



Overview of Water Management Strategies (WMS) characterization approach



Water Forward 2024 (WF24)

Project Plan

Task 1 - Project Management

Task 2 - Community Engagement

Task 3. Refine planning methodology

Task 4. Forecast baseline water demands

Task 5. Update climate and hydrology analysis

Task 6. Identify water resource needs

Task 7. Identify, screen, and characterize strategies

Task 8. Develop and evaluate 50-yr water resource portfolios

Task 9. Develop plan recommendations and 100-yr adaptive management plan



WMS Characterization Update Goals

Update input information: for example project costs, changing conditions, etc.

Refine project characteristics: identify small changes/variations in the conceptual project configuration, scale, or operating rules to evaluate

Adjust course as needed: revisit previous recommendations to verify, refine, or change recommendation if needed

Planning process improvements: review and update WMS characterization and evaluation process used in previous plan, apply lessons learned & industry best practices



Water Management Strategies (WMS)

Water Supply

- Strategies that enable the utility to access new sources of water and expand or make better use of existing sources of water

Demand Management

- Strategies like conservation and reuse that reduce the demands on raw or potable water

Best Management Practices

- Strategies that advance Water Forward objectives like protecting the health of the Colorado River and improving the utility's resilience.



WMS Identification & Screening

- WMS to be considered will include:
 - WF18 recommended strategies
 - Feasible strategies evaluated but not recommended in WF18
 - Additional strategies identified by stakeholder groups such as AW staff, the Water Forward Task Force, and the public
- WMS under consideration will be reviewed, consolidated, and screened based on feasibility
- Up to 14 water supply strategies and 14 demand management strategies will move forward for further analysis and characterization



WMS Characterization

- AW staff will provide information from ongoing analyses, planning, and projects currently underway
- Deliverables planned to include information on:



Cost estimation update including total capital and annual operations & maintenance costs



Yield estimates informed by new information for ongoing projects



Implementation rates for WMS that require individual customer implementation and geospatial projections



Timing of implementation, including progress to date, and expected lifetime of each strategy

WF18 Strategies

Table 1-1. Water Forward recommended strategies with planning horizon yields

Option #/ Type	Recommended Strategies	Average/ Drought	Estimated Yield (Acre Feet per Year) ¹			
			2020	2040	2070	2115
Demand Management Strategies						
D1	Advanced Metering Infrastructure (AMI)	Both	600	3,880	5,770	9,370
D2	Utility Side Water Loss Control	Both	3,110	9,330	10,918	13,060
D3	Commercial, Industrial, and Institutional (CII) Ordinances	Both	1,060	1,060	1,060	1,060
D4	Water Use Benchmarking and Budgeting	Both	-	5,950	11,670	25,230
D5	Landscape Transformation Ordinance	Both	-	3,040	7,430	15,050
D6	Landscape Transformation Incentive	Both	-	320	630	930
D7	Irrigation Efficiency Incentive	Both	40	210	430	390
D8	Lot Scale Stormwater Harvesting	Both	-	330	870	2,280
D9	Lot Scale Rainwater Harvesting	Both	-	1,550	4,030	9,250
D10	Lot Scale Graywater Harvesting	Both	-	2,130	5,620	12,670
D11	Lot/Building Scale Wastewater Reuse	Both	-	1,320	3,670	7,880
D12	Air Conditioning (AC) Condensate Reuse	Both	100	1,080	2,710	5,150
Demand Management Strategies Sub-Total		-	4,910	30,200	54,810	102,320
Water Supply Strategies						
S1	Aquifer Storage and Recovery	Drought	-	60,000	60,000	90,000
S2	Brackish Groundwater Desalination	Both	-	-	5,000	16,000
S3	Direct Non-Potable Reuse (Centralized Reclaimed Water System)	Both	500	12,000	25,000	54,600
S5a	Indirect Potable Reuse (IPR) through Lady Bird Lake	Drought	-	11,000	20,000	20,000
S5b	Capture Local Inflows to Lady Bird Lake (infrastructure also included as part of IPR, above)	Average	-	3,000	3,000	3,000
S7	Off Channel Reservoir	Both	-	-	25,000	25,000
S9	Distributed Wastewater Reuse	Both	-	3,150	14,470	30,050
S10	Sewer Mining	Both	-	1,000	2,210	5,280
S11	Community Scale Stormwater Harvesting	Both	-	160	240	500
Drought Supply Strategies		-	-	71,000	80,000	110,000
Average/Both Supply Strategies		-	500	19,310	74,910	134,440
Water Supply Strategies Sub-Total		-	500	90,310	154,910	244,440
Water Forward Recommend Strategies Overall Total			5,410	120,510	209,720	346,750
Water Forward Recommended Implementation Strategies to Realize Estimated Yields Above						
Phase 1 and 2: Water Use Benchmarking and Budgeting Ordinance						
Phase 1 and 2: Alternative Water Ordinance						
Expansion of Alternative Water Incentive						
Phase 1 and 2: Dual Plumbing Ordinance Development						
Ordinance to Expand Existing Centralized Reclaimed Water Connection Requirements						
Current Supplies and Conservation						
Colorado River and Highland Lakes Supply		Both	325,000			
Drought Contingency Plan		Drought	Varies			
Austin Water Conservation Programs*		Both	54,320			
Centralized Reclaimed Water System		Both	3,960			

*Note: Austin Water conservation program savings were estimated based on savings calculated during 2012-2015



WF24 Project Timeline

Task/Milestone	2023					2024												2025		
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Finalize baseline demand projections																				
WTF: Demands, WMS approach		★																		
Complete prelim needs assessment																				
WTF: Prelim Needs				★																
Prelim WMS characterization																				
WTF: Prelim WMS characterization						★														
Public Workshops: WMS Strategies						★														
Full WMS characterization																				
Build mass balance model and perform prelim optimization analysis																				
WTF: Finalized WMS characterization, Prelim optimization analysis results, and 50-year portfolio construction and evaluation process								★												
Perform final optimization analysis																				
Perform MCDA evaluation																				
WTF: Prelim 50-year portfolio MCDA evaluation										★										
Public Workshops: Prelim 50-year portfolio MCDA evaluation										★										
Refine portfolios and revise MCDA evaluation as necessary																				
Perform EAT evaluation																				
WTF: Preferred 50-year portfolio and EAT evaluation												★								
Perform 100-year vulnerability analysis																				
Finalize 100-year adaptive management plan																				
WTF: Draft plan report and 100-year adaptive management plan														★	★					
WTF: Recommendation for Council approval															★	★				
W/WW Commission: Recommendation for Council approval																★				
Seek Council approval of WF24 plan																		★	→	★

Subject to Change

Next Steps

- Staff will begin consultant onboarding and sharing information to inform updates to WF18 strategy costs and yields
- Staff will begin outreach to community organizations, continue development of WMS survey, and planning for January 2024 public workshops
- Plan to present progress update and continue discussion at 10/11 WF24 Task Force Subcommittee meeting



Questions and Discussion

