

**San Miguel River  
Legal and Institutional Analysis  
Draft February 2000**

# San Miguel River Legal and Institutional Analysis

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## History of Water Development and Use

### General

Gold was discovered in the San Juan Mountains in 1861, bringing people and development to the Telluride and Placerville areas. Irrigated agriculture followed in the lower basin in the 1870s, with farming and ranching becoming the business of many who were originally drawn to the area by mineral discoveries. The farms in the basin were established around 1877. The earliest irrigation priority is assigned to the Grove Ditch, with an 1883 priority date. Grove Ditch diverts water from Naturita Creek, a tributary to the San Miguel River.

About 1890, the Rio Grande Southern Railroad was extended from Durango to the Dolores River and within a few years it was extended along the San Miguel River. This was about the same time that thousands of acres around Norwood and Redvale were promoted as the "Shenandoah" of Colorado. Norwood's first newspaper published its inaugural issue on March 19, 1891, declaring the purpose of the new paper to be for "settling up" the agricultural lands.<sup>1</sup>

### The Telluride Area

#### Water Development for Mining

Mining use that began in the 1860s continued at varying levels of intensity until the 1940s. Small individual mines were started in the vicinity of Idarado Mine in 1876, and several smaller mining operations were consolidated to form the Idarado Mining Company in 1934. With the establishment of the Telluride Ski Area in 1972 and subsequent closure of the Idarado Mine in 1978, land and water use began to shift to meet the needs of the changing economy. Over the years since the mine closed, Idarado retained most of its land and water rights in the upper basin, but did sell some land to the San Miguel Valley Corporation which included rights to the Carr-Waddell Ditch.<sup>2</sup>

#### Water Development for Power Generation

Power generation began in the area in 1891, when Lucien Nunn, the manager of the Gold King Mine and Mill near Ophir, convinced company stockholders to invest in the development of the Ames Power Plant.<sup>3</sup> He and his brother Paul rigged up a large wheel belted to a generator and, using a 100-horsepower alternator developed by Westinghouse, transmitted electricity 2.6 miles to power a motor-driven mill at Gold King. This was the world's first commercial use of alternating electrical current.<sup>4</sup> The Nunn brothers subsequently established the Telluride Power Company. In 1906 the Ames site was fit with its third set of alternators and generators and included a diversion at Howard's Fork, and storage at Trout Lake. Above Trout Lake, Hope Lake augmented supplies during winter months. The water was piped about three miles to where it descended into Illium Valley. In 1992, the plant was acquired by Public Service Company of Colorado during bankruptcy proceedings of the Colorado-Ute Electric Association. In 1998, the plant was upgraded to bring the voltage from 69,000 to 115,000, generating an average of 3.75 megawatts of electricity which is sufficient to supply a town of nearly 4,000 residents.<sup>5</sup>

## Water Development for Irrigation

Several senior water rights in the upper basin, diverting from Mill Creek, Prospect Creek, Deep Creek and Eider Creeks, among others, were established primarily for the irrigation of hay meadows or native hay grasses. These water rights historically irrigated about 146 acres.<sup>6</sup>

## Water Development for Municipal and Domestic Uses

Over time, some of the senior water rights in the Telluride area have been acquired by municipal providers and property developers for domestic and commercial uses. For example, the Town of Telluride uses water rights from Mill Creek in its domestic water supply. The Town of Telluride built its first central water supply system in 1963, adding the Stillwell reservoir in 1973 and the Mill Creek storage facility in 1987.<sup>7</sup> The Mountain Village Metropolitan District (MVMD) and The Telluride Ski Company (Telco) also acquired some of these senior water rights. In the Mountain Village, the first centralized water system was built in about 1979, when the Gorrone Restaurant was developed. In 1984, MVMD took over and expanded upon the Gorrone water line. The Telluride Company began using water for snowmaking operations in 1981.<sup>8</sup>

## The Norwood Area

Water uses in the Norwood area have developed primarily around the production of livestock, in part because the high elevation and short growing season limits the types of crops that can be successfully grown. Crops grown to support the livestock in this area include hay, alfalfa, small grains, feed barley, grain and silage crops. Development of the water supply has occurred through the private efforts and financing of the water users in the area.<sup>9</sup>

## Predecessors to the Farmers Water Development Company

The organizations that were predecessors to the Farmers Water Development Company were formed for the purpose of selling packages of land and water to those they could attract to the area. In 1884, the Naturita Cattle & Land Company incorporated, shortly thereafter forming "The Naturita Canal and Reservoir Company." This was the first company in the Norwood area organized for the purpose of water development. One of the founders was Charles Gurley, who had come to the valley from Denver shortly after the Ute Indians were moved out of the area in 1881. This company filed on 50 cubic feet per second (cfs) of water from West Beaver Creek and Little Beaver Creek (later known as Goat Creek), with a priority date of 1884.

In 1887, the Shenandoah Irrigation and Land Company was formed to take over The Naturita Canal and Reservoir Company. There were board members who served on the boards of both the old and new company, including Charles Gurley. The name of the water development company was changed to The Naturita Ditch Company and plans were made to expand the irrigated acreage through the development of several canals. Unlike its predecessor, the Naturita Ditch Company sold water separate from the land. Despite financial hardships, the Naturita Ditch Company filed on and received an additional water decree for 12.5 cfs from Middle and East Beaver creeks. The company also built the Beaver Extension to bring this new

water to the existing intake system at West Beaver Creek, and it enlarged the existing system to accommodate the additional flows. The first company storage facility, built in 1889 and named Company Reservoir No. 1, had an initial water right of 199 acre feet.<sup>10</sup>

Unable to make debt payments to The Naturita Canal and Reservoir Company, The Naturita Ditch Company in 1906 was forced to reconvey title back to the parent organization. Once the system was back under control of the old company, it was able to obtain a third decree issued in 1907 that recognized an additional water right from Beaver Creek for 17.5 cfs. However, financial difficulties struck again in the same year, and The Naturita Canal and Reservoir Company went into receivership and procedures were initiated to liquidate.

In 1908, The Empire Irrigation and Land Company was formed from the ashes of the financial disaster by mortgaging the assets of both the old and new Naturita companies to a New York Trust Company. The Empire company operated the system until once again in 1911 a new company was formed through a mortgage to a different trust company. It was about this time that the reservoir and ditch became known as "Gurley" and not "Naturita."<sup>11</sup>

The new company, The San Miguel Irrigation and Land Company, lasted for two years amidst the turmoil of shareholder proceedings challenging the distribution of water under the various company decrees. A settlement in 1913 among the shareholders and water users resulted in the formation of the Farmers Water Development Company. One of the facts uncovered during the litigation was that the original 50 cfs water right, due to seepage and evaporation losses suffered in the conveyance system, actually delivered only 30 cfs to users. Additionally, the various companies had over time sold rights to water that significantly exceeded its delivery capacity. New water rights were filed on to fulfill the rights of the later certificate purchasers, and the intake system was correspondingly enlarged. Canal and ditch enlargements in 1926, 1933 and 1936 brought the Farmers water rights to 451 cfs direct flow rights for irrigation and 600 cfs at the intake for storage. The Gurley Reservoir capacity was enlarged over time to 10,039 acre feet.<sup>12</sup>

### Formation of the Lone Cone Ditch Company

While the Naturita-Gurley system reached about 32,000 acres in the Norwood-Redvale area by the turn of the century, another 10,000 acres of land on the west side of Wright's Mesa still had no irrigation water supply. Hopes that the Naturita Ditch Company might develop canals in this area did not materialize. In about 1889, settlers on this acreage formed their own company to build a ditch system.<sup>13</sup> This was the inception of the Lone Cone Ditch Company, formed for the purpose of constructing, maintaining, and operating "a ditch or canal for conveying water for domestic purposes and irrigation..." Diverting water near the headwaters of Naturita Creek, the company carried it down through a main ditch to the west side of Wright's Mesa, where a small reservoir to store these diversions was eventually constructed in 1911.

Today, the reservoir is known as Cone Reservoir, and has a capacity of 2265 acre feet. From here, a ditch and laterals delivered water to the shareholders. The early water rights date from 1891-1894 on Naturita Creek and include about 10 cfs in direct diversion rights. In addition, the company established a 22 cfs right with a 1902 priority and a 52 cfs right with a 1911 priority. Eventually, the Lone Cone Ditch filed on and was decreed a total of about 100 cfs from Naturita Creek and its tributaries, and storage rights totaling about 2,265 acre feet in Lone Cone Reservoir.<sup>14</sup>

## **Development of Domestic Water Supply Systems**

The water supply system presently owned by the Norwood Water Commission has gone through several stages of development, using different sources of water.<sup>15</sup> The time period when the first water source and distribution system was developed is not known; however, it appears that the first water system utilized an old earthen dam and reservoir known as Old City Reservoir, located about two miles directly south of Norwood, as a storage and settling facility. Water was delivered to the Old City Reservoir via the Cone Ditch and Reservoir system. A pipeline ran directly to town from the reservoir and served only the Town of Norwood.

The next phase of water development commenced in the 1930's when the Gurley Ditch just below Gurley Canyon was developed as a source of water. A diversion structure was constructed on the Gurley Ditch, and a six-inch steel line was extended from the Gurley Ditch approximately three miles to a site about two miles south of the Old City Reservoir. A 200,000 gallon steel tank was later built at that site. Other structures that were built to incrementally increase water supplies included a spring development, an infiltration gallery, and a well.

The third phase of water development began in 1997 when the water supply facilities now in use were constructed, under a joint agreement between the Town of Norwood and the San Miguel Water Conservancy District. The Norwood Water Commission now serves an area defined by Beaver Creek on the east, Oak Hill on the south, Naturitia Creek on the south and west, and the San Miguel River on the north and east. This service area includes the unincorporated communities of Redvale and Coventry.

## **Water Development for Hydraulic Mining**

Another early ditch system, and one that was later abandoned, was built by Lewis Green in about 1878. This ditch was assigned to the Keokuk Hydraulic Mining Company in 1881, and later assigned to the San Miguel Hydraulic Mining Company. This system took water from Beaver Creek, and transported it by canal about 5 miles to Saltado Creek. The water was carried in Saltado Creek another four miles and then diverted into another ditch that conveyed the water to a reservoir sitting on a bluff overlooking the San Miguel River. For hydraulic mining, the water was piped down to the placer mining sites. The site of the old reservoir and pipes is about halfway between where Saltado Creek and Specie Creek enter the San Miguel River. While the water rights filing claimed 104 cfs from Beaver Creek, this amount was probably never used, given the physical limits of the system. This appropriation of water was purchased by The Naturita Canal and Reservoir Company in 1893, but for some reason the system was not maintained and a final water right was never decreed.<sup>16</sup>

## **The Naturita and Nucla Areas**

### **Development of the CC Highline Canal**

The first settlers in the Naturita-Nucla area were members and followers of the Colorado Cooperative (C.C.) Company, formed in Denver in 1894 and based upon socialistic ideals popular in cooperative movements of the time. Even before the group began work on the C.C. or Highline Canal, water was diverted from Naturita Creek to irrigate a parcel of land the group had

leased in order to provide food while they built the larger canal.

Ground breaking for the construction of the C.C. Canal was in early 1896. Because of the terrain, extensive rock would have required blasting along much of the canal's course. The Company instead built flumes along these difficult stretches, and operated a nearby mill to provide the timber for the flume.<sup>17</sup> Canal building took several years and many contracts but was finally completed in June 1904. The Cottonwood Creek trestle alone had cost \$6,704.76, and boasted an 840 foot span at a distance of 108 feet above the creek.<sup>18</sup> The earliest water right for the canal is for 31.28 cfs with a priority date of 1895. Another 39.62 cfs water right dates from 1908. By 1939, the canal had water rights totaling 145 cfs. The source for all of these rights is the mainstem of the San Miguel River, with a diversion point near Pinon, two miles downstream from Horsefly Creek.

### **Development of Domestic Water Supply Systems**

Domestic water supply systems followed a decade or more behind the construction of the C.C. Canal. During canal construction, many families lived in Pinon and had to haul water up from the mainstem of the San Miguel River. One historical account describes the quality of the water throughout the year:

During spring and summer the stream was usually muddy and gave off an earthy scent... Winter and summer the water contained the greyish white silt from the ore mills at Telluride and Ophir. It had to be settled in barrels before it was fit to be used. In summer, when the problem of mud was greatest, the settling process could be speeded up considerably by the use of cactus....singed to remove the spines, then crushed and mixed with a little water. This mixture was then stirred into the barrel of water. In a matter of minutes the sticky fluid from the cactus collected the sediment and carried it to the bottom, leaving the water clear as crystal.<sup>19</sup>

Residents moved from the Pinon area down to the townsite at Nucla in 1905, the year after the canal was finished. The main canal was completed but work on the laterals and ditches had not yet begun. Domestic water still had to be hauled up long steep trails from the San Miguel River. A town pump was used for watering livestock.<sup>20</sup> In 1915 Nucla developed its first centralized domestic water delivery system.<sup>21</sup> The Town of Naturita did not develop its first centralized domestic water delivery system until 1955-56, when mining in the vicinity brought growth and additional water demand to the town.<sup>22</sup>

### **Water Development for Mining**

In the 1950s, uranium discovery in the area brought a new industry to the Nucla-Naturita area. The town of Uravan was built by Union Carbide to provide housing for employees at a large uranium milling and processing facility. Water rights from wells totaling 1.3 cfs were developed and acquired to provide water for domestic use and for uses associated with the mining and processing of uranium ore.



## Description of Water Management Facilities, Operating Principles, and Future Demands

### Telluride Area Facilities

Major municipal providers in the upper San Miguel Basin include the Town of Telluride and the Mountain Village Metropolitan District. There are also some smaller residential developments that have been proposed in the Telluride area, some of which may develop their own water supply systems.

Telluride's current water supply system draws water through direct diversion, wells and a tunnel from Mill Creek and Cornet Creek. Telluride also draws from the alluvium of the upper San Miguel River for non-treated uses. Total water rights under this older system include about 9 cfs absolute rights and 3.55 cfs in conditional water rights.<sup>23</sup> Telluride's existing water storage tank holds about three days supply of water, which does not provide a secure margin in times of shortage. Telluride is not currently using its water rights on Bear Creek, which include the 6.0 cfs Bear Creek Diversion and the 1.0 cfs Ellis Park Diversion. However, Telluride plans to use these water rights in the future under a proposed change of water rights application, discussed later in this report.

The Town also acquired water rights and conveyance and storage facilities from Idarado Mining Company in a 1992 court case settlement. The settlement resulted from well contamination that was believed to relate to old mining activity in the valley. Wells drilled in about 1990 revealed contamination problems related to old mining operations. The settlement included a conveyance to Telluride of water rights and facilities. However, there is a stipulation in the settlement that arguably allows Idarado to take back the water rights under certain conditions. A pending water rights change application filed jointly by the Town and Idarado would integrate these newer rights into the old system. It appears that this integration and use of these water rights would impact flows in the San Miguel River only during water supply emergencies, when other water supplies became unavailable.<sup>24</sup>

### Town of Telluride - Water Rights

Diversion Name	Amount	Source	Appropriation Date	Adjudication Date
Cornet Creek	4.28 cfs	Cornet Creek – alternate point also decreed on Bear Creek, Mill Creek, and San Miguel R.	June 15, 1886	Oct. 31, 1911
Cornet Creek	1.0 cfs	Cornet Creek – alternate point also decreed on Bear Creek, Mill Creek, and San Miguel R.	Oct. 1, 1920	Nov. 1, 1939

Mill Creek	1.1 cfs	Mill Creek – alternate point also decreed on Bear, Mill, and Cornet Creeks and San Miguel River	June 1, 1896	Oct. 31, 1911
Telluride Municipal System	2.45 cfs absolute, 3.55 cfs cond.	Mill Creek, Bear Creek, Cornet Creek, San Miguel River	Feb. 18, 1977	Dec. 31, 1977
Head of Bridal Veil Reservoir	175.44 AF	Bridal Veil Creek	July 2, 1916	Feb. 26, 1929
Atlanta Flume and Pipeline	25.0 cfs	Bridal Veil Creek	July 2, 1916	Feb. 26, 1929
Blue Lake Supply Pipeline - Bridal Veil Branch	12.0 cfs	Bridal Veil Creek	August 1, 1919	Feb. 26, 1929
Blue Lake Supply Pipeline	20.0 cfs	Bridal Veil Creek	Dec. 8, 1905	Oct. 31, 1911
Blue Lake Supply Pipeline	4.00 cfs	Bridal Veil Creek	July 2, 1916	Feb. 26, 1929
Blue Lake Reservoir No. 1	412.89 AF	Bridal Veil Creek	July 15, 1903	Oct. 31, 1911
Blue Lake Reservoir No. 1	5601.47 AF	Bridal Veil Creek	Aug. 25, 1899	Oct. 31, 1911
Blue Lake Reservoir No. 2	3.56 AF	Bridal Veil Creek	Sept. 1, 1903	Oct. 31, 1911
Silver Lake Reservoir	232.6 AF	Bridal Veil Creek	July 2, 1916	Feb. 26, 1929
Bridal Veil Pipeline	25.0 cfs	Bridal Veil Creek	June 15, 1901	Oct 31, 1911
Mud Lake Reservoir	87.48 AF	Mud Lake Creek	June 1, 1904	Oct. 31, 1911
Mud Lake Pipeline	10.20 cfs	Mud Lake Creek	July 15, 1902	Oct. 31, 1911
Marshall Creek	2.0 cfs	Marshall Creek	June 1, 1882	Oct. 31, 1911
Taylor Ditch	6.00 cfs	Deer Trail Creek	July 31, 1898	Oct. 31, 1911
Black Bear Reservoir	0.55 cfs	Ingram Creek	July 6, 1906	Oct. 31, 1911

North Chicago	0.52 cfs	Savage Creek	Aug. 31, 1891	Oct. 31, 1911
Primrose	0.5 cfs	Savage Creek	Dec. 1, 1892	Oct. 31, 1911
Hector Ditch	14.45 AF	Marshall Creek	June 15, 1906	Oct. 31, 1911
Hector Ditch	0.21 cfs	Marshall Creek	Aug. 1, 1898	Oct. 31, 1911
Hector Ditch	10.0 cfs	Marshall Creek	May 28, 1891	Oct. 31, 1911
Owl Creek	1.0 cfs	Owl Creek	April 23, 1900	Nov. 1, 1939
Ellis Park Diversion	1.0 cfs	Bear Creek	Oct. 22, 1926	Nov. 1, 1939
Upper Eider Ck. Ditch	0.26 cfs	Eider Creek	July 1, 1891	Nov. 1, 1939
Upper Eider Ck. Ditch	1.0 cfs	Eider Creek	June 1, 1916	Nov. 1, 1939

Mountain Village Metropolitan District (MVMD) manages the collective water supplies for MVMD and Telco under a 1998 water management agreement.<sup>25</sup> Domestic water is pumped from the upper San Miguel alluvium, Prospect Creek alluvium and Skunk Creek alluvium<sup>26</sup>, and then lifted to the treatment and storage facility (2.2 million gallon capacity) on Coonskin Ridge. Smaller storage facilities are located near Skyfield and Ski Ranches housing developments.<sup>27</sup> From the storage locations the water is gravity fed to the service area. To replace water pumped by wells that might injure senior water rights, augmentation water is released as required under decrees for the wells.<sup>28</sup>

MVMD and Telco groundwater rights include 4.0 cfs from wells tributary to the San Miguel River, and 2.68 cfs from wells tributary to Prospect Creek. In addition, MVMD holds 2.67 cfs from wells tributary to Turkey and or Vance Creeks, and 2.74 cfs from wells tributary to Skunk Creek.<sup>29</sup> MVMD is currently pumping about 700 GPM from the mainstem of the San Miguel, and has rights to increase this amount to 1200 GPM subject to decree conditions regarding minimum streamflows.<sup>30</sup> On Prospect Creek, the Town is currently pumping 500 GPM from one well, and has rights to pump an additional 300 GPM. MVMD has not yet completed a well which will allow it to pump up the additional 300 GPM. On Turkey and Vance Creeks, MVMD is presently pumping 170 gallons per minute, but has water rights sufficient to pump an additional 130 gallons per minute, for a total of 300 gallons per minute. On Skunk Creek, MVMD has rights to pump up to 300 gallons per minute, but presently pumping is significantly less and varies according to water supply and demand within the district.

### Mountain Village Metropolitan District/Telco Water Rights

Note: MVMD and Telco hold rights to numerous small ponds, reservoirs, and springs that are not included in this list.

Diversion Name	Amount	Source	Appropriation Date	Adjudication Date
Upper Prospect Creek Snowmaking Pumping Plant and Pipeline	2.0 cfs	Prospect Creek	Nov. 30, 1981	Dec. 31, 1990
Hole 7 Extension of Wagner Ditch	0.5 cfs	Turkey Creek	April 1, 1983	Dec. 31, 1990
Hole 13 Pond Supply Ditch	1.0 cfs	Skunk Creek	April 1, 1983	Dec. 31, 1990
Prospect Creek Reservoir Pumping Plant and Pipeline	2.0 cfs	Prospect Creek	April 1, 1983	Dec. 31, 1990
Lost Creek Pipeline	2.0 cfs	Prospect Creek	April 1, 1983	Dec. 31, 1990
Oak Street Pump and Pipeline	5.0 cfs	San Miguel River	Sept. 30, 1990	Dec. 31, 1990
Telco Well No. 1	0.069 cfs	San Miguel River	July 23, 1973	June 19, 1975
Telco Well No. 2	0.011 cfs cond.	Prospect Creek	July 23, 1973	June 19, 1975
Telco Well No. 3	600 gpm	South Fork	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 4	0.14 cfs 1.19 cfs cond.	Skunk Creek	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 5	600 gpm	South Fork	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 6	0.05 cfs 1.28 cfs cond.	Prospect Creek	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 7	0.27 cfs 1.06 cfs cond.	Skunk Creek	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 8	0.08 cfs 1.25 cfs	Prospect Creek	Oct. 1, 1980	Dec. 31, 1980

Telco Well No. 9	1.33 cfs cond.	San Miguel River	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 10	1.33 cfs cond.	San Miguel River	Oct. 1, 1980	Dec. 31, 1980
Telco Well No. 11	1.33 cfs cond.	San Miguel River	Oct. 1, 1980	Dec. 31, 1980
MVWD/Telco own 100% of the following historic irrigation rights:				
Prospect Creek Ditch	5.7 cfs	Prospect Creek	June 10, 1890	Sept. 30, 1916
Lawson Ditch	1.3 cfs	Prospect Creek	June 22, 1891	Sept. 30, 1916
Waddell Ditch	0.53 cfs	Prospect Creek	May 5, 1897	Sept. 30, 1916
LaSalle Ditch	1.50 cfs	Prospect Creek	May 28, 1898	Sept. 30, 1916
Telco owns 10% of the following historic irrigation water rights:				
Agricultural Ditch	1.0 cfs	Turkey Creek and Skunk Creek	June 16, 1896	Sept. 30, 1916
Agricultural Ditch Enlargement	1.0 cfs	Turkey Creek and Skunk Creek	June 10, 1935	Nov. 1, 1939
Daniel's Ditch	0.5 cfs	Turkey Creek	July 31, 1896	Sept. 30, 1916
Wagner Ditch	6.25 cfs	Turkey Creek	May 29, 1899	Sept. 30, 1916
Kinnick Ditch	1.00 cfs	Turkey Creek	June 2, 1897	Nov. 1, 1939
Kinnick Waste & Seepage Ditch	0.50 cfs	Turkey Creek	May 1, 1900	Nov. 1, 1939
Kinnick Ditch No. 1	0.50 cfs	Vance Creek	June 1, 1900	Nov. 1, 1939

The population served by MVMD, now at about 1200-1500, is expected to double over the next five years.<sup>31</sup> While MVMD does not anticipate needing additional water rights to meet this growth,<sup>32</sup> they would like to acquire more storage space for augmentation in times of low flow. This would allow MVMD to continue pumping while protecting the instream flow water right held by the Colorado Water Conservation Board (a condition expressly provided for in some water rights decrees held by MVMD). MVMD would like to work with one or more of several entities holding storage rights in the upper basin: (1) The Town of Telluride for potential

leasing of storage space in Blue, Mud or Lewis reservoirs;<sup>33</sup> (2) the San Miguel Valley Corporation for space in their proposed system;<sup>34</sup> and Public Service Company of Colorado, for use of space in Trout Lake. MVMD currently has a leasing arrangement with Skyfield development for use of some storage space in Skyfield's reservoir.

Telco uses water for snowmaking and golf course irrigation. Snowmaking uses water anytime after October 20, and as late as the end of January, depending on conditions. Water is pumped into storage and used for snowmaking anytime after October 20th when temperatures reach the requisite 20-25 degrees. Snowmaking usually runs through December but may run until the end of January, depending on snow conditions. During the 1999-2000 ski season, Telco used a total water volume of about 140 AF for snowmaking on about 160 acres of land. Plans are to increase this amount by 20-30 percent for the 2000-2001 ski season and eventually to double the amount of snowmaking, using about 280 acre feet annually.<sup>35</sup> If this additional water for snowmaking were diverted at a constant rate, the additional diversion between October 20 and January 31 would be 0.67 cfs.

The San Miguel Valley Corporation has plans to drill tributary wells in the "Valley Floor" area just below the Town of Telluride, as discussed later in this report. Nearby ponds fed from surface water rights in upper basin tributaries would be used to augment river flows to protect senior downstream water rights.

## **Norwood Area Facilities**

### **Gurley System (Farmer's Development Company)**

#### *The Gurley System*

The Gurley system, owned and operated by Farmers Development Company, diverts water from Beaver Creek through the Naturita Canal (aka Gurley Ditch), and irrigates approximately 20,000 acres. The company's water rights include nearly 1000 cfs direct flow rights but in practice the company diverts about 600 cfs when their rights are in priority.<sup>36</sup> About 400 cfs has a 1913 priority and 600 cfs has a 1933 priority. The water is carried through the ditch to the intake for the Gurley Reservoir. The capacity of the reservoir outlet is 200 cfs, and water is delivered from this point to users through a series of canals and laterals.<sup>37</sup> (*Reviewers: Can we get a map of laterals and the service area? How many acres receive water service? How many shareholders are there?*) During the 1993 to 1998 period, the Naturita Canal diverted an average of 20,924 acre feet annually.

### Farmers' Water Development Company Water Rights

Diversion Name	Amount	Source	Appropriation Date	Adjudication Date
Naturita Cattle and Land Development Company	50.0 cfs	Beaver Creek	May 31, 1884	June 11, 1897
Naturita Canal	12.5 cfs	Beaver Creek	March 12, 1907	June 3, 1911
Naturita Canal	17.5 cfs	Beaver Creek	March 12, 1907	Sept. 30, 1916
Naturita Canal	25.0 cfs	Beaver Creek	July 21, 1913	Sept. 30, 1916
Naturita Canal	95.0 cfs	Beaver Creek	July 21, 1913	Sept. 30, 1916
Enlargement of Gurley Ditch	30.0 cfs	Beaver Creek	Oct. 21, 1926	Oct. 16, 1933
Naturita Canal	1.0 cfs	Beaver Creek	Oct. 21, 1926	Oct. 16, 1933
Naturita Canal	70.0 cfs	Beaver Creek	Oct. 16, 1933	Nov. 1, 1939
Naturita Canal	100.0 cfs	Beaver Creek	Oct. 16, 1933	Nov. 1, 1939
Naturita Canal	600.0 cfs (storage)	Beaver Creek	Nov. 11, 1936	July 10, 1952
Gurley Ditch	50.0 cfs	Beaver Creek	May 31, 1884	Dec. 31, 1994

Because of physical limitations within its system, Farmers must sometimes "dump" excess water down the canyon during spring runoff. The reservoir outlet capacity is 200 cfs, yet the water right and intake structure is 600 cfs. If the reservoir is full, the up to 400 cfs of excess water is bypassed down the canyon at the reservoir intake. Enlarging the outlet would not alleviate this situation because their delivery system cannot handle more than 200 cfs at one time.<sup>38</sup>

By-laws of the Farmers Water Development Company set forth the rules for how company water rights are administered and distributed to shareholders. Each shareholder is entitled to a prorata portion of the water and storage available to the company under water rights and available annual supply. Under both the decree and the by-laws, the water use is limited to domestic and irrigation uses.

Water is delivered during the regular irrigation season, generally running from April 15 - May 1 through October 1, or about 20 to 22 weeks per year. Deliveries after this time for domestic uses (e.g. stockwatering) may be requested up until January 15. Domestic deliveries outside of the irrigation season require that the shareholder save some of his water in storage for delivery, including additional amounts needed to cover seepage and evaporation assessments.

The shareholder must also pay the cost of a ditch rider. After January 15, a new water season begins and any water left in storage will revert to the new season. In practice the company normally diverts water for one domestic "run" about the first of November. Because of the additional water that must be released to allow domestic runs (about 200 acre feet), the company adopted a policy in 1977 requiring that any shareholder making such a request provide the requisite carriage water.<sup>39</sup>

A question that often arises in evaluating any ditch company water rights is whether a shareholder could sell shares for use outside the service area of the ditch company. Farmers Development Company by-laws do not expressly prohibit this type of transfer, but they do contain several limitations that may effectively achieve the same result. First, shareholders may not divert their share of the water above the Gurley Reservoir. In addition, Farmers by-laws expressly provide that the water will be delivered to shareholders "at such point or points along the line of the canal system operated by [the company] or from any of its reservoirs as [the company] may deem most practicable, and all headgates and the manner of withdrawing, measuring and regulating the supply of water from said Company's canals and reservoirs shall be prescribed by [the company] and shall at all times be under [the company's] control."<sup>40</sup> The company is not obligated to deliver water "beyond the present length of the South Lateral and the Gurley Canal." This leaves open the opportunity for the company to choose to extend deliveries beyond the length of these ditches in specific cases. Other by-law provisions confirm the company's control over the construction of all shareholder diversion devices, and ongoing control over the operation of all such diversion devices.

In a 1977 amendment, Farmers adopted a policy regarding the sale of shares for subdivision developments. Any such transfers must be made in one certificate issued in the name of the relevant home owners' association. In addition, water under the transferred shares must be run at the same time and under the direction of a single representative of the home owners' association.

Shareholders are permitted to make informal or formal arrangements to transfer their water on a year to year basis to other users within the Gurley system upon written direction from the owner of the transferring ditch.

For a discussion of future changes that could result in a greater diversion of water by the Farmers' Development Company system, please see the discussion later in this document about the San Miguel Project.

### **Lone Cone System (Lone Cone Ditch Company)**

The Lone Cone Ditch gathers water from Bennett, Brewster and Stockdale creeks, all tributary to Naturita Creek. The 110 cfs capacity main ditch carries the water to the west side of Wright's Mesa where it is stored in Cone Reservoir. Early ditch rights of the Lone Cone system include about 10 cfs with appropriation dates from 1891 to 1894. Later rights include another approximately 100 cfs with priorities dating from 1902 through 1926. The Cone Reservoir has decreed storage rights totaling about 1840 acre feet. From the reservoir, water is carried in another ditch about four miles, then descends a natural canyon where it is picked up by a distribution ditch. This ditch carries the water laterally to service areas on the west, north and east ends of Wright's Mesa. About 1/3 of the company shares are directed to providing water



deliveries to the west end, while about 2/3 of the shares serve areas in the north and east ends of the mesa.

### Lone Cone Ditch Company Surface Water Rights

Diversion Name	Amount	Source	Appropriation Date	Adjudication Date
Lone Cone Ditch	1.66 cfs	Naturita Creek	October 1891	June 11, 1897
Lone Cone Ditch	6.18 cfs	Naturita Creek and Tributaries	October 1892	June 11, 1897
Lone Cone Ditch	2.00 cfs	Naturita Creek	October 1894	June 11, 1897
Lone Cone Ditch	22.16 cfs	Naturita Creek	March 22, 1902	June 3, 1911
Lone Cone Ditch	52.00 cfs	Naturita Creek and Tributaries	December 8, 1911	Nov. 2, 1914
Lone Cone Ditch	26.00 cfs	Stockdale, Bennett, and Brewster Creeks	November 22, 1926	Nov. 1, 1939

The Lone Cone Ditch system irrigates approximately 3200 acres. (*Reviewers: What is the official irrigation season? Are there any winter runs of water for domestic purposes? Can we get a map of the laterals and service area? How many shareholders are there? During the 1993 to 1998 period, the Lone Cone Ditch diverted an average of 3,742 acre feet annually.*

Control over all components of the Lone Cone system lies with the company's board of directors. This control includes all headgates, diversion boxes or other devices through which the respective shareholders take their water from the distribution canal. Under company by-laws, these diversion devices must be constructed so that the company can control the amount of water turned from the distribution canal, and the devices must include a locking device under the control of the company.

The by-laws currently have few restrictions on the transfer of shares of stock. For example, there appears to be no requirement that transfers are subject to board of directors approval, nor is there a requirement that transfers may only be made to landowners within the service area. However, similar to the bylaw restrictions imposed by the Farmers Development Company, Lone Cone Ditch Company by-laws do expressly prohibit the diversion of water "from the company's system above the Lone Cone Reservoir."<sup>41</sup> In addition, certificates will not be issued for less than one share of stock.<sup>42</sup> From discussions with a current board member, rules regarding stock transfer are an issue that probably will be considered by the board in the future.<sup>43</sup>

For a discussion of future changes that could result in a greater diversion of water by the Farmers' Development Company system, please see the discussion later in this document about the San Miguel Project.

## Town of Norwood

The Norwood Water Commission diverts its water supply at its treatment plant or stores it in one of two small reservoirs (Reservoir No. 1 and Reservoir No. 2). One reservoir is used for fire protection and another stores treated water (200,000 gallon capacity). Three steel tanks, located at the water treatment plant, just south of the water treatment plant, and in Coventry, are used to store treated water for delivery through the municipal and rural pipeline systems.

The Norwood Water Commission derives most of its water supply from the Farmers' Development Company system. Norwood currently holds 119 shares in the Farmers Development Company, which provides the Town with about 286 acre feet during average water supply years and 119 acre feet during dry years.<sup>44</sup> Because of Company concerns over expanding the municipal use within the system, the Town is not likely to be able to acquire more shares from Farmers. No express limit on the percentage of domestic or municipal use could be identified in the Company's water rights decrees or in the Company by-laws. Even if there was no limit on the number of shares the Town could acquire, Farmers water sometimes shows discoloration, possibly due to timber activity in the Beaver Creek drainage. A study is underway to attempt to clarify whether timber activities could be impacting the Farmers water supply.<sup>45</sup>

In addition to the Farmer's Water Development Company shares, the Norwood Water Commissioner also relies upon the water right listed in the table below. These water rights deliver an average annual yield of 266.5 acre feet during an average year, and 79.9 acre feet during a dry year.<sup>46</sup>

Diversion Name	Amount	Source	Appropriation Date	Adjudication Date
Farmers' Water Devel. Co. Ditch	0.25 cfs	Gurley Canyon Watershed	Oct. 21, 1926	Oct. 16, 1933
Town of Norwood Pipeline	0.5 cfs	Gurley Canyon Watershed	June 1, 1935	July 7, 1952
Town of Norwood Pipeline	0.25 cfs	Gurley Canyon Watershed	June 1, 1943	July 7, 1952
Norwood Water Comm. Gurley Diversion	5.0 cfs	Gurley Canyon Watershed	Nov. 1994 (conditional)	Nov. 1994 (conditional)
Norwood Infiltration Pipeline	0.75 cfs	Groundwater in Gurley Canyon	June 10, 1962	Jan. 16, 1967
Gardner Springs	0.25 cfs	Groundwater in Gurley Canyon	Nov. 13, 1950	Jan. 16, 1967
Gardner Springs	0.50 cfs	Groundwater in Gurley Canyon	Nov. 1, 1960	Jan. 16, 1967

To increase its water supply and provide for future growth, the Town in 1994 filed an application for a direct diversion right of 5 cfs from the San Miguel River. The Town has indicated that average annual demand for the present population of 1730 is 227 acre feet. Since the present dry-year supply available is 199 acre feet, the Commission needs an additional supply of up to 28 acre feet to meet the needs of the present population. In addition, up to 430 additional acre feet may be needed to meet the demands of the projected 2050 population, which is 4,656.<sup>47</sup> This increased demand equates to an average of 35.9 acre feet in additional diversion each month, bringing the total annual demand up to 657 acre feet. The forecasted demand assumes that Norwood may be forced to derive its entire water supply from the San Miguel River in the future.

The proposed diversion is located at the confluence of Beaver Creek and the San Miguel River, on Bureau of Land Management land included within an area designated in 1992 as an "Area of Critical Environmental Concern" or ACEC.<sup>48</sup> The Town is presently negotiating with the Bureau of Land Management for a right-of-way to exercise the proposed water right.

### Naturita and Nucla Area Facilities

#### CC Highline Canal

The Highline or C.C. Canal diverts water from the main stem of the San Miguel River below Horsefly Creek and carries it in a northwesterly direction to serve lands in the Nucla and Naturita area. The canal has a decreed capacity of 145 cfs. The main canal runs about twenty miles to First Park, just south of Nucla. Because of the route of the main canal, it originally was built with many trestles to cross gulches and canyons, and to avoid rocky terrain that was difficult to excavate. Over time several of these trestles have been replaced with siphons, including the Cottonwood, but three or four trestles remain.<sup>49</sup>

#### CC Highline Canal Water Rights

Diversion Name	Amount	Source	Appropriation Date	Adjudication Date
CC Highline Canal	31.28 cfs	San Miguel River	June 1, 1895	June 3, 1911
CC Highline Canal	39.62 cfs	San Miguel River	Dec. 8, 1908	Sept. 30, 1916
CC Highline Canal	10.00 cfs	San Miguel River	Oct. 20, 1926	Feb. 26, 1929
CC Highline Canal	14.10 cfs	San Miguel River	May 1, 1932	Nov. 1, 1939
CC Highline Canal	15.00 cfs	San Miguel River	May 1, 1932	Nov. 1, 1939
CC Highline Canal	35.00 cfs	San Miguel River	Feb. 18, 1939	Jan. 27, 1942

From the terminus of the main canal at First Park, water is carried through about five laterals over about ten to twelve miles and delivered to lands to the north, south and west of First

Park. Return flows enter the San Miguel River downstream from the Town of Naturita, at the mouth of Calamity Draw and Tuttle Draw.<sup>50</sup> (*Reviewers: Can we get a map of the laterals and service area?*)

The normal season of operation for the canal is from mid-April to the end of September. However, the canal also diverts about 50 cfs for a period of five days each water year during November and March, to meet domestic and livestock needs of the shareholders, including the Town of Nucla. Nucla has been granted an alternative point of diversion at the Nucla Power Plant which allows it to make more efficient wintertime diversions.<sup>51</sup>

(Can we get information about the dates of the normal irrigation season?) (Can we get a map of the delivery system and the amount of irrigated acreage? How many shareholders are there?) During the 1993 to 1998 period, the CC Highline Canal diverted an average of 32,645 acre feet annually.

Shareholders are allocated water on a pro-rata basis every year, depending on the estimated water supply. Black boxes that ensure the appropriate diversion amounts are set in the spring, and water is directed from the main ditch into about five laterals. Transfers are allowed within the system, even from lateral to lateral so long as the Company is notified before the black boxes are set.<sup>52</sup> Company bylaws place restrictions on shareholders who wish to apply to the state water court for a change in point of diversion for their share of water rights. If such a change is desired, the shareholder must first petition and receive permission from the Board.<sup>53</sup>

#### **Town of Nucla and Town of Naturita**

The Town of Nucla owns 111 shares in the Highline Canal, which converts to 3.12 cfs or 1400 gallons per minute. The Town diverts its water early in the irrigation season, and directs it to a storage pond (40 million gallon capacity) and treatment facility, located southwest of town. The Town's other water rights include 2.66 cfs in the Parkway Ditch (upstream from the Nucla Power Plant diversion) which is pumped up to the treatment facility.<sup>54</sup>

The Town of Naturita's water supply is diverted from the main stem of the San Miguel River, upstream from the town at the Reed Chatfield Ditch. The town owns 1.79 cfs from this ditch for municipal purposes and 4.0 cfs for irrigation purposes. From this open ditch, the water is treated in a 400-gallon per minute filter plant and stored in a 500,000 gallon water tank.<sup>55</sup> The town has secured permission to divert up to 0.4263 of the Reed Chatfield Ditch rights from a well site.

The Town of Nucla and the Town of Naturita have recently completed a joint effort to study future water demands and future water supply options for the two towns. The consulting report<sup>56</sup> concluded that the water rights for both towns have sufficient priority and size to meet anticipated growth over the next 50 years. However, the report also concluded that investments are needed in water treatment and storage facilities to take full advantage of the water rights already in place. One of the options examined by the report is a jointly owned water treatment plant.

The report also contained some recommendations that may have some implications for flows in the San Miguel River. It recommended that the Town of Nucla fully exercise its right

to refill its raw water storage from the CC Highline Canal up to four times during the winter season, as opposed to the one or two times annually as is the current practice. The report also recommended that Nucla acquire the Union Carbide (Uravan) water rights if they become available for purchase, because these rights have the potential to call out Nucla's diversion during periods of low water supply. Finally, the report recommended that Naturita file for an alternate point of diversion for the irrigation water rights associated with Reed Chatfield Ditch, with the alternate point located at Naturita's infiltration gallery two miles downstream on the San Miguel River.

## **Water Rights Administration**

### **Introduction**

Constraints affecting water management in the San Miguel Basin are derived primarily from state water law, the rules and regulations of individual basin water providers, and federal law. State water law supports the doctrine of prior appropriation, under which each year's water supply is allocated based upon the seniority of water rights. Water rights which were established earlier in the settlement of the basin can issue a "call" on water rights established more recently, forcing them to forego diversions in order to deliver water to the senior users. New uses of water and changes to existing uses are allowed so long as there is no injury to other water rights or any potential injury is sufficiently mitigated. The rules and regulations of individual water suppliers can control how much water is diverted by those organizations at various times of the year, and can also control the rate and location of return flows to local stream systems. Finally, many of the water facilities in the basin have diversion or storage structures located on federal lands, and many of these structures are subject to federal laws which have the potential to constrain the amount and timing of diversions.

### **Senior Water Rights and Placing "Calls" For Water**

The most senior rights on the main stem of the San Miguel River take water out of the river in the reach between Horsefly Creek and Naturita Creek. (insert figure showing location of senior water rights). There are also very senior rights on some of the tributaries, which have the potential to shut down other rights above them on that particular tributary. Agricultural diversions typically begin about March 1 and run through the end of October.

On the main stem, the C.C. or "Highline" canal diverts water between where Horsefly and Cottonwood creeks enter the mainstem. About 31.28 cfs of the total amount of water rights associated with the canal have a priority date of 1895. Diversions at the Highline Canal often completely dry up the main stem a short distance below the canal diversion structure, except for a small amount of seepage from the diversion structure. Generally this occurs between the first of August and the end of September, but in a dry year can occur in July. Return flows from the Highline Canal water uses generally occur below the Town of Naturita, where Calamity Draw and Tuttle Draw feed into the mainstem.

Because of the Highline Canal's large diversion rate and the distance before return flows from the canal return to the river, the Highline Canal can have an impact on intervening senior water rights with priority dates ranging from 1885 to 1894. These include the BCD Ditch (7.5

cfs), Reed Chatfield Ditch (9.0 cfs), and Goulding Ditch (3.47 cfs), all diverting water above the mouth of Naturita Creek.

**Senior Water Rights on San Miguel River  
(excluding CC Highline Canal, listed previously)**

Diversion Name	Amount	Appropriation Date	Adjudication Date
Dolphin Ditch	1.00 cfs	Oct. 22, 1926	Nov. 1, 1939
Shultz Ditch	2.00 cfs	Oct. 22, 1926	Nov. 1, 1939
Goulding Ditch	0.65 cfs	Oct. 31, 1886	June 11, 1897
Goulding Ditch	0.13 cfs	Oct. 31, 1890	June 11, 1897
Goulding Ditch	0.26 cfs	Oct. 31, 1893	June 11, 1897
Goulding Ditch	0.43 cfs	Oct. 1, 1902	June 3, 1911
Goulding Ditch	2.00 cfs	Oct. 15, 1928	Nov. 1, 1939
BC&D Ditch	6.50 cfs	Dec. 1, 1894	June 3, 1911
Reed Chatfield Ditch	1.59 cfs	July 1, 1896	June 3, 1911
Reed Chatfield Ditch	4.00 cfs	July 1, 1896	June 3, 1911
Reed Chatfield Ditch	0.50 cfs	July 1, 1896	June 3, 1911
Reed Chatfield Ditch	4.00 cfs	April 1, 1934	Nov. 1, 1939
Parkway Ditch (2.35 cfs of total rights diverted at Nucla Power Plant)	0.8 cfs	April 1, 1900	June 3, 1911
Parkway Ditch	4.16 cfs	July 2, 1916	Feb. 26, 1929
Parkway Ditch	2.84 cfs	March 20, 1936	Nov. 1, 1939
Doing Ditch (includes rights transferred from other locations)	3.23 cfs	Oct. 1, 1902	June 3, 1911
Blessing Ditch	0.5 cfs	May 1, 1894	June 3, 1911
Blessing Ditch	2.0 cfs	Dec. 8, 1896	June 3, 1911
Blessing Ditch	2.5 cfs	Nov. 15, 1902	June 3, 1911
Blessing Ditch	3.0 cfs	Oct. 22, 1926	Nov. 1, 1939

Blake & Payson Ditch	6.00 cfs	Sept. 30, 1917	Feb. 26, 1929
Johnson Ditch	3.80 cfs	April 10, 1891	June 3, 1911
Johnson Ditch	3.75	Feb. 16, 1903	June 3, 1911

Calls are placed on the river at least once every two to three years, depending on the water supply. Any holder of a water right who believes that more junior water rights are depriving him of water can place a "call" for more water. This is done by submitting a written request to the Water Commissioner for Colorado Water District 60, who is an employee of the Colorado Division of Water Resources. The commissioner can only curtail diversion of water rights that are junior to the one making the call.

Calls are usually put on the river by the Highline Canal, alone or in conjunction with other senior water rights located further downstream. If the more senior but smaller water rights below the Highline call out the river, such as the BCD Ditch, the Highline Canal has to bypass enough water to meet their needs. Then the Highline Canal has to place a call if it wants this water replaced by more junior water rights located upstream.<sup>57</sup> In many years the Highline Canal does not place a call until its diversion rate falls to 80 or 90 cfs, even though the canal has water rights for 145 cfs.<sup>58</sup> A call by the Highline Canal normally would not occur until the first part of August and it would last until the end of September. However, in dry years, calls could run from July through October.<sup>59</sup> Historically, some of the more senior rights below Highline could not make calls because they had no measuring device on the ditch. For example, the Goulding Ditch just installed a weir during 1999, and could not place a call prior to that year.<sup>60</sup>

Ditches other than those previously discussed with water rights more senior than the Highline Canal generally do not place calls. This occurs because these senior rights divert water below the point at which return flows from the Highline Canal return to the river. This group of senior rights includes the Johnson Ditch, with priorities ranging from 1891-1913. Johnson Ditch rights are diverted below the confluence of the San Miguel River with Atkinson Creek. Blessing Ditch, which diverts water just below the confluence of the river and Calamity Draw, also has senior rights with a priority date of 1894.<sup>61</sup>

A review of call patterns from 1990 through 1999 reveal that calls were placed in the basin for the years 1990, 1991, 1994, 1996 and 1997. There was no call in 1992, 1993, 1995, 1998 and 1999. The earliest date of a call for a tributary was April 18, 1990, an unusually early date. This call was placed by the Priestly Ditch, located not far above the mouth of Maverick Draw,<sup>62</sup> and had the effect of shutting down diversions by ditches with junior priorities. On the main stem of the river, the earliest call over this period of time (1990-1999) was placed on August 12, in the years 1990, 1994, and 1996. The structures placing the call were one or more of the following: BCD Ditch, the Highline Canal and Nucla Power Plant. The duration of the call was from 6 days (1990) to about 30 days (1994 and 1996). The call in 1991 was placed by the Highline Canal on September 3 for just 3 days.<sup>63</sup> Records for the 1997 call were not available.<sup>64</sup>

Among the municipalities in the basin, only the Town of Naturita has put a call on the river for its Reed Chatfield Ditch water rights.<sup>65</sup> The Town of Nucla, as a shareholder in the

Highline Canal, would be a beneficiary of any call placed by the Highline.

### **Augmentation Plans to Protect Senior Water Rights**

In the upper basin several municipal water providers and developers have pending or final decrees authorizing the use of water through an augmentation plan. Generally, the plans allow out of priority diversions so long as replacement water is provided to compensate for any depletions to the stream. This is often accomplished through releases from storage and through the release of senior water rights that have been historically used for irrigation. In order to use these senior rights as augmentation supplies, the historic irrigation practice must be reduced or completely stopped, drying up once irrigated lands.

Two significant examples of this practice in the upper basin are provided by the water use plan already decreed for the Mountain Village Metropolitan District (MVMD)/ Telluride Corporation (Telco), and a pending application by the San Miguel Valley Corporation. Senior water rights from Prospect Creek historically diverted into the Skunk Creek basin for irrigation uses were acquired by The Telluride Corporation (Telco), and are being used as augmentation water for domestic and commercial uses under a 1996 approved plan for augmentation.<sup>66</sup> Approximately 323 acres of historically irrigated land has been or will be dried up under this plan.

Another example is the senior irrigation rights from Mill, Prospect, Eider and Deep Creeks that have been acquired by the San Miguel Valley Corporation. These rights are part of the proposed plan for augmentation presented in the company's pending water rights application. About 146 acres of historically irrigated land will be dried up under this proposed plan, with about 118 acre feet of consumptive use credit claimed under the application.<sup>67</sup>

### **Instream Flow Water Rights**

The Colorado Water Conservation Board presently holds multiple instream flow water rights on the main stem of the San Miguel River and its tributaries. The following tables contain a listing of existing instream flow water rights. Most of these water rights were appropriated in 1984, early in the history of Colorado's instream flow program. These water rights are administered just as a traditional water diversion would be – if junior upstream water rights are preventing the instream flow water rights from being fulfilled, then those junior water rights are curtailed to the extent necessary to allow the instream flow water right to be satisfied. Of the water rights listed on the following tables, only the instream flow right on the main stem of the San Miguel that runs through the Telluride area has to be frequently administered.



**EXISTING INSTREAM FLOW WATER RIGHTS - MAIN STEM SAN MIGUEL RIVER**

STREAM	UPPER TERMINUS	LOWER TERMINUS	AMOUNT	PRIORITY
San Miguel River	Confluence with Bridal View Creek and Ingram Creek	Confluence with South Fork San Miguel River	6.50 cfs	1984
San Miguel River	Confluence with South Fork San Miguel River	Confluence with Fall Creek	20.00 cfs	1984

EXISTING INSTREAM FLOW WATER RIGHTS - TRIBUTARIES TO SAN MIGUEL RIVER

STREAM	UPPER TERMINUS	LOWER TERMINUS	AMOUNT	PRIORITY DATE
Bear Creek	Headwaters	San Miguel River	2.00 cfs	1984
Lake Fork San Miguel	Headwaters	Trout Lake	2.50 cfs	1984
Lake Fork San Miguel	Priest Lake	Howard Fork	5.00 cfs	1984
South Fork San Miguel	Howard Fork/Lake Fork	San Miguel River	9.00 cfs	1984
Bilk Creek	Headwaters	San Miguel River	3.00 cfs	1984
Deep Creek	Headwaters	San Miguel River	4.00 cfs	1984
Big Bear Creek	Headwaters	San Miguel River	2.00 cfs	1984
Elk Creek	Headwaters	Fall Creek	2.50 cfs	1984
Fall Creek	Headwaters	San Miguel River	5.00 cfs	1984
Leopard Creek	East/West Fork Confluence	San Miguel River	2.50 cfs	1984
East Beaver Creek	Headwaters	Gurley Ditch Diversion	2.50 cfs	1984
Beaver Creek	Headwaters	Gurley Ditch Diversion	1.50 cfs	1984
Beaver Creek	Goat Creek	San Miguel River	5.00 cfs (5/1 - 6/30) 2.50 cfs (7/1 - 4/30)	1993
Saltado Creek	Headwaters	San Miguel River	2.00 cfs (5/1 - 6/30) 1.00 cfs (7/1 - 4/30)	1993
Naturita Creek	East and West Naturita Creek Confluence	Norwood Road Crossing	3.00 cfs	1984

In addition to instream flow water rights that have already been established, the Colorado Division of Wildlife and the U.S. Bureau of Land Management submitted instream flow recommendations to the Colorado Water Conservation for the main stem of the San Miguel in November 2000. These recommendations cover the river reach from Fall Creek to Horsefly Creek.

The BLM and CDOW used both the R2Cross methodology and the Instream Flow Incremental Methodology - Physical Habitat Simulation (IFIM-PHABSIM) methodology to determine the flows needed on the San Miguel River to protect the river's fisheries. During the course of the studies, BLM and CDOW collected data from 24 cross sections on the river, located in different types of aquatic habitat. It should be noted that additional studies are underway to identify flows needed to support riparian plant communities dependent on the San Miguel River. Based on these studies, BLM and CDOW plan to recommend enlargements to the flows recommended below at a later date. The recommended flow rates for the Fall Creek to Horsefly Creek reach are as follows:

**75 cfs** is recommended during the month of October to provide suitable conditions for brown trout spawning.

**60 cfs** is recommended for the November 1 to March 31 period, to provide suitable winter habitat for all fish species. Additionally, river icing and subsequent ice surges that commonly occur through the subject reach of the San Miguel River in the winter months are a disturbance to both the fishery and macroinvertebrates, and could be exacerbated by a reduction in river flow.

**85 cfs** is recommended during the month of April to provide sufficient physical habitat conditions for adult and juvenile trout.

**100 cfs** is recommended during the month of May as a transition/conditioning period in preparation for spawning by rainbow trout.

**125 cfs** is recommended from June 1 to August 31 to facilitate rainbow trout spawning, brown trout fry emergence, and provide adequate habitat for brown and rainbow trout adults.

**100 cfs** is recommended during the month of September as a transition/conditioning period in preparation for spawning by brown trout.

## Colorado River Compact and Other Federal Parameters

Colorado's use of the waters of the Colorado River and its tributaries, including the San Miguel River, is subject to the terms of the 1922 Colorado River Compact, the 1948 Upper Colorado River Basin Compact, the LaPlata River Compact and the Animas LaPlata Compact.<sup>68</sup> It is also subject to specific treaties, federal laws and court decisions including the 1944 U.S.-Mexico Treaty.

The 1922 Compact was intended to establish a balance between the growing demands of California and other lower basin states, and the future water needs for development and use in the upper basin states, including Colorado.<sup>69</sup> The line between the upper basin (Colorado, Utah, Wyoming, and New Mexico) and lower basin (Arizona, California and Nevada) was fixed at Lee's Ferry, one mile below the confluence with the Paria River in Arizona.<sup>70</sup> Although the allocation of water between the upper and lower basin states was intended to be equal, because of an error in calculating average flows, the upper basin states actually receive less water under the Compact. The Compact guarantees a delivery of 7.5 million acre feet a year at Lee's Ferry, in northern Arizona. The Act also prohibits the upper basin states from withholding water from the lower basin uses unless the water can "reasonably be applied to domestic and agricultural uses."<sup>71</sup>

Allocation among the upper basin states was accomplished in the 1948 Upper Colorado River Basin Compact.<sup>72</sup> This compact also established each state's specific obligation to deliver water at Lee's Ferry. Colorado received 51.75% of the consumptive use of the upper basin states allocation under the 1922 Compact.<sup>73</sup> According to a 1988 study by the U.S. Bureau of Reclamation, Colorado's right to use Colorado River water on a long-range average annual basis is between 3.079 million acre feet (MAF) and 3.855 MAF.<sup>74</sup> Considering figures of historical consumptive use by Colorado of about 2.6 MAF, this leaves about 450,000 AF of consumptive use left for Colorado to develop.

While the 1948 Compact recognizes each upper basin state's right to develop a specified portion of the Compact allocation, it does not specify where water is "developable" within each state.<sup>75</sup> The issue of the amount and location of where water is available for future development within the state has not been settled. However, river managers must keep in mind that at some point in the future, as Colorado consumes more water, there may be a point at which a certain amount of water must be delivered to the Dolores River to meet compact water delivery requirements.

## Pending Changes Affecting River Management

### The San Miguel Project

#### Background

The San Miguel Project began in the 1960s as a project proposed by the federal Bureau of Reclamation, but it was more recently investigated under the construction loan program of the Colorado Water Conservation Board (CWCB). In 1956, Congress passed the Colorado River Project Storage Act,<sup>76</sup> providing a mechanism for putting to beneficial use the waters

apportioned under the Colorado River compacts. The Act authorized four major projects,<sup>77</sup> as well as the investigation of several smaller projects, including the San Miguel. A 1966 Feasibility Report resulted in the San Miguel Project being one of five projects authorized by Congress under the Colorado River Basin Project Act of 1968.<sup>78</sup>

By the early 1980s the BOR had put the project on hold, but the State of Colorado took an interest in advancing the project. Through the CWCB construction loan program, the Colorado Assembly authorized funding for both the San Miguel Project and the Lone Cone Project.<sup>79</sup> In 1989 Boyle Engineering, under contract with the CWCB, developed a feasibility report in which they examined six project alternatives for the San Miguel that ranged in cost from \$2 million to \$21 million. This report recommended alternative four, which involved a minimum level of capital investment and only enlarges and improves existing facilities. More specifically, this alternative included enlargement of the Lone Cone Reservoir and the Lone Cone intake ditch, and connecting the Gurley system with the Lone Cone system.<sup>80</sup>

In the early 1990s, proposed federal legislation to restructure the apportionment formula for the Upper Colorado River Basin Fund (a pool of money created by revenues from power generation at federally-owned hydroelectric facilities) held the potential of making federal funds available to the upper basin states, including Colorado, for the construction of water projects and for the recovery of endangered fish species.<sup>81</sup> With this potential source of funding, the CWCB prepared a feasibility report outlining three possible scenarios for financing a San Miguel Project. All scenarios in this feasibility report were built around the 1989 Boyle Report's Alternative 6. However, no action was ever taken from this report because the federal funding did not materialize.<sup>82</sup>

### Current Status of Project

During the 1999 legislative session, the Colorado Legislature deauthorized both the San Miguel Project and the Lone Cone Reservoir Project.<sup>83</sup> While the deauthorization does not end the project, it does require funding reauthorization before the project can proceed with support from the CWCB. As a result, the CWCB is taking no further action at this time, although the San Miguel Project remains in the CWCB's long term plans. Any new project proposal would need to originate with the water users within the San Miguel basin and would need to be submitted to the CWCB for consideration. If the CWCB approves the plan, it would then seek reauthorization of legislative funding. The CWCB has suggested that any new proposal would need to include a well thought out financial plan for repayment of the loan from the CWCB construction fund.<sup>84</sup>

Within the basin, there is currently no formal effort underway to resubmit a project proposal. Several water users interviewed supported the idea of a smaller project that would provide additional storage at Lone Cone Reservoir and possibly in Maverick Draw. These were primarily the agricultural or irrigation users in the Norwood-Redvale vicinity. The Southwestern Water Conservation District is interested in hiring someone to work with users in the basin to come up with a renewed project proposal.<sup>85</sup> The Town of Norwood believes that one of the project alternatives involving a reservoir on Fall Creek (Marie Scott or Wolf Reservoir) may have the potential to help the town with its water supply. However, in the Town's view, the alternative most recently considered, which calls for expansion of existing storage facilities, would not benefit them.<sup>86</sup>

Water users lower in the basin, including the Highline Canal and the Towns of Nucla and

Naturita, were unclear how any proposed new or expanded storage facility would directly benefit them. Despite this uncertainty, they were generally supportive of additional storage upstream.<sup>87</sup>

### Conditional Water Rights

There are several conditional water rights in the San Miguel River basin that, if developed, could have an impact on historic patterns of river operation. While this report does not consider every conditional water right in the basin, it evaluates the top ten (in terms of water quantity) conditional water rights identified through a review of the tabulation for Water District 60.

Conditional water rights are decreed for prospective development and promise the owner that, if development is pursued with reasonable diligence, the priority date will relate back to the time the plan for development was first begun. These rights can remain valid indefinitely, as long as the owner continues to comply with state law. State law requires that the owner demonstrates continuing intent and effort to develop the water, via a filing for "reasonable diligence" at least once every six years.<sup>88</sup> If these rights are not developed, or the owner fails to comply with the periodic diligence requirements, conditional water rights may never be perfected, and may be terminated.<sup>89</sup> Conditional water rights may be perfected or developed for an amount of water less than the quantity originally decreed. However, additional amounts of water would be considered a new appropriation and would require a new water rights application with a contemporary priority date.

The San Miguel Project conditional water rights include three storage rights with a 1957 priority date: (1) Radium Reservoir, decreed for 26,600 acre feet (AF); (2) Naturita Reservoir, decreed for two rights -- 9,200 AF for a first fill and a refill right of 8,300 AF; and (3) Saltado Reservoir, decreed for two rights -- 72,600 AF for a first fill and a refill right of 71,200 AF. In addition to these storage rights there are direct diversion rights from the San Miguel main stem and Dry Creek totalling 675 cfs.<sup>90</sup> Of this amount, 540 cfs is on the mainstem, and 135 cfs is on Dry Creek.<sup>91</sup>

As this project has gone through revisions for financial and other reasons, these reservoir locations and sizes do not parallel the most recently recommended alternatives. For example, Saltado Reservoir is decreed with a location on the main stem, at and below the present site of the Town of Placerville. Any reservoir on the main stem is unlikely today given the cost and concerns with environmental impacts, and it is unlikely that a reservoir will ever be built in the decreed location. The right would need to be changed to a new location if it were to be developed. The Radium Reservoir is decreed for a location about 20 miles southwest of the Town of Naturita, in the Dry Creek basin,<sup>92</sup> and Naturita Reservoir is decreed for a location in Mud Springs Draw. Neither of these reservoir sites has been included in recent analyses of funding and construction alternatives. However, it is possible that a change application could be filed to change the location or use of these conditional water rights for a reconfigured project.<sup>93</sup>

The Telluride Company (Telco) owns conditional storage rights on Prospect and Upper Prospect Creeks, both tributary to the South Fork of the San Miguel. On Prospect Creek, Telco currently holds an absolute right for 6 AF and a conditional right for an additional 19AF. On Upper Prospect Creek, Telco holds two conditional reservoir rights, each for 20 AF. Telco plans to use these conditional water rights for augmentation and commercial uses, and both water rights are in good standing.

Another conditional water right that is likely to be developed is for expansion of the Lilylands Reservoir site. The right is for 1,700AF with a priority date of 1995.

Finch Reservoir is planned on Horsefly Creek and carries a conditional decree for 21,900 acre feet storage right with a 1971 priority date. The water rights for the reservoir and feeder ditch have been transferred several times since they were decreed, but they are presently owned by the Eldred Family Limited Partnership. While there is no specific date for the commencement of construction, some engineering, hydrology, and wetlands studies have been undertaken and due diligence filings are current. At this time it appears likely that some reservoir will eventually be constructed at this site.<sup>94</sup>

The yield of the Finch Reservoir and the impact on flows on the main stem of the San Miguel River will be limited by several factors. These factors include the amount of water physically available at the reservoir location, calls by downstream senior water rights, and necessity of obtaining right-of-way permits from the U.S. Forest Service for the feeder ditch that is planned to supply the reservoir with additional water from Clear Creek.

The United States Geological Survey operated a stream flow gage approximately 3/4 mile downstream from the planned reservoir site during the 1943 to 1950 period. During that period, discharge volume from the stream averaged 7,444 acre feet annually, with a high of 11,760 acre feet in 1944 to a low of 3,250 acre feet in 1950. Also during that period, flow rates for Horsefly Creek averaged less than 1.0 cfs for the months from July through February, and at the following flow rates for other months of the year: March - 2.15 cfs, April - 60.45 cfs, May - 52.30 cfs, and June - 5.53 cfs.

There are at least 78 cfs of diversion rights and 825 acre feet of storage rights that are senior to the water rights for Finch Reservoir and Finch Feeder Ditch. Of these, 54 cfs of diversion rights and 717 acre feet of storage rights are held by the Paxton Reservoir and Paxton Reservoir Feeder Ditch, located approximately four miles upstream from the proposed Finch Reservoir site. If 54 cfs of water were available to divert, Paxton Reservoir would fill in approximately seven days, then the remaining high flows would be available to Finch Reservoir. Even if Paxton Reservoir were diverting its full 54 cfs, there may still be some water available for Finch Reservoir. For example, historic gage records show an average flow of 82.2 cfs during April 1943, and 160 cfs during April 1948.

Other significant conditional water rights in tabulation that are not likely to be developed or in reality only double filings on existing structures include the lakes on Bridal Veil Creek, including Blue Lake, Mud Lake and Lewis Lake. These rights originally belonged to Idarado Mining Company but under a conditional settlement agreement have been conveyed to the Town of Telluride. Recently they were the subject of litigation involving a title dispute between the Town of Telluride and Eric Jacobsen. Mr. Jacobsen owns the power operation near Bridal Veil Creek. The conditional water rights filings were made as a part of the title dispute, and do not represent a proposed enlargement of the existing storage facilities.<sup>95</sup>

A conditional right for the expansion of Trout Lake (1500 AF) is unlikely to be completed. Because of residential and recreational development around Trout Lake, it would be difficult to expand the reservoir. This right is most likely to be converted to a second fill right. Lake Hope, which sits just above Trout Lake, has an 800 AF conditional water right which is not likely to be developed.<sup>96</sup>

The only transbasin diversion involving the San Miguel River basin is a right to transfer water out of the basin. In 1897, a water right for diverting from the East Fork of Leopard Creek

for use in the Dallas Creek basin was decreed for the transfer of 21.0 cfs.<sup>97</sup>

### Upper Basin Residential and Recreational Developments

Mountain Village and Telco will increase their water use as the development is fully built out. Plans are in place to eventually construct accommodations for a total of 9,000 people, and an 18-hole, 133 acre golf course. Recently the U.S. Forest Service approved an expansion that will double the ski area. Eventually, plans are to accommodate over 9,000 skiers per day. According to the water rights decree, current water use for all residential and commercial uses depletes about 262.1 acre feet of water, and out of priority depletions are augmented under the approved plan. When fully developed, maximum annual depletions are projected to be 1,398.0 acre feet.<sup>98</sup>

The Town of Telluride has a pending application to use water stored in Blue Lake on Bridal Veil Creek to provide a long term water supply for the town's future needs. The water rights involved include several rights acquired from Idarado Mining Company under a settlement agreement several years ago. Storage water will come from Bridal Veil Creek and tributaries through a pipeline to Blue Lake, and eventually will also come from pipelines installed from Mud Lake and Lewis Lake to Blue Lake. From Blue Lake, water will be released through another pipeline to the Bridal Veil Powerplant. From the powerplant, water will be treated and released back into Bridal Veil Creek several miles above the town. The Town would also like to move a water right it has on Beaver Creek up to Bridal Veil Creek and forgo its Bear Creek diversion. Bear Creek is very scenic and there is public interest in protecting its flows. Under the proposed plan, the use of the water rights would change from industrial to include municipal uses, and the Town would, through exchange and alternate point of diversion plans, use its Mill Creek and other existing water rights interchangeably with the new Bridal Veil system. Once the application is approved, the Town plans to make many improvements to the diversion and conveyance facilities.<sup>99</sup> The Idarado Mining Company is a co-applicant in this pending action.<sup>100</sup>

Other developments are also pending that require land use and water rights approvals. These include the San Miguel Valley Corporation's plans for a residential and golf course development on about 600 acres located in the "Valley Floor" area below the Town of Telluride and above Society Turn.<sup>101</sup> Land use approval is pending before the San Miguel County Commissioners, and could include additional conditions that may alter the proposed amount of water usage.<sup>102</sup> As presently proposed, the development would divert 433 acre feet of water annually, with 235 feet acre of this diversion being consumptively used. SMVC intends to satisfy this water demand by using a combination of historic water rights and new junior diversions.

SMVC has a water rights application pending for water from the main stem of the San Miguel to satisfy the demands of the development. As amended, the application calls for two surface diversions of five cubic feet per second each, and groundwater rights for each of five alluvial wells that would have a total maximum diversion rate of 1000 gallons per minute. The application also includes storage rights for two off-channel ponds with a total capacity of 280 acre feet.

When stream conditions force SMVC to divert water out of priority, the first source of water to be used to augment senior water rights will be the historic water rights owned by SMVC



in other locations in the valley. SMVC's decreed water rights include senior irrigation surface rights on Prospect Creek, Eider and Mill Creek. These water rights total about 14 cfs and are calculated to represent 118 acre feet annually of historic consumptive use of water. Historically, these rights were used to irrigate native hay grass on about 146 acres of land.<sup>103</sup>

Other sources of water to be used by SMVC for augmenting senior water rights include diversion of water into storage during times of high flows and then release of that water when augmentation is needed. Some of these releases would be directly from storage to the stream, but SMVC also proposes diverting water during high flow periods into recharge pits located in the alluvial aquifer, from where the water would slowly seep back over time.

If the land use and water rights proposals are approved as proposed, the new development will consume approximately 117 acre feet more water than is available to the company via its senior water rights. Since calls by downstream water rights typically prevent diversions by junior water rights from July through October, it appears that much of the additional 117 acre feet needed will be diverted during the spring runoff period from April and through June, and then placed into storage for use later during the year.

### **Water Rights Transfers in the Lower Basin**

Mining companies below Naturita and Nucla are conducting land reclamation and soon will be leaving the area. Changes in land use and water rights may have some effect on water use and management patterns in the lower basin.

Cypress Mines has not decided if it will convey land and water rights to the Town of Naturita, as the Town has requested. Cypress owns a 0.2 cfs water right associated with its Naturita Mill Site. The town would like to acquire the water rights and the property for a possible golf course development. Although the State of Colorado paid to clean up the site, it did not take title to the land as is sometimes the case. Because of this, Cypress still holds title to the land and water and has not yet decided what it will do with the property.<sup>104</sup>

The Town of Nucla is also in discussions with the Umetco Mining Company about the possible conveyance of its water rights to the town.<sup>105</sup> The surface rights owned by Umetco are Johnson Ditch water rights, and are among the most senior rights on the San Miguel River. All of the rights (totaling 50.55 cfs) are decreed for irrigation, domestic, industrial and power use. However, historic use may have been largely non-consumptive, which would reduce the amount that could be transferred.<sup>106</sup> Additional storage space may be developed as part of the Towns' overall water management strategy, especially if the Town is successful in obtaining additional water rights from Umetco.

### **Pending Ditch Bill Applications**

The issuance of easements for applications pending under the Colorado Ditch Bill may impact some of the systems in the basin. New uses of public lands are subject to the Federal Land Policy and Management Act of 1976 ("FLPMA").<sup>107</sup> Some of the water development facilities in the San Miguel Basin cross Forest Service lands and were originally authorized under one or more earlier laws allowing use of the public lands for this purpose (commonly called "pre-FLPMA" rights of ways or easements). The Colorado Ditch Bill, enacted in 1986, allowed

owners of "qualifying" facilities to apply within a specified period of time to the Forest Service for the issuance of a permanent easement. Under the statute, this easement would allow them to continue the type of use, operation and maintenance of the facilities as existed on the date FLPMA was enacted and the owners would not be subject to FLPMA's new fee structure.<sup>108</sup>

Although applications had to be filed by the end of 1996, the Forest Service has not yet issued many of the easements because of some legal issues that have arisen.<sup>109</sup> One issue is whether the agency may issue permanent easements given the seemingly contradictory language between the Ditch Bill and FLPMA.<sup>110</sup> Another issue is what types of terms or conditions may be attached to these easements.<sup>111</sup> It is not clear what options would be available to the right of way holder if they did not agree to the easement conditions, but it has been suggested that they would have the option of seeking a special use permit, an alternative that would impose other requirements.<sup>112</sup>

### **Summary of Pending Changes That Could Affect Streamflows**

The following table summarizes potential additional diversions of water within the basin during the next 50 years, based upon information available during the year 2000. Some water users have forecasted their needs using this time horizon, while other water users have not yet done so. Therefore, the attached table should only be considered an information document, rather than a legal interpretation of how much water is available to water users under decreed water rights and water rights presently in process. The reader should note that where information about actual depletions (versus total diversions) was available, this figure was used. Predicted depletion figures are typically available for entities that are in the midst of water rights cases, such as the Mountain Village Metropolitan District and the San Miguel Valley Corporation.

Other figures in the table show only estimates of increased diversions – actual depletions to the river may be much lower than diversions, depending upon the amount of historic consumptive use associated with the proposed diversion, and the location of return flows. For example, some of the municipalities in the basin, such as Norwood, Naturita, and Nucla, have forecasted their future demand, but detailed studies have not yet been conducted on return flow rates and locations. For the planned reservoirs in the following table, such as the Finch Reservoir or an enlarged Lilylands Reservoir, the amount, timing, and rate of return flows from the uses of reservoir water is not yet known.

Potential depletions associated with the San Miguel Project, or any smaller, redesigned project have not been included in the table. This is because multiple construction scenarios, involving differing combinations of diversions, storage locations, and funding mechanisms have been proposed and are still being promoted by water users. However, none of these alternatives are actively moving through the decision making channels at the organizations which could fund such work, such as the Colorado Water Conservation Board, or U.S. Bureau of Reclamation. When alternatives and funding become clarified and look likely to implemented, it would be appropriate to include future depletions in the following table.

To construct the following table, information from water users about their future demands

was converted into monthly depletions, in terms of acre feet, in the months that the depletions are most likely to occur. In addition, other factors, such as time periods when junior water rights are likely to be able to divert, and water availability in the streams supplying the diversions, were used to calculate likely future depletions. In many cases, it is likely that junior water rights will only be able to divert during spring runoff when flows are in excess of amounts required by senior water rights. In addition, because the future timing of demand and actual stream flows is highly variable, many of the potential depletions were figured using average streamflows and average water demand figures. Some of the depletions could be significantly greater or less than the predicted amounts. Finally, the table makes no projections regarding when in the next 50 years such depletions will start to occur.

POTENTIAL FUTURE DEPLETIONS - SAN MIGUEL RIVER

Party/ Structure	Location of Diversions	River Reaches Affected	Ja	Fe	Ma	Ap	Ma	Jun	Jul	Au	Se	O	No	De	
MVMD and Telco - residential and snowmaking	In Town of Telluride (snowmaking) Turkey, Vance, Skunk, and Prospect Creeks (residential)	South Fork confluence to Dolores River	14	5	5	5	5	+5	+171	+23	+17	+14	27	86	68
SMVC - residential	Main stem, between Telluride and Society Turn	South Fork confluence to Dolores River				39		39							
Norwood - municipal	Near confluence with Clay Creek	Leopard Creek confluence to Dolores River	36	36	36	36	36	36	36	36	36	36	36	36	36
Eldred Family Limited Part- nership - Finch Reservoir - comm, ind, dom, irr.	upper Horsefly Creek	Horsefly Creek confluence to Dolores River				3681		3681							
Town of Nucla and Town of Naturita - domestic	Highline Canal headgate and points near confluence with Maverick Draw	Horsefly Creek to confluence with Dolores River	64	64	64	64	64	64	64	64	64	64	64	64	64
Town of Nucla and Town of Naturita - irrigation	Highline Canal headgate and points near confluence with Maverick Draw	Horsefly Creek to confluence with Dolores River						81	81	81	81	81			
Lilylands Reservoir - irrigation	upper reaches of Naturita Creek	Naturita Creek confluence to Dolores River				567		567							

The following table summarizes the depletions listed above by river reach. The figures in the table show cumulative depletions, moving in a downstream direction. For example, all estimated depletions that occur from the headwaters down to the mouth of the San Miguel River will be shown in the "Naturita Creek to Dolores River" reach. In the "South Fork confluence to Leopard Creek" reach, only depletions that occur upstream and within that reach are shown. The conclusion that can be drawn from the table is that the largest future depletions are likely to be related to the planned Finch Reservoir on Horsefly Creek, and that those depletions will most likely occur during the snow melt runoff months of April, May, and June. The reaches that will be affected by the Finch Reservoir depletions will be from the confluence with Horsefly Creek to the Dolores River. If any portions of the proposed San Miguel Project are ultimately engineered, financed, and constructed, depletions on the following table could change significantly.

The effect of the diversion on flows can be conceptualized by converting the number of acre feet of depletions in a month to a diversion rate that assumes that diversion are made continuously during the month at a constant rate. For example, the 167 acre feet of depletions in September for the Horsefly Creek to Naturita Creek reach would translate to approximately 5.5 acre feet of diversions per day, or 2.75 cubic feet per second. Similarly, the 3896 acre feet of estimated depletions in that reach for May would translate to approximately 130 acre feet per day in diversions, or approximately 65 cubic feet per second. However, if the volumes below are converted to diversion rates, the user must keep in mind that diversions typically fluctuate throughout any given month, because of water availability and water demand.

#### ESTIMATED FUTURE DEPLETIONS BY REACH - SAN MIGUEL RIVER

River Reaches	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
South Fork confluence to Leopard Creek	14	5		44	34	+132	+23	+23	+14	27	86	68
Leopard Creek confluence to Horsefly Creek	50	41		80	70	+96	13	13	22	63	122	104
Horsefly Creek confluence to Naturita Creek	114	105		3825	3896	3730	158	158	167	127	186	168
Naturita Creek confluence to Dolores River	114	105		4392	4463	4297	158	158	167	127	186	168

## Legal and Institutional Options for Protecting Instream Flows

### Local Planning and Cooperative Efforts

Water users sometimes have significant flexibility in the timing and location of water demands and water releases via their investment in water management facilities. In certain cases, this flexibility can be used to meet the demands of the water users while still providing stream flows that support water-dependent natural resource values. For example, if a water user entity is allowed to construct sufficient facilities to meet their needs, the water user may be able to make its diversions at times of the year when the stream environment would be the least sensitive to reductions in flow. Similarly, if water users are allowed to exchange their existing water rights to new diversion locations, the water user may be able to divert in a location that is less sensitive to reductions in flows.

Typically, these cooperative approaches involve long-term discussions and negotiations among the major water users and land/water managers within a watershed. For example, major water users, state agencies, and federal agencies in the upper Arkansas River watershed have agreed to implementation of an annual flow management program for the upper Arkansas River. Under the program, water users and managers have agreed, that whenever water demand and supply permit, they time water releases from municipal and federal reservoirs to support water-dependent values on the Arkansas River. In addition, water users in the basin have participated in a cooperative assessment of long-term water storage needs for the basin, and have identified jointly-implemented alternatives that will minimize impacts on water dependent values while providing the most economical and reliable supplies for the water users.

Supplied with information about flows needed to support natural resource values and proposed future water developments, local residents can use local land use planning processes to facilitate protection of water-dependent values. Almost every local land use decision, ranging from permits for specific projects to creating master development plans for entire areas, has some procedure designed to elicit public comment involvement. The amount of water usage, the long term additional water demand created, and new water infrastructure required are frequently among the factors that must be considered before local boards make final decisions that will result in increased water diversions and water usage. Information on these processes and opportunities for public involvement are available at the web sites for the San Miguel and Montrose County governments, and some of the municipalities within the watershed have websites.

In addition to regulations of traditional developments, county governments also have the power to review, approve, and disapprove, any major new water development projects within their jurisdictions, even if the project is being constructed for the benefit of parties outside of the county. For example, Eagle County has not approved some of the construction necessary to implement the final stages of the Homestake Project that is owned and managed by the cities of Colorado Springs and Aurora on the eastern slope.

There are also opportunities for public involvement in decisions made by the Colorado

Department of Health and Environment regarding water quality permitting. In addition to the traditional permits required for municipal discharges of water, state-level permits are also required for many other types of entities that use water, such as mining operations, sand and gravel operations, ready-mix concrete facilities, and ski areas. Hearings on these permits are often held in Denver, but public comment letters are typically accepted. Information on these processes can be found at the Colorado Department of Health and Environment website at [www.cdhpe.state.co.us](http://www.cdhpe.state.co.us).

### Colorado Water Conservation Board

In 1973, the Colorado legislature established an instream flow protection program. It removed the statutory requirement that water must be diverted to obtain a right to its use. It added a section to the definition of "beneficial use" as follows: "For the benefit and enjoyment of future generations, "beneficial use" shall also include the appropriation by the State of Colorado in the manner prescribed by law of such minimum flows between specific points or levels for an on natural stream and lakes as are required to preserve the natural environment to a reasonable degree."<sup>113</sup> The Colorado Water Conservation Board was authorized to hold such instream flow rights, with the Colorado Division of Wildlife and the Colorado Division of Parks and Outdoor Recreation designated to recommend appropriate levels of the flow to the CWCB.

In 1986, the law was amended to provide that the CWCB request "recommendations" from the United States Department of Agriculture and the United States Department of Interior concerning instream flows.<sup>114</sup> The bill also explicitly allowed the CWCB to acquire water rights for instream flows by "grant, purchase, bequest, devise, lease, exchange, or other contractual agreement" with any person or governmental entity. Finally, in 1987 the legislature enacted a provision affirming that the CWCB is the only person or entity authorized by State law to appropriate or acquire water for minimum stream flows.<sup>115</sup> This bill also provided that "any contract or agreement executed between the board and any person or governmental entity which provides water, water rights, or interests in water to the board shall be enforceable by either party . . . (in water court) according to the term of the contract or agreement." Thus, in Colorado, instream flows necessary to preserve the natural environment to a reasonable degree may either be appropriated by the CWCB or created by the transfer to CWCB of an existing water right.

The CWCB is comprised of representatives appointed by Colorado's governor (and confirmed by the Colorado State Senate) for three year terms. A member is selected to represent each of Colorado's major river basins, and a member is also appointed to represent the Denver metropolitan area. In addition, the board also includes members representing the Colorado Department of Natural Resources. A majority vote of the board is required to appropriate instream flows. Most of the appropriations made by the board have been based on the amount of water required to sustain cold water fisheries, with the assumption that such flows will also provide the amount of water necessary to support other resource-dependent values. However, the board has also begun to examine and use other types of data to justify instream flow appropriations, including flows needed to support warm water fisheries, and flows needed to support rare plant communities and aesthetic values.

Instream flow recommendations from state agencies, federal agencies, and the general public are accepted continuously, but the board acts on those recommendations according to an annual schedule and process that is established by official rules and regulations adopted by the board. <sup>116</sup>

If the board's staff receives sufficient information to justify an instream flow recommendation, the staff will forward an official "staff recommendation" to the board in January. If the board concurs with the recommendation, it can vote to appropriate the recommended flows at its January meeting. If a person or entity wishes to officially support or oppose the appropriation, they can request "party" status by the end of March. The board accepts public comments and additional information regarding the appropriations at its March and May meetings. If an opposing party wishes to submit additional information for consideration by the board, it must do so by July, and a schedule is set for a hearing. The board will hold the hearing in conjunction with its September meeting, and make a final decision. If the board ultimately decides to file a water rights application, or if the appropriation is unopposed, the board may vote in September to direct the CWCB staff to file the water rights applications by the close of the calendar year.

### **Federal Legal Authorities**

Federal legal authorities related to instream flows can address individual water management structures, larger water storage and delivery projects, or the management of the entire watershed.

Under federal law, federal land management agencies are required to impose terms and conditions to protect resources on federal lands when approving rights-of-way and easements for new water management structures and projects. The legal basis for these terms and conditions lies within the Organic Act of June 4, 1897 and the Federal Land Policy Management Act of October 21, 1976. These terms and conditions can range from restrictions on the location and design of water management structures to conditions on the timing, amount, and duration of diversions. The statutes that authorize these terms and conditions give the respective agencies substantial discretion in determining the nature and extent of terms and conditions that are appropriate. As noted in the previous section entitled "Ditch Bill Easements", there is still substantial discussion and debate over what terms and conditions, if any, federal agencies can impose on rights-of-way and easement for water management structures that were in existence before the passage of FLPMA.

If stakeholders within the San Miguel watershed decide that federal-level protective designation for lands in the San Miguel watershed would assist in the management of river flows, there are several different types of protective designations that the U.S. Congress could be requested to enact:



Type of Designation	Purpose	Types of Restrictions
National Conservation Area	Protect resources of special value within a multiple-use environment	Strict limitations on disposals of federal land and types of facilities that may be approved on federal lands
National Recreation Area	Protect recreation values and provide resources to intensively manage those values	Federal agencies may not approve projects that degrade recreational values.
Wild and/or Scenic Rivers	Preserve free-flowing river systems	No new impoundments, dams or related facilities permitted on federal land.

It is important to note that in creating any of the designations outlined in the chart, Congress has the legal flexibility to specifically create or deny a water right designed to support the values that Congress is seeking to protect. In the case of creating a wild and/or scenic river, the Bureau of Land Management would be first required to conduct a study to determine whether the river is "eligible" for wild and scenic designation. This means that the river must possess at least one natural resource value that holds nationwide significance.

The Bureau of Land Management has already established an "Area of Critical Environmental Concern" along the river corridor, from approximately the confluence with Fall Creek to the confluence with Horsefly Creek. The designation was established to protect the outstanding riparian values and rare plant communities along this reach of the river. The designation allows BLM to impose terms and conditions on any land use actions within the area to protect the biological values outlined in the designation.

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#### Endnotes

1. Wilma Crisp Bankston, *Where Eagles Winter: History and Legend of the Disappointment Country* (Mesa Verde Press, Inc. 1987).
2. Telephone Interview with Rick River, Idarado Mining Company (Mar. 14, 2000).
3. Nunn was a diverse entrepreneur who in 1888 purchased control of the San Miguel County Bank one year before it was robbed by Butch Cassidy and the Sundance Kid.
4. Westinghouse acquired the patent for alternating current generator technology from Nikola Tesla, an engineer from Croatia who, with his invention of alternating current generators and inductive motors, challenged the claims of his one-time employer Thomas Edison, that direct-current technology was safer and superior. Tesla's ideas won out in the development of Niagra

Falls, which uses alternating current despite opposition from Thomas Edison. The Denver Post, *A Current Runs Through It: Western Slope Power Plant Electrified Industry* (Oct. 18, 1999), at E-01.

5. The Denver Post, *A Current Runs Through It: Western Slope Power Plant Electrified Industry* (Oct. 18, 1999), at E-01.

6. Interview with Johnnie Stevens, Vice-President, San Miguel Valley Corporation (Feb. 23, 2000) ("Stevens Interview").

7. Information provided by Raymond Hughes, Street and Utilities Superintendent, Town of Telluride (Mar. 20, 2000).

8. Telephone Interview with Terri Fernald, Telluride Ski Company (Mar. 20, 2000).

9. U.S. Dept. Of the Interior, Bureau of Reclamation, Planning Report on the San Miguel Project, Colorado, Appendix D, Agricultural Economy Social Assessment (May 1982), at page 3.

10. The history of the Norwood area is taken primarily from Howard E. Greager, *In the Company of Cowboys* (1990).

11. Howard E. Greager, *In the Company of Cowboys* (1990), at p. 130.

12. Howard E. Greager, *In the Company of Cowboys* (1990), at pp. 123-133. Water rights information also provided by Farmers Water Development Company (Interview Feb. 23, 2000) and Lyman Campbell, Water Commissioner, Water District 60 (Telephone interview Mar. 16, 2000).

13. Certificate of Incorporation, Lone Cone Ditch Company. Interestingly, the company signed this document in 1889 but it was not signed by the Colorado Secretary of State's office until 1904.

14. Sources include Water District 60 Tabulation, Division of Water Resources, Dept. of Natural Resources, State of Colorado (Feb. 2000); Lone Cone Ditch & Reservoir Company, "Information Concerning the Lone Cone Ditch and Lone Cone Reservoir Water Rights," provided by Phyllis Snyder (Feb. 24, 2000).

15. Most of the information in this section is taken from: Raw Water Supply System Report Update, Prepared for Norwood Water Commission, December 2000, by WestWater Engineering, Grand Junction, Colorado.

16. Howard E. Greager, *In the Company of Cowboys* (1990).

17. Much of the history of the C.C. canal is from Ellen Z. Peterson, *The Spell of the Tabaguache* (Rimrocker Historical Society 1957).

18. Ellen Z. Peterson, *The Spell of the Tabaguache* (Rimrocker Historical Society 1957), at pages 50-51.
19. Ellen Z. Peterson, *The Spell of the Tabeguache* (Rimrocker Historical Society 1957), at page 44.
20. Ellen Z. Peterson, *The Spell of the Tabeguache* (Rimrocker Historical Society 1957), at page 54-58.
21. Telephone Interview with Mary Helen DeKoevend, Mayor, Town of Nucla (Mar. 21, 2000).
22. Telephone Interview with Helen Walinski, Rimrocker Historical Society (September 11, 2000).
23. See Revised (Draft) Decree, Case No. 96CW313, Jan. 18, 2000, at pages 3-6.
24. Staff memo from Dan Merriman, Colorado Water Conservation Board staff to CWCB Board members, dated January 2, 1998.
25. Water Management Agreement between The Telluride Company and the Mountain Village Metropolitan District (Dec. 24, 1998).
26. Joint use is carried out pursuant to the Water Management Agreement between Telco and MVMD dated December 24, 1998. This Agreement sets out terms for each parties use of their combined water rights, including a priority of uses in times of shortage.
27. Interview with Kathy Mahoney, Manager, Mountain Village Metropolitan District (Feb. 23, 2000). Skyfield receives only a domestic water supply (no irrigation water) and leases some storage space to the District.
28. Interview with Kathy Mahoney, Manager, Mountain Village Metropolitan District (Feb. 23, 2000) ("Mahoney Interview").
29. Findings of Fact, Conclusions of Law, Judgement and Decree, *In the Matter of the Application for Water Rights of the Telluride Company and the Mountain Village Metropolitan District in San Miguel County*, Case No. 90CW112, District Court, Water Division 4, State of Colorado (Aug. 7, 1996). This decree modifies an earlier decree, Case No. 80CW405, Water Division 4.
30. The Colorado Water Conservation Board has a 6.5 cfs instream flow water right on the mainstem in the upper basin, discussed elsewhere in this report.
31. Mahoney Interview.
32. They do have one pending water rights application for a junior diversion from Skunk Creek. In addition, Telco has some small surface diversion water rights currently used for snowmaking operations in the fall and golf course irrigation in spring and summer. Mahoney Interview.

- 33.The MVMD apparently holds a first right of refusal on this storage space. Mahoney Interview.
- 34.This arrangement may be interesting to SMVC because it may allow MVMD to forgo use of its Mill Creek water rights, and the SMVC also has rights on Mill Creek. Mahoney Interview.
- 35.Telephone Interview with Terri Fernald, Telluride Ski Company (Mar. 20, 2000).
- 36.Schildt-Campbell Interview II.
- 37.Farmers Interview. Merely enlarging the outlet would not solve this problem, as it was described by the Board members. The distribution system could not handle more than 200 cfs at one time.
- 38.Interview with the Board of Directors and Officers, The Farmers Water Development Company (Feb. 23, 2000).
- 39.By-Laws of The Farmers Water Development Company, as amended (current Feb. 2000), as updated and amended. [verify with Carol Enstron that this description is accurate]
- 40.By-Laws of The Farmers Water Development Company, as amended (current Feb. 2000).
- 41.By-Laws of the Lone Cone Ditch & Reservoir Company, Article II, Section 1, as amended (current Feb. 2000) ("Lone Cone By-Laws").
42. Lone Cone By-Laws, at Amendment #1.
- 43.Interview with Raymond Synder, Member, Board of Directors, Lone Cone Ditch & Reservoir Company (February 23, 2000).
44. Raw Water Supply System Report Update, Prepared for Norwood Water Commission, December 2000, by WestWater Engineering, Grand Junction, Colorado.
- 45.Lippert Interview. This problem has been described as similar to one experienced in the Vallecito Reservoir Project near Durango, Colorado, which is presented in U.S.G.S. Report 99-4092 (1996-97). On water quality issues in the Beaver Creek Drainage, see U.S.Forest Service report (Delta Office) by John Almy dated Feb. 15, 2000.
- 46.Raw Water Supply System Report Update, Prepared for Norwood Water Commission, December 2000, by WestWater Engineering, Grand Junction, Colorado.
- 47.Raw Water Supply System Report Update, Prepared for Norwood Water Commission, December 2000, by WestWater Engineering, Grand Junction, Colorado.
- 48.[cite to designation --fed reg?] Is this also part of a Special Recreation Management Area?
- 49.Telephone Interview with Doug Garner, Colorado Cooperative Canal (Mar. 20, 2000).

50. Telephone Interview with Doug Garner, Colorado Cooperative Canal (Mar. 20, 2000).
51. Interview with Wayne Schieldt and Lyman Campbell, Water Division 4, Division of Water Resources, Colorado Dept. of Natural Resources (Feb. 22, 2000) (Schieldt-Campbell Interview I).
52. Interview with Board members Doug Garner, Zene Weimer, Lowell Watson, Colorado Cooperative Ditch Company (Feb. 24, 2000).
53. By-Laws, The Colorado Cooperative Ditch Company (undated). This copy of by-laws may not be current. T. Rice unsuccessfully requested a current copy. It is T. Rice's understanding that there have been recent changes to the by-laws that may affect how water is managed within the system and/or the rights of shareholders to make changes to their water use.
54. DeKeovend Interview.
55. Hall Interview and U.S. Dept. Of the Interior, Bureau of Reclamation, Planning Report on the San Miguel Project, Colorado, Appendix A, Plan Formulation and Designs and Estimates, Financial and Economic Analysis (May 1982), at page 11.
56. Towns of Naturita and Nucla Water System Study, September 2000, Buckhorn Geotech, Montrose, CO.
57. Schieldt-Campbell Interview II.
58. Schieldt-Campbell Interview I. By early August, the Highline water users are generally on their second hay crop and do not need as much water, which is why they often do not call until their flow is down to 80 or 90 cfs.
59. Schieldt-Campbell Interview I and II.
60. Telephone Interview with Wayne Schieldt and Lyman Campbell, Water Division 4, Division of Water Resources, Colorado Dept. of Natural Resources (Mar. 16, 2000) (Schieldt-Campbell Interview II).
61. This right has at times placed a call on the system. Telephone interview with Ken Knox, Assistant State Engineer (Mar. 10, 2000). Blessing's owners at some time moved their point of diversion downstream to the present location. Schieldt-Campbell Interview II.
62. Call Records, Water District 60, provided by Division 4, Colorado Division of Water Resources (Feb. 22, 2000). This right has a priority of 1911.
63. Call Records, Water District 60, provided by Division 4, Colorado Division of Water Resources (Feb. 22, 2000). A 1911 priority was invoked to place the call.
64. (Roy: I would ask Division 4 to review this summary and would create chart from the call records, located in the "Division of Water Resources" file. Since my visit on 2-22, someone may

have located the 1997 call records. Lyman was fairly sure there was a call that year, but the call record they had for WD 60 had erroneous information so was not much help.)

65.Schieldt-Campbell Interview II.

66. The resulting consumptive use credit, minus a small conveyance to a subdivision, is about 370 acre feet that can be used as augmentation water. Findings of Fact, Conclusions of Law, Judgement and Decree, *In the Matter of the Application for Water Rights of the Telluride Company and the Mountain Village Metropolitan District in San Miguel County*, Case No. 90CW112, District Court, Water Division 4, State of Colorado (Aug. 7, 1996). This decree modifies an earlier decree, Case No. 80CW405, Water Division 4.

67.San Miguel Valley Corporation, Augmentation Plan Report (Nov. 11, 1999), at pp.2-3. The water rights applications are Case Nos. 91CW127, and 98CW239, Water Division 4.

68.The latter two compacts, codified at Colo. Rev. Stat. §§ 37-63-101 and 37-64-101, are not discussed in detail in this report because they do not affect the San Miguel River basin.

69.Colo. Rev. Stat. §§ 37-61-101 to -104.

70.New Mexico was included within the upper basin states because its Colorado River Water originates in the San Juan River Basin in Colorado.

71. Colo. Rev. Stat. §§ 37-61-101, Article III.

72. Colo. Rev. Stat. §§ 37-62-101 to -106. This compact was ratified by Congress the following year, ch. 48, 63 Stat. 31, 33 (1949)

73. Colo. Rev. Stat. §§ 37-62-101, Article III.

74. 1995 CWCB Water Development Report, at page 11.

75.The Compact does address the interstate allocation of certain rivers including the Yampa (Colorado and Wyoming), the San Juan (Colorado and New Mexico) the Henry's Fork of the Green River (Utah and Wyoming), and the Little Snake River (Colorado and Wyoming). Colo. Rev. Stat. § 37-62-101, Articles XI through XIV.

76.70 Stat. 105, codified at 43 U.S.C. § 620.

77.The four major projects authorized were the Flaming Gorge Reservoir on the Green River, the Navajo Reservoir on the San Juan, the Curecanti Unit on the Gunnison River and the Glen Canyon Dam in Utah.

78.Public Law 90-537.

79.(need to verify date and cite for original Colorado authorization for loan)

80. See Memorandum from Bill Green, Colorado Water Conservation Board to The San Miguel File regarding "San Miguel Implementation Schedule (June 3, 1994).

81. (can we cite to this proposed legislation? Is it necessary?)

82. Telephone interview with Bill Green, CWCB (Jan. 31, 2000) (Green Interview I).

83. [cite to Colorado legislative act -- Bill Green may know]

84. Green Interview I.

85. Telephone Interview with Sam Maynes and Janet Scheftel (Mar. 20, 2000). In early 1999 the District had planned to enter a contract with Chuck Lile, who was retiring from the Colorado Water Conservation Board, to carry out this work. However, Chuck suddenly passed away in February 1999 and the effort was put on hold.

86. The town recently reviewed a project description that place the cost of domestic water at \$300 per acre foot for an estimated annual cost to the Town of \$300,000. This is more than the Town can afford to pay. Lippert Interview.

87. Colorado Cooperative Canal Interview; Hall Interview; DeKoevend Interview.

88. Colo. Rev. Stat. § 37-92-301 (4) (a).

89. This law was confirmed by the Colorado Supreme Court in *Matter of Board of County Commissioners*, 891 P.2d 1136 (Colo. 1995).

90. (confirm with Lyman--could not locate in tabulation)

91. The mainstem rights include Basin Canal and Laterals (120 cfs), Box Canyon Pipeline (40 cfs), and Norwood Canal Lateral (380 cfs). The Dry Creek conditional right is called Paradox Diversion Dam Canal. The priority date for all except Box Canyon is 1950. For Box Canyon, it is 1965.

92. Radium Reservoir was originally planned as a component of the Paradox Valley Unit of the Colorado River Basin Salinity Control Project. See Paradox Valley FEIS.

93. Interview with Wayne Schieldt, Division Engineer, Water Division 4, Colorado Division Of Water Resources (Feb. 22, 2000). Wayne thinks this could happen with any of the conditional water rights associated with the San Miguel Project. When there is a possibility of losing water rights, filing for a change is one possible way to avoid such a loss. The Upper Gunnison Water Conservancy District is right now in the process of a change application to transfer its conditional water rights.

94. Telephone Interview with Eric Trommer, Carston Ranches (Mar. 20, 2000).

95. Schieldt-Campbell Interview I and II.

- 96.Schiedlt-Campbell Interview I. (May want to contact owner -- Public Service Co? and confirm this).
- 97.Water District 60 Tabulation, Division of Water Resources, Dept. of Natural Resources, State of Colorado (Feb. 2000). This right was adjudicated in Case No. 898 in 1897 and the use code in the tabulation indicates it is decreed for power and geothermal purposes.
- 98.Findings of Fact, Conclusions of Law, Judgement and Decree, *In the Matter of the Application for Water Rights of the Telluride Company and the Mountain Village Metropolitan District in San Miguel County*, Case No. 90CW112, District Court, Water Division 4, State of Colorado (Aug. 7, 1996) ("MVMD and Telco Decree").
- 99.Interview with Peggy Curran, Town of Telluride (Feb. 24, 2000). A pending issues with the old Idarado water rights is a provision in the settlement agreement that allows Idarado to "call back" their water rights if needed for restoration or reclamation purposes for a period of 20 years. The Town is working on a solution to this problem with Idarado Mining Company.
100. Case No. 96CW313, Water Court, Division IV.
- 101.SMVC also owns about 200 acres below Society Turn which is not included in its current development plans, and 120 acres of riparian land on the South Fork of the San Miguel River, with no associated water rights in the South Fork. Interview with Johnnie Stevens, Vice-President, San Miguel Valley Corporation (Feb. 23, 2000) ("Stevens Interview").
- 102.San Miguel Valley Corporation, Augmentation Plan Report (Nov. 11, 1999), at pp.4-5; Stevens Interview.
- 103.San Miguel Valley Corporation, Augmentation Plan Report (Nov. 11, 1999), at pp.2-3. The water rights applications are Case Nos. 91CW127, and 98CW239, Water Division 4.
- 104.Interview with Greg Hall, Mayor, Town of Naturita (Feb. 25, 2000).
105. Hall Interview and DeKeovend Interview.
- 106.The Towns of Nucla and Naturita have been informally told by water managers in the basin that there may be at least 12 cfs that could be transferred upstream.
- 107.43 U.S.C. §§ 1701-84.
- 108.Public Law 99-545, enacted October 27, 1986.
- 109.The Forest Service has developed a standardized easement called "Agricultural Irrigation and Livestock Watering System Easement," and identified as Form FS-2700-9a.
- 110.FLPMPA generally requires that all permits or rights of way issued under the Act be limited to a reasonable term. 43 U.S.C. § 1764 (b). Forest Service regulations require that any terms exceeding 30 years be subject to periodic review and revision. 36 C.F.R. § 251.56(b)(1).



111. The agency has asked the Office of General Counsel for a legal opinion on these and other issues relating to the issuance of Ditch Bill Easements. Telephone interview with Linda Cerise, Grand Mesa, Uncompaghre and Gunnison National Forests (March 4, 2000),

112. [cite SUP authorization and regulations]

113. Colo. Rev. Stat. Section 37-92-103 (4) (1973)

114. Colo. Rev. Stat. Section 37-92-102(3) (Supp. 1988)

115. Colo. Rev. Stat. Section 37-92-102(3) (Supp. 1988)

116. See the Colorado Water Conservation Board website at [www.cwcb.state.co.us](http://www.cwcb.state.co.us)