4. Legal Issues Affecting Water Use and Supply in the Socorro-Sierra Water Planning Region

The *Regional Water Planning Handbook* (NM ISC, 1994) requires that regional water plans include a section addressing legal issues. In order to tailor the review of legal issues to the Socorro/Sierra Regional Water Plan, the Steering Committee has asked Daniel B. Stephens & Associates, Inc. (DBS&A) to complete a water rights inventory, identify legal issues, and provide general information on rules and regulations governing water rights that can serve as a resource for all stakeholders in the region. Accordingly, this section provides information on water supply availability from the legal perspective and discusses water rights administration. To achieve these objectives, this section includes the following components:

- An overview of water law concepts and how they relate to the regional water planning process (Section 4.1)
- A discussion of surface water rights in the region (Section 4.2)
- An overview of water rights in the various groundwater basins in the region (Section 4.3)
- A review of the major water suppliers and holders of water rights in the region (Section 4.4)
- A discussion of legal issues as they relate to future water planning activities (Section 4.5)

4.1 Water Law in New Mexico

New Mexico water laws affecting the Socorro-Sierra 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 D; legal issues of particular relevance to the Socorro-Sierra Region are discussed in Section 4.5.2.

4.2 Surface Water Rights in Socorro and Sierra Counties

The principal surface water body in Socorro and Sierra Counties is the Rio Grande. Other smaller surface streams in the planning region, such as the Alamosa, Cuchillo Negro, and Palomas Rivers, also irrigate land in the two counties. In 1974, an aerial survey found that the Alamosa, Cuchillo Negro, and Palomas Rivers irrigated 765, 274, and 123 acres respectively (NM OSE, 1974).

The Rio Grande is considered to be fully appropriated, which means that no water is available for new appropriations. In other words, the only way to gain access to surface water rights from the Rio Grande is to either purchase or lease a water right.

The majority of the surface water rights from the Rio Grande in Socorro County flow through the works of the Middle Rio Grande Conservancy District (MRGCD). Some farmers within the MRGCD own pre-1907 rights (pre-1907 rights are described in Appendix D) that have been reviewed and recognized by the OSE, and others have made declarations subject to review by the OSE. In addition, the MRGCD has permits that allow it to divert water for the farmers to irrigate their lands, as well as permits to irrigate land it owns (Utton, 2000). If the middle Rio Grande were adjudicated, the farmers would presumably have water rights in their name and the MRGCD would hold water rights for the land it owns.

In Sierra County, Elephant Butte Irrigation District (EBID) uses significant amounts of Rio Grande water, which is stored in Elephant Butte Reservoir, to irrigate lands within its boundaries. The rights to the water in Elephant Butte Reservoir have been the subject of various law suits in the last several years, including the ongoing adjudication of the Lower Rio Grande (*State of New Mexico ex rel. Office of the State Engineer v. Elephant Butte Irrigation District, et al.,* Third Judicial District Cause No. CV 96-888). In 1997, the United States filed a lawsuit claiming that the government holds the title to all the Rio Grande Project water rights,

including all return and tributary flows. In May 2002, the 10th Circuit Court of Appeals dismissed the case and remanded it to state district court where it has been stayed (*United States v. City of Las Cruces* 289 F.3d 1170 (10th Cir. 2002)). The state adjudication will resolve the ownership of the surface water and groundwater rights for lands irrigated within the EBID as well as all other water rights in the lower Rio Grande. The completion of this adjudication and settlement of the lawsuit by the U.S. will allow planners in Sierra County to have a clear understanding of how much water is owned and by whom.

As part of the state adjudication, the State of New Mexico has completed portions of a comprehensive hydrographic survey, which describes in detail all the surface water and groundwater rights in the area covered by the survey. The hydrographic surveys for various portions of the Lower Rio Grande basin are available on the internet at http://www.ose.state.nm.us/water-info/legal.

Outside of the major irrigation districts, water rights are generally held by individuals, water providers, or corporations putting the water to beneficial use. Contacts for obtaining further water rights information are listed in Table 4-1.

4.3 Water Rights in Declared Groundwater Basins in Socorro and Sierra Counties

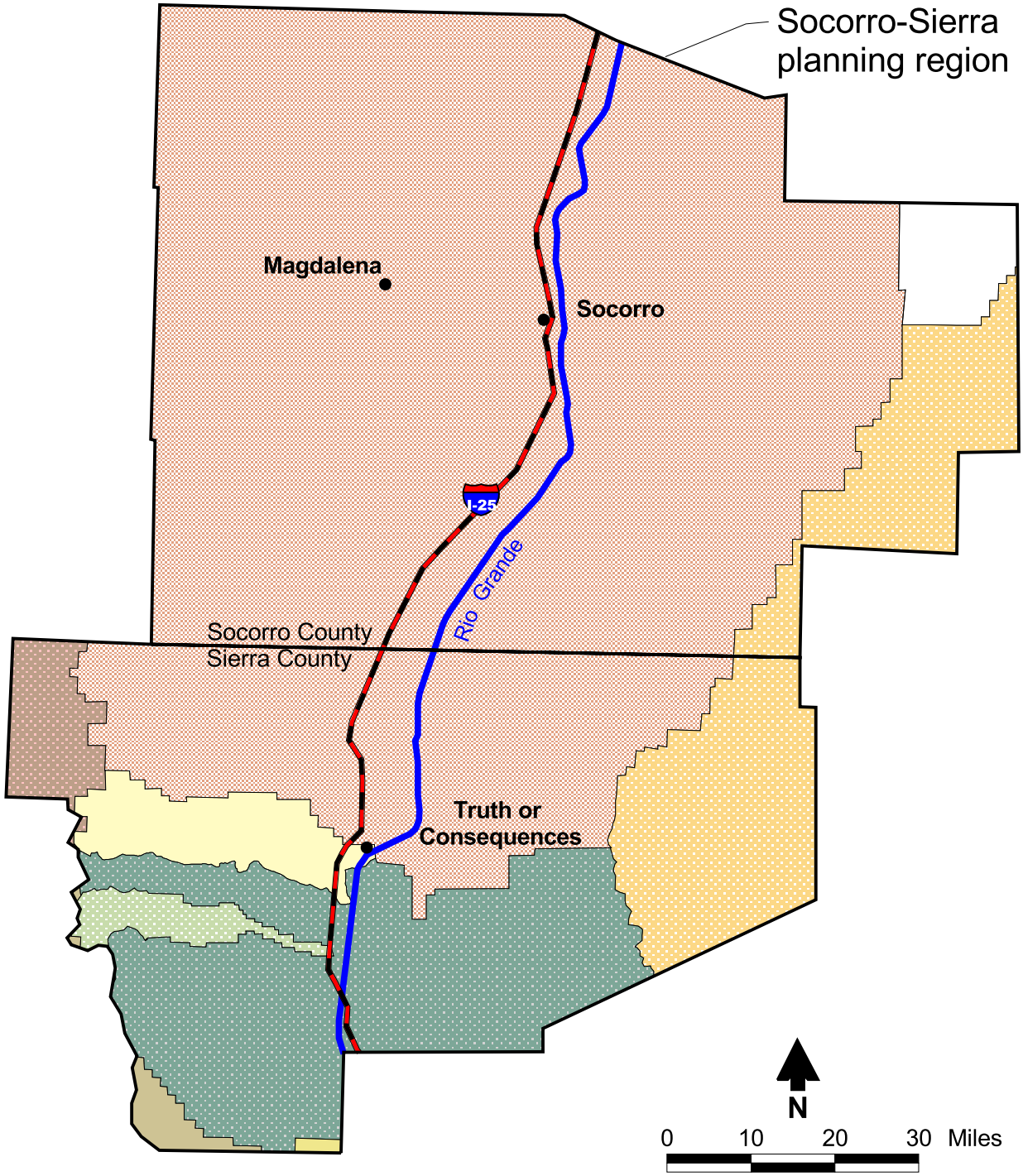
Because surface water in the region is fully appropriated, as Socorro and Sierra Counties grow, groundwater resources may be the only source of new water available. Most of the groundwater in the planning region is found in groundwater basins defined by the OSE as requiring a permit for groundwater withdrawals, referred to as “declared underground water basins.” Those declared basins that fall within the Southwest Socorro-Sierra planning region are depicted on Figure 4-1. The administration of declared basins, including the permit process, is discussed in detail in Appendix D, Section D.2.1.

Potential groundwater resource development will be determined in part by the OSE administration of each declared groundwater basin and particularly by the specific conditions or issues that may constrain a future water right appropriation or use. A key issue for the planning

Table 4-1. Office of the State Engineer
Water Rights Division Offices

Office	Address	Phone Number(s)	Basins Covered [a]
Water Rights Division	P.O. Box 25102 Bataan Memorial Building Santa Fe, NM 87504-5102	505 827-6175	Canadian River San Juan Upper Pecos
District 1	Springer Square Building 121 Tijeras, Suite 2000 Albuquerque, NM 87102	505 841-9480	**Rio Grande** Estancia Bluewater Gallup Sandia San Juan
District 2	1900 West Second Street Roswell, NM 88201	505 622-6521 800 231-8933	Roswell Carlsbad Lea County Portales Hondo Peñasco Jal Fort Sumner Capitan Tucumcari Curry County
District 3	P.O. Box 844 216 South Silver Deming, NM 88031	505 546-2851	**Mimbres Valley** Virden Valley Animas Valley Playas Valley **Gila-San Francisco** San Simon Lordsburg Valley **Nutt-Hockett**
District 4	1680 Hickory Loop, Suite J Las Cruces, NM 88004-0729	505 524-6161	**Hot Springs** Hueco **Lower Rio Grande** **Las Animas Creek** **Tularosa**

[a] Basins that fall within the Socorro-Sierra planning region are in boldface type.



Explanation

Groundwater basins

- Gila-San Francisco
- Hot Springs Artesian
- Las Animas Creek
- Lower Rio Grande
- Mimbres
- Not declared
- Nutt-Hockett
- Rio Grande
- Tularosa

Base Map Source: ESRI Data & Maps, 1999
(modified by DBS&A)

Feature Data Source:
OSE-declared groundwater basins provided by
Information Systems Technology Bureau,
Office of the State Engineer

SOCORRO-SIERRA REGIONAL WATER PLAN

OSE-Declared Groundwater Basins in Planning Region

Daniel B. Stephens & Associates, Inc.

9-11-03 JN 9191

Figure 4-1

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region is that the OSE manages surface and groundwater conjunctively (i.e., considers the impacts of groundwater withdrawals on surface water flows and vice versa) and depending on impacts of groundwater pumping on river flows, may require surface water offsets for any new groundwater permits issued.

The OSE-declared basins do not correspond precisely to hydrologically defined groundwater basins. For example, the Jornada del Muerto groundwater basin is located within the OSE-declared Rio Grande Basin, but hydrologically, it is quite distinct from the shallow groundwater near the Rio Grande (Section 5.2).

Parts of numerous declared groundwater basins are located in Socorro and Sierra Counties (Figure 4-1). Socorro County is mostly in the OSE-defined Rio Grande Basin with the Tularosa Basin covering a portion of its eastern edge. Sierra County touches numerous underground basins; however, most groundwater in the county lies within the Rio Grande Basin. Other declared groundwater basins in Sierra County include the Hot Springs, Las Animas Creek, Lower Rio Grande, Gila-San Francisco, Mimbres, Nutt-Hockett, and Tularosa Basins. These basins are discussed in Sections 4.3.1 through 4.3.7.

4.3.1 Rio Grande Basin

The OSE initially declared the Rio Grande Basin in November 1956. The original declaration included the portion of the basin located in Socorro and Sierra Counties; the basin grew to its current size of 26,209 square miles through 11 extensions between November 1956 and December 23, 1980. Of the current total basin size, 7,470 square miles are located within the Socorro-Sierra region.

The OSE has developed the Middle Rio Grande Administrative Area (MRGAA) criteria for administering water rights in parts of the Rio Grande Basin (NM OSE, 2000a). These criteria set the standards that guide the OSE in processing water rights applications in the administrative area and determining conditions for approval. The main objective of the guidelines is to protect the Rio Grande from depletions caused by groundwater pumping.

Although the administrative area lies mostly in Sandoval, Bernalillo, and Valencia Counties, the southern portion is located in northern Socorro County.

The administrative area includes the "extent of the alluvial aquifer known to be in hydrologic connection with the Rio Grande in the Middle Rio Grande Basin" (NM OSE, 2000a, page 1). The OSE allows no new appropriations in this area except for domestic wells. Areas of the Rio Grande Basin outside the MRGAA will be administered conjunctively, and applications for pumping outside the MRGAA are evaluated to determine whether the pumping will impact water levels within the MRGAA. Applicants for new appropriations will be required to purchase and retire existing valid water rights in order to offset the effects of a proposed appropriation if the withdrawal will impact the Rio Grande. In areas located a great distance from the river, offsets will also be required even if the impact on the river is minimal. Impacts to the river will be evaluated on a case by case basis. The likelihood that a proposed well will impact the river and thus cause an offset right to be required increases the closer a proposed well is to the river.

The management criteria set forth the general rule that "no groundwater appropriation will be allowed unless the applicant has a valid consumptive use surface water right in the amount of the proposed groundwater diversion" (NM OSE, 2000a, Section 3). The applicant may petition the OSE to approve return flow from the surface water right to offset the applied-for amount of groundwater pumping (NM OSE, 2000a, Section 3).

In critical areas, which are defined as areas subject to excessive water level declines, no new appropriations will be allowed (NM OSE, 2000a, Section 9), and in non-critical areas the criteria set limits on water level declines. The general limit set in the criteria for managing the basin is that water level declines cannot exceed an average rate of 2.75 feet per year in non-critical areas. The OSE uses a groundwater model of the basin to make these calculations.

The Rio Grande Basin, especially in Socorro County where many agricultural rights are located, is vulnerable to pressures to transfer water rights out of the region. Upstream municipalities may seek to purchase some of the agricultural water rights that are concentrated in Socorro County as offsets for pumping or to reserve them to meet future water demand. Because of

growing water demand and limited supply, the pressure to transfer water rights out of agricultural uses will continue to increase.

4.3.2 Hot Springs Artesian Basin

A small portion of the Hot Springs Artesian Basin was initially declared on April 15, 1935. It was later extended in 1982 to include the entire current basin. No administrative criteria have been issued for this basin, and therefore, the OSE evaluates applications to determine whether impairment to other water rights will occur and whether public welfare and conservation will be protected. The basin is administered conjunctively, which means that no additional groundwater permits are allowed unless a surface water right is retired to offset the effects of the groundwater pumping on the river. Few surface water rights in this basin are available for purchase on the open market. Additionally, Palomas Creek is considered fully appropriated and is a tributary to the Rio Grande and therefore must be administered to protect flows and ensure compliance with the Rio Grande Compact. The City of Truth or Consequences has a large water right in the basin and is currently addressing in its 40-year plan how to supply future growth with its limited water rights.

4.3.3 Las Animas Creek Basin

The Las Animas Creek Basin was declared on August 9, 1968 and extended on September 17, 1982. With the exception of approximately 6 square miles that lie in Grant County, this basin lies almost entirely within Sierra County. The surface water in the Las Animas Creek basin was fully adjudicated (Decree No. 6427) in the late 1960s and is considered to be fully appropriated. Although the adjudication did not address groundwater rights, the OSE administers the basin conjunctively. As with Palomas Creek in the Hot Springs Basin, Las Animas Creek is a tributary to the Rio Grande, and administration of the basin is conducted to protect existing rights and flows and ensure compliance with the Rio Grande Compact.

4.3.4 Tularosa Basin

The Tularosa Basin was declared on July 7, 1982. The Tularosa Basin is recognized as a "mined basin," which means that withdrawal of groundwater exceeds natural recharge to the basin. In May 1997, therefore, the OSE issued administrative criteria to guide the water rights application review process for specific portions of the basin (Tularosa Basin administrative criteria [TAC] [NM OSE, 1997]). The areas administered under the criteria are found in Otero County. However, the OSE has the discretion to extend the criteria into areas where numerous applications are submitted and clearly significant development is taking place.

The purpose of the administrative criteria is to manage the vulnerable areas of the basin in a manner that prevents unacceptable water level decline rates for a 40-year planning period beginning in 1982 and ending in 2022 and preserves at least one-half of the freshwater available in the basin for uses after the 2022 date (NM OSE, 1997, Section C). To help meet this goal, the OSE criteria limit water level declines in the basin to 2.5 feet per year. In cases where an application proposes pumping that would exceed the allowable water level decline rate, the application will be denied or conditioned such that this rate is maintained.

Because the Tularosa Basin is a mined basin, water resources in certain locations may not be sustainable in the long run depending on local hydrological conditions. However, the Tularosa Basin contains significant amounts of brackish water that could be tapped for future water supply by using desalination technology. The City of Alamogordo, in the Otero County portion of the Tularosa basin, has begun developing a desalination project to augment municipal supplies (Livingston, 2003). Desalination is a costly undertaking, however, and significant funding sources, including federal appropriations, are likely to be required.

Currently, the OSE has no limiting criteria for the portions of the basin in Socorro and Sierra Counties. Applications will be evaluated to determine whether impairment to other water rights will occur and whether public welfare and conservation will be protected.

4.3.5 Lower Rio Grande and Nutt-Hockett Basins

The Nutt-Hockett groundwater basin covers 133 square miles, 9 of which are in Sierra 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 web site (http://www.ose.state.nm.us/water-info/legal/nutt-hockett/nutt-hocket-menu.html).

This basin is part of an active adjudication, and the actual amounts of 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, although 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.)

With this decree, the perfected water rights can be leased or transferred with a greater degree of certainty than water rights that have not been adjudicated. Demand for these adjudicated water rights may increase to the point where the market price is a sufficient incentive to complete the lease or transfer.

4.3.6 Gila-San Francisco Basin

The OSE declared the Gila-San Francisco Basin on February 14, 1963. Approximately 190 square miles of this basin lie within Sierra County. Most of the water rights in the Gila-San Francisco Basin, which was adjudicated in *Arizona v. California,* 376 U.S. 340 (1964), are located in Grant County. Additionally, the OSE manages the basin such that transfers are limited. This basin is thus not a likely source of water to meet future demand in the planning region.

The Gila-San Francisco Basin contains nine sub-basins, only one of which (the Gila Sub-basin) falls within a small portion of Sierra County. Water rights in all of the sub-basins have been fully allocated. However, 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.

4.3.7 Mimbres Valley Basin

The Mimbres Valley Basin encompasses 4,279 square miles, of which approximately 1,003 square miles are closed. A 65–square-mile area of this basin falls in the westernmost portion of Sierra County. The Mimbres Valley Basin was first declared in 1931 and originally encompassed an area of 762 square miles. In 1956, it was extended, and 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.

Applications for groundwater appropriations from the Mimbres Valley Basin are reviewed by considering administrative blocks consisting of four sections each. 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 2.5 feet per year, and the proposed appropriation does not 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 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. 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 applications will be estimated using a computer model. In this model, it is assumed that where the transmissivity is 2,500 square feet per day or greater, a well is capable of producing 1,000 gallons per minute. If the transmissivity is 1,500 square feet per day 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.

4.3.8 Undeclared Areas of Socorro and Sierra Water Planning Region

An area of approximately 185 miles in the northeast corner of Socorro County has not been declared by the OSE. As the OSE will begin administering groundwater rights only upon having issued a Special Order to take administrative control of the basin, no permit is required to install a new well and begin pumping. Consequently, existing water users in this portion of the planning region are vulnerable to impairment from groundwater development and have no recourse through the OSE to address impacts to their wells.

To ensure adequate protection of water rights in undeclared areas, the Socorro-Sierra planning region could request that the OSE declare this small area of Socorro County. In the last several years, the OSE has taken administrative control of previously undeclared areas on multiple occasions. For example, the Tularosa extension was declared in 1999, and in 2000, the OSE issued a special order declaring the Salt Basin in response to an effort by a developer in the state of Texas to pump significant amounts of water for use in Texas (NM OSE, 2000b).

4.4 Major Water Rights Holders in Socorro and Sierra Counties

As new uses and growth occur in the Socorro- Sierra Region, and particularly in the neighboring Middle Rio Grande region, pressure to acquire water rights for these uses will increase. Since the majority of the growing municipalities in and outside the region are near the Rio Grande and new groundwater appropriations near the river are limited, it is important for the Steering Committee to have a clear picture of the significant water rights holders in Socorro and Sierra Counties. These water right holders may be vulnerable to pressure to sell. In order to plan for future growth within the region and to protect the region from losing significant water rights, the Steering Committee has expressed a desire to work with local water right holders to encourage retention of water within the region (Section 8.7).

This section discusses individual or organizations with significant water rights in the region. Priority dates are not discussed because the majority of the water rights have not yet been adjudicated. Table 4-2 lists the number of domestic and non-domestic groundwater rights and the total acre-feet of declared or permitted groundwater rights for each basin in Socorro and Sierra Counties, while Table 4-3 lists the major water rights holders in these basins. The water rights listed in Table 4-2 are from the WATERS database, which may be incomplete or out of date, and other valid water rights may exist within the region.

Table 4-2. Groundwater Rights Records in Socorro and Sierra Counties

Declared Groundwater Basin	Number of Water Rights Records in WATERS Database [a]				Total Amount of Groundwater Rights (ac-ft/yr)
	Socorro County		Sierra County		
	Domestic	Non-Domestic	Domestic	Non-Domestic	
Tularosa	18	0	2	0	77
Hot Springs	---	---	581	117	12,593
Las Animas Creek	---	---	94	92	2,491
Lower Rio Grande	---	---	592	150	61,303
Mimbres	---	---	39	0	117
Nutt Hockett	---	---	0	2	875
Rio Grande	2,029	188	624	58	73,212
Gila-San Francisco	---	---	0	0	0

[a] WATERS database records may be incomplete or out of date. Other valid water rights in the region may not appear in the database.

ac-ft/yr = Acre-feet per year
--- = Basin does not extend into Socorro County.

Table 4-3. Major Water Rights Holders in Socorro and Sierra Counties

Basin	Owner [a]	OSE File Number	Type of Use	Amount (ac-ft/yr)
Socorro County				
Tularosa	No significant water rights in the basin			
Rio Grande	Paul Woofter	00003	Irrigation	908.04
	Patricia Hurlbert	00167	Irrigation	889.8
	J. F. Bamert	00220	Irrigation	520.62
	NS	00222	Irrigation	205.92
	New Mexico Boys Ranch	00682	Irrigation	739.88
	NS	00703	Irrigation	126
	NS	08528	Irrigation	59.68
	Fish & Wildlife Service	01937	FGP	12445.38
	City of Socorro	03501	Municipal	2053.94
	New Mexico Tech	05276	School	4000
	Donald A Wolfel	05479	Irrigation	766.2
	NS	29830	Irrigation	281.37
	MRGCD	06365	AGR	15
	NS	09056	Irrigation	523.35
	NS	21325	Irrigation	446.52
	NS	29501	FGP	571.89
	NS	42992	Irrigation	216.06
	H. Wayne Lovelady	14999	Irrigation	2670
	Thomas P. Tinnin	19737	Irrigation	948.171
	Robert H. Torstenson	45829	Irrigation	270
	NS	45830	Irrigation	270
	NS	45830 Amend	Irrigation	300
	NS	45831	Irrigation	190
	NS	45831 Amend	Irrigation	460
	NS	45832 Amend	Irrigation	500
	NS	45834	Irrigation	280
	NS	45834 Amend	Irrigation	370
	NS	45835	Irrigation	360

[a] Includes water rights holders with a combined total of 700 ac-ft/yr or more, except in basins with few water rights holders, in which case the largest holders in the basin are listed.

ac-ft/yr = Acre-feet per year
NS = Owner not specified
AGR = Agriculture other than irrigation
FGP = Fish and game propagation
MDW = Community type use (MDWCA, private or commercial supplied)
MUL = 72-12-1 Multiple domestic households

Table 4-3. Major Water Rights Holders in Socorro and Sierra Counties
Page 2 of 2

Basin	Owner [a]	OSE File Number	Type of Use	Amount (ac-ft/yr)
Sierra County				
Rio Grande	Lois D & Thomas P. Sailley	04272	Utility	1119.58
	D. W. Falls Investments	13751	MDW	1195.2
	NM Ranch Properties, Inc.	54609	Irrigation	14.69
	NS	54778	Irrigation	193.2
	NS	54779	Irrigation	193.2
	NS	54780	Irrigation	103.7
	NS	55176	Irrigation	1452
Hot Springs	City of Truth or Consequences	00011	Municipal	2742.761
	NS	00401	Municipal	23
	NS	00590	Irrigation	498
	Ladder Ranch, L.P.	00564	Irrigation	960
	Dale Hopkins	00593	Irrigation	1055
	A. Spear Ranch	00621	Irrigation	168
	NS	00622	Irrigation	280
	NS	00623	Irrigation	154
Las Animas Creek	Ladder Ranch, L.P.	00001-1	Irrigation	36.04
	NS	00001-2	Irrigation	56.78
	NS	00001-3	Irrigation	96.56
	NS	00001-4	Irrigation	134.98
	NS	00001-5	Irrigation	12.24
	NS	00001-6	Irrigation	46.58
	NS	01808	Irrigation	51
	NS	01810	Irrigation	10.2
	Robert O. Anderson	00006	Irrigation	180
	Oliver Williams	00021	Irrigation	90
	Raymond C. Goff	00055-B	Irrigation	83.3
	Earl Riggs, Jr.	00143	Mining	92.1
Lower Rio Grande	Garfield MDWC Assn	03728	Municipal	822.6
	Dale W. Folkman	03750	Irrigation	1026
	Dencil Gillis	03760	Irrigation	1190.5
	Guy H. & Gloria A. Bennett	03761	Irrigation	980

[a] Includes water rights holders with a combined total of 700 ac-ft/yr or more, except in basins with few water rights holders, in which case the largest holders in the basin are listed.

ac-ft/yr = Acre-feet per year
NS = Owner not specified
AGR = Agriculture other than irrigation
FGP = Fish and game propagation
MDW = Community type use (MDWCA, private or commercial supplied)
MUL = 72-12-1 Multiple domestic households

Table 4-3. Major Water Rights Holders in Socorro and Sierra Counties
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Basin	Owner [a]	OSE File Number	Type of Use	Amount (ac-ft/yr)
Lower Rio Grande (cont.)	Lake Valley Ranch, LLC	03781	Irrigation	944.15
	Adrian Ogaz	03912	Irrigation	590
	NS	03913	Irrigation	300
	NS	03914	Irrigation	500
	Community First National Bank	04520	Irrigation	696.8
	NS	04523	Irrigation	756.63
	Randy Garay	04523-A	Irrigation	1448.37
	David Holguin	04524	Irrigation	1080
	Fred S. Riggs Estate	04620	Irrigation	800
	Hydro Resources Corporation	04652	Mining	7384
	NS			
	Kenneth P. Smith	04755	Irrigation	1190
	NS	04755-B	Irrigation	105
	Production Credit Assoc. of NM	04883	Irrigation	1496.96
	Stormy L. & Amby Adams	04883-A	Irrigation	1993.24
	PCA of Southern New Mexico	04883-B	Irrigation	5169.6
	NS	10691	Irrigation	504
	Price Black Farms	04884	MUL	150
	NS	04886	Dairy	1258.14
	NS	04887	MUL	200
	Church of Latter Day Saints	04885	Irrigation	7799.4
	Caballo Estates Water & Sewer	04966	Municipal	1161
	Richard and Myrtle Moyle	06374	Irrigation	2066.41
	Rafter 2S Cattle Co.	09694	Irrigation	712.08
	Patrick & Jan Garay	11240	Irrigation	385.62
		11871	Irrigation	414
Mimbres	No significant water rights in the basin			
Nutt-Hocket	Harvey Joe Morrow	00216	Irrigation	517.41
	Ralph R. Hackey	00270	Irrigation	357.18
Gila-San Francisco	No significant water rights in the basin			

[a] Includes water rights holders with a combined total of 700 ac-ft/yr or more, except in basins with few water rights holders, in which case the largest holders in the basin are listed.

ac-ft/yr = Acre-feet per year
NS = Owner not specified
AGR = Agriculture other than irrigation
FGP = Fish and game propagation
MDW = Community type use (MDWCA, private or commercial supplied)
MUL = 72-12-1 Multiple domestic households

In Sierra County, the most significant water rights holders are located within the boundaries of EBID. Because the EBID is currently involved in an active adjudication, the water rights have not yet been fully perfected throughout basin. However, they have been identified in the hydrographic surveys completed for the basin (NM OSE, 2003).

The greatest agricultural water rights holders in Socorro County are located within the boundaries of the MRGCD. These include pre-1907 surface water rights for 80,785 acres of land. In addition, the MRGCD itself holds water rights for 42,482 acres of land under New Mexico State Engineer Permits 1690 and 0620 (Utton, 2000); however, these permits have expired and are currently being revised. The MRGCD is in the process of completing a "Proof of Beneficial Use" for those two filings, an indication that the OSE has asked the District to show that water is being applied to beneficial use for all the acres covered in the permits.

4.5 Legal Issues to Consider in Future Water Planning Activities

Because the middle Rio Grande is subject to multiple demands for its resources, it is important to identify specific legal and policy issues that may affect aspects of water use in the region or impose specific management requirements on water use in that area. These issues and concerns have direct and indirect impacts on current planning efforts and will surely have implications for the future of water resources in this region. In particular, many upstream stakeholders are involved either in litigation or planning related to management of the middle Rio Grande (Burson, 2000; Fort, 1998).

The majority of the legal issues affecting the planning region relate to the surface water rights of the Rio Grande and its hydrologically connected groundwater. The only significant groundwater management issue or legal controversy identified in the two counties was the general observation that protection of groundwater quality is essential to preserving future water supplies. (Water quality issues relevant to the planning region are discussed in Section 5.12.)

4.5.1 Issues Arising Out of Federal Law

The primary federal law issues that might affect the planning region are endangered species habitat preservation, specifically for the silvery minnow, and issues related to the Clean Water Act, as discussed in Sections 4.5.1.1 and 4.5.1.2.

4.5.1.1 Silvery Minnow Lawsuits

Maintenance of silvery minnow habitat and preservation of the species, which requires free-flowing water in the Rio Grande at specific times, is an issue that will continue to challenge all water managers along the Rio Grande.

The silvery minnow issue has been the source of much litigation over the last several years. Two sets of lawsuits in particular have resulted in significant legal findings that will set constraints on water management in the Socorro-Sierra Region:

- In 1999 the U.S. Fish and Wildlife Service (USFWS) issued a final rule designating 183 miles of the Rio Grande as critical habitat for the silvery minnow. This action was challenged by numerous parties in the State of New Mexico in District Court. In November 2000, the United States District Court for the District of New Mexico set aside the July 9, 1999 critical habitat designation and ordered the USFWS to issue an Environmental Impact Statement (EIS) and a new proposed rule designating critical habitat for the silvery minnow (*Middle Rio Grande Conservancy District v. Babbitt,* Civ. Nos. 99-870, 99-872, 99-1445M/RLP (Consolidated)). The USFWS complied with the order, issuing a draft EIS in July 2002 and a revised final critical habitat rule in February 2003.

- On June 12, 2003, the 10th Circuit Court of Appeals ruled that the Bureau of Reclamation has the authority to reduce deliveries of water under its San Juan Chama water contracts with irrigation districts and cities in order to comply with the Endangered Species Act (*Rio Grande Silvery Minnow v. Keys, et al.* 333 F.3d 1109 (10th Cir. 2003)).

Almost all of the Rio Grande in Socorro County is part of the critical habitat corridor designated by the USFWS (2003. p. 48). A critical habitat designation means that all federal agencies are required to consult with the USFWS on any project they fund, authorize, or carry out that may affect critical habitat. If a federal agency determines that the project will affect listed species or designated critical habitat, the agency asks the USFWS to review its action. Proposed projects on state-owned, tribal, or private lands are evaluated only if they involve a federal permit or license, are funded by federal money, or require some other form of federal involvement.

The June 12 decision has been the subject of significant attention, in particular from members of New Mexico's congressional delegation. Senators Domenici and Bingaman successfully introduced language into the Energy and Water Development Appropriations Bill (SB 1424) establishing a seven member executive committee from the Middle Rio Grande Endangered Species Collaborative Workgroup to expedite the efforts of this group (SB 1424, Section 206). Additionally, the amendment specifies that the Bureau of Reclamation may not reduce water to be delivered under the San Juan-Chama projects to comply with the Endangered Species Act unless water is acquired from willing sellers or lessors in accordance with New Mexico law. The United States has petitioned for a rehearing in the case and Bureau of Reclamation Commissioner John Keys has stated that the U.S. strongly disagrees with the findings of the court (USBR, 2003).

4.5.1.2 Clean Water Act: Total Maximum Daily Load for the Middle Rio Grande

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, which set the basic structure for regulating discharges of pollutants to navigable waters of the United States. It is important to note that the term "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)). 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 in relation to the Socorro-Sierra Region are discussed further in Section 5.12.1).

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.

The New Mexico Environment Department (NMED) has completed a total maximum daily load (TMDL) calculation for the Rio Grande from the Pueblo of Isleta upstream to the Jemez River (NMED, 2002a) in accordance with the consent decree in *Forest Guardians v. Browner* (CIV No. 96-0826). The TMDL sets specific limitations on the amount of pollution the stream can absorb before it violates State water quality standards (U.S. EPA, 1991). The TMDL was written for fecal coliform associated with stormwater discharges, primarily from the City of Albuquerque and the City of Rio Rancho (NMED, 2003b).

Although the Rio Grande is not deemed impaired in the reaches that flow through Socorro and Sierra Counties, State water quality standards are fairly stringent for this river segment and include a warmwater fishery use as well as secondary contact (20 NMAC 6.4.105). Should the stream segments in Socorro and Sierra Counties ever fail to meet State water quality standards, the State would be required to conduct a TMDL evaluation for those reaches. In terms of future

planning, a TMDL in that area would have a direct effect on the region, potentially requiring costly best management practices or, in specific cases, changes in water management practices. Although a TMDL is not an issue at the present time, the water quality compliance status of the Rio Grande should nevertheless be tracked as part of continuing planning efforts.

4.5.2 Rio Grande Compact

The Rio Grande Compact, signed in 1939 by the states of New Mexico, Texas and Colorado, apportions the flows of the Rio Grande to the three signatory states. The Compact sets out delivery schedules for New Mexico and Colorado with computation of the delivery amounts based on an input-output model, which means that delivery amounts will vary depending on annual flows. The Otowi gage is the upstream index point for the model. New Mexico's deliveries to the state of Texas occur at Elephant Butte Reservoir.

Compliance with the Compact has been an ongoing challenge to the State of New Mexico. Construction of the Middle Rio Grande Project in the 1950s has helped the State more effectively manage the Rio Grande to better meet compact obligations.

Although New Mexico currently maintains Compact delivery credits as a small buffer against future deficits, extended drought could make future Compact compliance difficult. The Compact allows each state to accumulate a maximum amount of deficits. New Mexico cannot exceed 200,000 acre-feet of water deficit and must store in upstream reservoirs an amount of water equivalent to its accrued debit. Under specific conditions this water must be "released upon demand of the downstream state" (Rio Grande Compact Article IV [NMSA 72-15-23]).

When storage in Elephant Butte is less than approximately 400,000 acre-feet (as is currently so), New Mexico cannot increase the amount of water stored in reservoirs constructed after 1929 (Rio Grande Compact Article VII [NMSA 72-15-23]), including El Vado reservoir, which is used by the MRGCD and was constructed after 1929.

Although the Compact doesn't represent a legal issue for the region directly, it nevertheless could impact water availability if the State of New Mexico is unable to meet delivery obligations for several years.

4.5.3 Other Issues Affecting the Socorro/Sierra Regional Water Planning Area

Other issues that could potentially impact or constrain the planning area include use of water from the San Juan-Chama Project, water rights of the Pueblos along the Rio Grande, the MRGCD water bank, and domestic wells (under the provisions described in Appendix D) in Socorro and Sierra Counties. These issues are discussed in Sections 4.5.3.1 through 4.5.3.3.

4.5.3.1 Use of San Juan-Chama Water

In the mid 1990s, the USGS released a model showing that the aquifer supplying drinking water to the City of Albuquerque and surrounding municipalities was being depleted much faster than previously thought. This conclusion was corroborated by additional work by the Bureau of Reclamation, the City, and private consultants. In response to this information, the City of Albuquerque began developing alternatives for meeting future water supply without relying entirely on groundwater (COA, 1997). The main component of this strategy is to divert San Juan-Chama water, which will then be treated and used as drinking water by City residents.

As the City of Albuquerque puts its San Juan-Chama water to use to meet municipal demand, Rio Grande flows may be reduced during average or high-flow periods in the 15-mile area between the diversion point near Paseo del Norte in northern Albuquerque and the outfall of the wastewater treatment plant where return flows discharge to the Rio Grande. The project is designed to phase in reductions in groundwater pumping, and therefore related impacts to the river, and replace those with direct withdrawals, resulting in similar impacts to the Rio Grande under average and high-flow conditions. The City's permit application specifies that the City will cease to divert during times of drought; however, during extended or severe drought periods, there will be shortages on the Rio Grande, even if the City is not diverting. The City project also includes several million dollars of environmental enhancements to improve riverine and riparian habitat and protect endangered species.

The OSE has conducted a hearing on the City's application and is expected to issue a permit in late 2003. It is anticipated that the permit will require measures to protect flows and existing water rights.

4.5.3.2 Pueblo Water Rights

As with any water planning in the State of New Mexico, the prior and paramount rights of the pueblos along the Rio Grande represent a significant unknown in determining future water supply availability. As an example, these rights are acknowledged by the Rio Grande Compact, which states that "Nothing in this compact shall be construed as affecting the obligations of the United State of America to Mexico under existing treaties, or to the Indian tribes, or as impairing the rights of the Indian tribes" (Rio Grande Compact Article XVI [NMSA 72-15-23]). Numerous Indian pueblos along the Rio Grande have significant, albeit unquantified, claims to water. These claims coupled with current demand may exceed the existing water supply. Six pueblos along the middle Rio Grande receive water through the distribution system of the MRGCD, and one MRGCD board member is from the Pueblo of Isleta. Water rights relevant to the Alamo Chapter of the Navajo Tribe are discussed in Section 4.5.3.3; no other Indian pueblos or tribes are located within Socorro and Sierra Counties.

Pueblos have significant aboriginal rights with priority dates that reach back to "time immemorial" (*State ex rel. Reynolds v. Aamodt,* 618 F. Supp. 993 (D.N.M. 1985)). These rights were developed originally as surface water rights, but may include groundwater rights as well. Because these rights have not been adjudicated, the actual quantity claimed by the pueblos on the Rio Grande has not yet been specified. For Socorro and Sierra Counties, the unadjudicated rights of the pueblos create uncertainty with respect to future water management. In particular, should the pueblos decide to make changes in their current uses, these changes could impact surface water and groundwater supplies in the region.

Water rights applications for groundwater near pueblo boundaries are often protested and are therefore subject to a more lengthy application process, including hearings. To demonstrate no impairment to existing water rights, an applicant may be required to develop an analytical or numerical groundwater flow model that accurately portrays the local hydrogeology and groundwater flow conditions and conclusively demonstrates that impairment will not occur.

Whether or not impairment has occurred is determined by the State Engineer based on recommendations of an OSE hearing officer following review of applicable models or other technical analyses.

4.5.3.3 Federally Reserved Water Rights for Indian Reservations and Federal Enclaves

The Socorro-Sierra Region includes one Indian tribe and several federal enclaves, including the Sevilleta and Bosque del Apache National Wildlife Refuges, the Cibola National Forest, and the White Sands Missile Range. The Tribe and/or the United States could potentially claim what are known as "federally reserved" water rights for these areas:

- Indian tribes living on reservations may have federally reserved Indian water rights, which the United States Supreme Court has long recognized (*Winters v. United States,* 207 U.S. 564 (1908)). Such claims have not been made for the Alamo Chapter of the Navajo Tribe. According to ISC legal staff, any such claims are generally limited to the amount of unappropriated water existing at the time that the reservation was established.

- Federal enclaves such as national wildlife refuges, national forests, and military installations may also have federally reserved water rights (Sheldon, 1999). In these cases also, the reserved right, if any, is limited to the amount of unappropriated water existing at the time that the reservation was established, and the priority of the right, if any, is determined by the date of the reservation. For such federally reserved rights, the amount of water reserved is also limited to the amount of water necessary to fulfill the primary purpose of the reservation (*Cappaert v. United States,* 426 U.S. 128 (1976)). The Supreme Court has reviewed this issue with regard to the Gila National Forest in New Mexico and found that Congress's intent in creating the Gila National Forest system reserved only the amount of water necessary to protect the forest, protect water yield, and furnish a continuous supply of timber.

During statewide adjudications, water rights for federal enclaves have generally been interpreted somewhat conservatively; that is, a federally reserved water right for a federal enclave generally does not result in a significant water right. However, actual determination of

the water right will depend on the interpretation of the original federal purpose in setting aside the land.

4.5.3.4 Middle Rio Grande Conservancy District Water Bank

In 1995, the MRGCD promulgated rules that create a local water bank (21 NMAC 7.5.1 through 7.5.8). The rules allow holders of valid pre-1907 water rights within the District to deposit their water rights with the MRGCD, which then leases them for specific periods of time to users, preferably agricultural users (21 NMAC 7.5.8). The MRGCD limits its water bank loans to lands "within the boundaries of the Conservancy" (21 NMAC 7.5.6(B)(1)).

By setting up the water bank, the MRGCD has created a water management tool that will allow flexibility in meeting water supply. However, the MRGCD has elicited controversy with regard to its operations of the water bank, and some have questioned whether the State Engineer should instead have this authority. To resolve the issue, state legislators have introduced legislation in the last few sessions that addresses this issue. Proponents of the legislation believe that water banks should be operated locally, while opponents believe that the OSE should administer any water bank in the state in order to ensure cohesive water management (testimony before the Interstate Stream Commission by Representative Pauline Gubbels and Senator Sue Wilson, October 2000). According to existing law (NMSA 73-13-4, 73-9-14), however, conservancy and irrigation districts have the power to transfer and reallocate water "within their boundaries."

Although no comprehensive water banking legislation has passed to date, two recently passed laws allow for some water banking activities:

- A water banking initiative limited to a small part of the Pecos River and excluding acequias successfully passed in 2002 (NMSA 72-1-2.3). Under this statute, the only entities with the authority to create water banks are irrigation districts, conservancy districts, artesian conservancy districts, community ditches, and water users' associations in the lower Pecos River Basin below Sumner Lake, and the water banks can only be created for purposes of compliance with the Pecos River Compact (NMSA 721-2.3A). Among the rules that a water bank may create and the ISC may recommend to the State Engineer for approval are "procedures for the water bank to temporarily

transfer deposited water to new purposes and places of use and points of diversion without formal proceedings before the State Engineer" (NMSA 72-1-2.3A(4)).

- In 2003, New Mexico legislators gave acequias limited water banking authority. Under this statute, acequias and community ditches "may establish a water bank for the purpose of temporarily reallocating water without change of purpose of use or point of diversion to augment the water supplies available for the place of use served by the acequia or community ditch" (NMSA 72-2-55.1). The statute states that a water bank established in this manner is not "subject to approval or recognition by the Interstate Stream Commission or the State Engineer."

4.5.3.5 Domestic Wells in Socorro and Sierra Counties

Domestic wells represent a challenge in groundwater management because a permit for use of water for domestic purposes is granted automatically (NMSA 72-12-1). Especially in rural areas, the total number of wells and thus acre-feet of water diverted for domestic water uses can be significant. In addition, because these domestic users do not apply for a water right, they are not limited by the impairment, conservation, or public welfare concerns.

Additionally, domestic water wells can be the source of water for major real estate developments, which are under the state subdivision law required to show proof of an available water supply, whether from domestic or other wells, prior to subdividing. Such concentrated clusters of domestic wells can significantly impinge on existing water rights. Municipalities can regulate domestic wells to some degree as discussed in Appendix D; however, cases have occurred in which the OSE has issued a negative opinion about the water supply availability for a proposed subdivision, yet the county commission has nevertheless approved the subdivision (Drennan, 1997). Efforts to protect water supplies for future use will require the cooperation of informed county commissions and other planning agencies.