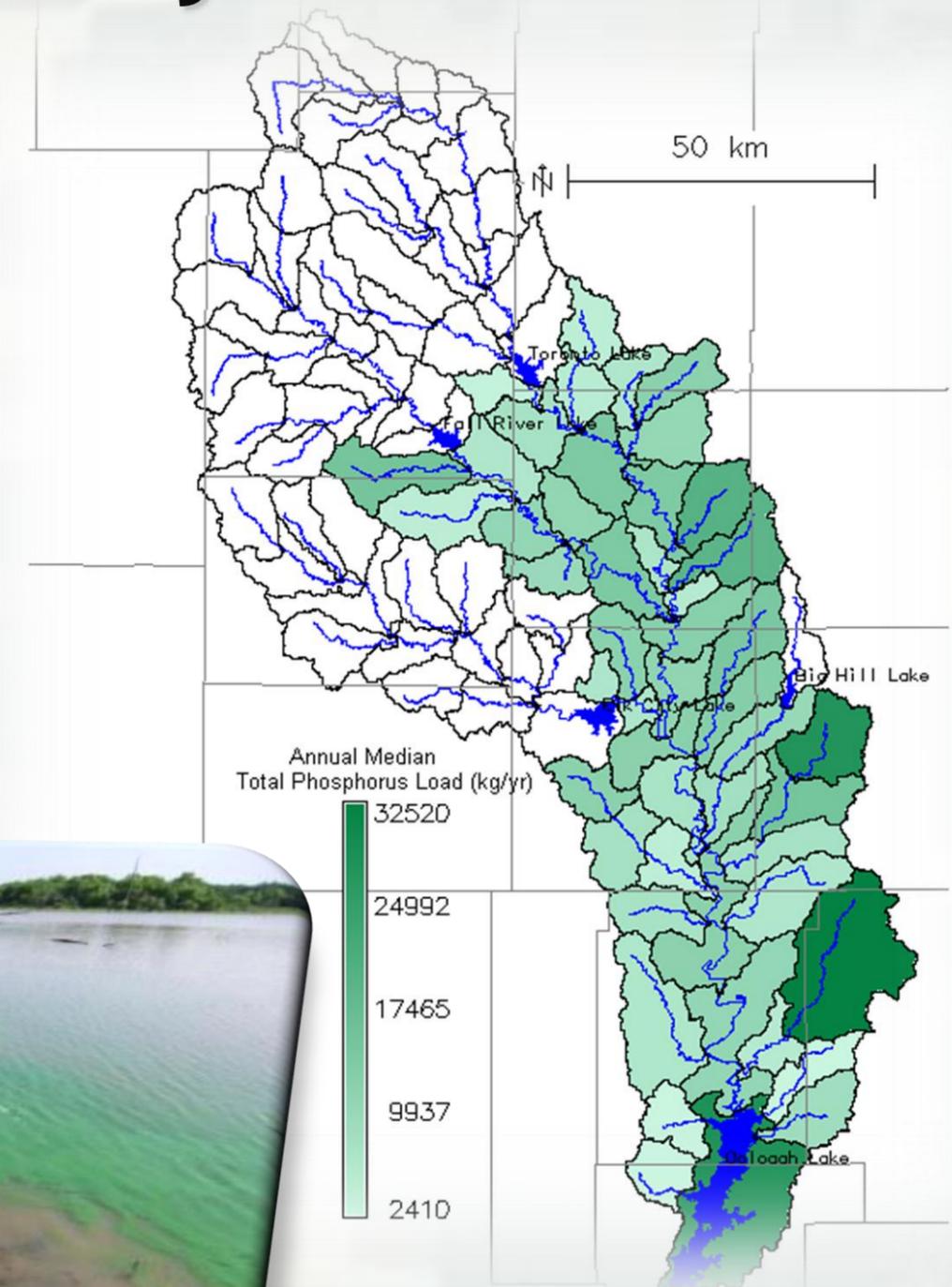


- Monitoring of existing levees
 - ▶ Levee risk screenings
 - ▶ Technical assistance to sponsors
 - ▶ Annual inspections



Reservoir Sustainability

- Maintaining Infrastructure
 - ▶ Aging infrastructure
 - ▶ Funding challenges
- Sedimentation and nutrient loading
 - ▶ Blue-Green Algae
 - ▶ Watershed activity
 - ▶ Impacts all project purposes
- Best uses of storage
 - ▶ Reallocation



Watershed Approach

Tulsa District implements watershed-based solutions utilizing a variety of existing programs through innovative multi-agency collaboration.

- Highlighted collaborative efforts in Oklahoma:
 - ▶ Oklahoma Comprehensive Water Plan
 - OCWP (PAS)
 - Washita River Basin, OK (GI)
 - Southeast, OK (GI)
 - ▶ Oologah Watershed Study (GI)
 - ▶ Eucha/Spavinaw Ecosystem Restoration Study (GI/CAP)
 - ▶ Chickasaw Choctaw Water Resource Study (PAS)
 - ▶ Ft. Sill Apache Master Plan and Water Resource Study (PAS)



*Other related watershed initiatives in Kansas and Texas



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