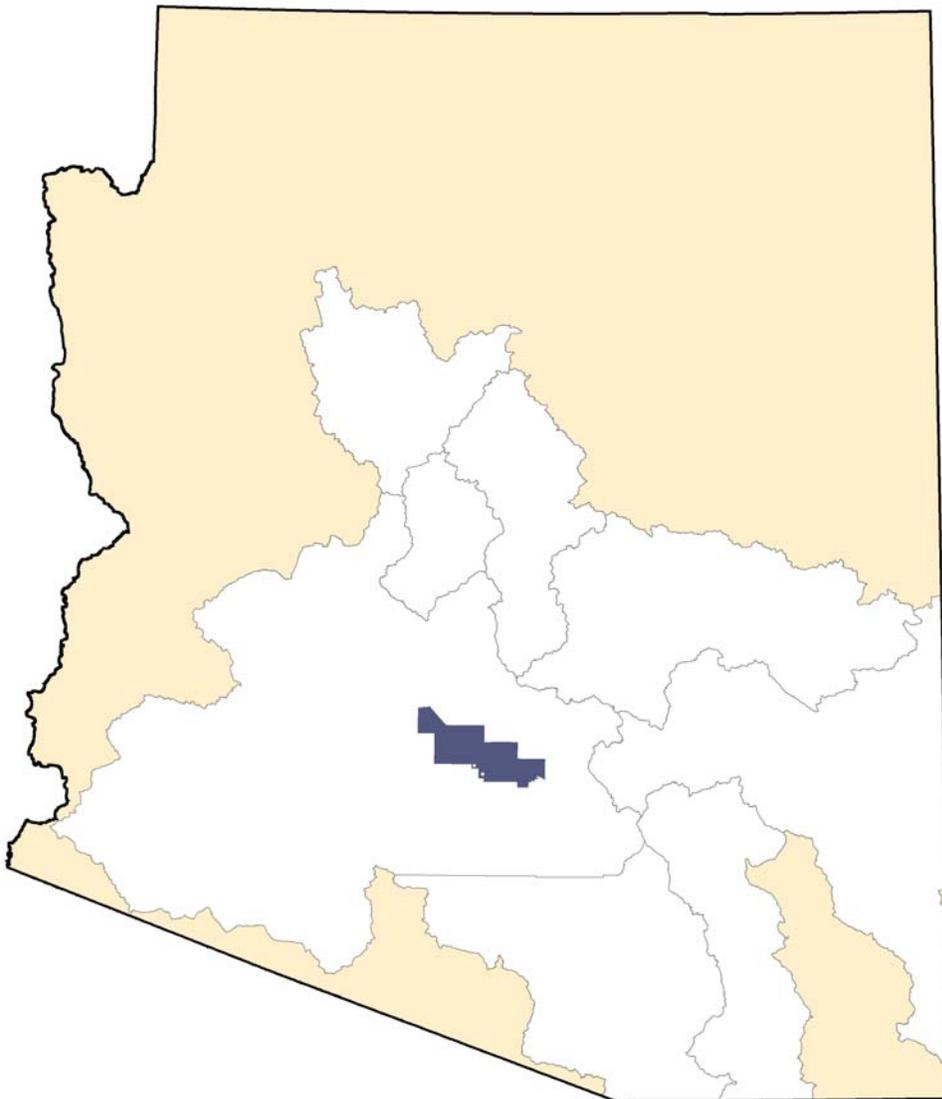


TECHNICAL ASSESSMENT OF THE GILA RIVER INDIAN COMMUNITY WATER RIGHTS SETTLEMENT

*In re The General Adjudication of the
Gila River System and Source*



Arizona Department of Water Resources

August 23, 2006

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LIST OF ACRONYMS AND TERMS OF ART

| | |
|-------------------------|--|
| ADWR | Arizona Department of Water Resources |
| AFA or AFY | Acre-feet per year |
| AMA | Active Management Area |
| AWBA | Arizona Water Banking Authority |
| AWC | Arizona Water Company |
| BHP | BHP Copper Company or BHP Billiton |
| BIA | U.S. Bureau of Indian Affairs |
| BLM | U.S. Bureau of Land Management |
| BOR | U.S. Bureau of Reclamation |
| CAIDD | Central Arizona Irrigation and Drainage District |
| CAP | Central Arizona Project |
| CAWCD | Central Arizona Water Conservation District |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. § 9601 et seq.) |
| Community or GRIC | Gila River Indian Community |
| CSIF | CAP/SRP Interconnection Facility |
| CUFA | New Mexico Consumptive Use and Forbearance Agreement |
| Development Fund | Fund established by Section 403 of the Lower Colorado River Basin Project Act (43 U.S.C. § 1543) |
| Enforceability Date | The date upon which the Secretary of the Interior publishes in the Federal Register the statement of findings required by the Settlements Act (on or before December 31, 2007) |
| FEIS | Final Environmental Impact Statement |
| FID | Franklin Irrigation District |
| Gila Court | Maricopa County Superior Court for the Gila River Adjudication (Gila River Adjudication Court) |
| Gila River Adjudication | <i>In Re the General Adjudication of All Rights to Use Water in the Gila River System and Source</i> , Nos. W-1, W-2, W-3 and W-4, Maricopa County Superior Court |
| GIS | Geographic Information System |
| Globe Equity Decree | A consent decree entered by the United States District Court in <i>United States v. Gila Valley Irrigation District</i> , Globe Equity No. 59 (D. Ariz. 1935) |
| GRIC or Community | Gila River Indian Community |
| GRIR or Reservation | Gila River Indian Reservation |
| GVID | Gila Valley Irrigation District |
| GWSI | Groundwater site inventory |

| | |
|--------------------------|---|
| Hot Lands | Non-UV Decreed Acres in the UV Impact Zone outside New Mexico irrigated between 1997 and 2001 |
| HSR | Hydrographic Survey Report |
| HVID | Harquahala Valley Irrigation District |
| INA | Irrigation Non-Expansion Area |
| MAF | Million Acre Feet |
| Major YV Landowner | An individual or entity who owns 10 or more acres of York Valley land on the initial effective date of the UVD Agreement |
| M&I | Municipal and Industrial |
| Miscellaneous Flow Lands | Lands that are not part of SCIP, but have certain water rights to the Gila River that are recognized in the Globe Equity Decree |
| MSIDD | Maricopa Stanfield Irrigation and Drainage District |
| NAIP | National Agricultural Imagery Program |
| NIA | Non-Indian agriculture CAP priority water |
| NOI | Notice of Intent to Drill, Deepen, Replace or Modify a Well |
| Non-GE 59 Water Users | Certain water users whose diversions of water are not authorized by the Globe Equity Decree |
| NRCS | U.S. Natural Resources Conservation Service |
| OM&R | Operation, Maintenance and Replacement |
| PIA | Practicably Irrigable Acreage |
| P-MIP | Pima-Maricopa Irrigation Project |
| Reservation or GRIR | Gila River Indian Reservation |
| RWCD | Roosevelt Water Conservation District |
| SCAT | San Carlos Apache Tribe |
| SCIDD | San Carlos Irrigation and Drainage District |
| SCIP | San Carlos Indian Irrigation Project |
| SCS | U.S. Soil Conservation Service |
| Secretary | U.S. Secretary of the Interior |
| Settlement Agreement | Amended and Restated Gila River Indian Community Water Rights Settlement Agreement, as amended |
| Settlements Act | Arizona Water Settlements Act enacted by Congress on December 10, 2004 (P.L. 108-45) |
| Settling Parties | Parties to the Settlement Agreement |
| SOC | Statement of Claim |
| Special Hot Lands | Land that is in the process of becoming UV Decreed Acres pursuant to a severance and transfer process |
| SRP | Salt River Project Agricultural Improvement and Power District and/or Salt River Valley Water Users' Association |
| SWReGAP | Southwest Regional Gap Analysis Project |
| TBI | Then Being Irrigated |

| | |
|--------------------------|---|
| TBI Eligible Acres | The maximum number of acres within each category of UV Subjugated Lands that may be irrigated in any given year as determined by a committee of technical representatives established under the UVD Agreement |
| TDS | Total dissolved solids |
| USGS | U.S. Geologic Survey |
| UVD | A person or entity, other than SCAT, holding UV Decreed Water Rights with points of diversion upstream and east of Coolidge Dam for use on UV Decreed Acres |
| UV Decreed Lands (acres) | Lands located upstream and to the east of Coolidge Dam, but not including the San Carlos Apache Reservation or the Article VI(2) UV Apache Land described in the Globe Equity Decree |
| UV Decreed Water Rights | Rights to divert water on UV Decreed Acres under the Globe Equity Decree |
| UV Irrigation Districts | FID and GVID |
| UV Non-Signatories | UVDs that are diverting or using water in the valleys and land upstream and to the east of Coolidge Dam (not including the San Carlos Apache Reservation) where UV Decreed Acres and Hot Lands are located, but not including a major YV landowner who has not signed the UVD Agreement |
| UV Pumped Water | Water pumped from within the UV Impact Zone for use on TBI Eligible Acres |
| UV Signatories | FID, GVID, various canal companies and other signatories to the UVD Agreement. |
| UV Subjugated Lands | Certain lands with the UV Irrigation Districts, lands in New Mexico served by the NM New Model Community Ditch Association and the Sunset Ditch Company, York Valley Lands, and Special Hot Lands |
| UV Surface Water | Water diverted from the Gila River pursuant to the Globe Equity Decree, but not UV Pumped Water |
| WQARF | Water Quality Assurance Revolving Fund (A.R.S. § 49-281 et seq.) |
| WWTP | Waste Water Treatment Plant |
| York Valley Lands | UV Decreed Acres located in Arizona, but not in the UV Irrigation Districts |

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CHAPTER 1: INTRODUCTION

This report concerns a proposed settlement of water rights for the Gila River Indian Community (GRIC or “Community”), and the United States on behalf of the Community, its members and allottees (“United States”). The proposed settlement is under consideration in a proceeding entitled *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, Nos. W-1, W-2, W-3, and W-4, pending in the Maricopa County Superior Court (“Gila River Adjudication”). As requested by the Gila River Adjudication Court (“Gila Court”), this report contains a factual analysis and technical assessment of the proposed settlement.

On October 21, 2005, certain parties to the Gila River Adjudication agreed upon the terms of a settlement agreement (“Settling Parties”)¹ known as the “Amended and Restated Gila River Indian Community Water Rights Settlement Agreement,” which was later amended by Amendment No. 1 (“Settlement Agreement”). The Settlement Agreement is included in **Appendix A-1**.² The Settlement Agreement includes several additional agreements among some of the Settling Parties, maps and other documents related to the settlement, which are included in **Appendix B**. The Settlement Agreement and related agreements are summarized in **Chapter 3**.³ The location of the Settling Parties is depicted in **Figure 1-1**.

¹ The Settling Parties are the United States of America; State of Arizona; Gila River Indian Community; Salt River Project Agricultural Improvement and Power District; Salt River Valley Water Users’ Association; Roosevelt Irrigation District; Roosevelt Water Conservation District; Arizona Water Company; Arizona cities of Casa Grande, Chandler, Coolidge, Glendale, Goodyear, Mesa, Peoria, Phoenix, Safford, Scottsdale, and Tempe; Arizona towns of Florence, Mammoth, Kearny, Duncan and Gilbert; Maricopa-Stanfield Irrigation and Drainage District; Central Arizona Irrigation and Drainage District; Franklin Irrigation District; Gila Valley Irrigation District; San Carlos Irrigation and Drainage District; Hohokam Irrigation and Drainage District; Buckeye Irrigation Company; Buckeye Water Conservation and Drainage District; Central Arizona Water Conservation District; Phelps Dodge Corporation; and Arizona Game and Fish Commission. Execution by the Governor for the State of Arizona constitutes the state’s commitment to carry out certain terms and conditions of the Settlement Agreement, with certain limitations. Settlement Agreement, ¶ 30.4. According to information available to ADWR, the Settlement Agreement has not yet been fully executed.

² A copy of Amendment No. 1 is included in **Appendix A-2**. Amendment No. 1 addresses errors and omissions in two of the related agreements, Exhibits 26.1 and 26.2.

³ These documents are voluminous. Electronic copies of the documents referred to in **Appendices A and B**, as well as other **Appendices**, are on a disk found at the end of this report.

The purpose of the Settlement Agreement is to resolve litigation involving claims by the GRIC⁴ and the United States to waters of the Gila River System and Source. This includes the watersheds for the Lower Gila River, Upper Gila River, San Pedro River, Verde River, Upper Salt River, Upper Santa Cruz River, and Agua Fria River. These claims are summarized in **Chapter 4** of this report. The Settlement Agreement is also intended to resolve enforcement actions regarding the interpretation and enforcement of the Globe Equity Decree.⁵ Settlement Agreement, ¶ 1.1. The resolution of the disputes among the Settling Parties involves both state and federal law.

On December 10, 2004, Congress enacted the Arizona Water Settlements Act (“Settlements Act”), which is included in **Appendix C**. P.L. 108-45. The Settlements Act consists of the Central Arizona Project Settlement Act of 2004 (Title I), the GRIC Water Rights Settlement Act of 2004 (Title II), and the Southern Arizona Water Rights Amendments Act of 2004 (Title III).

In Title II of the Settlements Act, Congress authorized, ratified, and confirmed a 2003 agreement concerning the settlement of the GRIC’s water rights, to the extent that it did not conflict with the provisions of the Settlements Act. § 203(a). Subsequently, the 2003 agreement was amended and restated to conform to the Settlements Act as set forth in **Appendix A-1**.

Under Title II of the Settlements Act, the Settlement Agreement becomes enforceable on or before December 31, 2007 (“Enforceability Date”). The Enforceability Date is the date that the United States Secretary of the Interior (“Secretary”) publishes the statement of findings required by the Settlements Act in the Federal Register. § 207(c). The findings required by the Settlements Act are discussed in **Chapter 3** of this report.

By application and stipulation of the Settling Parties filed on May 24, 2006, the Settling Parties requested that the Gila Court enter a Judgment and Decree that approves the Settlement Agreement and adjudicates the water rights of the Community and the United States in the Gila River System and Source. Copies of the Settling Parties’

⁴ GRIC includes the government composed of members of the Pima Tribe and the Maricopa Tribe organized under section 16 of the Act of June 18, 1934 (25 U.S.C. § 476). Settlement Agreement, ¶ 2.85.

⁵ The Globe Equity Decree is a consent decree that was entered by the U.S. District Court in *United States v. Gila Valley Irrigation District*, Globe Equity No. 59 (D. Ariz., 1935) concerning, among others, the rights to divert water for use on the Gila River Indian Reservation.

application, stipulation and proposed Judgment and Decree are included in **Appendices D-1, D-2 and D-3**, respectively.

On May 24, 2006 the Gila Court entered an “Order for Special Proceedings to Approve an Indian Water Rights Settlement and Stipulation” (“Order for Special Proceedings”), which is included in **Appendix E**. Attached to the Order are copies of the Settling Parties’ Description of the Proposed Water Rights and Other Settlement Agreement Terms (**Appendix E-1**); an administrative order of the Arizona Supreme Court dated May 16, 2001 that authorizes special procedures for the approval of settlements of Indian water rights and water rights for other federal reservations or lands (**Appendix E-2**); and the Notice of Proposed Settlement required to be mailed by the Settling Parties to all claimants in the Gila River Adjudication (**Appendix E-3**). This notice provides information concerning the proposed settlement; related court proceedings; the location of copies of the settlement documents; the dates and locations of three public meetings to discuss the proposed settlement,⁶ and the objection deadline (October 10, 2006).

Consistent with the Arizona Supreme Court’s administrative order, as part of the Order for Special Proceedings, the Gila Court requested that the Arizona Department of Water Resources (ADWR) prepare a technical report containing the following information concerning the proposed settlement: (1) a review of the terms of the Settlement Agreement; (2) a summary of the statements of claimant filed by or on behalf of the GRIC in the Gila River Adjudication; (3) a brief description of the history, physical characteristics, and natural resources of the Community and its reservation, including an estimate of arable acreage; (4) whether there is a reasonable basis for the Gila Court to conclude that the water rights of the GRIC and the United States under the Settlement Agreement are no more extensive than the water rights that could have been proven at trial, with a reasonable probability; (5) whether there is a reasonable basis for the Gila Court to conclude that the water rights of the GRIC and the United States under the Settlement Agreement, from sources subject to the jurisdiction of the Gila Court, are no

⁶ These meetings are scheduled for September 12, 2006 in Phoenix; September 13, 2006 in Casa Grande; and September 14, 2006 in Safford.

more extensive than the water rights that could have been proven at trial, with a reasonable probability; (6) likely changes in the total amount of water resources in the Gila River System and Source; (7) whether the proposed settlement causes material injury to the water rights of categories of other claimants in the Gila River Adjudication; (8) the likely impact upon the rights to use groundwater underlying or in the vicinity of the Gila River Indian Reservation (GRIR or “Reservation”) and upon the groundwater regulatory program administered by ADWR; and (9) other important impacts or consequences. Order for Special Proceedings, p. 6, ¶ 4. As requested by the Gila Court, ADWR prepared this technical report based on the documents filed by the Settling Parties, as well as additional information provided by the Settling Parties during ADWR’s preparation of the report. Numerous acronyms and terms of art are used throughout this report, the most common of which are listed separately in the front of this report.

CHAPTER 2: BRIEF DESCRIPTION OF THE HISTORY, PHYSICAL CHARACTERISTICS, AND NATURAL RESOURCES OF THE GRIR

This chapter provides background information on the Gila River Indian Reservation and the Gila River Indians who live there. Described briefly below is the history of the Reservation, its physical characteristics, and natural resources.

2.1 GEOGRAPHY AND CLIMATE

The GRIR covers about 580 square miles or approximately 373,000 acres (EcoPlan, 1997) and is located in Central Arizona, just south of the Phoenix metropolitan area in Maricopa and Pinal Counties (**Figure 1-1**). The Reservation is inhabited by descendants of the Pima and Maricopa Indians, who today comprise the Gila River Indian Community or GRIC (Franzoy, 1985). The capital of the Reservation is Sacaton and major roads in the area include Interstate Highway 10 (I-10), which connects Phoenix and Tucson, and State Routes 87, 187, 287, 347, and 587.

The GRIR lies within the Basin and Range Lowlands Province, which is characterized by wide valleys set between steep, fault-block mountain ranges that trend north and west (Gookin, 2000). The Reservation is located in the Gila and Salt River Valleys and bounded by four mountain ranges. The Gila Valley is narrowest between the South Mountains and the Sierra Estrella in the northwest corner of the Reservation, near the confluence of the Gila and Salt Rivers. The San Tan and Sacaton Mountains border the eastern side of the Reservation.

The Gila River bisects the Reservation and the Salt River forms its northwest boundary. Surface water on the GRIR generally flows towards the Gila River and then drains off to the northwest through natural washes, rivers, and manmade channels (Franzoy, 1985). Historically, the main source of water for irrigation on the Reservation has been surface water diverted from the Gila River (ADWR, 1999).

The population on the GRIR has increased from 7,380 in 1980 to 11,257 in 2000, equivalent to an annual growth rate of 2.1% over the 20 years (Census, 2006). In 2003, members of the Community living both on- and off-reservation were reported to total 16,985, with several members living off-reservation. The Community predicts that the on-reservation population will reach 58,500 by 2100, with many of its off-reservation members returning (GRIC, 2003a).

The climate of the region is typical of low-elevation, southwestern deserts with short, mild winters and long, hot summers. June and July are generally the hottest months, while December is the coldest. Average maximum and minimum temperatures are 87°F and 51°F, respectively. The average annual precipitation at Sacaton is 8.17 inches, with a maximum-recorded annual rainfall of 17.21 inches and a minimum recorded rainfall of 4.29 inches (EcoPlan, 1997).

2.2 EARLY HISTORY OF THE TRIBE

The GRIC is inhabited by the descendants of two tribes of agrarian people - the Pimas (Akimel O’odham or “River People”) and the Maricopas (Pee-Posh or “The People”). The two tribes have been living together on the Reservation for about 150 years but are descended from different linguistic families (EcoPlan, 1997). By some accounts, the area has been occupied and irrigated for at least 1,000 years (Dobyns, 2000).

The Pimas are ancient inhabitants of the Sonoran Desert who practiced irrigated agriculture and horticulture along the Gila and Salt Rivers (Angel, 1999). There is evidence that the predecessors of the Pima Indians, the Hohokam, inhabited the Casa Grande ruins which are located just outside the eastern boundary of the current Reservation, as well as the lesser ruins of Casa Blanca, Sweetwater, and Snaketown within the Reservation (Hayden, 1924 and Fewkes, 1909). Whether these early dwellers were of a different race entirely or were forbearers of the Pimas is the subject of debate (Fewkes, 1909 and Russell, 1904). There is, however, agreement among historians that the Pimas lived and farmed in the Gila River Valley long before the arrival of the first

Anglo settlers (ADWR, 1999). Past inhabitants have left physical evidence of their existence in the form of remnants of villages, ballcourts, pottery, irrigation systems, and other archaeological and historical materials (Franzoy, 1985).

Not as much is known about the Maricopas who were also a river dwelling people who practiced irrigation (Franzoy, 1985). Due to threats from other Indian tribes and Mexican slave runners, they migrated from the Yuma area during the 18th century and inhabited the Maricopa Colony, located near the junction of the Salt and Gila Rivers (ADWR, 1999).

There are historic accounts of irrigation practices in the area before 1859, when the Reservation was first established, but little information on the types of crops grown or the acreage irrigated (ADWR, 1999). The earliest accounts of the Pimas and the territory in which they lived are contained in old reports and narratives of the Spanish missionaries who lived and traveled in the Sonora Province of Mexico as early as 1538. At the beginning of the 18th century, Spanish explorers reported Pima and Maricopa Indians irrigating lands on both sides of the Gila River and inhabiting the area from near present-day Coolidge downstream to about 50 miles east of Yuma, near the Mohawk Mountains (Franzoy, 1985).

In 1767, Father Ignatz Pfefferkorn, a Jesuit priest, observed the following regarding the Indians who lived along the Gila River:

This tribe is divided into three populous divisions; the strongest of these occupies a beautiful stretch of land 14 miles long, well planted with trees. The land is irrigated by a water system or irrigation ditches. In the region where this river flows into the Gila conditions are very agreeable; it is perfectly level, the soil very good and calculated to bring forth all kinds of grains and plants. On both sides of these two rivers we find the Cocomaricopas (Hayden, 1924).

In 1914, Charles H. Southworth, an engineer with the U.S. Indian Irrigation Service, completed a survey of irrigated lands on the GRIR. **Figure 2-1** is a reproduction of Southworth's survey, which displays the lands he identified as being irrigated prior to and during 1914. He found approximately 13,700 acres being actively irrigated in 1914 and approximately 12,400 acres of previous cultivation. Summarized below are the crop

types and acreages that Southworth (1915) identified during his survey. By assuming a relatively inefficient irrigation system and accounting for the different irrigation requirements and acreages of each crop, ADWR (1999) estimated that the average water duty for the Reservation in 1914 was about 8.7 acre-feet per acre and the net irrigation demand was about 120,000 acre-feet per year.

**SUMMARY OF ACTIVE IRRIGATED ACREAGE
ON THE GRIR IN 1914 (ADWR, 1999)**

| CROP TYPE | ACREAGE¹ | PERCENTAGE OF ACREAGE |
|---------------------|----------------------------|------------------------------|
| Grain | 10,989 | 80% |
| Alfalfa | 1,161 | 8% |
| Corn | 1,059 | 8% |
| Pasture | 275 | 2% |
| Cotton | 164 | 1% |
| Mixed Vegetables | 59 | <1% |
| Orchard | 12 | <1% |
| Beans | 8 | <1% |
| Sudan Grass | 5 | <1% |
| <i>TOTAL</i> | <i>13,732</i> | <i>100%</i> |

¹ ADWR (1999) digitized a copy of Southworth's maps to determine the acreage for each crop type and calculated their percentage of the total cropped acreage. Crop types with very low acreages have been assigned a percentage of <1% based on the residual of the major crop types. Southworth's maps did not identify acreage associated with melons.

As part of his survey, Southworth interviewed George Pablo, an elderly Indian resident of the Reservation. Based on the interview, a sketch was prepared that represented the irrigated areas on the Reservation that Mr. Pablo remembered “just prior to the coming of the white man.” **Figure 2-2** is a reproduction of the sketch and shows the total area under cultivation at that time was about 23,400 acres (ADWR, 1999). Southworth (1915) identified a total of 39 irrigation ditches within the Reservation that had diverted water from the Gila River. Eight of the ditches were of “ancient construction” and the others were rebuilt on old locations or newly built between 1848 and 1914.

2.3 ESTABLISHMENT OF THE RESERVATION AND IRRIGATION DEVELOPMENT

The lands that the GRIR currently occupy were acquired by the United States from Mexico through the Treaty of Guadalupe Hidalgo in 1848, and through the Gadsden Purchase between 1853-1854 (Dobyns, 2000). The Reservation was established by an Act of Congress on February 28, 1859 and, at that time, it covered an area of about 100 square miles (Franzoy, 1985). In 1867, non-Indian settlers began to divert water from the Gila River upstream of the GRIR and, by 1871, enough water was being diverted for the river to run dry during the planting season (EcoPlan, 1997). By 1872, it is estimated that 1,872 settlers were living upstream of the Reservation and diverting water from the Gila River for irrigation (U.S. Congress, 2003).

From 1876 through 1883, the GRIR was expanded seven times by Executive Orders from five presidents. During this period, the area of the Reservation grew from 100 square miles to approximately 580 square miles. These expansions are shown in **Figure 2-3** and described below.

The first expansion of the GRIR occurred by Executive Order on August 31, 1876 and added 9,200 acres to the east side of the Reservation. Federal officials advocated the expansion as a means of mitigating the shortage of surface water reaching the Reservation (Dobyns, 2000).

The second expansion occurred by Executive Order on June 14, 1879 and added 32,000 acres to the GRIR along the north bank of the Gila River, south of the Salt River. This expansion protected areas recently settled by the Pimas and Maricopas who had left the Reservation due to dwindling water supplies (Angel, 1999).

The third expansion occurred by Executive Order on May 5, 1882 and added approximately 23,500 acres of land to the Reservation south of the Gila River, below the 1879 extension. Like previous expansions, this one also followed settlement patterns and incorporated Pima and Maricopa farmlands that had recently been occupied due to diminishing water (Angel, 1999).

The fourth expansion occurred by Executive Order on November 15, 1883 and was the largest, adding more than 230,000 acres (Angel, 1999). In this case, the purpose of the expansion was to incorporate grazing lands into the Reservation that the Pimas and Maricopas were already using, and preserve mesquite habitat that was considered important for their cultural uses (Angel, 1999).

To address the problem of continued water shortages, between 1903 and 1905 the federal government began pumping water on the Reservation for irrigation and provided the tribes with funds to improve their existing irrigation systems and construct new ones. However, these efforts were not enough to solve the shortage problem (EcoPlan, 1997 and Dobyns, 2000) and on June 11, 1903, Judge Kent issued a decree in *United States v. Haggard*, that adjudicated the right of the Maricopa Indians to irrigate approximately 1,080 acres of land with water from the Salt River. In 1917, the Haggard Decree was modified by the Benson-Allison Decree, which adjudicated water rights for lands near the confluence of the Salt and Gila Rivers that were not included in the original Haggard Decree. Both decrees addressed nearby non-Indian irrigators diverting water from the Salt River that had previously been used by the Indians (U.S. Congress, 2003). The Haggard Decree is described further in **Chapter 3** of this report.

The fifth expansion of the GRIR occurred by Executive Order on July 31, 1911 and added approximately 1,800 acres to the southeastern end of the Reservation to address encroachment from non-Indian settlers in that area (Angel, 1999). The sixth

expansion occurred by Executive Order on June 1, 1913, the year after Arizona was granted statehood. This expansion added approximately 7,500 acres to the south-central corner of the Reservation where valuable pasture was located. Two sections in this area remained State Trust Land and are clearly shown in **Figure 2-3** (Angel, 1999 and Dobyns, 2000). The seventh and final expansion occurred by Executive Order on July 19, 1915 and added approximately 4,400 acres to the GRIR to mitigate non-Indian encroachment on southern Reservation lands (Angel, 1999).

On May 18, 1916, Congress authorized the Bureau of Indian Affairs (BIA) to construct a diversion dam on the Gila River upstream from Florence, Arizona. The Ashurst-Hayden Dam was completed in 1921 as part of the Florence-Casa Grande Project. The purpose of the project was to irrigate from the natural flows of the Gila River lands on the GRIR and private and public lands in Pinal County (Ch. 125, 39 Stat. 123-131). Three years later, on June 7, 1924, Congress authorized that Coolidge Dam be constructed across the Gila River upstream of the Ashurst-Hayden Dam near San Carlos, Arizona. This project was known as the San Carlos Indian Irrigation Project or SCIP, and the dam was completed in 1928 with the primary purpose of “providing water for the irrigation of lands allotted to the Pima Indians on the (GRIR)...” (Ch. 288, 43 Stat. 475). Pursuant to the Congressional Act that authorized the dam, and under a separate agreement between the government and private landowners within the present boundaries of the San Carlos Irrigation and Drainage District (SCIDD), water stored behind Coolidge Dam is used for the irrigation of 50,000 acres within the GRIR and 50,000 acres within SCIDD (U.S. Congress, 2003).

In 1925, the United States, on behalf of the Indians of the GRIR, the San Carlos Apache Tribe (SCAT), SCIDD landowners, and others, sued upstream water users in the Safford and Duncan Valleys, along with all other users of water from the Gila River from its confluence with the Salt River upstream to the Virden Valley in New Mexico. The suit, which became known as the Globe Equity litigation, sought among other things to establish the prior rights of the Indians on the GRIR and the newly created SCIP to use water from the Gila River (U.S. Congress, 2003). In 1935, the U.S. District Court entered the Gila River (Globe Equity No. 59) Decree that recognized that the United

States, on behalf of the Indians of the GRIR, is entitled to annual diversions of water from the Gila River (U.S. Congress, 2003).

In 1934, the Gila River Indian Community or GRIC was organized. In 1939, it was formally founded by constitution.

2.4 CURRENT RESERVATION LANDS

Land use on the GRIR has historically been concentrated along the Gila River Valley where residences border fields used for agricultural purposes. The mountains, buttes, rivers, and washes on the Reservation have remained largely undeveloped (Franzoy, 1985).

Figure 2-4 shows the location of current land uses on the GRIR as determined by ADWR for this report. To identify current agricultural and non-agricultural areas on the Reservation, ADWR analyzed 1994 and 2000 land classification data from the GRIC Hydrographic Survey Report (ADWR, 1996) and the Southwest Regional Gap Analysis Project (SWReGAP, 2004), in combination with 2005 aerial photography from the National Agriculture Imagery Program (NAIP). The prior land classifications were compared and updated, as necessary, with the recent NAIP imagery. Acreages were then calculated from the new land use dataset. Note that the agricultural areas shown on the figure include irrigation ditches, service roads, and farm buildings that are located immediately adjacent to the fields but are not used as cropland.

Summarized below are recent acreage estimates for land uses on the GRIR. These estimates are based on data from the GRIC (2003b) and EcoPlan (1997), as well as a previous survey by ADWR (1996) and the new ADWR analysis described above.

SUMMARY OF CURRENT LAND USES ON THE GRIR

| DATA SOURCE | LAND USE TYPE | ESTIMATED ACREAGE |
|---------------------------|---|--------------------------|
| ADWR 2006 Analysis | Agriculture plus associated reservoirs (includes croplands plus irrigation ditches and canals, service roads, farm buildings, etc.) | 68,200 |
| EcoPlan, 1997 | Developed Irrigated Lands | 66,000 |
| ADWR, 1996 | Agriculture plus associated reservoirs (includes croplands plus irrigation ditches and canals, service roads, farm buildings, etc.) | 70,140 |
| ADWR 2006 Analysis | Municipal, Industrial, Commercial, and Cultural Plus Associated Reservoirs | 7,400 |
| GRIC, 2003b | “Non-Agricultural Use” | 13,800 |
| ADWR, 1996 | Municipal, Industrial, Commercial and Cultural Plus Associated Reservoirs and Transportation Corridors | 12,700 |
| | Municipal, Industrial, Commercial and Cultural Plus Associated Reservoirs | 5,700 |

Due to the hot, dry climate and low rainfall, agricultural production on the GRIR relies on irrigation. The irrigation systems on the Reservation have been constructed, operated, and maintained by the BIA. Currently, the main sources of irrigation water for the Community are surface water from the Gila River and San Carlos Reservoir, tailwater from Salt River Valley farming operations, CAP water and effluent, and water from wells. EcoPlan (1997) estimated that approximately 66,000 acres have been developed for irrigated agriculture on the GRIR, including 39,000 acres of SCIP lands and 27,000 acres located elsewhere on the Reservation. This compares well with ADWR’s estimate of agricultural acreage in 1996 and 2006.

Lands currently used for non-agricultural purposes on the GRIR probably total about 14,000 acres based on the data compiled above. Not including lands developed for transportation, ADWR estimates that municipal, industrial, and commercial uses on the Reservation have increased from about 5,700 acres in 1994 to about 7,400 acres today.

Three industrial parks have been developed on the GRIR that are home to a variety of light and heavy industries, as well as a championship golf course (Whirlwind), a resort and spa (Sheraton Wild Horse Pass), and three casinos (Wild Horse Pass, Lone Butte, and Vee Quiva) (GRIC, 2006). Due to fewer constraints on assembling parcels for development, most of these industrial and commercial uses have occurred on tribal lands rather than on allotments, which are privately owned by community members.

Figure 2-5 shows the location of tribal and allotted lands on the GRIR and summarized below are acreages for each and the current number of allotments. Allotments account for 26% of the total acreage of the Reservation, and reportedly, 37% of the allotted lands are under agricultural lease compared with only 2% of tribal lands (Franzoy, 1985).

**SUMMARY OF LAND OWNERSHIP
(ECOPLAN, 1997)**

| OWNERSHIP | ACRES | NUMBER OF ALLOTMENTS |
|---|-----------------------|----------------------|
| Tribal lands | 275,537 | ---- |
| Land owned privately by Community Members (Allotments) | 97,392 | 5,000 |
| <i>Total Reservation</i> | <i>372,929</i> | 5,000 |

CHAPTER 3: SUMMARY OF THE SETTLEMENT AGREEMENT

This chapter provides an overview of the terms of the Settlement Agreement. In addition to the main provisions of the Settlement Agreement, also included in this chapter are summaries of related agreements, including agreements among various Settling Parties that are included as exhibits to the Settlement Agreement. There are a total of 76 exhibits to the Settlement Agreement including maps, graphs, legal descriptions, separately executed waivers of claims and other documents. The exhibits are listed in paragraph 3.1 of the Settlement Agreement.

As stated in **Chapter 1**, the Settlement Agreement becomes effective on the Enforceability Date upon publication of certain findings in the Federal Register on or before December 31, 2007. The enforceability conditions that must be satisfied are described below in **Section 3.8**.

3.1 PROPOSED WATER RIGHTS FOR THE GRIC (GRIC WATER BUDGET)

Paragraph 4 of the Settlement Agreement describes the water rights that will be available to the Community and the United States on behalf of the Community and allottees. These rights will be held in trust by the United States (“GRIC Water Budget”). ¶ 4.1.¹ The water rights in the budget are neither an annual limit nor a guarantee of a water supply. ¶ 4.1.2. The water supplies in the GRIC Water Budget are subject to their availability, and several of the water rights will have a diminished volume in times of extended drought. As described below, some of the water rights listed in the budget are rights already held by the Community, and others are new water rights that will be available on the Enforceability Date.

¹ Unless otherwise noted, paragraph references in this chapter are to the Settlement Agreement, which is found in **Appendix A**. Exhibit references are found in **Appendix B**.

The components of the GRIC Water Budget are presented in paragraph 4.1 of the Settlement Agreement and in the following table. This table contains several acronyms and terms of art that are defined at the front of this report and below.

GRIC WATER BUDGET

| SOURCE | AMOUNT (ACRE-FEET PER YEAR) | PARAGRAPH/EXHIBIT NUMBERS |
|---|--------------------------------|------------------------------|
| Community CAP Indian Priority Water | 173,100 AFY | ¶ 8.3.1 |
| RWCD CAP Water | 18,600 AFY | ¶ 8.3.3 |
| HVID CAP Water | 18,100 AFY | ¶ 8.3.5 |
| Asarco CAP Water ^a | 17,000 AFY | ¶ 8.3.4 |
| New CAP NIA Priority Water | 102,000 AFY | ¶ 8.3.2 |
| Underground Water | 156,700 AFY | ¶ 5.0 |
| Globe Equity Decree Water | 125,000 AFY | ¶ 6.0 |
| Haggard Decree Water | 5,900 AFY | ¶ 7.0; Exh. 7.1 |
| RWCD Surface Water | 4,500 AFY | ¶ 9.0; Exh. 9.1 |
| SRP Stored Water ^b | 20,000 AFY | ¶ 12.0 |
| Chandler Contributed Reclaimed Water | 4,500 AFY | ¶ 18.0; Exh. 18.1 |
| Mesa Reclaimed Water Exchange Premium | 5,870 AFY | ¶ 18.0; Exh. 18.1 |
| Chandler Reclaimed Water Exchange Premium | 2,230 AFY | ¶ 18.0; Exh. 18.1 |
| TOTAL (estimated average) | 653,500 AFY | |

^a The availability of this water is subject to the completion of an exchange agreement and settlement between the Community and Asarco.

^b Under paragraph 12.13, SRP conditionally agreed to provide an average of 500 AFY of water stored in Blue Ridge Reservoir to the Community. Under certain conditions, the amount of water provided by SRP will increase to 20,500 AFY, and the amount of underground water will be reduced to 156,200 AFY.

The Community and the United States may not divert² more than an estimated average of 653,500 AFY of water for use on the GRIR, as determined for any period of 10 consecutive years. ¶ 4.2.1. With certain exceptions described below, this ten year

² Diversions include receiving, withdrawing or developing and producing or capturing groundwater, surface water, CAP water, or effluent by mechanical device or human act. ¶ 2.62.

rolling average applies to all water sources, regardless of whether those sources are part of the GRIC Water Budget. ¶ 4.2. Mandatory compliance with the rolling ten year average limitation is not required until the completion of a build-out period.³ ¶ 4.5. In addition, as long as the ten year average for diversions from all sources is not exceeded, the GRIC and the United States may divert underground water in amounts that exceed 156,700, subject to certain limitations during the build-out period. ¶ 4.2.2.

Under the Settlement Agreement, not all uses of water on the Reservation will be treated as diversions for purposes of the GRIC Water Budget. During the build-out period, the following will be counted toward budget compliance: (1) CAP water that is actually delivered, (2) CAP water leased to others, and (3) certain CAP water delivered by the GRIC in exchange for other water. ¶ 4.5.1. The build-out period also places an annual limit of 190,000 acre-feet on the amount of underground water that may be diverted. ¶ 4.5.2.

After the build-out period, the following will be counted for budget compliance, subject to certain limitations and exceptions: (1) water diverted from sources listed in GRIC Water Budget, including water used in exchange for other water, (but not reclaimed water exchange premium water); (2) CAP water leased to others; (3) CAP water available for delivery, even if the Community chooses not to order and use that water supply; (4) Mesa and Chandler reclaimed water; (5) water used on the GRIR diverted from any source; and (7) all New Mexico CAP water delivered to the GRIC under the New Mexico Consumptive Use and Forbearance Agreement, which is described below in **Section 3.9.16**. ¶¶ 4.3.1 to 4.3.8. The exceptions to the GRIC Water Budget calculation are included in a detailed listing of water supplies that the Community may obtain and use in the future. ¶¶ 4.4.1 to 4.4.17.

³ The build-out period is defined as “the period beginning on the Enforceability Date and ending on the earlier of: (1) January 1, 2025, or (2) December 31 of the Year in which Congress has appropriated or the Secretary has otherwise identified, set aside and made available for use by the Community, all amounts to be provided to the Community pursuant to the Community Repayment Contract.” ¶ 2.22.

All water diversions must be measured and reports must be filed annually with the Gila Court. The report must show all amounts of water by source diverted during and after the build-out period, and all amounts of water diverted under one of the enumerated exceptions. ¶ 4.6.

3.2 CATEGORIES OF WATER RIGHTS

Figure 3-1 is a flow chart that shows the 13 categories of water rights described in the GRIC Water Budget. The GRIC Water Budget includes five categories of CAP water, one category of underground water, four categories of surface water rights, and three categories of reclaimed water. This water will be available to the Community as depicted in **Figure 3-1**. Each of these categories is discussed below.

3.2.1 Central Arizona Project (CAP) Water

The Central Arizona Project (CAP) is a reclamation project that was authorized and constructed by the United States under the Colorado River Basin Project Act.⁴ ¶ 2.23. The Secretary allocates CAP water for delivery under certain contracts and subcontracts upon consultation with ADWR. A.R.S. § 45-107. CAP water is currently delivered to the Community under a 1992 contract with the Secretary, and those deliveries will increase under the Settlement Agreement.

CAP water comprises the largest component of the GRIC water budget totaling 328,800 AFY. As further described below, the CAP water consists of Community CAP Indian Priority Water, RWCD CAP Water, HVID CAP Water, Asarco CAP Water, and CAP Non-Indian Agriculture Water (collectively, “Community CAP Water”). ¶ 4.1. The Community may use Community CAP Water on or off the Reservation for Community purposes. ¶ 8.9. This allocation of CAP water will make GRIC the largest individual contractor for CAP water representing about 23% of the total of all CAP contract entitlements.⁵

⁴ 43 U.S.C. §§ 1521 *et seq.* (1968).

⁵ Arizona Water Settlement Agreement dated August 16, 2004 (“Master Agreement”). (Exh. 8.1).

The United States is responsible for the design and construction of new facilities to deliver the Community CAP Water, at its own cost, from the existing CAP system.⁶ ¶¶ 8.1, 8.8. Deliveries of Community CAP water will be subject to a water delivery contract that conforms to certain provisions of paragraph 8.0 of the Settlement Agreement, including the shortage sharing criteria described below (“Community Water Delivery Contract”).⁷ ¶¶ 8.2, 8.3. Under this contract, the Secretary agrees to make deliveries of the Community CAP Water up to 311,700 AFY. This amount does not include Asarco CAP M&I Priority Water, which is not yet available. ¶ 4.1; Exh. 8.2, ¶¶ 5.1, 5.4.

With the approval of the Secretary, the Community may lease or exchange Community CAP Water within certain counties, or enter into lease or exchange options, and the Community shall be entitled to receive compensation therefor. ¶¶ 8.5, 8.7. Leases and lease options may not exceed a term of 100 years. ¶ 8.5. Before the Community CAP Water is delivered, certain CAP water delivery charges must be paid by the appropriate entity to the Central Arizona Water Conservation District (CAWCD), which is the state agency responsible for the care, operation and maintenance of the CAP system. ¶¶ 2.31, 8.11.1 to 8.11.3, 8.12. Under certain conditions, water deliveries may be reduced or suspended. ¶¶ 8.14, 8.15. Community CAP Water may not be used outside the State of Arizona. ¶ 8.6.

In the event that there is a shortage of water in the CAP system to satisfy certain entitlements, deliveries of CAP water will be reduced according to a complex system of shortage sharing criteria described in the Settlement Agreement. ¶¶ 8.16, 8.17. Under these criteria, the highest priority is a shared priority for certain Indian and M&I uses, and the lowest priority is non-Indian agriculture (NIA) water. ¶¶ 8.16.2, 8.16.3.3. The Secretary will include similar shortage sharing provisions in new Indian contracts or any amended contracts that increase the term or quantity of water. ¶ 8.16.4.5. These provisions will not apply, however, to the renewal of any Indian contract existing on

⁶ Both SRP and RWCD have agreed to assist with deliveries of CAP water to the GRIC through their existing infrastructure. See **Sections 3.9.1 and 3.9.4.**

⁷ This contract includes the existing 1992 contract with the Secretary for the delivery of CAP Indian Priority Water to the Community, and the amendments described in Exh. 8.2.

December 31, 2002, or certain water acquired for the Ak-Chin and Salt River Pima-Maricopa water rights settlements. ¶¶ 8.16.4.6, 8.16.5.

Community CAP Indian Priority Water

Community CAP Indian Priority Water refers to the 173,100 acre-feet of Colorado River water that the Community is entitled to receive under its existing CAP contract with the Secretary dated October 22, 1992. ¶ 8.3.1. These deliveries will be subject to the Community Water Delivery Contract, which will supersede and replace the 1992 contract on the Enforceability Date. Exh. 8.2, ¶ 11.1.

Under certain terms and conditions, the Community will lease 12,000 AFY of its CAP Indian priority water to Phelps Dodge, with an option for Phelps Dodge to lease another 10,000 AFY. Exh. 10.1. The Community will also lease 41,000 acre-feet of its CAP Indian priority water to certain cities under CAP lease agreements. Exh. 17.1A to 17.1D. In addition, the Community will exchange up to 32,500 AFY of its CAP Indian Priority Water for 40,600 AFY of reclaimed water from Mesa and Chandler pursuant to a reclaimed water exchange agreement. Exh. 18.1. Each of these agreements is described below in **Section 3.9**.

Roosevelt Water Conservation District (RWCD) CAP Water

The RWCD CAP Water is CAP NIA priority water that was previously held by RWCD, relinquished and currently held by the Secretary for the benefit of the Community. ¶ 2.143. In accordance with the Settlements Act and the Settlement Agreement, the Secretary will reallocate, and contract with the Community for the delivery of this water. Settlements Act, § 204(b)(1)(A); ¶ 8.3.3. For purposes of the Settlement Agreement, the amount of relinquished water will be a fixed volume of 18,600 AFY of NIA priority water. ¶ 2.143. The RWCD CAP water will be delivered to the Reservation under the RWCD Agreement described below in **Section 3.9.4**.

Harquahala Valley Irrigation District (HVID) CAP Water

In accordance with the Settlements Act and the Settlement Agreement, the Secretary will reallocate, and contract with the Community for the delivery of, 18,100 AFY of CAP Indian Priority Water that was permanently relinquished by the Harquahala Valley Irrigation District (HVID). This water was converted to CAP Indian Priority Water under the Fort McDowell Indian Community Water Rights Settlement Act of 1990. Settlements Act, § 204(b)(1)(B); ¶ 2.10. Under the Community Water Delivery Contract, the Community is entitled to deliveries of 18,100 AFY of HVID CAP Indian Priority Water. ¶ 8.3.5.

Asarco CAP Water

In accordance with the Settlements Act and the Settlement Agreement, the Secretary will reallocate and contract with the Community for the delivery of an annual entitlement of up to 17,000 AF of CAP M&I priority water pursuant to a relinquishment agreement currently being negotiated among GRIC, the United States and Asarco. ¶ 2.12A. The reallocation of Asarco CAP M&I priority water is conditioned on Asarco's relinquishment, and the execution of an exchange agreement and settlement. Settlements Act, § 204(b)(1)(C); ¶¶ 4.1, 8.3.4. The Community represents that it will continue in good faith negotiations with Asarco for at least two years from the date of execution of the Settlement Agreement. Asarco's relinquishment in favor of the Community will be in consideration of the Community's waiver of certain rights, claims and objections. ¶ 11.

New CAP Non-Indian Agriculture Priority (NIA) Water

Under the Settlement Agreement and the Settlements Act, the Secretary will reallocate and contract with the Community for 102,000 AF of NIA Priority CAP Water previously allocated to non-Indian agricultural entities. Settlements Act, § 204(b)(1)(D); ¶ 8.3.2. The Community's CAP NIA priority water has two components. Of the 102,000 AFY, 87,000 AFY will be subject to the shortage sharing criteria described above. The remaining 15,000 AFY of this allocation will be firmed to the equivalent of CAP Municipal and Industrial ("M&I") Priority Water by the State of Arizona for a period of

100 years after the Enforceability Date as required by the Settlements Act. ¶ 8.23. During a time of shortage, this will ensure that water will be delivered to the GRIC in the same manner as M&I Priority Water is delivered. Settlements Act, § 105(b)(2).

Pursuant to legislation enacted in 2006, the Arizona Water Banking Authority (AWBA) has the responsibility for meeting the state's firming obligation for the GRIC. Laws 2006, Ch. 114. The AWBA Board will adopt a plan for developing a substitute supply, which will involve implementation by the CAWCD. It is anticipated that the AWBA and the CAWCD will enter into a supplemental agreement with GRIC regarding the ordering and delivery of the firmed water supply.

3.2.2 Undergound Water

The term "underground water" is used throughout the Settlement Agreement as a way to identify a water source located beneath the surface of the earth regardless of whether its legal character is groundwater or the subflow of a surface water source. ¶ 2.173. As used in the GRIC Water Budget, underground water only refers to water that is pumped from land on the Reservation. ¶ 5.1. Underground water that is pumped to alleviate waterlogging problems on the Reservation is not counted against the GRIC Water Budget. ¶ 4.4.3.

The GRIC Water Budget includes an estimated average of 156,700 AFY of underground water. As indicated above, more than this amount may be diverted after the initial build-out period as long as the total Water Budget does not exceed 653,500 AFY based on a 10-year rolling average. ¶ 4.2.2. During the build-out period, withdrawals of underground water may not exceed 190,000 AFY. ¶ 4.5.2. The Community is required to install and maintain devices that measure and record diversions of underground water. ¶ 5.1.1.

3.2.3 Surface Water Rights

The Settlement Agreement recognizes GRIC's surface water rights under existing decrees and allows the Community to access additional water supplies provided by SRP and RWCD. Water entitlements are determined either in the governing decree or in the

individual agreements between GRIC and the party that is supplying the water. The total estimated average surface water supply in the GRIC Water Budget is 155,400 AFY based on Globe Equity Decree Water, Haggard Decree Water, RWCD Surface Water, and SRP Stored Water.

Globe Equity Decree Water

Under the GRIC Water Budget, the Community will receive an estimated average of 125,000 AFY of Globe Equity Decree water. ¶ 4.1. The inclusion of this amount of water in the GRIC Water Budget neither guarantees nor limits the amount of water to which the Community and the United States are already entitled under Articles V and VI of the Globe Equity Decree. ¶ 6.1. However, the Community and the United States shall not seek to increase the decreed amount of water to which they are entitled under Articles V and VI of the Globe Equity Decree.⁸ ¶ 6.2.

Articles V and VI of the Globe Equity Decree describe the GRIC's water rights to the natural flow of the Gila River, and its rights to divert, at Ashurst-Hayden and Sacaton Dams, water that includes natural flow that had been previously stored by the United States in the San Carlos Reservoir on behalf of the SCIP for the benefit of the Community. As discussed in **Chapter 2**, both the GRIC and non-Indian landowners within SCIDD have Globe Equity Decree water rights as a result of agreements made between the United States and the non-Indians regarding construction and repayment of the Florence-Casa Grande Project and the subsequent SCIP. The Globe Equity Decree rights have existed since 1935, and have been utilized for irrigation purposes on the Reservation. The GRIC, United States and SCIDD entered into a separate agreement concerning the delivery of Globe Equity Decree water to the GRIC and SCIDD. The SCIDD Agreement is Exhibit 20.1 to the Settlement Agreement, and is described below in **Section 3.9.9**.

⁸ In a 2006 decision, the Arizona Supreme Court held that the Globe Equity Decree "precludes all further claims to the mainstem of the Gila River by the parties to the Decree." *In re the General Adjudication of all Rights to use Water in the Gila River System and Source*, 212 Ariz. 64, 127 P.3d 882 (2006).

Haggard Decree Water

The Settlement Agreement confirms the Community's entitlement to 540 miners inches of water from the Salt River under the 1903 Haggard Decree, as modified by the 1917 Benson-Allison Decree.⁹ These rights, which are held in trust by the United States for the benefit of the Community and the allottees, will be included in the judgment of the Gila Court approving the Settlement Agreement, and will be binding upon all parties to the Gila River Adjudication proceeding. ¶ 7.1.

Although the Haggard Decree water rights do not constitute new rights to water, the mechanism for obtaining these rights has been modified by the Settlement Agreement. The Community agrees to accept delivery of 5,900 AFY of water from SRP pursuant to the Maricopa Contract¹⁰ in lieu of water it is entitled to receive under the Haggard Decree. Although the Community will continue to hold and maintain Haggard Decree water rights, the Parties agree that SRP's delivery of water under the Maricopa Contract will constitute full satisfaction of those rights. ¶ 7.2. In addition, the Sacaton Contract, originally entered into between SRP and the United States on June 3, 1907 and thereafter amended, will be terminated as of the Enforceability Date. ¶ 7.3. The Maricopa Contract is Exhibit 7.2 to the Settlement Agreement, and is described below in **Section 3.9**.

Roosevelt Water Conservation District (RWCD) Surface Water

As part of the RWCD Agreement, RWCD will deliver 4,500 AFY to the Community from the Salt and Verde River Systems for use on the Reservation. Exh. 9.1, ¶¶ 5.1, 5.4. These deliveries of surface water are described below in **Section 3.9.4**.

⁹ The Haggard Decree is the result of a suit brought by the United States on behalf of the Maricopa Colony District Indians on the Gila River Indian Reservation to adjudicate a dispute over the priority of diversions on the Salt River. *United States v. Haggard*. The Haggard Decree recognized the rights of the Indian lands and established the number of acres and associated priority dates ranging from pre-1894 through 1901. Most of the Haggard Decree rights, including the Indian land rights, were later encompassed in the Benson-Allison Decree that was entered on November 14, 1917.

¹⁰ The Maricopa Contract was originally entered into between the United States and SRP on May 5, 1936, and amended on June 12, 1968. The amended and restated contract is Exhibit 7.2 to the Settlement Agreement.

Salt River Project (SRP) Stored Water

As part of the GRIC Water Budget, the Community is entitled to an estimated average of 20,000 AFY of water from SRP reservoirs (“SRP Stored Water”).¹¹ ¶¶ 2.162, 4.1. This amount is solely for the purpose of establishing the GRIC Water Budget, and is neither a restriction nor a guarantee on the availability of SRP Stored Water to the Community. ¶ 12.9. In addition, the Community may be entitled to an average of 500 AFY of water from the Blue Ridge Reservoir if certain conditions are satisfied (“Blue Ridge Stored Water”). ¶ 4.1.

The terms and conditions for delivery of SRP Stored Water and Blue Ridge Stored Water are described in paragraph 12.0 of the Settlement Agreement. These provisions are lengthy and are described below in **Section 3.9.2**.

3.2.4 Reclaimed Water (Exchange Premiums and Contribution)

The GRIC Water Budget contains three reclaimed water components that total 12,600 AFY of effluent from the cities of Chandler and Mesa.¹² ¶ 4.1. Two of the components involve unequal exchanges of the Community’s CAP water for reclaimed water pursuant to an agreement among the Community, the United States, Mesa and Chandler. The third component involves a contribution of reclaimed water by Chandler. All three components are described in the Reclaimed Water Exchange Agreement, attached as Exhibit 18.1 to the Settlement Agreement. ¶ 18.1.

Under the Reclaimed Water Agreement, the Community will exchange up to 32,500 AFY of its Indian CAP Priority Water for a total of 40,600 AFY of reclaimed water from Mesa and Chandler. ¶¶ 18.1.1, 18.1.2. This results in a total reclaimed water premium of 8,100 AFY consisting of 5,870 AFY from Mesa and 2,230 AFY from

¹¹ While the rights to SRP Stored Water are based on the surface water supplies that are captured by the SRP reservoir system, the actual water that is delivered to the Community may be from a variety of supply sources. In addition to surface water, these supply sources may include underground water, agricultural return flows, drainage water, Colorado River water and effluent. ¶ 12.11. SRP Stored Water also includes water delivered under the Maricopa Contract. ¶ 2.162.

¹² Effluent is defined in the Settlement Agreement as “water that has been used for domestic, municipal, or industrial purposes and that is available for reuse for any purpose, but water shall not become Effluent solely as a result of having been used for hydropower generation off-Reservation.” ¶ 2.70. Reclaimed water is effluent that has been treated to a high degree and is defined in the Settlement Agreement as “Effluent that: (1) meets the A+ Reclaimed Water Quality Standards as set forth in Exhibit 18.1, or (2) is Diverted by the Community as provided in Exhibit 18.1.” ¶ 2.136.

Chandler. Chandler will also make available to the Community 4,500 AFY of its reclaimed water as a contribution to the GRIC Water Budget. ¶¶ 2.48, 18.1.3. Without consideration of the exchange differentials, the GRIC will receive a total reclaimed water supply of 45,100 AFY from the two cities. The Reclaimed Water Exchange Agreement is described below in **Section 3.9.7**.

3.3 OTHER WATER USE PROVISIONS

3.3.1 Toka Sticks Trust Land

The Community is entitled to use up to 636 AFY of groundwater for non-irrigation use on certain lands outside the Reservation that are held in trust by the United States on behalf of the Community (“Toka Sticks Trust Land”). ¶ 22.1. Toka Sticks is a golf course located on land that was formerly part of the Williams Air Force Base, and is currently irrigated with locally available groundwater. Exh. 22.1. Water may be imported by the GRIC for use on Toka Sticks Trust Land. ¶ 22.1. If the imported water involves diversions of Community CAP Water, RWCD surface water, or reclaimed water as defined in GRIC Water Budget, then those deliveries will not be considered for purposes of water budget compliance. ¶ 22.1. Groundwater pumped for Toka Sticks must be reduced by a certain amount that is determined by whether or not the imported water is effluent. ¶ 22.4. Water use on the Toka Sticks Trust Land will be subject to the Community Water Code described below. ¶ 22.6.

3.3.2 Community Water Code

The Community must enact a comprehensive Water Code that governs all the water rights granted or confirmed by the Settlement Agreement to the Community, as well as the right to an allocation of water for irrigation purposes on allotted lands within the Reservation. Once the Community enacts the Water Code and obtains the necessary approvals from the Secretary, the Community will have the authority to manage, regulate and control the use of water rights made available under the Settlement Agreement on both Reservation and off-Reservation Trust Land. ¶ 23.1. The Secretary will administer

the water rights until such time as the Water Code is enacted. Any provisions of the Water Code that affect the rights or interests of allottees must be approved by the Secretary. ¶ 23.2. Management, regulation, control and allocation of the water rights by the Community are all subject to the Secretary's ultimate authority. ¶¶ 4.1.1, 23.1, 23.2.

The Water Code must be enacted within eighteen months of the Enforceability Date, and must contain certain provisions. These provisions must address the Community's right to: (1) prohibit the severance of water rights from allotted lands; (2) assess charges for water deliveries on a just and equitable basis without regard to the status of the Reservation land on which the water is used; (3) place conditions, limitations, and permit requirements relating to the storage, recovery, and use of water; (4) regulate the appurtenant rights of allotted lands to ensure that the use of water is reasonable and beneficial; (5) require allottees to install and maintain devices to measure and record water diversions and uses not already included in the Community's annual reports to the Gila Court under ¶ 4.6; and (6) require allottees to provide quarterly reports to the Community concerning measured water diversions and uses. ¶¶ 23.2.4 to 23.2.9.

The Community Water Code must also contain a due process system that governs how requests are made to the Community to provide water for irrigation use, how those requests are considered and determined by the Community, and how the Community's decisions may be appealed. ¶¶ 23.2.1, 23.2.2. Any allottee with a claim under the Water Code (enforcement or allocation) must first exhaust all administrative remedies under the Water Code and Community Law prior to initiating an action against the United States or petitioning the Secretary under the Settlements Act. ¶ 23.2.3. Any rights of allottees to transfer, convey or lease interests in allotted lands, including appurtenant water rights, will not be affected by the Water Code or other provisions of the Settlement Agreement. ¶¶ 23.2, 23.3.

3.4 RESTRICTIONS

3.4.1 Upper Gila River Watershed Maintenance Program

The Settling Parties agreed to the establishment of an Upper Gila River Watershed Maintenance Program, which required the enactment of state legislation. ¶ 26.8.1. The minimum requirements of the necessary state legislation are set forth in Exhibit 26.8.1, and were incorporated into state law in 2005. Laws 2005, Ch. 143, § 7 (H.B. 2728).

Under H.B. 2728, a Gila River Maintenance Area is established within which the construction of new dams or the enlargement of existing dams is prohibited. See **Figure 3-3**. Exemptions are provided for flood control structures, stockponds, replacement dams, and impoundments for certain mining activities, industrial facilities, and effluent. A.R.S. § 45-2631. See Exhibit 26.8.1, ¶ 1.

Generally, irrigation of land within the Gila River Maintenance Area is also prohibited unless the land was irrigated between January 1, 2000 and August 12, 2005 (the general effective date of H.B. 2728). Additional exemptions are provided if: (1) the land was irrigated with a surface water right that is earlier than the general effective date of H.B. 2728; (2) irrigation of the land is allowed under other settlement agreements or decrees; or (3) the land is located in Cochise County. A.R.S. § 45-2641. See Exhibit 26.8.1, ¶ 2. If an irrigation well is proposed to be drilled within the Gila River Maintenance Area, then proof of irrigation during the statutory time-frame or evidence that one of the exemptions applies must be provided to ADWR as part of a Notice of Intent to Drill, Deepen, Replace or Modify (NOI) form. A.R.S. § 45-2603.C. See Exhibit 26.8.1, ¶ 3. Also, under A.R.S. §§ 45-2651 to 2654, ADWR is authorized to enforce H.S. 2728 through inspections; investigations, audits, cease and desist orders, hearings, injunctive relief and civil and criminal penalties. A.R.S. § 45-2641.C.

The continued existence and enforcement of the Upper Gila River Watershed Maintenance Program is a term and condition of the Safe Harbors provided by the Community and SCIDD. ¶ 26.8.1. These Safe Harbors are described below in the next section, and will be nullified if one or more of the following occur: (1) the repeal of, or certain substantive amendments to, the state legislation establishing the Upper Gila

Watershed Maintenance Program; (2) the failure of ADWR to provide appropriate notice of Safe Harbor protections in its notice of intent to drill forms; (3) the failure of ADWR to file certain reports with the Gila Court every five years, with copies to GRIC, the United States and SCIDD; (4) the failure of ADWR to take enforcement action to prohibit the construction of new dams or enlargement of existing dams in certain locations; (5) ADWR's issuance of a permit to construct or enlarge a dam in certain locations; or (6) failure by ADWR to take enforcement action to prohibit certain new agricultural use of water at certain locations. ¶¶ 26.8.1.1.1, 26.8.1.1.2.

3.4.2 Safe Harbor Uses of Water

The Community, SCIDD and the United States agree not to exercise their rights to challenge, object to or call certain water uses within Safe Harbors based on their normal flow rights and stored water rights under the Globe Equity Decree. The Safe Harbor provisions only benefit certain water users within the Upper Gila River watershed above Ashurst-Hayden Dam ("Non-GE 59 Water Users"). ¶¶ 2.124B, 26.8.2.1. Generally, Non-GE 59 Water Users are those water users whose diversions of water are not authorized by the Globe Equity Decree. ¶ 2.124B.

The Safe Harbor provisions of the Settlement Agreement establish three Impact Zones. These impact zones are: (1) the San Pedro Ag and New Large Industrial Use Impact Zone (¶ 26.8.2.3), (2) the San Pedro M&I and Domestic Purposes Impact Zone (¶ 26.8.2.4), and (3) the Gila River Impact Zone (¶ 26.8.2.5.2). Maps depicting the boundaries of these impact zones are found in Exhibits 2.146B1 to B2, 2.146C, and 2.84A1 to A7, which are included in **Appendix F-1**.

For purposes of the Safe Harbor provisions, wells are considered to be diverting water from within an Impact Zone if they are within the defined boundaries on the maps. Also included are wells outside the exterior boundaries that were drilled after December 31, 2002, if their pumping results in a cone of depression that extends into an Impact Zone under the standard ultimately adopted by the Gila River Adjudication Court. Domestic wells located more than one-quarter mile outside of the exterior boundaries are deemed to be diverting water outside of the Impact Zone. ¶ 26.8.2.2.

Within the San Pedro Ag and New Large Industrial Use Impact Zone the Safe Harbor for irrigation uses only extends to Eligible Safe Harbor Acres, which are certain acres that were irrigated with water diverted from within an impact zone during certain time periods. ¶¶ 2.70A, 26.8.2.3. ¶ 2.70A. To utilize this Safe Harbor, the water user must first file a description of the Eligible Safe Harbor Acres with the Gila Court, with copies to the Community, the United States and SCIDD, who reserve the right to object to irrigation water uses that exceed adjudicated water rights. ¶ 26.8.2.3. ADWR is responsible for memorializing the Eligible Safe Harbor Acres in its Geographic Information System (GIS) database as mutually agreed upon by the GRIC, the United States and the SCIDD, which will become a permanent part of the court record in the Gila River Adjudication proceedings. ¶ 26.8.2.9.1.

Within the San Pedro M&I and Domestic Purposes Impact Zones or the Gila River Impact Zone, municipal and industrial (M&I) uses are limited to the highest amount used for the M&I purpose between 1997 and 2001. To utilize this Safe Harbor, the water user must file an accounting of water diverted from an impact zone and used for M&I purposes. The accounting must be filed with the Gila Court, with copies to the Community, the United States and SCIDD, who reserve the right to object to M&I water uses that exceed adjudicated water rights. ¶ 26.8.2.4.

Generally, a Safe Harbor is granted for diversions of water for domestic purposes that existed on January 31, 2002. ¶ 26.8.2.5.¹³ In addition, within the San Pedro M&I and Domestic Purposes Impact Zone and the Gila Impact Zone a Safe Harbor is granted for new domestic uses (post-January 31, 2002) subject to certain conditions. Through revisions to its NOI forms, ADWR must notify any person who intends to drill a well for domestic uses within these impact zones, or within one quarter mile of these impact zones, about these Safe Harbor provisions. To utilize this Safe Harbor, ADWR must also inform water users that they must file a form with GRIC and SCIDD relating to the domestic use. ¶ 26.8.1.1.2.1. A new domestic user is limited to no more than two AFY

¹³ A Domestic Purpose is defined as “uses related to the supply, service and activities of an individual household or private residence, including the application of Water to less than two (2) acres of land appurtenant to such household or residence to produce plants or parts of plants for sale or human consumption or for use as feed for livestock, range livestock or poultry.” ¶ 2.63.

per well. Once new domestic uses reach 1,000 AFY within these impact zones, the Community and SCIDD will no longer provide a Safe Harbor. At least 25 of the wells allowed for this Safe Harbor within the San Pedro M&I and Domestic Purposes Impact Zone, and 15 wells within the Gila River Impact Zone are reserved for use on State trust land. ¶¶ 26.8.2.5.1, 26.8.2.5.2.

A Safe Harbor is also granted in these two impact zones for new large industrial uses so long as those uses do not exceed a defined volume cap.¹⁴ ¶ 26.8.2.6. This cap is set at a maximum of 250 AFY for any eligible Non-GE 59 Water User, with 1,000 AFY in the aggregate for all users diverting water within the impact zone after December 31, 2002. ¶ 2.123C. Through revisions to its NOI forms, ADWR must notify any person who intends to drill a well for new large industrial uses within these impact zones, or within three miles of these impact zones, about these Safe Harbor provisions. To utilize this Safe Harbor, ADWR also must inform water users that they are required to file a form with GRIC and SCIDD relating to the new large industrial use. The Community, the United States and SCIDD reserve the right to object to new large industrial water uses that exceed adjudicated water rights. ¶¶ 26.8.2.6.1, 26.8.2.6.2.

Exclusive Safe Harbors are established for BHP Copper Company (“BHP”), the Arizona Water Company (“AWC”), and the Town of Winkelman, which are in replacement of, and not in addition to, the other Safe Harbors described in paragraph 26.8 of the Settlement Agreement. ¶ 26.8.2.7. BHP may divert up to 2,000 AFY from certain wells including any water diverted by or on behalf of AWC. ¶ 26.8.2.7.1. AWC may divert up to 1,000 AFY from certain wells for use within the San Manuel service area. ¶ 26.8.2.7.2. Winkelman and/or AWC may divert a combined total of 250 AFY from certain wells for use within Winkelman or the Winkelman service area. ¶ 26.8.2.7.3.

A Safe Harbor is established for M&I uses and domestic uses for any portion of an impact zone located within Cochise County. However, this Safe Harbor does not apply to New Large Industrial uses. ¶ 26.8.2.8.

¹⁴ A New Large Industrial Use is defined as “use of Water for commercial power generation, mining and associated processes, or any other Industrial Use that uses in excess of two hundred fifty (250) AFY of Water Diverted from within an Impact Zone which use did not exist as of December 31, 2002.” ¶ 2.123B.

ADWR will be responsible for monitoring existing and new uses within the Impact Zones. Every five years ADWR is required to file a report with the Gila Court on the status of use of water diverted or pumped from within the impact zones. A copy of this report will be provided to the GRIC, United States, and SCIDD. ¶ 26.8.2.9.2.

Several miscellaneous provisions relating to Safe Harbors are listed in paragraph 26.8.2.10, and describe the consequences of non-compliance. ¶¶ 26.8.2.10.1 to 26.8.2.10.5. Under paragraph 26.8.2.10.6, GRIC, the United States and SCIDD agree to recognize and be limited by the Safe Harbors provisions in the event that the attendant water rights are severed and transferred, or there is a change in type of use as provided by state law. Under paragraph 26.8.2.10.7, these parties also agree not to object to the transfer or change in type of use by an eligible Non-GE No. 59 Water User, AWC, BHP or Winkelman from irrigation attendant to Eligible Safe Harbor acres to M&I or domestic uses under certain conditions. A Safe Harbor is also granted for temporary water uses needed to respond to declared emergencies for public safety purposes. ¶ 26.8.2.10.8.

3.4.3 Southside Replenishment Program

The Settling Parties, other than the United States, agreed to the establishment of a Southside Replenishment Program in order to protect the Reservation from off-Reservation pumping. ¶ 5.3. In 2005, H.B. 2728 was enacted,¹⁵ which incorporated the requirements set forth in the Settlement Agreement for this program. The state's replenishment obligation will survive the repeal or amendment of state law. ¶ 5.3.1.

Under A.R.S. § 45-2602, geographic zones (“Southside Protection Zones”) are established along the southern boundary of the Reservation in the Pinal AMA: (1) the Eastern Protection Zone (North and South), (2) the Central Protection Zone, and (3) the Western Protection Zone (M&I and Municipal). A map depicting the boundaries of these zones is included in Exhibit 5.3. These zones are also depicted in **Figure 3-2**. See ¶ 5.3.2.1. Under A.R.S. § 45-2622, certain pumping limitations are established for the Eastern and Western Protection Zones. To the extent that the pumping limitations are

¹⁵ This is the same legislation that established the Upper Gila River Maintenance Program discussed above in **Section 3.3.1**.

exceeded, the State of Arizona is obligated to mitigate the over-pumping by replenishing the amount of excess for the benefit of the Community. See ¶ 5.3.3.

Under A.R.S. § 45-2623, replenishment may be accomplished by direct delivery to the Community, extinguishment of certain long-term storage credits, or debiting the Community account in the Southside Replenishment Bank established under A.R.S. § 45-2624.¹⁶ See ¶ 5.3.3.2. Replenishment amounts are calculated as provided by A.R.S. § 45-2622, and specific time limits apply.¹⁷ See ¶¶ 5.3.3.1 to 5.3.3.1.7. Pursuant to A.R.S. § 45-2604, the State may not implement groundwater conservation programs in the Central Protection Zone that are less restrictive than those adopted by ADWR in the Third Management Plan for the Pinal Active Management Area. See ¶ 5.3.5. Under A.R.S. § 45-2611, transportation away from the Eastern and Western Protection Zones for new uses or certain non-irrigation uses is prohibited, subject to certain exceptions. See ¶ 5.3.8. Under A.R.S. § 45-2602.E, certain small wells that are used for domestic purposes are allowed in each of the protection zones. See ¶ 5.3.7.

In addition to the general provisions described above, the Settlement Agreement imposes additional restrictions on certain entities. The City of Coolidge and Town of Florence are prohibited from drilling any new wells within the Southside Protection Zones. ¶ 5.3.9. Also, AWC is subject to limitations on the location of new and replacement wells, transportation of pumped water within the Eastern Protection Zones, and transportation of pumped water over a certain volume outside the Eastern Protection Zones, which excess amount must be replenished. ¶ 5.3.10. See A.R.S. § 45-2622.7. By June 1 of each year, ADWR is responsible for providing annual reports to the Community regarding pumping and replenishment in each of the protection zones. ¶ 5.3.12.

¹⁶ At no cost to the GRIC, the AWBA is required to bank at least 1,000 acre-feet of water per year until the balance in the GRIC account reaches 15,000 acre-feet and to maintain a minimum balance of at least 5,000 acre-feet. The AWBA is not required to deliver more than 11 percent of the annual water delivery in any single month. ¶ 5.3.4. For these purposes, the AWBA may use state general fund monies, if provided, or groundwater withdrawal fees, already collected in the Pinal AMA and committed for AWBA purposes. A.R.S. § 45-2457.

¹⁷ A person may incur an individual replenishment obligation if groundwater is withdrawn that exceeds a certain volume. ADWR is required to provide written notice to individuals who withdraw groundwater in the Eastern or Western Protection Zones of potential replenishment obligations. A.R.S. § 45-2626.

3.4.4 RWCD Pumping Restrictions

RWCD is located north of the GRIC Reservation, and none of its wells are included within the Southside Replenishment Program protection zones. See **Figure 1-1**. Nevertheless, RWCD agreed to limit its pumping of underground water from its existing wells located south of Pecos Road to no more than 8,000 AFY. The location of the existing wells to which this restriction applies is depicted on a map, which is included as Exhibit C to the RWCD Agreement, described below in **Section 3.9.4**. RWCD will not drill new wells south of Pecos Road, but it reserves the right to replace the existing wells in the same location. Exh. 9.1, ¶ 7.2. Amendment No. 1 to the RWCD Agreement clarifies that the 8,000 AFY limitation does not apply to withdrawals of water from RWCD's existing wells if the water was pumped by or on behalf of Mesa, Chandler, or Gilbert. Amendment No. 1, ¶ 1.5.

3.4.5 Maricopa Stanfield Irrigation and Drainage District (MSIDD) and Central Arizona Irrigation and Drainage District (CAIDD) Pumping Restrictions

The MSIDD and CAIDD are irrigation districts located south of the Reservation in Pinal County. See **Figure 1-1**. A portion of the MSIDD lies within the Western Protection Zone described above in **Section 3.3.3**.

By an agreement between the MSIDD and BOR dated June 28, 1996, MSIDD agreed to limit its pumping in a sub-basin within two miles of the Reservation boundary to no more than 23,000 to 30,000 AFY depending on the availability and cost of CAP water. However, MSIDD's rate of pumpage could temporarily increase to meet the overall water needs of the district, limited to a total of 250,000 AFY, due to the unavailability of CAP water. Exh. 5.4.1.1. MSIDD's underground water withdrawals from this sub-basin are restricted depending on the availability and cost of CAP water which may be used instead. Exh. 5.4.1.1, ¶ 5.C. CAIDD, which is not a party to the MSIDD/BOR Agreement, agreed to assist MSIDD in meeting its pumping limitation commitment. As part of the Settlement Agreement, to the extent that CAIDD has more than 10,000 acre-feet of excess CAP water available for its own use, it will cause up to 7,000 acre-feet of its excess CAP water to be delivered to MSIDD, subject to certain conditions. ¶¶ 5.4.1.1, 5.4.1.2. A separate agreement between CAIDD and MSIDD

regarding ordering, delivery and payment procedures must be executed prior to the Enforceability Date. ¶ 5.4.1.1.

3.5 FEDERAL, STATE, AND OTHER CONTRIBUTIONS

3.5.1 Federal Contributions

Federal contributions to the Gila Settlement will be made primarily from the Lower Colorado River Basin Development Fund (“Development Fund”), which was established by section 403 the Colorado River Basin Project Act (43 U.S.C. § 1543). Additional monies may also be made available through annual appropriations.

Section 403 was amended by § 107(a) of the Settlements Act so that the Development Fund may be used as a funding source for the GRIC and other Arizona Indian water rights settlements. Section 107 allows the Community to benefit from the Development Fund by providing a federal funding source that reduces the cost of CAP water deliveries, and provides for the construction of water infrastructure to distribute CAP water to Reservation lands. The primary source of deposits to the Development Fund are payments made by the CAWCD to the United States for its reimbursable share of the cost of construction of the CAP. Monies from the Development Fund will not be available until the Enforceability Date under the GRIC Settlement, or January 1, 2010, whichever is later. § 107(b).

Section 107(a) establishes a priority of uses from the Development Fund in the following order: (1) to make annual payments for the fixed operation, maintenance, and replacement (“OM&R”) charges associated with CAP water deliveries held under long-term contracts by Arizona Indian tribes; (2) to make deposits totaling \$53 million into the GRIC OM&R Trust Fund, as described further below; (3) to pay \$147 million for the rehabilitation of certain SCIP facilities; and (4) to pay for a number of construction projects, listed without regard to their relative priority, that are primarily related to components of specific Indian water rights settlements, Indian CAP distribution systems, the New Mexico unit of the CAP, and future Indian water rights settlements. These projects include rehabilitation of additional SCIP facilities and the Pima-Maricopa

Irrigation Project (P-MIP). Of the uses listed, the GRIC will directly benefit from the CAP fixed OM&R payments, the GRIC OM&R fund, the SCIP rehabilitation funds,¹⁸ and the payments of costs associated with the construction of distribution systems required for the P-MIP.

The Settling Parties recognize that monies from the Development Fund will be available for numerous purposes. ¶ 29.1. The timing and priority for obtaining these monies are set forth in Exhibits 29.1.1 and 29.1.2. Exhibit 29.1.1 is a spreadsheet with a proposed schedule for disbursements from the Development Fund and from other federal appropriations for the years 2002 to 2041. Exhibit 29.1.2 is a spreadsheet with a proposed schedule for disbursements to certain Settling Parties¹⁹ for certain projects.

Title II of the Settlements Act also contains provisions concerning the use of monies from the Development Fund as part of the Gila Settlement. Section 208(d)(1)(B) further authorizes \$53 million to be deposited in the GRIC OM&R Fund, which may be used by the Community to assist in paying for operation, maintenance and repair costs associated with the delivery of CAP water for Community purposes, subject to the Secretary's approval. Under § 214(b)(1), additional monies from the Development Fund are authorized to be appropriated for several other purposes including: (1) \$52,396,000 for the rehabilitation of certain delivery and diversion works for the SCIP as provided by the SCIDD Agreement, § 214(a)(1); (2) \$4 million for subsidence remediation,²⁰ § 214(a)(3); (3) \$13,900,000 to retire the debt associated with the construction of the Safford facility pursuant to the Safford Agreement,²¹ § 214(a)(5)(A); (4) \$10 million to carry out the mitigation measures in the Roosevelt Habitat Conservation Plan, § 214(a)(6)(B); (5) \$15 million to the Gila Valley Irrigation District for the design and construction of a pipeline as described in the UVD Agreement,²² § 214(a)(7); and (6) other funds as necessary for oversight of certain construction projects, § 214(a)(2) and

¹⁸ The SCIP components that will be rehabilitated are described in the SCIDD Agreement, which is Exhibit 20.1 to the Settlement Agreement. The SCIDD Agreement is described below in **Section 3.9.9**.

¹⁹ These parties are referred to as "Funded Parties," which consist of GRIC, SCIDD, SRP, Safford and GVID. ¶ 2.81A.

²⁰ Subsidence damages are addressed in Exhibit 30.21 of the Settlement Agreement.

²¹ The Safford Agreement is Exhibit 26.1 to the Settlement Agreement and is described below in **Section 3.9.10**. Exhibit 29.1.2 indicates that federal appropriations may be available to retire the Safford loan prior to the availability of Development Fund monies in 2010.

²² The UVD Agreement is Exhibit 26.2 to the Settlement Agreement and is described below in **Section 3.9.11**.

environmental compliance activities, § 214(a)(6). Under § 214(a)(4), monies are also authorized to be appropriated for the water rights reduction program described in the UVD Agreement, but these monies will not be available from the Development Fund. § 214(b)(2).

Additional federal funds may be available to the Community through a grant under the Clean Water Act. The Settling Parties, other than the United States, agree to support the Community in obtaining a \$3 million grant to protect the Community from injuries to water quality arising after the Enforceability Date. ¶ 27.2.

3.5.2 State of Arizona Contributions

The State of Arizona is responsible for funding two components of the Settlement Agreement. As described above in **Section 3.2.1**, the State will bear the costs of firming 15,000 AFY of CAP NIA priority water to the equivalent of M&I priority water. Also, as described above in **Section 3.4.3**, the State has established the Southside Replenishment Bank at its own expense, and will fund any replenishment obligations resulting from the Southside Replenishment Program. These commitments require substantial funds.

The costs of the State's firming obligation were addressed by an Indian Firming Study Commission, which released its Final Report on January 6, 2006. The Final Report evaluated options and their associated costs, which ranged between \$25,350,000 and \$53,480,000 under one of the alternatives involving the AWBA. The Final Report suggests a midrange cost estimate of \$39,420,000 as a reasonable planning estimate. Final Report, p. 19. Under H.B. 2835, which was passed in 2006, the AWBA is responsible for meeting the Indian firming obligations. A.R.S. § 45-2491.A. The GRIC firming obligation represents about 63% of the total state firming requirement. Settlements Act, § 105(b)(2).

As described in **Section 3.4.3**, the Southside Replenishment Bank, created by AWBA, must provide 15,000 AF to the Community at a rate of not less than 1,000 AFY until the full volume is reached, and a 5,000 AF minimum must be maintained. ¶ 5.3.4.1. In order to meet the State's replenishment obligations, State funds will be made available

either from the general fund or from the use of Pinal AMA groundwater withdrawal fees. A.R.S. § 45-2457.

3.5.3 Other Contributions

Prior to the Enforceability Date, SRP will contribute \$500,000 to the Community toward the cost of easements, construction, rehabilitation, operation and maintenance of certain drainage ditches or structures located in whole or in part on the Reservation north of the Gila River. ¶¶ 2.64, 16.9. These drainage ditches or structures are listed in paragraph 16.1.

3.6 CONFIRMATION OF WATER RIGHTS

The Settling Parties²³ agree as among themselves to the validity of certain water rights, and agree not to challenge these rights in any judicial or administrative proceeding, including the Gila River Adjudication proceedings. ¶ 28.0. These agreed upon water rights are summarized below:

3.6.1 Community Water Rights

The Settling Parties ratify and agree to refrain from challenging the rights of the Community and the United States on its behalf to use water as set forth in the Settlement Agreement and the Settlements Act. ¶ 28.1.1. The Community and the United States agree to refrain from objecting to claims for use of water from the Salt, Verde, Santa Cruz and Agua Fria rivers and their tributaries. The Community and the United States further agree to refrain from objecting to claims for the use of water from the Gila River or its tributaries unless the water use has a priority date of 1924 or earlier, and a point of diversion at or downstream from diversions into the Gila Bend Canal and the Enterprise Canal. ¶¶ 28.1.2, 28.1.3. Finally, the Community and the United States agree to refrain from objecting to water uses from the Gila River or tributaries by any person or entity that diverts surface water at or below the Gillespie Dam (“Gillespie Diverter”), and who

²³ The Parties include the United States, but not in its capacity as trustee for Indian tribes other than the Community.

executes a Form of Paloma Agreement.²⁴ ¶ 28.1.3.1. Notwithstanding the forgoing, the Community and the United States retain the right to challenge or object to water uses by certain Indian tribes, and to enforce other provisions of the Settlement Agreement.²⁵ ¶¶ 28.1.4, 28.1.5.

3.6.2 SRP Water Rights

The Settling Parties ratify and agree to refrain from challenging SRP's water rights on the Salt and Verde rivers as set forth in various recorded notices of appropriation, court decisions and decrees, water right applications, SRP's Articles of Incorporation, and agreements and contracts with the United States and other water users. ¶ 28.2.

3.6.3 Buckeye Water Rights

The Settling Parties, other than Phelps Dodge, ratify and agree to refrain from challenging the water rights of Buckeye Water Conservation & Drainage District and the Buckeye Irrigation Company to the Salt, Verde and Gila rivers as those rights are set forth in various recorded notices of appropriation, Articles of Incorporation and bylaws, and court decisions and decrees. ¶ 28.3.

3.6.4 Arizona Game and Fish Commission Water Rights

On certain conditions, the Community and the United States agree to refrain from challenging the Arizona Game and Fish Commission's water rights and claims described in Exhibit 28.4.1. Subject to certain limitations, they further agree to refrain from objecting to applications for a special use permit from the United States, or certificate of water rights from the State. ¶ 28.4.

²⁴ The Form of Paloma Agreement is Exhibit 26.6 to the Settlement Agreement and is described below in **Section 3.9.15**.

²⁵ These include the retentions of claims set forth in paragraphs 25.12 and 25.14, as well as enforcement of the Globe Equity Decree set forth in paragraphs 6.2 and 6.3. ¶ 28.1.5.

3.6.5 City of Phoenix Water Rights

The Settling Parties ratify and agree to refrain from challenging the water rights for the City of Phoenix to the Salt and Verde rivers, as those rights are set forth in contracts between Phoenix, the United States and/or the Salt River Valley Water Users' Association; and Certificate of Water Right Number 1999. ¶ 28.5.

3.6.6 Plan 6 Water Rights

The Settling Parties ratify and agree to refrain from challenging the rights of the United States in the waters of the Salt and Agua Fria rivers as those rights are set forth in certain State-issued permits to appropriate water concerning water stored behind Modified Roosevelt Dam and New Waddell Dam. ¶ 28.6. In addition, the Parties ratify and agree to refrain from challenging the rights of the cities of Phoenix, Scottsdale, Mesa, Chandler, Glendale and Tempe in the waters of the Salt River stored behind Modified Roosevelt Dam, as set forth in certain state-issued permits. ¶ 28.7.1. The Settling Parties also ratify and agree to refrain from challenging the rights of CAWCD to the waters of the Agua Fria River stored behind New Waddell Dam under a certain state-issued permit to appropriate water. ¶ 28.7.2.

3.6.7 RWCD Water Rights

The Settling Parties recognize and agree to refrain from challenging the rights of RWCD to waters in the Salt and Verde river systems as set forth in court orders and separate agreements with SRP.²⁶ ¶ 28.8.1. The measure of RWCD's surface water entitlement under these documents is determined by a formula set forth in paragraph 28.8.2. The Settling Parties agree that RWCD's rights are appropriative rights and are appurtenant to RWCD lands. ¶ 28.8.3.

²⁶ *Lehane v. Salt River Valley Water Users' Assn*, No. 32021-C, Maricopa County Superior Court (1940).

3.7 WAIVERS AND RETENTIONS OF CLAIMS

Paragraph 25 sets forth a complex set of waivers and retentions of claims regarding water rights, injuries to water rights, and water quality and subsidence, which were agreed to by the Settling Parties as part of the Settlement Agreement. The actual waivers and retentions were entered into separately by the Settling Parties in the form of exhibits²⁷ that become effective upon the Enforceability Date. Additional waivers and releases are contained in the Related Agreements described in **Section 3.9**.

In general, the Community, its Members²⁸ and the United States on behalf of the Community, its Members and Allottees²⁹ waive all claims for water rights other than those set forth in the Settlement Agreement, all past and present claims for injury to water rights and water quality, and certain future claims for injury to water quality. The Settling Parties waive all past and present claims for injury to water rights and water quality, as well as certain future claims for injury to water rights and water quality. This section outlines the waivers and retentions as set forth in paragraph 25 of the Settlement Agreement.

3.7.1 Community and the United States Waivers

Subject to the retentions of claims by the Community and the United States, discussed in **Section 3.7.2** below, and under the UVD Agreement, discussed in **Section 3.7.5** below, the Community and the United States executed waivers against each other, as well as against the State or any person, entity or corporation under state or federal law.

Water Rights and Subsidence

The Community and the United States waive against all persons and entities under state or federal law: (1) claims for water rights, injury to water rights, and subsidence³⁰

²⁷ The waivers and retentions are located in Exhibits 25.1 through 25.18.B.

²⁸ Unless otherwise stated in this section, waivers and retentions of claims by or against the Community also apply to its members, but not members in their capacity as allottees.

²⁹ Unless otherwise stated in this section, waivers by or against the United States refer to the United States acting in its capacity as trustee for the Community, its members and allottees.

³⁰ Claims for injury to water rights and subsidence that arise after the Enforceability Date are not waived if they are caused by the diversion of water in a manner consistent with the Agreement or state law.

within the boundaries of the Reservation;³¹ (2) claims for water rights or injury to water rights based on aboriginal occupancy of land by the Community or its predecessors; and (3) claims arising out of the negotiation, execution or enactment of the Settlement Agreement or Titles I and II of the Settlements Act. ¶¶ 25.2, 25.3.

Water Quality³²

The Community and the United States waive against all persons and entities under State or Federal law: (1) claims for injury to water quality within the boundaries of the Reservation arising prior to December 31, 2002;³³ (2) claims for injury to water quality arising after December 31, 2002 if the claims result from certain off-Reservation water delivery, diversion, withdrawal, irrigation or recharge actions; and (3) all claims for injury to water quality based on aboriginal occupancy of the land by the Community or its predecessors. ¶¶ 25.4 to 25.6.

Waiver Against SRP

Subject to the retentions listed in **Section 3.7.2**, and in addition to the other waivers listed above, the Community and the United States waive against SRP all past and present claims³⁴ for injury to water rights or water quality that are caused by the discharge, transportation, or seepage of water from SRP facilities located within the Salt River Reservoir District to lands located inside the boundaries of the Reservation. ¶¶ 25.7, 25.8.

³¹ Certain waivers and retentions apply to various lands associated with the Community, its members and allottees, which are defined in the Settlement Agreement as “Reservation,” “Off-Reservation Trust Land,” and “Fee Land.” For ease of reference, this chapter uses the term “Reservation” generally to refer to some or all of the lands listed.

³² Unless otherwise stated, water quality claims include claims for trespass, nuisance and real property damage, as well as claims under all current and future federal, state and other environmental laws and regulations, including claims under CERCLA and WQARF.

³³ Water quality claims arising after December 31, 2002 are waived by the United States both in its own right as well as in its capacity as trustee, and include all common law claims and natural resource damage claims for injury or threat of injury to water quality.

³⁴ Claims are precluded that arise prior to the earlier of: (1) the Enforceability Date; or (2) such time as SRP alters its historical operations within the Salt River Reservoir District in a manner that would cause significant harm to lands within the Reservation.

United States Waiver Against the Community

The United States in all capacities, except as trustee for other Indian tribes, waives claims against the Community for subsidence damage to land located inside the boundaries of the Reservation arising prior to the Enforceability Date, and claims relating to the negotiation, execution or enactment of the Settlement Agreement or Titles I and II of the Settlements Act. ¶ 25.10.

Community Waiver Against the United States

The Community waives the following claims against the United States: (1) claims for water rights on lands within the boundaries of the Reservation; (2) claims for injury to water rights and subsidence on lands within the boundaries of the Reservation arising prior to the Enforceability Date; (3) claims for water rights and injury to water rights based on aboriginal occupancy by the Community or its predecessors; (4) claims for injury to water rights and subsidence within the boundaries of the Reservation arising after the Enforceability Date resulting from off-Reservation diversion, use or withdrawal of water (or underground water) consistent with the Settlement Agreement or applicable law; (5) claims arising out of the negotiation, execution or enactment of the Settlement Agreement or Titles I and II of the Settlements Act; (6) claims arising before December 31, 2002, for failure to protect, acquire or develop water rights on behalf of the Community; and (7) claims relating to failure to assert claims expressly waived pursuant to sections 207(a)(1)(C) through (E) of the Settlements Act.³⁵ ¶ 25.11.

3.7.2 Community and United States Retention of Claims

Notwithstanding the waivers listed in **Section 3.7.1** above, the Community and the United States retain the right to bring specific claims. Generally,³⁶ the Community and the United States retain the right to: (1) enforce the Settlement Agreement, the Settlements Act, the Globe Equity Decree, and the judgment and decree entered by the Gila Court; (2) bring objections and claims for injury to water quality and subsidence

³⁵ These subsections of the Act deal with waivers of water quality claims by the Community and the United States.

³⁶ Not all of the retentions listed necessarily apply equally to the Community and the United States.

against other Indian tribes or the United States on their behalf; (3) object to water rights claims and/or bring claims against various Settling Parties or other parties contracting with the Community under certain conditions; (4) assert claims arising out of remediations listed in Exhibit 25.4.1.1 for past and present claims for injury to water quality; (5) assert certain claims for injury to water rights and subsidence against Non-Globe Equity No. 59 water users that divert or use water upstream from the Ashurst-Hayden Dam in a manner inconsistent with the Safe Harbor conditions set forth in paragraph 26.8.2; (6) participate in the Gila River Adjudication proceedings in accordance with paragraph 28.1 concerning the status of the Community's claims under the Settlement Agreement and the Settlements Act; (7) assert claims, other than claims for water rights, against the owners of any fee land located within the exterior boundaries of the Reservation, other than the state; and (8) assert claims for injury to water quality and subsidence that are not otherwise waived in the Agreement. ¶¶ 25.12.1 to 25.12.9.

3.7.3 Certain Settling Parties Waivers of Claims

Subject to the retention of the specific claims listed in **Section 3.7.4**, the Settling Parties (other than FID and GVID) waive certain claims for injury to water rights and water quality. These waivers are summarized below.

Water Rights and Subsidence

The Settling Parties (other than FID and GVID) waive against the Community and the United States: (1) claims for injury to water rights and claims for subsidence damage arising prior to the Enforceability Date; (2) claims for injury to water rights resulting from diversion of water consistent with the Settlement Agreement or applicable law arising after the Enforceability Date; and (3) claims regarding the negotiation, execution or enactment of the Settlement Agreement and Titles I and II of the Settlements Act. ¶¶ 25.1.1, 25.1.2.

Water Quality³⁷

The Parties (other than FID and GVID) waive claims for injury to water quality arising prior to December 31, 2002 outside the boundaries of the Reservation against the Community, as well as certain pre-December 31, 2002 claims for injury to water quality against the United States. ¶¶ 25.1.3.1.1, 25.1.4. Claims for injury to water quality arising after December 31, 2002 are waived against the Community, the United States in its own right and as trustee for the Community, its members and allottees,³⁸ if the claims result from certain water delivery, diversion, withdrawal, irrigation or recharge actions taken by the Community or the United States in its own capacity or as trustee. ¶¶ 25.1.3.1.2, 25.1.5.

3.7.4 Certain Settling Parties Retentions of Claims

Notwithstanding the waivers listed in **Section 3.7.3** above, Parties other than the FID and GVID specifically retain the right to bring the following claims: (1) claims to enforce or seek injury under the Settlement Agreement, the Settlements Act, the Globe Equity Decree, or the judgment and decree entered by the Gila Court; (2) claims to surface water,³⁹ underground water, injury to water rights or water quality, and subsidence that are not waived in the Settlement Agreement; (3) claims resulting from the illicit placement of hazardous substances (other than by delivery, diversion, or use of water by the Community); (4) claims arising out of the actions that result in the remediations listed in Exhibit 25.4.1.1 for past and present claims for injury to water quality; and (5) claims for injury to water rights and water quality, or any other claim against owners of any fee land located within the exterior boundaries of the Reservation. ¶¶ 25.13.1, 25.13.2. Additionally, certain Parties may assert claims otherwise waived in the event certain conditions contained within their separate side agreements are not

³⁷ Unless otherwise stated, water quality claims include claims for trespass, nuisance and real property damage, as well as claims under all current and future federal, state and other environmental laws and regulations, including claims under CERCLA and WQARF.

³⁸ Future water quality claims waived against the United States in its own right and as trustee also include common law claims for injury or threat of injury to water quality.

³⁹ Including past, present and future claims for surface water that are not inconsistent with the Agreement, as well as any additional claims that do not adversely affect the Community's water rights under the Agreement.

satisfied. ¶¶ 25.13.1.7, 25.13.1.8, 25.13.2.5, 25.13.2.6. Finally, the State of Arizona retains the right to take necessary action under any laws relating to health, safety or the environment. ¶ 25.13.3. In addition, the state shall not be bound by any waivers of rights or releases of claims for certain lands received by the state from the United States under federal law. ¶ 25.13.4.

3.7.5 UVD Agreement Beneficiary Waivers

The Settlement Agreement incorporates the waivers and retentions set forth in the UVD Agreement, which supersede paragraph 25 with respect to all UVD Agreement Beneficiaries.⁴⁰ To the extent that a Settling Party is also a UVD Beneficiary, the waivers listed in paragraph 25.1 (**Section 3.7.3** above) do not constitute a waiver of claims by that party in its capacity as a UVD Agreement Beneficiary. ¶ 25.24.1. The waivers and retentions of claims related to UVD Agreement Beneficiaries are set forth in paragraph 4.0 of the UVD Agreement, and are generally similar in terms to those waivers and releases set forth in paragraph 25 of the Agreement, with the additional reservation of the right to enforce the UVD Agreement against other signatories thereto.

3.7.6 Other Provisions

Paragraph 25 contains a number of other provisions, which are listed here but not summarized. These provisions concern water rights for certain land outside the Reservation (¶ 25.14); individual member rights for personal injury or property damage (¶ 25.15); rights, remedies or defenses under the Lone Butte Agreement (¶ 25.16); motions to stay pending settlement and voluntary dismissals in certain litigation (¶ 25.17); stipulations and forms of judgment to be filed in the Gila Court and the Globe Equity Enforcement Court (¶ 25.18); the nature of benefits received by the Community under the Settlement Agreement and the Settlements Act (¶ 25.19); assistance in identifying hazardous substances discharges at points of delivery to the Community (¶ 25.20); relationship of water quality waivers by the Community and the United States

⁴⁰ UVD Agreement Beneficiaries are defined in paragraph 2.176B of the UVD Agreement as UV Signatories and UV Non-Signatories as defined therein. These terms are described in the front of this report.

to water delivery contracts (¶ 25.21); and water quality standards adopted by the Community (¶ 25.23).

3.8 ENFORCEABILITY

The Settlement Agreement becomes enforceable on the “Enforceability Date,” which is defined as the date the Secretary publishes a statement of findings in the Federal Register. ¶¶ 2.71. Prior to the Enforceability Date, the Settling Parties are not bound by, and cannot enforce, the provisions of the Settlement Agreement. ¶ 30.5.

Pursuant to section 207(c) of the Settlements Act, the Secretary must include in a statement of findings that the following have occurred on or before December 31, 2007.

(1) The Settlement Agreement has been amended to conform to the Settlements Act and has been executed by the Secretary and the Governor of the State of Arizona, § 207(c)(1)(A);⁴¹

(2) The Secretary has fulfilled certain requirements set forth in various sections of the Settlements Act concerning the allocation of CAP water, water rights under the Settlement Agreement, community water delivery contract amendments, and subsidence remediation, § 207(c)(1)(B);

(3) The Master Agreement has been executed and the enforceability provisions have been satisfied, § 207(c)(1)(C);⁴²

(4) \$53,000,000 has been retained in the Development Fund for the benefit of the Community in accordance with section 107(b) of the Act, § 207(c)(1)(D);⁴³

⁴¹ The conforming amendment is located in **Appendix A-2**. According to the information available to ADWR, this amendment has been executed by the Governor, but has not yet been executed by the Secretary. Under § 212(a), the Secretary may not execute the Settlement Agreement, and the agreement may not become effective, unless and until the New Mexico Consumptive Use and Forbearance Agreement has been executed by all of the signatory parties and approved by the State of New Mexico. This agreement is described below in **Section 3.9.15**.

⁴² The Master Agreement, or Arizona Water Settlement Agreement, is to be executed by the United States, the State of Arizona and the Central Arizona Water Conservation District, and is meant to settle all Central Arizona Project allocation issues between the United States and the State of Arizona by agreeing to make certain quantities of water available to the Secretary for allocation to Indian communities, and certain quantities available to the Arizona Department of Water Resources to be held in trust for future allocation by the Secretary to non-Indian users within Arizona in a manner consistent with the Act. The Master Agreement is Exhibit 8.1 to the Settlement Agreement.

⁴³ These funds are to be deposited into the GRIC OM&R Fund pursuant to § 208(a).

(5) The State has appropriated and paid to the Community any amounts required under paragraph 27.4 of the Agreement, § 207(c)(1)(E);⁴⁴

(6) SRP has paid the Community \$500,000.00 under paragraph 16.9 of the Settlement Agreement for the operation and maintenance of drainage ditches and structures on the Reservation, § 207(c)(1)(F);

(7) The judgments and decrees attached as Exhibit 25.18A and 25.18B have been approved by the respective courts in the Gila River Adjudication and the Globe Equity Decree, and any necessary dismissal orders entered, § 207(c)(1)(G);

(8) The dismissals attached as Exhibits 25.17.1A and B, 25.17.2, and 25.17.3A and B⁴⁵ have been filed with the respective courts and any necessary dismissal orders entered, § 207(c)(1)(H);

(9) The State has enacted legislation to: (a) implement the Southside Replenishment Program in accordance with paragraph 5.3 of the Settlement Agreement; (b) authorize the firming required by section 105 of the Settlements Act; and (c) establish the Upper Gila River Watershed Maintenance Program in accordance with paragraph 26.8.1 of the Settlement Agreement, § 207(c)(1)(I);⁴⁶

(10) The State has entered into an agreement with the Secretary to carry out its firming obligations in accordance with section 105(b)(2)(A) of the Settlements Act, § 207(c)(1)(J); and

(11) A final judgment has been entered in the consolidated case of *Central Arizona Water Conservation District v. United States* in accordance with the repayment stipulation, § 207(c)(1)(K).

If the Enforceability Date does not occur prior to December 31, 2007, then the Community, its members and allottees, as well as the United States on behalf of the Community, its members and allottees, and on behalf of the SCIDD, retain all rights to assert past, present and future water rights claims, claims for injury to water rights, and

⁴⁴ Under ¶ 27.4, the State may make contributions deemed appropriate by the State legislature and the Governor of the State. As described in **Section 3.5.2**, the State has deemed it appropriate to contribute funds through the implementation of H.B. 2728 and H.B. 2835. See Arizona Laws 2005, Ch. 143, §14 and Arizona Laws 2006, Ch. 114.

⁴⁵ These Exhibits are motions that dismiss the Community's claims against certain defendants in cases pending in the U.S. District Court for Arizona.

⁴⁶ These requirements have been completed. See Arizona Laws 2005, Ch. 143, and Arizona Laws 2006, Ch. 114.

subsidence claims on the Reservation, on off-Reservation trust land, and fee land. § 207(c)(2). In addition, any action taken by the Secretary and any contract entered into under the Gila Settlement shall be void (except for the transfer of title to Blue Ridge Reservoir); any funds appropriated or made available under section 214(a) of the Settlements Act shall revert to the general fund of the Treasury; and any amounts paid by SRP shall be returned to SRP. § 215.

3.9 RELATED AGREEMENTS

Described below are agreements among the Community, the United States and certain Settling Parties. Some of these agreements are part of, or related to, the main provisions of the Settlement Agreement, and some are exhibits to the Settlement Agreement.

3.9.1 SRP CAP Delivery Provisions

Several sections of the Settlement Agreement detail arrangements between SRP, the Community and the United States to facilitate the delivery of CAP water to the Reservation. SRP and the Community agreed on two methods by which SRP's delivery infrastructure would be used. One method allows CAP water to be delivered to SRP for use by SRP water users, and, in exchange, the SRP water that would otherwise have been delivered to those water users is held in storage in the SRP reservoirs. At a later time, the Community can request the delivery of the exchanged water for use on the Reservation. The other method allows the Community's CAP water to be delivered directly to the Reservation. The exchange and direct deliveries of CAP water to the Community are subject to SRP water system capacities, and certain points of delivery including SRP Drains. The terms and conditions involving SRP CAP deliveries, water system capacities, and SRP Drains are addressed in paragraphs 13 to 16 of the Settlement Agreement rather than in a separate exhibit.

Community/SRP Exchange Water

SRP agrees to accept the Community's CAP water ("Community/SRP Exchange Water") under certain conditions at the CAP/SRP Interconnection Facility ("CSIF").⁴⁷ ¶ 13.1.⁴⁸ Community CAP water that is accepted by SRP will be credited to the Community in an SRP Exchange Water Account. ¶¶ 13.1.3, 13.2. The maximum monthly volume of CAP water that may be exchanged is 3,000 AF, and the maximum yearly volume is 15,000 AF. Any excess credits beyond those limits will accrue to SRP. However, any unused exchange credits at the end of a year may be carried over to subsequent years. Exchange credits are limited to no more than 45,000 AF of combined credits in the SRP Exchange Water Account and the account established for SRP Stored Water credits ("Carryover Account").⁴⁹ ¶ 13.2. Exchange credits are subject to evaporation losses and spills. ¶ 13.3.

Each year SRP and the Community will develop a schedule for ordering Community/SRP exchange water, which will be coordinated with CAWCD for delivery of water to the CSIF. ¶ 13.4. Each year the Community and SRP will also develop a schedule for the delivery of exchanged water to the Reservation, which will be subject to transportation losses. ¶ 13.5. The Community will pay SRP a capacity charge and a transportation charge for use of the SRP delivery facilities, at the same rate that SRP charges Salt River Valley municipalities for similar use of the SRP facilities. ¶ 13.5.5. The Community will also pay an administrative fee to cover the administrative costs associated with the exchange program. ¶ 13.6.

Direct CAP Water Delivery

SRP agrees to accept delivery of Community CAP Water at the CSIF for direct delivery to the Community through SRP's delivery system, subject to certain terms and conditions. ¶ 14.1. SRP will establish a Direct Delivery Account for the Community's CAP water. ¶ 14.2. SRP will deliver one acre-foot of water to the Community for each

⁴⁷ The CSIF connects the Hayden-Rhodes aqueduct of the CAP system to SRP's water delivery system. ¶ 2.58.

⁴⁸ Unless otherwise noted, references to paragraph numbers in this section are to the SRP CAP delivery provisions of the Settlement Agreement.

⁴⁹ The Carryover Account is an account established under ¶ 12.3 for SRP Stored Water. The SRP Stored Water provisions are described in **Section 3.9.2**.

acre-foot of Community CAP Water delivered to SRP, subject to reduction for transportation losses between the CSIF and the delivery points at the Reservation. ¶ 14.3. Each year the Community and SRP will develop a schedule for deliveries of CAP Community water to SRP. These deliveries may not exceed 4,000 AF per month or 20,000 AF per year. ¶¶ 14.3.2, 14.3.3. SRP will also develop a schedule of projected deliveries to the Community in coordination with the CAWCD. ¶¶ 14.3.4, 14.3.5. The Community will pay SRP a CSIF capacity charge and a SRP delivery facilities transportation charge at the same rate that SRP charges Salt River Valley municipalities for similar use of the SRP facilities. ¶ 14.4.

Delivery System Capacity

Subject to certain conditions, SRP will provide the maximum capacity in portions of its delivery system to the Community in the amounts set forth in the table in paragraph 15.2, less the capacity required to deliver the amount of SRP Stored Water, Blue Ridge Stored Water, and Maricopa Contract water ordered by the Community.⁵⁰ SRP will provide this maximum capacity to the Community only at such times that the SRP water delivery system is not necessary for the fulfillment of SRP's other water delivery obligations that existed prior to December 31, 2002. SRP will also provide a non-interruptible or firm capacity for a portion of the maximum capacity less the capacity required to deliver the amount of SRP Stored Water, Blue Ridge Stored Water, and Maricopa Contract water ordered by the Community. ¶ 15.1. The firm capacity amounts are also set forth in the table in paragraph 15.2.

SRP Drains

SRP discharges and delivers water to the Reservation from a series of drainage ditches and structures located in whole or in part on the Reservation north of the Gila River ("SRP Drains"). ¶ 16.1. The Community is responsible for the operation and

⁵⁰ SRP Stored Water and Blue Ridge stored water are described in **Section 3.9.2**. Maricopa Contract water is described below in **Section 3.9.3**.

maintenance of the SRP Drains to the extent that they are located on the Reservation,⁵¹ and is entitled to divert water therefrom.⁵² ¶¶ 16.2, 16.3. At its sole discretion, SRP has the right to discontinue discharging water into any or all of the drains, other than the Maricopa Drain described in the Maricopa Contract.⁵³ ¶¶ 2.112, 16.3. The Community agreed to release and discharge SRP from all obligations and liabilities for certain damages claimed to have been sustained on the Reservation. ¶ 16.7. The provisions of paragraph 16.0 the Settlement Agreement supersede all previous agreements related to SRP drainage facilities on the Reservation. ¶ 16.8.

3.9.2 SRP Stored Water and Blue Ridge Stored Water Provisions

SRP Stored Water

SRP agreed to credit the Community with an entitlement to SRP Stored Water ranging from 2,000 to 35,000 AFY when certain storage levels in the SRP reservoirs exceed 100,000 AF as of May 1st of each year (“Net SRP Reservoir Storage”). ¶ 12.1. In determining net storage, a deduction is made from the amount of actual storage on May 1 to reflect prior commitments and agreements between SRP and other parties. ¶ 2.122. For purposes of the GRIC Water Budget, an estimated average of 20,000 AFY was used. ¶ 12.2.

Once the net storage is calculated, the amount of water available to the Community is determined by referencing the graph shown in Exhibit 12.1. ¶ 12.1. As depicted on the graph, the estimated average yield of 20,000 AFY included in the GRIC Water Budget results when the Net SRP Reservoir Storage level is equal to 1,640,000 acre-feet. The Community’s entitlement to SRP Stored Water is phased in over five years, with 20% annual increments. ¶ 12.2.

SRP will establish and maintain two separate accounts that will be credited with the Community’s entitlement to SRP Stored Water. The Community’s annual

⁵¹ As described above in **Section 3.5.3**, SRP agreed to contribute \$500,000 to the Community toward the cost of easements, construction, rehabilitation, operation, and maintenance of the drainage structures on the Reservation. ¶ 16.9.

⁵² As of the Enforceability Date, SRP will assign and transfer to the Community certain related agreements, easements and right-of-way documents.

⁵³ The Maricopa Contract is another contract between SRP and the Community, which is described below in **Section 3.9.3**.

entitlement (May 1 to April 30) will be credited to a Current Account, and any unused credits from the prior year will be transferred to a Carryover Account. The combined credits in the Carryover Account and the SRP Exchange Water Account described above in **Section 3.9.1** may not exceed 45,000 AF. Credits in excess of 45,000 AF will revert to SRP. ¶ 12.3.1. Subject to the phase-in percentages, the Community will not be entitled to order more than 45,000 AFY from the total credits in the Current Account and the Carryover Account. ¶ 12.4.1. The Current Account is not subject to transportation losses, evaporation or reservoir spills. The Carryover Account is also not subject to transportation losses, but is subject to evaporation losses and spills. ¶ 12.3.2.

The Community's water orders are subject to the limits of the SRP delivery system capacity, and will be for delivery only at certain delivery points.⁵⁴ ¶¶ 12.4.4, 12.4.5. Water diverted for use on the Reservation at certain delivery points and in certain amounts will be deemed to have satisfied the Community's water order. ¶ 12.5. The Community is responsible to pay for SRP Stored Water at the same cost per acre-foot rate that SRP shareholders are required to pay, with a reduction for non-SRP Stored Water deliveries to certain delivery points, or water delivered under the Maricopa Contract over 5,900 AFY from the prior year.⁵⁵ ¶ 12.7. The Community may only use SRP Stored Water on the Reservation for lawful and beneficial purposes defined by Community Water Code. ¶ 12.8.

SRP does not warrant or guarantee the quality of the water delivered to the Reservation through its distribution system. ¶ 12.10.1. However, SRP will use its best efforts to restrict point source discharges to the SRP water delivery and drainage system to any entities possessing state or federal water quality permits. ¶ 12.10.3.

Blue Ridge Stored Water

After certain conditions are satisfied, SRP will credit the Community with an annual entitlement of water from Blue Ridge Reservoir ("Blue Ridge Stored Water").⁵⁶

⁵⁴ Deliveries at one of the delivery points will be made through RWCD. ¶ 12.4.6.

⁵⁵ The Maricopa Contract is described in **Section 3.8.3**.

⁵⁶ The actual water that is delivered to the Community may be from a variety of supplies. In addition to surface water, these sources may include underground water, agricultural return flows, drainage water, Colorado River water and effluent. ¶ 12.13.7.

¶ 12.13. For the purposes of establishing the GRIC Water Budget, the Community's entitlement to Blue Ridge Stored Water is estimated to average 500 AFY. This amount is neither a restriction nor a guarantee on the availability of SRP Stored Water to the Community. ¶ 12.13.6.

ADWR's records indicate that Blue Ridge Dam is located on East Clear Creek in the Little Colorado River watershed. Under a 1944 agreement with the SRP and the Defense Plant Corporation, Phelps Dodge constructed Blue Ridge Reservoir to provide water for its copper mining operations near Morenci, Arizona by means of a water exchange. Under the Blue Ridge Agreement, Blue Ridge water that was physically conveyed to the Verde River watershed for use by SRP became available for exchange for water diverted from the Black River in the Salt River Watershed by Phelps Dodge. Recently Phelps Dodge transferred title to Blue Ridge Dam and Reservoir to SRP in satisfaction of paragraph 12.13.1 of the Settlement Agreement. SRP then renamed the reservoir as CC Cragin Reservoir and transferred title to the BOR. As further required by paragraph 12.1.3.1, SRP filed an application with ADWR to sever and transfer the water rights from Phelps Dodge to SRP for use in the Salt River Reservoir District. That sever and transfer application is currently working its way through the ADWR administrative process. Until the sever and transfer process is completed, Blue Ridge water will not be available to the Community. ¶ 12.13.1.

Once the conditions of ¶ 12.13 are fully satisfied, SRP will establish a Blue Ridge Account, and SRP will credit the Community with an annual entitlement of Blue Ridge Stored Water ranging from zero to 836 AF as determined annually on May 1. ¶¶ 12.13.1, 12.13.2. The Community's entitlement to Blue Ridge Stored Water will be determined by the graph in Exhibit 12.13. As depicted on the graph, the estimated annual average yield of 500 AF included in the GRIC Water Budget will result when the volume of Blue Ridge stored water is about 13,530 AF.

The Blue Ridge Account is an annual account (May 1 to April 30) only. Any unused credits may not be carried over to future years, any remaining credits will be transferred to SRP, and any balance in the Blue Ridge Account will be reduced to zero. ¶ 12.13.2. Blue Ridge Account water is not subject to transportation losses, evaporation

losses or spill. ¶ 12.13.3. The cost of water from the Blue Ridge Account water will be based on 10% of cost for SRP's fixed operation, maintenance and repair of Blue Ridge Dam and related facilities, and the variable costs associated with transporting the water to the point it is discharged into the East Verde River. ¶ 12.13.4. The Community may only use Blue Ridge Stored Water on the Reservation for the lawful and beneficial purposes defined in the Community Water Code. ¶ 12.13.5.

3.9.3 Maricopa Contract (Exh. 7.2)

On May 5, 1936, SRP and the United States entered into an agreement for the pumping of water for the Maricopa Indians on the GRIR, which was amended by a supplemental letter of agreement dated June 12, 1968. The amended and restated agreement (Maricopa Contract) is Exhibit 7.2 to the Settlement Agreement.

Under the Maricopa Contract, SRP agrees to deliver water through a booster pump with a minimum flow capacity of 400 miners' inches for the irrigation of Haggard Decree lands, subject to certain ordering and scheduling provisions. Exh. 7.2, Art. I, XIII.⁵⁷ SRP agrees to deliver at its own cost up to 5,900 AFY of water, which is the equivalent of 324 miners' inches continuous flow required under the Haggard Decree. Art. I, II. Water deliveries under the Maricopa Contract are in lieu of water to which the Community is entitled under the Haggard Decree and in full satisfaction of those rights. Art. II. The Community may order more than 5,900 AFY, but any excess water will require reimbursement of the associated cost of pumping power. Art. II, IV. If in any year, the Community orders more water than is delivered by SRP (up to 5,900 AFY), then SRP agrees to deliver the deficiency in addition to water ordered by the Community the following year. If SRP fails to deliver the deficiency the following year, then SRP agrees to credit the Community's Current Account for SRP Stored Water established in paragraph 12.3 of the Settlement Agreement.⁵⁸ Art. II.

The Maricopa Contract is intended as a compromise and settlement of disputes between the Community, the United States and SRP concerning SRP's alleged depletion

⁵⁷ References to articles in this section are to the Maricopa Contract, Exhibit 7.2.

⁵⁸ The current account is described above in **Section 3.9.2**. The deficiency water will not be subject to the delivery charges, fees or costs associated with SRP Stored Water. Art. II.

of the Salt River water supply for Haggard Decree lands. Art. X. SRP is no longer required to equip, operate, and maintain a groundwater well to furnish Haggard Decree water, and SRP agrees to transfer the ownership of the SRP pumping equipment associated with the well to the Community or the United States. Art. X, XVII. SRP neither guarantees nor warrants the quality of water delivered under the Maricopa Contract. Art. XIV.

3.9.4 Roosevelt Water Conservation District Agreement (Exh. 9.1)

On May 10, 1999, GRIC, the United States and RWCD entered into an agreement concerning the delivery of CAP water and surface water to the Community for on-Reservation use, utilization of the RWCD delivery system, and limitations on the withdrawal of groundwater by RWCD near the Reservation's northern boundary.⁵⁹ On October 21, 2005, the parties agreed to amend this agreement in part to conform to the Settlement Agreement ("Amendment No. 1"). The 1999 agreement and the proposed amendment are included in Exhibit 9.1 to the Settlement Agreement ("RWCD Agreement").⁶⁰

Under the 1999 agreement, GRIC and the United States will settle certain water rights and money damages claims against RWCD pending in federal district court in return for certain deliveries of water. ¶¶ 2.1 to 2.4, 8.0. As part of this settlement, GRIC and the United States will confirm and ratify certain RWCD water rights to use surface water and groundwater, and retain certain claims for injunctive relief and damages. ¶ 7.0. Under paragraph 1.5 of Amendment No. 1, provisions concerning groundwater withdrawals and recovery credits will not apply to Mesa, Chandler or Gilbert. In addition, under paragraph 2 of Amendment No. 1, on the Enforceability Date, the waivers and releases set forth in paragraphs 25.2 to 25.6 of the Settlement Agreement will be in substitution of the waivers and releases granted to RWCD and others in paragraph 8.2 of the RWCD Agreement.

⁵⁹ The 1999 agreement requires Court approval in order to remain in effect. Exh. 9.1, ¶¶ 9.4, 9.5.

⁶⁰ The amendment is intended to conform the 1999 agreement to the Settlement Agreement. According to ADWR's information, the amendment has not yet been executed.

RWCD CAP Water

In a 1992 agreement with GRIC and the United States, RWCD relinquished its entitlement to CAP NIA priority water for the benefit of the GRIC. Deliveries of this relinquished water for the GRIC are subject to the 1999 agreement described above.⁶¹ As indicated in this agreement, RWCD's subcontract for CAP NIA water was not expressed as a fixed quantity in acre-feet per year. Rather it was expressed as 5.98% of the CAP water available for delivery for irrigation. Exh. 9.1, ¶ 2.3.⁶² Under the Settlement Agreement, the CAP NIA water relinquished by RWCD will be quantified as a fixed amount of 18,600 AFY. Settlement Agreement, ¶ 2.143. Deliveries of RWCD relinquished water are subject to rights previously transferred by RWCD to certain cities and towns under the Salt River Pima-Maricopa Indian Community water rights settlement.⁶³

RWCD Surface Water

As provided by the RWCD Agreement, RWCD will deliver up to 4,500 AFY of surface water from the Salt and Verde River systems to a mutually agreed upon point on the northern boundary of the Reservation. ¶¶ 5.1, 5.1.1, 5.1.4. This volume of water will be made available at the Reservation boundary delivery point without a deduction for transmission losses, but will be subject to payment of normal RWCD delivery charges. ¶¶ 5.1.4, 5.2. The RWCD Surface Water will be used on these Reservation lands that are not the subject of Globe Equity Decree water rights or Haggard Decree water rights.

Deliveries of water under the RWCD Agreement are subject to several requirements, including the construction of an extension of the RWCD delivery system. ¶ 5.1.1(d). Water deliveries will only be made between January 1 and September 30 of each year, and the maximum monthly water delivery will be 1,035 acre-feet. ¶ 5.1.2. Any water not used by the Community in a given month will not carry over from month to month or from year to year. Water available for delivery to GRIC is contingent upon RWCD's first having adequate diversion credits available to it pursuant to certain rights

⁶¹ A copy of the relinquishment agreement is Exhibit A to the 1999 agreement.

⁶² Unless otherwise noted, paragraph references in this section are to the 1999 agreement in Exhibit 9.1.

⁶³ These entities include Chandler, Glendale, Scottsdale, Tempe, Mesa, Phoenix, and Gilbert. ¶ 4.1.

and agreements. The GRIC's entitlement to RWCD Surface Water is also subordinate to water rights provided to the Salt River Pima-Maricopa Indian Community and the Fort McDowell Indian Community under their respective water rights settlements. ¶ 5.1.3.

RWCD Delivery System Capacity

With certain limitations, the GRIC will have the right to use 30 cubic feet per second (cfs) of capacity in the RWCD delivery system on a continuous flow basis, as well as the occasional use of additional capacity that is unused. ¶ 6.1. All deliveries of water by means of this capacity are subject to delivery charges. ¶ 5.3. Delivery of water other than RWCD Surface Water, such as CAP water, through the 30 cfs of capacity is subject to reduction based on certain transmission losses. ¶ 10.3.2.

The GRIC or the United States may utilize the RWCD delivery system right-of-way to expand the capacity in the RWCD system for their use by up to 200 cfs. ¶ 6.3. The United States and the GRIC will be responsible for all operation, maintenance and replacement costs associated with such additional capacity. ¶ 6.3(d). Also, if the United States increases the capacity of the connection between the CAP Aqueduct and the RWCD pump station for the purpose of delivering water to the Reservation, RWCD could use that capacity, under limited circumstances. ¶ 6.4.

RWCD does not warrant the quality of the water delivered under the Settlement Agreement, but the water delivered by RWCD to the Reservation will be of the same quality as the water that RWCD delivers to owners of land within RWCD. In addition, RWCD will not discharge and will not allow others to discharge effluent into the RWCD system that fails to meet certain enumerated water quality standards. ¶ 10.1.

RWCD Pumping Limitations

As described in **Section 3.4.4** above, RWCD will not pump more than 8,000 AFY from wells it owns south of Pecos Road. Withdrawals greater than that amount are subject to injunctive relief and claims for damages by the United States or GRIC, unless the water is pumped by RWCD for delivery to Mesa, Chandler or Gilbert. ¶¶ 7.2, 7.3;

Amendment No. 1, ¶ 1.5. RWCD will not drill new wells south of Pecos Road, but it may replace those wells if necessary. ¶ 7.2.

RWCD will not grant its consent to any non-party to the RWCD Agreement (except for Mesa, Chandler and Gilbert) to drill a well within RWCD south of Ray Road in contravention of any ADWR regulation or order that regulates the spacing and construction of new wells. ¶ 7.5. Pumping limitations will not apply against the recovery of long-term storage credits that results from the storage of CAP water or effluent at certain locations. ¶ 7.6.

3.9.5 Phelps Dodge Agreement (Exh. 10.1)

On October 21, 2005, GRIC, the United States, and Phelps Dodge Corporation (“Phelps Dodge”) agreed to the terms of an amended and restated agreement (“Phelps Dodge Agreement” or “Agreement”), which is Exhibit 10.1 to the Settlement Agreement.⁶⁴ This Agreement replaces in its entirety a prior settlement agreement dated May 4, 1998 among the same parties. Exh. 10.1, ¶ 1.3. Certain provisions of the Phelps Dodge Agreement are modified by the Settlement Agreement as discussed below.

The Phelps Dodge Agreement is intended to settle the water rights claims of the GRIC and the United States against Phelps Dodge, and the water rights claims of Phelps Dodge against the GRIC and the United States. Exh. 10.1, ¶ 2.2.⁶⁵ In consideration of the settlement, Phelps Dodge will pay the Community certain sums of money. ¶ 2.3. In addition, GRIC will lease certain CAP water to Phelps Dodge on terms and conditions set forth in a separate lease and option agreement, which is Attachment A to the Phelps Dodge Agreement (“CAP Lease Agreement”). The Phelps Dodge Agreement also authorizes certain exchanges of CAP water. ¶ 2.4.

As of the date of the original agreement, the Phelps Dodge Agreement and the CAP Lease became binding upon Phelps Dodge and GRIC. As of the Enforceability Date, the Phelps Dodge Agreement will become binding on the United States. As of the date that Phelps Dodge makes a certain payment to GRIC, the Phelps Dodge Agreement

⁶⁴ According to information available to ADWR, the Phelps Dodge Agreement has been executed.

⁶⁵ Except as otherwise noted, paragraph and attachment references are to Exh. 10.1.

becomes binding on all parties for purposes of satisfaction of claims and agreements not to object. ¶¶ 1.13, 3.4, 4.2, 7.0.

Phelps Dodge's Consideration

Upon payment of \$18 million by Phelps Dodge, GRIC and the United States agree to confirm and not object to Phelps Dodge's water rights, or Phelps Dodge's withdrawal of water from certain existing or future wells. They further agree not to assert a senior priority or call against Phelps Dodge's uses of water from certain sources. ¶¶ 4.1, 7.2(a), (b). Phelps Dodge agrees not to object to GRIC's water right claims for the Reservation. ¶ 7.5. Notwithstanding these agreements, the Community, the United States and Phelps Dodge also retain certain rights. ¶¶ 7.4, 7.5. These agreements may become void upon Phelps Dodge's failure to make timely payments. ¶ 7.3.⁶⁶

As required by paragraphs 4.2(a) and (b), Phelps Dodge already paid the Community a non-refundable sum of \$1 million, which is acknowledged in the Agreement. ¶ 4.2. Phelps Dodge will not be required to make any additional payments on the remaining \$17 million until certain conditions have been satisfied or waived⁶⁷ within seven years of the Enforceability Date, unless that date is extended. ¶¶ 4.1, 8.1. Phelps Dodge may make the requirement payment in a single installment or in ten yearly equal installments plus interest. ¶ 4.4. If Phelps Dodge does not waive the payment conditions, then Phelps Dodge may elect to cancel the Agreement. ¶ 8.1(a). Any entitlement to water claimed by the GRIC or the United States against Phelps Dodge will be satisfied out of the Phelps Dodge payments. ¶ 7.6.

CAP Lease Agreement

As part of the Phelps Dodge Agreement, GRIC agreed to lease its CAP water to Phelps Dodge on terms and conditions set forth in the CAP Lease Agreement

⁶⁶ The waivers and retentions of claims in paragraph 25.0 of the Settlement Agreement will be effective among the parties to the Phelps Dodge Agreement on the Final Effective Date. If Phelps Dodge fails to make timely payments, these waivers and retentions of claims may become void. ¶¶ 7.3, 7.7.

⁶⁷ The Secretary must execute the CAP Lease and authorize diversions of water from the CAP canal under the lease, or execute an exchange agreement. ¶ 4.2(c). Information available to ADWR indicates that the CAP Lease has been fully executed.

incorporated as Attachment A. ¶ 5.1. The CAP Lease Agreement became binding upon GRIC and Phelps Dodge upon its execution in 2005. However, it does not become binding upon the United States until the authorizations set forth in section 207 of the Settlements Act concerning waivers and releases are satisfied, and environmental clearance has been completed. ¶ 5.2. Until the lease agreement becomes binding on the United States, GRIC may continue to use the CAP water in any manner that does not defeat the purpose of the lease. Attachment A, ¶ 6.9.

Upon execution by the Secretary, GRIC agrees to lease 12,000 AFY of CAP Indian Priority Water. Attachment A, ¶ 6.1. For the initial 50-year term of the lease, Phelps Dodge will make a one-time \$4.8 million payment to the Community. Attachment A, ¶¶ 5.1, 6.2. Upon the payment of additional sums as determined by the CAP Lease Agreement, Phelps Dodge may renew the lease for another 50 years. ¶ 6.3. The renewal term consideration may be made in a single installment, or in ten equal yearly installments. ¶ 6.4. Phelps Dodge also has the option to lease up to an additional 10,000 AFY. As consideration for this option, Phelps Dodge will pay \$50,000 annually from the effective date of the lease until Phelps Dodge either exercises or terminates the option, or the option expires. Attachment A, ¶ 7.1, 7.3. Phelps Dodge's option payments are non-refundable. ¶ 7.3.

Phelps Dodge may use the CAP water for the purposes described in paragraph 6.8 without further approval by GRIC, except for any necessary environmental compliance. The terms of the lease also indicate that Phelps Dodge may seek changes in use or location without additional approvals except for environmental compliance and the Secretary's approval. Attachment A, ¶ 6.8. Phelps Dodge is responsible for OM&R charges during the initial term, renewal term or option terms of the lease for water it schedules for delivery. Attachment A, ¶¶ 6.6, 7.7.

CAP Exchange Provisions

Phelps Dodge may use the CAP water leased from the Community for direct diversions from the CAP canal and/or for delivery of the leased water for exchange. Phelps Dodge may deliver water to the Community in exchange for the right to make an

upstream diversion of water from the Gila River for use in Phelps Dodge's operations. Phelps Dodge may also exchange water through the Community or others within the CAWCD service area for beneficial uses as authorized by the Settlements Act. In the event that Phelps Dodge uses all or some of the CAP water leased from GRIC for exchange, GRIC, Phelps Dodge and the United States agree to negotiate an exchange agreement for a term of 100 years. ¶ 6.1. However, the United States may not execute the exchange agreement until the completion of environmental compliance and court approval, if required. ¶ 6.2.

Phelps Dodge's rights under an exchange agreement on the mainstem of the Gila River will be subject to the priority of Kennecott Copper Corporation (Asarco) to waters in the Gila Watershed diverted and used downstream of the San Carlos Reservoir under a 1977 agreement with GRIC and the United States. Except for certain diversions made by the State of New Mexico under the Colorado River Basin Act and the Settlements Act, Phelps Dodge's diversions upstream of the San Carlos Reservoir shall have first priority over the exchange partners of GRIC, including Kennecott. ¶ 6.4.

Settlement Agreement Provisions

The Settlement Agreement includes additional provisions concerning the water rights described in the Phelps Dodge Agreement. ¶ 10.0.⁶⁸ In the event of a conflict, the Phelps Dodge Agreement controls with respect to the parties to that Agreement, with certain exceptions stated in the Settlement Agreement. Also, the Settlement Agreement clarifies that nothing in the Phelps Dodge Agreement will be construed to bind FID or GVID regarding agreements not to object or to call out other rights on the Gila River, except as provided in the Settlement Agreement. ¶ 10.1.

The SCIDD and the United States, in a limited capacity,⁶⁹ agree not to object to Phelps Dodge's water rights described in the Phelps Dodge Agreement. ¶¶ 10.2.1, 10.2.2. However, GRIC, the United States and SCIDD reserve the right to challenge applications for change of use, place of use or exchange (other than the relocation of a

⁶⁸ Unless otherwise noted, paragraph references in this section are to the Settlement Agreement.

⁶⁹ The United States is bound to the extent that it holds legal title to certain Globe Equity Decree water rights on behalf of SCIDD lands and other lands subject to the Globe Equity Decree, but not on behalf of the SCAT. ¶ 10.2.1.

certain facility on Chase Creek) concerning those rights, notwithstanding provisions to the contrary in the Phelps Dodge Agreement. ¶¶ 10.2.1.1, 10.2.3.

Subject to certain provisions in the SCIDD Agreement described below in **Section 3.9.9**,⁷⁰ the United States and the SCIDD agree not to assert a senior priority against Phelps Dodge’s water uses from sources listed in the Phelps Dodge Agreement, or to object to Phelps Dodge’s withdrawal of water from existing or future wells described in the Phelps Dodge Agreement. ¶ 10.4. These agreements not to assert senior rights or to object do not apply under certain conditions described in paragraphs 10.4.1 and 10.4.2. In addition, Phelps Dodge will limit its diversions from Eagle Creek and the San Francisco River as described in the Ling Decree⁷¹ to 3,000 AFY, and will not exceed certain monthly amounts. ¶ 10.4.3. This limitation will also apply to water withdrawn from certain wells. ¶ 10.4.4.

As of the Enforceability Date, Phelps Dodge agrees not to object to the validity of certain Globe Equity Decree water rights. Phelps Dodge also agrees not to object to SCIDD’s claim of the right to share in all of the water rights held by the United States on behalf of the Indian lands within SCIP. ¶ 10.6. The Phelps Dodge Agreement shall be in addition to certain waivers and releases granted to Phelps Dodge and others under the Settlement Agreement. ¶ 10.7.

3.9.6 CAP Lease Agreements (Exh. 17.1A to 17.1D)

Exhibits 17.1A, 17.1B, 17.1C, and 17.1D contain separate CAP Lease Agreements among the GRIC, the United States and each of the following cities: Goodyear, Peoria, Phoenix, and Scottsdale (“Leasing Cities”). The four Lease Agreements are virtually identical except for the name of the Leasing City and the volume of water leased. These leases are authorized under the Community Water Delivery Contract, which is Exhibit 8.2 to the Settlement Agreement. ¶ 2.3.1.⁷²

⁷⁰ These provisions reflect the consideration to be provided to SCIDD by the Community following the Enforceability Date. ¶ 10.4.

⁷¹ *In Re the Matter of the Determination of the Relative Rights to the Water of the Gila River and its Tributaries in Greenlee County, Arizona*, No. 1154-B, Greenlee County Superior Court (Nov. 28, 1927), amended decree (April 27, 1936).

⁷² Unless otherwise noted, paragraph references are to identical provisions in Exh. 17.1.A to 17.1.D.

Under these agreements, the Community will lease a total of 41,000 AFY of its CAP Indian priority water as follows: 7,000 AFY to Goodyear; 7,000 AFY to Peoria; 15,000 AFY to Phoenix, and 12,000 AFY to Scottsdale. Each of the cities will pay the Community a one-time leasing charge. The calculation of this charge and the options for payment are described in paragraph 4.3.

Delivery of leased water is subject to adjustment depending upon other delivery obligations under CAP contracts or subcontracts, or in times of shortage. ¶¶ 4.6, 4.6.1. Each Leasing City may use or deliver leased water outside the Reservation either within the CAWCD service area or the city's service area. ¶ 4.7.

As long as a city is not in default on its payment obligations to the Community, that city may assign all or part of its interest in the leased water to one or more other cities. These cities include the other Leasing Cities and the cities of Chandler, Glendale and Mesa. ¶¶ 3.19, 4.12(B). Also, if any city is in default on lease payments to the Community, any of the other cities may take assignment of the lease from the defaulting city. ¶ 6.4. Each Leasing City will be responsible for paying OM&R charges associated with the delivery of the CAP water, but will not be obligated to pay any CAP water service capital charges. ¶¶ 4.4, 4.5, 4.13.

The leases are for a 100-year period so that the leased water may be used for assured water supply purposes under state law. ¶¶ 4.2, 8.4. The lease agreements do not become effective until thirty days after the Enforceability Date, ADWR's adoption of a rule that enables the use of the leased water as a part of an assured water supply,⁷³ or the execution of the lease agreement by all parties, whichever is latest.⁷⁴ ¶ 8.4. The lease agreement may be renegotiated any time during its term. ¶ 8.2. If the Leasing City has paid at least one-fourth of the water lease charge, the leasing city may voluntarily terminate the lease or surrender a portion of the leased water without the Community's approval. ¶ 7.1, 7.2. The Community or the Leasing City will be responsible for any taxes associated with a CAP Lease Agreement, as described in paragraphs 17.3.1 to 17.3.4 of the Settlement Agreement.

⁷³ In 2001, ADWR adopted such a rule.

⁷⁴ According to information available to ADWR, the lease agreements have been fully executed with the exception of the Goodyear lease, which has not yet been executed by GRIC.

In the event of a conflict between the Settlement Agreement and the CAP Lease Agreement, the provisions of the CAP Lease Agreement control among the parties thereto. The CAP Lease Agreements will not be subject to challenge by the Settling Parties. Settlement Agreement, ¶¶ 17.6, 17.7.

3.9.7 Reclaimed Water Exchange Agreement (Exh. 18.1)

The GRIC, United States, Chandler and Mesa entered in an agreement under which the GRIC will be entitled to certain quantities of reclaimed water from Mesa and Chandler (“Reclaimed Water Exchange Agreement” or “Agreement”) as part of the GRIC Water Budget. This Agreement is Exhibit 18.1 to the Settlement Agreement.⁷⁵

Chandler agrees to contribute reclaimed water to the Community; and, both Chandler and Mesa will provide additional reclaimed water in exchange for the Community’s CAP Water at a 10:8 ratio, which will result in reclaimed water premiums.⁷⁶ Exh. 18.1, ¶¶ 5.13, 6.1.1.⁷⁷ The reclaimed water is effluent that will be treated to certain water quality standards set forth in the Agreement, which will be subject to sampling, inspections, and record keeping. ¶¶ 4.1, 4.2, 4.5, 4.6. If a city is found in non-compliance, contingency measures may be invoked, and remedial measures may be necessary before deliveries are resumed. ¶¶ 4.3, 4.4.

The Reclaimed Water Exchange Agreement contains several waiver and indemnification provisions between GRIC and Chandler, and between GRIC and Mesa. ¶¶ 7.3, 7.4. The waivers of claims are in addition to those contained in the Settlement Agreement. ¶ 7.8.23.

Chandler Contributed Reclaimed Water

Chandler will make available for delivery to the GRIC 4,500 AFY of reclaimed water as a contribution to the GRIC Water Budget, which will be delivered to the

⁷⁵ Information available to ADWR indicates that this Agreement has been fully executed.

⁷⁶ The timing of initial deliveries of Chandler reclaimed water under the Agreement will be affected by a 1991 contract between Chandler and GRIC. ¶¶ 3.1.9, 5.2.1 to 5.2.3. Likewise, the timing of initial deliveries of Mesa reclaimed water under the Agreement will be affected by a 2002 contract between Mesa and GRIC. ¶ 3.1.24, 6.1.3. The provisions discussed below apply after the year in which initial deliveries are made.

⁷⁷ Unless otherwise noted, paragraph references in this section are to Exhibit 18.1.

Reservation boundary through a pipeline constructed by the city according to agreed-upon delivery schedules that are subject to certain limitations. ¶¶ 5.1.2, 5.4, 5.5, 5.6, 5.9, 5.13, 5.16 to 5.18. Chandler will construct and operate a delivery pipeline or alternative delivery works to transport the reclaimed water to the Reservation, and the Community will construct the necessary on-Reservation works to receive the reclaimed water. ¶ 5.10.1.1.1. In contrast to deliveries of exchange reclaimed water, these deliveries will not be subject to any blending requirement. ¶ 5.12.3. Chandler will be responsible for transportation losses occurring before the reclaimed water reaches the Reservation boundary, and the Community will be responsible for transportation losses thereafter. ¶ 5.14.1.

Deliveries will not commence until after the Enforceability Date and the following conditions have been satisfied: (1) infrastructure improvements have been completed, (2) Chandler's CAP subcontracts have been amended, (3) environmental requirements have been satisfied, and (4) federal funds have been made available to pay CAP fixed OM&R charges for Community CAP Water deliveries. ¶ 5.10. Deliveries will continue as long as the Settlement Agreement remains in effect among the Community, the United States, and Chandler. ¶ 5.1.5.

Chandler Reclaimed Water Exchange Premium

Chandler will make available for delivery to the GRIC up to 11,200 AFY of reclaimed water in exchange for 8,970 AFY of Community CAP Indian priority water. ¶¶ 3.1.14, 5.1.2. This will result in an exchange premium of up to 2,230 AF. If the Community does not accept deliveries as required by the Agreement, Chandler will be entitled to receive credits for those deliveries. ¶ 5.14. Additional accounting and reconciliation provisions are set forth in paragraph 5.9 and 5.17, and reporting requirements are set forth in paragraph 5.8.

The exchanges will begin upon satisfaction of the delivery conditions set forth in ¶ 5.10 described above. Deliveries will continue as long as the Community has CAP water available for exchange, and the Settlement Agreement remains in effect among the Community, the United States and Chandler. ¶ 5.1.5. The Community will not be liable

for any payments for Community CAP Exchange Water delivered to Chandler, and Chandler will not be obligated to pay any CAP capital charges associated with the Community CAP Exchange Water delivered to Chandler. ¶¶ 5.19.6, 5.19.7.

Like the reclaimed water that will be contributed by Chandler, exchange reclaimed water will be delivered to the Reservation boundary through a pipeline constructed by the city according to agreed-upon delivery schedules that are subject to several limitations, some of which also apply to contributed reclaimed water. ¶¶ 5.4, 5.5, 5.6, 5.7, 5.9, 5.11, 5.13, 5.16 to 5.18. However, these deliveries are subject to a 50% blending requirement. The Community intends to blend the exchange reclaimed water with other sources of water so that the total blend of water will not exceed 50% reclaimed water. ¶ 5.10.1.1.1, 5.12. As with contributed reclaimed water deliveries, Chandler will be responsible for delivery losses in transporting the exchange reclaimed water to the Reservation and the Community will be responsible for any losses thereafter. ¶ 5.14. Chandler is also responsible for all delivery losses associated with its use of CAP water after it receives the CAP water at its turnout. ¶ 5.75.

During a ramp up period, Chandler will increase the volume of exchange reclaimed water delivered to the Community over a number of years. Subject to certain limitations, the initial delivery will range between 500 AFY and 1,500 AFY, and will thereafter increase by the same yearly range until the total maximum delivery of 11,200 AFY is achieved. ¶¶ 5.3.2, 5.3.2.1, 5.3.3.1.

Mesa Reclaimed Water Exchange Premium

Mesa will make available for delivery to the GRIC up to 29,400 AFY of reclaimed water in exchange for 23,530 AFY of the Community's CAP Indian priority water. ¶ 6.1.1. This will result in an exchange premium of 5,870 AF. If the Community does not accept deliveries as required by the Agreement, Mesa will be entitled to receive credit for those deliveries. ¶ 6.6.3. Additional accounting provisions are set forth in paragraphs 6.8 and 6.18.1, and reporting requirements are set forth in paragraph 6.9.

Deliveries will not commence until after the Enforceability Date and the following conditions have been satisfied: (1) infrastructure improvements have been

completed, (2) the Mesa pipeline or alternative structure has been constructed, (3) required measuring devices have been installed, (4) certain conforming changes have been made to Mesa's CAP subcontracts concerning water exchanges with Indian tribes and shortage sharing, (5) CAP capital repayment costs attributable to the Community CAP Water are made non-reimbursable, (6) federal funds are made available to pay for CAP fixed OM&R charges for Community CAP Water deliveries, (7) environmental requirements have been satisfied, and (8) infrastructure improvements have been made. ¶ 6.11. Deliveries will continue as long as the Community has CAP water available for exchange, and the Settlement Agreement remains in effect among the Community, the United States and Mesa. ¶ 6.1.2. The Community will not be liable for any payments for any Community CAP Exchange Water delivered to Mesa, and Mesa will not be obligated to pay any CAP capital charges associated with the Community CAP Exchange Water delivered to Mesa. ¶¶ 6.19.4, 6.19.5.

Exchange reclaimed water will be delivered to the Reservation boundary through a pipeline constructed by the city according to agreed-upon delivery schedules that are subject to several limitations. ¶¶ 6.2 to 6.12, 6.21. Mesa will construct and operate a delivery pipeline or alternative delivery works to transport the reclaimed water to the Reservation, and the Community will construct the necessary on-Reservation works to receive the reclaimed water so that the total blend of water will not exceed 50% reclaimed water. ¶¶ 6.11.1.1, 6.11.1.2. Mesa will be responsible for transportation losses occurring before the reclaimed water reaches the Reservation boundary, and the Community will be responsible for transportation losses thereafter. ¶ 6.15.1.

During a ramp up period, Mesa will increase the volume of exchange reclaimed water delivered to the Community over a number of years. Subject to certain limitations, the initial delivery will be 7,000 AFY and will thereafter increase by a yearly range of between 1,000 AF to 1,500 AF until the maximum delivery of 29,400 AFY is achieved. The ramp up period is limited to 23 years. ¶¶ 6.3.2, 6.3.3.

3.9.8 Buckeye Irrigation Company Agreement (Exh. 19.1)

As part of the Settlement Agreement, the Settling Parties ratified and confirmed the Articles of Agreement between the Buckeye Irrigation Company (“Company”) and the United States dated May 29, 1947 (“Buckeye Agreement” or “Agreement”), which becomes part of the Settlement Agreement on the Enforceability Date as Exhibit 19.1. However, nothing in the Buckeye Agreement may be construed to limit the pumping of underground water on the GRIR that is pumped in conformance with the terms and conditions of the Settlement Agreement. Settlement Agreement, ¶ 19.1.

Pursuant to the Buckeye Agreement, the United States paid the Company the sum of \$104,000 to settle and adjust an existing controversy in which the Company maintained that the construction of Coolidge Dam and the San Carlos Reservoir interfered with the Company’s water rights. Exh. 19.1, ¶¶ 19, 28 to 30.⁷⁸ In return for the United States’ payment of \$104,000, under paragraphs 30 and 33, the Company released the United States, SCIDD, and the Pima Indians from all damages or claims of damage by reason of the following (¶¶ 10, 30, 33):

- (1) Past, present or future operation and use of Coolidge Dam and the storage of Gila River water in the San Carlos Reservoir;
- (2) Past, present or future diversions of water at Ashurst-Hayden and Sacaton Diversion Dams;⁷⁹
- (3) Construction of any new storage and/or diversion dams on the Gila or its tributaries above the Sacaton Bridge and Diversion Dam and/or the storage of water therein or diversions therefrom;⁸⁰
- (4) Past, present or future diversions at Gila Crossing for the irrigation of approximately 3,000 acres of Indian lands; and
- (5) Past, present or future irrigation of approximately 4,500 acres of land within four Indian farm areas.⁸¹

⁷⁸ Unless otherwise stated, paragraph references in this section are to Exhibit 19.1.

⁷⁹ These dams are depicted on **Figure 6-1**.

⁸⁰ The United States’ construction of new reservoirs or other storage works together with existing reservoirs and other works may not be used for the purpose of irrigating more than 105,083.5 acres within SCIP, portions of the Florence-Casa Grande Project not included in SCIP, and Gila Crossing. ¶ 30.

⁸¹ These farm areas are known as the Lone Butte Farm, the Broadacres Ranch, the Collier Lease Farm, and the Cheatham Lease Farm. These lands are irrigated with water pumped from wells and Tempe Drain water. ¶ 11.

The Company's release of claims against the United States is also construed as a waiver of claims against the Indians of the San Carlos Indian Reservation for the use of Gila River water or its tributaries. ¶ 35.

The Buckeye Agreement does not affect or limit certain tribal water rights to the Salt River. These rights include the rights of the Maricopa Indians under the Haggard Decree, or the rights of the United States and the Salt River and Fort McDowell Indian Tribe on their reservations. ¶ 34.

3.9.9 San Carlos Irrigation and Drainage District (SCIDD) Agreement (Exh. 20.1)

The GRIC, United States and SCIDD (or "District") entered into an agreement attached as Exhibit 20.1 to the Settlement Agreement ("SCIDD Agreement" or "Agreement"). The SCIDD Agreement is comprised of a main agreement, and several attachments, including three other agreements that are incorporated by reference. Exh. 20.1, ¶ 2.1.⁸² For ease of reference, the provisions of the main agreement are referred to as the SCIDD Agreement herein with specific reference to the other agreements as necessary.⁸³

SCIDD Agreement

As further described in **Chapter 2**, the Community and SCIDD have a longstanding direct water management relationship as the co-beneficiaries of the SCIP (or "Project"). The SCIDD Agreement addresses responsibilities for constructing, operating, maintaining, and rehabilitating the SCIP delivery system, which serves Reservation and/or SCIDD lands. The SCIDD Agreement also resolves water rights issues between the GRIC and SCIDD, and enforcement issues concerning the Globe Equity Decree. Within 30 days following the Enforceability Date, the Community and the United States will file a stipulation and dismissal with prejudice of all claims

⁸² Unless otherwise noted, paragraph and attachment references are to Exhibit 20.1.

⁸³ Information available to ADWR indicates that the SCIDD Agreement and the Joint Control Board Agreement have been fully executed. However, the GRIC has not yet signed the Third Supplement Repayment Contract or the Construction Funding and Oversight Contract.

previously filed or pending in the Globe Equity Enforcement Court⁸⁴ by the Community against SCIDD and the District's landowners. Exh. 20.1, ¶ 4.1.

Prior to the use of any Project facility for the delivery of non-Globe Equity decree water, the Community will implement a co-mingled water supply management and associated accounting program. This program will ensure that Globe Equity decreed water is only delivered to Globe Equity eligible land. ¶ 5.0.

The Project facilities consist of different components, and the costs of rehabilitating some of these components will be paid with federal funds from the Development Fund as authorized in the Settlements Act,⁸⁵ which is described further in **Section 3.5.1** of this report. Paragraphs 6.2 to 6.6 describe the division of responsibilities for the design and construction of Project facilities, allocation of costs, scheduling requests for federal funding, and cost overruns. The BOR is the lead agency for oversight of the construction and rehabilitation of the SCIP. ¶ 6.7.

Maintenance responsibility for the rehabilitated SCIP is described in paragraph 7.0. Certain Project facilities will be maintained by a Joint Control Board that is created after the Enforceability Date, which will consist of six members, three representing the Community and three representing SCIDD.⁸⁶ ¶ 7.2. The Joint Control Board will assess the Community and the SCIDD for maintenance costs. ¶ 7.7. The Bureau of Indian Affairs will continue to have operation and maintenance responsibility for Coolidge Dam and Reservoir and Picacho Dam and Reservoir, and for scheduling and delivering water to the Community and SCIDD through Project facilities. ¶ 7.5.

Upon completion of the rehabilitation of the certain Project facilities, the deliveries of water to the Community and SCIDD by the United States will be restructured. ¶ 9.0. The restructuring provisions address allocation of: (1) water delivery losses, which will be shared in proportion to certain quantities transported through Project facilities (¶¶ 9.1.3, 9.1.4), (2) certain stored water, which will be divided equally (¶ 9.1.5), and (3) natural flow water, which will be divided 60/40% between the

⁸⁴ The SCIDD Agreement is not intended to affect the jurisdiction of the Globe Equity Enforcement court, or the rights of the parties to seek enforcement of Globe Equity Decree rights separate and apart from the SCIDD Agreement. ¶ 11.19.

⁸⁵ See § 403(f)(2)(C) and (f)(2)(D)(iv), as amended by the Settlements Act.

⁸⁶ See Joint Control Board Agreement, which is attachment 2.14 to the SCIDD Agreement, paragraphs 3.1 and 5.1.1.

Community and SCIDD respectively, subject to certain conditions (§ 9.1.6). The Community and SCIDD agree to order the maximum quantity of usable natural flow water available under the Globe Equity Decree. § 9.1.8. In addition, the responsibility for operation, maintenance, and replacement of all Project wells located off the Reservation will be transferred from the United States to SCIDD.⁸⁷ § 9.4.

The Community and the United States mutually agree not to object to potential conversions or transfers of water rights for Globe Equity Decree lands from agricultural uses to municipal and industrial uses within SCIDD. All potential conversions and transfers will be subject to the no-injury standard under the Globe Equity Decree. § 9.2. Also, the Community and SCID may enter into agreements to exchange portions of their Gila River water entitlement with upstream water users subject to the Globe Equity Decree no-injury standard. § 9.3.

If the Phelps Dodge Agreement⁸⁸ becomes effective, the Community will mitigate potential impacts on SCIDD from Phelps Dodge's diversions of water from Eagle Creek and the San Francisco River under the Ling Decree, and water intercepted from Chase Creek. §§ 10.1, 10.1.3. The mitigation will be equal to 30.47% of the amount of the Phelps Dodge diversions.⁸⁹ § 10.1.3. The Community may satisfy its mitigation requirement by furnishing Gila River water, CAP water, or with SCIDD's consent, Reservation groundwater at specified rates and delivery points. § 10.2.

Third Supplemental Repayment Agreement

The Third Supplemental Repayment Agreement between the United States and SCIDD (Attachment 6.2 to the SCIDD Agreement) indicates that the SCIP rehabilitation programs described above will include the lining of canals. This will result in the conservation of a considerable amount of water, with a preliminary estimate of 48,000

⁸⁷ Underground water pumped by SCIDD for M&I purposes within the Eastern Protection Zone will be subject to the Southside Replenishment Program described above in **Section 3.4.3** of this report. However, water pumped by SCIDD from Project wells for agricultural purposes will be exempted. § 9.4.1.

⁸⁸ The Phelps Dodge Agreement is described above in **Section 3.9.5** of this report.

⁸⁹ Phelps Dodge will provide to the Community one-half of the water required as mitigation. Phelps Dodge Agreement, § 9.9.

AFY. Att. 6.2, ¶ 6.0. The actual amount of water conserved in any given year will be determined based on technical analyses performed by a three person Engineering Board. Att. 6.2, ¶ 15.3.

The conserved water will be available for use by SCIDD, but in consideration of a reduced repayment obligation by SCIDD to the United States, SCIDD will exchange a portion of the conserved water with the United States for other purposes. Att. 6.2, ¶¶ 16.2, 17.0. The first 25,000 AFY of conserved water will be solely for the benefit of SCIDD. Att. 6.2, ¶ 16.1. If available, the next 8,000 AFY of conserved water may be exchanged on a 1:1 ratio with the United States for SCIDD stored water in order to maintain a permanent pool in San Carlos Reservoir for fish and wildlife purposes.⁹⁰ Att. 6.2, ¶ 16.2.1. If the amount of conserved water exceeds 33,000 AF in any given year, additional water may be exchanged with the United States on a 2:3 ratio for the settlement of claims to the Gila River and its tributaries by SCAT. To the extent the extra conserved water is not needed or not fully required for that purpose, the water may, with the consent of the Community and SCIDD, be used for other purposes including other Indian water rights settlements and environmental mitigation. Att. 6.2, ¶ 16.2.2. The maximum amount of conserved water that will be eligible for exchange to the United States is 18,000 AFY. Att. 6.2, ¶ 16.2.

3.9.10 Safford Agreement (Exh. 26.1)

The GRIC, United States, SCIDD and the City of Safford (“Safford” or “City”) agreed to the terms of an amended and restated agreement (“Safford Agreement” or “Agreement”), which is attached as Exhibit 26.1 to the Settlement Agreement.⁹¹ This Agreement is intended to permanently resolve any disputes among GRIC, the United States, SCIDD and Safford regarding Safford’s use of water for M&I purposes as provided in the Agreement. Exh. 26.1, ¶¶ 1.4, 1.5, 1.7.⁹² The Safford Agreement

⁹⁰ Under the UVD Agreement described below in **Section 3.9.11**, certain holders of UV Decreed Water Rights and signatories agree not to object to this exchange. UVD Agreement, ¶ 15.20.

⁹¹ This amended agreement was part of Amendment No. 1 to the Settlement Agreement.

⁹² Unless otherwise noted, paragraph references in this section are to the Safford Agreement. Exh. 26.1.

becomes effective upon execution by all of the parties,⁹³ and becomes enforceable on the Enforceability Date, unless terminated unilaterally by Safford.⁹⁴ ¶¶ 2.8, 2.12.

Under the Safford Agreement, the City is entitled to divert and use 9,740 AFY of water from within the UV Impact Zone,⁹⁵ the Mount Graham System, and Bonita Creek as defined in the Agreement (“Initial Water Budget”). ¶¶ 2.4, 2.15, 2.16, 2.31, 4.1. On the Enforceability Date Safford’s estimated diversion and water use will be approximately 7,500 AFY, and additional uses and diversions of water will be phased in. ¶ 4.2.

When Safford’s total diversion of water from the UV Impact Zone, the Mount Graham System and Bonita Creek reaches 8,500 AFY, or five years after the Enforceability Date of the Settlement Agreement, whichever occurs first, Safford must develop a Water Use Plan that identifies all projected M&I uses by Safford. ¶ 4.3. If the projected M&I uses in Safford’s Water Use Plan exceed Safford’s Initial Water Budget, Safford must identify other methods of allocating water sources to increase its Water Budget. When Safford’s Initial Water Budget diversions reach 9,740 AFY, Safford must implement its Water Use Plan and update its plan as necessary to project future needs. The total amount of the Water Budget identified in any given Water Use Plan shall remain in effect for at least one year. ¶ 4.3. Paragraph 12 lists those water uses that will be considered for compliance with the Safford Water Budget.

Subject to certain conditions, Safford may increase its Water Budget, amend its Water Use Plan, and use additional water by allocating more water to its Water Budget. Acceptable methods for increasing the Water Budget are described in paragraphs 5.1 and 9.4. One of these methods includes diverting underground water or water from a recharge facility from certain wells located outside of the UV Impact Zone according to a

⁹³ According to information available to ADWR, the Safford Agreement has not yet been executed by Safford or the United States.

⁹⁴ If Safford does not receive federal funding to retire \$13.9 million debt for the Safford Waste Water Treatment Facility, the City may unilaterally terminate the Agreement by written notice to the GRIC, United States and SCIDD within 90 days of the Enforceability Date. Safford may relinquish this right at any time prior to the Enforceability Date, in which event the Agreement becomes effective and enforceable on the Enforceability Date. ¶ 18.1. Federal funds to retire the Safford debt were authorized to be appropriated under the Settlements Act, section 214(a)(5).

⁹⁵ The UV Impact Zone is generally located upstream of the San Carlos Reservoir in the vicinity of the Upper Valleys of the Gila River. This zone is depicted on maps included in **Appendix F** to this report.

plan approved by GRIC and SCIDD for direct use or to mitigate for pumping within the UV Impact Zone by discharging water into the Upper Gila River. ¶ 5.1.7. Another method involves modifying the city facilities in order to increase diversions from 3,876 AFY up to 5,310 AFY. ¶ 5.1.6.

If Safford allocates additional water to its Water Budget, then the City must amend its Water Use Plan accordingly. ¶ 5.1. If Safford requires additional water due to unexpected and unforeseeable circumstances, the City may exceed its Water Budget in a given year without amending its Water Use Plan as long as the need for such an increase is not on a recurring basis, and the excess use is mitigated under paragraph 10. ¶ 5.4.

The GRIC, United States and SCIDD confirm and agree not to object to Safford's rights to divert water from Bonita Creek or the Mount Graham System, regardless of whether the water is appropriable, or subject to claims based on federal law. They also confirm and agree not to object to Safford's UVD Water Rights.⁹⁶ The GRIC, United States and SCIDD further agree not to make a call or assert a senior priority against the City's water uses under Safford's Initial Water Budget. ¶ 15.0. Subject to certain limitations, Safford may seek to sever, transfer, or convert to M&I use UV Decreed Water Rights without objection by GRIC, the United States, or SCIDD, unless such acres are part of the UV acreage reduction program required under the UVD Agreement, which is described below in the next section of this report. ¶ 6.0. In addition, the Community, GRIC, and SCIDD agree not to object to the City's changes in points of diversion, or commingling of water supplies for M&I uses. ¶ 11.2. Also, Safford may divert water from the Mount Graham system directly for M&I uses both inside and outside of the UV Impact Zone. ¶ 8.1.1.

Several provisions of the Safford Agreement address effluent use by Safford, including the right to (1) allocate effluent to its Water Budget, (2) discharge effluent into the Upper Gila River, and (3) use effluent for recharge and other lawful purposes. ¶ 7.1. After Safford's diversion of water reaches 9,740 AFY, Safford will be entitled to earn effluent credits for discharges of effluent into the Upper Gila River, recharging effluent

⁹⁶ The term UV Decreed Water Rights is a term that appears in several agreements, and is defined in the front of this report.

within the UV Impact Zone, and for other uses. The amount of credits will be determined by the type of use. If Safford sells a portion of its effluent to a third party, the City will not receive effluent credits for the portion of the effluent sold. ¶¶ 7.2, 7.3. Effluent credits may be used to offset diversions counted against the Water Budget, or to satisfy mitigation requirements. ¶ 2.10.

Subject to certain conditions, Safford also has the right to recharge effluent inside the UV Impact Zone, and recovered effluent will not be counted against the Safford Water Budget. ¶¶ 7.7.1, 7.7.3.1. In addition, the City may recharge effluent outside the UV Impact Zone, and not be subject to the Agreement. However, Safford may not divert water within the UV Impact Zone based on effluent storage credits received under state law for the recharge of effluent or other water outside the UV Impact Zone. ¶ 7.7.2.

With the exception of observation wells and replacement wells, in the event that the City seeks to drill a new well within the UV Impact Zone, all water diverted from the well will be counted against the Safford Water Budget, unless Safford implements certain testing procedures to determine whether pumping from the well will impact the flows of the Gila River. ¶¶ 9.1, 9.5, 9.8.

If Safford exceeds its Water Budget or fails to control phreatophytes as required by paragraph 13.0, it must provide mitigation water to GRIC and SCIDD in certain quantities depending on the cause of the excess water use. ¶ 10.0. GRIC is not required to accept effluent as mitigation unless it is delivered above Coolidge Dam. ¶ 10.2.4.

The parties to the Safford Agreement will be subject to the waivers, releases and retentions of rights set forth in paragraph 16.0 of the Safford Agreement, in addition to those set forth in paragraph 25.0 of the Settlement Agreement. ¶ 16.1. The waivers and releases become effective on the Enforceability Date, but will become void *ab initio* if Safford elects to terminate the Agreement. ¶ 16.6.

Rights and obligations under the Safford Agreement may be enforced in any court of competent jurisdiction, other than the courts of the GRIC. ¶ 17.1. If there is a conflict between the Settlement Agreement and the Safford Agreement, then the provisions of the Safford Agreement control for the purpose of interpreting the Agreement. ¶ 18.9; Settlement Agreement, ¶ 26.1.

3.9.11 UVD Agreement (Exh. 26.2)

The GRIC, United States, SCIDD, the Franklin Irrigation District (“FID”), the Gila Valley Irrigation District (“GVID”), and other parties in the Upper Valley of the Gila River agreed to an amended and restated forbearance agreement (“UVD Agreement” or “Agreement”), which is attached as Exhibit 26.2 to the Settlement Agreement.⁹⁷ This Agreement is intended to settle the disputes among the parties regarding their respective water rights in the Gila River Adjudication and under the Globe Equity Decree. Exh. 26.2, ¶ 1.2.⁹⁸ However, the UVD Agreement is not intended to modify the Globe Equity Decree. ¶ 15.4.

The GRIC, United States and SCIDD agree to settle their claims regarding injuries to water rights and other claims by forbearing from bringing or pursuing such claims against signatories (“UV Signatories”) and certain non-signatories (“UV Non-Signatories”) to the UVD Agreement.⁹⁹ Under the UVD Agreement, the UV Signatories agree to reduce the maximum number of acres within lands known as UV Subjugated Lands that may be irrigated in any given year (“TBI Eligible Acres”). By no later than 15 months after the Enforceability Date, the UV Signatories shall cause a 1,000-acre reduction¹⁰⁰ in TBI Eligible Acres. The UV Signatories must provide notice to GRIC, the United States, SCIDD and the Globe Equity Enforcement Court of the means by which the reduction is being effectuated, together with a reporting and administration mechanism that may be used for enforcement purposes. ¶ 5.2. The required reduction may occur through a fallowing program. ¶ 5.2.1. UV Decreed Water Rights associated with a reduction in TBI Eligible Acres will be permanently extinguished and no longer available for any purpose, except to the extent necessary to implement a fallowing program, or for domestic purposes.¹⁰¹ ¶¶ 5.2.2.

As provided by section 211 of the Settlements Act, the Secretary must provide funds to the UV Irrigation Districts to effectuate additional reductions of TBI Eligible

⁹⁷ This amended agreement was part of Amendment No. 1 to the Settlement Agreement.

⁹⁸ Unless otherwise noted, paragraph references in this section are to the UVD Agreement, Exh. 26.2.

⁹⁹ UV Non-Signatories may not assert or avail themselves of the benefits of the waivers and releases as to any lands located outside of FID or GVID, or certain service areas in New Mexico without executing the UVD Agreement. ¶ 4.22. In addition, UV Non-Signatories may not assert any claim otherwise waived by a UV Signatory. ¶ 4.25.

¹⁰⁰ The reduction in TBI Eligible Acres located in New Mexico shall be on a pro rata basis. ¶ 5.2.3.

¹⁰¹ The terms of art in this paragraph are defined at the front of this report.

Acres. ¶ 5.3. These reductions will occur in two phases¹⁰² through the acquisition and extinguishment of additional UV Decreed Water Rights appurtenant to a total of 2,000 acres described in paragraph 5.3.1, or through alternatives described in paragraph 5.3.3.¹⁰³ If the UV Irrigation Districts fail to comply with the acquisition requirements or alternatives to acquisition, they must provide mitigation to the SCIDD as further described in paragraph 8 of the Agreement.¹⁰⁴ ¶ 5.3.9. In the event that an approved comprehensive settlement is reached with the San Carlos Apache Tribe, the Secretary shall offer to acquire additional UV Decreed Water Rights associated with between 500 and 3,000 of TBI Eligible Acres.¹⁰⁵ ¶ 5.3.1.3.

The UV Irrigation Districts will submit an appraisal to the Secretary of the average value of water rights appurtenant to 1,000 TBI eligible acres for Phases I and II for the Secretary's review and determination. ¶¶ 5.3.1.4.1.1, 5.3.1.4.1.2. The Secretary will pay 125% of the average value of these water rights to the UV Irrigation Districts. ¶ 5.3.1.4.3. If the UV Irrigation Districts acquire these rights, the number of TBI Eligible Acres shall be reduced, but not the number of acres of UV Subjugated Lands. ¶ 5.3.2. Also, the UV Irrigation Districts will sever and transfer to the SCIP for the benefit of the GRIC and the SCIDD, the UV Decreed Water Rights associated with up 900 UV Decreed Acres, and extinguish the balance of the UV Decreed Water Rights unless they are associated with a following agreement. ¶ 5.3.4.1.

As an alternative to these acquisitions, after the Secretary has made the required payments, the UV Irrigation Districts may enter into agreements that prohibit future irrigation of "Special Hot Lands,"¹⁰⁶ if the districts simultaneously acquire UV Decreed Water Rights associated with a like number of UV Decreed Acres that are not TBI Eligible Acres, and sever and transfer those rights to SCIP for the benefit of GRIC and SCIDD. ¶¶ 5.3.3.1. The UV Irrigation Districts may also enter into following

¹⁰² The first phase will commence three years after the Enforceability Date or payment of funds, and the second phase will commence six years after the Enforceability Date or payment of funds. ¶¶ 5.3.1.1, 5.3.1.2.

¹⁰³ These severances and transfers are subject to the Globe Equity Decree and certain other requirements. ¶ 5.3.4.3.

¹⁰⁴ The reduction of TBI Eligible Acres in New Mexico will be by extinguishment only. ¶ 5.3.7.

¹⁰⁵ In the event of a settlement with SCAT, the water rights associated with 200 UV Decreed Acres shall be severed and transferred to the SCIP for the benefit of GRIC and SCIDD, water rights associated with 300 UV Decreed Acres shall be extinguished, and the balance shall be transferred to the San Carlos Apache Tribe. ¶ 5.3.4.2.

¹⁰⁶ This term is defined in the front of this report.

agreements that provide for periodic irrigation of UV Decreed Acres subject to reduction. ¶¶ 5.3.3.2, 5.3.6. The UVDs must relinquish all UV Decreed Water Rights associated with the reduction of TBI Eligible Acres, except to the extent necessary to implement a fallowing program, or to make necessary transfers of UV Decreed Water Rights. ¶ 5.3.5.

To further reduce irrigation, and to prevent land that contains riparian habitat from being reclaimed for irrigation, within one year after the Enforceability Date, the Secretary and the UV Signatories shall establish a program to purchase and extinguish UV Decreed Water Rights associated with UV Decreed Acres that have not been recently irrigated. Funding for this program will not be from the Development Fund under the Settlements Act. ¶ 5.4.

Up to 1,000 acres of land from which UV Decreed Water Rights are being extinguished or severed and transferred for the benefit of GRIC and SCIDD, as well as other lands, may be acquired by the United States on behalf of the SCAT in furtherance of Article VI(2) of the Globe Equity Decree (“Article VI(2) UV Apache Land”). ¶ 5.6.2. These acquisitions are subject to the consent of the San Carlos Apache Tribe, and are not subject to objection by GRIC, the UV Signatories, the UV Non-signatories or SCIDD as long as the acquisitions satisfy certain conditions. ¶ 5.6. The lands so acquired will not be considered UV Decreed Acres, TBI Acres, or UV Subjugated Lands. ¶ 5.6.6. However, the total number of acres irrigated or water diverted may not exceed the limitations set forth in Article VI(2) of the Globe Equity Decree. ¶ 5.6.4.

Under certain conditions, deliveries of water to the Article VI(2) UV Apache Land or other SCAT land for irrigation purposes may be made through a pipeline or other mechanism constructed by the GVID with federal funds under section 213(g) of the Settlements Act, or by water placed in the Gila riverbed by the GVID, so that the San Carlos Apache Tribe’s rights under Article VI(2) of the Globe Equity Decree will be satisfied. ¶¶ 5.7.1, 5.7.2. Such pumped water may supplement or replace, in whole or in part, the water, if any, that might otherwise be available to the San Carlos Apache Tribe through direct diversions from the Gila River. As long as the pumped water together with direct diversions from the Gila River do not exceed six acre-feet per acre, then the pumped water will not be subject to the UV diversions and pumping limitations in

paragraph 6.0 of the Agreement. ¶¶ 5.6.6, 5.7.2. These provisions are not binding on or intended to characterize the rights of the San Carlos Apache Tribe, or any other federally recognized tribe other than GRIC. ¶¶ 5.7.1, 5.7.2.

Water diverted and pumped by the UVDs and the owners of Special Hot Lands from the UV Impact Zone¹⁰⁷ may only be applied on TBI Acres and Special Hot Lands, or for non-irrigation uses.¹⁰⁸ ¶ 6.1. The total amount of water diverted and/or pumped for use within the UV Irrigation Districts may not exceed six acre-feet per TBI acre. The same water duty applies for lands in New Mexico served by the NM New Model Community Ditch Association, and separately for lands served by the Sunset Ditch Company. The same water duty also applies to each York Valley Farm. The total amount of water pumped for use on each Special Hot Lands Farm may not exceed 4.5 acre-feet per TBI acre. ¶ 6.2. These amounts may be reduced as a result of improved efficiencies determined by the Settlement Technical Committee.¹⁰⁹ ¶¶ 6.9, 10.0.

The UVDs, UV Signatories and UV Non-signatories may divert UV Surface Water¹¹⁰ in accordance with the Globe Equity Decree, which prohibits the diversion from a stream at a rate greater than 1/80th of a CFS for each TBI Acre. ¶ 6.6. In addition, UV Signatories and UV Non-Signatories that are in compliance with the Agreement, may drill new or replacement wells within the UV Impact Zone with prior notice to GRIC, the United States and SCIDD, and the installation of appropriate measuring devices. ¶¶ 6.10, 6.11.

The UVD Agreement does not limit or otherwise govern the pumping of water from outside the UV Impact Zone or the use of such water. ¶ 6.17. Also, pumping and using water from lands that are not UV Decreed Acres or Special Hot Lands for non-irrigation uses are not governed by the Agreement. ¶ 6.1. In addition, the Agreement does not affect or impair the rights of certain water users in New Mexico

¹⁰⁷ The UVD Agreement does not impair or prohibit GRIC and Phelps Dodge from diverting or pumping water from within the UV Impact Zone in order to effectuate the Phelps Dodge Agreement, which is described above in **Section 3.9.5**. ¶ 6.1.1.

¹⁰⁸ In addition, UV Subjugated Land that is not part of a fallowing program may be irrigated for up to one year with the minimum amount of water necessary to establish native vegetation. ¶ 7.3.

¹⁰⁹ The establishment and operation of the Settlement Technical Committee is described in ¶ 14.0.

¹¹⁰ UV Surface Water is water diverted from the Gila River pursuant to the Globe Equity Decree, and does not include UV Pumped Water, which is water pumped from within the UV Impact Zone for use on TBI Eligible Acres, regardless of whether the water pumped is appropriable subflow. ¶¶ 2.50, 2.53.

from increasing their use of water under section 304 of the Colorado River Basin Project Act. ¶ 6.16.1. Furthermore, water users in New Mexico may use water rights appurtenant to certain lands and for certain purposes as described in paragraph (D) of the *Arizona v. California* decree and shall not be deemed to be in violation of the UVD Agreement. ¶ 6.16.

Beginning eight months after the Enforceability Date, UV Subjugated Lands must be kept reasonably free of phreatophytes. ¶ 7.1. Failure to comply with these requirements, as well as other provisions of the UVD Agreement, will require mitigation by UV Irrigation Districts, the NM New Model Ditch Company, the Sunset Ditch Company, each York Valley farm owner, and/or each Special Hot Lands farm owner. ¶¶ 8.1 to 8.4A. The United States is also required to provide mitigation to the SCIP for the benefit of GRIC and SCIDD for failure to timely reduce TBI Eligible Acres due to non-payment or partial payment to the UV Irrigation Districts. ¶ 8.5. The mitigating party must provide mitigation water at specified points of delivery in certain quantities divided between the GRIC and SCIDD in a 55:45 ratio. ¶¶ 8.61, 8.6.3. Failure to mitigate may result in payments to GRIC and SCIDD. ¶ 8.8.2.

No later than six months after the Enforceability Date, the owners of certain non-UV Decreed Acres in the UV Impact Zone (“Hot Lands”)¹¹¹ may apply to sever and transfer UV Decreed Water Rights to their lands as provided by the Globe Equity Enforcement Court. ¶ 11.1. GRIC, the United States and SCIDD agree not to object to these sever and transfer applications, or to certain sever and transfer applications of UV Decreed Water Rights associated with lands in New Mexico. ¶¶ 11.2, 11.3.

Generally, the parties may seek enforcement of rights and obligations under the UVD Agreement in the Globe Equity Enforcement Court, or lacking jurisdiction there, another court of competent jurisdiction, other than GRIC. ¶ 12.2. Similarly, certain disputes are subject to binding arbitration, which may be enforced by the Globe Equity Enforcement Court, or lacking jurisdiction there, another court of competent jurisdiction, other than GRIC. ¶ 12.1. However, if the United States cannot or will not participate in the arbitration, then the issue may be submitted for decision in a federal court of

¹¹¹ This term is defined in the front of this report.

competent jurisdiction. ¶ 12.1.13. The administration of the Agreement for lands in Arizona may be by an Impartial Administrator appointed by the Settlement Technical Committee, or by the Water Commissioner for the Globe Equity Enforcement Court, and for lands in New Mexico by a designated water master. ¶¶ 2.16, 9.3, 9.4.

The UVD Agreement will terminate as to any lands with respect to which a person or entity is determined by a court of competent jurisdiction, other than the GRIC, to be in non-compliance, regardless of whether the person or entity is a UV Signatory. ¶¶ 2.20, 4.16. However, prior to initiation of court proceedings by GRIC, the United States, or SCIDD, the person or entity must be provided with notice and an opportunity to cure. ¶ 4.16.1. In addition, the court may provide such person or entity with an opportunity to provide mitigation to GRIC and SCIDD as an alternative to termination under certain conditions. ¶ 4.16.4. Failure to fulfill the obligations of a mitigation agreement will result in termination of the Agreement as to those lands. ¶ 4.17.

In the event that the Agreement is terminated as to any lands, those lands will permanently lose the benefit of the waivers of claims and releases, except for certain waivers.¹¹² ¶ 4.20. This includes UV Subjugated Lands whose present or future owners are found in non-compliance with the Agreement, regardless of whether they actually signed the Agreement. ¶ 4.15.

The UVD Agreement will automatically terminate with respect to ten or more acres of York Valley Lands owned by an individual or entity on the Initial Effective Date (“Major YV Landowner”) who has not executed the Agreement as of the Enforceability Date. These lands will then be immediately subject to enforcement action by GRIC, the United States or SCIDD. ¶ 4.18. In addition, any such Major YV Landowner will not be entitled to assert or avail itself of the waivers and releases under the Agreement, except for certain waivers. ¶ 4.23. The UVD Agreement is subject to automatic termination if the FID, GVID, New Model Ditch Company or Sunset Ditch Company is legally dissolved, or if they do not or are unable to perform their obligations under this Agreement, unless there is a successor in interest. ¶¶ 15.21, 15.22.

¹¹² The GRIC, United States and SCIDD may assert claims to enforce the Agreement or the Act pursuant to their reservation of rights without giving notice of the opportunity to cure. However, such claims will not result in termination of the Agreement or loss of waivers. ¶ 4.21.

If there is a conflict between the Settlement Agreement and the UVD Agreement, the provisions of the UVD Agreement control for purposes of determining the rights and obligations of the UVDs, UV Signatories, and UV Non-signatories with respect to UV Decreed Water Rights and rights under the UVD Agreement. ¶ 15.12. The UV Signatories deny that water pumped in the UV constitutes appropriable subflow or that it would violate the Globe Equity Decree. ¶ 15.16. GRIC, the United States, and SCIDD maintain otherwise. ¶ 15.17.

The GRIC, United States and SCIDD agree to waive certain water rights claims. ¶ 1.5. The waivers and releases of claims, and retention of rights set forth in the UVD Agreement are in place of, and not in addition to, those set forth in paragraph 25.0 of the Settlement Agreement. ¶ 4.1. See **Section 3.7.5** of this report. These waivers do not apply to certain claims for water rights or for injury to water rights on certain lands located outside the Reservation, or outside the SCIP or Miscellaneous Flow Lands.¹¹³ Also, nothing in the Agreement will affect the water rights or claims of the SCAT, or any other federally recognized tribe other than the GRIC or the United States on its behalf. ¶ 4.13.3.

The parties¹¹⁴ recognize that the State of New Mexico may elect to construct or develop facilities to divert and consumptively use water from the Gila River and its tributaries for use in New Mexico pursuant to section 304 of the Colorado River Basin Project Act. These diversions and consumptive uses by New Mexico will be subject to the UVD Agreement, as well as the New Mexico Consumptive Use and Forbearance Agreement (“CUFA”).¹¹⁵ ¶ 1.7. The New Mexico entity that contracts for the New Mexico CAP water with the Secretary (“NM CAP Entity”) will have the right to enforce

¹¹³ Miscellaneous Flow Lands are those lands that are not part of SCIP, but which have certain water rights to the Gila River that are recognized in the Globe Equity Decree. ¶ 2.18A.

¹¹⁴ A party is a person or entity that has executed this Agreement on or before the Enforceability Date, or as an owner of Special Hot Lands. ¶¶ 2.23, 2.32. Phelps Dodge is a party to the Agreement solely with respect to its lands and water rights described in the table of priorities in the Globe Equity Decree. ¶ 15.31. Nothing in the Agreement shall prohibit Phelps Dodge from affecting an exchange of CAP water for water from the Gila River for use in Arizona by Phelps Dodge. ¶ 15.31.1.

¹¹⁵ CUFA is described below in **Section 3.9.16** of this report.

certain provisions of the UVD Agreement as a third party beneficiary, and its approval may be required for certain amendments to the Agreement.¹¹⁶ ¶¶ 1.7, 2.18A4, 15.27.

The Initial Effective Date of the UVD Agreement is the date of execution by the GRIC, United States, SCIDD and the UV Irrigation Districts, which are comprised of FID and GVID.¹¹⁷ ¶¶ 2.17, 2.48. Within 30 days of the Initial Effective Date, the GRIC, United States, SCIDD and UV Irrigation Districts must file a stipulation and form of judgment in the Globe Equity Enforcement Court. ¶ 4.2. With certain exceptions, most of the provisions of the UVD Agreement become enforceable and effective on the Initial Effective Date, and the provisions regarding waivers and programs for reducing irrigable acres become enforceable and effective on the Enforceability Date. ¶¶ 15.1.1, 15.1.2.¹¹⁸

3.9.12 Duncan Agreement (Exh. 26.3)

On October 21, 2005, GRIC, the United States, SCIDD, and the Town of Duncan (“Duncan” or “Town”) agreed upon the terms of an amended and restated agreement (“Duncan Agreement” or “Agreement”), which is attached as Exhibit 26.3 to the Settlement Agreement.¹¹⁹ ¶ 26.3. The Duncan Agreement is intended to permanently resolve any disputes among Duncan, GRIC, the United States and SCIDD regarding Duncan’s use of water for municipal and industrial (“M&I”) purposes. Exh. 26.3, ¶¶ 1.4, 1.7.¹²⁰

Under the Duncan Agreement, GRIC, the United States and SCIDD agree not to challenge the Town’s water budget of 470 AFY of water (“Initial Water Budget”), which is diverted and delivered through a system of wells, pumps, and pipelines along the Upper Gila River above Ashurst-Hayden Dam. ¶¶ 1.5, 2.11, 2.27. Not more than 400

¹¹⁶ In the event that the Secretary diverts water for the New Mexico portion of the CAP in accordance with CUFA, then certain priority and apportionment methods (“NM Priority and Apportionment Terms”) and certain risk allocation methods (“New Mexico Risk Allocation Terms”) will become binding on the parties to the UVD Agreement. ¶¶ 2.18A5, 2.18C, 2.18D, 15.10, 15.29. No UV Signatory or UV Non-signatory may object to the approval of CUFA in any judicial or legislative proceeding, or diversions made thereunder by the Secretary from the Gila River, the San Francisco River and their tributaries. ¶ 15.25.

¹¹⁷ According to information available to ADWR, the UVD Agreement has not yet been executed by the Colvin-Jones Canal Company, NM New Model Community Association, Phelps Dodge or the United States.

¹¹⁸ These effective dates are subject to change as a result of the Globe Equity Enforcement Court’s decision on motions for stay regarding issues raised in “Complaint Re: Pumping.” ¶ 15.9.

¹¹⁹ According to information available to ADWR, the Duncan Agreement has been fully executed.

¹²⁰ Unless otherwise noted, paragraph references in this section are to the Duncan Agreement, Exh. 26.3.

AFY may be diverted from the UV Impact Zone, and not more than 70 AFY may be diverted from certain Town wells.¹²¹ ¶ 2.11. Five years after the Enforceability Date, Duncan must develop a Water Use Plan that identifies all projected M&I water uses. The Water Use Plan must be updated as necessary and may result in an increase in the Initial Water Budget or modifications thereto (“Water Budget”). Paragraph 11 lists those water uses that will be considered for compliance with the Duncan Water Budget. The Duncan Water Budget shall remain in effect for at least one year. ¶ 4.3.

Subject to certain conditions, Duncan may increase its Water Budget, amend its Water Use Plan, and use additional water by allocating more water to its Water Budget. Acceptable methods for increasing the Water Budget are described in ¶¶ 5.1.1 to 5.1.7. One of these methods includes diverting underground water or water from a recharge facility from certain wells located outside of the UV Impact Zone. ¶ 5.1.5.

If Duncan allocates additional water to its Water Budget, then Duncan must amend its Water Use Plan accordingly. ¶ 5.1. If Duncan requires additional water due to unexpected and unforeseeable circumstances, the Town may exceed its Water Budget in a given year without amending its Water Use Plan, as long as the need for such an increase is not on a recurring basis, and the excess use is mitigated as required by paragraph 10. ¶ 5.4. Subject to certain limitations, Duncan may seek to sever, transfer or convert to M&I use UV Decreed Water Rights without objection by GRIC, the United States or SCIDD. ¶ 6.0. “UV Decreed Water Rights” is defined at the front of this report.

Several provisions of the Duncan Agreement address effluent use by Duncan, including the right to: (1) allocate effluent to its Water Budget, (2) discharge effluent into the Upper Gila River, and (3) use effluent for recharge and other lawful purposes. ¶ 7.1. After Duncan’s diversion of water reaches 470 AFY, then Duncan will be entitled to earn effluent credits for discharges of effluent into the Upper Gila River, and for other uses. The amount of credits will be determined by the type of use. ¶ 7.2. If Duncan sells a portion of its effluent to a third party, the Town will not receive effluent credits for the

¹²¹ The UV Impact Zone is depicted on maps in **Appendix F-1**.

portion of the effluent sold. ¶ 7.2.3. Effluent credits may be used to offset diversions counted against the Water Budget, or to satisfy mitigation requirements under paragraph 10. ¶ 2.8.

Subject to certain conditions, Duncan also has the right to recharge effluent inside the UV Impact Zone, which may be recovered at the locations and under the terms set forth in the Agreement. Recovered effluent is not counted as a diversion for purposes of Duncan's Water Budget. ¶ 7.6.3.1. In addition, Duncan may recharge effluent outside the UV Impact Zone, and not be subject to the Duncan Agreement. However, the Town may not divert water within any Impact Zone based on groundwater storage credits received under state law for the recharge of effluent or any other water outside of the UV Impact Zone. But, the Town may use such recovered water to increase its Water Budget or mitigate against diversions within the UV Impact Zone upon approval of GRIC and SCIDD. ¶ 7.6.2.

Duncan may drill new or replacement wells within the UV Impact Zone as long as it does not divert more water from the UV Impact Zone than is consistent with the terms and conditions of the Agreement. ¶ 8.1. If the pumping of water from a well outside the UV Impact Zone would result in a cone of depression that takes water from within the UV Impact Zone, then that water will be counted against Duncan's Water Budget. ¶ 8.3.

If Duncan exceeds its Water Budget or fails to control phreatophytes as required by paragraph 12, it must mitigate those occurrences by providing certain quantities of water to GRIC and SCIDD. ¶ 10.0. However, GRIC is not required to accept effluent as mitigation unless it is delivered above Coolidge Dam. ¶ 10.2.4.

As long as the Town is in compliance with the terms and conditions of the Agreement, Duncan shall be entitled to the waivers and releases and subject to the limitations on waivers set forth in paragraph 25.0 of the Settlement Agreement. ¶ 15.0. Rights and obligations under the Agreement may be enforced in either the Gila River Adjudication Court or the Globe Equity Enforcement Court depending upon which court has jurisdiction. ¶ 16.1. If there is a conflict between the Settlement Agreement and the Duncan Agreement, then the provisions of the Duncan Agreement control for the purpose of interpreting the Agreement. ¶ 17.8.

3.9.13 Kearny Agreement (Exh. 26.4)

On October 21, 2005, GRIC, the United States, SCIDD, and the Town of Kearny (“Kearny” or “Town”) agreed upon the terms of an amended and restated agreement (“Kearny Agreement” or “Agreement”), which is attached as Exhibit 26.4 to the Settlement Agreement. The Kearny Agreement is intended to permanently resolve any disputes among Kearny, GRIC, the United States and SCIDD regarding Kearny’s use of water for municipal and industrial (“M&I”) purposes. Exh. 26.4, ¶¶ 1.4, 1.7.¹²² The Kearny Agreement becomes enforceable on the Enforceability Date or upon its execution by all of its parties, whichever is later.¹²³ ¶ 17.21.

Under the Kearny Agreement, GRIC, the United States and SCIDD agree not to challenge Kearny’s water budget of 600 AFY of water (“Initial Water Budget”), which is diverted and delivered through a system of wells, pumps, and pipelines along the Middle Gila River upstream of Ashurst-Hayden Dam and downstream of Coolidge Dam. ¶¶ 1.5, 2.17, 4.1. The Initial Water Budget includes the water rights for the Town lands that are subject to the Globe Equity Decree. ¶ 4.2. Five years after the Enforceability Date of the Settlement Agreement, Kearny must develop a Water Use Plan that identifies all projected water uses. The Water Use Plan must be updated as necessary and may result in an increase in the Initial Water Budget or modifications thereto (“Water Budget”). ¶ 4.3. Paragraph 11 lists those water uses that will be considered for compliance with the Kearny Water Budget.

Subject to certain conditions, Kearny may increase its Water Budget, amend its Water Use Plan, and use additional water by allocating additional water to its Water Budget. ¶¶ 2.2, 5.1. Acceptable methods for increasing the Water Budget are described in paragraph 5.1.1 to 5.1.8. One of these methods includes diverting underground water from certain wells located outside of the Gila River Impact Zone, middle Gila River Impact Zone, and the San Pedro Impact Zone. ¶ 5.1.6. These impact zones are depicted on maps included in **Appendix F-1**.

¹²² Unless otherwise noted, paragraph references in this section are to the Kearny Agreement, Exh. 26.4.

¹²³ According to information available to ADWR, the Kearny Agreement has been fully executed.

If Kearny allocates additional water to its Water Budget, then Kearny must amend its Water Use Plan accordingly. ¶ 5.1. However, if Kearny requires additional water due to unexpected and unforeseeable circumstances, Kearny may exceed its Water Budget in a given year without amending its Water Use Plan, as long as the need for such an increase is not on a recurring basis, and the excess use is mitigated as required by paragraph 10. ¶ 5.4. Subject to certain limitations, Kearny may seek to sever, transfer or convert to M&I use Decreed Water Rights appurtenant to Decreed Lands without objection by GRIC, the United States or SCIDD. ¶ 6.0. As used in the Kearny Agreement, the term “Decreed Water Rights” is the same as the term “UV Decreed Water Rights” and the term “Decreed Lands” is the same as “UV Decreed Lands” as used in other agreements with Upper Gila Valley water users. ¶¶ 2.5, 2.6. These terms are defined at the front of this report.

Several provisions of the Kearny Agreement address effluent use by Kearny, including the right to: (1) allocate effluent to its Water Budget, (2) discharge effluent into the Middle Gila River, and (3) use effluent for recharge. ¶ 7.1. After Kearny’s diversion of water reaches 600 AFY, then Kearny will be entitled to earn effluent credits for discharges of effluent into the Middle Gila River, and for other uses. The amount of credits will be determined by the type of use and quantity of effluent produced by the Town. ¶ 7.2. If Kearny sells a portion of its effluent to a third party, the Town will not receive effluent credits for the portion of the effluent sold. ¶ 7.2.3. Effluent credits may be used to offset diversions counted against the Water Budget, or to satisfy mitigation requirements under paragraph 10. ¶ 2.10.

Subject to certain conditions, Kearny also has the right to recharge effluent within the Middle Gila River Impact Zone, which may be recovered at locations and under the terms set forth in the Agreement. ¶¶ 7.6.1 to 7.6.3. Recovered effluent is not counted as a diversion for purposes of Kearny’s Water Budget. ¶ 7.6.3.3. In addition, Kearny may recharge effluent outside the Impact Zones, and not be subject to the Agreement. However, the Town may not divert water within any Impact Zone based on groundwater storage credits received under state law for the recharge of effluent or other water outside the Impact Zones. ¶ 7.6.1.

Kearny may also drill new or replacement wells within the Middle Gila River Impact Zone and use water from other designated wells, as long as it does not divert more water from the Impact Zones than is consistent with the terms and conditions of the Agreement. ¶ 8.1. If the pumping of water from a proposed well would result in a cone of depression that takes water from within an Impact Zone, then the water pumped from the well will be counted against Kearny's Water Budget. ¶ 8.3. The extent to which a well located outside the Impact Zones results in a cone of depression that extends into the Impact Zones will be determined under the cone of depression test standard established by the Gila Court. ¶ 5.1.6.

If Kearny exceeds its Water Budget or fails to control phreatophytes as required by paragraph 12, it must mitigate those occurrences by providing certain quantities of water to GRIC and SCIDD. ¶ 10.0. However, GRIC and SCIDD are not required to accept effluent as mitigation unless it is discharged to the Middle Gila River. ¶ 10.2.4.

As long as the Town is in compliance with the terms and conditions of the Agreement, Kearny shall be entitled to the waivers and releases set forth in paragraph 25.0 of the Settlement Agreement. ¶ 15.0. Rights and obligations under the Agreement may be enforced in either the Gila River Adjudication Court or the Globe Equity Enforcement Court, depending upon which court has jurisdiction. ¶ 16.1. If there is a conflict between the Settlement Agreement and the Kearny Agreement, then the provisions of the Kearny Agreement control for the purpose of interpreting the Agreement. ¶ 17.8.

3.9.14 Mammoth Agreement (Exh. 26.5)

On October 21, 2005, GRIC, the United States, SCIDD, and the Town of Mammoth ("Mammoth" or "Town") agreed upon the terms of an amended and restated agreement ("Mammoth Agreement" or "Agreement"), which is attached as Exhibit 26.5 to the Settlement Agreement. The Mammoth Agreement is intended to permanently resolve any disputes among Mammoth, GRIC, the United States and SCIDD regarding Mammoth's use of water for municipal and industrial ("M&I") purposes. Exh. 26.5,

¶¶ 1.4, 1.7.¹²⁴ This Agreement becomes enforceable on the Enforceability Date of the Settlement Agreement, or upon its execution by all of its parties, whichever is later.¹²⁵ ¶ 17.19.

Under the Mammoth Agreement, GRIC, the United States and SCIDD agree not to challenge the Town's water budget of 300 AFY of water ("Initial Water Budget"), which is diverted and delivered through a system of wells, pumps, and pipelines along the San Pedro River. ¶¶ 1.5, 2.12. Five years after the Enforceability Date of the Settlement Agreement, Mammoth must develop a Water Use Plan that identifies all projected water uses. The Water Use Plan must be updated as necessary and may result in an increase in the Initial Water Budget or modifications thereto ("Water Budget"). The Water Budget shall remain in effect for at least one year. ¶ 4.2. Paragraph 11 lists those water uses that will be considered for compliance with the Mammoth Water Budget.

Subject to certain conditions, Mammoth may increase its Water Budget, amend its Water Use Plan, and use additional water by allocating more water to its Water Budget. Acceptable methods for increasing the Water Budget are described in paragraphs 5.1.1 to 5.1.7. One of the methods includes diverting underground water from certain wells located outside of the Gila River Impact Zone, the Middle Gila River Impact Zone, and the San Pedro Impact Zone.¹²⁶ ¶ 5.1.5.

If Mammoth allocates additional water to its Water Budget, then Mammoth must amend its Water Use Plan accordingly. ¶ 5.1. If Mammoth requires additional water due to unexpected and unforeseeable circumstances, the Town may exceed its Water Budget in a given year without amending its Water Use Plan, as long as the need for such an increase is not on a recurring basis, and the excess use is mitigated as required by paragraph 10. ¶ 5.4.

Several provisions of the Mammoth Agreement address effluent use by Mammoth, including the right to: (1) allocate effluent to its Water Budget, (2) discharge effluent into the San Pedro Impact Zone within or downstream of the area served by the

¹²⁴ Unless stated otherwise, paragraph references in this section are to the Mammoth Agreement, Exh. 26.5.

¹²⁵ According to information available to ADWR, the Mammoth Agreement has been fully executed.

¹²⁶ These Impact Zones are depicted on maps included in **Appendix F-1**.

Town, and (3) use effluent for recharge purposes. ¶ 7.1. After Mammoth's diversion of water reaches 300 AFY, then Mammoth will be entitled to earn effluent credits for discharges of effluent into the San Pedro Impact Zone, and for other uses. The amount of credits will be determined by the type of use and the quantity of effluent produced by the Town. ¶ 7.2. If Mammoth sells a portion of its effluent to a third party, the Town will not receive effluent credits for the portion of the effluent sold. ¶ 7.2.3. Effluent credits may be used to offset diversions counted against the Water Budget, or to satisfy mitigation requirements under paragraph 10. ¶¶ 2.7, 11.3.

Subject to certain conditions, Mammoth also has the right to recharge effluent inside the San Pedro Impact Zone, which may be recovered at locations and under the terms set forth in the Agreement. ¶¶ 7.6.1 to 7.6.3. Recovered effluent is not counted as a diversion for purposes of Mammoth's Water Budget. ¶ 7.6.3.3. In addition, Mammoth may recharge effluent outside the San Pedro Impact Zone, and such recharge will not be subject to the Duncan Agreement. However, the Town may not divert water within any Impact Zone based on groundwater storage credits received under state law for the recharge of effluent or any other water outside of any Impact Zone. ¶ 7.6.1.

Mammoth may also drill new or replacement wells within the San Pedro Impact Zone as long as it does not divert more water from the San Pedro Impact Zone than is consistent with the terms and conditions of the Agreement. ¶ 8.1. If the pumping of water from a well outside the San Pedro Impact Zone would result in a cone of depression that takes water from within the San Pedro Impact Zone, then that water will be counted against Mammoth's Water Budget. ¶ 8.3. Whether pumping from a well located outside the exterior boundary of the Impact Zones creates a cone of depression that extends into and is considered to be diverting water from the Impact Zones, will be determined by the cone of depression test established by the Gila River Adjudication Court. ¶¶ 2.12, 5.1.5.

If Mammoth exceeds its Water Budget or fails to control phreatophytes as required by paragraph 12, it must mitigate those occurrences by providing certain quantities of water to GRIC and SCIDD. ¶ 10.0. However, GRIC and SCIDD are not required to accept effluent as mitigation unless it is discharged into the San Pedro River,

within or downstream of the area served by the Town and upstream of Ashurst-Hayden Dam. ¶ 10.2.4.

As long as the Town is in compliance with the terms and conditions of the Agreement, Mammoth shall be entitled to the waivers and releases and subject to the limitations on waivers set forth in paragraph 25.0 of the Settlement Agreement. ¶ 15.0. Rights and obligations under the Agreement may be enforced in either the Gila River Adjudication Court or the Globe Equity Enforcement Court. ¶ 16.1. If there is a conflict between the Settlement Agreement and the Mammoth Agreement, then the provisions of the Mammoth Agreement control for the purpose of interpreting the Agreement. ¶ 17.8.

3.9.15 Form of Paloma Agreement

At any time prior to the Enforceability Date, a person or entity that diverts surface water from a point at or downstream of the Gila Bend Canal and Enterprise Canal, for use on lands downstream from Gillespie Dam (“Gillespie Diverter”),¹²⁷ may elect to enter into an agreement with GRIC and the United States. Exh. 26.6, ¶ 2.11.¹²⁸ The form of the agreement (“Form of Paloma Agreement” or “Agreement”) is set forth in Exhibit 26.6, which is attached to the Settlement Agreement for informational purposes only, and once executed will not become part of the Settlement Agreement. The Agreement is only binding on the parties thereto. ¶ 6.5.

The Community and the United States will neither challenge nor object to claims of use of water from the Gila River or its tributaries by any Gillespie Diverter that executes the Form of Paloma Agreement. Settlement Agreement, ¶ 28.1.3.1. However, GRIC and the United States will retain certain rights to assert claims for injury to water rights as set forth in the Settlement Agreement, and to object to certain calls by the Gillespie Diverters. ¶ 4.1.

The Gillespie Diverters will be bound by the Globe Equity Decree, and shall not object to the use of water in accord with the Settlement Agreement, or certain rights that SCIDD has under the Globe Equity Decree. ¶ 4.2. The Gillespie Diverters also may not

¹²⁷ These lands are located downstream of the confluence of the Salt and Gila Rivers.

¹²⁸ Paragraph references in this section are to the Form of Paloma Agreement, Exh. 26.6.

object to the approval of the Settlement Agreement. ¶ 4.2.1. However, the Gillespie Diverters may otherwise object to any person's or entity's claim or right to divert, store, or use water in the Gila River watershed, and those persons or entities may object to claims filed by the Gillespie Diverters. ¶¶ 4.2, 4.3. The Agreement becomes binding and enforceable on the Enforceability Date, with the exception of paragraphs 4.1 and 4.2.1, which become binding and enforceable upon execution.

3.9.16 New Mexico Consumptive Use and Forbearance Agreement (CUFA)

The United States, GRIC, SCIDD, FID, GVID, Phelps Dodge, the Secretary, and other parties located in the Upper Valley of the Gila River entered into a New Mexico Consumptive Use and Forbearance Agreement (“CUFA”),¹²⁹ which was authorized, ratified and approved by the Settlements Act. § 212(b).¹³⁰ The Secretary may not execute the Settlement Agreement, and the Settlement Agreement may not become effective until the CUFA has been executed by all of the signatory parties and approved by New Mexico.¹³¹ § 212 (a). Upon written notice from New Mexico that it intends to build the New Mexico Unit of the CAP (“NM Unit”),¹³² the Secretary is authorized to enter into a contract to design, construct, operate and maintain the NM Unit (“NM Unit Agreement”)¹³³ with the entity formed or designated by New Mexico for that purpose (“NM CAP Entity”)¹³⁴ in accordance with CUFA. ¶ 10.1. Such notice must be provided no later than December 31, 2014.¹³⁵ § 212 (c).

The purpose of CUFA is to allow the Secretary to exercise the rights authorized under the Colorado River Basin Act to divert water from the Gila River and the San

¹²⁹ CUFA is not an exhibit to the Settlement Agreement, but is referenced in the UVD Agreement (described in **Section 3.9.11**) and is included in **Appendix B**.

¹³⁰ Unless otherwise noted, section references are to the Settlements Act, and paragraph references are to CUFA.

¹³¹ According to information available to ADWR, CUFA has not yet been fully executed. The State of New Mexico is not a party to CUFA, and is not an intended third party beneficiary. ¶ 14.5. Nothing in CUFA is intended to affect the rights to use the waters of the Gila River system in New Mexico. ¶ 14.9.

¹³² The NM Unit is that unit of the CAP authorized by sections 301(a)(4) and 304 of the Colorado River Basin Project Act (43 U.S.C. 1521(a)(4), 1524) (as amended by section 212). § 2(37).

¹³³ The NM Unit Agreement shall contain the terms and conditions set forth in Exhibit 2.48 to CUFA. ¶ 10.2.

¹³⁴ The NM CAP Entity is not a party to CUFA but is an intended third party beneficiary. ¶ 14.1.1.

¹³⁵ Upon notice that the NM Unit will be constructed or developed, the parties, other than the Secretary, agree to petition the Globe Equity Enforcement Court for administration of the call system and apportionment accounting as set forth in the NM Priority and Apportionment Terms as set forth in Exhibit 2.29 to CUFA. ¶ 9.3.

Francisco River¹³⁶ for the benefit of the NM CAP Unit. GRIC and SCIDD agree not to object to these diversions or related consumptive use in consideration of deliveries of water from the CAP by the Secretary. ¶¶ 1.3, 9.2. Likewise, the UV Irrigation Districts, Phelps Dodge, certain Canal Companies located in the Upper Gila Valley and UV Non-Signatories also agree not to object to these diversions or consumptive use in consideration of the benefits provided to them in the UV Agreement.¹³⁷ ¶¶ 1.4, 1.5, 9.2. The parties agree that the Secretary’s diversions and consumptive use will not give rise to claims that such diversions or consumptive use impair or cause economic injury or cost to their rights as of September 30, 1968, which is the date that Congress approved the Colorado River Basin Project Act.¹³⁸ ¶¶ 1.7, 2.14. In the event that the Secretary enters into the NM Unit Agreement in the future, the Secretary’s rights to divert and consumptively use water from the Gila River and the San Francisco River will be subject to certain conditions that are described in CUFA.

¹³⁶ The Gila River and the San Francisco River each include their respective tributaries and underground water sources. ¶¶ 2.22, 2.41.

¹³⁷ The UV Agreement (UVD Agreement) is attached as Exhibit 26.2 to the Settlement Agreement, and is described above in **Section 3.9.11**. The terms “UV Irrigation Districts,” “Canal Companies,” and “UV Non-signatories” are defined in the UVD Agreement, and are listed in the front of this report.

¹³⁸ Any controversy or disagreement regarding the Secretary’s diversions and consumptive use shall be subject to a dispute resolution process, and may subsequently involve court-imposed sanctions including injunctive relief, specific performance and the payment of monetary damages. ¶¶ 11.1 to 11.8.

CHAPTER 4: SUMMARY OF ADJUDICATION CLAIMS

This chapter describes the adjudication claims filed by the GRIC and by the United States on behalf of the Community. A copy of the claims and supporting documentation is provided in **Appendix H**.

4.1 GILA RIVER INDIAN COMMUNITY ADJUDICATION CLAIMS

The GRIC filed a total of eight Statements of Claimant (SOCs) in the Gila River Adjudication. As shown in the following table, six of the SOCs were originally filed in the 1980s and later amended in January 2003. The two other SOCs were filed by the GRIC for the first time in January 2003.

SUMMARY OF SOCS FILED BY THE GRIC

| SOC NUMBER | WATERSHED | DATE OF ORIGINAL FILING | AMENDMENT DATE |
|-------------------|------------------------|--------------------------------|-----------------------|
| 39-5478 | San Pedro River | July 11, 1980 | January 29, 2003 |
| 39-12652 | Upper Salt River | June 30, 1980 | January 29, 2003 |
| 39-24083 | Agua Fria River | January 29, 2003 | --- |
| 39-36340 | Lower Gila River | January 20, 1987 | January 29, 2003 |
| 39-37360 | Lower Gila River | January 20, 1987 | January 29, 2003 |
| 39-41142 | Verde River | June 1, 1981 | January 29, 2003 |
| 39-60083 | Upper Gila River | June 1, 1981 | January 29, 2003 |
| 39-79815 | Upper Santa Cruz River | January 29, 2003 | --- |

Information from the amended and new SOCs is summarized below.

4.1.1 Basis of Claim

Each of the GRIC SOCs states the following basis of claim for their water rights:

- Appropriative rights acquired prior to June 12, 1919 through various notices of water appropriation;

- Appropriative rights acquired after June 12, 1919;
- Decreed water rights through the Globe Equity, Haggard, and Benson-Allison Decrees;
- Aboriginal or “Time Immemorial” right;
- *Winters* Doctrine Federal Reserved Right; and
- Right to withdraw groundwater per *Gila III*.

4.1.2 Types of Water Uses

The types of water uses claimed by the GRIC include irrigated agriculture, recreation, municipal, domestic, industrial, commercial, power development, fish and wildlife, stockwatering, mining, and health and environmental purposes.

4.1.3 Source of Water

Sources of water claimed by the GRIC include all streams, springs, lakes, reservoirs, stockponds, and other man-made impoundments and groundwater (subflow and percolation) from the Agua Fria, Lower Gila, Upper Santa Cruz, San Pedro, Upper Gila, Upper Salt, and Verde River Watersheds.

4.1.4 Point(s) of Diversion

The following points of diversion are listed in the SOCs:

- 39-5478, 39-36340, 39-37360, and 39-60083 - Ashurst-Hayden Diversion Dam located in the W¹/₂, NW¹/₄, Section 8, T4S, R11E; Sacaton Diversion Dam located in the SE¹/₄, SE¹/₄, SE¹/₄, Section 12, T4S, R6E; and wells.
- 39-12652 - Granite Reef Diversion Dam located in the E¹/₂, Section 13, T2N, R6E; and, Sacaton Diversion Dam located at the SE¹/₄, SE¹/₄, SE¹/₄, Section 12, T4S, R6E.
- 39-24083 - New Waddell Dam located in the NW¹/₄, NW¹/₄, Section 28, T6N, R1E.

- 39-41142 - Granite Reef Diversion Dam located in the E½, Section 13, T2N, R6E.
- 39-79815 - Wells, which were listed in the 1996 Preliminary GRIC HSR.

The Pima and Maricopa Indians reportedly had many points of diversions along the Santa Cruz River historically. The GRIC contends that, due to depletion of the water supply of the river by junior users, surface water diversions are now no longer available to the GRIC, preventing the use of its aboriginal, prior appropriation, and *Winters* water rights.

4.1.5 Other Uses Supplied from the Point(s) of Diversion

The GRIC SOCs state that the Community will use all points of diversion to fulfill its domestic claim of 13,000 acre-feet (7,500 acre-feet of consumptive use) and power production claim of 700 acre-feet (700 acre-feet of consumptive use). The SOCs also state that the Community will use its quantified *Winters* rights for irrigated agriculture to meet its future needs for municipal, commercial or industrial, mining, recreation, livestock, fish and wildlife, health, and environmental purposes.

4.1.6 Means of Diversion

The GRIC SOCs state that the Community will divert water to its Reservation using the following means of diversion:

- Ashurst-Hayden Diversion Dam;
- Sacaton Diversion Dam;
- Granite Reef Diversion Dam and Aqueduct;
- Beds of the Agua Fria, Salt, and/or Gila Rivers; and
- Other diversion dams to be constructed and/or instream pumps and numerous wells.

4.1.7 Means of Conveyance

Claimed means of conveyance include ditches, canals, pipelines, and wells that are part of the following water systems:

- San Carlos Indian Irrigation Project (SCIP);

- Pima-Maricopa Irrigation Project (P-MIP) and Pima-Maricopa Project Plus;
- Granite Reef and Salt-Gila Aqueducts;
- South, Consolidated, Eastern, Tempe, Western, and Highline Canals, and related sub-canals, laterals, sub-laterals, and drains;
- A diversion dam that could be located in or near Section 36, T4N, R1W with a canal that could supply the western end of the Reservation; and
- Beds of the Gila, Salt, Verde, Agua Fria, and Santa Cruz Rivers.

The aquifer beneath the Reservation is also claimed as a means of transmitting water through surface diversion of re-emerging flows (baseflow) or through underground diversions by wells.

4.1.8 Places of Use, Annual Water Use, and Claimed Priority Dates

In an attachment to its SOC entitled “Submittal of Information and Sources Concerning Water Rights Claims for the Gila River Indian Reservation,” the GRIC divides its water right claims into three categories - *Winters* rights, Aboriginal rights, and Prior Appropriative rights. The Community claims that these categories are not mutually exclusive and that its water rights could be based on one or a combination of these categories. Summarized below are the claimed places of use, annual water use, and priority dates for each water right category.

Winters Rights

- *Place of Use* - the entire Reservation, as depicted on maps attached to the SOCs.
- *Claimed Annual Use* - 2,488,700 acre-feet. This quantity was based on 275,000 acres of arable soils and a 9 acre-feet per acre irrigation diversion requirement (2,475,000 acre-feet) plus another 13,000 acre-feet for domestic uses and 700 acre-feet for power production. Also claimed was the water stored in several reservoirs and lakes in the region including San Carlos Reservoir (1,200,000 acre-feet), Roosevelt Lake (1,653,000 acre-feet), Apache Lake (245,000 acre-feet), Canyon Lake (58,000 acre-feet), Saguaro Lake (70,000 acre-feet), Bartlett Lake (178,200 acre-feet), Horseshoe Lake (131,400 acre-feet), and Lake

Pleasant (1,108,000 acre-feet).

- *Priority Dates* – The dates associated with the creation and expansion of the Reservation include 1859, 1876, 1879, 1882, 1883, 1911, 1913, and 1915.

Aboriginal Rights

- *Place of Use* - areas found within the current Reservation boundary, as shown on Map #4 in the SOCs.
- *Claimed Annual Use* - 934,805 acre-feet. This quantity is based on 44,900 acres of aboriginal irrigation and a 9 acre-feet per acre irrigation diversion requirement (404,100 acre-feet), plus another 128,812 acres of mesquite with an estimated consumptive use of 530,705 acre-feet.
- *Priority Date* - Time immemorial.

Prior Appropriative Rights

- *Place of Use* - the entire Reservation, as depicted on maps attached to the SOCs.
- *Claimed Annual Use* - 2,711,097 acre-feet. This quantity is based upon 301,233 arable acres including 50,546 acres from the Globe-Equity Decree, 1,080 acres from the Benson-Allison and Haggard Decrees, historical irrigation records, and claims made prior to and after enactment of the State Water Code in 1919. For these arable lands, the GRIC claims an irrigation diversion right of nine acre-feet per acre and a consumptive use of four acre-feet per acre.
- *Priority Dates*: Several, including time immemorial, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1904, 1909, 1911, 1912, 1914, 1916, 1917, 1926, 1935, 1937, 1955, 1956, 1957, 1958, 1971, 1980, 1994, and 1998. Map #3 attached to the SOCs shows the lands that are associated with these priority dates.

4.1.9 Claimed Rights

The GRIC SOC's claim a maximum flow rate of 8,000 cubic feet per second (cfs) and an annual volume of use of 2,711,097 acre-feet. Storage rights are also claimed and are summarized below.

SUMMARY OF STORAGE RIGHTS CLAIMED BY THE GRIC

| SOC NUMBER | WATERSHED | STORAGE RIGHT (ACRE-FEET) | REMARKS |
|------------|------------------------|---------------------------|--|
| 39-5478 | San Pedro River | 0 | Does not include the numerous stockponds and similar reservoirs operated by junior users and owners. |
| 39-12652 | Upper Salt River | 2,026,000 | Roosevelt, Apache, Canyon, and Saguaro Lakes |
| 39-24083 | Agua Fria River | 1,200,000 | Lake Pleasant |
| 39-36340 | Lower Gila River | 0 | Does not include the numerous stockponds and similar reservoirs operated by junior users and owners. |
| 39-37360 | Lower Gila River | 0 | Does not include the numerous stockponds and similar reservoirs operated by junior users and owners. |
| 39-41142 | Verde River | 309,600 | Bartlett and Horseshoe Reservoirs |
| 39-60083 | Upper Gila River | 1,200,000 | San Carlos Reservoir |
| 39-79815 | Upper Santa Cruz River | 0 | Does not include the numerous stockponds and similar reservoirs operated by junior users and owners. |

4.2 UNITED STATES' ADJUDICATION CLAIM ON BEHALF OF THE GILA RIVER INDIAN COMMUNITY

The United States filed an SOC on behalf of the GRIC on January 2, 1987. Information from this claim is summarized below.

4.2.1 Basis of Claim

The United States listed the following as the basis of their claim:

- Appropriative rights acquired prior to June 12, 1919 through various notices of water appropriation;

- Appropriative rights acquired after June 12, 1919;
- Decreed water rights through the Globe Equity, Haggard, and Benson-Allison Decrees;
- *Winters* Doctrine Federal Reserved Right; and
- Right to withdraw groundwater.

4.2.2 Types of Water Uses

The United States claims sufficient water to fulfill the purposes of the GRIC, maintain the Reservation as a permanent homeland for the Pima and Maricopa Indians, and address the water rights claims of allotted lands within the Reservation. Among the present and future water uses claimed were agriculture, recreation, municipal/domestic, industrial, commercial, power development, fish and wildlife, stockwatering, mining, and other uses.

4.2.3 Source of Water

The following sources of water are claimed by the United States:

- Gila River and its tributaries including the Salt River and streams not addressed by the Globe Equity Decree;
- San Carlos Reservoir and any future storage facilities; and
- Groundwater estimated to total 20 million acre-feet of recoverable aquifer storage and associated recharge.

4.2.4 Point(s) of Diversion

The following points of diversion were claimed:

- Ashurst-Hayden Dam - Section 8, T4S, R11E;
- Sacaton Dam - Section 18, T4S, R7E;
- Upper Gila Crossing - Section 25, T2S, R2E;
- Lower Gila Crossing - Section 16, T2S, R2E;
- Salt River - Section 30, T1N, R2E; and

- Numerous historical diversion points along the Gila and Salt Rivers including wells on lands owned for the benefit of the GRIC and SCIP wells which serve Reservation lands.

4.2.5 Other Uses Supplied by the Points of Diversion

The United States lists irrigation, domestic, and stockponds as other uses supplied by the claimed points of diversion.

4.2.6 Means of Diversion

The primary means of diversion claimed by the United States is gravity flow into ditches, canals, or pipelines and wells, including ADWR Well Registration Nos. 55-621903 through 55-621954. Also claimed are wells on lands owned for the benefit of the GRIC and SCIP wells, which serve Reservation lands.

4.2.7 Means of Conveyance

The means of conveyance claimed by the United States include facilities operated by SCIP and SRP and well pumpage.

4.2.8 Places of Use

The following places of use are claimed:

- SCIP - T3S, R4E; T3S, R5E; T3S, R6E; T4S, R4E; T4S, R5E; T4S, R7E; T4S, R8E; T5S, R7E; and T5S, R8E.
- Non-Project Lands - T1N, R1E; T1S, R1E; T1S, R2E; T2S, R1E; T2S, R2E; T2S, R3E; T2S, R4E; T3S, R4E; T3S, R5E; and T3S, R6E.

4.2.9 Annual Water Use

The United States claims a total current water use of 270,000 acre-feet of surface and groundwater annually for agricultural, domestic, municipal, industrial, and commercial development. A total of 1,547,160 acre-feet are claimed for the following future water uses:

- Irrigation - 1,531,200 acre-feet based on irrigation of 255,200 acres at a water duty of 6 acre-feet per acre;
- Domestic - 3,025 acre-feet based on a projected population of 10,800 using 250 gallons per capita per day;
- Commercial/Industrial - 11,000 acre-feet;
- Stockwatering - 335 acre-feet;
- Sand and gravel mining - 11,600 acre-feet; and
- Evaporative, seepage, and transport losses, and other uses - not quantified.

Due to a variety of circumstances, the claim states that specific plans and time schedules for future water uses were not available. However, when such plans and schedules do become available, the United States indicated it would submit them to the Gila Court.

4.2.10 Claimed Priority Date

The priority date claimed by the United States is “Time Immemorial.”

4.2.11 Claimed Right

The United States did not claim a maximum flow rate and indicated that a storage right for the GRIC was unquantified at this time.

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CHAPTER 5: GILA RIVER INDIAN COMMUNITY WATER USES

This chapter describes recent and current water uses by the GRIC, and the potential for future water development. Recent and current water uses are presented first and include diversions and deliveries of surface water for irrigation, and well pumpage for irrigation and non-agricultural purposes. Future water development on the Reservation is described next and includes potential water use for both irrigation and non-agricultural projects. This information is used for the analyses in **Chapters 7 and 8**.

5.1 RECENT AND CURRENT WATER USES

5.1.1 Irrigation

Table 5-1 summarizes surface water diversions and deliveries to the GRIR and well pumpage on the Reservation since 1985. Also shown are limited data on effluent production. With the exception of pumpage from municipal, industrial, and commercial wells, water uses listed in the table have been for irrigation. **Figure 2-4**, presented earlier in **Chapter 2**, shows where this water has been applied.

By far the largest use of water on the GRIR since 1985 has been for irrigation. Based on analysis of 2000 and 2005 imagery, ADWR estimates the total area developed for agriculture on the Reservation currently covers about 68,000 acres. Note that this total acreage includes lands associated with crop production but not actually planted, such as service roads, irrigation canals and ditches, tail water drainage areas, farm buildings, etc. As explained below, this agricultural infrastructure is not included in ADWR's determination of irrigable acreage on the GRIR. A 1994 inventory of agricultural areas on the GRIR was presented in ADWR's 1996 GRIC Hydrographic Survey Report and is summarized here and in **Table 5-2**. This table lists the name of

each agricultural area, the acreage of developed and actively irrigated farmland, and potential water sources.

The SCIP is the largest agricultural area on the GRIR with over 37,000 acres of developed irrigated farmland in 1994. It also has the greatest number of potential water sources and has used the most water. The SCIP or “Pima Agency” lands on the Reservation have primarily received water from the Gila River via the Ashurst-Hayden Diversion Dam, Florence-Casa Grande Canal, and Pima Lateral. River water has been supplemented, as needed and due to availability, by CAP deliveries, drain water from SRP, and pumpage from wells operated by SCIP and the Community. **Table 5-1** shows the variability of water supplies from the Gila River since 1985, with diversions to the Reservation ranging from a low of 27,000 acre-feet in 2003 to a high of 184,000 in 1989. Pumpage from SCIP wells has typically been highest when Gila River water was least available and, since 1985, has ranged from a low of 5,000 acre-feet in 1992 to a high of 51,000 acre-feet in 1997. To date, delivery of CAP water to SCIP lands on the Reservation has been sporadic and has ranged from no deliveries during most years to a high of 68,000 acre-feet in 2003.

ADWR (1996) identified ten other agricultural areas on the GRIR that are relatively small compared to SCIP, each having less than 5,000 acres of developed irrigated farmland in 1994 and all using water pumped from wells. In addition to well water, Lone Butte Ranch has used effluent on its fields, Maricopa Colony has received well water from SRP, and four areas (Broadacres, Komatke, Maricopa Colony and Triangle Lands) have received drain water deliveries from SRP. In 1994, an estimated 9,000 acre-feet of effluent were used by Lone Butte Ranch and an estimated 63,000 acre-feet of water were pumped by non-SCIP wells for irrigation. By comparison, in 2004, 2,000 acre-feet of effluent were reportedly used on the Reservation and 65,000 acre-feet of water were pumped by non-SCIP wells for irrigation (GRIC, 2006). Since 1986, SRP’s annual delivery of drain and well water to the GRIC has typically ranged between 10,000 and 15,000 acre-feet, but ADWR does not have information regarding the quantity of SRP’s deliveries actually used on the Reservation.

5.1.2 Non-agricultural Uses

All non-agricultural water uses on the GRIR have been met by well pumpage. These uses include municipal, industrial, and commercial demands, which in 1994 were estimated to total approximately 2,800 acre-feet (ADWR, 1996). Of this, about 1,900 acre-feet were estimated for municipal use and about 900 acre-feet were estimated for commercial and industrial use. In 2004, the total non-agricultural water use on the Reservation had reportedly increased to 3,700 acre-feet (GRIC, 2006).

Municipalities within the GRIR have been served by two primary water providers, the Community Public Works Department and the Pee Posh Water Company. In 1994, these providers served a total population of about 11,100 and approximately 2,027 connections, including some industrial and commercial facilities. The industrial and commercial uses on the Reservation have ranged from small businesses to industrial parks and, in 1994, totaled 129 facilities. These facilities included, but were not limited to, sand and gravel operations, aquaculture, stockyards, an airfield, proving grounds and test facilities, packing plants, seed processing plants and gins, entertainment areas, rest stops, waste treatment and recycling plants, and transfer stations.

5.2 POTENTIAL WATER DEVELOPMENT

This section describes the water development potential of the GRIR for agricultural and non-agricultural uses. The potential for agricultural development is based on the irrigable acreage of the Reservation. Non-agricultural water development is based on the potential for urban, industrial and commercial, recreation, mining, and other non-agricultural uses.

5.2.1 Agriculture

To evaluate the irrigable acreage of the Reservation, ADWR reviewed information from several soil surveys and land classifications. Together, these surveys and classifications cover all of the GRIR and some lands outside of the Reservation. Many of the soil surveys and land classifications were completed by federal agencies that

were evaluating irrigation projects. These agencies include the United States Department of Agriculture, Natural Resources Conservation Service (and its predecessors, the Bureau of Soils, the Bureau of Chemistry and Soils, and the Soil Conservation Service); the United States Department of the Interior, Bureau of Indian Affairs; the United States Department of the Interior, Bureau of Reclamation; and the United States Department of Justice. In addition, the GRIC completed a land classification study as part of its 1985 Master Plan and submitted information related to potential irrigation development with its 2003 amended and new SOCs. Finally, ADWR prepared two simplified land classifications as part of its 1996 and 1999 preliminary Hydrographic Survey Reports (HSRs) for the GRIC.

Appendix I lists detailed information from soil surveys and land classifications that have been completed on GRIR lands. Note that, for some of these studies, ADWR had to calculate the amount of irrigable acreage using GIS analysis. Note also that the appendix does not necessarily contain an exhaustive or complete listing of all of the surveys or classifications completed for reservation lands. Summarized below are those original surveys and classifications that ADWR found covered all or the majority of the GRIR.

1936 Soil Conservation Service (SCS) Land Classification

The SCS, in cooperation with the BIA, completed a reconnaissance land classification map of the GRIR in 1936 that showed three arable lands classes, Class 2 through Class 4. Of the 179,645 acres of arable lands that SCS classified on the Reservation, ADWR determined that there were 5,880 acres of Class 2 Lands, 34,762 acres of Class 3 Lands, and 139,003 acres of Class 4 Lands (**Figure 5-1**). These classifications reflect different levels of suitability for certain crop types.

1941 San Carlos Irrigation Project (SCIP) Land Classification

The Irrigation Division of the Office of Indian Affairs completed a land classification map in 1941 that covered a total of 177,186 acres on the Reservation including Project lands and other lands considered for irrigation (**Figure 5-2**). The

classification also addressed 50,000 acres of non-Indian Project lands, and was described in the 1944 report “Report on Economic Conditions Existing on the San Carlos Irrigation Project and the Gila River,” informally known as the “Walker Report.”

Of the Project lands evaluated on the GRIR, 80,128 acres were determined to be suitable for agriculture and 58,518 acres non-suitable. In the Broadacres and Lone Butte areas in the northwestern part of the Reservation, 13,180 acres were determined to be suitable for agriculture and 25,360 acres non-suitable.

1969 SCS Land Suitability Classification

In 1969, the SCS completed a land suitability map of the GRIR that used the following four land classes:

- Class A (nearly level land suitable for irrigation agriculture) - 198,927 acres;
- Class B (gently sloping lands suitable for irrigation agriculture) - 45,542 acres;
- Class C (nearly level saline and alkali land) - 45,439 acres; and
- Class D (lands not generally suitable for irrigation agriculture) - 81,992 acres.

As described further below, the original SOC filed by the GRIC in the Gila River Adjudication contained a 1980 map prepared by the BIA that was similar to this SCS map.

1979-1988 Preliminary Bureau of Reclamation (BOR) Land Suitability Classification

In 1979, BOR published a series of 14 maps that depicted a detailed land classification for the GRIR. The maps were presumably completed as a first step in certifying the lands for receipt of CAP water, and a similar set of maps was included in the 1985 GRIC Master Plan. ADWR obtained 21 United States Geologic Survey (USGS) 7.5-minute quadrangle maps that appear to be the basis for these 1979 and 1985 maps, as well as the basis for 1988 land classification data obtained from SRP.

BOR identified a total of 173,829 acres on the GRIR as suitable for irrigation including 171,124 acres of “Arable Land” (Class 1 through Class 3) and 2,705 acres of

“Irrigation Class Land.” Another 30,096 acres were classified as “Limited Arable Land” (Class 4) and 169,743 acres were considered “Non-Arable” (Class 6). See **Figure 5-3**.

1980 BIA Land Classification

The GRIC’s original SOC was based on a 1980 map prepared by the BIA and presented as Exhibit No. 3B. See **Figure 5-4**. A total of 283,555 acres of irrigable (Class A, B, and C) lands and 88,467 acres of non-irrigable (Class D) lands were identified. Accounting for a 6% (17,013-acre) deduction for roads, ditches, farmsteads, fences, etc., the net irrigable area was 266,542 acres.

1985 GRIC Master Plan Land Classification

In the 1985 GRIC report “Master Plan Report for Land and Water Use,” a total of 166,000 acres on the Reservation were classified for irrigation use based on previous BOR studies. Of this total, 159,000 acres were classified as irrigable (Classes 1 through 3) lands, and 7,000 acres were classified as either Class 3 or non-irrigable (Class 6) land. Further studies were reportedly needed to determine if the latter was actually Class 3 land. See **Figure 5-5**. The Master Plan proposed that agricultural development occur on 146,330 acres of the Reservation or about 90% of the 166,000 acres of potential arable land. Of the 146,330 acres proposed for agricultural development, the Master Plan indicates a net of 124,381 acres would be planted and irrigated.

1996 ADWR HSR Land Classification

In its first preliminary HSR for the GRIC, the Gila Court requested that ADWR conduct a technical analysis of the possible extent of the Community’s federal reserved right based upon a practicably irrigable acreage (PIA) standard. ADWR determined that PIA was a complex standard and that certain fundamental concepts, such as the occurrence of arable soils, should be addressed first before moving on to more difficult topics, such as irrigation design and economic feasibility.

A four-step approach was developed by ADWR to classify arable lands on the GRIR:

- Step 1 - classify soils and identify which soils are capable of sustained cultivation (arable soils);
- Step 2 - classify arable lands (farmable tracts of arable soils) based on topography;
- Step 3 - identify existing non-agricultural uses on the GRIR and deduct these lands from the arable land base; and,
- Step 4 - determine the percentage of remaining arable land with the potential for irrigation development, accounting for the land typically dedicated to agricultural infrastructure but not actually cultivated.

For Step 1, ADWR used a preliminary soil survey prepared by the Natural Resources Conservation Service (NRCS) that identified 23 soil groups on the GRIR that were arable and covered a total of 243,281 acres. For Step 2, ADWR developed four arable land categories: (a) “Arable” land that could be feasibly developed; (b) “High Risk Arable” land located within floodplains requiring flood protection and/or appear to have a high risk of flooding; (c) arable but “Not Feasible” land that would be difficult to develop because of its size, shape, location, and water serviceability; and (d) “Non-Arable” land that contains soils specified as non-arable or are located in high slope areas, rock outcrops, or within dynamic channels of water courses.

Using these four arable land categories, the 356,667 acres of Reservation lands were classified as follows:

- Arable - 185,210 acres;
- High Risk Arable - 21,200 acres;
- Not Feasible - 37,140 acres; and
- Non-Arable - 113,117 acres.

See **Figure 5-6**. Of the 206,410 acres of arable and high risk arable lands identified, ADWR determined in Step 3 of its approach that 9,470 of these acres had existing, non-agricultural uses. This resulted in a net arable land base of 196,940 acres.

Finally, in Step 4, approximately 9% of the net arable land base was deducted for farm roads, water delivery systems, and ancillary farm structures leaving a net developable arable land base on the GRIR of 178,770 acres.

1998 NRCS Soil Survey of the GRIR

In 1998, the NRCS completed a soil survey that identified 38 distinct soil units on the GRIR. Twenty-five of these soil units were classified as arable and covered a total of 252,348 acres of Reservation land. The arable units were divided into the following NRCS land capability classes:

- Class I with Class III^a - 30,623 acres;
- Class II - 148,755 acres;
- Class II with Class III^a - 23,909 acres;
- Class III - 18,778 acres;
- Class III with Class IV - 21,219 acres; and
- Class IV - 9,064 acres.

^a Some units were identified as soil complexes and contain soils with both classes.

The remaining 13 soil units identified on the Reservation were classified as non-arable (Classes VII and VIII) and covered 121,324 acres. See **Figure 5-7**.

1999 ADWR HSR Classification

In response to comments received on ADWR's 1996 preliminary GRIC HSR, the Gila Court directed ADWR to concentrate on the physical factors involved in PIA, such as water supply and land arability, and ignore economic considerations. For its 1999 preliminary HSR, ADWR evaluated arable lands on the GRIR using the 1998 NRCS soil survey of the Reservation. As described above, the NRCS soil survey identified 25 arable soil units that covered 252,348 acres and 13 non-arable soil units that covered 121,324 acres.

ADWR identified a total of 76,919 acres of arable soils on the GRIR that had constraints that could limit their agricultural development:

- 48,909 acres were located within or near floodplains and would require extensive flood protection to develop;

- 16,542 acres were of a size or shape that would make field layout difficult or were located upslope of water delivery systems or in an isolated area that would require lengthy delivery systems;
- 11,153 acres had existing non-agricultural land uses (e.g., municipal, industrial, commercial, transportation routes, and other cultural uses); and
- 315 acres were located on relatively steep slopes restricting use of most irrigation systems.

Subtracting these constrained lands from the total arable land base leaves a net of 175,429 acres of unconstrained arable land on the Reservation. If only existing non-agricultural land uses are considered a constraint, this leaves a net arable land base of 241,195 acres. See **Figure 5-8**.

2002 United States Department of Justice Land Classification

In 2002, the Department of Justice, in cooperation with BIA, retained Soil and Water West, Inc. to conduct a feasibility level irrigation suitability classification of the Reservation using procedures developed by BOR. The following GRIR lands were omitted from the study:

- Presently irrigated lands, including SCIP lands;¹
- Culturally and archaeologically significant areas;
- Urban areas and major rights of way; and
- Mountains and hills.

¹ ADWR estimated that about 68,000 acres of land have shown recent evidence of agricultural production, including farm roads, water delivery systems, farm support structures, etc. Of the 68,000 acres, 9,055 acres overlap with, and are already included in, this study.

A total of 255,080 acres were classified and are shown in **Figure 5-9**. Summarized below is the acreage that was determined to be suitable for irrigation (Classes 1-4) using three different irrigation systems (furrow, basin, and sprinkler).

2002 DEPARTMENT OF JUSTICE LAND CLASSIFICATION

| LAND CLASS | ACREAGE USING DIFFERENT IRRIGATION SYSTEMS | | |
|-----------------|--|----------------|----------------|
| | Furrow | Basin | Sprinkler |
| 1 | 9,230 | 9,230 | 11,196 |
| 2 | 28,967 | 26,739 | 33,422 |
| 3 | 104,285 | 73,206 | 99,994 |
| 4 | 28,861 | 20,883 | 28,052 |
| <i>Subtotal</i> | <i>171,343</i> | <i>130,059</i> | <i>172,665</i> |
| 6 (Non-Arable) | 83,737 | 125,021 | 82,415 |
| <i>Total</i> | <i>255,080</i> | <i>255,080</i> | <i>255,080</i> |

2003 GRIC SOC's

In 2003, the GRIC amended six of their previously submitted SOC's and filed two new ones. These SOC's are described in **Chapter 4**. As part of the amended and new SOC's, the Community attached information relating to past, present, and proposed land uses on the Reservation. Map #2 of the attachments, entitled "Arable and Non-Arable Lands with Proposed Agricultural and Non-Agricultural Lands" contains the following tabulation of land classes:

- "Existing Non-Agricultural" - 13,759 acres;
- "Proposed Conversion Land" - 47,026 acres;
- "Proposed Monument" - 2,010 acres;
- "Interim Mesquite Plantation" - 22,160 acres;
- "Riparian Mesquite" - 14,293 acres;
- "Mesquite Plantation" - 25,430 acres;
- "Permanent Irrigated Agriculture" - 189,349 acres; and
- "Desert Range" - 72,718 acres.

A copy of Map #2 is presented in **Figure 5-10**.

The SOC's describe the planting of mesquite ("Interim Mesquite Plantation") to reclaim areas with saline/sodic soils that are presently not suitable to grow crops, and the

development of permanent “Mesquite Plantation” that would provide wood and seed products and, once thinned to an optimal tree density, could also be used for pasture. In addition, the Community plans to develop new riparian areas containing mesquite (“Riparian Mesquite”) assuming that increased water use on the Reservation will raise groundwater tables and increase baseflow in the Gila River. Adding these mesquite lands to their “Permanent Irrigated Agriculture” results in a claim to over 250,000 acres of agricultural production on the Reservation.

Potential Agricultural Development

After reviewing the above soil surveys and land classes, ADWR believes that the 124,381 acres of agricultural lands proposed for irrigation in the 1985 GRIC Master Plan is a reasonable *lower limit* of the irrigable acreage on the GRIR. The United States has already committed funding to develop these lands through the design and construction of the Pima-Maricopa Irrigation Project or P-MIP (EcoPlan, 1997). This suggests the project is economically feasible and would meet standard PIA tests. The location of the proposed irrigation system for P-MIP is shown in **Figure 5-11**.

ADWR believes a potential *upper limit* of the irrigable acres on the GRIR is 211,000 acres. This limit is based on the maximum area of undeveloped land (172,665 acres) that the United States Department of Justice determined in 2002 were suitable for irrigation, plus 58,945 acres (68,000 acres total minus 9,055 acres of overlap) that ADWR estimates have shown recent evidence of being used for agriculture on the Reservation which totals 231,610 acres. The ADWR estimates were not included in the 2002 study. However, not all of these agricultural lands would actually be irrigated. As described in the 1996 GRIC HSR, an estimated 9% of developed agricultural lands in the region are not actually planted in crops, but rather are used for farm roads, water delivery systems, farm support structures, etc. Deducting this 9% from the potential irrigable land base of 231,610 acres leaves approximately 211,000 acres as a potential *upper limit* of irrigable acreage on the GRIR.

By comparison, historic agricultural lands on the GRIR have covered a total, composite area of approximately 180,000 acres. This estimate is based on a series of

maps from the 2003 GRIC SOC maps that show the extent of agricultural lands on the Reservation during the following years: 1904 (2 maps), 1914, 1916, 1926, 1937, 1957, 1958, 1971, 1980, 1994, 1998, and “immemorial” (2 maps). ADWR digitized each of the SOC maps and, using GIS analysis, created a composite coverage. A copy of the composite map is presented in **Figure 5-12**.

The final step in determining the water development potential of agricultural lands on the GRIR is to apply a reasonable water duty to these lands. The ADWR identified two water duties that could be used for this purpose:

- 6 acre-feet per acre, based on the Globe Equity decree; or
- 6.2 acre-feet per acre, based on the Environmental Impact Statement for P-MIP and the GRIC Master Plan (771,600 acre-feet applied to 124,381 acres of cropland).

Summarized below are potential irrigation water requirements for the GRIC based on these two water duties and the range of irrigable area on the Reservation described above.

**SUMMARY OF POTENTIAL GRIC
IRRIGATION WATER REQUIREMENTS**

| IRRIGABLE AREA | WATER DUTIES | |
|----------------------------------|--------------------------------------|----------------------------------|
| | Globe Equity (6.0 Acre-feet/Acre) | PMIP EIS (6.2 Acre-feet/Acre) |
| 211,000 acres ("upper limit") | 1,266,000 acre-feet | 1,308,200 acre-feet |
| 180,000 acres (historic) | 1,080,000 acre-feet | 1,116,000 acre-feet |
| 124,381 acres ("lower limit") | 746,286 acre-feet | 771,162 acre-feet |

5.2.2 Non-agricultural Uses

The GRIC (2003a) claims that most non-agricultural water development on the Reservation will come from two sources. The first source is population growth within the Reservation and associated tribal residences, services, and businesses. The second

development source will occur along the exterior boundaries of the Reservation as non-Indian communities continue to develop near these boundaries. Southerly expansion of the city of Phoenix has already reached the northern border of the GRIR, and the cities of Chandler, Coolidge, and Casa Grande have been expanding near the Reservation. In addition, rural areas south of the GRIR near Maricopa and Pinal Counties are beginning to urbanize. Some of these borderland areas have planned commercial, retail, and recreational facilities, and the GRIC (2003a) anticipates that much of the potential development on the Reservation will occur near their borders.

An example of this potential is a proposed 11,000 acre development described in the July 5, 2006 issue of *The Ahwatukee Republic*. The development includes reopening Memorial Airfield and construction of commercial and industrial facilities as well as homes. It would extend from the Santan Freeway south to Riggs Road, and from Price Road west to Maricopa Road, excluding the Firebird Lake area. This proposal is still at the planning stages and has not been approved or finalized.

In its claims, the GRIC (2003a) have also planned for construction of a 100-megawatt electrical generating plant. This plant could meet on-Reservation irrigation, municipal, and industrial needs as well as potentially generate power for sale off-Reservation.

Figure 5-9 shows proposed land uses on the GRIR. The GRIC (2003a) classifies lands already developed for municipal, commercial, and industrial uses and surrounding undeveloped areas under the land class “Existing Non-agriculture.” ADWR assumed for this report that the undeveloped areas classified as “Existing Non-agriculture” are proposed for future development.

Also shown in **Figure 5-9** are 47,026 acres of “Proposed Conversion Land.” The GRIC (2003a) claims that this land may change its classification multiple times in the future and some of this land may become commercial, industrial, or municipal:

[M]any lands are capable of being used for more than one purpose. For example, a given tract of land might initially be planted in mesquite, to improve the underlying soils while generating a profit, then be converted into conventional Euro-American crops and, later, be subdivided into housing for the members of the Community. ... If, for any reason, one of

the claimed uses (Practicably Irrigated Agriculture using conventional Euro-American crops, Practicably Irrigated Agriculture using Native American crops [such as mesquite], Domestic, Municipal, Industrial, Power Generation, Cultural Use, National Monument, Riparian Habitat, Production of Diabetic Foods, or any other use) is denied, or if the ability to change from one use to another use is denied, then the Community claims the full water duty for the land for its highest and best use available.

To assess the water development potential for non-agricultural uses on the GRIC, ADWR considered both the “Existing Non-Agricultural” and “Proposed Conversion” lands described above. Combined, this is a total of 60,785 acres that, according to the GRIC, already have or potentially could be developed for non-agricultural purposes. Since it is unknown what percentage of the total area will ultimately be used for which purpose, ADWR relied on its 1996 land use survey of the Reservation and assumed that the relative percentage of municipal, industrial, commercial, and transportation lands at that time would not change with development in the future. Summarized below is the relative percentage of each non-agricultural land use on the GRIC in 1996, and ADWR’s estimate of the acreages for these uses in the future.

**SUMMARY OF NON-AGRICULTURAL LAND USES ON THE GRIR
AND ESTIMATED FUTURE USES**

| LAND USE | ACREAGE FROM ADWR (1996) | PERCENTAGE OF TOTAL 1996 NON-AGRICULTURAL LAND USE | ESTIMATED FUTURE USE BASED ON GRIC (2003a) SOC |
|-----------------------|---------------------------------|---|---|
| Transportation | 7,046 | 55% | 33,432 |
| Industrial/Commercial | 2,626 | 21% | 12,765 |
| Municipal | 2,585 | 20% | 12,157 |
| Cultural | 481 | 4% | 2,431 |
| <i>Total</i> | <i>12,738</i> | <i>100%</i> | 60,785 |

ADWR assumed that GRIR lands potentially used for transportation and cultural purposes would only require negligible amounts of water. To estimate the future water requirement for industrial and commercial facilities on the Reservation, ADWR calculated an equivalent water duty for these lands based on its 1996 survey. At that time, approximately 900 AFA were pumped from industrial and commercial wells, and another 1,900 AFA were pumped from municipal wells, some of which served industrial and commercial facilities. Assuming that the total industrial and commercial use on the GRIC in 1996 was between 900 AFA and 2,800 AFA and these facilities covered about 2,600 acres, the equivalent annual water duty ranged from 0.35 to 1.1 acre-feet per acre. It follows that if future industrial and commercial facilities on the Reservation cover a total of 12,765 acres, they could have an estimated water requirement of from 4,500 AFA to 14,000 AFA.

To estimate the future water requirement for municipal purposes on the GRIC, ADWR considered potential population growth over the period 2010 to 2100, and a range of per capita water demands. As described in **Chapter 2**, an average annual growth rate of 2.1% was calculated for the GRIR for the 20-year period from 1980 to 2000. ADWR estimated the future population on the Reservation by extending this growth rate and, as summarized below, this results in an estimated Reservation population of 90,189 in 2100. By comparison, the GRIC (2003a) claims that the population on the Reservation in 2100 would be approximately 58,500.

**PROJECTED POPULATION GROWTH ON THE GRIC
AND ESTIMATED FUTURE MUNICIPAL WATER DEMANDS**

| YEAR | SOURCE | ESTIMATED POPULATION | MUNICIPAL WATER DEMAND (IN AFA) | |
|------|---|----------------------|---------------------------------|----------|
| | | | 150 GPCD | 250 GPCD |
| 2010 | ADWR – based on a calculated average annual growth rate of 2.1% from 1980 to 2000 | 13,894 | 2,335 | 3,891 |
| 2020 | | 17,104 | 2,874 | 4,790 |
| 2030 | | 21,055 | 3,538 | 5,896 |
| 2040 | | 25,918 | 4,355 | 7,258 |
| 2050 | | 31,906 | 5,361 | 8,935 |
| 2060 | | 39,276 | 6,599 | 10,999 |
| 2070 | | 48,348 | 8,124 | 13,540 |
| 2080 | | 59,517 | 10,000 | 16,667 |
| 2090 | | 73,265 | 12,311 | 20,518 |
| 2100 | | 90,189 | 15,154 | 25,257 |
| | GRIC (2003a) | 58,500 | 9,830 | 16,383 |

The future water use of this population was estimated by assuming a water demand between 150 gallons per capita per day (gpcd) and 250 gpcd. The lower municipal water demand value was taken from ADWR (1996) and the higher value was referenced in the SOC filed by the United States on behalf of the GRIC. Considering this range of demands and the population projections described above, ADWR estimates that the municipal water demand on the Reservation in 2100 may range from a low of about 9,800 AFA to a high of 25,300 AFA. Adding another 4,500 to 14,000 AFA for industrial and commercial facilities, as described above, results in a total non-agricultural water requirement for the GRIC of between 14,300 and 39,300 AFA.

CHAPTER 6: WATER RESOURCES

This chapter describes the water resources that could be available for use on the Reservation. Included are surface water supplies, reclaimed water, CAP water and groundwater supplies.

6.1 SURFACE WATER

Figure 6-1 shows the location of major surface water features in the vicinity of the GRIR. Included are the Gila and Salt Rivers, other surface water sources on the Reservation, and eight reservoirs. Also described in this section is the availability of effluent and CAP water for use on the Reservation.

6.1.1 Gila River

The Gila River enters Arizona at the state's eastern boundary and generally flows westward across the southern part of the state. The river is perennial where it enters Arizona, but becomes intermittent farther downstream because of seasonal variations in flow and the impoundment of runoff in San Carlos Reservoir since 1928. Upstream of the reservoir, the drainage basin consists of extensive mountains and limited grasslands. Water is primarily diverted from the river in this area for irrigation of croplands in the Duncan and Safford Valleys. Downstream of the reservoir, the Gila River is regulated with much of its flow diverted at the Ashurst-Hayden Dam for use by SCIP (USGS, 1986). On average, roughly half of the Project water diverted from the Gila River has been used to irrigate croplands on the GRIR, and SCIDD has received the other half (SCIP, 1935-2006). A relatively small quantity of flow is also diverted indirectly from the river via industrial (mining) wells located in the Winkelman Valley (Gila Water Commissioner, 1937-2006).

The Gila River crosses the GRIR from southeast to northwest, but due to the upstream diversions at Ashurst-Hayden, it is typically ephemeral at this point. Large

spills and sluices do, however, occasionally pass the diversion dam and reach the Reservation. In addition, as a result of irrigation by the GRIC, some return flows reach the river near the northwestern border of the Reservation (ADWR, 1999).

Several streamflow gages have been established along the Gila River from its headwaters in New Mexico downstream to the GRIR. **Figure 6-1** shows the location of the gaging stations and **Table 6-1** summarizes the streamflow data that have been collected. Included in the table are data on the major diversions from this reach of the river as well as inflows from some of its tributaries. The name and identification number of the gaging stations are listed along with their contributing drainage area and period of record, annual streamflow statistics, years of annual flow record, average seasonal flows as a percentage of annual flow, and primary data sources. These data provide a general indication of baseline streamflow conditions, but since the period of record is not the same for all stations, direct comparison of data between stations is not always possible. Also, since flow conditions have been found to vary dramatically from year to year, “average” streamflows may not represent the flow in any given year.

As listed in **Table 6-1**, an average of about 160,000 acre-feet per year (AFA) of Gila River water flows into Arizona from New Mexico and typically over 40% of this flow occurs during the winter. Since 1936, irrigators in the Duncan Valley have diverted an average of 19,000 AFA directly from the river for irrigation, and flows in the Gila River downstream at the town of Clifton have averaged about 133,000 AFA. Tributary inflows from the San Francisco River are significant (typically over 150,000 AFA) and at the head of Safford Valley, flows of the Gila River increase on average to nearly 340,000 AFA. Since 1936, an average of 101,000 AFA has been directly diverted from the river for irrigation in the Safford Valley. Most (about 60%) of the Safford Valley and Duncan Valley irrigation diversions have occurred during the spring and summer.

Inflow to San Carlos Reservoir from the Gila and San Carlos Rivers averages about 310,000 AFA, and since 1936, an average of 260,000 AFA of reservoir storage and inflows have been released to the river below Coolidge Dam. As a result of tributary inflows, notably from the San Pedro River, flows in the Gila River typically increase downstream of the reservoir and have averaged over 330,000 AFA at the streamflow

gage at Kelvin. Seasonal variations in flow are controlled by reservoir releases and, at Kelvin, the quantity of flow during the winter and summer are typically similar and comprise over 60% of the total annual flow.

Downstream of Kelvin, diversions of Gila River flows at the Ashurst-Hayden Dam have averaged 238,000 AFA since 1936, and since 1937, spills and sluices past the dam have averaged 75,000 AFA. Over 70% of the diversions have occurred during the spring and summer, and nearly 80% of the spills and sluices have occurred during the fall and winter. A considerable portion of the spills and sluices are lost to infiltration along the river channel upstream of, and within, the Reservation. Near the town of Laveen where the Gila River leaves the Reservation, flows in the river have decreased and average about 40,000 AFA.

6.1.2 Salt River

The Salt River drains most of the central mountainous portion of the state and joins the Gila River along the northwestern boundary of the Reservation, near the Maricopa Colony. Flows in the Salt River and the Verde River, its major tributary, are regulated by releases from six reservoirs operated by SRP. Salt River Project diverts the entire normal flow of the Salt and Verde Rivers for irrigation and municipal purposes at Granite Reef Dam, located about 25 miles west of the city of Phoenix. Downstream of Granite Reef, the Salt River passes through metropolitan Phoenix and its channel is typically dry. However, severe flooding has occurred along this reach of the river when it has become necessary to release large volumes of water from the upstream reservoirs (USGS, 1986). Also, beginning about three miles above its confluence with the Gila River, the Salt River is an effluent-dominated reach as a result of discharges from the 91st Avenue Wastewater Treatment Plant (City of Phoenix, 2006).

Table 6-2 lists other streamflow data collected on or near the GRIR including flows below Stewart Mountain Dam, the most downstream of SRP's dams along the Salt River, and diversions at Granite Reef. From 1941 through 2004, flows of the Salt River below Stewart Mountain Dam averaged 716,000 AFA, and from 1913 through 2005, diversions at Granite Reef averaged 870,000 AFA.

6.1.3 Other GRIR Surface Water Sources

In addition to the Gila and Salt Rivers, there are four other significant surface water sources on the GRIR:

- Santa Cruz River;
- Queen Creek;
- East Maricopa Floodway; and
- SRP drain and Maricopa Contract water deliveries.

The Santa Cruz River enters the Reservation from the south and joins the Gila River near the village of Gila Crossing. Flows in the river near the village have been measured since 1941 and average 13,000 AFA. Most of these flows are the result of storm events, and the river is generally considered ephemeral within the Reservation boundary. However, low flows have occasionally been measured at this point in the river and reportedly consisted of drainage and wasteway returns from irrigated lands upstream (USGS, 2005).

Queen Creek is an ephemeral stream that drains an area northeast of the Reservation and, since 1989, its flows have been channeled into the East Maricopa Floodway. The floodway enters the Reservation from the northeast and joins the Gila River near the village of Snaketown. In addition to channeling water from Queen Creek, the floodway collects storm runoff from urbanized areas near the cities of Chandler, Gilbert, and Mesa. Upstream, near the town of Superior, flows in Queen Creek have averaged about 3,000 AFA. At Arizona Avenue, near its confluence with the Gila River, flows in the East Maricopa Floodway have averaged 8,000 AFA since 1990.

The GRIR also received water from several drainage ditches that are located on the Reservation north of the Gila River and operated by SRP. The ditches include:

- 24E-7S Drain;
- 24E-SE Drain;
- 51st Avenue Drain;
- Consolidated Tail Drain;
- Dead Horse Ditch;
- Dead Horse Feeders #1 and #2;

- Estrella Drain;
- Gila Drain; and
- Maricopa Drain.

From 1987 through 2005, an average of 15,000 AFA has been delivered to the Reservation via these drains. A portion of this drainage is actually well water that SRP pumped into the Maricopa Drain to satisfy its Maricopa Contract obligations. Since 1991, SRP pumped an average of 1,300 AFA of well water into the drain.

6.1.4 Reservoirs

There are eight major reservoirs in the vicinity of the GRIC that could potentially be affected by the Settlement Agreement. Reservoir locations are shown in **Figure 6-1**, and summary data are listed in **Table 6-3**. The table lists names of reservoirs and dams, the year that each dam was completed, water sources and storage capacities, period of record, statistics on reservoir storage, and data sources.

SRP operates four reservoirs on the Salt River and two reservoirs on the Verde River with a combined storage capacity of approximately 2.3 million acre-feet (MAF). The dams were originally completed between 1911 and 1946. Roosevelt Dam, which forms the largest of the reservoirs, was raised in 1996 to increase storage capacity and provide greater flood control. The combined storage in SRP's reservoirs has, on average, ranged from an annual low of 720,000 acre-feet to an annual high of 1.3 MAF. Storage is typically highest during the spring, and on May 1 of each year has averaged 1.2 MAF. Note that with the recent upgrades to Roosevelt Dam, an additional 305,000 acre-feet of conservation storage was added for use by six valley cities and 1.8 MAF of storage are now available for flood control and dam safety (Ester, 2006). As a result of these additions, it is expected that the average storage in Roosevelt Lake and the combined storage in SRP's reservoir system will increase in the future.

San Carlos Reservoir is located on the Gila River and has a normal storage capacity of approximately 867,000 acre-feet. Coolidge Dam, which forms the reservoir, was completed in 1928. Storage in the San Carlos Reservoir, averaged over the calendar year, has ranged from a low of 1,074 acre-feet in 1951 to a high of 910,638 acre-feet in

1979. The federal district court which administers the Globe Equity Decree, entered an order in August 1999 that requires a portion of the water stored in the San Carlos Reservoir to be retained in the reservoir in exchange for an equal amount of CAP water purchased by SCAT and delivered to SCIP. This “Minimum Pool” water accumulates concurrently with the amount of CAP water delivered to SCIP on a daily basis, less losses for evaporation and seepage. The retained water is not available for apportionment to Upper Gila Valley water users and, in case of a reservoir spill, it would be the first water to spill. After deductions for losses, the Minimum Pool water on May 31, 2006 was 8,318 acre-feet (Gila Water Commissioner, 2006).

Picacho Reservoir was built in the 1920s as part of SCIP. Its original purpose was to store Gila River water diverted into the Florence-Casa Grande Canal from Ashurst-Hayden Dam and regulate the release of water back into this canal and the Casa Grande Canal. The reservoir was designed with a storage capacity of about 24,500 acre-feet, but over the years siltation and vegetation have significantly reduced capacity and now it consists of a shallow marsh. Water levels are reportedly highly variable and in some years the reservoir goes dry (Maricopa Audubon, 2006). Data on the amount of water stored in Picacho Reservoir were not available.

6.2 EFFLUENT

There are three wastewater treatment plants on the GRIR with a combined treatment capacity of 12.8 million gallons per day (MGD) or about 14,300 AFA (Applied Economics, 2003). The Lone Butte Waste Water Treatment Plant (WWTP) was built between 1968 and 1970 and is shared with the city of Chandler. The plant has a total capacity of about 12,000 AFA, of which about 2,500 AFA is available for use by the GRIC. In 1996, it was treating an estimated 9,000 AFA of raw wastewater from the city of Chandler, the Lone Butte Industrial Park, and the Gila River Casino. The effluent has been either directly applied to fields on the Reservation for irrigation or held in a lagoon with a storage capacity of about 900 acre-feet (ADWR, 1996).

The other wastewater treatment facilities on the GRIR, the Vee Quiva WWTP and the Wild Horse Pass Water Reclamation Plant, serve the Community's casinos. The latter has a current capacity of about 2,200 AFA, but it could be expanded in the future to a capacity of over 11,000 AFA. A large percentage of the residents of the GRIC currently use septic tanks (Applied Economics, 2003).

6.3 CAP WATER

Arizona has an annual allocation of 2.8 MAF of water from the Colorado River. Of this, nearly 1.3 MAF is available to Indian, municipal, industrial, and agricultural water users located along the river. The remainder is diverted via the CAP delivery system to water users in Maricopa, Pinal, and Pima Counties, including certain Indian tribes. CAP water is diverted from the Colorado River at Lake Havasu and delivered through an aqueduct that lifts the water over 2,900 feet and transports it over 330 miles to central Arizona. The CAWCD operates and maintains the CAP (ADWR, 2006a).

In order for an Indian tribe to receive deliveries of CAP water, the Secretary must allocate water to and enter into a contract with the tribe. The GRIC is entitled to 173,100 acre-feet of Colorado River water under an existing CAP contract with the Secretary dated October 22, 1992.

Summarized below are annual diversions of CAP water from the Colorado River from 1985 through 2005. The amount of water diverted has varied over the years for several reasons including demand by users, availability of supply, and the creation of the AWBA, which stores unused Colorado River water to meet future needs.

**SUMMARY OF CENTRAL ARIZONA PROJECT DIVERSIONS
FROM 1985 THROUGH 2005 (ADWR, 2006a)**

| YEAR | DIVERSION (IN 1000s OF ACRE-FEET) | YEAR | DIVERSION (IN 1000s OF ACRE-FEET) |
|-------------|--|-------------|--|
| 1985 | 34 | 1996 | 1,196 |
| 1986 | 108 | 1997 | 1,414 |
| 1987 | 355 | 1998 | 1,228 |
| 1988 | 499 | 1999 | 1,388 |
| 1989 | 759 | 2000 | 1,424 |
| 1990 | 779 | 2001 | 1,523 |
| 1991 | 454 | 2002 | 1,582 |
| 1992 | 592 | 2003 | 1,685 |
| 1993 | 1,025 | 2004 | 1,668 |
| 1994 | 732 | 2005 | 1,320 |
| 1995 | 785 | 2006 | --- |

6.4 GROUNDWATER

This section describes the hydrogeology of the GRIR, and includes a general discussion of the local geology and aquifer system beneath and adjacent to the Reservation, sources of water into and out of the aquifer, the ability of the aquifer to transmit and store water, and well capacities. This is followed by a description of aquifer water levels and directions of flow, water quality conditions, and changes in aquifer storage from predevelopment times to present. This section concludes with an analysis of the current groundwater budget for the GRIR.

6.4.1 Hydrogeology

The alluvial valley between the mountain ranges that border the GRIR contains deep deposits of sediments that were eroded from the mountains. The sediments in this and other alluvial valleys in central Arizona have generally been divided into four units

based on their hydrologic and geologic properties. The hydrogeologic units are, from youngest to oldest:

- Stream alluvium;
- Upper basin-fill deposits;
- Lower basin-fill deposits; and
- Pre-basin and range deposits.

The pre-basin and range deposits range from clay and silt to gravel and conglomerate, but are not considered an important aquifer in the region. The lower basin-fill deposits consist of weakly to highly consolidated gravel, sand, silt, and clay, and some evaporates. This hydrogeologic unit can have confining layers that separate it into upper and lower aquifers and, due to the occurrence of evaporates, water quality is locally poor. The upper basin-fill deposits comprise the most-used aquifer beneath the GRIR and surrounding areas and consist of unconsolidated to semi-consolidated gravel, sand, silt and clay. Beneath agricultural areas, the shallower portions of this unit may also exhibit poor water quality. Stream alluvium is generally well-sorted sand and gravel and typically found along major drainages. Where the Gila, Salt, and Santa Cruz Rivers join on the Reservation, the thickness of this unit can exceed 300 feet (ADWR, 1999).

A three-layer aquifer system has been identified beneath the GRIR consisting of stream alluvium and upper and lower basin-fill deposits. Water occurs in the aquifer under unconfined to confined conditions, however, in most locations on the Reservation, there is little difference in water levels between the upper and lower parts of the aquifer. To the south and north of the GRIR, in the Maricopa-Stanfield and Chandler areas, a well-defined vertical hydraulic gradient has been identified between the upper and lower aquifer. Also, beneath some agricultural areas on and off the GRIR, perched or remnant shallow water table zone aquifers have formed above the regional aquifer system (ADWR, 1999 and 2006b).

The aquifer system beneath the GRIR is recharged in several areas where unsaturated stream alluvium and upper basin-fill deposits transmit water to the underlying aquifer. Along the Gila River, infiltration of spills and sluices that pass the Ashurst-Hayden Dam constitute a major source of recharge. Recharge also occurs along

the channel and floodplain of the Gila and Santa Cruz Rivers during flood events. Seepage of water applied to croplands and lost through irrigation canals together account for the largest current source of aquifer recharge. Most of this recharge occurs in the eastern portion of the Reservation where agricultural activity is the greatest (ADWR, 1999).

Water is also discharged from the GRIR aquifer system in several ways. Irrigation wells are currently the primary means of removing water from the aquifer. Water is also lost to riparian vegetation, as discharge to the Gila River in the Maricopa Colony area, and as underflow off the Reservation to other portions of the regional aquifer system (ADWR, 1999).

The ability of an unconfined aquifer to transmit and store water is described by its transmissivity and specific yield. Transmissivity is a measure of the capability of the entire thickness of an aquifer to transmit water. Transmissivity values for the aquifer system beneath the GRIR vary greatly depending on depth and location. In general, due to the lack of cementation, sediments of the upper basin-fill have the highest transmissivities with published values ranging from 10,000 to 60,000 square feet per day (ft²/d). By comparison, transmissivity values for the combined upper and lower basin-fills typically range from 1,500 to 30,000 ft²/d. Certain areas on the Reservation, such as the region southeast of South Mountain, are likely to have relatively large transmissivities due to the occurrence of coarser sediments deposited by the Gila and Salt Rivers. Specific yield is the ratio, expressed here as a percentage, of the volume of water that will drain from a porous medium by gravity to the volume of the porous medium. Specific yields for the aquifer system beneath the GRIR range from 7% to 25% and vary depending on location, depth, and the amount of silt and clay present in the basin fill (ADWR, 1999).

Well capacities give a general indication of the quantity of water that can be produced from an aquifer under optimal well conditions. Stetson (2003) reported the capacity, in gallons per minute (gpm), of 106 irrigation wells completed on the Reservation. Capacities averaged 2,100 gpm and ranged from a low of 500 gpm to a high

of 5,200 gpm. Several factors can affect well capacities, including local and regional aquifer properties, well design, the size and condition of the pump, and the age of the well.

6.4.2 Water Levels and Flow Directions

Figure 6-2 shows 2003 water level elevations in the aquifer system beneath and adjacent to the GRIR. Also shown in the figure are directions of aquifer flow and average quantities of underflow that enter and leave the Reservation.

Before and since Anglo development, underflow has entered the Reservation from the east along the channel of the Gila River and from the southern portion of the Salt River Valley, and left the Reservation between the Sierra Estrella and South Mountains. Due to well pumpage for irrigation in the Chandler-Santan and Maricopa-Stanfield areas, two cones of depression have formed northeast and southwest of the GRIR. As a result, flow directions have locally changed and underflow now also leaves the Reservation in these areas (ADWR, 1999).

Using the recent water level data collected by ADWR and transmissivity values from ADWR groundwater flow models, it is estimated that an average of 21,200 AFA of underflow presently enters the GRIR (ADWR, 2006b). Of this, 12,700 AFA of underflow is estimated to enter the Reservation from the east side of South Mountain, and is probably affected by the relatively high transmissivity basin-fill deposited by the ancestral Salt River. The remaining 8,500 AFA of underflow enters between the Santan and Sacaton Mountains and is believed to originate from recharge along the Gila River and from irrigation in the Coolidge area.

An average of 57,800 AFA of underflow is currently estimated to leave the GRIR (ADWR, 2006b). Of this, 25,000 AFA of underflow is estimated to leave the Reservation near the Maricopa-Stanfield cone of depression, and another 5,200 AFA of underflow is estimated to leave in the Chandler area. The remaining 27,600 AFA of underflow leaves the Reservation in West Salt River Valley in the gap between the Sierra Estrella and South Mountains.

6.4.3 Water Quality

The quality of water in the aquifer beneath the GRIR is of interest since water of poor quality may not be useable for some purposes. Typically, crops with a moderate salt tolerance must be irrigated with water having a total dissolved solids (TDS) content of less than about 2,500 milligrams per liter (mg/l) without restricting crop yields. Use of water with higher TDS concentrations may require special irrigation practices and/or limit its future use unless treated (ADWR, 1996).

Figure 6-3 shows the approximate areas on the GRIR where TDS concentrations in the aquifer are 2,500 mg/l or greater. The figure is based on water quality data in ADWR's Groundwater Site Inventory (GWSI) database and data received from the Environmental Protection Agency. Note that within areas of poor water quality on the Reservation, it was primarily the wells open to the shallow portion of the aquifer that were found to have elevated TDS concentrations. Water quality was often good to excellent at deeper levels in the basin-fill aquifer, even in those areas where the shallow aquifer water quality was poor (ADWR, 1996).

6.4.4 Aquifer Storage

Using 2003 water level data and specific yield values from ADWR groundwater flow models, it is estimated that approximately 19.5 MAF of water is presently stored in the aquifer system beneath the GRIR to a depth of 1,000 feet below land surface (ADWR, 2006b). Additional water is stored in the aquifer below this point, but well yields typically decrease at lower aquifer levels and water wells are not often completed past this depth.

To assess how water development on and off the Reservation has affected water levels and storage in the aquifer system beneath the GRIR, ADWR compared its recent water level map (**Figure 6-2**) to a 1900 water level map of the region. **Figure 6-4** shows the change in aquifer water levels over this period. Based on these changes and assumed values for specific yield, it is estimated that between 1900 to 2003 about 2.2 MAF of storage has been lost from the aquifer system beneath the Reservation (ADWR, 2006b).

6.4.5 Water Budget

This section concludes with a groundwater budget for the GRIR that represents both long-term and recent water development conditions on and near the Reservation. The water budget is an annual accounting of the total inflows and outflows to and from the aquifer system. By comparing inflows to outflows, it can be determined whether aquifer storage beneath the Reservation is increasing (inflows exceed outflows) or decreasing (outflows exceed inflows). This, in turn, provides an indication of the volume of well water that could be pumped on the GRIR without overdrafting the aquifer.

Table 6-4 lists the inflow and outflow components of the GRIR groundwater budget and the recent change in storage. Inflows contribute water to the aquifer and include streambed recharge, cultural recharge (seepage from reservoirs, agricultural lands, and irrigation canals), and underflows to the Reservation. Outflows remove water from the aquifer and include well pumpage, discharge to streams (baseflow), natural uses (evapotranspiration by riparian vegetation), and underflows from the Reservation. The change in storage is the difference between the total inflows and outflows.

Because some components of the GRIR groundwater budget can change dramatically from year to year (e.g., streambed recharge during flood versus dry years) while other components change more slowly and over the long-term (e.g., increases and decreases in well pumpage for irrigation), an effort was made to consider data that represented both long-term and recent conditions. However, this approach proved to be unworkable. By considering too long of a period of record for some water budget components, concerns arise over historic conditions differing from more recent conditions. Conversely, by considering too short of a period of record, some water budget components can be biased by the recent wet period of the 1970s through 1990s or the drought that is currently impacting Arizona.

In light of the above limitations, ADWR (2006b) developed two average groundwater budgets for the GRIR, a long-term budget and a recent (1998-2002) budget. The long-term budget was based on data collected between 1949 and 2002, but note that the period of record was not the same for all budget components (**Table 6-4**). Over this extended period, total inflows to the aquifer beneath the GRIR are estimated to have

averaged approximately 193,900 AFA. Of this total inflow, 73% has been due to recharge from cultural uses. Streambed recharge has accounted for another 16% of the inflow and the remaining 11% has consisted of underflow onto the Reservation. Total outflows from the aquifer over the 'long-term' are estimated to have averaged approximately 148,100 AFA. Of this total outflow, well pumpage has accounted for 62%, natural uses by riparian vegetation have accounted for 12%, and underflow from the Reservation has accounted for 25%. About 1% of the outflow is estimated to have occurred from discharge to streams as baseflow.

The 1998-2002 groundwater budget is similar to the long-term budget, but due to recent drought conditions, the amount of streambed recharge is lower and the amount of well pumpage for irrigation and underflow leaving the Reservation is higher. Total inflows to the aquifer beneath the GRIR between 1998 and 2002 are estimated to have averaged approximately 168,100 AFA. Of this total inflow, 85% has been due to recharge from cultural uses. Streambed recharge has only accounted for 3% of the inflow, and the remaining 12% has consisted of underflow onto the Reservation. Total outflows from the aquifer between 1998 and 2002 are estimated to have averaged approximately 175,200 AFA. Of this total outflow, well pumpage has accounted for 59%, natural uses by riparian vegetation have accounted for 7%, and underflow from the Reservation has accounted for 33%. About 1% of the outflow is still estimated to have occurred from discharge to streams as baseflow.

By subtracting total outflows from total inflows, ADWR (2006b) estimated that the storage in the aquifer beneath the GRIR has, on average, decreased by 7,100 AFA from 1998 through 2002. Over this five year period, this equates to a total loss in storage of about 36,000 acre-feet. By comparison, using water level change data rather than aquifer inflows and outflows, ADWR (2006b) estimated that about 70,000 acre-feet of storage had been lost from the aquifer beneath the Reservation between 1998 and 2002. This recent deficit in storage could change to a surplus in the near future with greater use of CAP water on the GRIR and/or increased natural recharge when current drought conditions end. As indicated in **Table 6-4**, aquifer inflows over a longer-term have exceeded aquifer outflows beneath the Reservation.

CHAPTER 7: PROBABLE IMPACTS OF THE SETTLEMENT AGREEMENT

This chapter describes the probable impacts of the Settlement Agreement on water resources, the administration of groundwater rights under state law, and categories of other claimants in the Gila River adjudication. This discussion relies on information presented in **Chapters 3 and 6**.

7.1 PROBABLE IMPACTS ON WATER RESOURCES

This section describes probable impacts from the settlement on water resources. Presented first are probable impacts to the following surface water resources:

- Gila River and its tributaries upstream of the Reservation;
- Gila River and its tributaries within the Reservation;
- Salt River;
- Reservoirs;
- Effluent; and
- CAP water.

This is followed by a discussion of probable impacts to the aquifer system beneath and adjacent to the GRIR.

7.1.1 Surface Water

Gila River and Tributaries Upstream of the GRIR

Several provisions of the Settlement Agreement could potentially affect flows in the Gila River and its tributaries upstream of the GRIR. The provisions are grouped into the following four categories:

- Agreements with Upper Valley towns (Duncan, Kearny, Mammoth and Safford);

- Agreements with Upper Valley irrigators (the Franklin and Gila Valley Irrigation Districts, irrigators of Special Hot Lands and land in York Valley, the New Model Ditch Association, and Sunset Ditch Company);
- Agreements with Phelps Dodge; and
- Upper Gila River Watershed Maintenance Program (State Law Limitations and Safe Harbor Uses of Water).

Each category and its potential affect on Gila River flows are discussed below.

Upper Valley Towns

There are separate agreements among the GRIC, United States, and towns in the Upper Valley, which are similar in scope and basically limit the future quantity of water that the towns can pump from wells completed near streams. The towns of Duncan, Kearny, and Safford have wells along the Gila River and the town of Mammoth has wells along the San Pedro River. In addition, Safford has an infiltration gallery in Bonita Creek and diverts water from the “Mount Graham System.” The following table summarizes water use by each of these towns over the past 10 years and their limit on future water use under the settlement.

**RECENT AND FUTURE WATER USE LIMITATIONS
BY TOWNS IN THE UPPER VALLEY**

| TOWN | RANGE IN ANNUAL WATER USE FROM 1995-2005 (IN ACRE-FEET)¹ | LIMITS ON FUTURE ANNUAL WATER USE (IN ACRE-FEET)² |
|-------------|--|---|
| Duncan | 100 to 500 | 400 |
| Kearny | 400 to 600 | 600 |
| Mammoth | 200 to 300 | 300 |
| Safford | 4,200 to 4,600 | 9,740 |

¹ Data from USGS (2006), rounded to the nearest 100 acre-feet.

² Future annual water uses can exceed these limits under various conditions and/or by implementing mitigation measures. The conditions and mitigation measures are generally designed to protect river flows. All towns agreed to locally control phreatophyte growth.

With the exception of Safford, the limits on future water use are near the range of recent water use by the towns. For those towns, the Settlement Agreement should cause little or no change in nearby streamflows. Future water use by Safford, on the other hand, would be allowed to more than double from its recent annual use of 4,200 to 4,600 acre-feet, but not all of the future water use would necessarily impact the Gila River.

The increase in water use by Safford is allowed to occur from various water sources, both near and away from the river. Currently, the majority of Safford's water originates from Bonita Creek, as agreed upon in the San Carlos Apache Tribe Water Rights Settlement Act (P.L. 102-575). Under the Safford Agreement, this use could increase from 3,876 to 5,310 AFA. If much increase occurs through additional well pumpage near the Gila River, it is possible that flows in the river could be affected. However, the actual affect on the Gila River, if any, would depend on several factors including well location and distance from the river, the rate and duration of pumpage, well construction, and local hydrogeologic conditions and aquifer properties.

It should also be noted that the total potential increase in annual pumpage (less than 6,000 acre-feet) under the Settlement Agreement is a relatively small portion of regional flows in the Gila River. As listed in **Table 6-1**, annual flows in the Gila River at the head of Safford Valley have averaged 339,000 acre-feet since 1936, and annual diversions from the river by the Gila Valley Irrigation District (GVID) over the same period have averaged 100,000 acre-feet. Downstream of Safford, at Calva, annual flows in the Gila River have averaged 269,000 acre-feet since 1936.

Upper Valley Irrigators

Several provisions of the UVD Agreement affect Upper Valley irrigators and potentially could impact flows in the Gila River:

- The Community and SCAT claim that thousands of acres of non-decreed croplands have historically been irrigated in the Upper Valley using water from the Gila River (ADWR, 1993). Under the UVD Agreement, Globe Equity Decree rights ("UV Decreed Rights") would be severed and transferred to some of these "Hot Lands." Surface water diversions in the Upper Valley are limited to lands "then being irrigated" or "TBI." Since 1997, the Gila

Water Commissioner has reported that TBI lands in the FID have covered about 5,000 to 7,000 acres, and TBI lands in the GVID have covered about 27,000 to 28,000 acres. An average of about 2,300 acres of Hot Lands were reported as farmed in the Upper Valley between 1997 and 2000 (Gila Water Commissioner, 2001).

- The UVD Agreement requires a 1,000-acre reduction in TBI lands being irrigated by FID and GVID and, through funding by the Secretary, an additional 2,000-acre reduction for a total reduction of 3,000 acres. Some of this reduction in croplands could occur in York Valley from Hot Lands for which application has been made to sever and transfer UV Decreed Water Rights (“Special Hot Lands”), and from lands in New Mexico served by the New Model Community Ditch Association and the Sunset Ditch Company.
- In the event that a separate settlement is reached with SCAT, the UVD Agreement would allow another 500 to 3,000 acres of Upper Valley croplands to be retired and associated decreed water rights either extinguished or transferred downstream to the SCAT and SCIP.
- Finally, with the exception of Special Hot Lands, the water duty for croplands potentially affected by the UVD Agreement may not exceed 6.0 acre-feet per acre. For Special Hot Lands, the water duty may not exceed 4.5 acre-feet per acre, and surface water cannot be used for irrigation.

Historic and recent irrigation in the Duncan and Safford Valleys provide an indication of how reductions in irrigated land and establishing water duty limits under the UVD Agreement could impact flows in the Gila River. Irrigators in the two valleys divert water directly from the Gila River, as allowed under the Globe Equity Decree, and pump water from wells completed along or near the river. Since 1936, annual diversions from the Gila River to Duncan Valley have averaged 19,000 acre-feet and annual diversions from the river to Safford Valley have averaged 100,000 acre-feet (**Table 6-1**).

A study was completed recently for the Upper Gila Watershed Partnership of Arizona that addressed irrigation requirements in the Upper Gila River Valley (University of Arizona, 2004). It was estimated in the study that about 54,500 acre-feet

were used in the year 2000 to irrigate 6,980 acres of cropland in Duncan Valley. This equates to a water duty of approximately 7.8 acre-feet per acre. In Safford Valley, it was estimated that about 238,400 acre-feet were used in the year 2000 to irrigate 36,000 acres, which equates to a water duty of approximately 6.6 acre-feet per acre. These irrigation requirements were estimated based on reported cropped acreage and crop types, crop-specific consumptive uses calculated using local meteorological data, and representative irrigation efficiencies.

Based on the Gila River diversion data presented above, it is clear that well pumpage is an important source of water to irrigators in the area and, in dry years, provides the majority of water used for irrigation. From 1950 through 1990, the USGS (1994) estimated that the total well pumpage in the Safford area ranged from 50,000 to 213,000 AFA. Over the same period, total well pumpage in the Duncan area ranged from 7,000 to 33,000 AFA.

The 2004 University of Arizona study also evaluated the efficiency of irrigation systems in the Duncan and Safford Valleys. It was estimated that the efficiency of these systems ranges from 40 to 46%, which means that less than half of the water diverted from the Gila River and pumped from wells actually meets the consumptive use needs of crops planted in the area. The remaining water is lost in a variety of ways including seepage along canals and turnouts, irrigation return flows, incidental recharge, and evaporation.

By reducing the acreage of irrigated cropland and limiting water duties, the Settlement Agreement should reduce the quantity of water diverted from the Gila River and pumped from irrigation wells. Assuming a water duty of 6.6 to 7.8 acre-feet per acre based on the University of Arizona study and a reduction in irrigated acreage of at least 3,000 to 6,000 acres under the settlement, this results in 19,800 to 46,800 acre-feet less water used each year in the Upper Valley for irrigation. In addition, if it were assumed that the water duty for about 5,000 TBI acres in the Duncan Valley is reduced from 7.8 to 6.0 acre-feet per acre and the water duty for about 28,000 TBI acres in the Safford Valley is reduced from 6.5 to 6.0 acre-feet per acre, another 23,000 acre-feet of water used each year for irrigation in the Upper Valley could potentially be saved. Further water savings

would result from reducing the acreage of hot lands and prohibiting the use of surface water to irrigate these lands.

Three factors make it difficult to estimate how much these potential water savings from the UVD Agreement would actually increase flows in the Gila River downstream of the Upper Valley irrigators. First, due to inefficiencies in the irrigation systems, an appreciable quantity of the water that historically was diverted from the river and pumped from wells probably returned to the river either directly through irrigation return flows or indirectly through canal seepage and incidental recharge beneath fields. Second, the effect of well pumpage on the Gila River depends on several conditions including well location and distance from the river, the rate and duration of pumpage, well construction, and local hydrogeologic conditions and aquifer properties. It cannot be assumed that every gallon of water that has been pumped from irrigation wells in the Upper Valley resulted in an immediate, one-for-one reduction in flows in the Gila River. And third, the amount of Gila River water available for diversion is highly variable from year to year and, as a result, the quantity of well pumpage is also highly variable. Between 1995 and 2005, the Gila Water Commissioner reported that annual diversions from the Gila River to Duncan Valley ranged from 8,000 to 24,000 acre-feet, and diversions from the river to Safford Valley ranged from 42,000 to 146,000 acre-feet.

Upper Valley Mines

Phelps Dodge has two active mining projects in the Upper Valley, the Morenci Mine and the Dos Pobres/San Juan Project. The Morenci Mine is located about 25 miles northeast of Safford and has been in operation since the 1870s. In 2000, Phelps Dodge used about 13,000 acre-feet of water from various sources to meet the industrial demands of the mine, and about 1,000 acre-feet of water for domestic purposes in the town of Morenci. Through 2050, these water uses are projected to remain nearly the same (Upper Gila Watershed Partnership, 2004). Among the sources of water for the mine and town site are diversions from Eagle Creek and the San Francisco River, both tributary to the Gila River (**Figure 6-1**). The Settlement Agreement recognizes Phelps Dodge's right to divert up to 3,000 AFA from these streams as allowed under the Ling Decree. However, this provision of the settlement is not expected to substantially change flows in the Gila

River or its tributaries. As reported by the Gila Water Commissioner, since 1942, Phelps Dodge has diverted an average of 3,000 AFA from the streams.

The Dos Pobres/San Juan Project is a new mine located about 15 miles north of Safford (**Figure 1-1**). The final permit for the ‘Safford Mine’ was issued in July 2006 and Phelps Dodge expects formal construction to begin in August 2006 (Eastern Arizona Courier, 2006). The Final Environmental Impact Statement (FEIS) for the project was completed in December 2003 and the Bureau of Land Management (BLM) published a Record of Decision (ROD) based on the FEIS in June 2004. The ROD indicates that wells will supply water to the mine, with an average pumpage of 5,533 AFA. Phelps Dodge’s well pumpage for the Safford Mine is predicted to eventually reduce flows in the Gila River by no more than 149 AFA. The ROD states that these potential impacts to river flows would be mitigated, as needed, by fallowing decreed croplands that Phelps Dodge already owns in the Safford Valley.

Under the Phelps Dodge Agreement (described in **Chapter 3**), Phelps Dodge agrees to lease 12,000 AFA of CAP water from the GRIC, with an option to lease another 10,000 AFA. Among its possible uses, the settlement would allow Phelps Dodge to exchange the CAP water for Gila River water. Such an exchange could presumably occur as a means of mitigating potential future impacts on the river from the Morenci and Safford Mines. However, based on current water sources and projected future water demands of these mines, it is not clear to ADWR at this time if or when such an exchange would occur. Also, under a separate agreement with SCIDD, GRIC will partially mitigate potential impacts from upstream diversions by Phelps Dodge by furnishing SCIDD with water from the Gila River, CAP, or wells on the Reservation. As a result, it is difficult for ADWR to assess the probable impacts to the Gila River and downstream water users by the Phelps Dodge Agreement.

Upper Gila River Watershed Maintenance Program

The Upper Gila River Watershed Maintenance Program has several provisions that are generally designed to maintain current flows in the Gila River, and ensure that a sufficient quantity of river water is available at Ashurst-Hayden Dam for diversion to

lands on the Reservation. A review of SCIP annual reports indicates that, since 1956, an average of about 101,000 AFA of water from the Gila River has been diverted to SCIDD and an average of about 100,000 AFA of river water has been diverted to lands on the Reservation. Under the Settlement Agreement, it is expected that Gila River diversions to SCIDD will decrease, and diversions to the Reservation will increase to an average 125,000 AFA.

The location of the Gila River Maintenance Area is shown in **Figure 3-3**. Under the Settlement Agreement, and as provided by state law, construction of new dams and enlargement of existing dams in this area is prohibited, with some exceptions. Also prohibited is new irrigation, unless the croplands were already being irrigated in the area between January 1, 2000 and August 12, 2005 (the general effective date of state legislation). Exceptions to the irrigation restrictions include lands within Cochise County, and irrigation that is permitted through other settlement agreements or by decree.

The Settlement Agreement also recognizes “Safe Harbors” for certain water users in the Upper Gila Valley watershed whose diversions of water are not authorized by the Globe Equity Decree. The Safe Harbor provisions of the Settlement Agreement establish three impact zones within the Gila River Maintenance Area:

- “San Pedro Ag and New Large Industrial Use Impact Zone;”
- “San Pedro M&I and Domestic Purposes Impact Zone;” and
- “Gila River Impact Zone.”

Maps of these impact zones are provided in **Appendix F**. The Settlement Agreement generally allows existing well uses within and near the zones to continue, but places restrictions on new wells drilled in these areas after December 31, 2002. For example, within the San Pedro M&I and Domestic Purposes Impact Zone, pumpage from each new domestic well is limited to 2 AFA, with a total limit for these new wells in the impact zone of 1,000 AFA. Similarly, pumpage from each new large industrial well is limited to 250 AFA, with a total limit for these new wells in the impact zone of 1,000 AFA. The potential quantity of new well pumpage that would be allowed within the impact zones is less than 5% of the average annual diversions at Ashurst-Hayden since 1936 (**Table 6-1**).

Specific Safe Harbors were established in the Settlement Agreement for the San Manuel Mine, currently owned by BHP Billiton (BHP), and the towns of San Manuel and Winkelman (**Figure 1-1**). These Safe Harbors limit the future quantity of water that the towns and mine can pump from wells completed near streams. The San Manuel Mine and town site are located along the San Pedro River, and the town of Winkelman is located along the Gila River. The following table shows the water use by the mine and towns over the past 10 years and their limit on future water use under the settlement.

For the towns, their limits on future water use are close to their recent water use, so Safe Harbors for the towns should cause little or no substantial change in nearby streamflows. It is more difficult to predict probable impacts on streamflows related to the San Manuel Mine.

**RECENT AND POTENTIAL FUTURE WATER USE
UNDER THE UPPER GILA RIVER WATERSHED
MAINTENANCE PROGRAM**

| TOWN OR MINE | RANGE IN ANNUAL WATER USE FROM 1995-2005 (IN ACRE-FEET) ¹ | LIMITS ON FUTURE ANNUAL WATER USE (IN ACRE-FEET) |
|-----------------------------------|--|--|
| San Manuel Mine ² | 700 (in 2004) to 15,900 (in 1995) | 2,000 |
| San Manuel Town Site ³ | 700 to 900 | 1,000 |
| Winkelman ³ | 100 to 200 | 250 |

¹ Data from USGS (2006), rounded to the nearest 100 acre-feet.

² Underground mining ceased in 1999 and, in January 2002, BHP-Billiton announced it would permanently close the underground mine facility and the open pit. The San Manuel smelter, refinery and rod plant remain on care and maintenance and are for sale. Copper production from the mine was last reported in 2002 (Niemuth, 2004).

³ Additional water pumped from mine wells and distributed by Arizona Water Company.

The San Manuel Mine is currently closed, with copper production last reported during 2002. In February 2006, it was announced that BHP had received approval from Pinal County supervisors to redesignate some of its property for uses other than mining. One of its parcels has been designated for urban use with up to 5,000 to 10,000 homes

planned for construction over the next 15 years (Arizona Daily Star, 2006). It is unknown to ADWR at this time whether some mine operations will resume in the future and, if the housing development were built, how much water it would require and its source of water. In 1989, Magma Copper Company, the predecessor of BHP, reportedly pumped 17,100 AF from 11 relatively deep (976- to 1,520-foot) wells completed along the San Pedro and 7,300 AF from the underground mine (ADWR, 1991). The Settlement Agreement allows 2,000 AFA to be pumped from the 11 wells in the future without objection by the GRIC.

Gila River and Tributaries Within the GRIR

Where the Gila and Santa Cruz Rivers cross the Reservation, streamflows may locally increase if additional water received by the GRIC under the Settlement Agreement is used for irrigation and results in increased irrigation return flows reaching these rivers. As described in **Section 6.1**, some return flows from irrigation currently reach the Gila and Santa Cruz Rivers near the northwestern border of the Reservation. However, as discussed in **Section 6.4**, increased well pumpage by the Community could potentially capture some or all of these increases in streamflow and eventually could result in less riparian evapotranspiration along the rivers and, presumably, less baseflow.

The quantity of Maricopa Contract and drain water that has been delivered to the Reservation by SRP is not expected to substantially change. From 1986 through 2005, these deliveries have ranged from a low of 9,000 AFA in 2004 to a high of about 23,000 AFA in 1993. The Settlement Agreement recognizes SRP's continued obligation to deliver 5,900 AFA of Maricopa Contract water to the GRIC and, due to local irrigation practices in the valley, it is likely that additional SRP drain water will continue to reach the Reservation in the near future.

The Settlement Agreement is not expected to have any measurable effect on streamflows in Queen Creek and the East Maricopa Floodway. Flows in Queen Creek are channeled into the floodway that enters the Reservation from the northeast and joins the Gila River near the village of Snaketown.

Salt River

The Settlement Agreement is not expected to have any substantial effect on flows in the Salt River upstream of the GRIR or along its northwestern boundary. Although the Settlement Agreement would redistribute some of the Salt and Verde River water that SRP diverts at Granite Reef, the amount diverted and spilled would not necessarily change.

Reservoirs

The Settlement Agreement is not expected to change how SRP operates its six reservoirs on the Salt and Verde Rivers, but as indicated above, it would affect how some of the water from the reservoirs is distributed by SRP after diversion at Granite Reef. The Settlement Agreement is also not expected to change how Picacho Reservoir is operated. Although this reservoir is now largely filled with sediment (**Section 6.1.4**), it is not part of the proposed rehabilitation of the SCIP water distribution system described in the SCIDD Agreement.

The Settlement Agreement is expected to affect the San Carlos Reservoir in two ways. First, as described in **Section 3.2.4**, the agreements with Upper Valley irrigators and the Upper Gila River Watershed Maintenance Program may increase, or should at least maintain, current inflows to the reservoir. It is not clear to ADWR at this time whether the agreements with Upper Valley towns or with Phelps Dodge would affect reservoir inflows. Second, under the SCIDD Agreement, some of the water that would be conserved through rehabilitation of SCIDD's water distribution system may be used by the United States to maintain a permanent pool in the reservoir for fish and wildlife purposes. Preliminary estimates indicate that 48,000 AFA would be conserved by this rehabilitation, with the first 25,000 AFA available for the benefit of SCIDD. If available, the next 8,000 AFA of conserved water would be exchanged with the United States, on a one-acre foot to one acre-foot basis, for SCIDD stored water in San Carlos Reservoir.

Effluent (Reclaimed Water)

In 1994, the GRIC was using about 9,000 AF of effluent from the Lone Butte WWTP to irrigate croplands at Lone Butte Ranch (ADWR, 1996). The Lone Butte WWTP treats wastewater from Chandler, Lone Butte Industrial Park, and the Gila River Casino. In 2004, effluent use on the Reservation reportedly decreased to about 2,000 acre-feet (GRIC, 2006).

The Settlement Agreement could provide an additional 45,100 AFA of effluent from the cities of Chandler and Mesa for irrigation on the GRIR. Most of this additional effluent (40,600 AFA) would be received through an exchange for 32,430 AFA of GRIC CAP water.

CAP Water

Between 1985 and 2005, CAP water use by the GRIC was relatively low but highly variable from year to year. This was primarily due to the price of CAP water. Over the period, CAP deliveries to the Reservation for irrigation ranged from a low of 0 AFA during 14 different years to a high of 68,000 AF in 2002 (**Table 5-1**).

The Settlement Agreement could dramatically increase the amount of CAP water use on the Reservation. As shown in the GRIC Water Budget, the GRIC would receive rights to 328,800 AFA of CAP water from various sources of which 32,500 AFA could be exchanged for reclaimed water from Chandler and Mesa, up to 22,000 AFA could be leased to Phelps Dodge, and up to 41,000 AFA could be leased to several valley cities. This would leave 233,300 AFA of CAP water for potential delivery to the Reservation. Note that if a shortage were declared on the Colorado River, supplies of CAP water available to the GRIC could be reduced.

The total use of CAP water by the State of Arizona is not expected to be changed by the Settlement Agreement. Since the year 2000, Arizona has been fully utilizing its Lower Colorado River Basin consumptive use entitlement of 2.8 million acre-feet per year of Colorado River water. As shown in the table in **Section 6.1.6** the CAP component of the overall Colorado River use has been as high as 1,685 million acre-feet. As GRIC and the various settlement parties who lease or exchange GRIC CAP water

begin to utilize the water made available through the Settlement Agreement, the new uses will not result in increased diversions from the Colorado River. Rather, the new uses will redistribute the existing CAP supplies away from uses that are now occurring on an interim basis.

The Settlement Agreement anticipates that there will likely be a lengthy build-out period until GRIC has the adequate infrastructure in place to fully utilize its CAP supplies. The funding schedule shown in Exhibit 29.1.2 indicates that funding for construction of the SCIP rehabilitation project may continue through the year 2020, and funding for the P-MIP may continue through the year 2029. The rate of build up for leases by the valley cities is dependent upon a variety of growth related factors and is difficult to estimate. The exchanges of CAP water for reclaimed water between GRIC and Chandler and Mesa also anticipate a phase in period that may take several years. The timing for Phelps Dodge's use of CAP lease water for mining purposes is unknown, but immediate development is not likely.

The AWBA is the primary user of interim CAP water. The AWBA program was established in recognition that a supply of excess water would be available for short-term use until permanent water uses are commenced by Indian communities and other subcontractors. As the GRIC and other settlement parties increase their CAP water uses, the AWBA and other similarly situated interim water users will be correspondingly phased out.

7.1.2 Groundwater

Aquifer System Beneath GRIR

Although data are incomplete, total well pumpage on the GRIR over the past 20 years is estimated to have ranged between 80,000 and 120,000 AFA (**Table 5-1** and **Section 6.4.5**). Under the Settlement Agreement, it is expected that well pumpage on the Reservation would increase in the future and, on average, total approximately 156,700 AFA. This is 27,800 AFA greater than the "safe-yield" water budget of 128,900 AFA that ADWR (2006b) recently estimated for the aquifer system beneath the GRIC.

Safe-yield is defined here as *aquifer recharge* (incidental recharge from irrigation and municipal/industrial use + underflow onto the Reservation + streambed recharge from the Gila River) minus *aquifer discharge* (riparian evapotranspiration + underflow leaving the Reservation). Additional discussion of these water budget components is provided in **Section 6.4**.

When estimating the safe-yield water budget for the Reservation, ADWR assumed that under the Settlement Agreement GRIC would receive and use additional effluent, CAP, and Gila River water for irrigation, municipal, and industrial purposes. ADWR also assumed that the water delivery system for SCIP lands would be rehabilitated, improving its efficiency. If future well pumpage by the GRIC were to exceed the actual safe-yield water budget of the Reservation, as previously defined, storage and water levels in the aquifer system could locally decline and eventually the quantity of riparian evapotranspiration and underflow leaving the Reservation could decrease. Whether one or more of these conditions actually occurs will depend on several factors including future rates of well pumpage by the GRIC, changes in agricultural development, local aquifer conditions, and potential changes in aquifer recharge and discharge.

Aquifer System Adjacent to GRIR

Four provisions of the Settlement Agreement could potentially affect the aquifer system adjacent to the GRIR:

- Southside Replenishment Program;
- Roosevelt Water Conservation District (RWCD) Pumping Restrictions;
- Maricopa-Stanfield Irrigation and Drainage District (MSIDD) and Central Arizona Irrigation and Drainage District (CAIDD) Pumping Restrictions; and
- San Carlos Irrigation and Drainage District (SCIDD) Agreement.

The Southside Replenishment Program defines three geographic zones along the southern boundary of the Reservation, the Eastern, Central, and Western Protection Zones (**Figure 3-2**). Pumping limitations and restrictions on water transport would be established in the Eastern and Western Protection Zones, and conservation requirements

would be established in the Central Protection Zone, that are at least as restrictive as those in the Pinal AMA under the Third Management Plan. In addition, the Southside Replenishment Bank would be developed with assistance from the AWBA to meet replenishment obligations if well pumpage in the protection zones exceeds certain limits set for municipal and industrial (M&I) uses. These measures should help to protect water levels and storage in the aquifer system beneath the GRIR from off-Reservation pumping.

The RWCD pumping restrictions should also help protect these water levels and storage. RWCD is located north of the Reservation, and outside of the protection zones defined in the Southside Replenishment Program (**Figure 1-1**). The Settlement Agreement places an 8,000 AFA limit on the amount of water RWCD can pump from existing wells completed south of Pecos Road, and prohibits new wells in this area unless drilled as replacement wells. Since 1996, RWCD pumped from 1,900 to 11,500 AFA from these wells (ADWR, 2006a).

MSIDD and CAIDD are located south of the Reservation, and part of MSIDD is within the Western Protection Zone described above. Under a 1996 agreement with BOR, MSIDD agreed to certain pumping limitations. Under the Settlement Agreement, CAIDD agreed to assist MSIDD in meeting its pumpage limitation by providing up to 7,000 AF of any of CAIDD's excess CAP water over 10,000 AF. In order to obtain this excess CAP water, MSIDD must comply with the pumping limitations set forth in the 1996 BOR Agreement. Under this agreement, MSIDD agreed to limit its well pumpage from a subbasin within two miles of the Reservation boundary to no more than 23,000 to 30,000 AFA depending on the availability and cost of CAP water to the district. If CAP water were unavailable, MSIDD's rate of pumpage could temporarily increase to meet the overall water needs of the district, limited to a total of 250,000 AFA. Currently, an estimated 25,000 AFA of underflow leaves the Reservation and flows toward MSIDD (**Figure 6-2**). MSIDD's use of CAIDD's excess CAP water as provided by the Settlement Agreement, in conjunction with the pumping restrictions under the 1996 agreement, should limit the amount of underflow leaving this portion of the GRIR to near current levels.

Under the SCIDD Agreement, the water delivery system for SCIP will be rehabilitated, which will affect irrigators of both Reservation and SCIDD lands. As a result of lining the current canal system, losses of Gila River water through seepage are expected to be substantially reduced between the point of diversion at Ashurst-Hayden to the point the water is turned out to the fields. Review of annual SCIP reports indicate that, since 1936, an average of 11% of the Gila River water diverted at Ashurst-Hayden Dam has been lost before reaching SCIP lands, and 35% of the remaining river water and SCIP well pumpage are lost within SCIDD. Under the Settlement Agreement, it is estimated that SCIDD will conserve up to 48,000 AFA by rehabilitating its water delivery system, of which the first 25,000 AFA would be available for its use. Any additional water conserved for the benefit of SCIDD would be available for the United States for exchange purposes.

The SCIDD Agreement could affect the aquifer system outside of the Reservation in competing ways. Although the amount of aquifer recharge from canal seepage should decrease beneath SCIDD and along the canals upstream that supply the irrigation district, this loss in aquifer recharge may be offset by SCIDD's increased use of CAP water and a corresponding decrease in its well pumpage.

The 25,000 AFA of conservation water that would become available to SCIDD under the Settlement Agreement will probably not decrease its well pumpage alone, since it offsets its expected reduction in Gila River water due to reapportionment of supplies with the GRIC. Since 1956, Gila River diversions at Ashurst-Hayden Dam have averaged 101,000 AFA to SCIDD and 100,000 AFA to GRIC. Under the Settlement Agreement, average Gila River diversions to GRIC could increase to 125,000 AFA. However, after its canal system is lined, SCIDD will become eligible to use excess CAP water and thereby reduce existing well pumpage. Since 1995, annual well pumpage by SCIDD has ranged from 18,000 to 34,000 acre-feet. SCIDD is eligible to use about 8.4% of the non-Indian agricultural (NIA) pool of CAP water. Depending on availability, this pool will total 400,000 AFA through the year 2016, 300,000 AFA through the year 2023, and 225,000 AFA through the year 2030. For SCIDD, this is equivalent to about 19,000

to 34,000 AFA of CAP water over this period. After the year 2030, some excess CAP water will still be available to SCIDD, but not guaranteed (ADWR, 2006a).

7.2 PROBABLE IMPACTS ON THE ADMINISTRATION OF GROUNDWATER RIGHTS UNDER STATE LAW

For purposes of the Settlement Agreement, groundwater and underground water are separately defined terms.¹ While there is some overlap in the two definitions, they are not interchangeable. The term more commonly used in the Settlement Agreement is underground water, which was developed to avoid potential arguments about the legal character of the water pumped from a well. The Settlement Agreement addresses the regulation of underground water in the geographic areas covered by the Upper Gila River Watershed Maintenance Program, the Safe Harbor provisions, and the Southside Replenishment Program. These new requirements will affect ADWR's administrative and regulatory enforcement responsibilities concerning withdrawals of underground water in certain geographic locations.

7.2.1 Groundwater Code

Under the 1980 Groundwater Code, ADWR currently is responsible for administering a groundwater² regulatory program with requirements that apply differently within certain geographic areas of the state. See Chapter 2, Title 45 (A.R.S. § 45-401 *et seq.*). Statewide, all wells must be registered with ADWR, drilled by a licensed well driller, and comply with well construction standards. Also, there are restrictions on the transportation of groundwater within and between groundwater basins. In addition, in certain areas of the state known as irrigation non-expansion areas, there are restrictions on the expansion of irrigated agriculture. Within other areas of the state, known as active management areas (AMAs), the ability to withdraw groundwater is

¹ Groundwater is defined as "water beneath the surface of the earth other than recharged water or surface water." Settlement Agreement, ¶ 2.92. Underground water is defined as "water beneath the surface of the earth regardless of its legal characterization as appropriable or non-appropriable under any applicable law." *Id.* at ¶ 2.173.

² For purposes of the Groundwater Code, groundwater is defined as "water under the surface of the earth regardless of the geologic structure in which it is standing or moving. Groundwater does not include water flowing in underground streams with ascertainable beds and banks." A.R.S. § 45-101(5).

subject to a system of rights and permits designed to control groundwater overdraft in those parts of the state. Outside of AMAs, as a general rule, groundwater may be withdrawn and used for reasonable and beneficial uses. A.R.S. § 45-453.

The Groundwater Code will continue to apply to certain withdrawals of underground water within the Protection Zones of the Southside Replenishment Program, which are located within the Pinal AMA. However, the Groundwater Code will not apply to withdrawals of underground water under the Upper Gila River Watershed Maintenance Program and the Safe Harbor provisions of the Settlement Agreement. The geographic locations associated with these provisions do not lie within an AMA.

Generally, the Settlement Agreement does not modify state-based rights to withdraw groundwater, unless a party has agreed to limit them. Examples of these limitations on groundwater rights include: (1) RWCD's agreement not to drill new wells and limit pumping to 8,000 AFY south of Pecos Road, (2) MSIDD's 1996 agreement to limit withdrawals in a two mile buffer zone south of the GRIR, (3) the agreement of Coolidge and Florence not to drill new wells within the Protection Zones of the Southside Replenishment Program, and (4) the agreement by AWC not to drill certain new or replacement wells within the Eastern Protection Zone. In addition, several of the Settling Parties within the Upper Gila River Watershed have also voluntarily agreed to limit their withdrawals of underground water. These parties include GVID, FID, Phelps Dodge, and the communities of Duncan, Safford, Kearney and Mammoth.

7.2.2 Upper Gila River Watershed Maintenance Program

State law enacted in 2005 added Chapter 15 to Title 45, and established the Gila River Maintenance Area and the Gila River Maintenance Area Impact Zone. Chapter 15 incorporates the requirements of the Upper Gila River Watershed Maintenance Program.³ A.R.S. § 45-2603. Subject to certain exceptions, in this Impact Zone the construction of new dams and the enlargement of existing dams are prohibited. A.R.S. § 45-2631. Also, the irrigation of land is prohibited unless it was irrigated within a certain time frame, with certain exceptions. A.R.S. § 45-2641. If a proposed well will withdraw underground

³ See H.B. 2728, Ch. 143, § 7.

water⁴ in the Gila River Maintenance Area Impact Zone for irrigation purposes, proof that the well satisfies the requirements of the new legislation must accompany ADWR's NOI form. A.R.S. § 45-2603. As provided by A.R.S. §§ 45-2651 to 2654, violations of these provisions are subject to enforcement action by ADWR.

7.2.3 Safe Harbors

ADWR has several responsibilities under the Safe Harbor provisions of the Settlement Agreement. In order for the Safe Harbor provisions to remain in effect, several conditions must be satisfied. One of these conditions requires ADWR to provide appropriate notice of the Safe Harbor protections in its NOI forms regarding the existence of the Safe Harbors, and the reporting requirements that must be satisfied in order to be eligible for the Safe Harbors protection. In consultation with the Community and SCIDD, ADWR must also develop and maintain information in its GIS database concerning the location of certain irrigation acres that will be eligible for Safe Harbor protection, based on aerial photographs, satellite images or both. In addition, ADWR will be responsible for monitoring existing and new uses within the Safe Harbor Impact Zones. Beginning on the Enforceability Date and continuing every five years thereafter, ADWR must submit a status report to the Gila Court regarding the use of water diverted or pumped from within the Impact Zones with copies to GRIC, the United States and SCIDD.

The Safe Harbors protections offered by the Community and SCIDD do not infringe upon the right to drill a well. However, if a well were drilled or expanded in a manner that is inconsistent with the Safe Harbor protections, the right to use water from that well could later be subject to challenge or call.

7.2.4 Southside Replenishment Program

In addition to establishing the Gila River Maintenance Area, H.B. 2728 established Southside Protection Zones in certain geographic areas to protect the

⁴ For purposes of Chapter 15 to Title 45, underground water is defined "water other than stored water, withdrawn from a well."

Reservation from off-Reservation pumping, as contemplated by the Settlement Agreement. A.R.S. § 45-2602. These Protection Zones are within the Pinal AMA, and are already subject to the provisions of the Groundwater Code in Chapter 2 of Title 45. As a result, groundwater withdrawals within these Protection Zones require a groundwater right or withdrawal permit, they must be measured with an approved measuring device, and annual reports containing groundwater withdrawal information for each well must be filed with ADWR. Exempt wells (small non-irrigation wells), however, are not subject to these requirements. Groundwater withdrawals from wells within the Protection Zones that are not in compliance with state law are subject to enforcement action under the Groundwater Code. See A.R.S. § 45-631 through 45-636.

With the enactment of Chapter 15 to Title 45, ADWR will modify some of its current responsibilities under Chapter 2 of Title 45. Under A.R.S. § 45-2602, persons who withdraw underground water from the Protection Zones (other than the Central Protection Zone) must file annual reports with ADWR that contain not only the information required by A.R.S. § 45-632 of the Groundwater Code (Chapter 2), but also certain information concerning the withdrawals and replenishment of underground water within the Protection Zones. This will require ADWR to modify its annual report forms. Furthermore, in adopting or modifying a Management Plan for the Pinal AMA, ADWR may not adopt conservation requirements for water users located within the Central Protection Zone that are less restrictive than those adopted for the Third Management Plan. A.R.S. § 45-2604. Also, ADWR will be responsible for enforcing restrictions on the transportation of water. Subject to certain exceptions, groundwater and stored water may no longer be pumped and transported away from the Eastern and Western Protection Zones for a non-irrigation use. A.R.S. § 45-2611. Violations of these provisions are subject to enforcement by ADWR. A.R.S. §§ 45-2651 to 2654.

The Southside Replenishment Program will not interfere with or limit groundwater rights. If groundwater withdrawals in the Eastern or Western Protection Zones exceed the Settlement Agreement average allowable limits, the state will be required to offset the collective overuse with replenishment techniques. Also, under limited circumstances, a person withdrawing groundwater for industrial purposes within

these two Protection Zones may be subjected to an individual replenishment obligation. A.R.S. § 45-2626. ADWR is responsible for calculating the replenishment obligations within the Protection Zones. A.R.S. § 45-2622. A report containing information and the data related to the Southside Replenishment Program must be transmitted by ADWR to the Community by June 1st of each year.

7.2.5 Arizona Water Banking Authority

The Arizona Legislature enacted legislation (Laws 2005, Chapter 143 and Laws 2006, Chapter 114) that assigns many of the state's responsibilities under the GRIC Settlement Agreement and the Arizona Water Settlements Act to the Arizona Water Banking Authority. The AWBA will be required to adopt and implement measures to carry out these responsibilities.

The AWBA will be the state agency responsible for establishing the Southside Replenishment Bank. Under state law, the AWBA will be authorized to bank at least 1,000 acre-feet of water per year until the balance in the GRIC account reaches 15,000 acre-feet, at no cost to the GRIC. The AWBA will also maintain a minimum balance in the Southside Replenishment Bank of at least 5,000 acre-feet. The AWBA is not required to deliver more than 11% of the annual water delivery in any single month.

The AWBA will need to acquire sufficient water supplies to meet the Southside replenishment obligations of the state, using monies appropriated from the state general fund, or if unavailable, groundwater withdrawal fees collected in the Pinal AMA. An accounting system will need to be created and maintained that keeps long-term storage credits developed for GRIC separate from other long-term storage credits. To the extent that a person may incur an individual replenishment obligation, the AWBA must send written notice of the obligation to the person specifying the amount and the cost of replenishment, as well as the manner in which the person may satisfy the obligation.

The AWBA is also established as the agent of the state for purposes of implementing and meeting the state's obligations relating to firming the Indian settlement water supplies, including the 15,000 AFY obligations to the Community. In carrying out that responsibility, the AWBA is authorized to:

- Deliver water directly to Indian communities;
- Store additional sources of water, specifically effluent and surface water other than Colorado River water;
- Distribute long-term storage credits to meet tribal water needs as required by the Indian firming program;
- Enter into leasing agreements or contracts with various, specified entities to store, recover, lease and deliver water; and
- Transport groundwater from the McMullen Valley Basin and the Harquahala irrigation non-expansion area (INA) for use by the AWBA in order to meet Indian firming obligations.

The AWBA will use general fund appropriations and groundwater withdrawal fees collected in the Phoenix, Pinal and Tucson AMAs to implement the Indian firming program. The AWBA is required to use general fund appropriations before using groundwater withdrawal fees.

7.3 PROBABLE IMPACTS TO CATEGORIES OF OTHER CLAIMANTS IN THE GILA ADJUDICATION

As described in **Section 3.7**, the Community, and the United States on behalf of the Community, its members, and allottees, will generally provide waivers and releases for past, present, and future claims to water, and past and present claims for injuries to water rights to all claimants in the Gila River Adjudication, subject to certain reservation of rights. Those claimants who are not Settling Parties will be relieved from having their claims challenged by the Community or the United States in the adjudication. It is important to note that the Settlement Agreement does not purport to adjudicate any claims to water of any of the Settling Parties except the Community, nor does it purport to adjudicate the claims to water of any other claimant.

Sections 7.1 and 7.2 evaluate probable impacts to water resources and certain water uses within areas that contribute to the GRIC Water Budget. Other adjudication claimants could be impacted, either positively or negatively, depending on their water use

and location in relation to these water sources. Specific reservations (paragraph 25.13) from the general waivers include:

- Other Indian tribes;
- Claimants below Gillespie Dam who claim surface water rights prior to 1924 and have not participated in the proposed form of agreement in paragraph 26.6; and
- Certain non-Globe Equity entities using water in the Upper Gila River basin in excess of the unilateral safe harbors.

The Community may seek enforcement of its rights or challenge the claims of these entities. In addition, Asarco has not yet reached settlement with the Community, as outlined in paragraph 11. While not specifically reserved in the reservation of rights in paragraph 25.13, the Community may seek enforcement of the Community's rights or challenge Asarco's claims under the general reservation provision.

Among the Indian tribes subject to the Community's reserved rights is the SCAT. There is specific language in the Settlements Act and Settlement Agreement, which states that the settlement does not alter, limit or determine the SCAT's rights. Settlements Act, § 401. As with other non-settling claimants, the SCAT could be impacted by the Settlement, as outlined in **Sections 7.1 and 7.2**. Regardless, no rights of the SCAT are limited or determined by the Settlement.

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CHAPTER 8: COMPARISON OF SETTLEMENT AGREEMENT WATER RIGHTS WITH WATER RIGHTS THAT COULD REASONABLY BE PROVEN AT TRIAL

As required by the Order for Special Proceedings, this chapter includes two analyses. One analysis compares all water rights available to the Community and the United States under the Settlement Agreement with the water rights that could be reasonably proven at trial. The other analysis is more restrictive, and compares only those water rights from sources subject to the jurisdiction of the Gila Court with the water rights that could be reasonably proven at trial.

In order to make the required analyses, ADWR used information from **Chapter 3** (Summary of Settlement Agreement), **Chapter 4** (Summary of Adjudication Claims) and **Chapter 5** (Gila River Indian Community Water Uses). According to the GRIC, its adjudication claims are based not only on federal reserved water rights, but also on prior appropriation rights and aboriginal rights. The GRIC's claims indicate that these rights are not intended to be mutually exclusive. See **Chapter 4**. For purposes of the analyses in this chapter, ADWR took into consideration not only past and present uses, but also potential future water uses on the Reservation as provided by the federal reserved water rights doctrine. See **Chapter 5**.

Described below are federal reserved water rights principles that apply to Indian reservations in Arizona, followed by the comparative analyses required by the Order for Special Proceedings. However, as indicated below, the quantification of federal reserved water rights for Indian reservations is a fact-intensive process that must take into consideration several factors. In contrast, the comparative analyses in this chapter are based solely on the limited information available to ADWR concerning water uses on the Reservation, which could provide reasonable support for the GRIC's adjudication claims if they were litigated based on federal reserved water rights.

8.1 PRINCIPLES OF FEDERAL RESERVED WATER RIGHTS FOR INDIAN RESERVATIONS

In a decision known as *Gila V*, the Arizona Supreme Court set forth certain standards for quantifying Indian water rights under the federal reserved water rights doctrine.¹ The Court reiterated the familiar principle that a federal reserved right impliedly reserves enough water to fulfill the purpose for which the Reservation was created. 201 Ariz. at 311, 35 P.3d at 72. For Indian reservations, the Court further held that the purpose of an Indian reservation is to provide a “permanent home and abiding place” and a “livable environment.” 201 Ariz. at 313, 315, 35 P.3d at 74, 76. This is often referred to as a homeland purpose.

In order to quantify the amount of water necessary for the homeland purpose of a Reservation, the Court rejected the traditional PIA standard developed in *Arizona v. California*, 373 U.S. 546 (1963). Instead, the Court held that determining the amount of water necessary to accomplish the purpose of a reservation is a fact-intensive inquiry that must be made on a reservation-by-reservation basis. 201 Ariz. at 318, 35 P.3d at 79. The Court listed several factors that may be considered: (1) history, including historical practices requiring water uses; (2) past water uses of a cultural nature; (3) the tribal land’s geography, topography, natural resources, and groundwater availability; (4) tribal economic base and economic development plans; (5) past water use on the Reservation and proposed water projects that are practical and economical; and (6) present and projected future population. 201 Ariz. at 319, 35 P.3d at 80.

The Court emphasized that the preceding list is not exhaustive, and that courts adjudicating reserved water rights should be given latitude to consider all information deemed relevant in quantifying federal reserved water rights. Finally, the Court held that in considering future development projects, such projects must be both practical and economically sound. 201 Ariz. at 320, 35 P.3d at 81.

¹ *In re the General Adjudication of all Rights to Use Water in the Gila River System and Source*, 201 Ariz. 307, 35 P.3d 68 (2001).

8.2 COMPARATIVE ANALYSIS CONSIDERING THE TOTAL QUANTITY OF WATER AVAILABLE UNDER THE SETTLEMENT AGREEMENT

This section addresses whether ADWR's analysis of water uses on the Reservation provides a reasonable basis for the Gila Court to conclude that the *total* quantity of water provided to the GRIC and the United States under the Settlement Agreement is no more extensive than the federal reserved water rights that could be reasonably proven at trial in this adjudication. **Table 8-1** lists the total quantity of water that the Community would receive under the Settlement Agreement, and the quantity of water based on ADWR's analysis of past, present, and future uses on the Reservation. For comparison, the table also lists the quantity of water claimed by the GRIC and by the United States on its behalf.

As reflected in **Table 8-1**, under the Settlement Agreement, the GRIC and the United States would receive an estimated average of 653,500 AFA of water, consisting of 312,100 AFA of surface and underground water, and 341,400 AFA of CAP and reclaimed water. This is about one-quarter of the 2,711,097 AFA of water claimed by the GRIC and about one-third of the 1,827,160 AFA of water claimed by the United States on its behalf. Further details on the GRIC and United States claims are presented in **Section 4.1** and **Section 4.2**, respectively, and a summary of the GRIC water rights under the Settlement Agreement is presented in **Chapter 3**.

As discussed in **Chapter 5**, ADWR estimates that future water uses on the Reservation for agricultural and non-agricultural purposes could range between 760,586 and 1,347,500 AFA. This estimate comes from an analysis of existing water uses on the Reservation and the potential for future agricultural and non-agricultural development. A summary of ADWR's analysis in **Section 5.2** is provided below.

The potential for agricultural development is based on review of soil surveys and land classifications of the Reservation and consideration of a reasonable range of water duties for irrigation. ADWR determined that the total irrigable area on the Reservation could range from a lower limit of 124,381 acres to an upper limit of 211,000 acres, and

the water duty for these croplands could range from 6.0 to 6.2 acre-feet per acre. This results in a total potential water use for agriculture by the GRIC of between 746,286 to 1,308,200 AFA.

The potential for non-agricultural development is based on the GRIC's claims that suggest that up to 12,765 acres of the Reservation could be developed for commercial and industrial use. An equivalent water duty for these lands was determined to range from 0.35 to 1.1 acre-feet per acre based on recent non-agricultural water use by the GRIC. In addition, it was projected that the population on the Reservation would grow to between 58,500 and 90,189 by 2100, and the municipal water demand for this population would range between 150 and 250 gallons per capita per day. Combining these commercial, industrial and municipal demands, ADWR estimates that the total potential water use by the GRIC for non-agricultural purposes could range between 14,300 and 39,300 AFA.

Based on the preceding, the total average water use for agricultural and non-agricultural purposes is 760,586 (746,286 plus 14,300) to 1,347,500 (1,308,200 plus 39,300). The total amount of water available to the GRIC and the United States under the Settlement Agreement (653,500 AFA) is *less* than this range.

8.3 COMPARATIVE ANALYSIS CONSIDERING ONLY THE QUANTITY OF WATER AVAILABLE UNDER THE SETTLEMENT AGREEMENT SUBJECT TO THE JURISDICTION OF THE COURT

This section considers whether ADWR's analysis of water uses on the Reservation provides a reasonable basis for the Gila Court to conclude that the quantity of water available to the GRIC and the United States under the Settlement Agreement, *from sources subject to the jurisdiction of the Court*, is no more extensive than the federal reserved water rights that could be reasonably proven at trial in this adjudication. In this context, water "from sources subject to the jurisdiction of the Court" means the

components of the GRIC Water Budget other than CAP and reclaimed water (surface water and underground water).²

As shown in Table 8-1, the GRIC would receive 341,400 AFA of CAP and reclaimed water under the Settlement Agreement. Subtracting this from the total settlement amount of 653,500 AFA leaves 312,100 AFA of surface and underground water that would be subject to the Court's jurisdiction. The latter is substantially *less* than the 760,586 to 1,347,500 AFA range of water uses analyzed by ADWR.

² Under *Gila III*, the federal reserved water right claims for the GRIR apply not only to surface water but to groundwater, to the extent that other water is inadequate to accomplish the purpose of the reservation. *In re the General Adjudication of all Rights to Use Water in the Gila River System and Source*, 195 Ariz. 411, 989 P.2d 739 (1999). For purposes of the Settlement Agreement, underground water is defined as water beneath the surface of the earth regardless of its legal character. See Settlement Agreement ¶ 2.173.

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TABLE 5-1. RECENT WATER USE BY THE GRIC (in 1000s of acre-feet)^{1,2}

| Year | SURFACE WATER DIVERSIONS AND DELIVERIES | | | | WELL PUMPAGE | | | EFFLUENT |
|------|--|----------------|---|-------|----------------------------|----------------------------|--|----------|
| | Gila River Water Diverted to GRIR ³ | CAP Deliveries | SRP Drain and Maricopa Contract Water Delivered to GRIR | Total | SCIIP Wells | Other Irrigation Wells | Municipal, Industrial and Commercial Wells | |
| 1985 | 180 | 0 | Data not available | ≥180 | 18 | 56 | Data not available to ADWR | |
| 1986 | 166 | 0 | ≥14 | ≥180 | 23 | 54 | | |
| 1987 | 178 | 0 | 15 | 193 | 27 | 57 | | |
| 1988 | 180 | 0 | 13 | 193 | 36 | 74 | | |
| 1989 | 184 | 0 | 12 | 196 | 44 | | | |
| 1990 | 30 | 48 | 10 | 88 | 46 | Data not available to ADWR | | |
| 1991 | 135 | 0 | 11 | 146 | 24 | | | |
| 1992 | 167 | 0 | 20 | 187 | 5 | | | |
| 1993 | 148 | 0 | 23 | 171 | 12 | | | |
| 1994 | 175 | 0 | 14 | 189 | 19 | 63 | 3 | 9 |
| 1995 | 170 | 0 | 18 | 188 | 20 | Data not available to ADWR | | |
| 1996 | 174 | 0 | 15 | 189 | 28 | | | |
| 1997 | 121 | 14 | 11 | 146 | 51 | | | |
| 1998 | 116 | 0 | 19 | 135 | 30 | | | |
| 1999 | 61 | 36 | 15 | 112 | 46 | | | |
| 2000 | 30 | 54 | 15 | 99 | 41 | | | |
| 2001 | 91 | 0 | 13 | 104 | 41 | | | |
| 2002 | 18 | 68 | 11 | 97 | 46 | | | |
| 2003 | 27 | 63 | 12 | 102 | 49 | | | |
| 2004 | 42 | 49 | 9 | 100 | 46 | | | |
| 2005 | 106 | 0 | 21 | 127 | Data not available to ADWR | | | |

Notes:

¹ Data Sources: ADWR (1996, 1999, and 2006a), GRIC (2006), GRIIDD (2006), SCIP (1935 through 2006) and SRP (2006).

² Except for pumpage from municipal, industrial, and commercial wells, all water use shown in table has been for agriculture.

³ Amount of Gila River water delivered to GRIR was less due to canal losses between the Ashurst-Hayden diversion dam and the reservation.

TABLE 5-2. 1994 INVENTORY OF AGRICULTURAL AREAS ON THE GRIR¹

| AGRICULTURAL AREA ² | DEVELOPED IRRIGATED FARMLAND (in 1000s of acres) | ACTIVELY IRRIGATED FARMLAND (in 1000s of acres) | WATER SOURCE | | | | | |
|--|--|---|---------------|-----|----------------|--------------|------------|----------|
| | | | Surface Water | | | Well Pumpage | | Effluent |
| | | | Gila River | CAP | SRP Drains | SCIPP Wells | GRIC Wells | |
| San Carlos Irrigation Project ³ | 37.6 | 22.5 | X | X | X | X | X | |
| Triangle Lands | 4.8 | 1.3 | | | X | | X | |
| Santan Ranches | 4.2 | 2.2 | | | | | X | |
| Komatke | 3.4 | 0.02 | | | X | | X | |
| Lone Butte Ranch | 3.1 | 2.9 | | | | | X | X |
| Broadacres | 2.6 | 2.6 | | | X | | X | |
| Jordan Copeland | 1.6 | 0.2 | | | | | X | |
| Maricopa Colony | 1.5 | 1.0 | | | X ⁴ | | X | |
| Circle Farms | 1.0 | 0.0 | | | | | X | |
| Gila Crossing and Santa Cruz | 0.8 | 0.2 | X (historic) | | | | X | |
| Miscellaneous Fields | 0.3 | 0.03 | | | | | X | |
| <i>Total:</i> | 61 | 33 | | | | | | |

Notes:

¹ Data Source: ADWR, 1996.

² See **Figure 2-4** for location of agricultural areas.

³ Includes seven primary sub-areas: Casa Blanca, Gila River Farms, Goodyear, North Blackwater, Sacaton Flats, Santan-Stotonic, and South Blackwater.

⁴ Part of drain water delivered to Maricopa Colony is well water pumped by SRP.

TABLE 6-1. GILA RIVER FLOWS, DIVERSIONS, AND TRIBUTARY INFLOWS UPSTREAM OF AND WITHIN THE GRIR¹

| Map Location ² | Location Name ² | USGS Station Number | Contributing Drainage Area, in square miles | Period of Record (# of years) Used for Annual Flow Statistics | Annual Flow, in 1000s of acre-feet (Year) ³ | | | | Average Seasonal Flow, as a percentage (%) of annual flow ⁴ | | | |
|---------------------------|--|-----------------------|---|---|--|--------|-------|--------------------|--|--------|--------|------|
| | | | | | Minimum | Median | Mean | Maximum | Winter | Spring | Summer | Fall |
| 1 | Gila River below Blue Creek, near Virden, N.M. | 09432000 | 3,203 | 1936-2005 (70) | 24 (1965) | 119 | 159 | 518 (1993) | 42 | 18 | 19 | 21 |
| 2 | Duncan Valley Diversions from Gila River | --- | --- | 1936-2005 (70) | 3 (1951) | 19 | 19 | 40 (1940) | 19 | 37 | 26 | 18 |
| 3 | Phelps Dodge Diversions from Gila River Tributaries | --- | --- | 1942-2005 (64) | 0.5 (1959) | 3 | 3 | 10 (1944) | 64 | 5 | 4 | 29 |
| 4 | Gila River near Clifton | 09442000 | 4,010 | 1936-2005 (60) | 18 (1956) | 102 | 133 | 407 (1941) | 39 | 16 | 23 | 22 |
| 5 | San Francisco River at Clifton | 09444500 | 2,764 | 1936-2005 (70) | 26 (1956) | 105 | 154 | 601 (1983) | 40 | 20 | 17 | 23 |
| 6 | Gila River at head of Safford Valley, near Solomon | 09448500 | 7,896 | 1936-2005 (70) | 49 (1956) | 242 | 339 | 1,558 (1993) | 41 | 18 | 20 | 21 |
| 7 | San Simon River near Solomon | 09457000 | 2,192 | 1936-1981 (46) | 1 (1956) | 6 | 8 | 28 (1954) | 1 | 2 | 90 | 7 |
| 8 | Safford Valley Diversions from Gila River | --- | --- | 1936-2005 (70) | 26 (1951) | 106 | 100 | 172 (1942) | 26 | 31 | 28 | 16 |
| 9 | San Carlos Apache Reservation Diversions from Gila River | --- | --- | 1936-2005 (55) | 0 (several years) | 0.6 | 0.6 | 2 (1971) | 11 | 38 | 41 | 10 |
| 10 | Gila River at Calva | 09466500 | 11,470 | 1936-2005 (70) | 7 (1956) | 150 | 269 | 1,695 (1993) | 48 | 15 | 14 | 23 |
| 11 | San Carlos River near Peridot | 09468500 | 1,026 | 1936-2005 (70) | 4 (2002) | 28 | 44 | 296 (1993) | 61 | 5 | 13 | 21 |
| 12 | Gila River Below Coolidge Dam | 09469500 | 12,886 | 1936-2005 (70) | 38 (1971) | 242 | 260 | 1,662 (1993) | 29 | 28 | 31 | 12 |
| 13 | Gila River at Winkelman | 09470000 | 13,268 | 1942-1993 (47) | 44 (1953) | 237 | 283 | 2,203 (1993) | 30 | 31 | 32 | 7 |
| 14 | Kennecott/Asarco Diversions from wells along Gila River | --- | --- | 1936-2005 (70) | 0.7 (1936) | 12 | 11 | 15 (several years) | 24 | 27 | 25 | 25 |
| 15a,b | San Pedro River near Winkelman | 09473400 and 09473500 | 4,430 to 4,453 | 1963-1978 (16) | 9 (1975) | 40 | 42 | 109 (1978) | 20 | 2 | 43 | 35 |
| 16 | Town of Kearny Diversions from wells along Gila River | --- | --- | 1992-2005 (14) | 0.3 (several years) | 0.4 | 0.4 | 0.5 (1994) | 13 | 35 | 35 | 16 |
| 17 | Gila River at Kelvin | 09474000 | 18,011 (5,125 below Coolidge Dam) | 1936-2005 (70) | 51 (2002) | 298 | 335 | 2,374 (1993) | 31 | 23 | 32 | 14 |
| 18 | Ashurst-Hayden Diversions from Gila River | --- | --- | 1936-2005 (70) | 43 (2002) | 251 | 238 | 477 (1980) | 20 | 32 | 39 | 9 |
| | Ashurst-Hayden Spills and Sluices | --- | --- | 1937-2005 (69) | 0.3 (2002) | 18 | 75 | 1,925 (1993) | 57 | 7 | 14 | 22 |
| 19 | Sacaton Diversions from Gila River | --- | --- | 1936-2005 (70) | 0 (several years) | 0 | 0.3 | 4.6 (1936) | 29 | 7 | 57 | 8 |
| 20 | Gila River near Maricopa | 09479350 | 19,915 | 1996-2004 (9) | 0 (several years) | 0.004 | 0.017 | 0.093 (1996) | 0 | 0 | 83 | 17 |
| 21 | Gila River near Laveen | 09479500 | 20,615 | 1940-1994 (53) | 0 (1969/94) | 9 | 44 | 1,180 (1993) | 67 | 6 | 13 | 15 |

Notes:

¹ Primary data sources - Gila Water Commissioner (1937 through 2006) and USGS (2006).

² Locations listed from upstream to downstream along Gila River. See **Figure 6-1** for map.

³ Statistics based on Calendar Year (CY) data that have been rounded to the closest thousand acre-feet.

⁴ Calculated using average monthly streamflows measured over station's available period of record. Winter season assumed to include months of January, February, and March; Spring includes April, May, and June; and so on. Due to rounding, sum of seasonal flows may not equal 100%.

TABLE 6-2. OTHER STREAMFLOW DATA COLLECTED ON OR NEAR THE GRIR¹

| Map Location ² | Location Name ² | USGS/ALERT Station Number | Contributing Drainage Area, in square miles | Period of Record (# of years) Used for Annual Flow Statistics | Annual Flow, in 1000s of acre-feet (Year) ³ | | | | Average Seasonal Flow, as a percentage (%) of annual flow ⁴ | | | |
|---------------------------|--|---------------------------|---|---|--|----------------|------|-------------|--|--------|--------|------|
| | | | | | Minimum | Median | Mean | Maximum | Winter | Spring | Summer | Fall |
| 22 | Queen Creek below Whitlow Dam near Superior ⁵ | 09478500 | 144 | 1949-58, 2002-04 (13) | 0.9 (2002) | not calculated | 3 | 10 (1954) | 35 | 8 | 50 | 8 |
| 23 | Santa Cruz River near Laveen | 09489000 | 8,581 | 1941-2004 (63) | 0.4 (1974) | 6 | 13 | 136 (1983) | 27 | 3 | 41 | 29 |
| 24 | Salt River below Stewart Mountain Dam | 09502000 | 6,232 | 1941-2004 (64) | 116 (2003) | 595 | 716 | 3258 (1993) | 24 | 33 | 33 | 9 |
| 25 | SRP Diversions from Salt River at Granite Reef Dam | --- | --- | 1913-2005 (93) | 302 (2003) | 836 | 870 | 1369 (1920) | 17 | 34 | 36 | 13 |
| --- | Salt River Project (SRP) Deliveries to GRIC ⁶ | --- | --- | 1987-2005 (19) | 9 (2004) | 14 | 15 | 23 (1993) | 20 | 37 | 28 | 16 |
| 26 | East Maricopa Floodway at Arizona Avenue | 6598 | >214 | 1990-2005 (16) | 0 (1997) | 0.8 | 8 | 103 (1993) | 87 | 3 | 6 | 4 |

Notes:

¹ Data sources - Maricopa County (2006), SRP (2006), and USGS (1998 and 2006).

² See **Figure 6-1** for map of locations.

³ Statistics based on Calendar Year (CY) data that have been rounded to the closest thousand acre-feet. Statistics for ALERT Gage 6598 based on Water Year (WY) data.

⁴ Calculated using average monthly streamflows measured over the station's entire period of record. Winter season assumed to include months of January, February, and March; Spring includes April, May, and June; and so on. Due to rounding, sum of seasonal flows may not equal 100%.

⁵ Annual flow statistics based on Water Years 1949-58 and Calendar Years 2002-04. Seasonal flow percentages based on 1949-58 data.

⁶ Includes SRP drain water and Maricopa Contract water delivered to the GRIR for irrigation and reservoir uses. Between 1991 and 2005, SRP pumped an average of about 1,300 acre-feet/year from wells to meet its contract obligations.

TABLE 6-3. MAJOR RESERVOIRS NEAR THE GRIC¹

| Reservoir ² | Dam | Year Completed | Water Source | Storage Capacity (in 1000s of acre-feet) | Period of Record | Lowest Daily Storage, in 1000s acre-feet (Year) | | | | Highest Daily Storage, in 1000s acre-feet (Year) | | | | May 1st Storage, in 1000s acre-feet (Year) | | | |
|---------------------------|------------------|--------------------------|--|--|---|---|--------|------|--------------|--|--------|-------|--------------|--|--------|-------|--------------|
| | | | | | | Minimum | Median | Mean | Maximum | Minimum | Median | Mean | Maximum | Minimum | Median | Mean | Maximum |
| Apache | Horse Mesa | 1927 | Salt River ³ | 254 | 1912-2005 | 22 (1940) | 700 | 720 | 1,608 (1983) | 283 (1951) | 1,241 | 1,258 | 2,224 (2005) | 168 (1940) | 1,174 | 1,200 | 2,223 (2005) |
| Canyon | Mormon Flat | 1925 | | 58 | | | | | | | | | | | | | |
| Roosevelt | Roosevelt | 1911, dam raised in 1996 | | 1,653 | | | | | | | | | | | | | |
| Saguaro | Stewart Mountain | 1930 | | 70 | | | | | | | | | | | | | |
| Bartlett | Bartlett | 1939 | Verde River ³ | 178 | | | | | | | | | | | | | |
| Horseshoe | Horseshoe | 1946 | | 131 | | | | | | | | | | | | | |
| Picacho | Picacho | 1920s | Gila River via the Florence-Casa Grand Canal | 25 ⁴ | Data not available to ADWR ⁵ | | | | | | | | | | | | |
| San Carlos ^{6,7} | Coolidge | 1928 | Gila River | 867 | 1937-2005 | 0 (several years) | 34 | 138 | 681(1985) | 8 | 260 | 363 | 1,090 (1980) | Not evaluated by ADWR | | | |

Notes:

¹ Data Sources: Maricopa Audubon (2006), SCIP (1935 through 2006), SRP (2006) and USGS (2006).

² See **Figure 6-1** for reservoir locations.

³ Statistics provided for the combined storage of the four reservoirs on the Salt River and the two reservoirs on the Verde River since 1912. With upgrades to Roosevelt Dam completed in 1996, reservoir storage values should, other factors being equal, increase in the future.

⁴ Original design capacity; reservoir currently forms a marsh and is largely filled with sediment and vegetation.

⁵ From 1958 through 2002, reservoir inflows have averaged about 32,000 AFA and reservoir outflows have averaged about 13,000 AFA. Outflows have declined in recent years and, since 1993, have remained below 7,000 AFA.

⁶ The federal district court, which administers the Globe Equity Decree, entered an order in August 1999 that requires that "Minimum Pool" water be retained in the reservoir in exchange for CAP water. See **Section 6.1.4** of this report for further details.

⁷ Reservoir storage, averaged for the year, has ranged from a low of 1,074 acre-feet in 1951 to a high of 910,638 acre-feet in 1979.

TABLE 6-4. RECENT AND LONG-TERM GROUNDWATER BUDGETS FOR THE GRIR¹

| AQUIFER INFLOWS | | | | | AQUIFER OUTFLOWS | | | | |
|--------------------|--|---------------------------------------|----------------|------------------------------|------------------------------|---------------------------------------|--|----------------|------------------------------|
| Budget Component | Type/Location | Average Annual Inflows (in acre-feet) | | Period for Long term Average | Budget Component | Type/Location | Average Annual Outflows (in acre-feet) | | Period for Long term Average |
| | | Recent (1998-2002) | Long-term | | | | Recent (1998-2002) | Long-term | |
| Cultural Recharge | Irrigation | 84,300 | 84,400 | 1992-2002 | Well Pumpage | Irrigation | 99,700 | 88,300 | 1992-2001 |
| | Canal Seepage | 55,800 | 55,800 | 1996-2002 | | Municipal | 1,900 | 1,900 | 1996-2002 |
| | Reservoir Seepage | 2,400 | 2,400 | 1996-2002 | | Industrial and Commercial | 900 | 900 | 1996-2002 |
| Streambed Recharge | Gila and Santa Cruz Rivers | 3,300 | 29,700 | 1949-2002 | Riparian Evapo-transpiration | Gila River near Maricopa Colony | 13,000 | 17,200 | 1983-2002 |
| | Queen Creek and East Maricopa Floodway | 1,100 | 1,100 | 1996-2002 | Baseflow | | 1,900 | 1,900 | 1991-2002 |
| Underflow | Santan-Sacaton Mountains | 8,500 | 8,500 | 1983-2002 | Underflow | Maricopa-Stanfield Cone of Depression | 25,000 | 25,000 | 1983-2002 |
| | West Chandler | 7,200 | 6,200 | 1983-2002 | | Chandler Cone of Depression | 5,200 | 2,000 | 1983-2002 |
| | Ahwatukee | 5,500 | 5,800 | 1983-2002 | | West Salt River Valley | 27,600 | 10,900 | 1983-2002 |
| Total: | | 168,100 | 193,900 | --- | Total: | | 175,200 | 148,100 | --- |

AVERAGE RECENT CHANGE IN STORAGE: 168,100 AFA (INFLOW) - 175,200 AFA (OUTFLOW) = - 7,100 AFA

Notes:

¹ Source: ADWR, 2006b.

TABLE 8-1. COMPARISON OF QUANTITIES CLAIMED, ANALYZED, AND SETTLED

| TYPE | AGRICULTURAL USE (in acre-feet/year) | NON-AGRICULTURAL USES (in acre-feet/year) | | QUANTITY (in acre-feet/year) |
|--|---|---|-------------------------|------------------------------|
| | | Commercial/Industrial | Municipal/Domestic | |
| GRIC Statement of Claimant ¹ | 2,475,000 (Winters Rights) | 700 (Winters Rights) | 13,000 (Winters Rights) | 2,711,097 ² |
| | 2,711,097 (Prior Appropriative Rights) | | | |
| | 934,805 (Aboriginal Rights) | | | |
| U.S. Statement of Claimant, filed on behalf of the GRIC ³ | 1,531,200 (Future Use) | 22,935 (Future Use) ⁴ | 3,025 (Future Use) | 1,827,160 |
| | 270,000 (Current Use) | | | |
| ADWR Analysis ⁵ | 746,286 to 1,308,200 | 4,500 to 14,000 | 9,800 to 25,300 | 760,586 to 1,347,500 |
| GRIC Settlement ⁶ | 312,100 (Surface and Underground Water) | | | 653,500 |
| | 341,400 (CAP and Reclaimed Water) | | | |

Notes:

¹ Further information regarding the GRIC Statement of Claimant is presented in **Section 4.1** of this report.

² The GRIC claims that its three categories of water rights are not mutually exclusive, and water use could be based on one or a combination of these categories. ADWR chose the maximum of the three categories for comparison purposes. The GRIC also claim storage rights of 4,735,600 acre-feet.

³ Further information regarding the U.S. Statement of Claimant, filed on behalf of the GRIC, is presented in **Section 4.2** of this report.

⁴ Includes 335 acre-feet/year for stockwatering.

⁵ Further information regarding ADWR's analysis is presented in **Section 5.2** of this report.

⁶ Further information regarding GRIC water rights under the Settlement Agreement is presented in **Chapter 3** of this report.

Figure 1-1. Location of GRIC Settling Parties

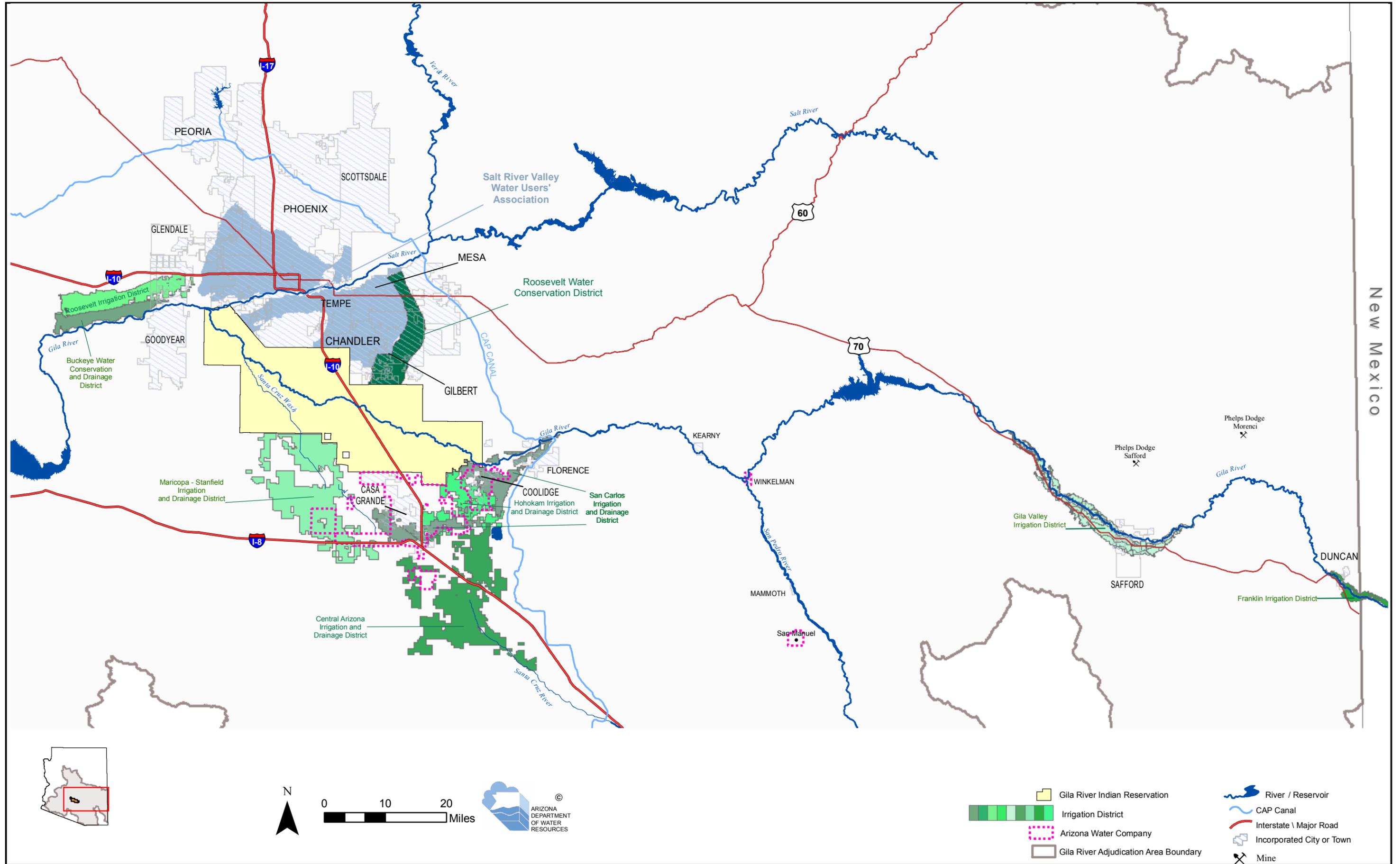


Figure 2-1. Irrigation on the GRIR Circa 1914

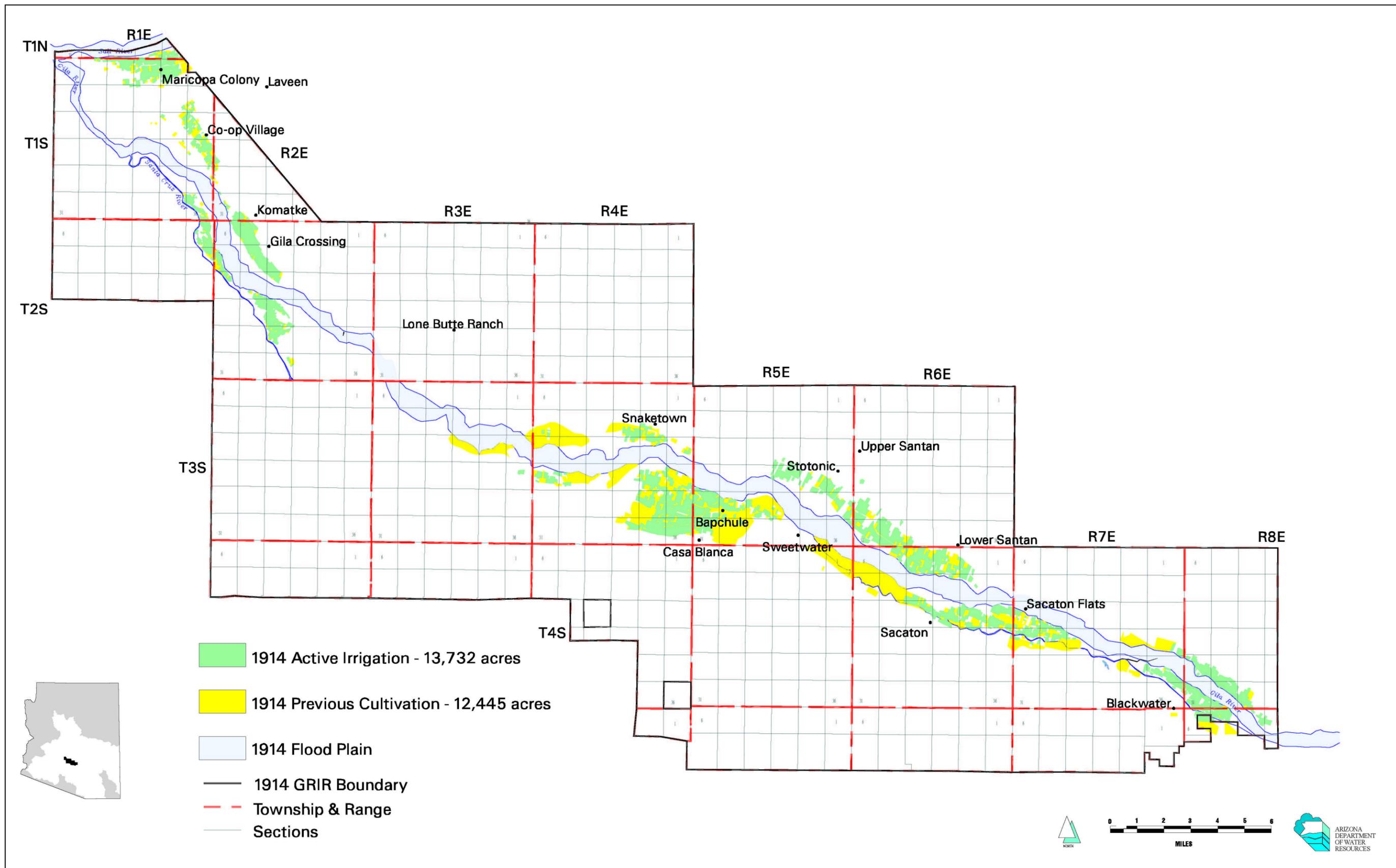


Figure 2-2. Irrigation on the GRIR Prior to Anglo Development

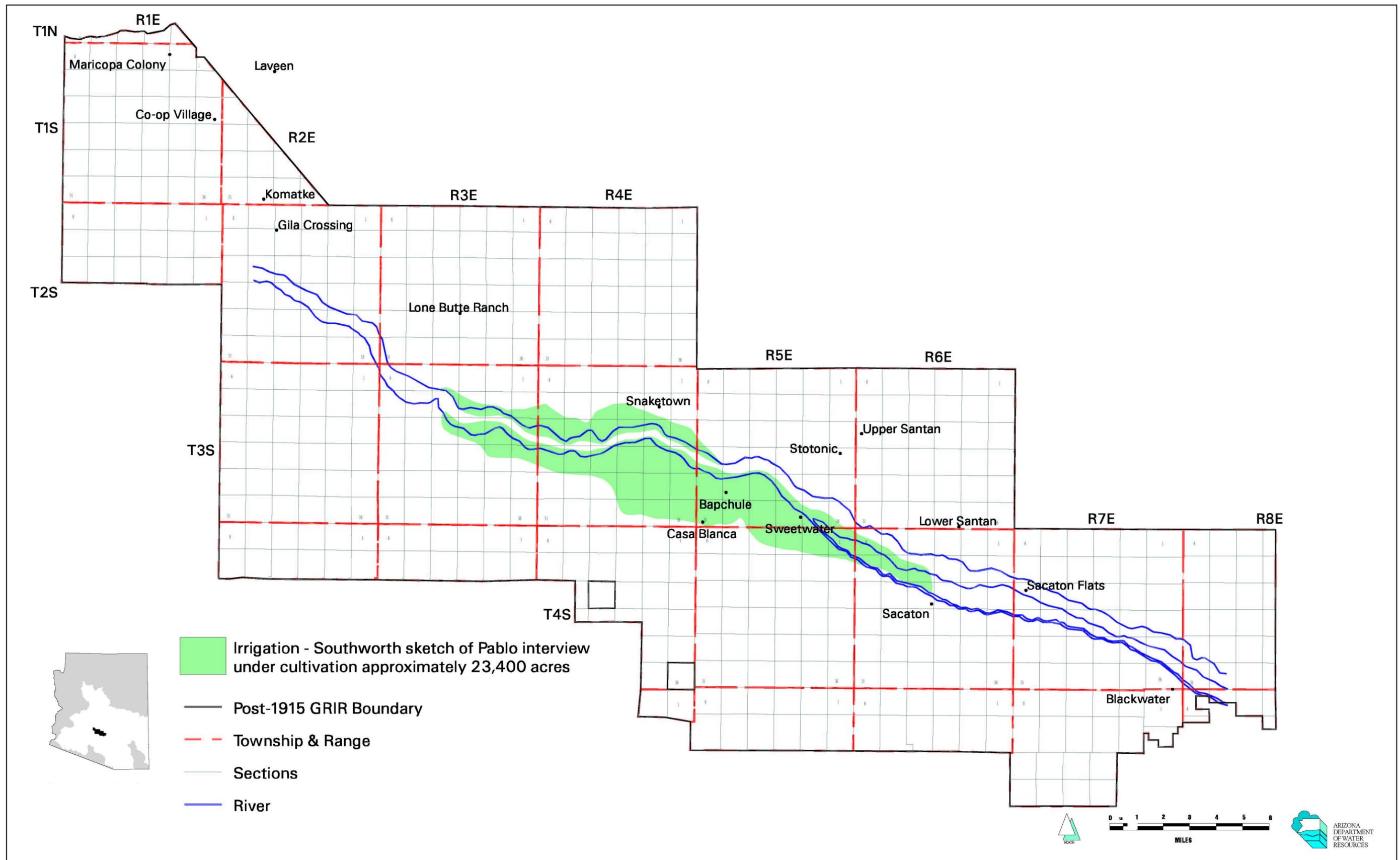


Figure 2-3. Historic Boundaries of the GRIR

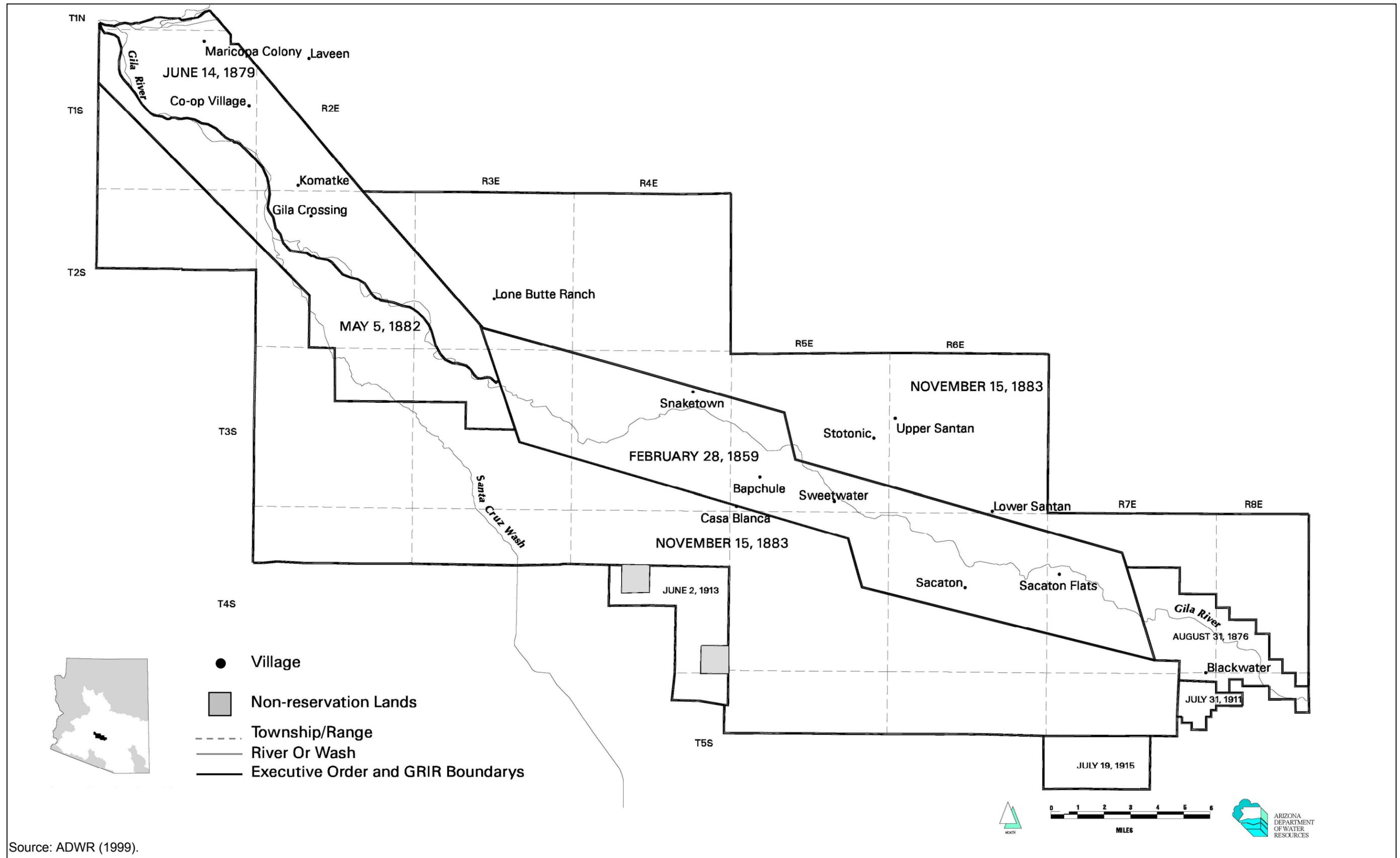


Figure 2-4. Current Land Use on the GRIR

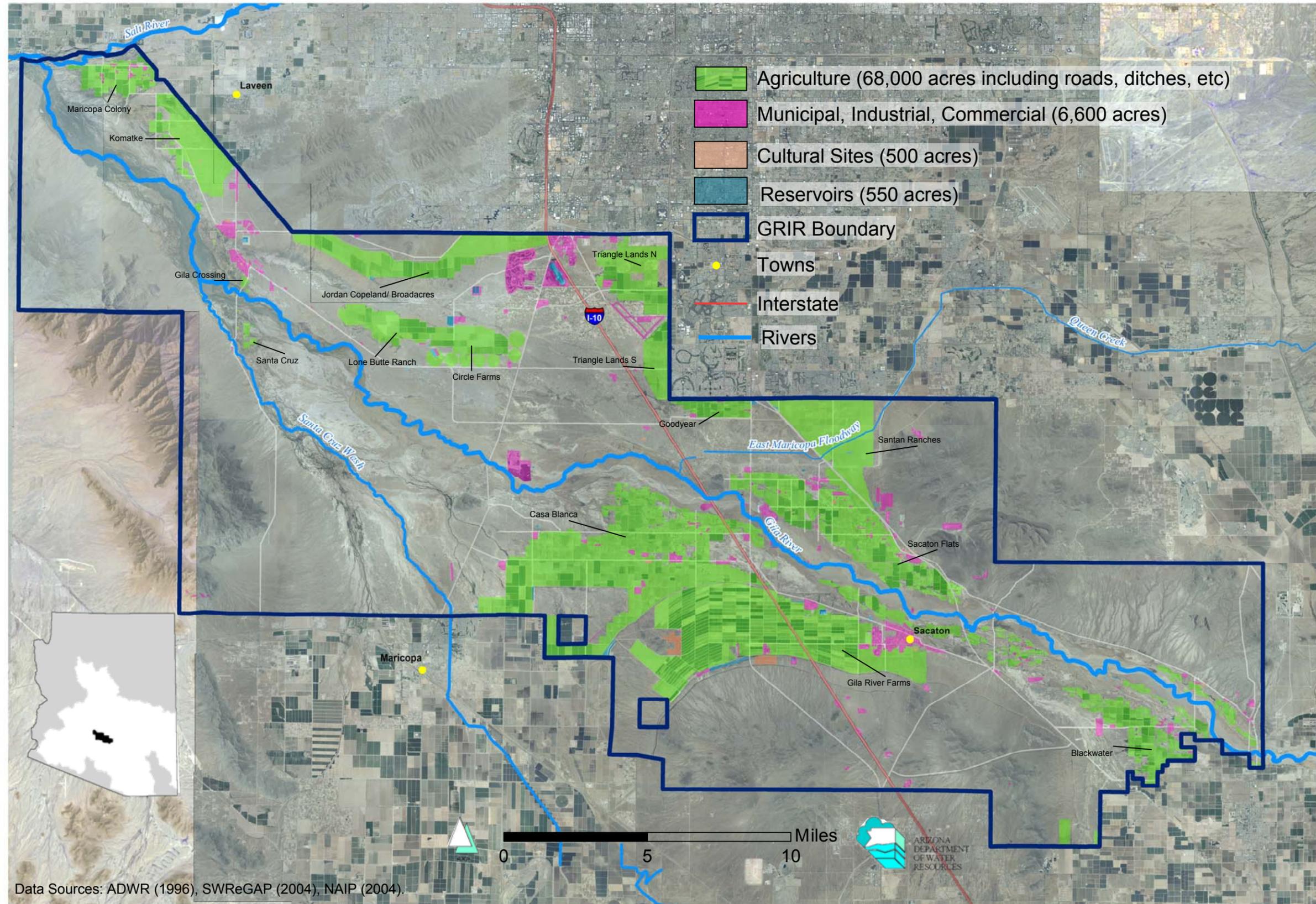


Figure 2-5. Land Ownership on the GRIR

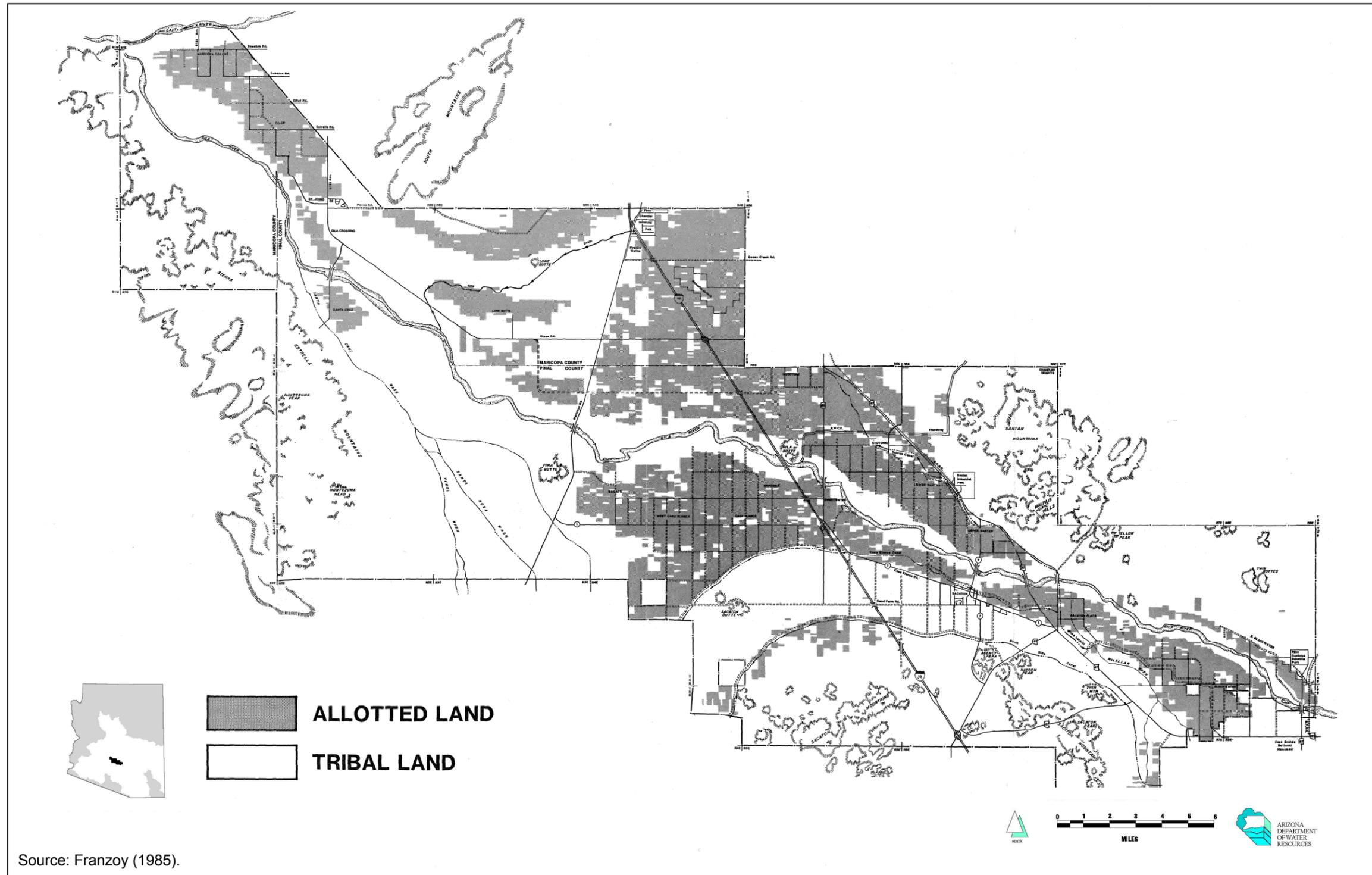
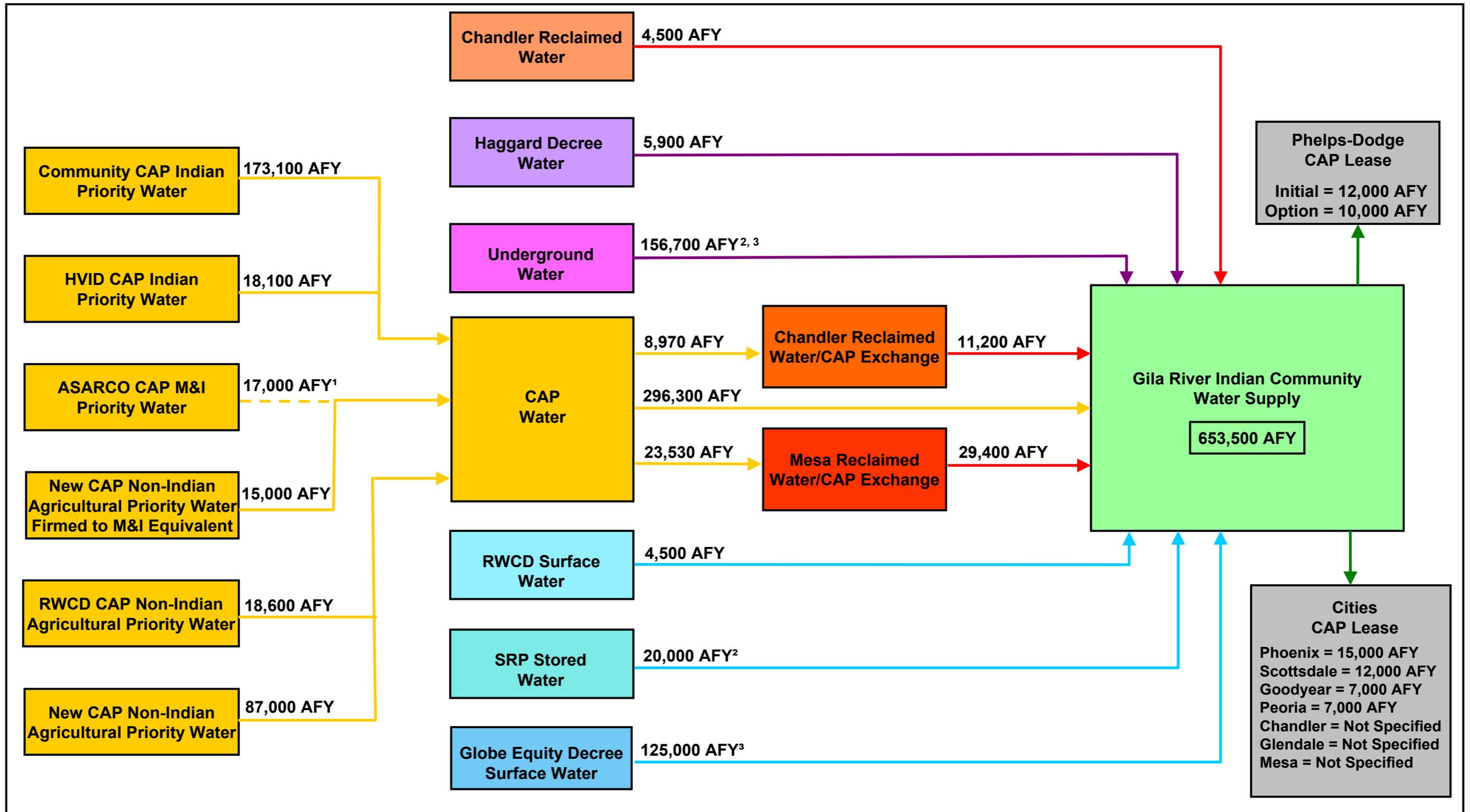


Figure 3-1. Schematic Of GRIC Water Rights

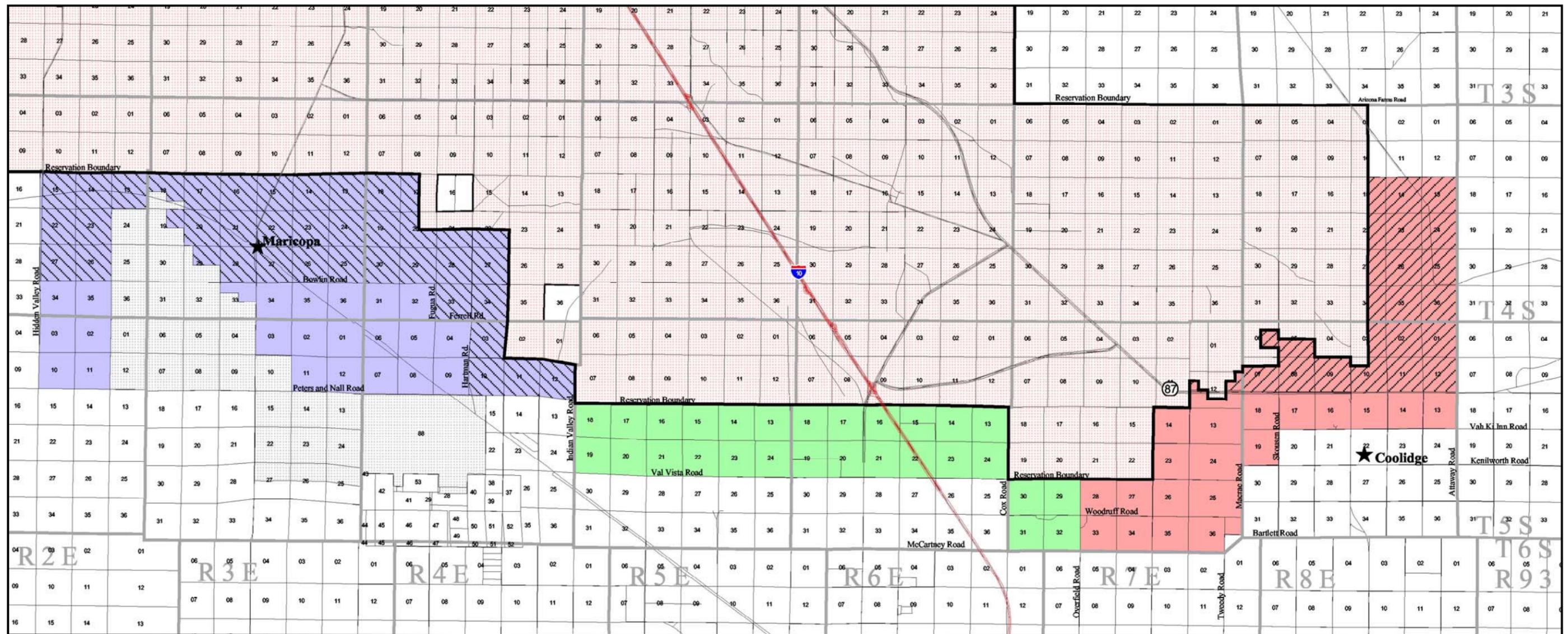


¹ Subject to completion of exchange agreement and settlement between the Community and ASARCO.

² SRP has conditionally agreed to provide an average of 500 AFY of Blue Ridge Stored Water to the Community pursuant to Subparagraph 12.13. In the event the conditions in Subparagraph 12.13.1 are satisfied, the amount of water listed in Subparagraph 4.1 to be provided by SRP shall increase to 20,500 AFY and the amount of Underground Water listed in Subparagraph 4.1 shall be reduced to 156,200 AFY.

³ Assumed average annual supply.

Figure 3-2. Southside M&I Groundwater Protection Zone



EASTERN PROTECTION ZONES

- Eastern Protection Zone South
- Eastern Protection Zone North

WESTERN PROTECTION ZONES

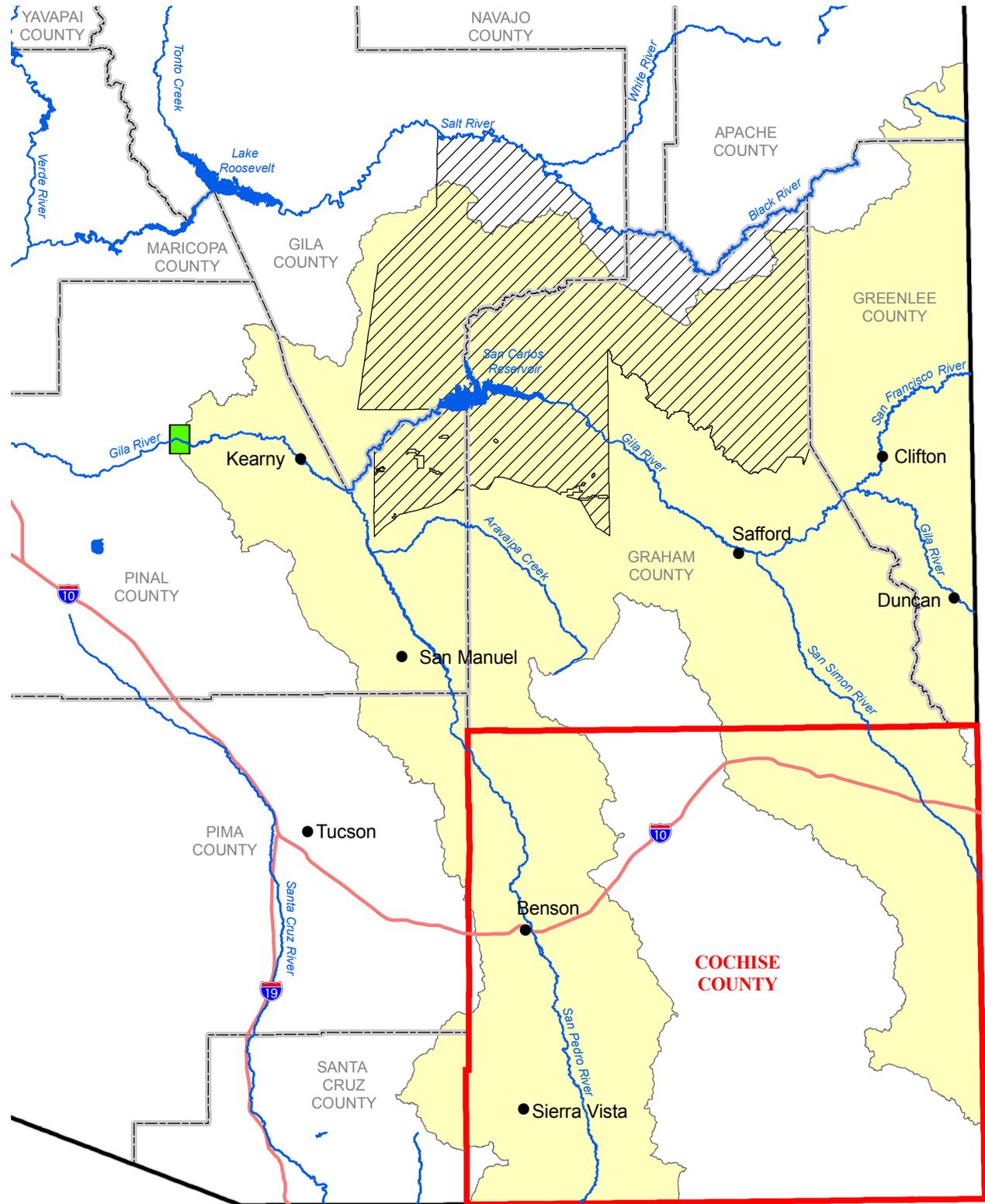
- Western Municipal Protection Zone
- Western Municipal and Industrial Protection Zone
- Central Protection Zone

Reservations

- Gila River Indian Reservation
- Ak-Chin Indian Reservation
- Sections
- Townships
- Cities

Source: Exhibit 5.3, Gila River Indian Community Water Rights Settlement.

Figure 3-3. Gila River Maintenance Area



- Ashurst - Hayden Diversion
- City
- Interstate
- River / Reservoir
- San Carlos Indian Reservation (not part of Maintenance Area)
- Cochise County
- County
- Gila River Maintenance Area
- State Border

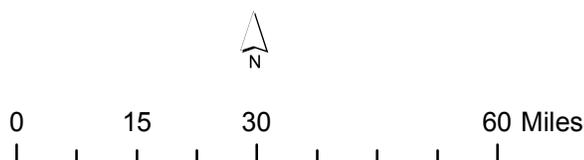


Figure 5-1. 1936 SCS Land Classification Area

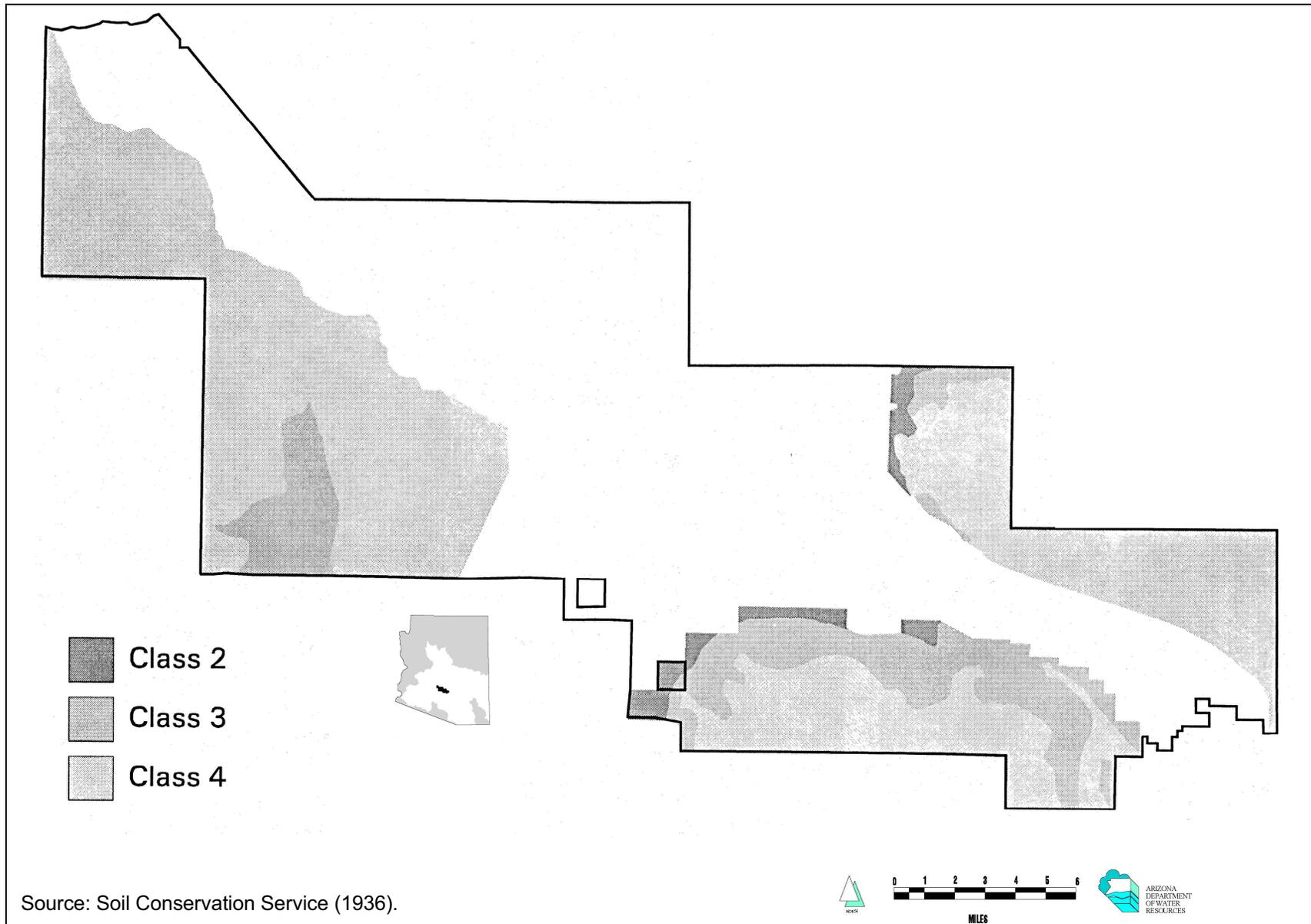
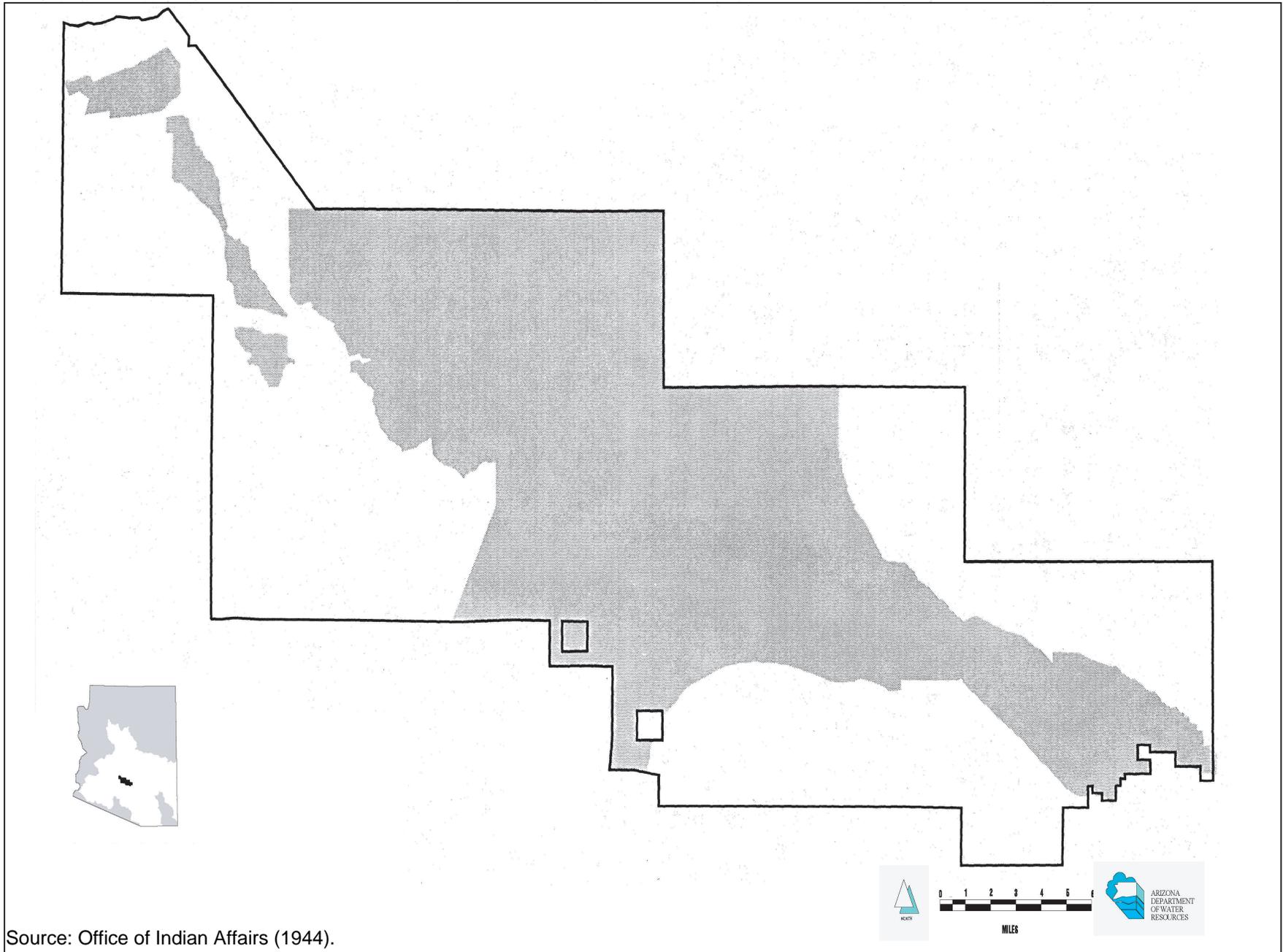
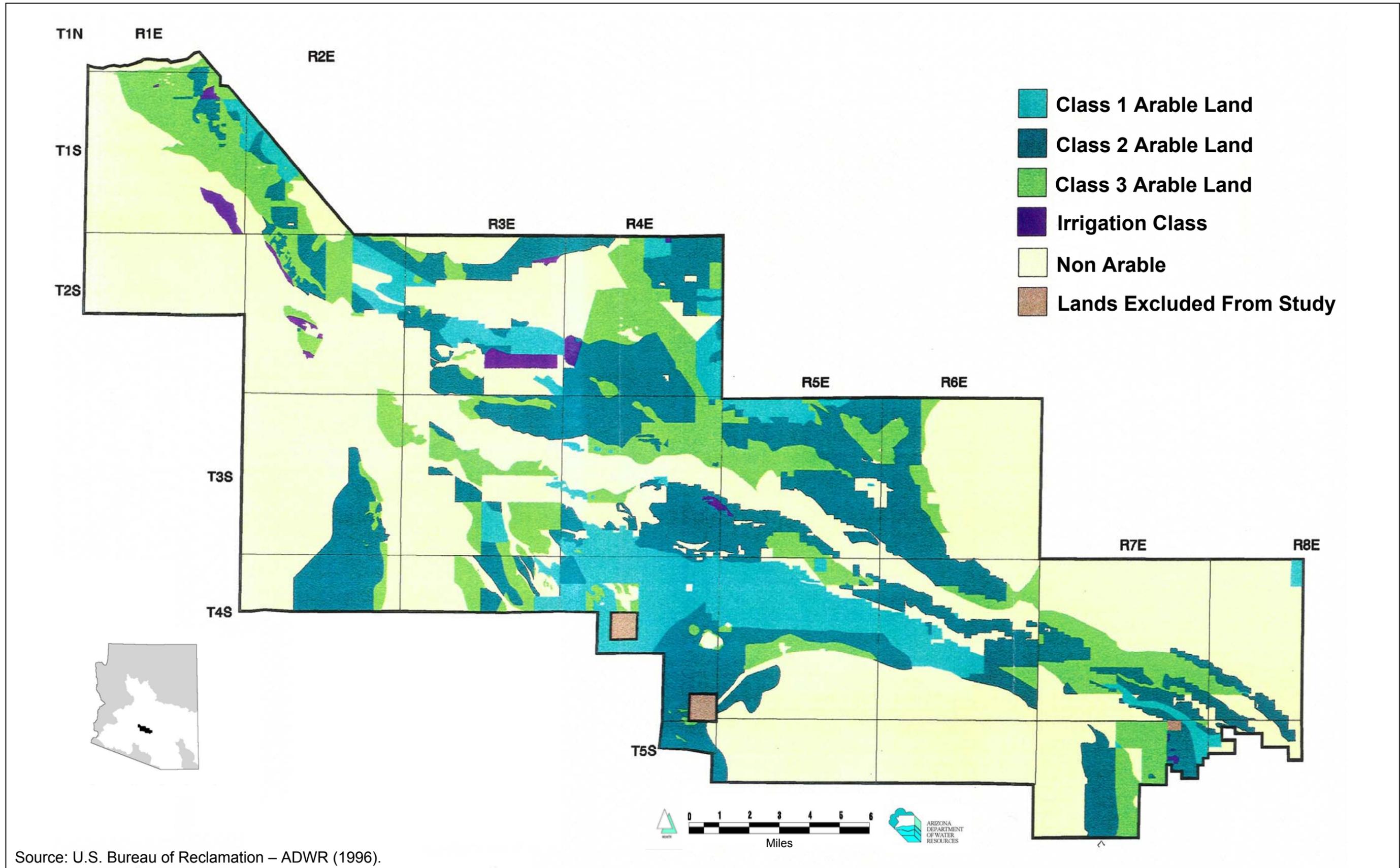


Figure 5-2. 1941 San Carlos Irrigation Project Land Classification Area



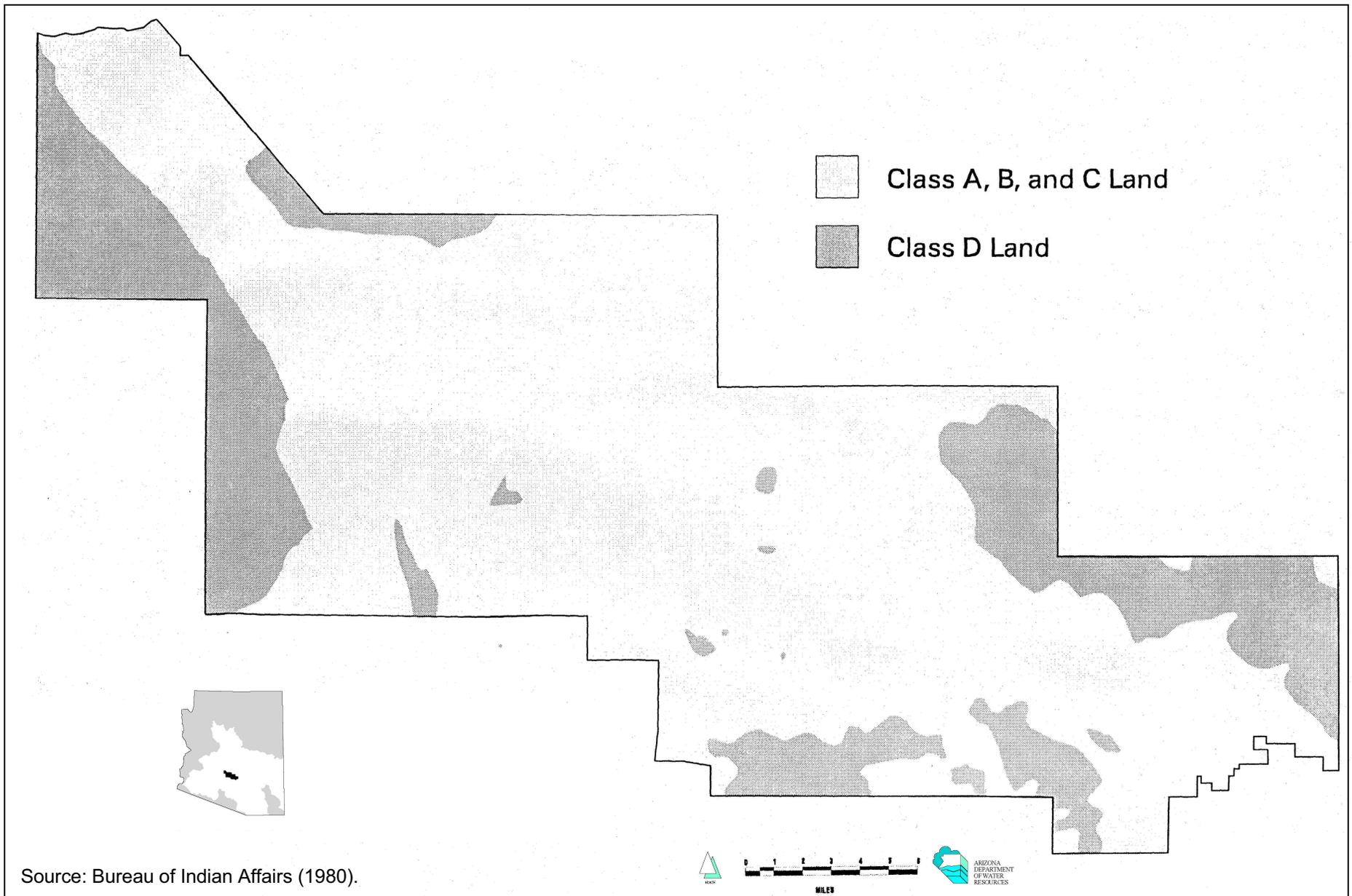
Source: Office of Indian Affairs (1944).

Figure 5-3. 1979-1988 USBR Preliminary Land Suitability Classifications for the GRIR



Source: U.S. Bureau of Reclamation – ADWR (1996).

Figure 5-4. 1980 BIA Land Classification



Source: Bureau of Indian Affairs (1980).

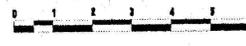


Figure 5-5. 1985 GRIC Master Plan Land Classification

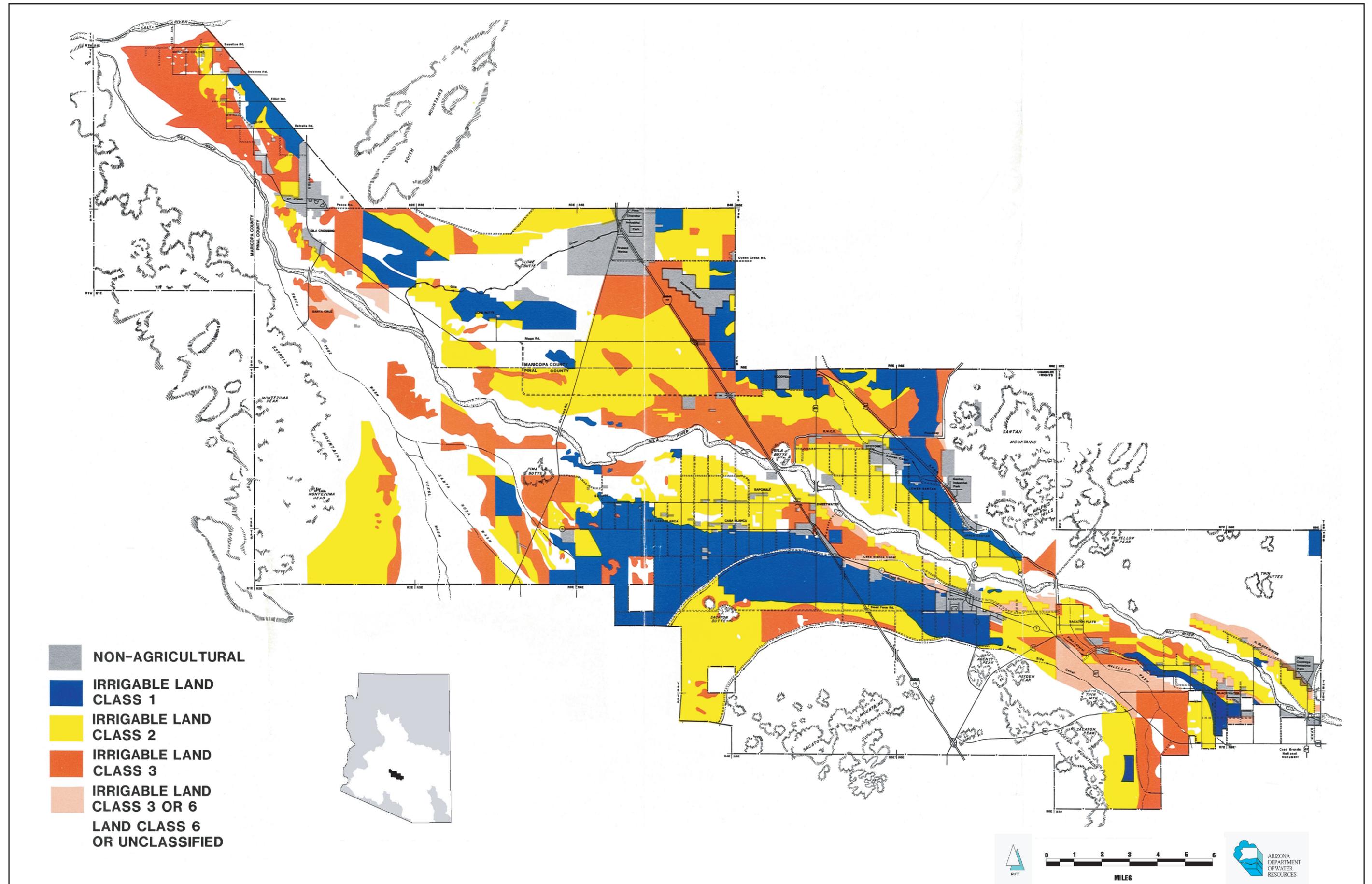
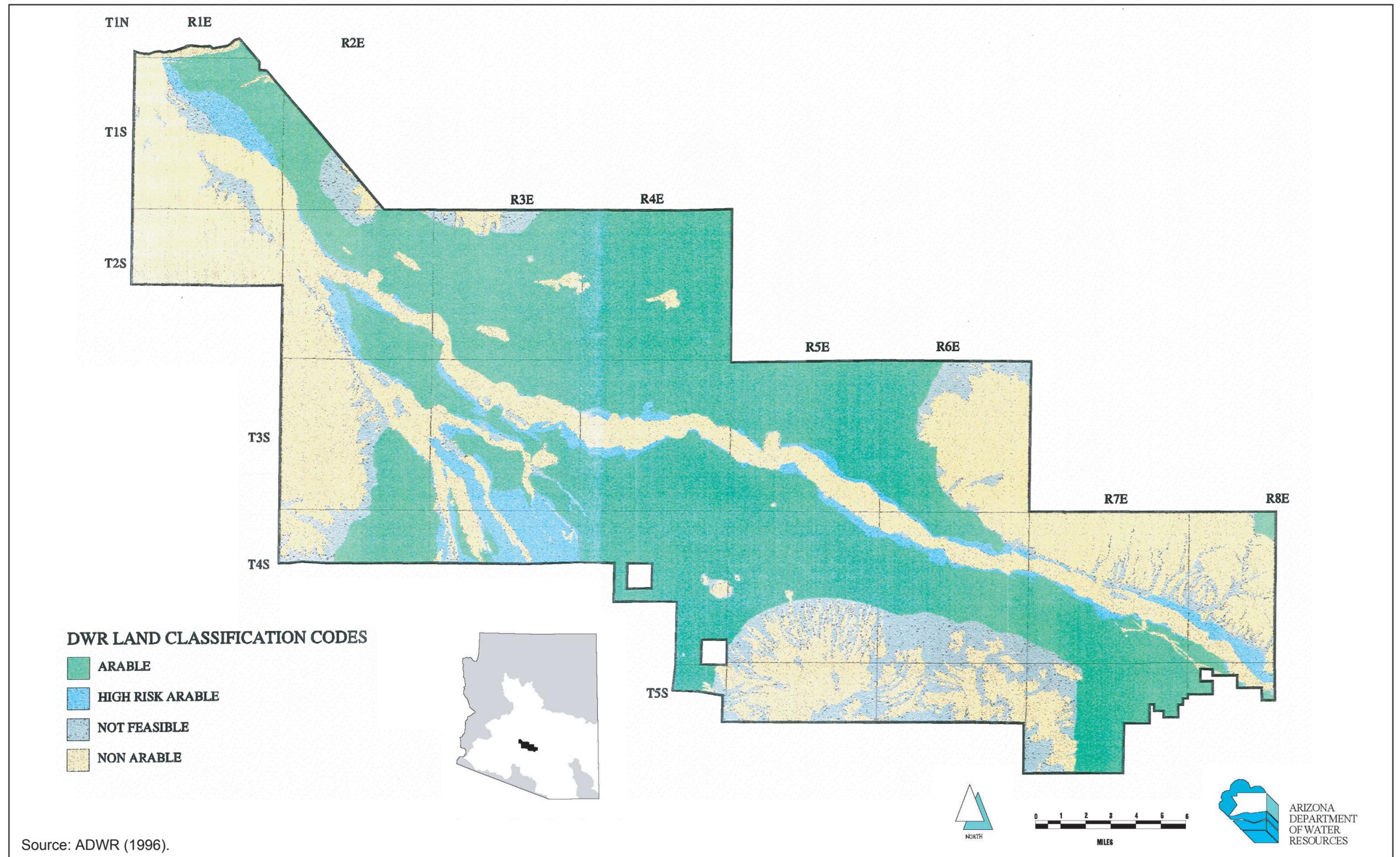


Figure 5-6. 1996 ADWR Preliminary GRIR HSR Land Classification



Source: ADWR (1996).

Figure 5-7. 1998 NRCS Soil Survey

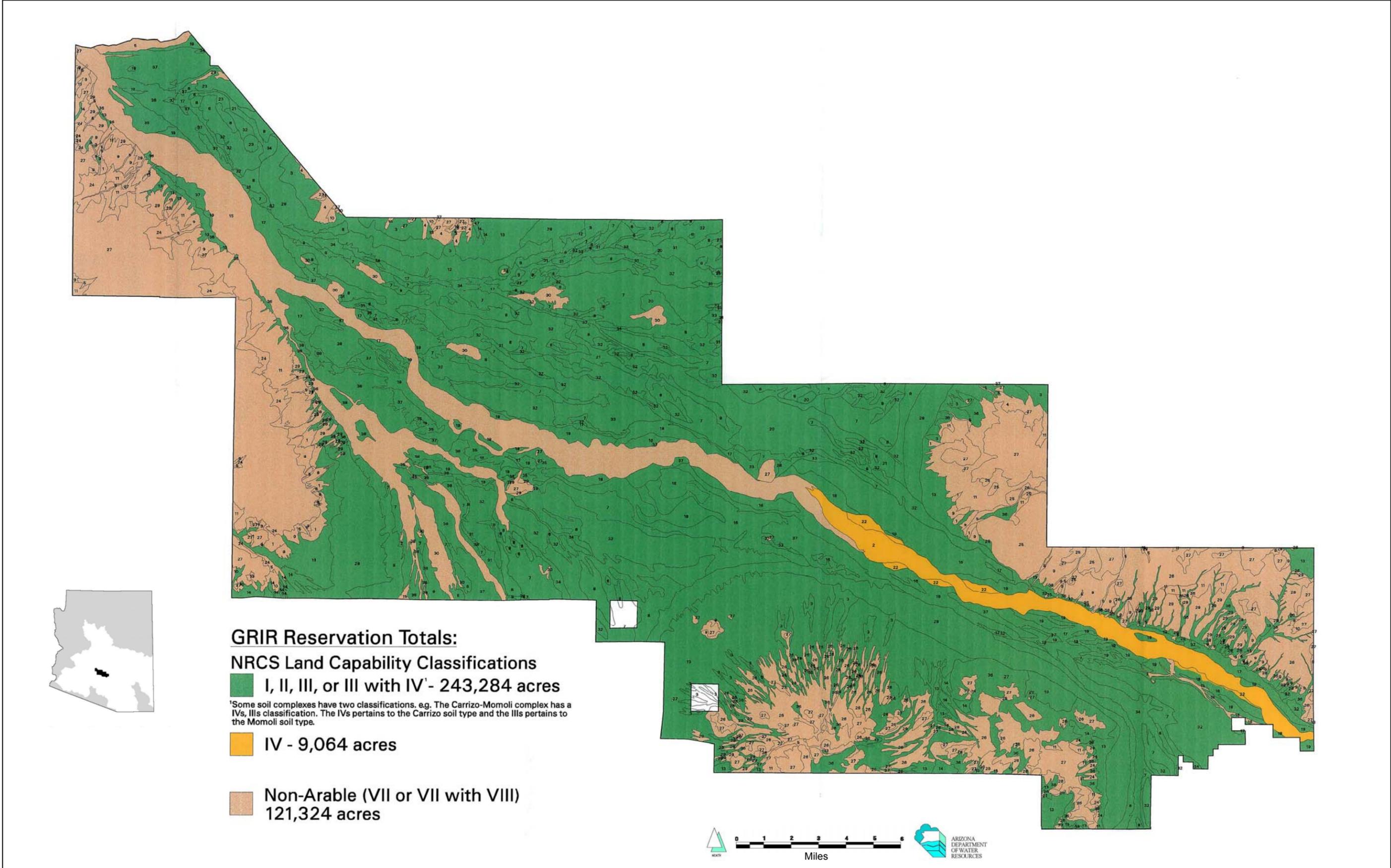
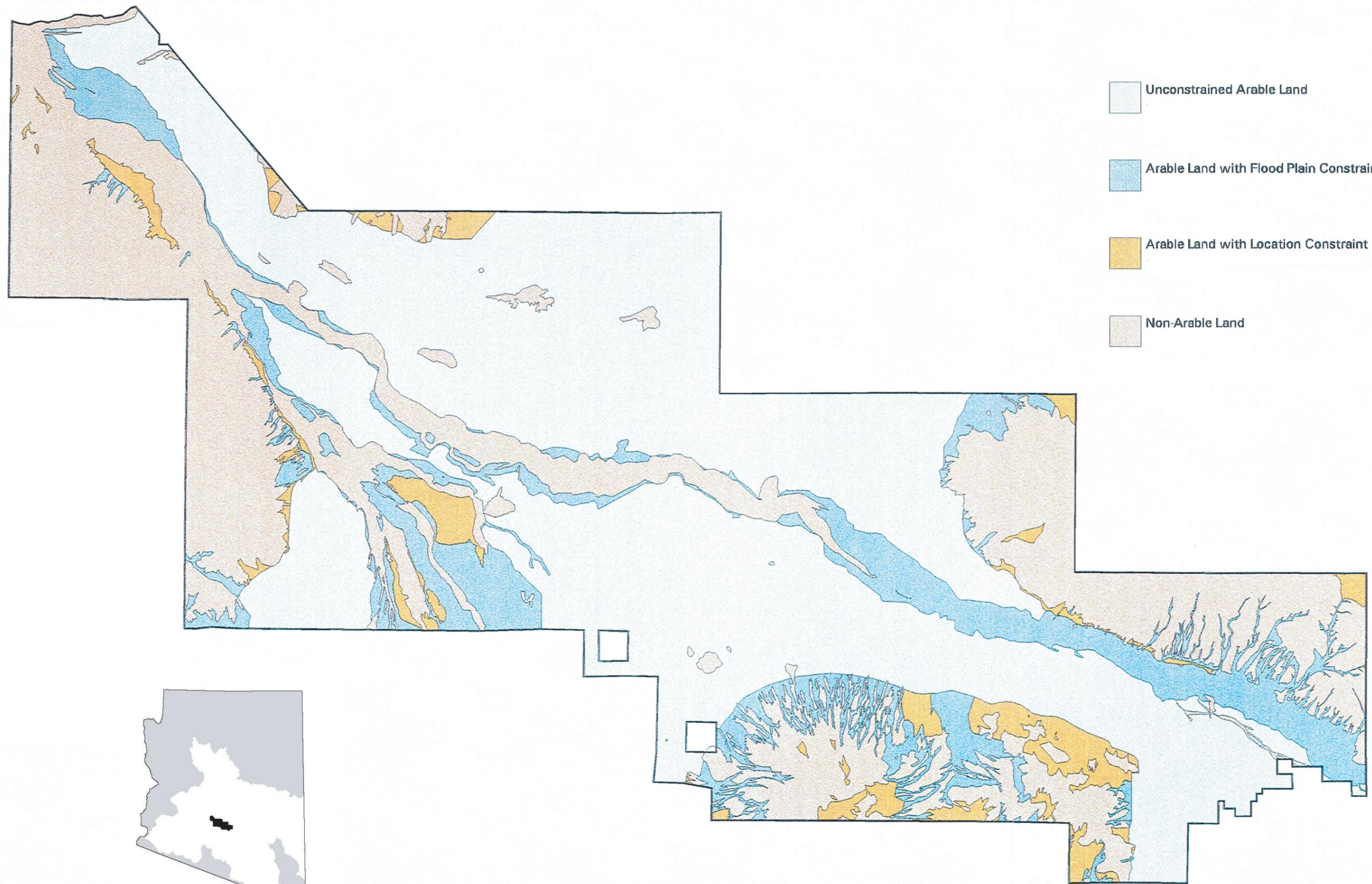
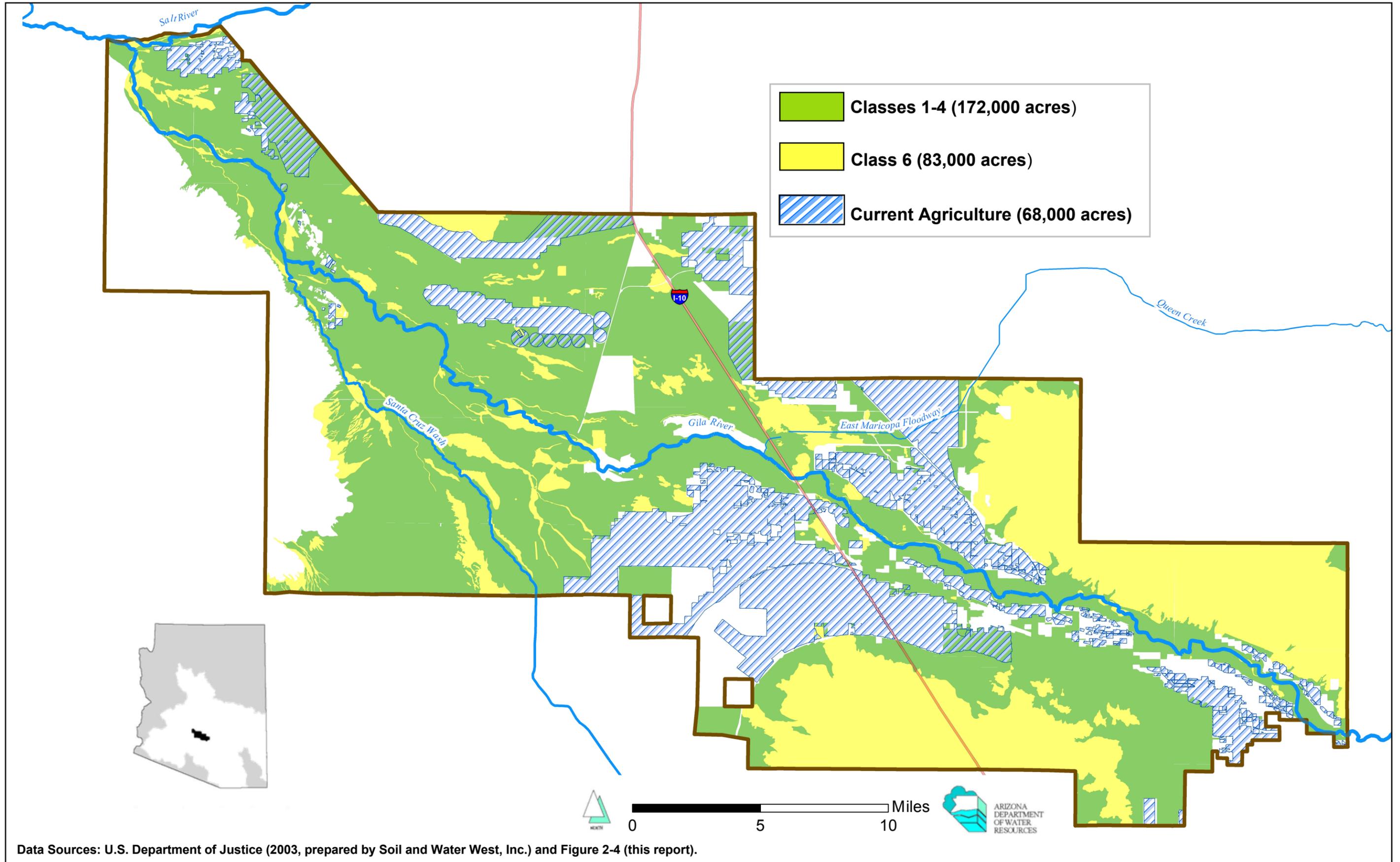


Figure 5-8. 1999 ADWR Preliminary GRIR HSR Land Classification



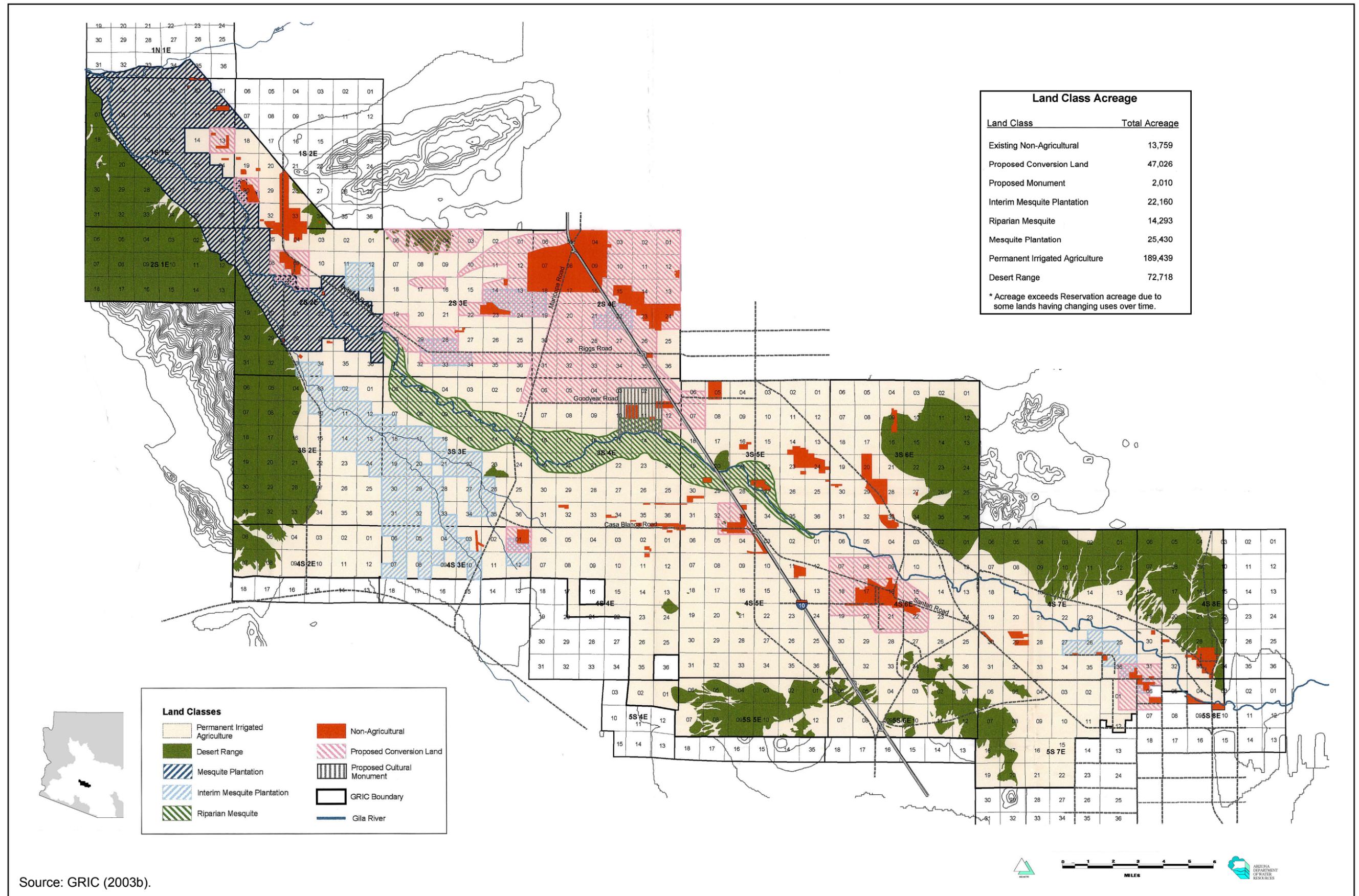
Source: ADWR (1999).

Figure 5-9. 2002 Department of Justice Irrigation Suitability Land Classification and Current Agriculture on the GRIR



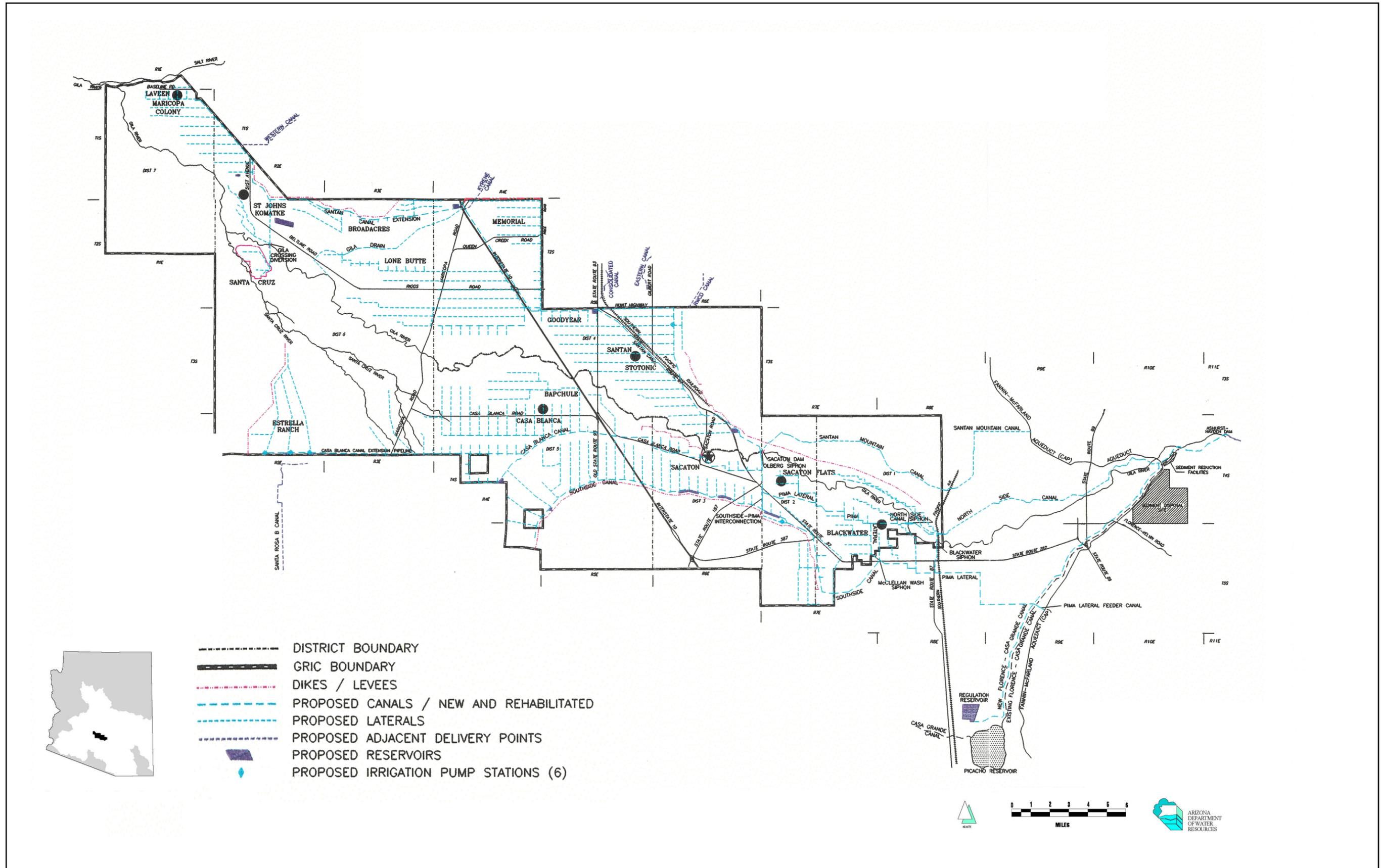
Data Sources: U.S. Department of Justice (2003, prepared by Soil and Water West, Inc.) and Figure 2-4 (this report).

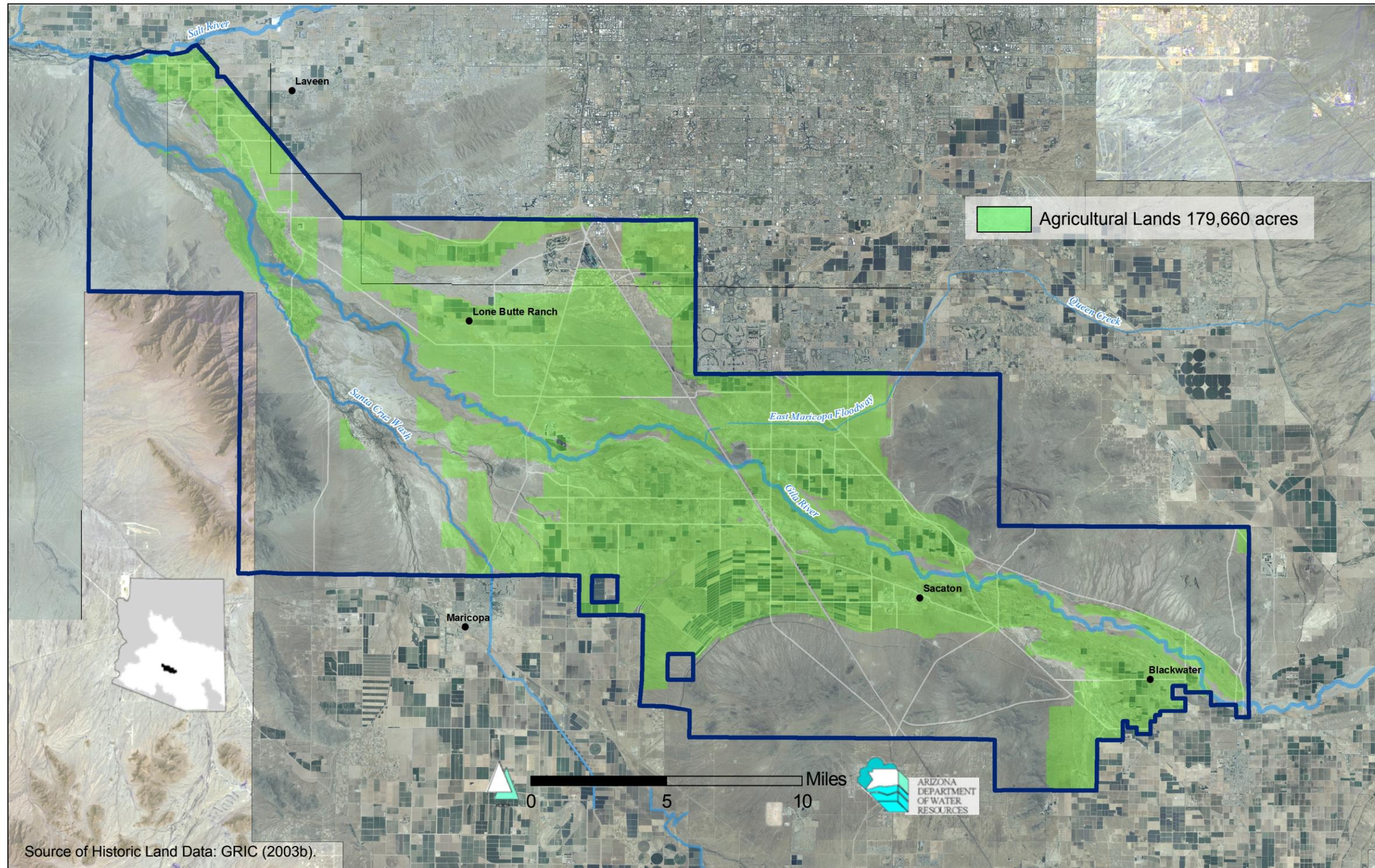
Figure 5-10. 2003 GRIC SOC Proposed Land Use Plan



Source: GRIC (2003b).

Figure 5-11. Proposed Irrigation System for the Pima-Maricopa Irrigation Project





Source of Historic Land Data: GRIC (2003b).

Figure 6 - 1. Surface Water Resources in the Vicinity of the GRIR

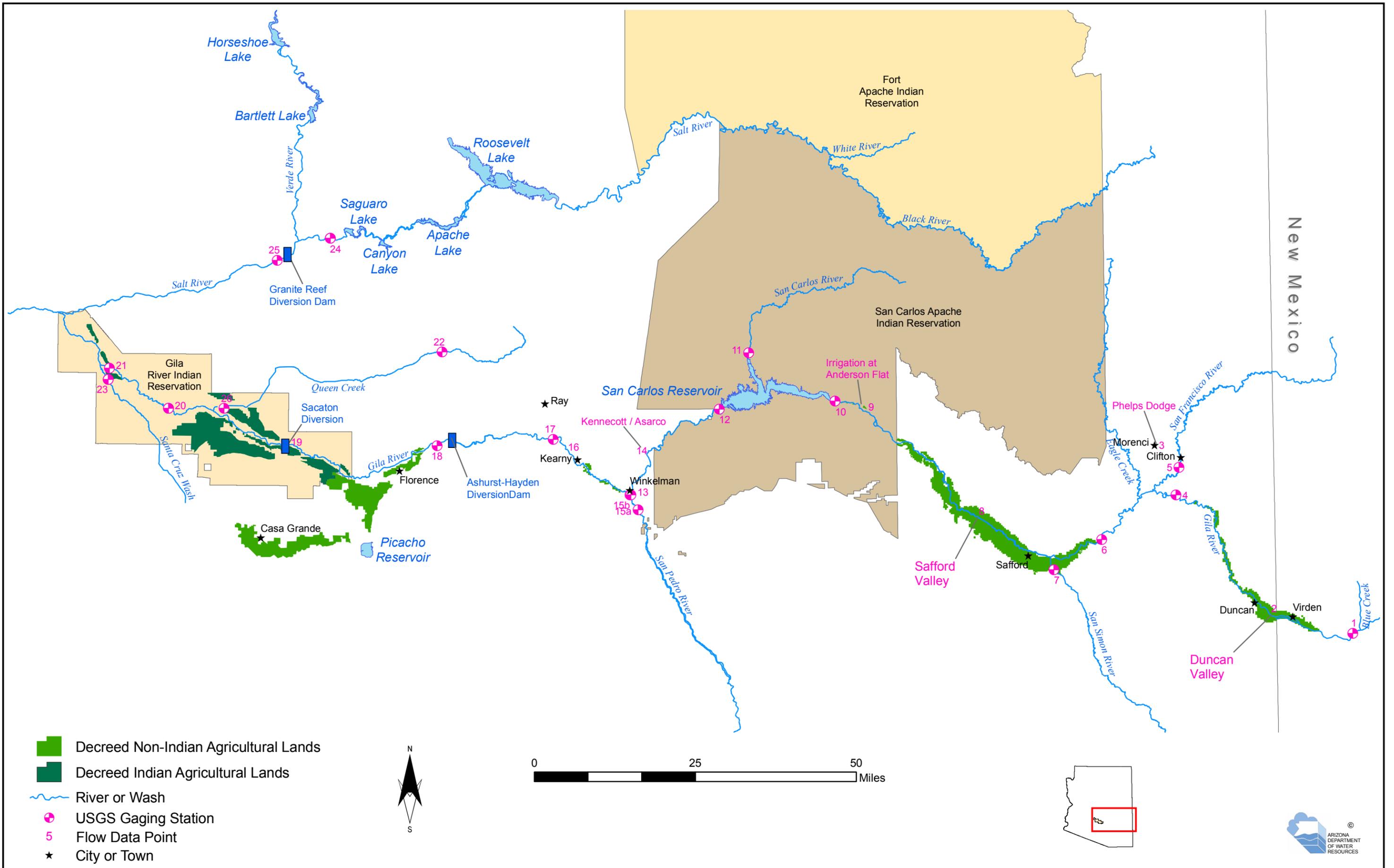


Figure 6-2. 2003 Water Level Elevations and Average* Underflow Conditions in the Basin Fill Aquifer Beneath and Adjacent to the GRIR

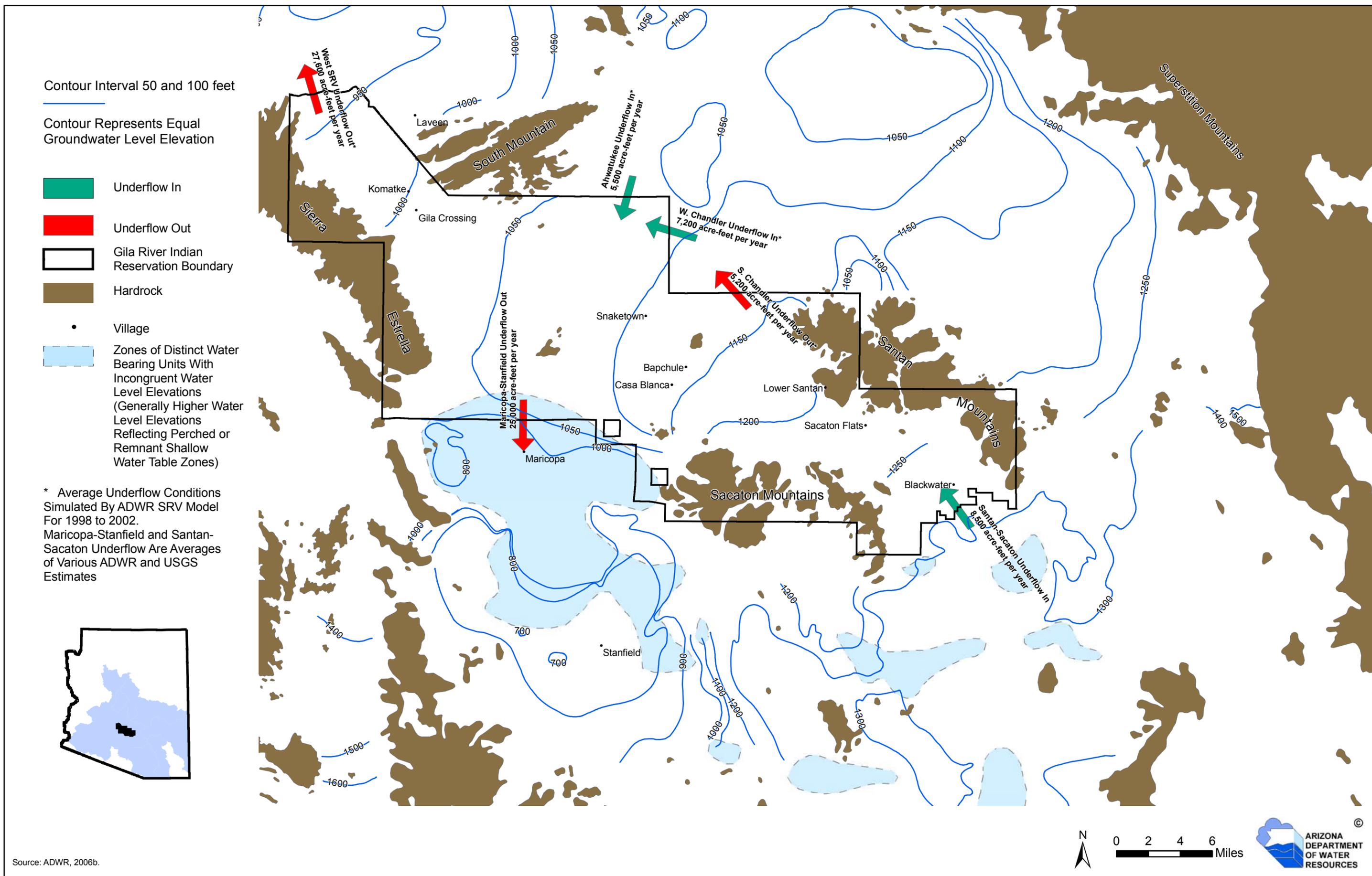


Figure 6-3. Water Quality Conditions in the Basin Fill Aquifer Beneath the GRIR

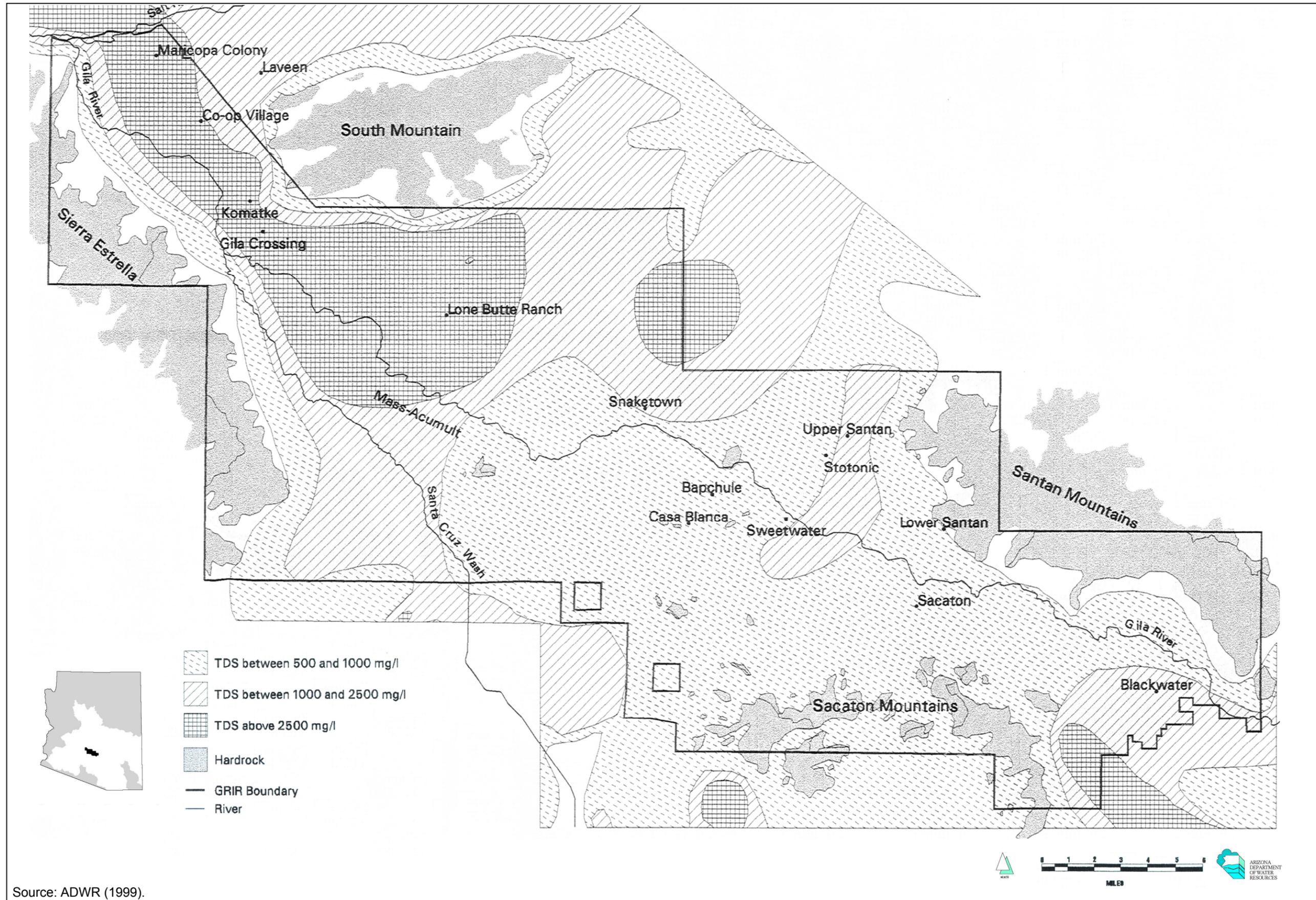
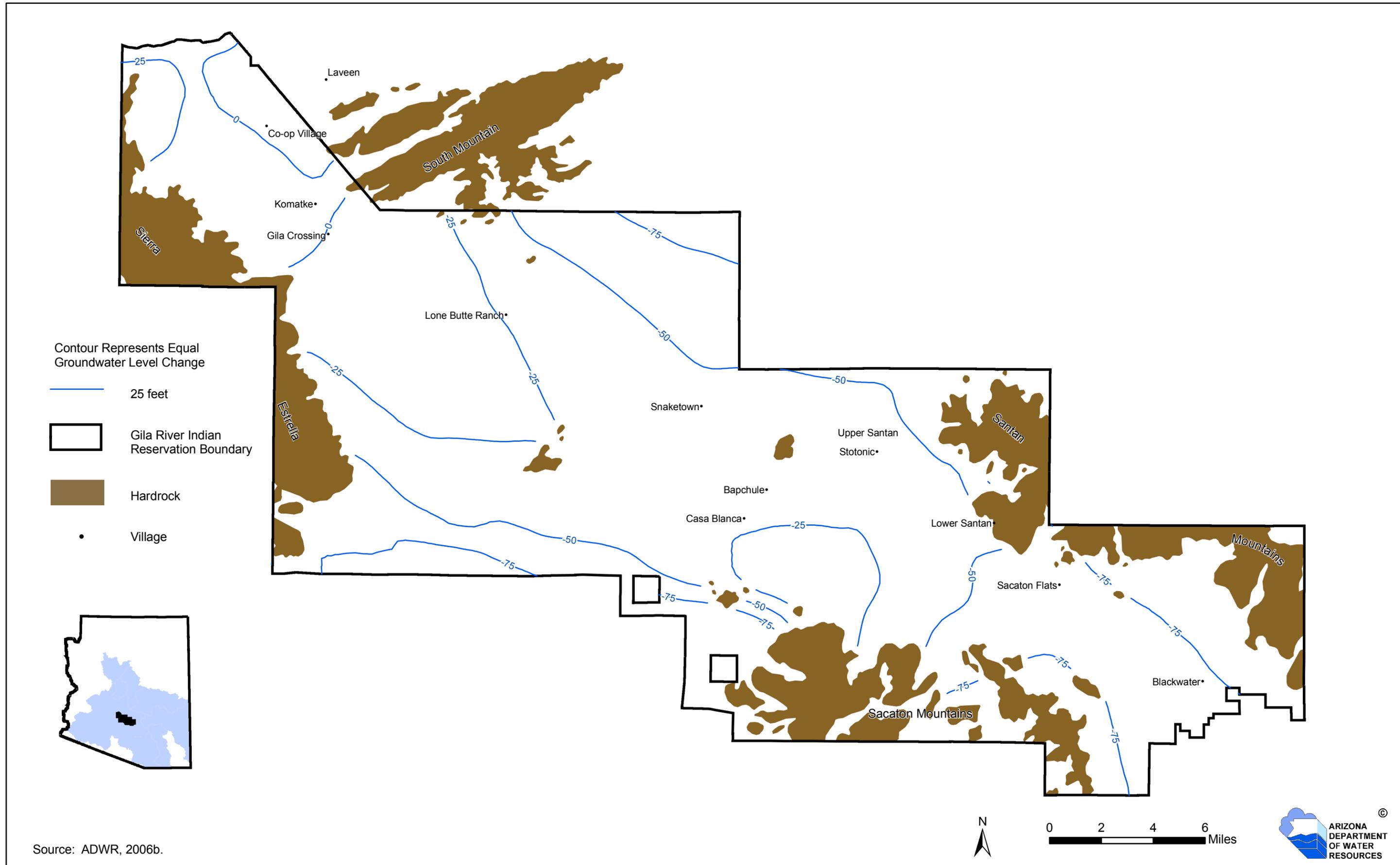


Figure 6-4. Water Level Changes in the Basin Fill Aquifer Beneath the GRIR Between 1900 and 2003



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