



4. Legal Issues Affecting Water Use and Supply in the Southwest New Mexico Water Planning Region

In order to have an understanding of the available water supply with the Southwest Region, it is necessary to understand the legal constraints that govern the use of the water supply. Accordingly, this section addresses federal, state, and local laws and administrative policies that affect the use of water. Information on the physical water supply is included in Section 5.

Within the Southwest Region there are specific legal issues that distinguish the area from other water planning regions. These issues include federal issues impacting the apportionment of water in the planning region, state and federal water quality law, and the regulation of water use by both ditch commissions and local governments. Further, the Southwest Region encompasses all or parts of a number of different administrative basins, each with its own particular way of administrating appropriations of water in the planning region.

4.1 New Mexico Water Law

Throughout the State of New Mexico, water use is governed by a number of generalized state laws. New Mexico water laws affecting the Southwest Region are found in the New Mexico Constitution, New Mexico Statutes Annotated (NMSA), and the case law interpreting and applying the existing law. Additional legal constraints include OSE regulations governing groundwater and surface water as well as OSE policy for administering various groundwater basins throughout the state. A general overview of New Mexico water law is provided in Appendix C; state legal issues of particular relevance to the Southwest Region are discussed in Sections 4.3.3, 4.4, and 4.5.

4.2 Federal Issues

4.2.1 Federal Law Governing Use of Water in the Region

Use of surface water and groundwater within the Southwest Region is governed by judicial and congressional action. Two court decrees, discussed in Sections 4.2.1.1 and 4.2.1.2, limit use in



the Gila River system. Conversely, water use may be expanded through the Central Arizona Project (Section 4.2.1.3). Additionally, issues arising out of water use disputes, primarily in Arizona, are the subject of federal legislation, as discussed in Section 4.2.1.4

4.2.1.1 United States v. Gila Valley Irrigation District, Globe Equity Decree No. 59 (1935)

In 1925, the year after Congress authorized construction of the Coolidge Dam, the United States, on its own behalf and on behalf of Indian tribes on the Gila River in Arizona, sued the irrigation districts, canal companies, and individual farmers (Upper Valley Users or Upper Valley Defendants) who were diverting above the planned San Carlos Reservoir, to assure that the supply of water to Indian lands would not be diminished. New Mexico farmers irrigating in the Virden Valley personally submitted to the jurisdiction of the Arizona federal court and were part of a comprehensive consent decree entered by the court in 1935 known as the Globe Equity Decree No. 59 (often referred to by the courts as the Gila Decree). Although the Globe Equity Decree was the result of a settlement among water users in the Upper Gila River of Arizona and the Virden Valley in New Mexico, it has been the subject of substantial litigation since its entry.

Because the Upper Valley Users have priority dates around 1872, the San Carlos Apache Tribe's earlier priority date of 1846 for irrigation of 6,000 acres and the Gila River Indian Community's (GRIC's) time immemorial right for irrigation of 35,000 acres made priority administration an unwelcome prospect to the Upper Valley Users. The Globe Equity Decree was palatable, however, because it used the stored water in the San Carlos Reservoir as a means of "apportioning" water out of priority to the Upper Valley Users.

Article VIII(2) of the Globe Equity Decree allows Upper Valley Users to take "apportioned water" from the river up to a maximum, seasonal, actual consumptive use limit of 120,000 acre-feet on the 40,000 acres irrigated by the Upper Valley Users. In essence, this provision directs the Water Commissioner appointed by the court to apportion for diversion to the Upper Valley Users the amount of water being stored in the reservoir regardless of GRIC's time immemorial right to irrigate its lands, which are below the dam. This use of stored water as a buffer against curtailment of their junior right was the primary reason the Upper Valley Users agreed to the settlement that resulted in the Globe Equity Decree. As a result, Upper Valley Users may divert "priority water" when there are sufficient flows to divert in priority, but even when such flows are



not sufficient, diversions of apportioned water can continue until used up. Another important provision of the Decree is Article V, which limits each Upper Valley User to a diversion of 6 acre-feet per annum per acre, whether supplied by priority or apportioned water or a combination thereof.

Unhappy with the resulting distribution of water under the Decree, New Mexico water users violated the Decree and were found in contempt of court. In 1941 the Ninth Circuit Court of Appeals upheld the district court's contempt finding against the New Mexico users, based on the court's jurisdiction and authority to administer the Decree even in New Mexico (*Brooks v. United States*, 119 F.2d 636 (9th Cir. 1941)). In a contemporaneous opinion, the Ninth Circuit first interpreted the meaning of water "stored" in the reservoir for purposes of making apportionments to the Upper Valley Users, holding that after January 1 of each year, water stored in the reservoir was only the amount that inflows exceed releases within that year (*Gila Valley Irr. Dist v. United States*, 118 F.2d 507 (9th Cir. 1941)).

4.2.1.2 *Arizona v. California (1964)*

In 1964, the United States Supreme Court in *Arizona v. California* (376 U.S. 340 (1964)), adopted a stipulation by the states of Arizona and New Mexico decreeing an equitable apportionment between the two of the waters of the Gila River. The *Arizona v. California* decree (hereinafter referred to as "the Gila River Apportionment") implemented the Court's earlier decision (*Arizona v. California*, 373 U.S. 546 (1963)) and incorporated the terms of the Globe Equity Decree. The original suit in the case was brought by the State of Arizona against the State of California and seven of its public agencies. Later, Nevada, New Mexico, Utah, and the United States became parties. The basic controversy before the Court was over how much water each state has a legal right to use out of the waters of the Colorado River and its tributaries, including San Simon Creek, the San Francisco River, and the Gila River.

By recognizing the terms of the Globe Equity Decree, the Gila River Apportionment equitably established New Mexico's uses below Red Rock in the Virden Valley and adopted the Globe Equity Decree by recognizing that the State of New Mexico may only divert from the Gila River and its underground water sources in the Virden Valley water "for use on lands determined to have the right to the use of such water by the [Globe Equity Decree] and except pursuant to and



in accordance with the terms and provisions of the Gila Decree” (*Arizona v. California*, 376 U.S. 340 (1964), at 347-349). The Supreme Court decree did not enjoin the use of underground water on specified lands or domestic use of water in either case “unless and until such uses are adjudged by a court of competent jurisdiction to be an infringement or impairment of rights confirmed by the Gila Decree” (*Arizona v. California*, 376 U.S. 340 (1963), at 350).

The Gila River Apportionment set specific limits for three stream segments in the Virden Valley:

- On San Simon Creek, the Gila River Apportionment limited water use and irrigation as provided in Article IV(A), which enjoined the State of New Mexico from “diverting or permitting the diversion of water from San Simon Creek, its tributaries and underground water sources for the irrigation of more than a total of 2,900 acres during any one year, and from exceeding a total consumptive use of such water, for whatever purposes, of 72,000 acre-feet during any period of ten consecutive years; and from exceeding a total consumptive use of such water, for whatever purpose, of 8,220 acre-feet during any one year” (*Arizona v. California*, 376 U.S. 340 (1963), at 348).
- On the San Francisco River, the Gila River Apportionment limited water use and irrigation as provided in Article IV(B), which enjoined the State of New Mexico from “diverting or permitting the diversion of water from the San Francisco River, its tributaries and underground water sources for the irrigation of” more than 2,269 acres, with each of the following areas limited as follows: Luna Area (225 acres), Apache Creek Aragon Area (316 acres), Reserve Area (725 acres), and Glenwood Area (1,003 acres). The Gila River Apportionment limited the total consumptive use of such water, for whatever purposes, to 31,870 acre-feet during any period of ten consecutive years and to 4,112 acre-feet during any one year (*Arizona v. California*, 376 U.S. 340 (1963), at 348).
- On the Gila River above the Virden Valley, the Gila River Apportionment limited water use and irrigation as provided in Article IV(C), which enjoined the State of New Mexico from “diverting or permitting the diversion of water from the Gila River, its tributaries (exclusive of the San Francisco River and San Simon Creek and their tributaries) and underground water sources for the irrigation of” more than 7,057 acres, with each of the



following areas limited as follows: Upper Gila Area (287 acres), Cliff-Gila and Buckhorn-Duck Creek Area (5,314 acres), and Red Rock Area (1,456 acres). The Gila River Apportionment limited the total consumptive use of such water (exclusive of uses in Virden Valley), for whatever purposes, to 136,620 acre-feet during any period of ten consecutive years and to 15,895 acre-feet during any one year (*Arizona v. California*, 376 U.S. 340 (1963), at 348).

Interestingly, the Supreme Court did not denote the Arizona federal district court administering the decree as the “court of competent jurisdiction” but left the question open.

One issue of concern to some livestock operators in the Southwest Region are numerous stock water uses that were overlooked in the Gila Decree. These uses were in place at the time of the decree and continue, yet they were not included in the hydrographic survey nor in the decree, and the OSE has not recognized these rights. Efforts to quantify those uses and resolve this issue are underway (personal communication with Howard Hutchinson, April 27, 2005).

4.2.1.3 The Colorado River Basin Project

In 1968, the Central Arizona Project (CAP) was authorized by the Colorado River Basin Project Act, 43 U.S.C. 1524 (the “1968 Act”). Section 304 of the 1968 Act directs the Secretary of the Interior to contract with water users in New Mexico for water from the Gila River, its tributaries, and underground water sources in amounts that will permit consumptive use of water in New Mexico of up to 180,000 acre-feet in any period of ten consecutive years over and above the consumptive uses provided for by Article IV of the Gila River Apportionment (*Arizona v. California*, 376 U.S. 340 (1964)). The Act authorizes the construction of “Hooker Dam or suitable alternative” as a unit of the CAP to allow New Mexico to consume the average annual amount of 18,000 acre-feet.

The mechanism for New Mexico’s diversion is an exchange. Section 304 directs the Secretary to deliver to water users in Arizona sufficient quantities of CAP water to fully replace any diminution of Gila River system water at the Ashurst-Hayden Dam near Phoenix resulting from the consumptive use of Gila River system water by water users in New Mexico.



The 1968 Act was amended in 2004 by the Arizona Water Settlements Act (AWSA), as discussed in Section 4.2.1.4.

4.2.1.4 Arizona Water Settlements Act

Over the last 15 years, litigation regarding the Globe Equity Decree has escalated, as the Indian tribes have sought to enforce the Decree and increase downstream flows for their benefit. On March 16, 2001, the United States, the San Carlos Apache Tribe, the GRIC, and the San Carlos Irrigation and Drainage District (the “Plaintiffs”) filed a Pumping Complaint, seeking judicial relief from groundwater pumping by other parties in the upper portion of the Gila River in Arizona and the Virden Valley in New Mexico.

In March of 2002, the court held a three-day trial on the groundwater issue. The court, however, stayed ruling on the claims because they would be resolved, except for the claims of the San Carlos Apaches, by the pending AWSA, introduced in February 2003 by Senator Jon Kyl of Arizona.

After much negotiation, the AWSA became law in December 2004 (P.L. 108-451). This comprehensive, 200-page bill is comprised of three titles:

- Title I: The settlement of allocation and funding disputes for the Central Arizona Project, entitled the “Central Arizona Project Settlement Act of 2004”
- Title II (the bulk of the legislation): The “Gila River Indian Community Water Rights Settlement Act of 2004” (hereinafter, “Gila Settlement”)
- Title III: The “Southern Arizona Water Rights Settlement Amendments Act of 2004”

Of particular importance to the Region is the Gila Settlement, which, except for the San Carlos Apache claims, settles the Pumping Complaint. The parties to the Gila Settlement are the United States, the San Carlos Irrigation and Drainage District, and the GRIC (Plaintiffs) and the Upper Valley Defendants (UVDs), which include the New Mexico water users in the Virden Valley.



The Gila Settlement approves settlement of the Pumping Complaint between and among all of the settling parties. The basic agreement is that, in exchange for the UVDs reducing current irrigation by 3,000 acres, the UVDs may pump groundwater up to 6 acre feet per acre regardless of priority of the settling Plaintiffs. As a result, the Gila Settlement reduces or extinguishes UVD rights in two ways: first, generally by prohibiting irrigation of lands that have not been irrigated since 1997, and second, by further following the lands that have been irrigated by 3,000 acres, including approximately 240 acres in the Virden Valley.

Although the Gila Settlement does not include settlement with the San Carlos Apache Tribe, it does establish a limit on future reductions of 3,000 additional irrigated acres in the event of such a settlement. Further, the Gila Settlement protects domestic wells in the Virden Valley by allowing the withdrawal of 1 acre-foot per year (ac-ft/yr) per household. Overall, the Gila Settlement appears to be favorable to Virden Valley farmers and domestic well owners and to New Mexico, and includes specific protections for the rights confirmed in the Virden Valley by the Gila River Apportionment (*Arizona v. California*, 376 U.S. 340 (1964)).

Section 107 of the AWSA allows for the disbursement from the Lower Colorado Basin Development Fund of \$66 million to \$128 million to pay for construction of the New Mexico unit. The State of New Mexico has stated publicly that any such project would not dam and impound the Gila River, that water storage, if any, would occur off-stream. Even if no New Mexico CAP unit is built, up to \$66 million may be used for water projects and related activities in the Southwest Region. The funding would be available beginning in 2012.

Section 212 of the AWSA describes the New Mexico Unit of the CAP, reduces the annual amount of exchange water allowed from 18,000 acre-feet to 14,000 acre-feet, and approves the New Mexico Consumptive Use and Forbearance Agreement (CUFA), a lengthy document negotiated between the two States (New Mexico and Arizona) and Arizona water users. The agreement includes provisions for delivery of CAP water to the GRIC and the San Carlos Irrigation and Drainage District in exchange for the right of the New Mexico unit of the CAP to divert Gila water. The agreement also contains provisions by which Upper Valley Users will not object to the New Mexico unit's diversions as long as the unit abides by river bypass minimums, or in other words, only diverts when there are specified high flows. More information about CUFA as it relates to New Mexico's Gila River entitlement is provided in Section 8.6.



4.2.2 Federally Reserved Water Rights Within the Southwest Region

In regions with federal enclaves, it is important to determine whether these enclaves have federally reserved water rights that could affect water allocations in the region. In the Southwest Region, the Supreme Court decision in *Mimbres Valley Irrigation Co. v. Salopek*, 90 N.M. 410, 564 P. 2d 615 (1977), which involved reserved rights in the Gila National Forest, largely resolved this question. Federally reserved water rights for the other enclaves in the region, if raised, are likely to be small, because water use in these enclaves is not significant. Consequently, federally reserved water rights are not a major issue and should not impact water supplies or water planning in the region.

Several federal enclaves exist within the planning region. Although most notable are the Gila National Forest, Gila Wilderness, and Gila Cliff Dwellings National Monument, small segments of the Coronado, Cibola, and Apache National Forests and other wilderness areas, as well as a small amount of United States military land, are also present in the planning region. The Gila National Forest was established by presidential proclamations in 1899, 1905, 1907, 1908, and 1910. Portions of other national forests were later transferred to the Gila National Forest, so its boundaries now comprise approximately 3.3 million acres of land within the Southwest Region. Of that acreage, approximately 92,000 acres are privately owned. The 558,065-acre Gila Wilderness, the 202,016-acre Aldo Leopold Wilderness, and the 29,304-acre Blue Range Wilderness are all located within the Gila National Forest. These wilderness areas were authorized by the Wilderness Act of 1964 (16 U.S.C. § 1132), and some additional National Forest acreage areas were established by 96 P.L. 550 in 1980.

The federally reserved rights doctrine, as it applies to federal enclaves, was first recognized by the United States Supreme Court in *Winters v. United States*, 207 U.S. 564 (1908). The issue in that case was whether the United States, at the time of the creation of the Fort Belknap Indian reservation in Montana, had impliedly reserved a water right for future use of the Indians upon those lands. The Court upheld the power of the federal government to reserve the waters and exempt them from appropriation under state laws.

In *Arizona v. California*, 373 U.S. 546 (1963) (Section 4.2.1.2), the Court extended the reservation doctrine to non-Indian federal enclaves. Although it did not specifically discuss



whether a certain amount of water was reserved, it did state that the United States “intended to reserve water for the future requirements of . . . the Gila National Forest” (*Arizona v. California*, 373 U.S. 546 (1963) at 601). However, in *Cappaert v. United States*, 426 U.S. 128 (1976), the Court held that the implied reservation of water doctrine reserves only that amount of water necessary to fulfill the purpose of the reservation and no more (*Cappaert v. United States*, 426 U.S. 128 (1976), at 141).

The specific issue of what purpose(s) the Gila National Forest was originally established for and whether those purposes necessarily require an implied reservation of water was decided by the New Mexico Supreme Court in *Mimbres Valley Irrigation Co. v. Salopek*, 90 N.M. 410, 564 P. 2d 615 (1977). This decision was affirmed by the United States Supreme Court in *United States v. New Mexico*, 438 U.S. 696 (1978). In this case the United States claimed a reserved water right in the Gila National Forest for minimum instream flow to supply aesthetic, environmental, recreational, and “fish” purposes. Upon analysis of the Organic Act of 1897, 16 U.S.C. § 475 (the statute setting forth the purposes for which forests were withdrawn) and the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. § 528 *et seq.* [the statute that broadened the purposes for which national forests had previously been administered]), the Court held that the United States had not reserved water rights in the Gila National Forest for its claimed purposes of instream flow, instead concluding that the original purposes for which the Gila National Forest was created were to ensure favorable conditions of water flow and to preserve the timber in the forest. As such, a reserved right for aesthetic, recreational, wildlife-preservation, and stock-watering purposes was not contemplated (*United States v. New Mexico supra* at 718). The state court adjudicating the water rights on the Rio Mimbres t granted to the United States a reserved surface water right of 5.0 ac-ft/yr for the purpose of watershed management (*Mimbres Valley Irrigation Co. v. Salopek*, Cause No. 6326, Subfile 914, Amended Stipulation on the United States' Water Right Claims, filed August 31, 1990). This small surface right will not affect water allocations in the Southwest Region.

4.2.3 Endangered Species Within the Region

As shown by the recent decision by the Tenth Circuit Court of Appeals involving the silvery minnow and the Middle Rio Grande, the Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544), first enacted in 1973, can play a prominent role in determining the allocation of



water, especially of stream and river flows. In *Rio Grande Silvery Minnow v. Keys*, 2003 U.S. App. LEXIS 11672 (June 12, 2003), the Court held that the Bureau of Reclamation, through the works of diversion systems and dams, has discretion to reduce deliveries of available water under its contracts with irrigation districts and cities to make more water available to the silvery minnow to comply with the ESA. Currently, there are no federal projects on the Gila River in New Mexico, but the New Mexico Unit of the CAP (Section 4.2.1.3) would be subject to approval under the ESA.

The protections of the ESA are triggered by listing a species as “threatened” or “endangered.” The goal of the Act is to protect such listed species and the habitat on which they depend (16 U.S. C. § 1531(b)) and ultimately to “recover” species so they no longer need protection under the Act.

The ESA provides several mechanisms for accomplishing these goals:

- The Act makes it unlawful for anyone to “take” a listed species unless an “incidental take” permit or statement is first obtained from the Interior Department (16 U.S.C. §§ 1538, 1539). “Take” is very broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct” (16 U.S.C. § 1532(19)).
- In addition, federal agencies must use their authority to conserve listed species and must make sure that their actions do not jeopardize the continued existence of listed species or destroy or harm habitat that has been designated as “critical” for such species (16 U.S.C. § 1536 (2000)).
- Federal agencies are also required to consult with the United States Fish and Wildlife Service (USFWS) to determine whether federal actions or federally sponsored actions will affect or jeopardize threatened or endangered species or critical habitats. Whenever a private or public entity undertakes an action that is “authorized, funded, or carried out” wholly or in part by a federal agency, the consultation requirement is triggered and the potential impacts of the undertaking on threatened and endangered species are analyzed by the USFWS (16 U.S.C. § 1536(a)(4) (2000)).



- Local governments and individuals may have a role in the consultation process if they are “applicants” under the ESA. Entities or persons become applicants when federal agency approval is required for a proposed action (50 C.F.R. 402.02). For example, if a local government agency were to undertake an action requiring a federal permit, or a federal permit holder requires modifications or renewals to the permit, federal approval would be required. The agency or permit holder would then be considered an applicant in the consultation process that is triggered by the issuance or renewal of a federal permit. Federal regulations and guidelines allow applicants to:
 - Participate in selection of the non-Federal representative to prepare a biological assessment (50 C.F.R. 402.08)
 - Request early consultation (50 C.F.R. 402.11(b))
 - Submit information to be considered during the consultation (USFWS, 1998)
 - Review and comment on draft biological opinions (USFWS, 1998)
 - Provide expertise in identifying reasonable and prudent alternatives to an action if jeopardy or adverse modification of critical habitat is determined (USFWS, 1998)
- Species in the Southwest Region that are protected by the ESA include the spike dace, loach minnow, Chiricahua leopard frog, and southwest willow flycatcher:
- The USFWS listed the spike dace and loach minnow in 1986 as threatened species under the ESA and in 1994 designated 202 miles of the Gila River and its tributaries in New Mexico and Arizona as critical habitat for the two threatened fish.
- The USFWS listed the Chiricahua leopard frog in 2002 as a threatened species under the ESA. Critical habitat was not proposed for the frog.
- The USFWS listed the southwestern willow flycatcher as an endangered species in 1995. River regulation and dewatering by dams and diversions, which impact native



riparian vegetation and ecosystems, have been cited as the principal causes for the decline of the flycatcher. The largest concentration of the flycatcher is along the Gila River in the Cliff-Gila Valley.

In 2001, the USFWS recommended that the Gila chub also be listed.

The listed species could potentially affect water planning in the Region. In particular, protection and recovery of the listed species may impact the development of the CAP discussed in Section 4.2.1.3 Any actions that are likely to reduce water flows in the Gila River or harm habitat used by listed species will be subject to strict review and possible limitation.

4.3 State and Federal Water Quality Law

Both federal and state laws and regulations govern water quality within the Region. Nonetheless, most water quality laws have their genesis in federal law. An understanding of the federal water statutes and how they interrelate with state law is thus critical to understanding the regulation of water quality in the area.

4.3.1 The Clean Water Act

Several federal laws address water quality issues, but clearly, the most significant one is the Clean Water Act (CWA) (33 U.S.C. §§ 1251 to 1387 (2002)). The CWA is a 1977 amendment to the Federal Water Pollution Control Act of 1972 that set the basic structure for regulating discharges of pollutants to navigable waters of the United States. It is important to note that “navigable waters” has been broadly defined to include every creek, stream, river, or body of water that may in any way affect interstate commerce, including arroyos or ditches (*Friends of Santa Fe County v. LAC Minerals, Inc.*, 892 F. Supp. 1333 (D.C.N.M. 1995)). A recent Supreme Court case excluded from this definition isolated, intrastate, non-navigable waters where the sole basis for asserting CWA jurisdiction is the actual or potential use of waters as habitat for migratory birds that cross state lines (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers et al.*, 531 U.S. 159 (2001)). The degree to which this decision has limited EPA and Army Corps of Engineers jurisdiction over this class of water is the subject of much litigation (U.S. EPA and DOA, 2003).



The CWA's objective is to "restore and maintain the chemical, physical and biological integrity" of the waters of the United States (33 U.S.C. § 1251(a) (2002)). The CWA has several ways to reach this goal:

- It allows water quality standards for specific segments of surface waters (33 U.S.C. § 1313 (2002))
- It makes it unlawful for a person to discharge any pollutant into waters without a permit.
- It allows for the designation of "Total Maximum Daily Loads" (TMDLs) for pollutants threatening the water quality of stream segments (33 U.S.C. § 1313(d) (2002)). TMDLs are identified for those waters where an analysis shows that discharges may result in a violation of water quality standards (33 U.S.C. § 1313(d)(1)(C) (2002)). The TMDL process can be best described as determining and planning a watershed or basin-wide budget for pollutant influx to a watercourse. TMDLs identified for waterbodies within the Southwest Region are discussed in Section 5.4.1.

By enacting the CWA, Congress gave the U.S. Environmental Protection Agency (EPA) broad authority to address water pollution. With this authority, the EPA has developed a variety of regulations and programs to reduce pollutants entering surface waters. For example, applicable water quality standards, discharge permit requirements, and TMDLs are all defined by regulation.

Groundwater pollution is not specifically addressed by the CWA, and pollution from sources such as mining, agricultural and construction runoff (referred to as "nonpoint sources") is addressed mainly through voluntary management efforts, called "best management practices," rather than through regulation (40 C.F.R. § 130.2 (2002)). Nonetheless, a recent court decision found that the EPA and states have the power to list and issue TMDLs for waters polluted only by nonpoint sources of pollution (*Pronsolino v. Marcus*, 91 F. Supp 2d. 1337, 1356 (N.D. Ca. 2000), affirmed by *Pronsolino v. Natri*, 291 F.3d 1123 (9th Cir. 2002)).

The CWA also calls for effluent limitations. Very simply speaking, an effluent limitation is a restriction on discharges into surface waters from the "end of the pipe," or point source. These



discharges are regulated through the issuance of National Pollutant Discharge Elimination System (NPDES) permits (33 U.S.C. § 1342 (2002)), which limit the discharge of a variety of pollutants and control the characteristics (e.g., temperature) of the discharge. NPDES permits also regulate stormwater discharges entering surface water (33 U.S.C. § 1342(p) (2002)). Although EPA can delegate the administration of the NPDES program to individual states (33 U.S.C. § 1251(b) (2002)), they have not done so with New Mexico.

The CWA allows the EPA to delegate many permitting, administrative, and enforcement responsibilities to state and tribal governments (33 U.S.C. §§ 1251(g), 1377 (2002)). For example, states and tribes have the power to adopt water quality standards for surface waters within their jurisdictions. A water quality standard generally is a standard that is established to sustain and protect existing or sustainable uses of surface water. A water contaminant is any substance that alters the physical, chemical, biological, or radiological qualities of the water (NMSA 1978, § 74-6-2 (A) (1967)). A contaminant becomes a pollutant when it exceeds an acceptable concentration or standard.

Under the CWA, states are required to adopt water quality standards that protect certain designated uses for each river, stream segment, and lake within its borders (33 U.S.C. § 1313 (2002)), and New Mexico has adopted its own surface water quality standards (20.6.4 NMAC). The New Mexico Water Quality Control Commission has the responsibility for enacting regulations under the New Mexico Water Quality Control Act, (NMWQCA) which implements certain water quality provisions of the Clean Water Act (74-6-3(E), 74-6-4(E)). Numerous other state agencies are constituents of the Commission and therefore have authority to carry out some provisions of the NMWQCA.

Tribes meeting certain criteria under the CWA have the same powers as states for waters within tribal lands (33 U.S.C. § 1377(a) (2002)). Designated uses generally include recreation, wildlife habitat, domestic water supply, irrigation, livestock water, and in the case of Indian tribes, culturally significant or sacred uses. Standards must be reviewed every three years and, as appropriate, modified or replaced (33 U.S.C. § 1313(c)(1) (2002)).



In order to understand a water quality standard, it is helpful to look at a particular reach of a river. For example, one segment of the Gila River in the Southwest Region is the main stem of the Gila River from the New Mexico-Arizona line upstream to New Mexico Highway 464 in Red Rock and the perennial reaches of streams in Hidalgo County. For this reach of the Gila River, the designated uses are irrigation, limited warmwater fishery, livestock watering, wildlife habitat, and primary contact. The standards adopted for this reach include pH within the range of 6.6 to 9.0, temperature less than 32.2 degrees centigrade, and fecal coliform less than 200 colonies per 100 milliliters (mL).

The CWA also plays an important non-regulatory role in the Southwest Region through several EPA-administered water resource grant programs. Many watershed projects underway in the Southwest Region, especially in Catron and Grant Counties, derive their funding from these CWA programs.

4.3.2 The Safe Drinking Water Act

The Safe Drinking Water Act, 42 U.S.C. § 300f *et seq.* (2002), protects the quality of drinking water in the United States. This law focuses on all waters actually or potentially designed for drinking use, whether from aboveground or underground sources. The Act authorizes the EPA to establish safe standards and requires all owners or operators of public water systems to comply with the standards. New Mexico has promulgated drinking water regulations that adopt, in part, federal drinking water standards (20.7.10 NMAC).

4.3.3 Groundwater Standards and Regulations

As noted above, the CWA focuses primarily on surface water pollution. Groundwater pollution not caused by hazardous waste is addressed directly by the State and tribes, pursuant to the New Mexico Water Quality Act and its regulations (NMSA 1978, § 74-6-1 *et seq.* (1967); 20 NMAC 6.2). In New Mexico, groundwater pollution is caused by a number of sources, including septic tank systems and cesspools, spills and leaks of hazardous materials, solid waste disposal sites, overuse of fertilizers and pesticides, and mines. Except for liquid waste and hazardous waste, which are regulated separately, these sources are required to have discharge plans under the water quality act (NMSA 1978, § 74-6-1 *et seq.* (1967); 20 NMAC 6.2).



Improperly installed or maintained domestic septic systems can be a source of groundwater pollution in New Mexico. New Mexico's Environmental Improvement Board is charged with promulgating regulations for liquid waste disposal and has promulgated regulations applicable to domestic septic systems (NMSA 1978, § 74-1-8 (1971); 20 NMAC 7.3). Releases of hazardous waste are regulated pursuant to regulations found at 20 NMAC 4.1.

4.4 Local Government and Ditch Commission Regulation of Water Use

4.4.1 Local Government Regulation

The availability of an adequate water supply is increasingly a limiting factor on population growth and development expansion. The provision of an adequate water supply not only poses physical constraints on growth, but may also be used as a regulatory mechanism to further restrain and manage growth. Both counties and cities have the authority to adopt ordinances conserving and regulating the use of water within their jurisdictions.

For example, subdivision and other land use approvals are increasingly being conditioned upon demonstration of the availability of an adequate water supply. In 1995, the New Mexico legislature amended the State Subdivision Act to require that county subdivision ordinances obligate a subdivider seeking approval of a preliminary plat to show that the subdivider can furnish water of sufficient quantity and quality to meet the needs of the subdivision (NMSA 1978, § 47-6-11 (F) (1973)). As part of the approval process, both the OSE and the NMED must review the subdivider's documentation demonstrating satisfaction of these requirements (NMSA 1978, § 47-6-11 (F) (1973)). Likewise, municipalities are charged with the power to adopt city ordinances governing land platting, planning, and zoning (NMSA 1978, §§ 3-19-1 through 12 (1965); NMSA 1978, §§ 3-20-1 (1979) through 3-20-16 (1966)). Specifically, municipal subdivision regulations may govern the extent and manner in which water will be provided to the subdivision as a condition of plat approval (NMSA 1978, § 3-19-6 (B)(5)(b) (1965)).

County and municipal regulations may also be important in the regulation of domestic wells. Under the New Mexico Water Code, an applicant may receive a domestic well permit from the State Engineer without acquiring commensurate groundwater rights or retiring offsetting surface water rights (NMSA 1978, § 72-12-1 (1931)). Because obtaining a domestic water right permit



is essentially a ministerial process, it is viewed by many as both a loophole in the regulation of groundwater withdrawals and an obstacle to the use of water supply as a growth management tool. However, municipalities have the power to restrict the drilling of new domestic water wells. Municipal water providers have the authority to deny new domestic well permit applications where the applicant's property is located within the exterior boundaries of the municipality and the property line is within 300 feet of the provider's existing water distribution lines (NMSA 1978, § 3-53-1.1(A) (2001)). Existing wells are not affected by this law.

In order to exercise this authority, a municipality must adopt a well regulation ordinance and file it with the OSE. An applicant in a municipality with a new well ordinance must obtain a permit to drill from the municipality subsequent to OSE approval (NMSA 1978, § 3-53-1.1(E) (2001)). A municipality must notify the State Engineer of its denial of drilling permits, and an applicant may appeal a denial to the district court (NMSA 1978, § 3-53-1.1(G) (2001)). The State Engineer has the power to grant a permit for a domestic well within municipal boundaries provided it conforms to all applicable municipal ordinances (NMSA 1978, § 72-12-1(A) (1931); NMSA 1978, § 3-53-1.1 (1965)).

A municipality may not deny a new domestic well permit if the total cost to the applicant of extending the municipal water lines, meter and hookup exceeds the cost of drilling a new well (NMSA 1978, § 3-53-1.1(B) (2001)), and a municipality declining to authorize a new domestic well must provide domestic water service within 90 days at regular rates (NMSA 1978, § 3-53-1.1(C) (2001)).

Municipalities and counties may also regulate water use by assuming responsibility for supplying water to their residents. By owning and operating a water utility, a county or municipality may regulate water use, including imposition of conservation measures, as described below.

- Municipalities may exercise their powers of eminent domain to establish or expand water utilities. A municipality "within and without the municipal boundary" may condemn various water supplies, water rights, rights-of-way "or other necessary ownership for the acquisition of water facilities" (NMSA 1978, § 3-27-2(A)(1) (1965)).



- Counties may also own utilities. County authority arises from statutory law providing that all “counties are granted the same powers that are granted municipalities . . . [including those powers] necessary and proper to provide for the safety, preserve the health, promote the prosperity and improve the morals, order, comfort and convenience of any county or its inhabitants” (NMSA 1978, § 4-37-1 (1975)). Certain class B counties are specifically authorized by statute to purchase, own, operate, and sell water and sewer utilities (NMSA 1978, § 4-36-8 (1993)). Furthermore, counties are specifically empowered to condemn water rights (NMSA 1978, §§ 72-4-2 through 12 (1959)). Class H counties also have the power to condemn property for water facilities because they are included in the definition of municipality in the water code (NMSA 1978, §§ 3-27-2(A), 3-1-2(G) (1965)). In the Southwest Region, Catron is a class C county (i.e., cannot purchase, own, operate, and sell water and sewer utilities), while Grant, Hidalgo, and Luna are class B counties (i.e., can purchase, own, operate, and sell water and sewer utilities).

4.4.2 Soil and Water Conservation Districts

SWCDs play an important watershed management and protection role throughout New Mexico and are very active in the Southwest Region. Under New Mexico Law, the purpose for creating SWCDs under the Soil and Water Conservation District Act is to:

- Control and prevent soil erosion (NMSA 73-20-26 B(1))
- Prevent floodwater and sediment damage (NMSA 73-20-26 B(2))
- Further the conservation, development, beneficial application and proper disposal of water (NMSA 73-20-26 B(3))
- Promote the use of impounded water for recreation, fish and wildlife propagation, irrigation, and urban and industrial needs (NMSA 73-20-26 B(4))
- Conserve and develop the natural resources of the state, provide for flood control, preserve wildlife, protect the tax base, and promote the health, safety and general welfare of the people of New Mexico (NMSA 73-20-26 B(5))



SWCDs are a political subdivision of the state and have general powers such as providing technical and financial assistance, conducting research and disseminating information, planning, cooperating with other agencies, and implementing projects to carry out their mission. Like most subdivisions of the state, SWCDs have specific powers such as contracting, borrowing money, and improving, renting/leasing, and selling district property among others (NMSA 73-20-45). They also have the ability to sue or be sued (NMSA 73-20-45(A)) and to levy assessments (NMSA 73-20-46). One unique power conferred to the SWCDs through the Water Quality Act is the ability to issue compliance orders. As a constituent agency to the Water Quality Control Commission, the SWCD may issue compliance orders for violations of the Water Quality Act (NMSA 74-6-10).

4.4.3 Ditch Commission Regulation

Community ditches, or acequias, are ditch systems that are managed by a community and used for irrigation purposes. The first acequias were used in the Southwest by Pueblo Indians, and early Spanish settlers adopted this water distribution method (Getches, 1997, p. 419). In New Mexico, settlements were formed along the banks of perennial rivers or in the mountain valleys where water from springs and creeks was reasonably certain to be available for irrigation at the needed times (*Snow v. Abalos*, 18 N.M. 681, 694-695, 140 p. 1044, 1048-1049 (1914)). Community ditches were established by individuals or community members to convey water. A main canal was constructed with lateral ditches to distribute the water and serve their individual lands (*Snow v. Abalos*, 18 N.M. 681, 694-695, 140 p. 1044, 1045 (1914)).

The water rights were owned by the individuals, but the ditch was collectively owned by the individuals on the ditch as tenants-in-common (*Snow v. Abalos*, 18 N.M. 694-695, 140 p. 1044, 1048-1049 (1914)). When a landholder on a community ditch conveyed his land, his right to the use of water as a member of the community passed with his land (*Snow v. Abalos*, 18 N.M. 681, 692, 140 p. 1044, 1045 (1914)).

In New Mexico, community ditches continue to operate statewide, but their management is now governed by statute (NMSA 1978, §§ 73-2-1 (1874) through 73-2-68 (1993); NMSA 1978, §§ 73-2A-1 through 73-2A-3 (1988); NMSA 1978, §§ 73-3-1 through 11 (1903)). All New Mexicans have the right to construct and use either private or common ditches (NMSA 1978, § 73-2-1



(1874)). Members of a community ditch or acequia are not entitled to compensation for the ditch or ditches crossing their respective properties (NMSA 1978, § 72-2-3 (1851-1852)). After construction, the ditches belong to the ditch members, and no other person can use the ditch without a majority consent from the owners and payment of a share of ditch construction costs proportionate to the amount of water to be used (NMSA 1978, § 72-2-7 (1882)). Ownership of the ditch is still separate from the right to use water that the ditch conveys (*Holmberg v. Bradford*, 56 N.M. 401, 403, 244 p. 2d 785, 787 (1952)).

Officials elected by the community manage the ditch or ditches with respect to construction, operation, maintenance, and water allocation, and the ditch members provide the necessary labor to construct and maintain the ditch (*Snow v. Abalos*, 18 N.M. 681, 691-4, 140 p. 1044, 1047-9 (1914)). Ditches have three elected commissioners and one superintendent, or mayordomo, each of whom must own an interest in the ditch or a water right (NMSA 1978, § 73-2-12 (1895)). The officers have the authority to manage the affairs of the ditch, including contracting and making assessments to provide payment of expenses related to the ditch, distributing water, supervising ditch maintenance and operation, and collecting fines (NMSA 1978, § 73-2-21 (1895)).

Ditch associations are corporations with the power to sue and be sued (NMSA 1978, § 73-2-21 (1895)). Moreover, ditch associations are considered political subdivisions of the State (NMSA 1978, § 73-2-28 (1965)). This status is significant because it allows them to condemn land (1969 Opinion of the Attorney General No. 69-96). It also enables ditch associations to receive loans from the Interstate Stream Commission for ditch improvements and exempts them from payment of taxes on irrigation works (1964 Opinion of the Attorney General No. 64-95).

Community ditches within the Southwest Region include 16 ditches located in Catron County, 19 in Grant County, and 2 in Hidalgo County.

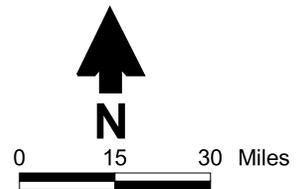
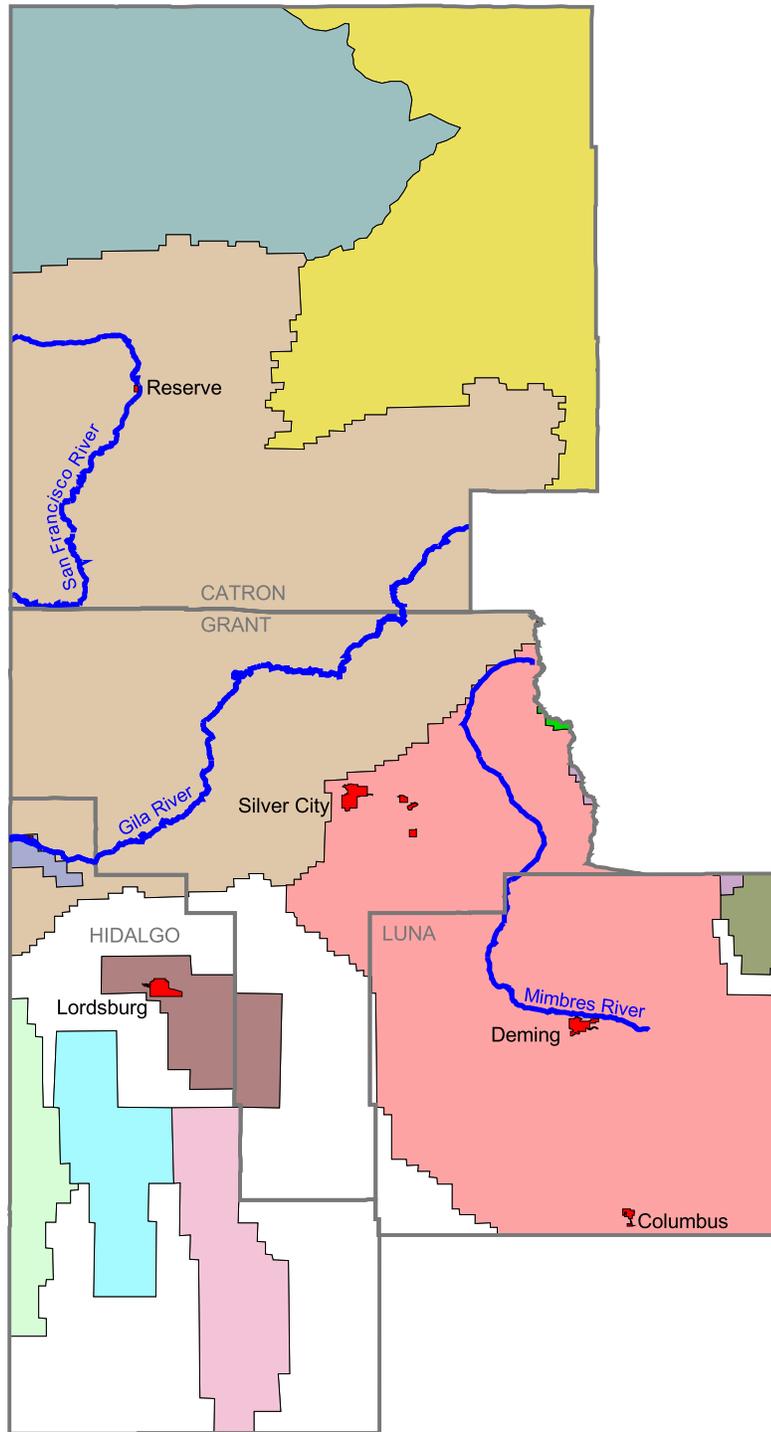
4.5 Administrative Policies of the State Engineer

Within the Southwest Region are a number of groundwater areas, referred to as declared (because they have been declared by the State Engineer) (Figure 4-1). A declared groundwater basin is defined by the OSE as “an area of the state proclaimed by the State Engineer to be

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Explanation

-  County
-  City
-  River
- Declared groundwater basin
-  Animas Valley
-  Gallup
-  Gila-San Francisco
-  Las Animas Creek
-  Lordsburg
-  Lower Rio Grande
-  Mimbres Valley
-  Nutt-Hockett
-  Playas Valley
-  Rio Grande
-  San Simon
-  Virden Valley
-  Not declared





underlain by a groundwater source having reasonably ascertainable boundaries” (NM OSE, 2003a). By declaring a groundwater basin, the State Engineer assumes jurisdiction over the appropriation and use of groundwater from the source, and any person wishing to appropriate groundwater for beneficial use within that basin must first apply for a permit from the OSE.

These declared basins do not necessarily coincide with the physical hydrogeologic basins in the planning region, and some hydrogeologic basins that are present in the planning area are undeclared. For example, the two OSE-declared basins of Animas and Lordsburg are both within the same geologic groundwater basin (Animas). (To distinguish the two, the OSE-declared Animas Basin is referred to in this report as the Animas Valley Basin.) Of the approximately 17,700 square miles within the planning region, 85 percent falls into a declared basin (15 percent of the region is undeclared). Because the OSE regulation is of the OSE-declared basins, the following discussion of the OSE’s administrative policies (Sections 4.5.1 through 4.5.9) is organized by the OSE-declared basins. Within these declared basins, administrative criteria may be in place to manage water resources within areas of higher use.

4.5.1 Gila-San Francisco and San Simon Declared Basins

The Gila-San Francisco and the San Simon declared basins are unique in that the rules and regulations for them are determined by *Arizona v. California*, 376 U.S. 340 (1964) (discussed in Section 4.2.1.2). The Virden Valley and the San Simon Basins are also part of the Gila-San Francisco area, but they are quite different from the rest of the Gila-San Francisco Basin and from each other and are therefore discussed separately (Sections 4.5.1.2 and 4.5.1.3, respectively). Three hydrographic surveys have been completed in the area: the Gila River above Virden Valley, the San Francisco River, and the San Simon Creek. The subsequent adjudication of the water rights in these stream systems was completed in three separate court proceedings.

4.5.1.1 Gila and San Francisco Administrative Sub-Basins

The Gila-San Francisco declared basin is comprised of two hydrologic basins, the Gila and the San Francisco. There are eight administrative sub-basins within the Gila-San Francisco Basin. The San Francisco Basin includes the Luna sub-basin, the Apache Creek Aragon sub-basin, the Reserve sub-basin, and the Glenwood sub-basin. The Gila Basin includes the Upper Gila sub-



basin, the Cliff-Gila sub-basin, the Buckhorn-Duck Creek sub-basin, and the Red Rock sub-basin. In these sub-basins, which have been adjudicated, water rights have been fully allocated. However, additional domestic wells for indoor use are permitted, since indoor use is considered non-consumptive use. If outdoor use is proposed, the applicant must find a seller willing to sell their water right and transfer at least the amount required for the outdoor use to the applicant. A condition for metering the wells is included in all approved domestic well permits.

Consumptive water rights cannot be transferred between the sub-basins of the Gila-San Francisco Basin. Non-consumptive water rights can be transferred between the sub-basins, and if the applicant desires water for their non-commercial lawn, trees, or yard, then the applicant can petition for a change in use from a consumptive use to a domestic, non-consumptive use. However, each sub-basin has its own consumptive use requirement, or the amount of water required to raise a crop. For example, the Luna sub-basin requires less water per acre to raise a crop than does the Cliff-Gila sub-basin. Therefore, if an applicant wishes to transfer a water right from Cliff-Gila to Luna, the acreage purchased in Cliff-Gila must be shrunk to compensate for the higher consumptive rate in the Cliff-Gila. The converse is not true; that is, if an applicant wants to transfer water from Luna to Cliff-Gila, the acreage does not expand.

Under the decree issued in *Arizona v. California*, the total consumptive use for whatever purpose in the San Francisco Basin cannot exceed 31,870 acre-feet during any period of ten consecutive years or 4,112 acre-feet in any one year. Additionally, the amount of land irrigated by diversions from the San Francisco River cannot exceed a maximum number of acres per year in the four San Francisco sub-basins (Table 4-1).

The Gila Basin cannot exceed a total consumptive use for all purposes of 136,620 acre-feet during any period of ten consecutive years or 15,895 acre-feet in any one year. The Gila sub-basins also have a maximum number of acres that are allowed to be irrigated under the Arizona decree (Table 4-1).



Table 4-1. Maximum Allowable Irrigated Acreage Using Diversions from the San Francisco and Gila Rivers

Sub-Basin	Maximum Irrigated Acres per Year
<i>San Francisco Basin</i>	
Luna	225
Apache Creek Aragon	316
Reserve	725
Glenwood	1,003
<i>Gila Basin</i>	
Upper Gila	287
Cliff-Gila and Buckhorn-Duck Creek	5,314
Red Rock	1,456

4.5.1.2 Virden Valley

In the Virden Valley, applications for domestic and stock wells are approved for an amount of water not to exceed 3.0 acre-feet per year for domestic and livestock uses and 1.0 acre of non-commercial lawn, garden, or trees. Under the Arizona decree, a total of 265 acre-feet consumptive use is allowed (376 U.S. 340, 350) in addition to the uses confirmed by the Globe Equity Decree.

The 3.0 acre-feet per year refers to the total volume of water, regardless of the number of supplemental wells that exist for a given acreage. That is, the total diversion of water from all wells associated with the acreage may not exceed 3.0 acre-feet per acre per year delivered at the wells. The combined diversion of water from all sources for all uses shall not exceed 6.0 acre-feet per acre per year. The maximum total consumptive use of the underground water in the entire basin is limited to 838.3 acre-feet per year.

At this time, metering regulations do not exist for Virden Valley, and the volume of water diverted is not measured by any modeling system.

4.5.1.3 San Simon Basin

The San Simon Basin was declared in 1960 and extended in 1963. It covers an area of 263 square miles. Groundwater use is limited in the basin, pursuant to the Globe Equity Decree (Section 4.2.1.1).



Applications for domestic and stock wells in the San Simon Basin are approved for an amount of water not to exceed 0.6 ac-ft/yr and not to exceed 0.10 acre of non-commercial lawn, garden, and trees. San Simon Basin residents cannot divert underground water sources for irrigation purposes for more than a total of 2,900 acres per year. Within the San Simon Creek and Basin areas, consumptive water use for any purpose cannot exceed 72,000 acre-feet during any period of ten consecutive years or 8,220 acre-feet during any one year.

Metering of wells is not currently required in the San Simon Basin.

4.5.2 Mimbres Valley Basin

The Mimbres Valley Basin encompasses 4,279 square miles, of which approximately 1,003 square miles are closed. The Mimbres Valley Basin was first declared in 1931 and originally encompassed an area of 762 square miles. In 1956, the Mimbres Valley Basin was extended. At the same time, the entire basin was closed to the appropriation of water for irrigation, industrial, and municipal purposes. In 1959, the State Engineer reopened the Franklin area (Eastern Extension) and extended the boundaries of the basin further, without closing the newly extended areas. The Mimbres Valley Basin Adjudication is complete. The water rights identified in the adjudication are listed in a nine-volume publication; no summary listing the total adjudicated water rights exists (Whatley, 2004).

Based on a study conducted by the OSE, the economic non-pumping level is 128 feet. In other words, the non-pumping water level in any of the administrative blocks that the basin is divided into cannot be lower than 128 feet. Blocks where a projected non-pumping level for existing rights is less than 128 feet indicate that water may be available for appropriation. The 1,003 square miles that were closed by the State Engineer will remain closed to new appropriations of groundwater.

Applications for groundwater appropriations from the Mimbres Valley Basin are reviewed by considering administrative blocks consisting of four sections. The average non-pumping water level that is calculated for existing rights within each administrative block is assumed to be the non-pumping water level at the beginning of the irrigation season. Applications will be considered on the basis of the non-pumping level of 128 feet and calculated water level declines resulting from the exercise of existing rights and new appropriations projected. A nine-block



template area (36 sections) will be considered in which the proposed diversion point will be located in the center or subject block. In general, any well for a proposed appropriation should be located at least ¼ mile from an existing well. An exception may be made if the calculations show that the local effects caused by the proposed appropriation will not impair existing rights or if the applicant can demonstrate that it is not feasible to locate the new well ¼ mile from the existing well.

A new groundwater appropriation may be granted within a subject block if the calculated average water level decline rate is less than 2.50 feet per year. The proposed appropriation cannot exceed the non-pumping level of 128 feet. When the new groundwater appropriations cause the non-pumping water level to reach 128 feet or cause the annual water level decline to exceed 2.50 feet per year, the block will be labeled “critical” and no new groundwater appropriations will be granted in that block. If a new appropriation causes an adjoining block to become critical, further restrictions apply. A groundwater appropriation may be granted in a subject block that adjoins a critical block if the accumulated calculated effect of pumping does not exceed a water level decline rate of 2.0 feet per year in the critical block. No further appropriation will be granted in a subject block that will cause a water level decline rate exceeding 2.0 feet per year in the critical block.

Proposed groundwater appropriations in the Eastern Extension will be considered based on these same criteria. In addition, applications for new groundwater appropriations in the Eastern Extension will also be limited to the shallow aquifer, and the well depth will be limited to the clay bed encountered at about 230 feet below ground surface (bgs). The OSE will determine the maximum depth to which each well may be completed after reviewing a well log or drill cuttings.

Existing conditions and water level declines for pending and future application will be estimated using a computer model. In this model, it is assumed that where the transmissivity is 2,500 square feet per day (ft²/d) or greater, a well is capable of producing 1,000 gallons per minute. If the transmissivity is 1,500 ft²/d or less, a well would produce 500 gallons per minute.

Because the Gila and Mimbres Rivers are fully appropriated, new groundwater appropriations that cause a depletion in surface flows of more than 0.10 ac-ft/yr will not be granted unless the surface water depletion is fully offset.



In the Mimbres Valley Basin north of Township 21S, the surface water depletion due to the proposed appropriation cannot exceed 0.25 ac-ft/yr unless the depletion is offset. The nine-block template is not used to determine the effects on the surface water in this area.

In general, the amount of water that can be appropriated will vary from well to well. Table 4-2 summarizes the transmissivity, the volume production of the well, and allowable diversions for an application. The application can be approved for irrigation or for other uses. These acreages and volumes can be amended if the applicant can show to the OSE's satisfaction that the proposed criteria do not apply at the place of the appropriation.

Table 4-2. Guidelines for Groundwater Appropriation

Transmissivity (ft ² /d)	Volume produced (gpm)	Acres Allowed for Irrigation	Acre-Feet Allowed for Uses Other than Irrigation
500	300	60	300
1500	500	100	500
2500	1000	200	1000

ft²/d = Square feet per day

gpm = Gallons per minute

The Mimbres Valley Basin has several subsections, including (1) the artesian aquifers located below the Gila Group and (2) the San Vicente Arroyo channels. Requirements for these two units are:

- Applications to appropriate from the artesian aquifers located below the Gila Group will be considered on a case-by-case basis. These aquifers are located generally south of Silver City. No proposed appropriations will be granted if the criteria set out above are not met. The nine block template will not be used because the substantial effect of the artesian appropriation would occur beyond the nine block area. If the proposed appropriation is from a known aquifer, the applicant must specify whether the proposed source is shallow or artesian.
- The San Vicente Arroyo and its tributaries travel into the vicinity of Silver City, Tyrone, Bayard, and Hurley. For each application to appropriate water from the alluvium of the channels of the San Vicente, a study must be conducted to determine the amount of



water in storage in the alluvium, the amount of existing rights pumping from that source, and the amount of water, if any, available for appropriation. In general, new appropriations in the alluvium should not impact existing alluvium wells to the extent that the existing wells are required to be deepened into the underlying formation in an attempt to regain a water supply lost as a result of the new appropriation. The transmissivity of the lower beds might be very low and there is no assurance that sufficient water would be obtained by deepening.

4.5.3 Rio Grande Basin

The Rio Grande Basin covers 26,209 square miles along the Rio Grande in the center of the state. Only a small portion of the basin lies within the Southwest Region. Although specific administrative criteria exist for the area near the river (Rio Grande), the OSE has no unique administrative criteria for the portion of the Rio Grande Basin that lies within the Southwest Region. Water rights applications will be evaluated to determine whether the granting of the application will impair existing water rights or be detrimental to the public welfare or contrary to the conservation of water.

4.5.4 Lower Rio Grande Basin

The Lower Rio Grande Basin is an area encompassing 3,858 square miles, located generally south of Elephant Butte Reservoir and north of the Mexico/New Mexico boundary. Only a small portion of the basin falls within the Southwest Region (Figure 4-1). Since the Rio Grande is fully appropriated, proposed groundwater diversions must not impair existing water rights in wells of other ownership, and any decrease in surface water resources resulting from additional groundwater pumping would need to be offset. Further, the proposed appropriation cannot impair the existing water quality for domestic, municipal, agricultural, industrial, and other beneficial uses. A groundwater appropriation may be granted if unappropriated water is available to the well from the aquifer at the proposed point of diversion. When determining whether to grant a water right application, the OSE will also consider whether the appropriation is contrary to water conservation within the state or whether it is detrimental to the public welfare of the state.



4.5.5 Gallup Basin

The OSE declared the Gallup basin in 1980 and significantly extended it in 1994. The basin covers a total area of 5,424 square miles, the southwestern portion of which lies in northwest Catron County and covers 1,924 square miles. The OSE has no unique administrative criteria for the Gallup Basin. Water rights applications will be evaluated to determine whether the granting of the application will impair existing water rights or be detrimental to the public welfare or contrary to the conservation of water.

4.5.6 Animas Valley Basin

The Animas Valley Basin was declared in 1948 and covers 426 square miles in Hidalgo County. The OSE considers the basin to be fully appropriated and will not accept applications for new appropriations. The OSE will accept water rights permits for domestic and livestock uses under NMSA 72-12-1. However, Hidalgo County subdivision regulations allow only 0.6 acre-foot per household, which is more restrictive than the 3 acre-feet allowed under the statute. Transfers of existing water rights are evaluated to determine whether the granting of the application will impair existing water rights or be detrimental to the public welfare or contrary to the conservation of water.

4.5.7 Playas Valley Basin

The OSE declared the 515-square mile Playas Valley Basin in 1956. The basin lies entirely within Hidalgo County and is fully appropriated. The OSE will accept only water rights permits for domestic and livestock uses under NMSA 72-12-1. However, Hidalgo County subdivision regulations allow only 0.6 acre-foot per household, which is more restrictive than the 3 acre-feet allowed under the statute.

In the past, some water rights have been cancelled or withdrawn through non-use, in which cases the water became available for appropriation. Applicants interested in appropriating water in the basin (as well as in any other fully appropriated basin) should contact the OSE to discuss whether new appropriations may go forward due to a permit cancellation.



Administration of water within the Playas Valley Basin is based on 3-mile-wide strips across the basin in an east-west direction. Transfers between these strips are not allowed. Transfers within strips will be evaluated to determine whether the granting of the application will impair existing water rights or be detrimental to the public welfare or contrary to the conservation of water.

4.5.8 Lordsburg Basin

The Lordsburg Basin is a 330-square mile basin on the border between Hidalgo and Grant Counties. The OSE declared the basin in 1960 and considers it to be fully appropriated, which means that no new appropriations will be allowed, although the OSE will accept permits for domestic and livestock under NMSA 72-12-1. Again, however, Hidalgo County subdivision regulations allow only 0.6 acre-foot per household, which is more restrictive than the 3 acre-feet allowed under the statute.

Administration of water within the Lordsburg Basin is based on four-section blocks, each having a drawdown limit of 200 feet below land surface. Transfers between blocks are not allowed. Impacts of transfers within one block are calculated with respect to the four surrounding blocks. If the proposed transfer would increase drawdown in these other blocks, the OSE will not approve the transfer.

4.5.9 Nutt-Hockett Basin

The Nutt-Hockett Basin covers 133 square miles, 98 of which are in Luna County. The basin was declared in 1961 and was extended in 1965. The OSE has completed a hydrographic survey of all the lands and water rights in the basin, including field surveys that determine the actual acreage of valid water rights. Approximately 11,500 acres of land have water rights in this basin. No surface water rights exist. A comprehensive list of all water rights in the Nutt-Hockett basin is available on the OSE website (<http://www.ose.state.nm.us/water-info/legal/nutt-hockett/nutt-hockett-menu.html>).

This basin is part of an active adjudication, and the actual amounts of the water rights, diversion, and consumptive use per acre have yet to be determined by the Court. The OSE has



issued offers of judgment to all claimants for the amounts listed in the hydrographic survey. Many individuals have accepted offers of judgment and orders have been entered in those subfiles, thus finalizing most of the water rights acreage in this basin. The United States is currently negotiating acceptance of an offer of judgment for one water right.

The basin is fully appropriated and no new water rights applications will be processed, although the OSE will process domestic and livestock permits under NMSA 72-12-1. In order to obtain water rights in this basin, a person must either purchase or lease existing ones and have the water right transferred to the new point of diversion and place of use. Water rights in the portions of the basin that were established in the 1965 extension may not be moved into the portions declared originally in 1961. The 1965 extension area includes T19S R4W Sections 19, 20, and 28-34, T19S R5W Sections 20 through 29, and T20S R4W Sections 3 through 5, 8, 9, 16, 17, 19, 20, and 30.

4.6 Major Water Rights Holders in the Region

In addition to the water rights defined by the various decrees discussed in Section 4.2.1, major water rights and irrigated landholders in the planning region were identified from various sources, including the OSE WATERS database and conversations with community personnel, regional ranchers, agriculture extension agents, and the water resource managers for the copper mines and plants in Grant and Hidalgo Counties. Water rights held by some of the key users in the region are shown in Table 4-3. Although the WATERS database has much information on water rights, these data have not been verified and cannot be relied on to determine the number of water rights in the region. In addition, the Southwest New Mexico Regional Water Planning Steering Committee did not consider much of the information provided in the OSE WATERS database to be accurate; hence, that information is not included in this water plan.

In New Mexico, water rights are based on actual use. Validation of existing water rights takes place through an adjudication by the OSE that begins with a hydrographic survey, which documents all water rights in place. The Southwest Region contains numerous surface water areas and 10 OSE-declared groundwater basins, some of which have been adjudicated. The



Table 4-3. Water Rights Held by Public Water Systems

Water Rights Holder	Water Rights Amount (ac-ft/yr)
<i>Catron County</i>	
Aragon MDWCA	8.54
Homestead Landowners Association	10
Pietown MDWCA	30
Quemado Water Works MDWCA	19.36
Rancho Grande Water Association	30
Reserve Water Works	146.84
<i>Grant County</i>	
Arenas Valley	150 from SVC
Bayard Municipal Water	397 + 70
Casa Adobes	77
Santa Clara Water System	514.8
Silver City Water System	4,430.92
Whiskey Creek Mobile Ranch	23.31
<i>Hidalgo County</i>	
Animas School System	42
Glen Acres Water Coop	149.705
Lordsburg Water Supply System	2,030
Playas Townsite Water System	340
Virden Water System	26.49
<i>Luna County</i>	
Columbus Water System	119.1 757.2 654
Deming Municipal Water System	4,444

Note: Information provided by water rights holders to Engineers, Inc. in 2003; this information has not been independently verified

ac-ft/yr = Acre-feet per year
 MDWCA = Mutual domestic water consumers association
 SVC = Silver City



water rights in the region that have been adjudicated are summarized in Table 4-4. The remainder of the region has not been adjudicated. Not all adjudications included groundwater, although the OSE manages the groundwater basins to protect surface water. Additionally, withdrawals from domestic wells can take place in basins that have been adjudicated, resulting in additional water use in the basin above and beyond the adjudicated amount. Basins that have been adjudicated include:

- *Nutt-Hockett Basin:* The Basin is fully adjudicated except for one sub-file involving water rights of the United States. The total amount of adjudicated water rights has not been compiled (Hoffman-Dooley, 2004).
- *Mimbres Basin:* A Final Decree for the Mimbres River Stream System and Mimbres Underground Water Basin was entered in the District Court of the Sixth Judicial District, Luna County, New Mexico, on January 14, 1993. Nine volumes of the computerized record file compiling the court orders in each sub-file are available for review at the Clerk's Office of the Luna County Courthouse in Deming, and the OSE Deming and Santa Fe offices. The total amount of adjudicated water rights has not been compiled (Whatley, 2004).
- *Gila, San Francisco, and San Simon Basins:* These basins have been adjudicated as discussed in Section 4.2.1 and are administered as described in Section 4.5.1.

For areas not included in adjudications, no comprehensive inventory exists that allows for a determination of total water rights. In order to fully identify water rights in unadjudicated areas, the OSE would have to conduct a hydrographic survey that inventories the rights.

Finally, a significant portion of the underground water in Hidalgo County and lesser portions in Luna and Grant Counties are undeclared. The OSE has no jurisdiction over these undeclared areas, and therefore, no public record of water rights in those areas exists.



Daniel B. Stephens & Associates, Inc.

**Table 4-4. Summary of Adjudicated Water Rights
Southwest New Mexico Water Planning Region**

Basin ^a	Owner	Decree / Act	Year	Stream	Total Irrigated Acreage (acres)	Water Rights (acre-feet)	
						Per Year	10-Year Period
Gila	Upper Valley Defendants (including Virden Valley irrigators)	Globe Equity Decree No. 59 (Gila Decree)	1935	San Carlos Reservoir (Gila River)	40,000	120,000 ^b	---
Gila-San Francisco	Virden Valley irrigators	<i>Arizona v. California</i> Decree (1964 decree)	1964	San Simon Creek	2,900	8,220	72,000
				San Francisco River	2,269 ^c	4,112	31,870
				Gila River above the Virden Valley	7,057 ^d	15,895	136,620
Gila-San Francisco	New Mexico water users	Colorado River Basin Project Act	1968	Gila River, its tributaries and groundwater	---	18,000 ^e	180,000 ^e
Gila-San Francisco	Gila National Forest	<i>Mimbres Valley Irrigation Co. v. Salopek</i> , Amended Stipulation	1990	---	---	5	---
Mimbres	Multiple New Mexico water users	Final Decree for the Mimbres River Stream System and Mimbres Underground Water Basin	1993	Mimbres River	---	Not compiled (Whately, 2004)	
Nutt-Hockett ^f	Multiple New Mexico water users	Offers of judgment and subfile orders for individual water rights holders	1999 to 2004	Groundwater only	---	Not compiled ^g (Hoffman-Dooley, 2004)	

^a No adjudications have been completed for the Playas Valley, Lordsburg, Gallup, Animas Valley, or portions of the Rio Grande Basins that fall within the Southwest Region.

^b Individual users are limited to 6 acre-feet per year per acre. The 120,000 total includes Arizona as well as New Mexico Upper Valley Users.

^c Limits for individual areas:

Luna Area	225 acres
Apache Creek Aragon Area Reserve Area	316 acres
Glenwood Area	725 acres
	1,003 acres

^d Limits for individual areas:

Upper Gila Area	287 acres
Cliff-Gila and Buckhorn-Duck Creek Area	5,314 acres
Red Rock Area	1,456 acres

^e Recent legislation limited the CAP allotment to 14,000 ac-ft/yr on average or 140,000 acre-feet over a 10-year period.

^f Fully adjudicated except for one sub-file involving water rights of the United States (Hoffman-Dooley, 2004)

^g Duty of water per acre of land has not yet been determined (Order Regarding Postponement of Adjudication of Amount of Water in Offers of Judgment and Subfile Orders Nunc Pro Tunc, June 12, 2003)

--- = Not specified