

Phoenix AMA Groundwater Conditions

Major aquifers, well yields, estimated natural recharge, number of index wells and date of last water-level sweep are shown in **Table 8.1-6**. **Figure 8.1-6** shows aquifer flow direction and water-level change between 1991-1992 and 2002-2003 for the entire Phoenix AMA. Figures 8.1-6A-D show depth to water during 2002-2003 and water-level change between 1991-1992 and 2002-2003 for selected wells by sub-basin. **Figure 8.1-7** contains hydrographs for selected wells shown on Figures 8.1-6A-D. **Figure 8.1-8** shows well yields in five yield categories. Underground Storage Facilities (USF) and Groundwater Savings Facilities (GSF) are shown on **Table 8.1-7** with facility name, facility permit number and type, permittee name, permitted acre-feet per year and water source. Locations of USFs and GSFs are shown on **Figure 8.1-9**. A description of aquifer data sources and methods as well as well data sources and methods, including water-level changes and well yields are found in Volume 1, Appendix A.

Major Aquifers

- Refer to **Table 8.1-6** and **Figure 8.1-6**
- The major aquifers in the AMA are recent stream alluvium and basin fill. Groundwater is also found in sedimentary rock in some areas.
- Groundwater flow has been artificially modified generally toward the Gila River drainage and groundwater pumping centers. Groundwater flow is toward cones of depression near Scottsdale, Mesa, and Queen Creek in the East Salt River Valley Sub-basin and to the southwest toward cones of depression in the Tonopah Desert and Centennial Wash area in the Hassayampa Sub-basin.
- In the West Salt River Valley sub-basin, the direction of groundwater flow originally was along the Salt and Gila Rivers into the Hassayampa Sub-basin. Groundwater flow has been artificially modified toward cones of depression near Luke AFB and Deer Valley.
- In the Fountain Hills Sub-basin, groundwater flows to the south. (Not shown on map)
- Groundwater flow in the Rainbow Valley Sub-basin is to the northwest, in the Lake Pleasant Sub-basin from north to south and in the Carefree Sub-basin to the west-southwest.

Well Yields

- Refer to **Table 8.1-6** and **Figure 8.1-8**
- As shown on Figure 8.1-8, well yields are generally greater than 1,000 gpm.
- One source of well yield information, based on 2,397 reported wells, indicates that the median well yield is 1,280 gpm.

Table 8.1-6 Groundwater Data for the Phoenix AMA

Basin Area in square miles: 1,040	
Name and/or Geologic Units	
Recent Stream Alluvium	
Basin Fill	
Major Aquifer(s): Basin Fill (Caneva Formation)	
Basin Fill with interbedded basalt	
Sedimentary Rock (porphyritic)	
Well Yields, in gallons:	Range: 1 to 344 Median: 1,272 (2,354 wells measured)
	ADWR Only
Estimated Natural Recharge, in acre-feet/year:	Range: 1 to 344 Median: 1,280 (2,397 wells reported)
	Reported on registration forms for large (>1000-ft) diameter wells (AWA/USF)
Date of Last Water-level Sweep:	24, 100
	ADWR Phoenix TMP
Current Number of Index Wells:	642
Date of Last Water-level Sweep:	2010 (136 wells measured)

TMF = Third Management Plan

Table 8.1-6 Groundwater Conditions in the Phoenix AMA

Table 8.1-7 Recharge Sites in the Phoenix AMA

FACILITY NAME	FACILITY NUMBER	PERMITTEE NAME	FACILITY TYPE	PERMITTED ACRE-FEET	WATER SOURCE
AQUA FIRA	11-686716 2014	CANCO	CONSTRUCTED	100,000	C
ANTHEM DESERT HILLS	11-686662 2010	ARCOSOL/ARCO/DAVITA	CONSTRUCTED	10,500	C,E
ARROWHEAD	11-681834 2010	CITY OF GLENDALE	CONSTRUCTED	2,300	E
AVONDALE HIGHLANDS	11-682251 2011	CITY OF AVONDALE	CONSTRUCTED	10,300	C,E
AVONDALE CREEK	11-681739 2010	CITY OF AVONDALE	CONSTRUCTED	8,800	E
CHANDLER HEIGHTS	11-686891 2011	CITY OF CHANDLER	CONSTRUCTED	2,340	E
CHANDLER WIDE	11-614140 1991	CITY OF CHANDLER	CONSTRUCTED	3,100	E
CHANDLER COUNTRY	11-682223 2014	CITY OF CHANDLER	CONSTRUCTED	11,200	E
CHANDLER FOUNTAIN	11-682041 2010	CITY OF CHANDLER	CONSTRUCTED	11,200	E
EL PASO	11-682227 2010	CITY OF EL PASO	IMPROVED	2,014	E
FOUNTAIN HILLS	11-691480 2010	FOUNTAIN HILLS SANIT DIST	CONSTRUCTED	2,241	E
GILBERT MUNICIPAL WASH	11-682226 2010	CITY OF GILBERT	CONSTRUCTED	2,283	E
GILBERT NEXUS WALKER WASH/TAT	11-632279 2010	TOWN OF GILBERT	CONSTRUCTED	3,114	E
GILBERT REPUBLICAN PRESBYTERIAN	11-684478 2010	TOWN OF GILBERT	CONSTRUCTED	4,389	C,E,S
GLORIA RIVER	11-681738 2010	CITY OF GILBERT	CONSTRUCTED	10,200	E
GLENDALE AIRPORT	11-686730 2010	CITY OF GLENDALE	CONSTRUCTED	7,841	E
GOLF COURSE	11-681820 2010	GOLF COURSE NUMBER 02	CONSTRUCTED	4,100	E
GOODYEAR EFFLUENT - S&P	11-686367 2010	CITY OF GOODYEAR	CONSTRUCTED	3,300	E
GRANITE REEF UNDERGROUND STORAGE FACILITY (USF)	11-618871 2010	SRP	CONSTRUCTED	200,000	C,E,S
HERCULES WINDMILLS	11-684888 2011	CANCO	CONSTRUCTED	30,000	C
HEMLOCKSON	11-682842 2011	CITY OF TEMPE	CONSTRUCTED	3,400	E
LAKE MEAD	11-632386 2010	LAKE MEAD WATER CO.	CONSTRUCTED	87	E
MESA WASH/STP	11-614202 2010	CITY OF MESA	CONSTRUCTED	6,463	E

Table 8.1-7 Recharge Sites in the Phoenix AMA

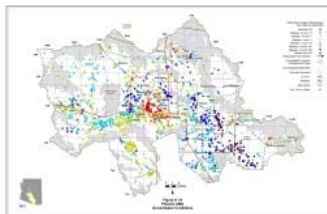


Figure 8.1-6 Phoenix AMA Groundwater Conditions

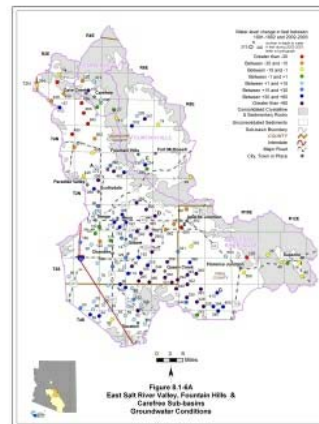


Figure 8.1-6A East Salt River Valley, Fountain Hills & Carefree Sub-basins Groundwater Conditions

Natural Recharge

- Refer to **Table 8.1-6**
- Natural recharge in the Phoenix AMA is 24,100 acre-feet per year.
- Mountain front and streambed recharge are the principal sources of natural recharge.

Water Level

- Refer to Figure 8.1-6A-D. Water levels are shown for wells measured in 2002-2003. Not all water level data shown on Figure 8.1-6 are shown on Figures 8.1-6A-B.
- The Department annually measures 442 index wells in the AMA. Hydrographs for 20 index wells are shown on **Figure 8.1-7**.
- The deepest water level shown is 866 feet in the vicinity of Cave Creek and the shallowest is 10 feet in the vicinity of Superior. Both wells are shown on **Figure 8.1-6A**.

Recharge Sites

- Refer to **Table 8.1-7** and Figure 8.1-9.
- As of 2008 there were 43 active USFs and 10 GSFs.
- Total permitted storage capacity for USFs is 962,000 acre-feet per year.
- Total permitted storage capacity for GSFs is 517,520.

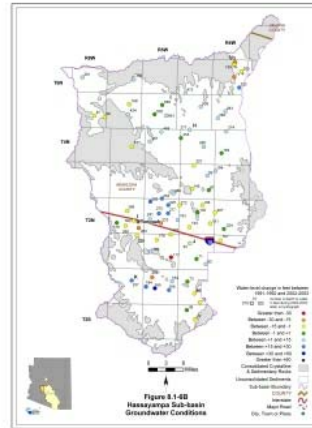


Figure 8.1-6B Hassayampa Sub-basin Groundwater Conditions

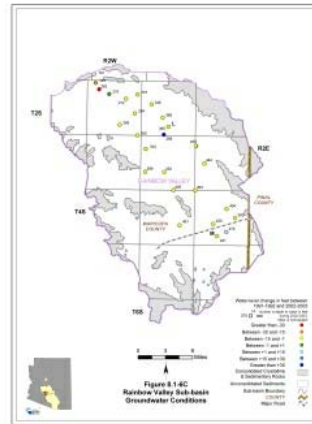


Figure 8.1-6C Rainbow Valley Sub-basin Groundwater Conditions

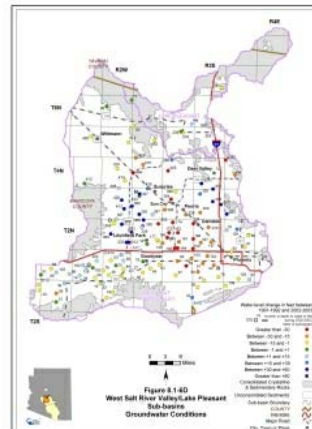


Figure 8.1-6D West Salt River Valley/Lake Pleasant Sub-basins Groundwater Conditions

Figure 8.1-7
Phoenix Active Management Area
Hydrographs Showing Depth to Water in Selected Wells

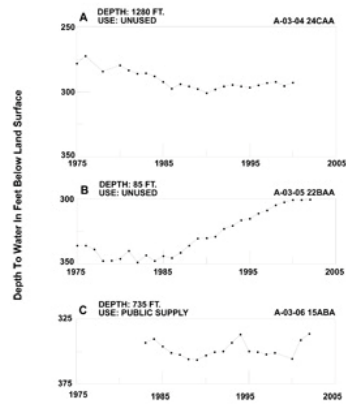


Figure 8.1-7 Selected Hydrographs in the Phoenix AMA



Figure 8.1-8 Phoenix AMA Well Yields

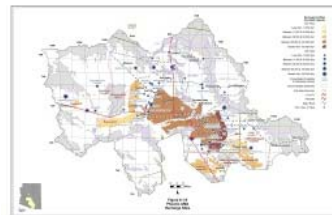


Figure 8.1-9 Recharge Sites in the Phoenix AMA

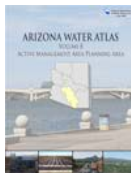
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