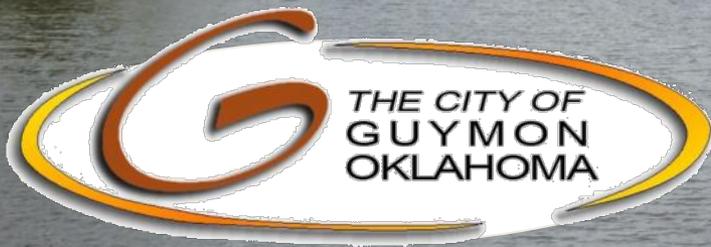


Managing Drought and Planning for the Future in Guymon



Kimberly Meek
Guymon City Manager
2014 Governor's Water Conference
Oklahoma City | October 22, 2014

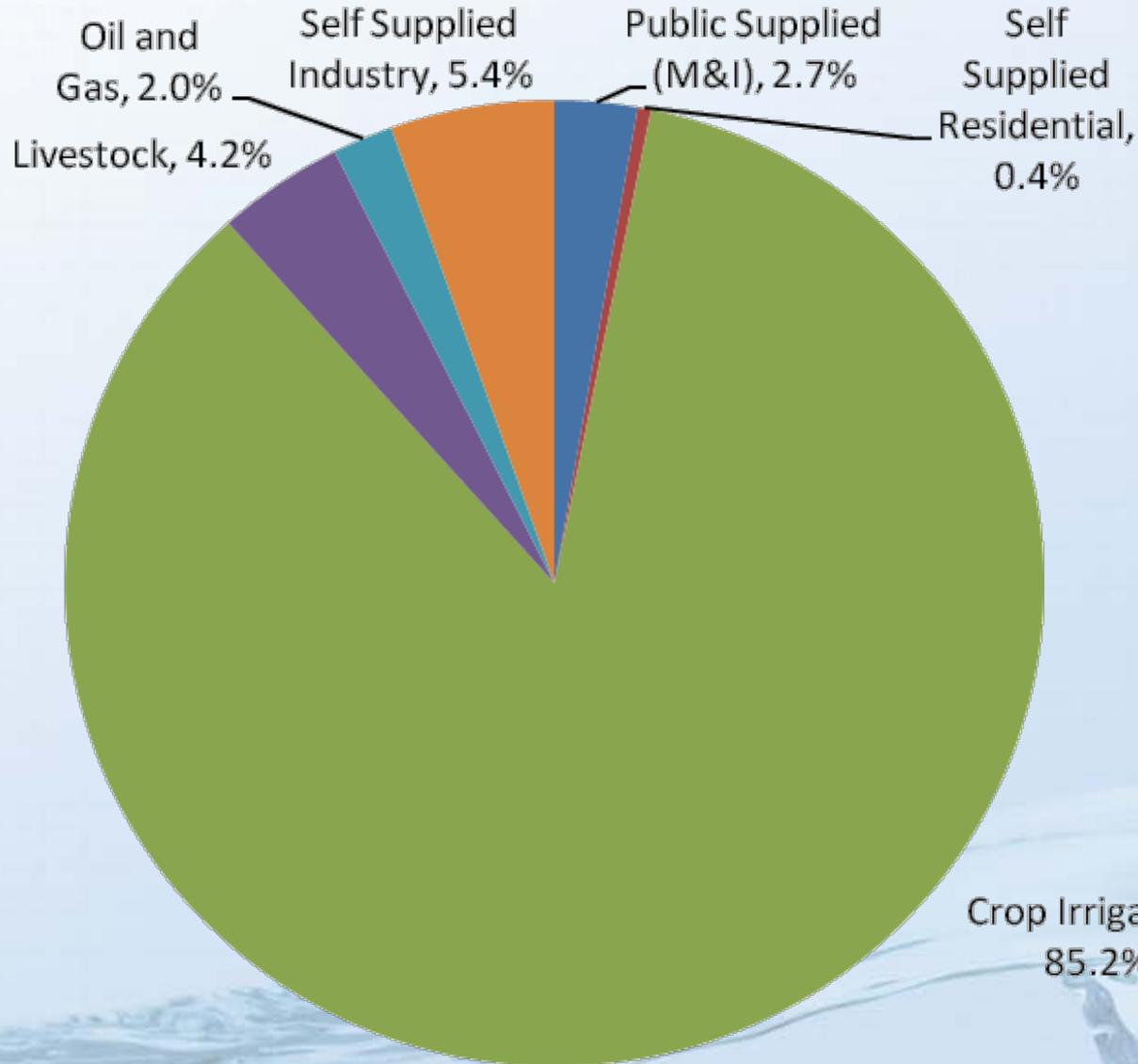
Multi-Pronged Approach to Reliably Meeting Water Needs in Guymon

◆ *Guymon*

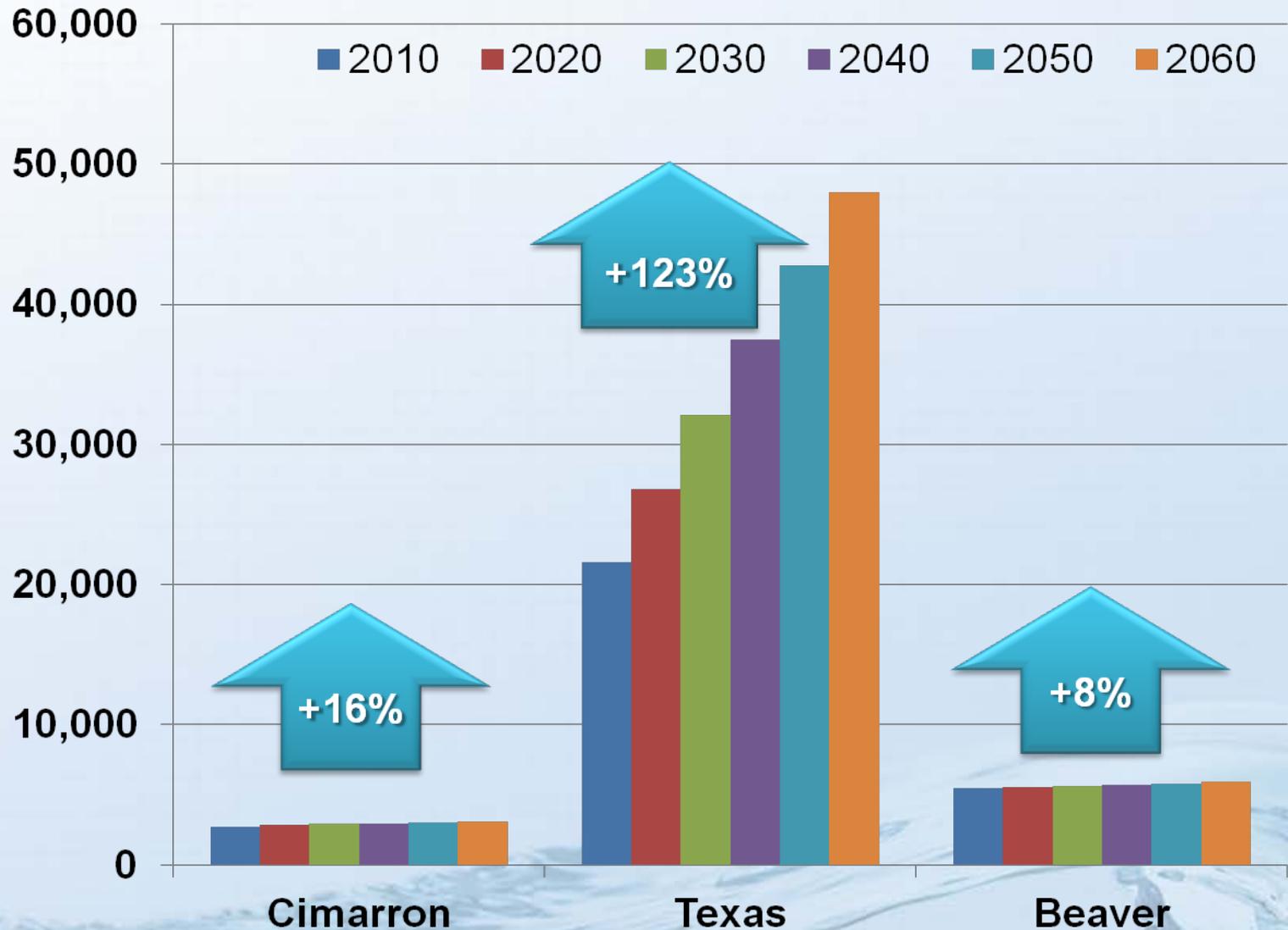
- Managing current and future droughts
- Building on State and Regional plans
- Partnering with regional water users
- Actively participating in Water for 2060
- Developing local implementation plans
- Aggressively pursuing water reuse in our community



Panhandle Demands by Water Use Sector



Panhandle Population Growth by County

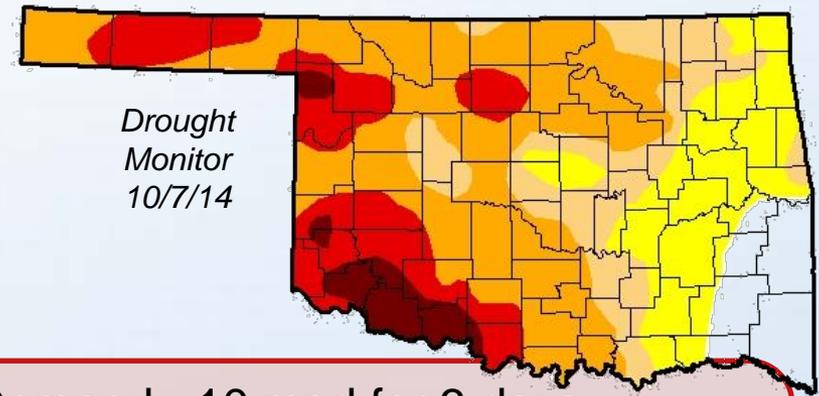


Water Supply for Guymon: Increasing Population → Increasing Demand

	Today	In 2060
Potable Water Demand	5,150 AFY (2013) 4.6 mgd avg.	11,000–14,000 AFY 10.0–12.6 mgd avg.
Number of Wells (even if no decline in gpm/well)	18	39–50 wells
Add'l wells needed (avg. #/year)	--	0.44–0.67 new wells per year
Avg. cost of new wells (in 2014 \$)	--	\$180,000– \$270,000/year

Efficiency and reuse makes sense for Guymon!

Guymon's Drought Management Plan



STAGE 3 Water Emergency

- Storage <50% or Demand >10 mgd for 3 days or pressure <40 psi
- Provide for human health and fire protection
- Ban on all outdoor water use

STAGE 2 Water Warning

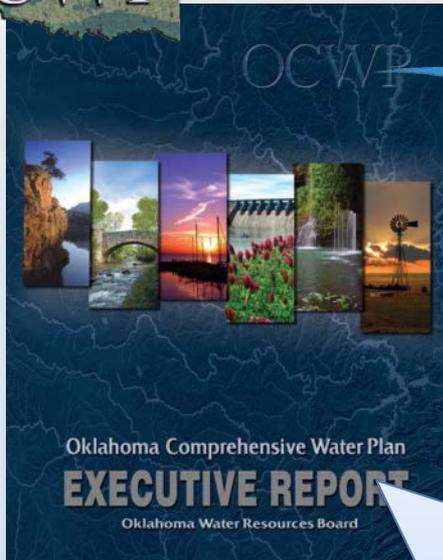
- Storage ~50% or Weekly demand >8.5 mgd
- Reduce weekly demands 10%
- Education, mandatory odd/even watering, water waste and time-of-day irrigation prohibition

STAGE 1 Water Watch

- Storage <75% or Weekly demand >8 mgd
- Education and voluntary odd/even watering

Guymon is Leveraging State and Regional Resources to Develop Detailed Local Plans

Oklahoma Comprehensive Water Plan
OCWP

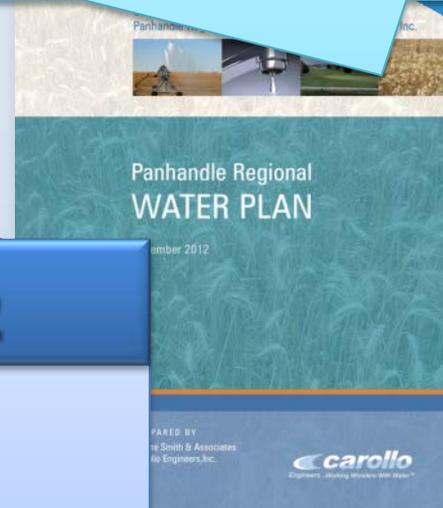


REGIONAL: PRWP 2012

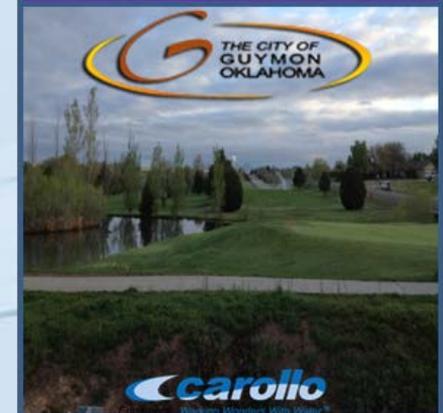
- Validated projections for Panhandle
- Conservation for crop irrigation
- Conservation for public water supply
- Economic analyses & implementation plan

STATE: OCWP 2012

- Water supply data
- Water quality data
- Demand projections
- Projected shortages



Guymon Water Reuse Feasibility Study



Guymon is Actively Participating in Water for 2060 Initiatives



March
11

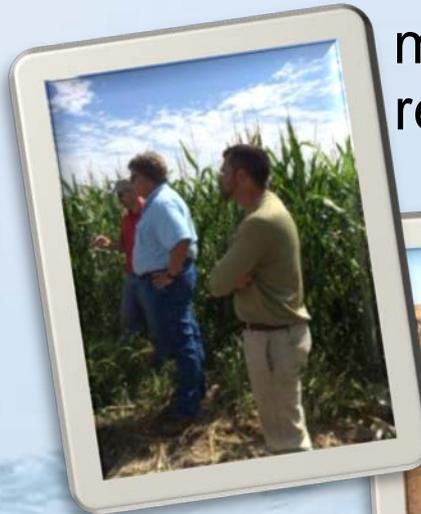
Water for 2060
Public Meeting
in Goodwell



August
7

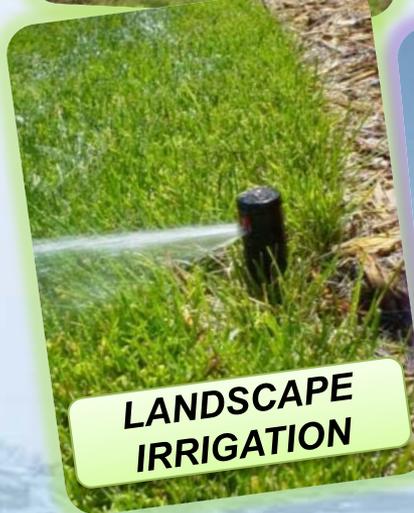
Water for 2060 Advisory
Council Panhandle Tour

- Crop irrigation
- Livestock operations
- High Plains biodiesel
- WWTP and municipal reuse sites



Potential Reuse Opportunities in Guymon

- Nonpotable



- Potable

- Indirect Potable Reuse: Augment Surface Water Sources



- Indirect Potable Reuse: Augment Groundwater Sources



- Direct Potable Reuse

Detailed Assessment of Nonpotable Reuse Options will Support Guymon's Decisions



Discharge via Permit

- Treatment and water quality = ?
- Sunset Lake or Beaver River Alluvium



Category 2 Reuse

- Coagulation, filtration, chlorine
- Retreat after surface storage



Category 3 Reuse

- No public access when irrigating
- Secondary mechanical treatment



Swap for Additional Crop Irrigation Water or Industrial Use; Regional Fire Protection?

Costs

Treatment

Benefits

Ops

Technical,
Permitting,
and
Funding
Implemen-
tation
Plan

Potential Southwest Guymon Discharge and Reuse Sites



*Tigers
Football
Field*

Sunset Lake



*Oklahoma
Park*



Sunset Hills GC

Upstream Discharge

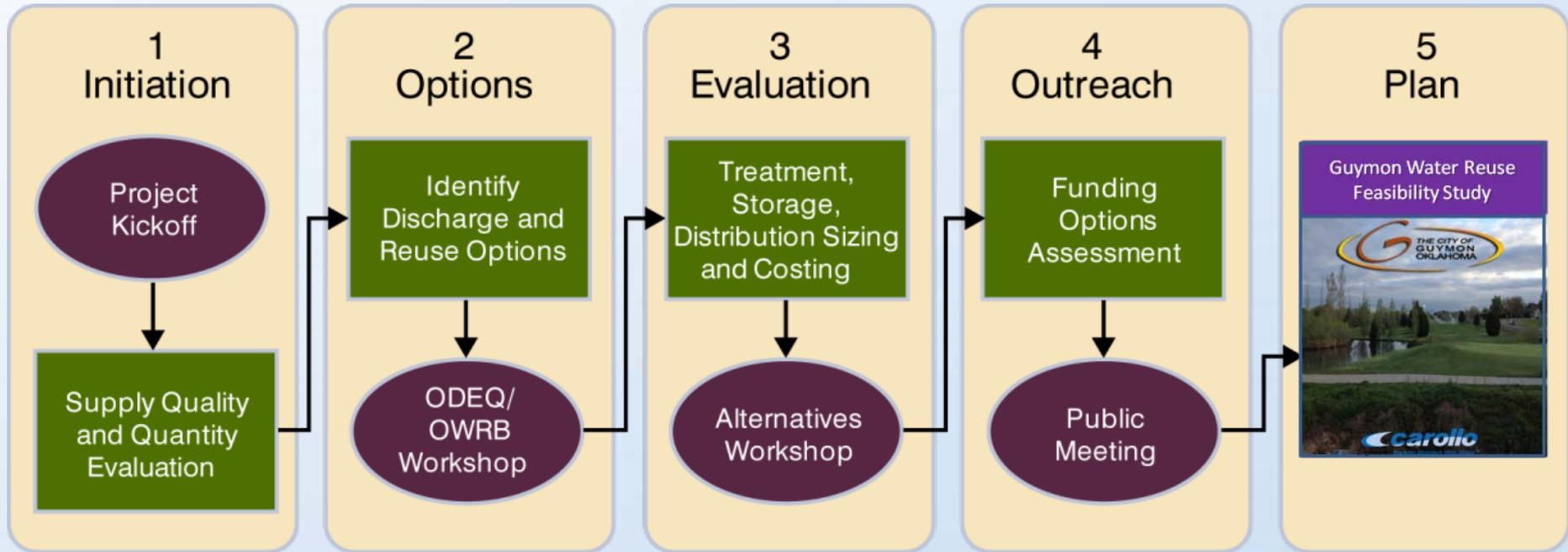


Potential Innovative Uses for Recycled Water in Guymon

- Every drop is valuable!
- Currently discharging about 1.2 mgd; rarely flows more than ½ mile downstream
- Innovative uses being considered
 - Biodiesel Plant
 - Regional Fire Protection
 - Potable Water Supply Augmentation

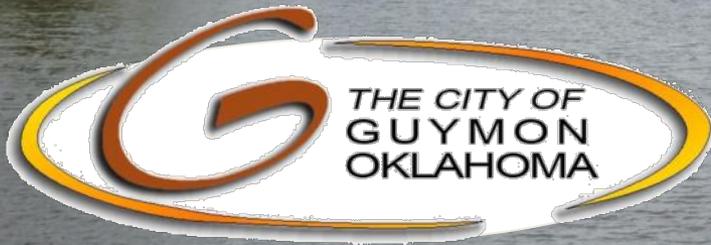


Collaborative Process → Implementable Reuse Plan



● Meetings
■ Engineering Analyses

Managing Drought and Planning for the Future in Guymon



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