

Water for 2060 ...and Beyond

**Southern Great Plains Drought
Outlook and Assessment Forum**

March 7, 2013

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**Assistant Division Chief
Planning & Management**



WATER FOR 2060
EFFICIENCY - CONSERVATION - RECYCLING - REUSE

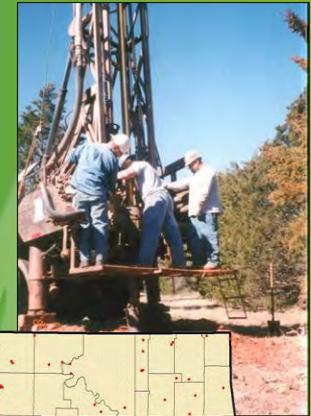
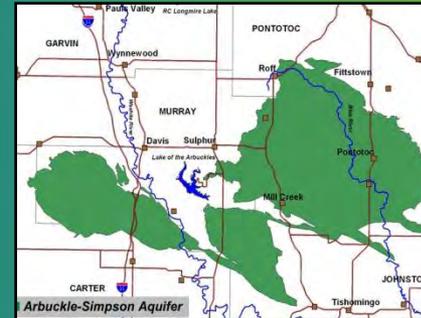
OWRB Mission

To enhance the quality of life for Oklahomans by managing, protecting, and improving the state's water resources to ensure clean, safe, and reliable water supplies, a strong economy, and a healthy environment

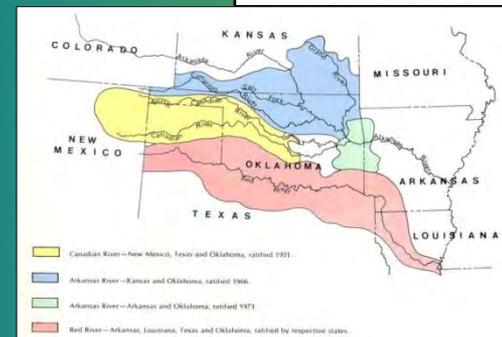
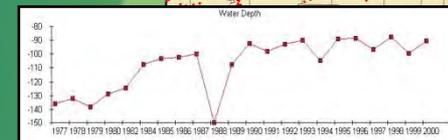
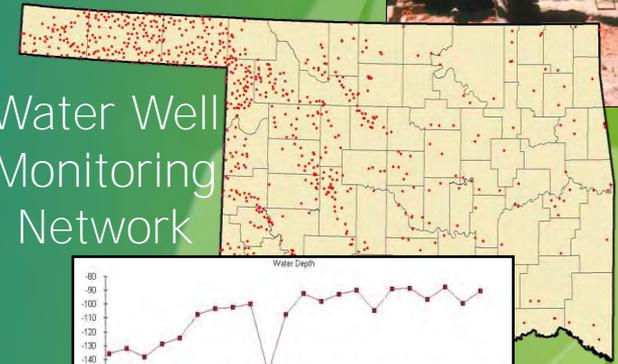


Planning & Management Division

- Hydrologic/hydrogeologic Studies
- Well Drillers Licensing: drillers/pump installers of water, geothermal, observation, monitoring wells
- Water Well Level Monitoring Network
- Interstate Stream Compacts: Coordinates Oklahoma's participation in four interstate stream compacts
- National Flood Insurance Program
- State Dam Safety Program
- Long Range Planning



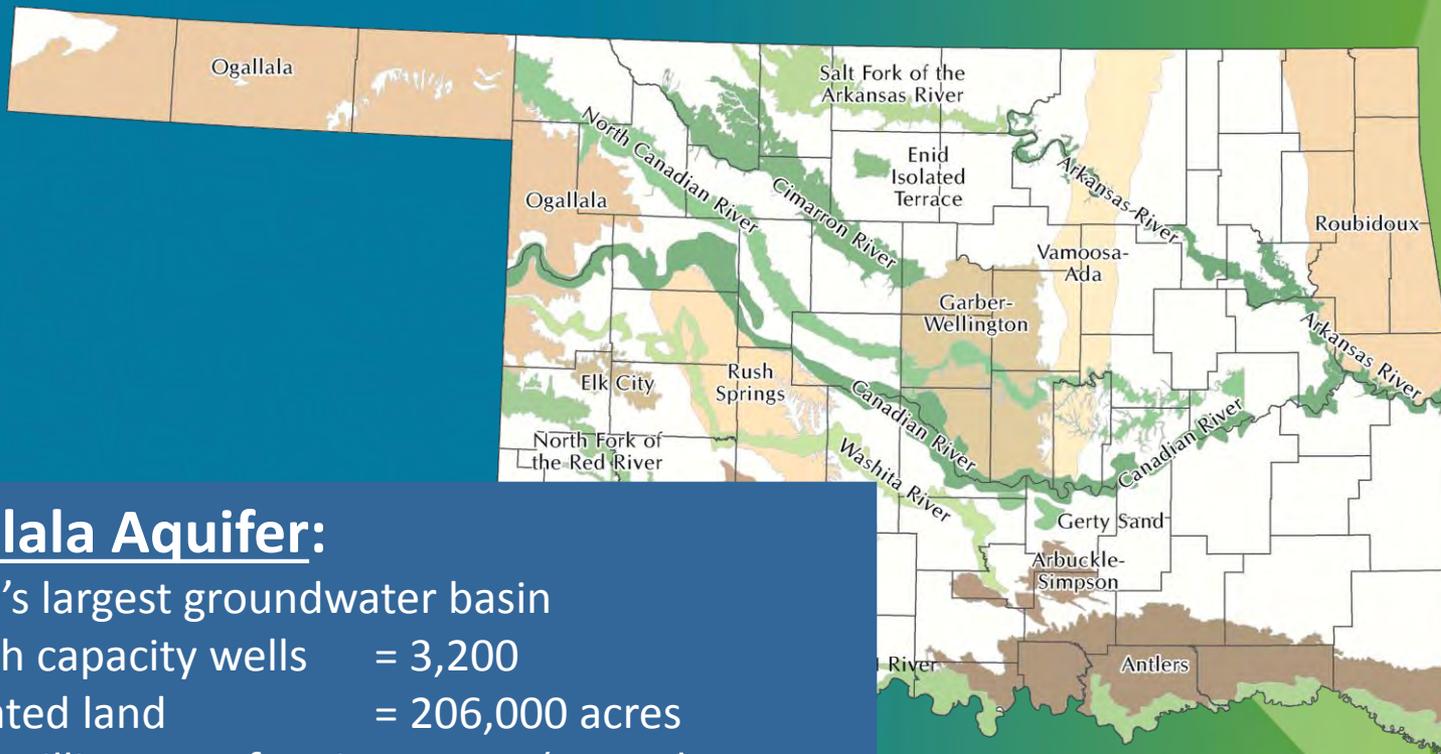
Water Well Monitoring Network



FOR 2060
SERVATION - RECYCLING - REUSE

Oklahoma's Water Resources

- 23 major groundwater aquifers store 320 million acre-feet of water



Ogallala Aquifer:

- state's largest groundwater basin
- # high capacity wells = 3,200
- irrigated land = 206,000 acres
- 86.6 million acre-feet in storage (enough to cover the entire state 2 feet deep)

Oklahoma's Regulatory Framework

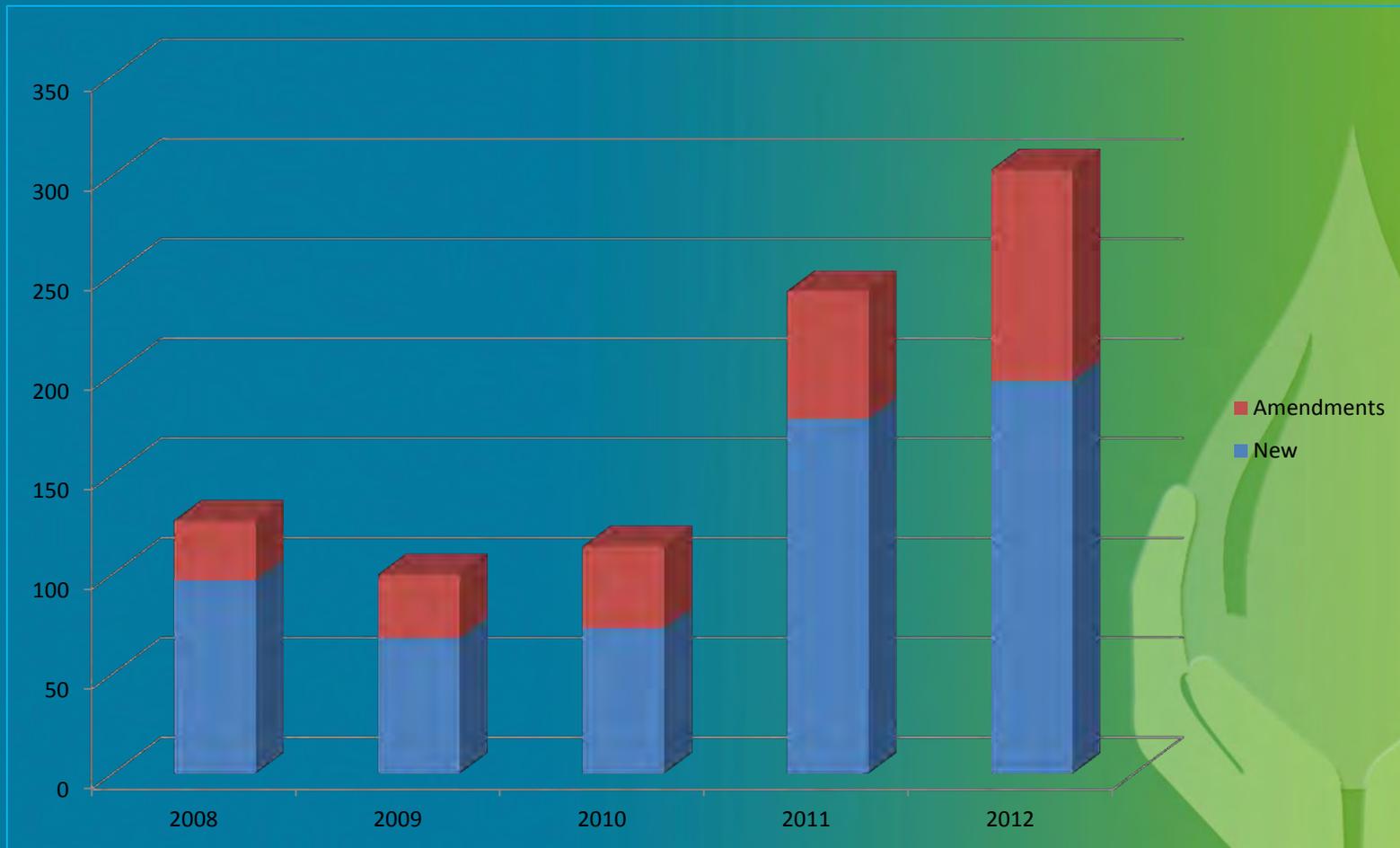
Long-term Permits: Regular/temp. (gw only), term, seasonal

- GW— Permits indefinite; based on basin yield/land owned
- SW—Permits subject to revocation for non-use; interference

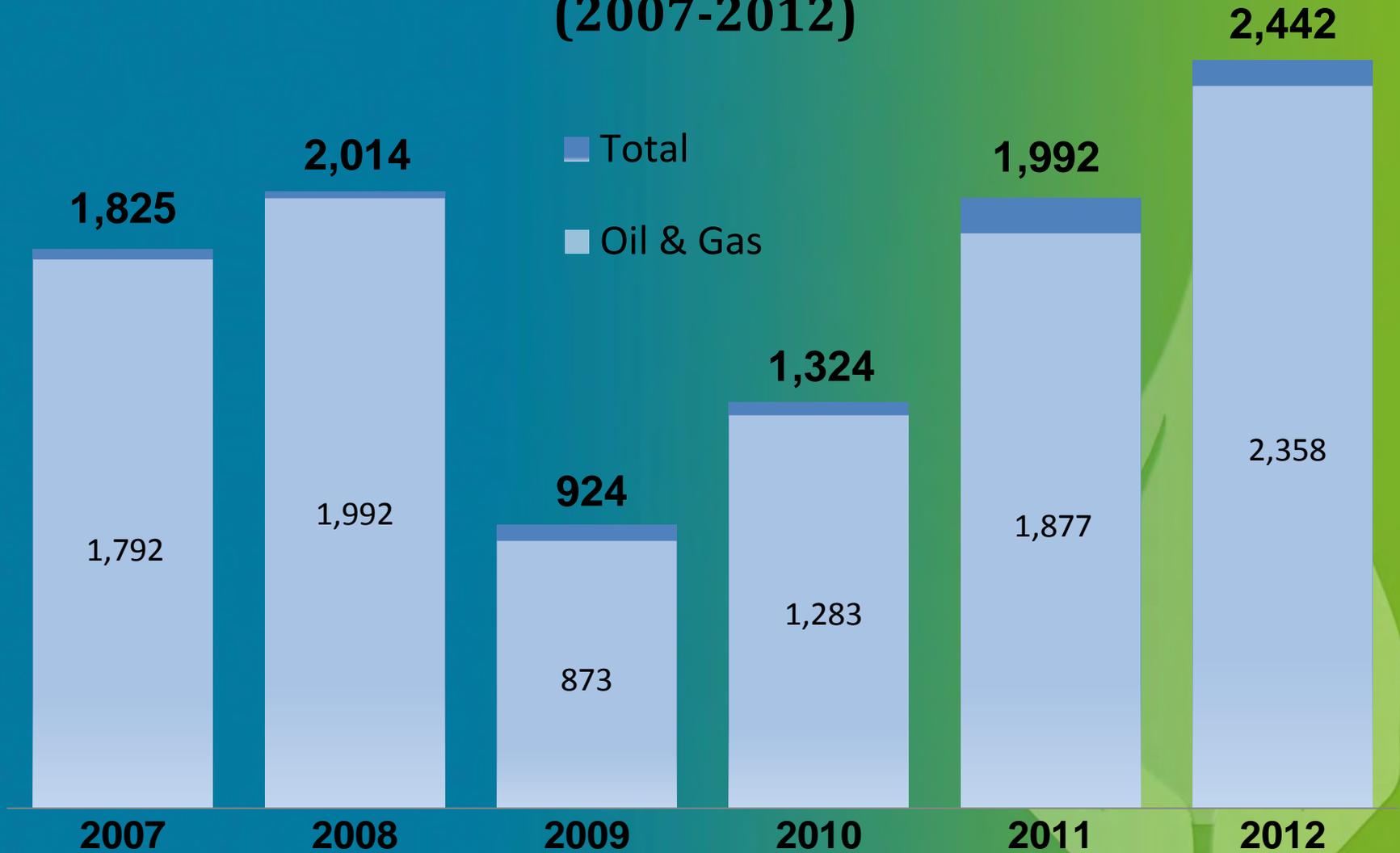
90-day Provisional Temporary Permits: Nonrenewable; granted at discretion of Director; subject to cancellation; no notice or hearings requirements; land easement

Limited Quantity Permits: authorize up to 15 af during calendar yr.; granted at the discretion of Director; require general notice;

Water Right Applications

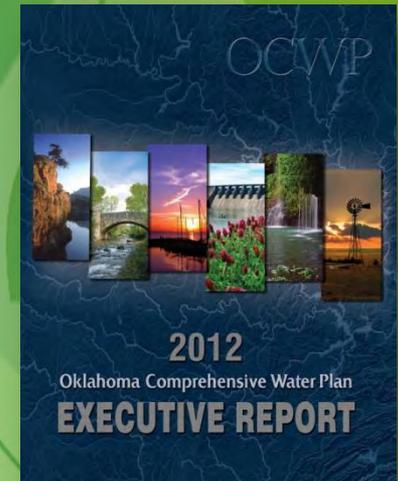


OWRB Provisional Temporary Permits Issued (2007-2012)



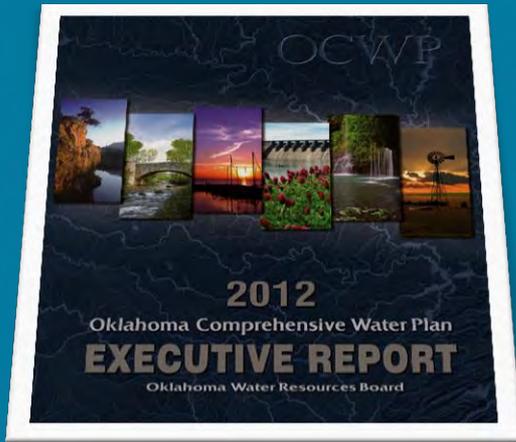
Addressing Near- and Long-Term Water Challenges

- 2012 Update of the Oklahoma Comprehensive Water Plan:
 - Third OCWP update (original plan, 1980)
 - Unprecedented citizen involvement and technical study
 - Offered Recommendations to address 8 Priority Water Issues:
 - Water Project & Infrastructure Funding*
 - Regional Planning Groups
 - Excess & Surplus Water
 - Instream/Environmental Flows
 - State/Tribal Water Consultation & Resolution
 - Water Conservation, Efficiency, Recycling & Reuse*
 - Water Supply Reliability*
 - Water Quality & Quantity Monitoring*



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OK Comprehensive Plan

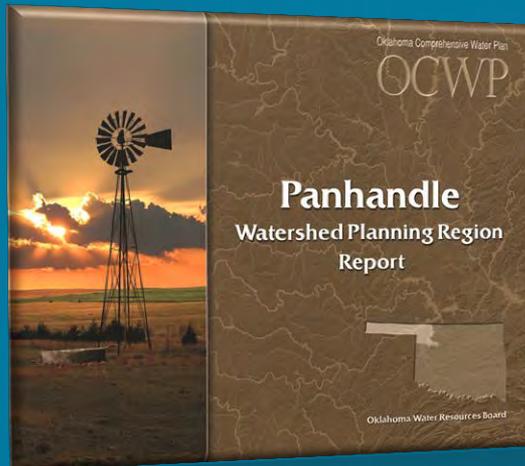


Executive Report:

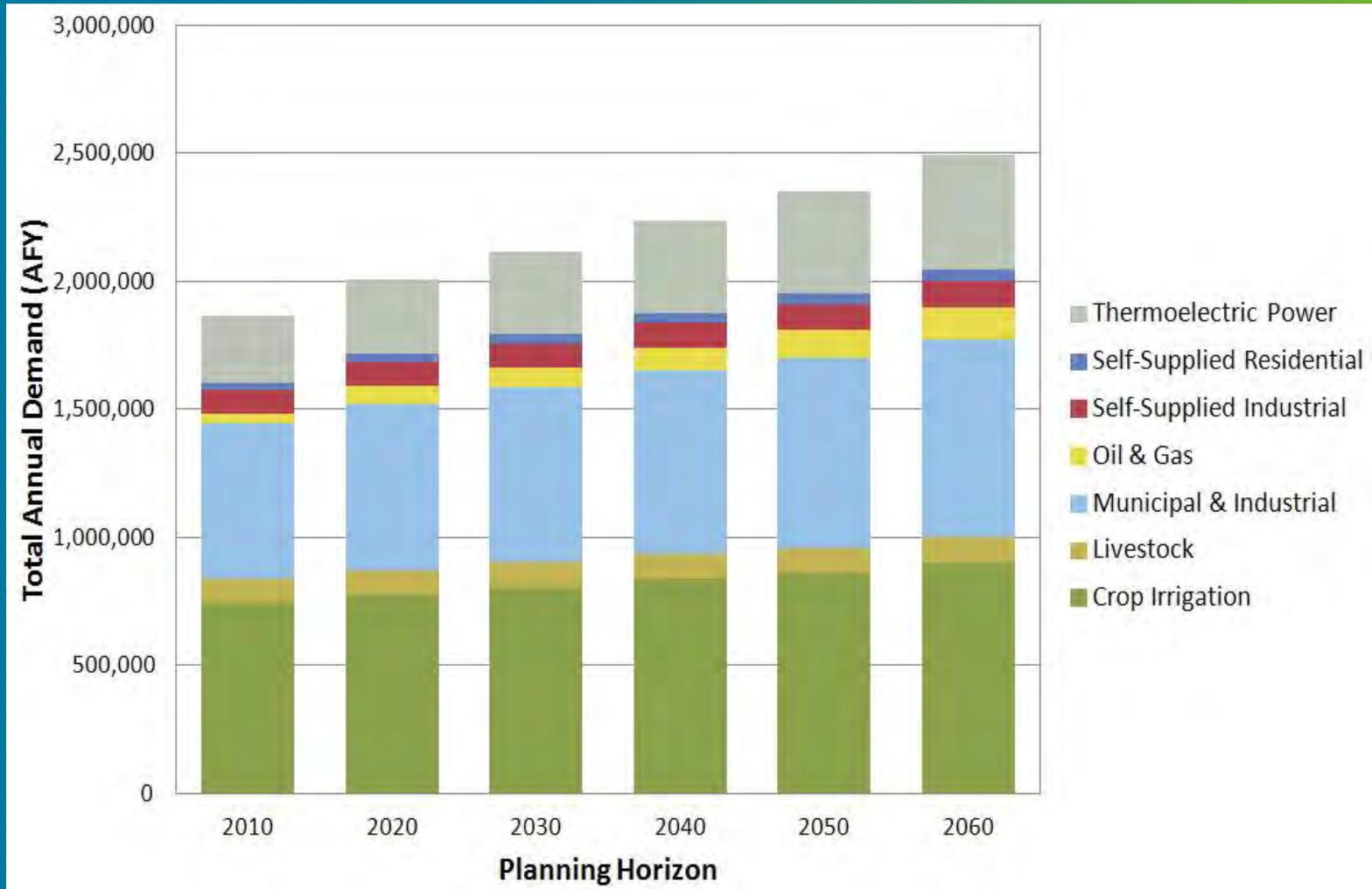
- Synthesis of OCWP technical studies and results
- Water policy recommendations

13 Watershed Planning Region Reports:

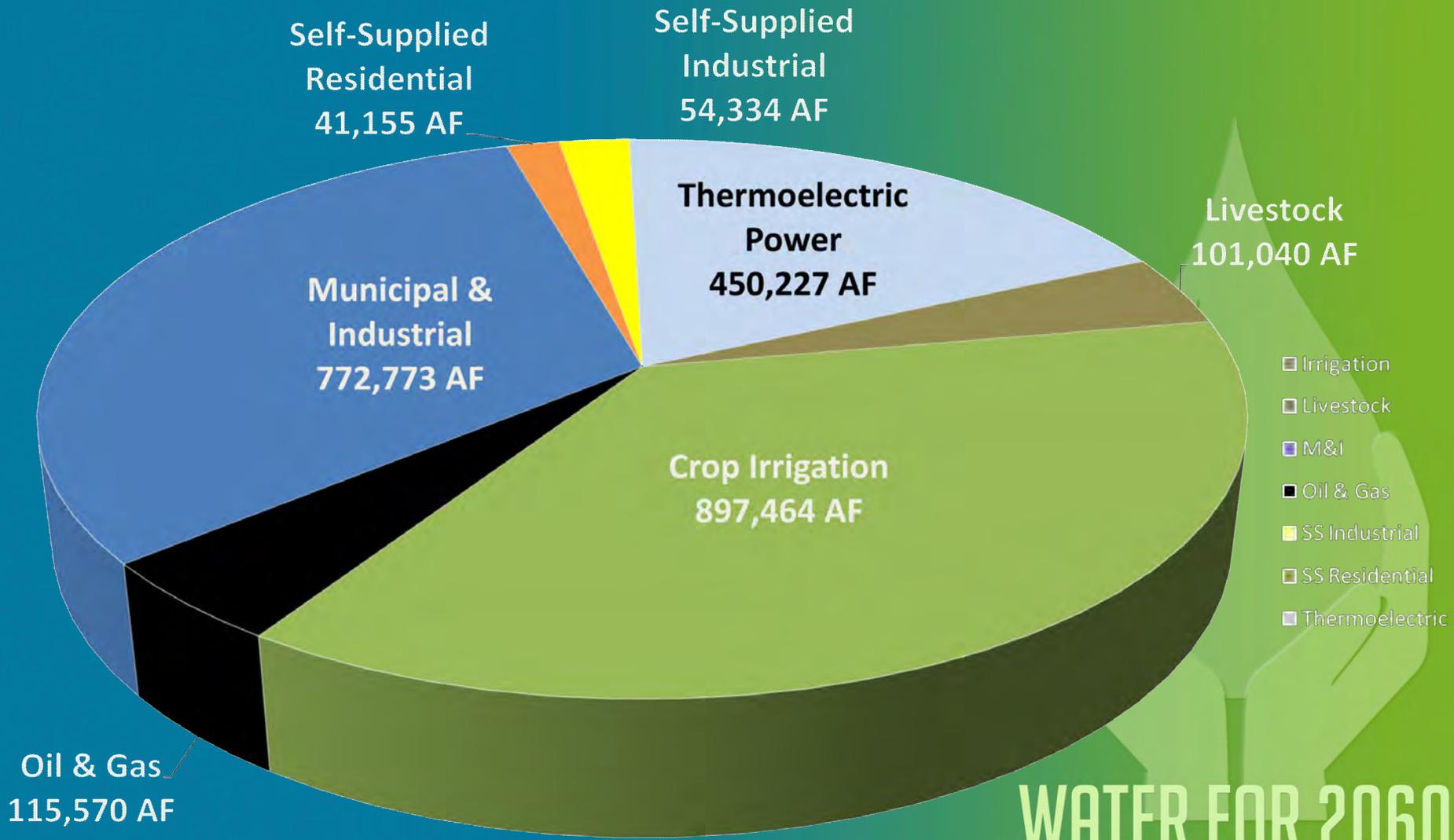
- Results of OCWP technical analyses, including options to address identified water shortages



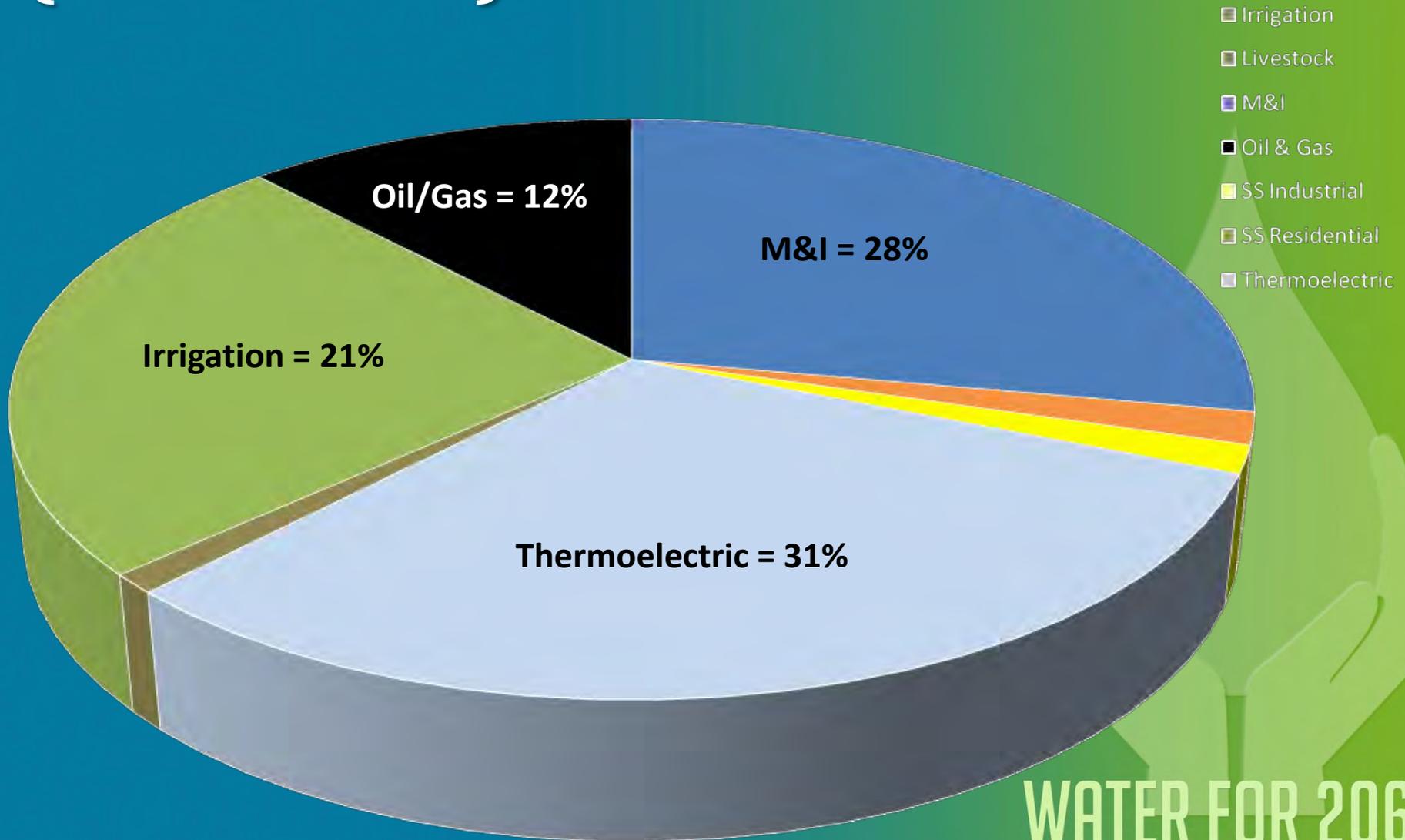
Total Water Demands (2010-2060)



2060 Statewide Water Demand



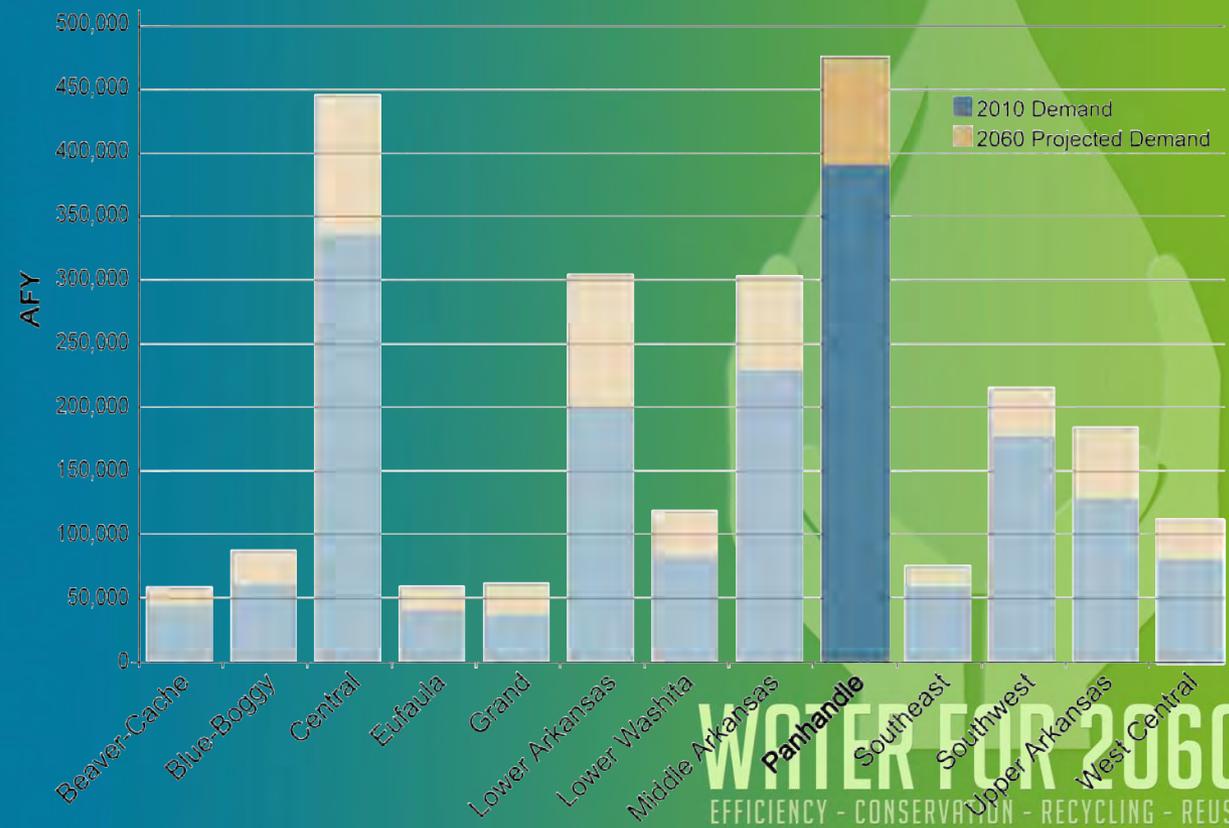
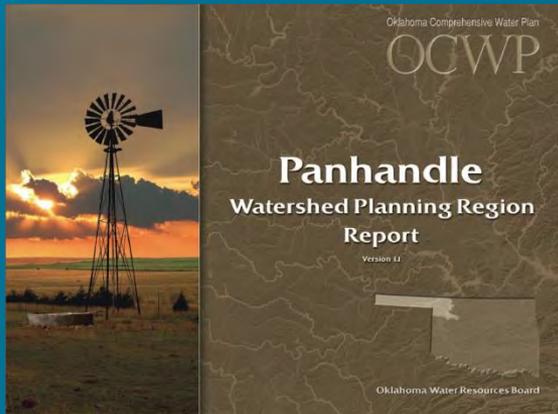
Growth by Water Use Sector (2010-2060)



OCWP Current & Projected Water Demands

Panhandle Region

Current Water Demand:	390,690 acre-feet/year (21% of state total)
Largest Demand Sector:	Crop Irrigation (86% of regional total)
Current Supply Sources:	2% SW 7% Alluvial GW 91% Bedrock GW
Projected Demand (2060):	473,840 acre-feet/year
Growth (2010-2060):	83,150 acre-feet/year (21%)

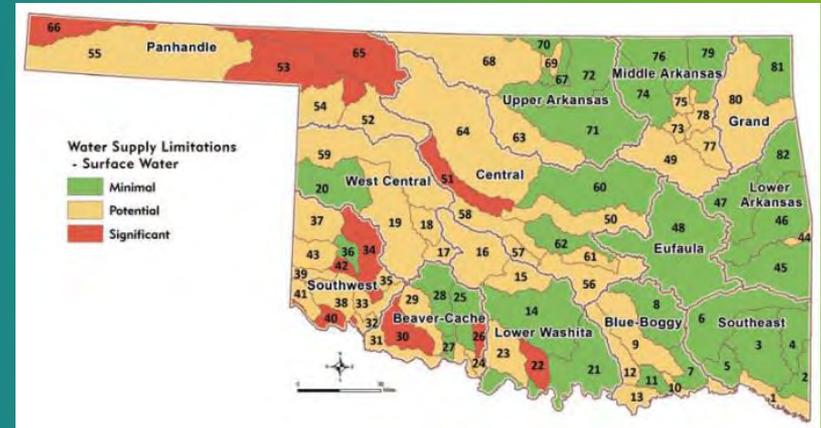


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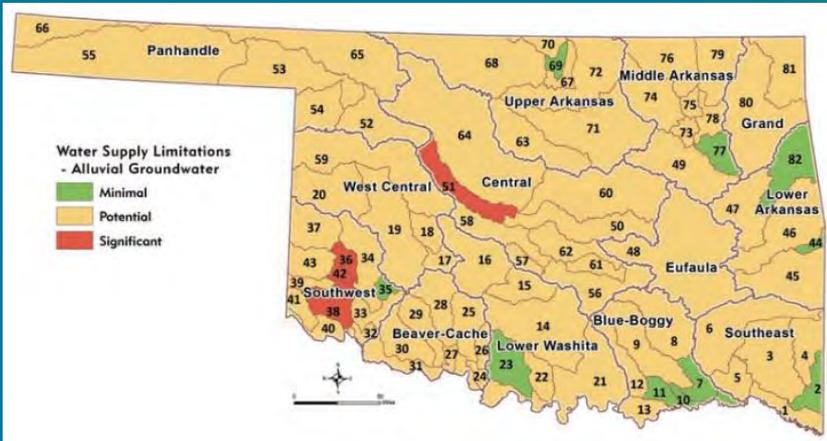
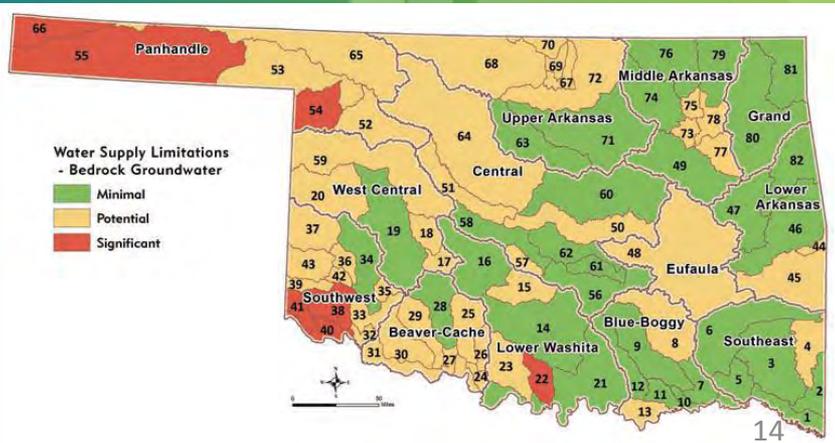
Supply Limitations

Surface Water

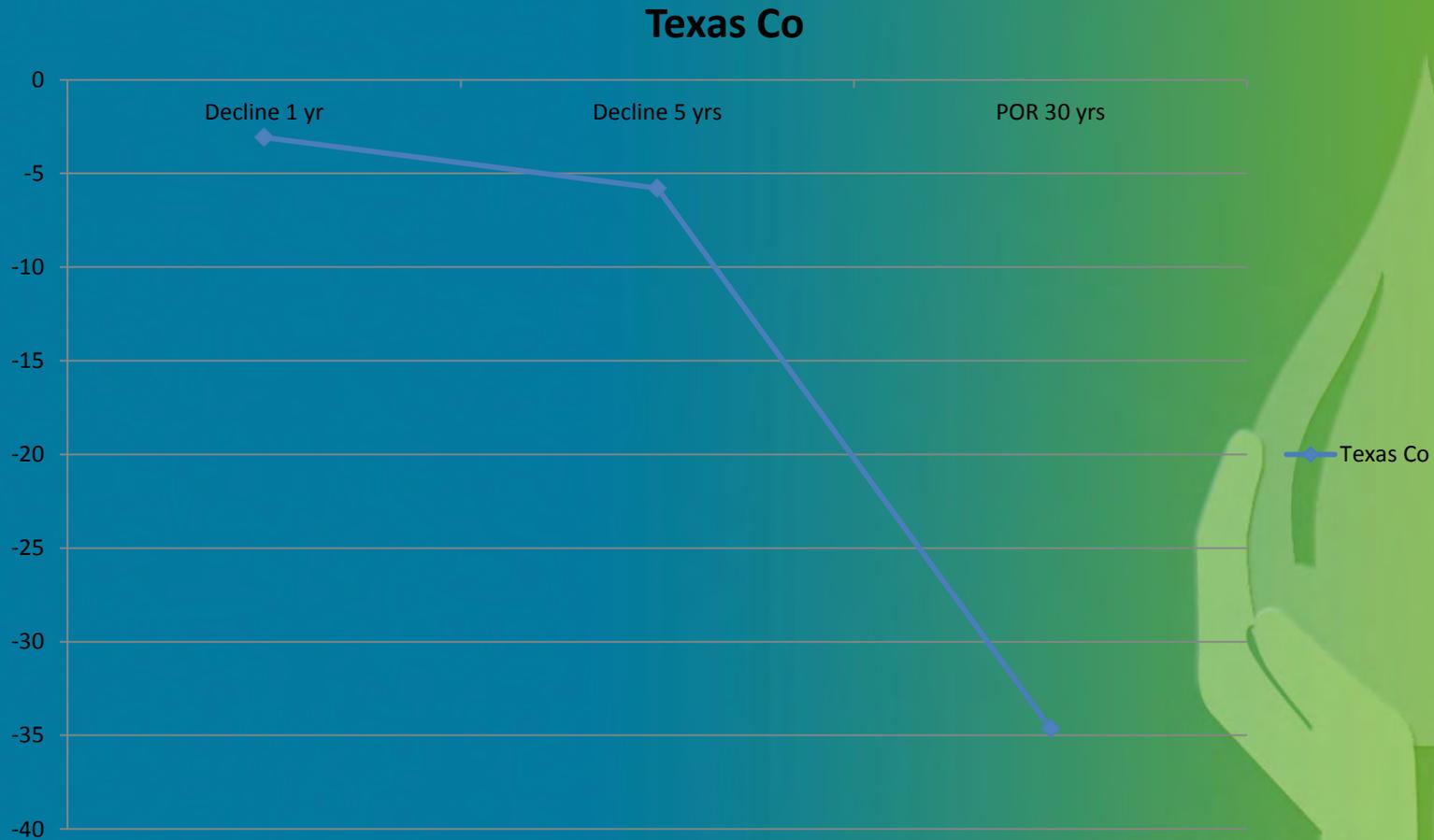
Alluvial Groundwater



Bedrock Groundwater



Average Water Level Decline



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Water Supply Reliability:

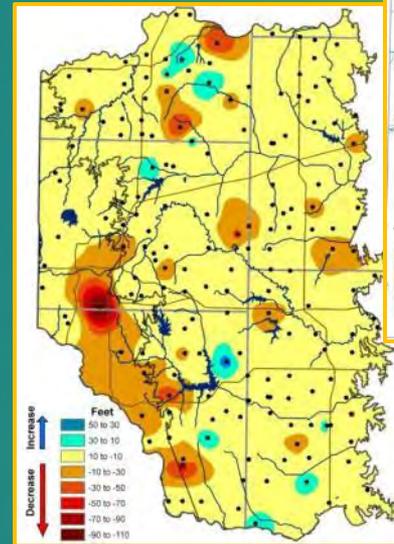
- Ensure water availability for future growth through **fair and sustainable water allocation**
 - aquifer yield studies
 - stream water allocation models
 - further analyze various water rights management approaches
- **Gross Production Tax proceeds set aside for water planning through 2016.**

Model Analysis & GIS Mapping Products

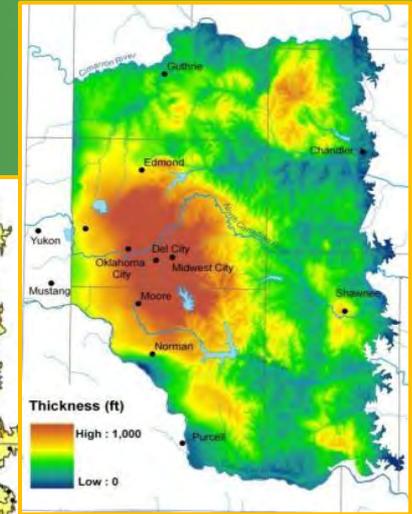
Location-specific analysis

- Offer robust aquifer characterization, opportunity for forecasting and “what-if” assessment
- Well site location
- Contamination flow prediction
- Assessment of potential groundwater/stream water interactions and effects on reservoir yield
- Assessment of drought affects by locations

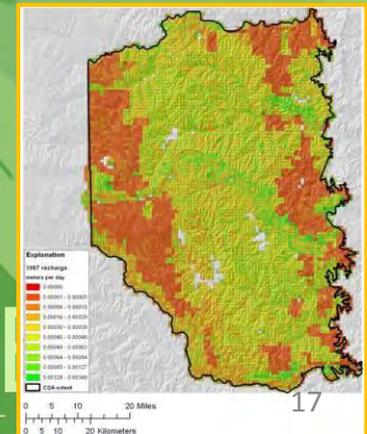
Water-level Change



Aquifer Thickness



Recharge Areas

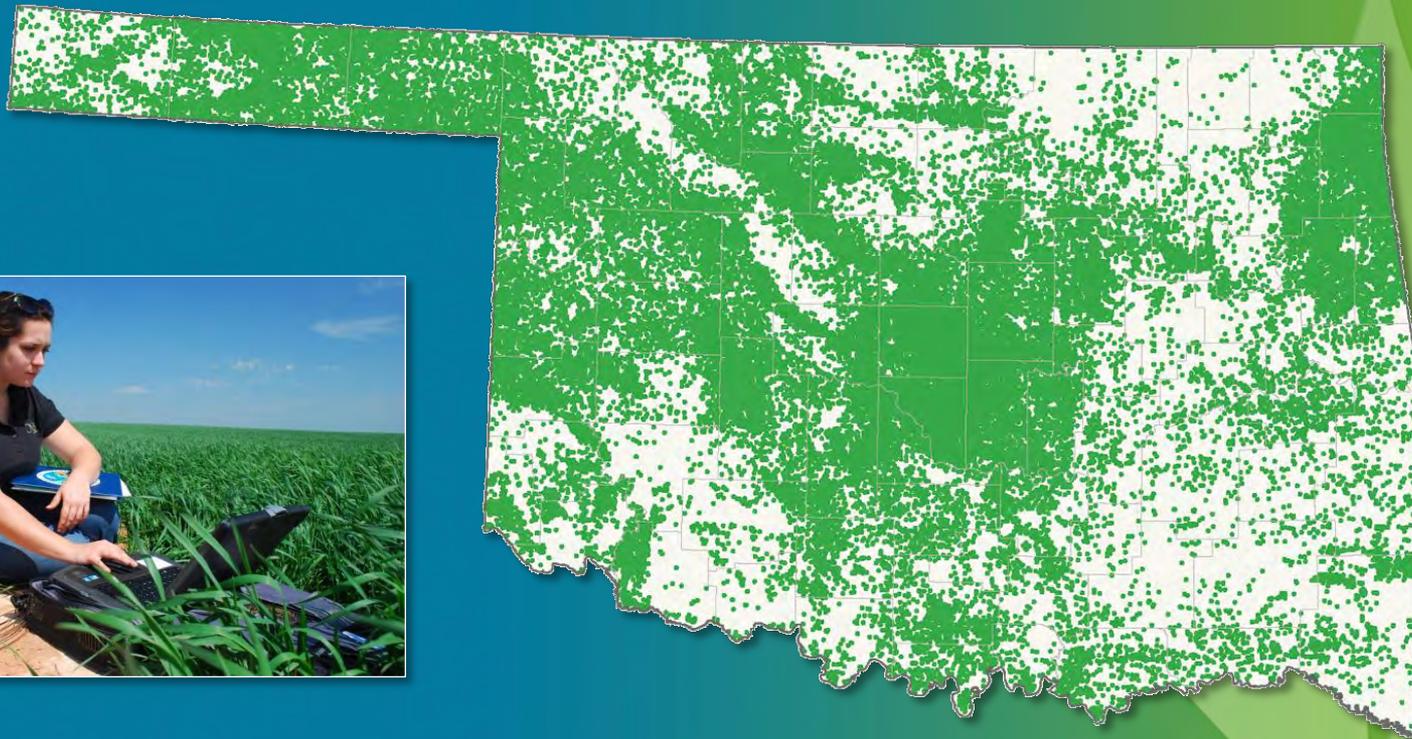


Water Quality & Quantity Monitoring:

- Better data for **improved decision-making**.
- Restore funding for statewide water quality and quantity monitoring program.
- Create the first comprehensive groundwater monitoring program.
- **\$1.5 Million appropriation to create a permanent statewide GW/SW monitoring network.**

New Statewide Comprehensive Groundwater Monitoring Program

Potentially 2,000 of the 140,000 existing wells may comprise the new state monitoring network



Advice!!!

Apply for Water Rights

Staff is ready to assist you!

Update Current Permits

We can review all information!

Conservation and Efficiency

New technology?

Questions?

State of Oklahoma

OWRB

WATER RESOURCES BOARD
the water agency

Oklahoma COMPREHENSIVE

Water PLAN

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Oklahoma Water Resources Board

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