

**Environmental  
Conditions-  
Arizona Water Atlas**

WRDC Environmental Workgroup  
Meeting

October 20, 2010

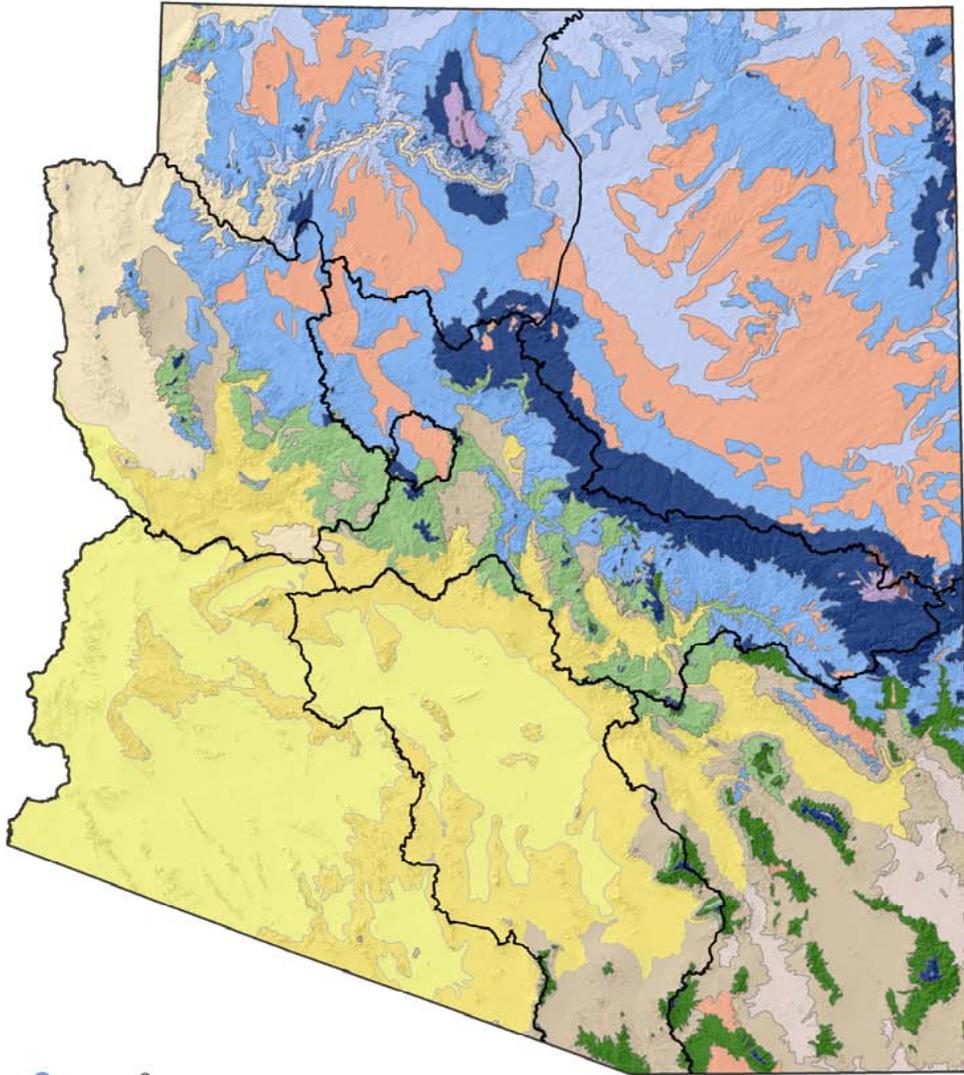
# Arizona Water Atlas

- Compilation of water resource data for the entire state, organized by planning areas composed of groundwater basins
- Data include:
  - Geography/Land Ownership
  - Hydrology & Groundwater and Surface Water Conditions
  - Climate
  - Environmental Conditions
  - Population, Growth and Assured & Adequate Water Supply Evaluation
  - Water Supply
  - Water Quality
  - Cultural Water Demand
  - Water Resource Issues

# Environmental Conditions

- Vegetation
- Wildfire
- Arizona Water Protection Fund Program Grants
- Instream Flow Claims
- Riparian vegetation
- Threatened and Endangered Species
- Protected Lands (parks, monuments, refuges)
- Perennial/Intermittent Streams
- Springs
- Unique and managed waters (discussion only)

### Biotic Communities



### Ecoregions



#### Biotic Communities

- Alpine Tundra
- Subalpine Grassland
- Rocky Mountain Subalpine Conifer Forest
- Rocky Mountain (Petran) & Madrean Montane Conifer Forests
- Great Basin Conifer Woodland
- Great Basin Desertscrub
- Madrean Evergreen Woodland
- Interior Chaparral
- Plains & Great Basin Grasslands
- Semidesert Grassland
- Chihuahuan Desertscrub
- Mohave Desertscrub
- Arizona Upland Sonoran Desertscrub
- Lower Colorado River Sonoran Desertscrub
- Planning Area Boundary

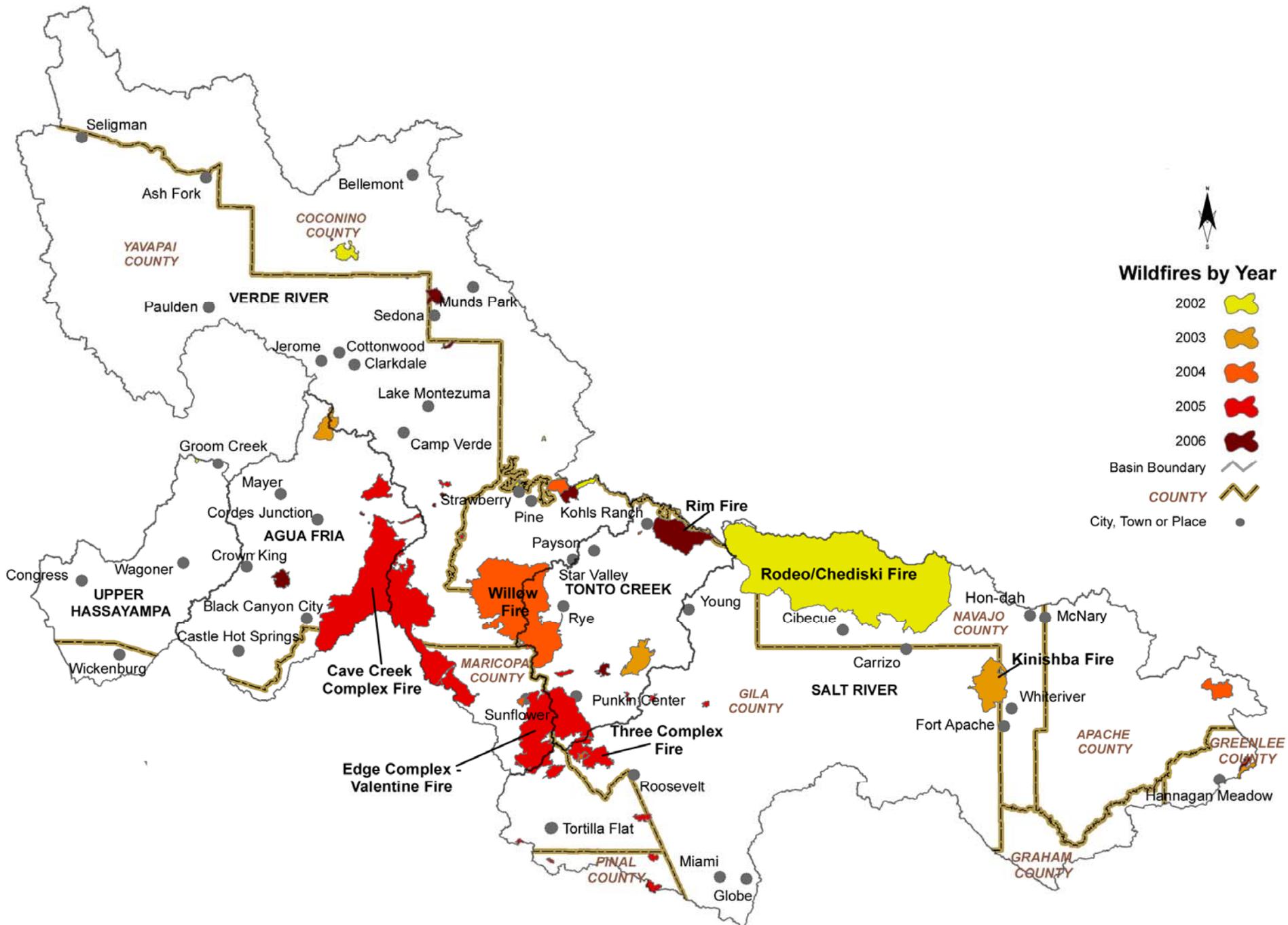


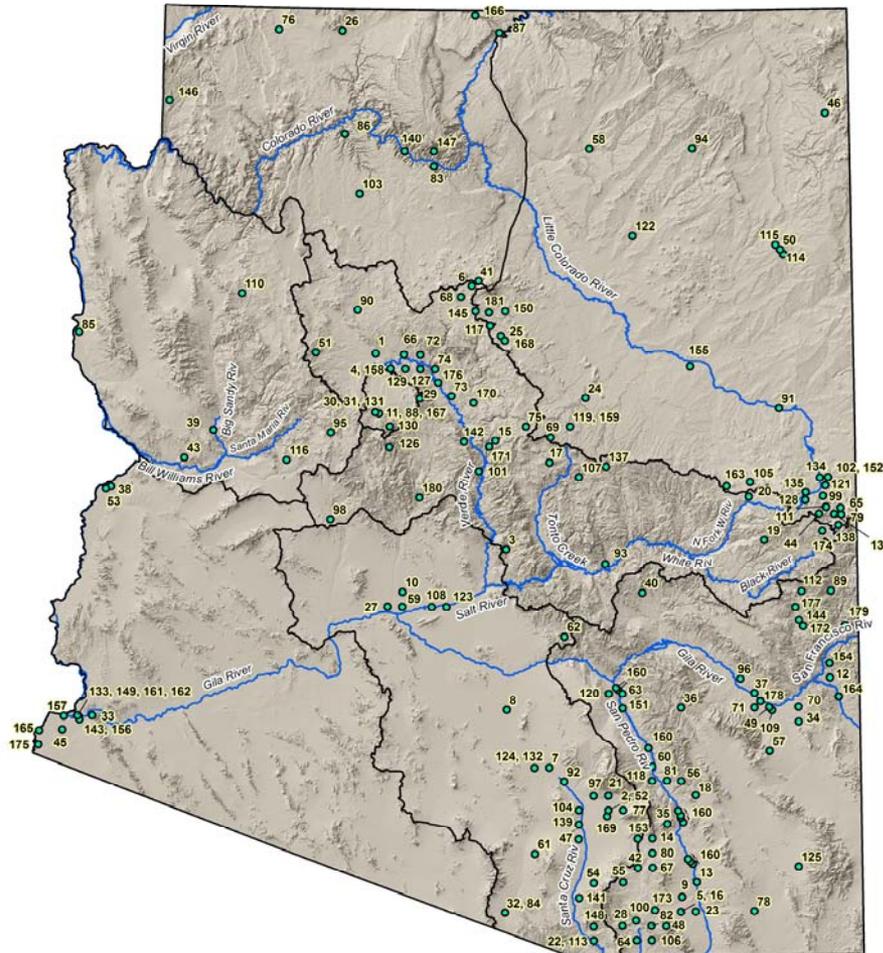
- Sierra Madre
- Occidental Pine-oak Forest
- Chihuahuan Desert



Biotic Communities Source: Brown and Lowe, 1980  
 Ecoregions Source: Olson and others, 2001

**Figure 1-13**  
**Arizona Biotic Communities and Ecoregions**





- 123 AWPFF Grant Location/Map Key
- Major Streams
- Planning Area Boundary

**Figure F-1**  
**Arizona Water Protection Fund Grant Locations**

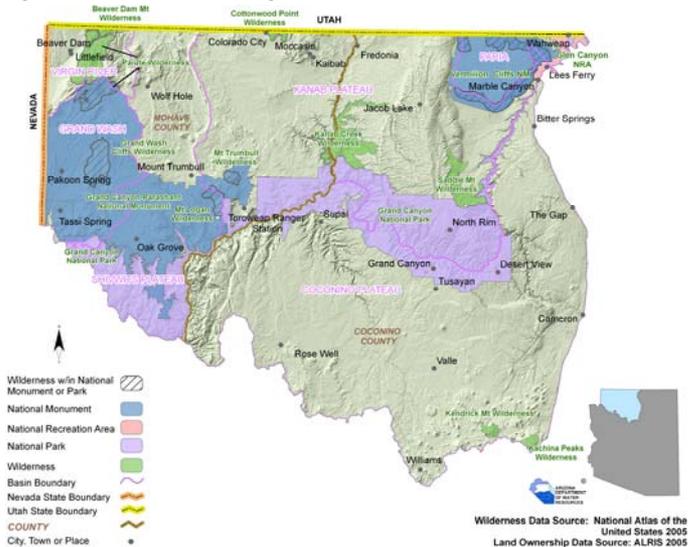
Figure 5.0-12  
Central Highlands Planning Area  
Instream Flow Applications




  
 ARIZONA DEPARTMENT OF WATER RESOURCES
   
 Riparian Data Source: AGFD, 1993

# Threatened and Endangered Species & Protected Areas

Figure 6.0-14 Western Plateau Planning Area Protected Areas



Common Name	Threatened	Endangered	Elevation/Habitat
Brady Pin cushion Cactus		X	3,400-5,200 ft./Gravelly alluvium with sparse vegetation on gently sloping benches and terraces
Bald Eagle	X		Varies/Large trees or cliffs near water
California Brown Pelican		X	Varies/Lakes and rivers
California Condor		X	2,000-6,500 ft./Steep terrain with rock outcroppings, cliffs and caves
Desert Tortoise (Mohave Population)	X		1,000-4,000 ft./Sandy loam to rocky soils in valleys, bajadas and hills
Holmgren Milk-Vetch		X	2,480-2,999 ft./Skirt edges of hill and plateau formations slightly above or at the edge of drainage areas
Humpback Chub		X	1,530-4,400 ft./Turbulent, high gradient, canyon-bound reaches of large rivers
Jones' Cycladenia	X		4,000 to 6,800 ft./ Mixed desert shrub and scattered piñon-juniper communities
Kanab Amber Snail		X	3,200 ft./Marshes watered by springs and seeps at the base of sandstone cliffs or limestone
Mexican Spotted Owl	X		4,100-9,000 ft./Canyons and dense forests with multi-layered foliage structure
Razorback Sucker		X	<8,000 ft./Riverine and lacustrine areas, not in fast moving water
San Francisco Peaks Groundsel	X		>10,800 ft./Alpine tundra
Sentry Milk-Vetch		X	7,000-7,960 ft./Uppermost layer of Kaibab limestone that is weathered in small, shallow pockets and networks of small cracks
Siler Pin cushion	X		2,800-5,800 ft./Low red or gray gypsiferous badlands
Southwestern Willow Flycatcher		X	<8,500 ft./Cottonwood-willow and tamarisk along rivers and streams
Virgin River Chub		X	1,540-2,360 ft./Swift but not turbulent reaches of the Virgin River
Welsh's Milkweed	X		4,700-8,250 ft./Open, sparsely vegetated sand dunes or sagebrush, juniper, pine and oak communities
Woundfin		X	1,900-10,000 ft./Swift parts of silty streams
Yuma Clapper Rail		X	<4,500 ft./Fresh water and brackish marshes

Source: USFWS 2008, USDOI 2007

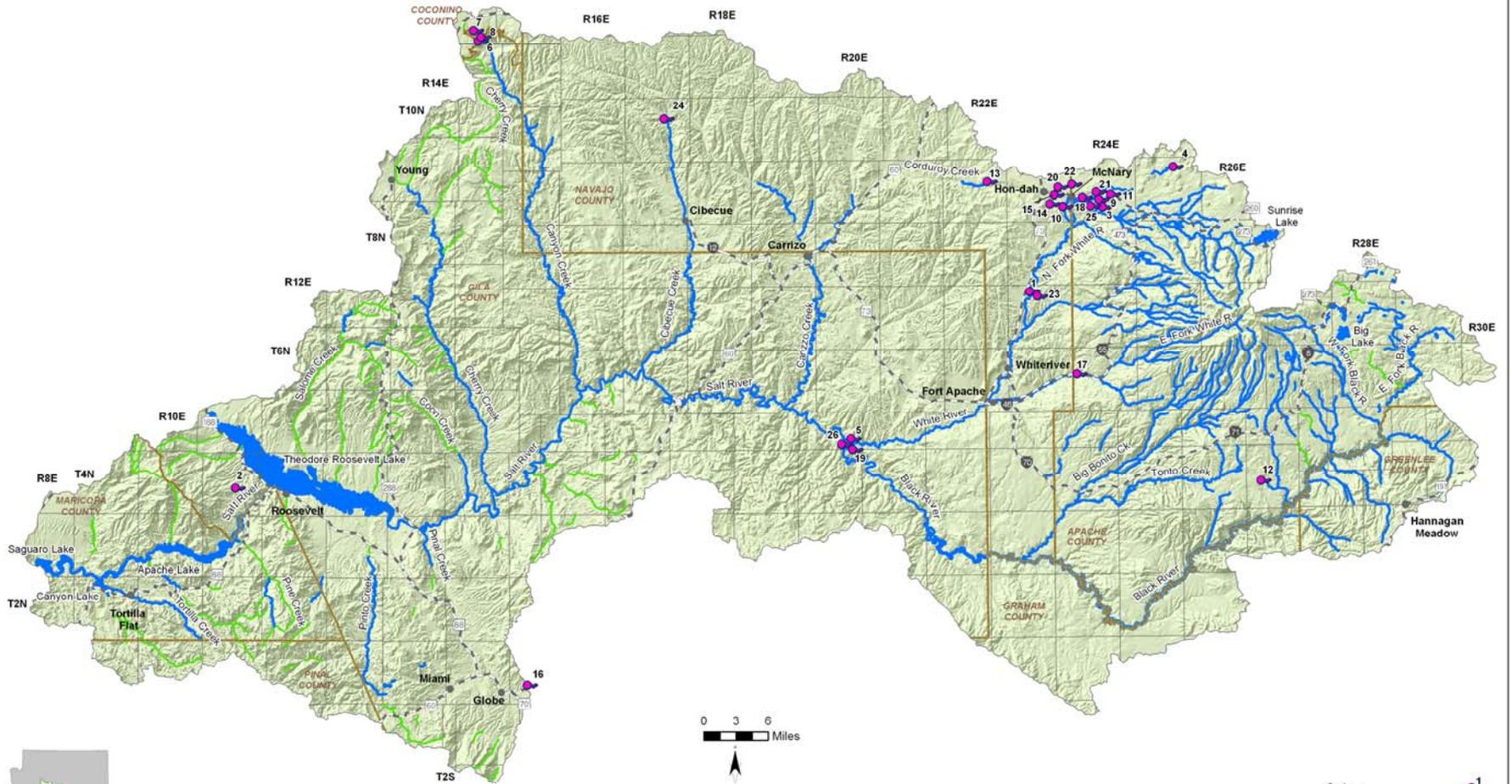


Figure 5.2-6  
Salt River Basin  
Perennial/Intermittent Streams  
and Major (>10 gpm) Springs

- Springs 
- Intermittent Streams 
- Perennial Streams 
- COUNTY 
- Major Road 
- City, Town or Place 

Stream Data Source: AGFD, 1993 & 1997



**Table 5.2-5 Springs in the Salt River Basin**

**A. Major Springs (10 gpm or greater):**

Map Key	Name	Location		Discharge (in gpm) <sup>1</sup>	Date Discharge Measured
		Latitude	Longitude		
1	Alcheyay	335641	1095523	8,980	During or prior to 1952
2	Canyon <sup>2</sup>	334040	1111242	2,224	During or prior to 2001
3	Mann <sup>2</sup>	340340	1094810	1,980	10/24/1979
4	Gooseberry Creek	340654	1094117	1,000	5/22/1952
5	Warm	334403	1101256	874	During or prior to 1982
6	Unnamed	341740	1104858	480	11/5/2002
7	Unnamed	341738	1104853	410	11/5/2002
8	Unnamed	341738	1104853	310	11/5/2002
9	Blue Lake	340402	1094805	260	5/19/1952
10	Gomez <sup>2,3</sup>	340338	1095156	200	6/18/1946
11	Boy	340420	1094703	200	5/20/1952
12	Ess	334049	1093308	200	6/18/1952
13	Big	340539	1095932	150	6/20/1952
14	Upper Bull Cienega	340348	1095315	100 <sup>4</sup>	6/20/1952
15	Government <sup>2</sup>	340410	1095210	75	6/18/1946
16	Maurel <sup>2,3</sup>	332422	1104425	50	4/11/1946
17	Unnamed <sup>2,3</sup>	334942	1095100	40	2/19/1952
18	Haystack # 1 <sup>2</sup>	340450	1095037	40 <sup>4</sup>	6/18/1946
19	Warm	334358	1101253	30 <sup>5</sup>	During or prior to 1992
20	Earl Spring # 3 <sup>2</sup>	340424	1095123	20 <sup>4</sup>	6/18/1946
21	Unnamed <sup>3</sup>	340441	1094840	20 <sup>4</sup>	6/20/1946
22	Haystack # 2 <sup>2</sup>	340450	1095052	20	6/18/1946
23	Columbine	335631	1095510	Greater than 10	6/5/2005
24	White	341109	1103055	Greater than 10	6/6/2005
25	Williams (Fish Hatchery)	340341	1094832	Greater than 10	6/5/2005
26	Unnamed <sup>3</sup>	334414	1101339	10 <sup>5</sup>	During or prior to 1982

**B. Minor Springs (1 to 10 gpm):**

Name <sup>1</sup>	Location		Discharge (in gpm) <sup>1</sup>	Date Discharge Measured
	Latitude	Longitude		
Bull Cienega	340348	1095314	2	6/20/1952

Source: Compilation of databases from ADWR & others

**C. Total number of springs, regardless of discharge, identified by USGS  
(see ALRIS, 2005a and USGS, 2006a): 624 to 822**

**Notes:**

- <sup>1</sup>Most recent measurement identified by ADWR
- <sup>2</sup>Spring is not displayed on current USGS topo maps
- <sup>3</sup>Location approximated by ADWR
- <sup>4</sup>Estimated discharge
- <sup>5</sup>Average discharge

# Arizona Water Atlas

- Executive summary volume and seven planning area volumes final and posted on website (pdf and web-format) at:

<http://www.azwater.gov/AzDWR/StatewidePlanning/WaterAtlas/>