

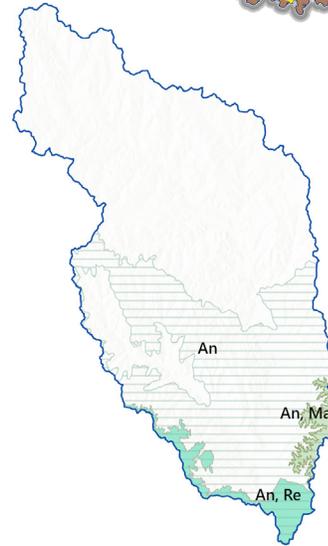
BASIN 22

Walnut Bayou / Lower Washita Region



Surface Water Legend
 Planning Basin
 OWRB Major Streams
 OWRB Lakes

Groundwater Legend
 Planning Basin
 Major Bedrock Aquifer
 Antlers (An)
 Minor Bedrock Aquifer
 Marietta (Ma)
 Major Alluvial Aquifer
 Red River (Re)



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

SUMMARY

- Basin 22 - Walnut Bayou demands are supplied by a combination of surface water and groundwater supplies.
- Water demand (withdrawal) is projected to increase by 393 acre-feet per year (9%) between 2020 and 2075.
- Physical surface water gaps are projected in Basin 22 as early as 2030 and will continue through 2075.
- Physical alluvial groundwater depletions are projected in Basin 22 as early as 2030 and will continue through 2075.
- Physical bedrock groundwater depletions are projected in Basin 22 as early as 2030 and will continue through 2075.
- Basin 22 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 22 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**
 - 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

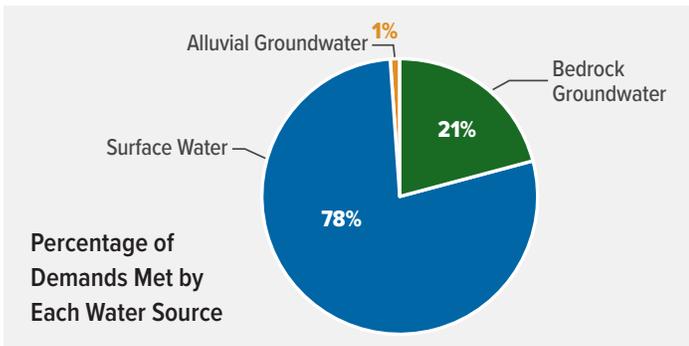
How is the population expected to change in the future?

2020	2030	2035	2045	2060	2075
14,528	14,884	15,002	15,212	15,810	16,239

Water Demand Projections

How much water is needed to meet Oklahomans' needs?

Basin 22 accounts for approximately 8% of the overall water demands of the Lower Washita Region.



Total Demand by Sector (AFY)

	2020	2030	2035	2045	2060	2075
Self-supplied Domestic	5	6	6	6	7	7
Self-supplied Industrial	-	-	-	-	-	-
Crop Irrigation	87	353	353	353	353	353
Livestock	311	302	302	294	284	275
Oil & Gas	536	536	536	536	536	536
Public Supply	3,683	3,750	3,757	3,758	3,817	3,844
Thermoelectric Power	-	-	-	-	-	-
Total	4,622	4,947	4,954	4,947	4,996	5,016

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	24	28	25	46	55	6%
Alluvial Groundwater Depletion	9	9	9	9	9	6%
Bedrock Groundwater Depletion	10	10	10	9	8	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)
92,600	Yes	No	184,480

- If, yes – basin wholly or partially subject to the provisions of the 2016 Water Settlement Agreement.
- 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 22 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	Effective 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	Potentially Effective with Local Variability

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.