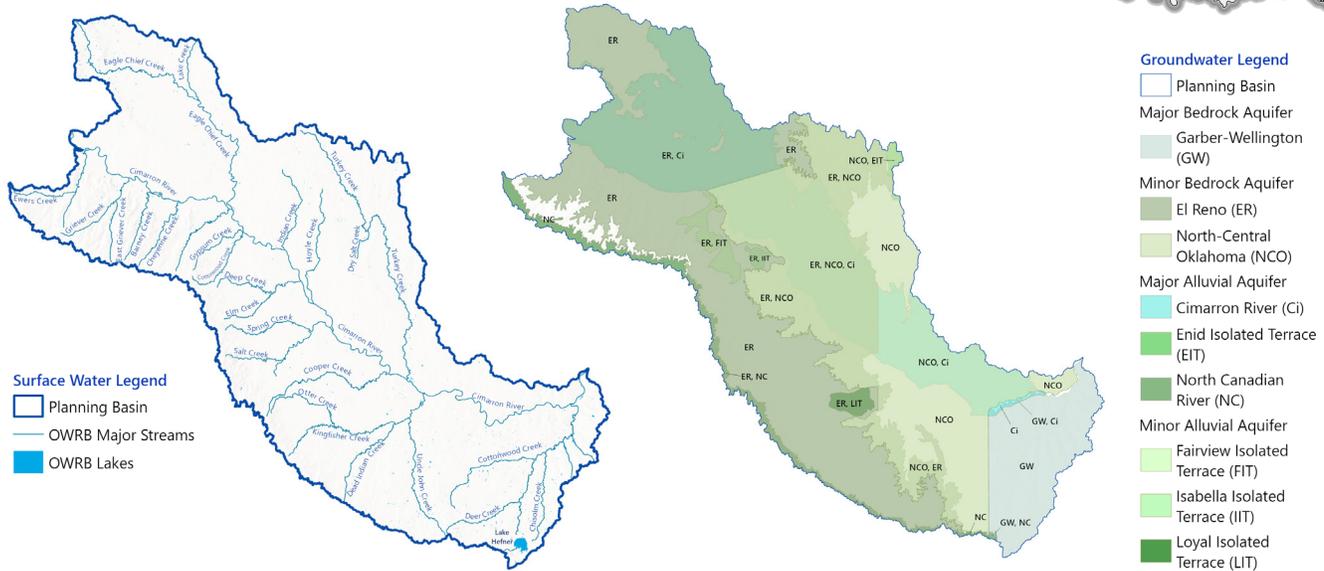


BASIN 64

Middle Cimarron River / Central Region



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

SUMMARY

- Basin 64 - Middle Cimarron River demands are supplied by a combination of surface water, groundwater, and out-of-basin supplies.
- Water demand (withdrawal) is projected to increase by 33,715 acre-feet per year (36%) between 2020 and 2075.
- Physical surface water gaps are projected in Basin 64 as early as 2030 and will continue through 2075.
- Physical alluvial groundwater depletions are projected in Basin 64 as early as 2030 and will continue through 2075.
- Physical bedrock groundwater depletions are projected in Basin 64 as early as 2030 and will continue through 2075.
- Basin 64 is projected to have surface water available for appropriation through 2075.
- Basin 64 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
 - Stormwater capture and use (PS, SSI). WM WSS
 - Water reuse (PS, SSI). WM WSS
 - Water transfers (all sectors). WM WSS



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



Population

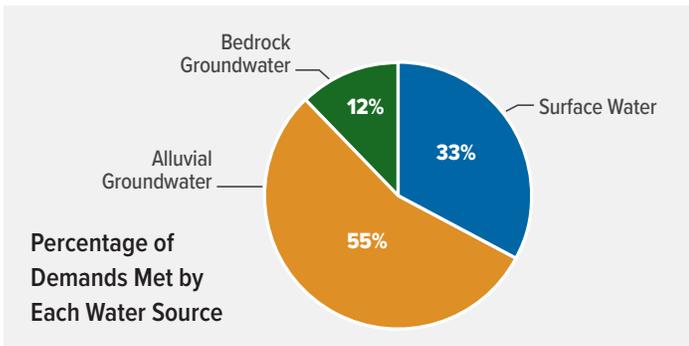
How is the population expected to change in the future?

| 2020 | 2030 | 2035 | 2045 | 2060 | 2075 |
|---------|---------|---------|---------|---------|---------|
| 245,902 | 264,091 | 275,040 | 299,505 | 343,893 | 381,874 |

Water Demand Projections

How much water is needed to meet Oklahomans' needs?

Basin 64 accounts for approximately 29% of the overall water demands of the Central Region.



Total Demand by Sector (AFY)

| | 2020 | 2030 | 2035 | 2045 | 2060 | 2075 |
|--------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Self-supplied Domestic | 1,907 | 2,029 | 2,092 | 2,244 | 2,508 | 2,745 |
| Self-supplied Industrial | - | - | - | - | - | - |
| Crop Irrigation | 46,647 | 55,884 | 57,175 | 59,523 | 62,511 | 65,858 |
| Livestock | 5,688 | 5,614 | 5,633 | 5,580 | 5,512 | 5,482 |
| Oil & Gas | 9,154 | 9,154 | 9,154 | 9,154 | 9,154 | 9,154 |
| Public Supply | 29,356 | 31,448 | 32,545 | 35,002 | 39,426 | 43,228 |
| Thermoelectric Power | - | - | - | - | - | - |
| Total | 92,753 | 104,129 | 106,600 | 111,503 | 119,112 | 126,467 |

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 | 393 | 684 | 1,422 | 2,782 | 4,590 | 89% |
| Alluvial Groundwater Depletion | 5,966 | 6,926 | 8,800 | 11,482 | 14,248 | 34% |
| Bedrock Groundwater Depletion | 3,106 | 3,277 | 3,632 | 4,196 | 4,864 | 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) |
|---|---|--|---|
| 370,300 | No | No | 6,071,180 |

1. Yes – basin wholly or partially subject to the provisions of the 2016 Water Settlement Agreement.

2. 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 64 Evaluation |
|---|-----------------|--|
| Demand Management | PS, SSI, OG, TE | Partially Effective - Shortages Remain |
| Agriculture Options | CI, LS | Partially Effective - Shortages Remain |
| Increase Reliance on In-Basin Surface Water | All sectors | Ineffective at Meeting Future Demands |
| Increase Reliance on In-Basin Groundwater | All sectors | May Increase Shortages - Use with Other Strategies |
| Stormwater Capture & Use | PS, SSI | Potentially Effective with Local Variability |
| Reuse | PS, SSI | Effective at Meeting Future Demands |
| Water Transfers | All sectors | Effective at Meeting Future Demands |

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.