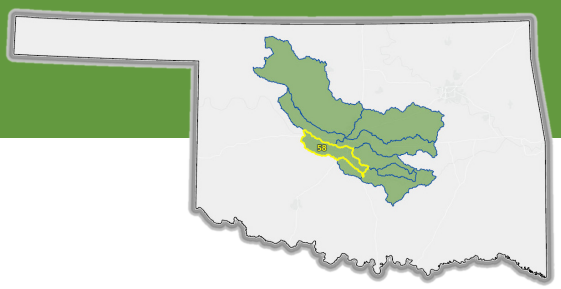
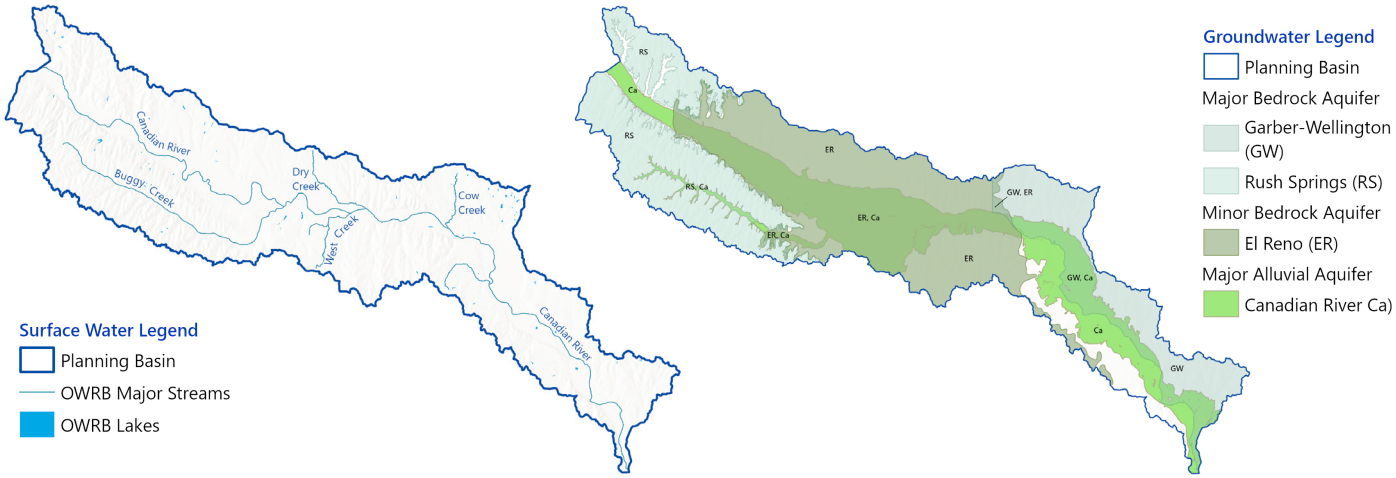
BASIN 58

Middle Canadian River / Central Region





*Interactive maps can be viewed through the OCWP dashboards, accessible at **oklahoma.gov/owrb/water-planning***

SUMMARY

- Basin 58 - Middle Canadian River demands are supplied by a combination of surface water, groundwater, and out-of-basin supplies.
- Water demand (withdrawal) is projected to increase by 8,513 acre-feet per year (23%) between 2020 and 2075.
- Physical surface water gaps are projected in Basin 58 as early as 2030 and will continue through 2075.
- Physical alluvial groundwater depletions are projected in Basin 58 as early as 2030 and will continue through 2075.
- Physical bedrock groundwater depletions are projected in Basin 58 as early as 2030 and will continue through 2075.
- Basin 58 is projected to have surface water available for appropriation through 2075, but its permitting may be subject to provisions of the 2016 Water Settlement Agreement.
- Basin 58 is projected to have groundwater available for appropriation through 2075.
- To mitigate projected water supply shortages in this basin, the following strategies will typically be most effective:
  - Reduce water demand through conservation, water loss reduction, and other activities (PS, SSI, OG, TE). WSS
  - Reduce water demands through agricultural water saving options (CI, LS). WSS
  - Continue/increase reliance on in-basin surface water (all sectors). WSS WDI
  - Continue/increase reliance on groundwater (all sectors). WSS WDI

OWRB Water Planning Page
oklahoma.gov/owrb/water-planning

Refer to the **"Guide to Region and Basin Fact Sheets"** for a description of the types of information detailed in this fact sheet.

Water Demand Sectors: PS = Public Supply, SSI = Self-supplied Industrial, OG = Oil & Gas, TE = Thermoelectric Power, CI = Crop Irrigation, LS = Livestock, SSD = Self-supplied Domestic

OCWP Statewide Recommendations are designed to address current and anticipated water supply challenges and are noted throughout this fact sheet with the following icons: WIW Water Infrastructure & Workforce, WM Water Management, WSS Water Supplies & Storage, and WDI Water Data & Information

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Population

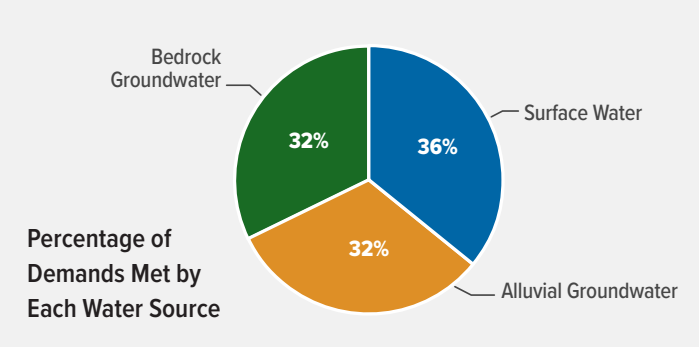
How is the population expected to change in the future?

2020	2030	2035	2045	2060	2075
136,001	143,904	150,421	164,909	191,976	214,761

Water Demand Projections

How much water is needed to meet Oklahomans' needs?

Basin 58 accounts for approximately 11% of the overall water demands of the Central Region.



Total Demand by Sector (AFY)

	2020	2030	2035	2045	2060	2075
Self-supplied Domestic	725	757	779	830	926	1,010
Self-supplied Industrial	5,004	4,878	4,833	4,696	4,492	4,356
Crop Irrigation	4,888	5,020	5,134	5,532	6,242	6,862
Livestock	1,024	997	995	971	938	911
Oil & Gas	1,973	1,973	1,973	1,973	1,973	1,973
Public Supply	22,274	22,953	23,544	24,819	27,146	29,127
Thermoelectric Power	1,797	1,221	1,158	1,493	1,742	1,959
Total	**37,685**	**37,798**	**38,417**	**40,313**	**43,459**	**46,198**

AFY = acre-feet per year; Small differences may result due to rounding.

Physical Water Shortages

Will there be enough "wet water" physically available to meet anticipated needs?

WIW WM WSS

	Magnitude (AFY)					Frequency[1]
	2030	2035	2045	2060	2075	2075
Surface Water Gap	49	92	197	441	689	97%
Alluvial Groundwater Depletion	1	3	178	493	774	15%
Bedrock Groundwater Depletion	557	611	825	1,319	1,749	N/A

1. Probability of a water shortage occurring in at least one month of the year.

Legal Water Availability

Will there be water available for permitting after meeting 2075 demands?

WM WSS

Estimated Surface Water available for appropriation in 2075 (AFY)	Inside 2016 Water Settlement Area? [1]	Is there a downstream mainstem restriction? [2]	Estimated Groundwater available for appropriation in 2075 (AFY)
122,300	Yes	No	980,740

1. If, yes – basin wholly or partially subject to the provisions of the 2016 Water Settlement Agreement.
2. If, yes – mainstem restriction may impact water available for appropriation within the basin.

Water Management Strategies

What approaches are most viable for meeting future needs and mitigating shortages?

WSS WDI WIW WM

Water Management Category	Demand Sector	Basin 58 Evaluation
Demand Management	PS, SSI, OG, TE	Effective at Meeting Future Demands
Agriculture Options	CI, LS	Effective at Meeting Future Demands
Increase Reliance on In-Basin Surface Water	All sectors	Effective at Meeting Future Demands
Increase Reliance on In-Basin Groundwater	All sectors	Effective When Paired with Demand Management/ Agriculture Options
Stormwater Capture & Use	PS, SSI	No Shortage or Needs Met by Other Strategies
Reuse	PS, SSI	No Shortage or Needs Met by Other Strategies
Water Transfers	All sectors	No Shortage or Needs Met by Other Strategies

In addition to the water management strategies, water users need:

- Options to address water quality concerns, which could include expanding source water protection programs and expanding water quality studies.
- Ways to address infrastructure limitations, which could include additional water funding from the State, Federal, and/or public-private partnerships, and by providers setting water rates that fully fund system operation and maintenance.