

Table 1. ADWR Requirements for System Water Plans in the Active Management Areas, Arizona Revised Statute 45-342 regarding Drought Preparedness Plans and Water Conservation Plans:

I. *The drought preparedness plan shall be designed to meet the specific needs of the water system for which it applies and shall include:*

1. *The name, address and telephone number of the community water system and the names of the officers or other persons responsible for directing operations during a water shortage emergency.*
2. *Drought or emergency response stages providing for the implementation of measures in response to reduction in available water supply due to drought or infrastructure failure.*
3. *A plan of action that the community water system will take to respond to drought or water shortage conditions, including:*
 - (a) *Provisions to actively inform the public of the water supply shortage and a program for continued education and information regarding implementation of the drought preparedness plan.*
 - (b) *Development of emergency supplies, which may include identification of emergency or redundant facilities to withdraw, divert or transport substitute supplies of the same or other types of water.*
 - (c) *Specific water supply or water demand management measures for each stage of drought or water shortage conditions, subject to approval by the corporation commission if the community water system is a public service corporation. This requirement may be met by providing a curtailment tariff on file with the corporation commission.*

J. *The water conservation plan shall be designed to increase the efficiency of the water system, reduce waste and encourage consumer water conservation efforts. The water conservation plan shall be designed to meet the specific needs of the community water system and shall include both demand and supply management measures including the following:*

1. *Feasible measures that may be implemented to determine and control lost and unaccounted for water.*
2. *Consideration of water rate structures that encourage efficient use of water, as set by the community water system's governing body, subject to approval by the corporation commission if the community water system is a public service corporation.*
3. *A continuing conservation education program containing provisions to actively inform the public of drought conditions and information regarding conservation measures to reduce vulnerability from drought conditions, including:*
 - (a) *Curtailment of nonessential water uses.*
 - (b) *Affordable efficiency technologies for indoor and outdoor use.*
 - (c) *Rebate and retrofit programs for indoor and outdoor uses.*
 - (d) *Reuse and recycling programs.*

Drought Plan Comparisons July 2015

	PIMA COUNTY	MARANA WATER	METRO WATER	ORO VALLEY WATER	TUCSON WATER
Water System Type	Not a Water Provider	<ul style="list-style-type: none"> ▪ No Water Shortage ▪ 100 yr Assured Water Supply 	<ul style="list-style-type: none"> ▪ No Water Shortage ▪ 100 yr Assured Water Supply 	<ul style="list-style-type: none"> ▪ No Water Shortage ▪ 100 yr Assured Water Supply 	<ul style="list-style-type: none"> ▪ No Water Shortage ▪ 100 yr Assured Water Supply
Plan Updated	2014	2007	2007	2007	2012
User Categories Specified within the Plan				<ul style="list-style-type: none"> ▪ 3 User Categories: A – Single Family Residential Users B – Commercial Users C – Reclaimed H2O Users 	<ul style="list-style-type: none"> ▪ 6 User Categories: - City of Tucson - Residential - Multi-Family Residential - Commercial - Industrial - Reclaimed Water Users
Declared by	Board of Supervisors (on advice from County Administrator and LDIG)				City Manager (on advice from Water Dir)
STAGE 1	ALERT	MODERATE	ALERT	HEIGHTENED CONDITIONS	STAGE ONE
Drought stage declaration based on	Arizona Drought Monitor (produced by the Monitoring Technical Committee)	Arizona Drought Monitor (produced by the Monitoring Technical Committee) [any two]		CLIMAS [any two]	Secretary of the Interior; Arizona Drought Monitor
Drought Triggers	D1 to D2: Moderate to Severe	<ul style="list-style-type: none"> ▪ 70-90% Avg Precip ▪ >45 days of 100° F ▪ 1'-2.4' Avg Annual GW Decline ▪ D2 Severe Drought 	<ul style="list-style-type: none"> ▪ 70-90% Annual Precip AND ▪ 1'-2.4' Avg Annual GW Decline 	<ul style="list-style-type: none"> ▪ 80-90% avg Precip ▪ 40 days of ≥98° F in any 3-mo period ▪ >4' Avg Ann. GW Decline ▪ D1 or greater 	<ul style="list-style-type: none"> ▪ Severe, Sustained Drought in CO River Watershed ▪ And/or MTC Declares Drought in Santa Cruz Watershed
Publication / Education	✓	✓	✓	✓	✓
Lead by Example (self water audits)					✓
Voluntary Reductions (incl. restaurants, hotels/motels)	✓			✓	✓
Continue Water Management Efforts		✓	✓	✓	✓
Work w/ Neighboring Water Providers		✓	✓	✓	Accelerate maintenance and upgrade programs
Work w/ County to Put Ordinances in Place		✓	✓		

Drought Plan Comparisons July 2015

	PIMA COUNTY	MARANA WATER	METRO WATER	ORO VALLEY WATER	TUCSON WATER
STAGE 2	WARNING	ABNORMALLY DRY	WARNING	SEVERE CONDITIONS	STAGE TWO
Declared by	Board of Supervisors				City Manager (on advice from Water Dir)
Drought stage declaration based on	Arizona Drought Monitor	Arizona Drought Monitor [any two]		CLIMAS [any two]	Secretary of the Interior; Arizona Drought Monitor
Drought Triggers	D2 to D3: Severe to Extreme	<ul style="list-style-type: none"> ▪ 50-70% Avg Precip ▪ >60 days of 100° F ▪ 2.5'-3.9' Avg Annual GW Decline ▪ D3 Extreme Drought 	<ul style="list-style-type: none"> ▪ 50-70% Annual Precip AND ▪ 2.5'-3.9' Avg Annual GW Decline 	<ul style="list-style-type: none"> ▪ 70-80% avg Precip ▪ 50 days of ≥98° F in any 3-mo period ▪ >6'Avg Ann. GW Decline ▪ D2 or greater 	<ul style="list-style-type: none"> ▪ Shortage Declared on Co River, CAP Deliveries to Excess & Ag Users Reduced ▪ And/or Local System Indicator Values (LSI)
Stage 1, PLUS	✓	✓	✓	✓	✓
Strongly Encourage or Mandatory Reductions (incl. water on request at serving establishments)	✓	✓	✓	✓ Residential Users: 10% overall reduction	✓ Com./Ind. users conduct self audit and submit conservation plan if demand exceeds 325 Ccf
Limit Landscape Irrigation	✓ 7 p.m. to 7 a.m. only	✓ 2 days per week; 8 p.m. - 8 a.m. only	✓ 2 days per week; 8 p.m. - 8 a.m. only	✓ Com. & Reclaimed Users: 10% reduction	✓ Exempt if water budget meets efficiency standards
Overseeding Restrictions	✓ Exempt harvested rainwater				
Avoid/No Outdoor Water Uses (incl. hosing walkways, parking lots, & car washing; fountains, misters)	✓	✓	✓	✓	✓
Enforcement (warnings/fines)	✓			✓ Utilities asked to notify users not meeting reduction goals	
Reclaimed Water					Prepare for reclaimed water reductions; Potable water no longer backed up by reclaimed
Other				Additional education and outreach programs	City must budget for efficiency measures
	Mandatory	Voluntary	Voluntary	Voluntary	Voluntary / Mandatory

Drought Plan Comparisons July 2015

	PIMA COUNTY	MARANA WATER	METRO WATER	ORO VALLEY WATER	TUCSON WATER
STAGE 3	EMERGENCY	EMERGENCY	EMERGENCY	EXTREME CONDITIONS	STAGE THREE
Declared by	Board of Supervisors				Approved by M&C (on recommendation by City Mgr & Water Dir)
Drought stage declaration based on	Arizona Drought Monitor Report based	Arizona Drought Monitor Report [any two]		CLIMAS [any two]	Secretary of the Interior
Drought Triggers	D3 to D4; Moderate to Severe	<ul style="list-style-type: none"> ▪ 25-50% avg Precip ▪ >75 days of 100° F ▪ 4'-4.9' Avg Annual GW Decline ▪ D4 	<ul style="list-style-type: none"> ▪ 25-50% Annual Precip AND ▪ 4'-4.9' Avg Ann. GW Decline 	<ul style="list-style-type: none"> ▪ <70% avg Precip ▪ 60 days of ≥98° F in any 3-mo period ▪ ≥7' Avg Ann. GW Decline ▪ D3 	<ul style="list-style-type: none"> ▪ Continued Shortage on CO River w/reduced CAP Deliveries to M&I Users ▪ And/or LSI
Stages 1 & 2, PLUS:	✓	✓	✓	✓	✓
Add'l Landscape Limitations		✓	✓		✓
		1 day per week 8 p.m. to 8 a.m. only	1 day per week 8 p.m. to 8 a.m. only		
No Overseeding	✓			✓	✓
					Exempt reclaimed water
Add'l/Mandatory Water Reduction Measures				✓	✓
No Filling Pools	✓	✓	✓		
No Outdoor Water Features incl. Misters	✓	✓	✓	✓	No fountains on public, commercial, and industrial sites
Car Washes Only w/ Recirculation Systems	✓				✓
No Potable Water for Construction		✓	✓	✓	✓
		Exempt reclaimed	Exempt reclaimed		
Drought Surcharge to Water Rate Structure		✓	✓	✓	✓
Enforcement / Penalties	✓			✓	✓
Reclaimed Water					Irrigation restrictions; Exempt audited, efficiency-upgraded, budgeted systems; Signage for compliant facilities
Other				Exempt customers using less than 4,000 g/month	Resale of property requirements include interior retrofits for water efficiency
	Mandatory	Voluntary	Voluntary	Mandatory	Mandatory

Drought Plan Comparisons July 2015

	PIMA COUNTY	MARANA WATER	METRO WATER	ORO VALLEY WATER	TUCSON WATER
STAGE 4	CRISIS	CRISIS	CRISIS	CRISIS CONDITIONS	STAGE FOUR
Declared by	Board of Supervisors				Approved by M&C (on recommendation by City Mgr & Water Dir)
Drought stage declaration based on	Arizona Drought Monitor Report based	Arizona Drought Monitor Report [any two]		CLIMAS	Secretary of the Interior
Drought Triggers	D4: Exceptional	<ul style="list-style-type: none"> ▪ <25% avg Precip ▪ >90 days of 100° F ▪ >5' Avg Annual GW Decline ▪ D4 	<ul style="list-style-type: none"> ▪ <25% Annual Precip AND ▪ >5' Avg Annual GW Decline 	<ul style="list-style-type: none"> ▪ Conditions ≥ Stage 3 Continue Beyond 1 Full Year 	<ul style="list-style-type: none"> ▪ Continued Shortage on CO River w/add'l reductions in CAP Deliveries ▪ And/or LSI
Stages 1, 2 & 3, PLUS:	✓	✓	✓	✓	✓
No New Water Service Agreements Approved		✓	✓	✓	✓
Enforcement / Penalties	✓			✓	✓
No Potable Water for Construction	✓	✓	✓	✓	✓
Severe Irrigation Limits (trees & shrubs only)	✓	✓	✓	✓	✓
		1 day/week; night only	1 day/week; night only	Hand watering only	No outdoor irrigation
No Water to Clean Paved Areas or Cars	✓				✓
Additional Drought Surcharge to Water Rate Structure		✓	✓		
Ord 8461 – Mandatory Restrictions on Nonessential Water Use					No filling of pools or operation of other outdoor water features Restaurants serve water by request only No water cooling systems unless water is recycled at least once
	Mandatory	Voluntary	Voluntary	Mandatory	Mandatory
				Exempt customers using less than 4,000 g/month	

Drought Plan Comparisons July 2015

WATER SUPPLY AND DISTRIBUTION

Not sourced from Drought Preparedness Plans

	PIMA COUNTY	MARANA WATER	METRO WATER	ORO VALLEY WATER	TUCSON WATER
Number of Water Customers					
Central Arizona Project (2014 allocations)		<ul style="list-style-type: none"> ▪ Allocation: 1,528 af ▪ % Recharged: 	<ul style="list-style-type: none"> ▪ Allocation: 13,460 af ▪ % Recharged: 	<ul style="list-style-type: none"> ▪ Allocation: 10,305 af ▪ % Recharged: 	<ul style="list-style-type: none"> ▪ Allocation: 144,172 af ▪ % Recharged:
Total Water Usage					
Wheeling Agreements					
Irrigation Non-Expansion Areas					
Treated Wastewater / Effluent (2013)	<ul style="list-style-type: none"> ▪ 3237.3 af 	Acquired Marana Wastewater Reclamation Facility; constructing recharge facility <ul style="list-style-type: none"> ▪ 266.8 af 	<ul style="list-style-type: none"> ▪ 2,686 af obtained from CoT (website) ▪ 2,148.3 af (other records) 	<ul style="list-style-type: none"> ▪ 1,949.6 af 	<ul style="list-style-type: none"> ▪ 24,426 af
Long-term Storage Credits (as of 2013)	<ul style="list-style-type: none"> ▪ 8536.31 af 	<ul style="list-style-type: none"> ▪ 13,788.48 af 	<ul style="list-style-type: none"> ▪ 20,458.14 af 	<ul style="list-style-type: none"> ▪ 10,169.57 af 	<ul style="list-style-type: none"> ▪ 217,372.11 af
Accrual per Year	2012 – 2013 – 2014 –	2012 – 2013 – 2014 –	2012 – 2013 – 2014 –	2012 – 2013 – 2014 –	2012 – 2013 – 2014 –
Credits Sold					

Drought Plan Comparisons July 2015

WATER CONSERVATION ACTIVITIES AND OUTREACH PROGRAMS

The information in this chart is based primarily on research into activities and documentation not contained in the Drought Preparedness Plans. It is not a comprehensive collection of information on the many programs conducted across the region but highlights some model efforts and resources that could be useful for other groups. This chart serves to illustrate PAG's interest in coordinated regional efforts and resource sharing.

	PIMA COUNTY	MARANA WATER	METRO WATER	ORO VALLEY WATER	TUCSON WATER
Public Education and Outreach			<ul style="list-style-type: none"> • Quarterly newsletter 	<ul style="list-style-type: none"> • Quarterly newsletter 	<ul style="list-style-type: none"> • Monthly newsletter
Drought Stage Information or Plans Available Online	✓				✓
Internal Water Conservation	Sustainable Action Plan				
Riparian Conservation Programs	✓				✓
Provide Low-water Landscaping Guides	✓	✓	✓		✓
Rebates & Incentives			<ul style="list-style-type: none"> • \$50 graywater or rainwater harvesting • \$50 HE toilet 		<ul style="list-style-type: none"> • \$2,000 active residential rainwater harvesting • \$500 passive residential rainwater harvesting • \$1,000 gray water harvesting