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THE LA PLATA RIVER COMPACT: ADMINISTRATION OF AN EPHEMERAL RIVER IN THE ARID SOUTHWEST

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I. HISTORY

The Rio de la Plata, now known as the La Plata River, is borne in the imposing La Plata Mountains of Colorado and descends quickly into the arid deserts of southwestern Colorado and northern New Mexico. The first known inhabitants of this mountainous region were the mobile hunter-gatherers in the Archaic Period (5500 B.C. to A.D. 1) who made frequent travels from the protected river valley into the mesa and alpine areas in pursuit of game animals.¹

The Anasazi, or "Ancient Ones," followed the Archaic people and are the most well known prehistoric inhabitants of the region. A predominantly farming culture, the Anasazi lived in the region until A.D. 1300.² Although archeological evidence indicates they

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1. THE WESTERN SAN JUAN MOUNTAINS: THEIR GEOLOGY, ECOLOGY, AND HUMAN HISTORY 194 (Rob Blair et al. eds., 1996) [hereinafter Blair].

2. *Id.* at 201-03.

established their early communities on top of the local mesas, the Anasazi are most notably associated with the exquisite masonry dwellings constructed in cliff alcoves throughout the region, including present-day Mesa Verde National Park.

Subsequent native inhabitants of the region were the nomadic Ute Tribes. The Utes organized their society in loosely defined groups that coalesced into social units comprised of ten to forty extended family members.³ Their range of travel extended from the protected canyon valleys during the inclement winter months to the high country during the summer, where they sought new hunting opportunities and cooler temperatures.⁴

Upon introduction of the horse with the arrival of the Spanish in New Mexico, the Utes began to exchange food and animal skins for these marvelous new animals. Soon they were able to amass their own large herds of horses. This allowed the once pedestrian Utes to greatly expand their mobility and allowed their hunting parties to search a much larger area for game animals. The horse helped to transform this once family dominated culture into large bands that were able to hunt buffalo on the Great Plains and trade with other cultures.⁵

Trade with the Spanish began sometime in the early eighteenth century. The earliest forms of commerce were not recorded since the Spanish traders entering southwest Colorado were legally barred from trading with the natives. In 1712, the Spanish governor reiterated the royal order that outlawed trade among the New Mexican Spanish and the native people.⁶ Juan Maria de Rivera led the first documented Spanish trade expedition into southwestern Colorado in 1765.⁷ The account of this trading expedition lacks detail, but evidence suggests that Rivera and his forces followed the La Plata River valley and the Dolores River toward its confluence with the San Miguel River near the present locale of Naturita, Colorado. They traveled northeast and crossed the Uncompahgre Plateau before descending into the lower Gunnison River valley west of the present day town of Delta, Colorado. The return trip retraced the route back to its origin.⁸

One of the earliest explorations sponsored by the United States government into the new western frontier was the 1859 Macomb expedition.⁹ One of its members, geologist J. S. Newberry, became so enamored with the La Plata valley that he devoted an entire page to it in his diary:

3. *Id.* at 225-33.

4. *Id.* Since the Utes were nomadic, they established many trails throughout the La Plata River Basin and the southwest that have been replaced with modern highways. *See id.* at 226.

5. *Id.*

6. Blair, *supra* note 1, at 216.

7. *Id.*

8. *Id.* at 216-17.

9. C. GREGORY CRAMPTON & STEVEN K. MADSEN, IN SEARCH OF THE SPANISH TRAIL: SANTA FE TO LOS ANGELES, 1829-1848, at 29-31 (1994) [hereinafter CRAMPTON].

...[t]he Rio de la Plata is a beautifully clear, cold, mountain-brook ... well-stocked with trout. The valley in which it flows, as it issues from the mountains, is exceedingly beautiful, and our camp, one of the most delightful imaginable. Our tents are pitched in the shade of a cluster of gigantic pines, such as are scattered, here and there, singly or in groups, over the surface of the valley, separated by meadows thickly coated with the finest gramma grass. Stretching off southward, a wall of verdure, tinted with the fresh and vivid green of cottonwoods and willows, marks, while it conceals, the course of the sparkling stream whose murmuring flow comes softly to the ear. On either side of the valley rise picturesque wooded hills, which bound the view both east and west; between these on the south an open vista reveals, far in the distance, the blue chains of the Sierra del Carrizo and Tunecha [Carrizo and Chuska mountains]. On the north the bold and lofty summits of the Sierra de la Plata look down upon us in this pure atmosphere with an apparent proximity almost startling.¹⁰

The headwaters of the La Plata River rise 13,000 feet above sea level at Cumberland Peak in the La Plata Mountains about fourteen miles northwest of Durango, Colorado. The river meanders approximately thirty-seven miles in a generally southern direction until reaching the Colorado-New Mexico state line at an elevation of 6,000 feet. The La Plata River drainage basin encompasses 331 square miles in Colorado.¹¹ From January 1920 to present, the average annual yield at the state line streamflow gaging station has been 25,970 acre-feet.¹² Within Colorado, the natural streamflows from the La Plata River, its major tributary Cherry Creek, and lesser tributary streams, provide the principle source of water to irrigate approximately 11,000 acres of land.¹³ Red Mesa Reservoir, the only irrigation reservoir within the watershed, is an on-channel irrigation storage vessel located on the Hay Gulch tributary to the La Plata River. The reservoir has an active storage capacity of 1,100 acre-feet and provides supplemental water to irrigate croplands on Red Mesa when the natural streamflow from snowmelt recedes.¹⁴ South of the Colorado-New Mexico state line, the La Plata River continues for another twenty-one miles before joining the San Juan River near Farmington, New Mexico. In 2000, the New Mexico Interstate Stream Commission estimated that this lower reach of the river provides enough water to irrigate 2,700 acres of land in the state.¹⁵

10. *Id.* at 29-30; J.S. NEWBERRY, REPORT OF THE EXPLORING EXPEDITION FROM SANTA FE, NEW MEXICO, TO THE JUNCTION OF THE GRAND AND GREEN RIVERS OF THE GREAT COLORADO OF THE WEST 81 (1876).

11. 2 U.S. GEOLOGICAL SURVEY, WATER RESOURCES DATA: COLORADO: WATER YEAR 2000, at 401 (2000) [hereinafter USGS].

12. *Id.* An acre-foot of water is equal to the volume of water covering one acre, or 43,560 square feet, to a depth of one foot.

13. KEN BEEGLES, COLORADO DIVISION OF WATER RESOURCES: WATER DIV. VII ANNUAL REPORT 61 (1999-2000).

14. COLORADO DIVISION OF WATER RESOURCES, DAM STRUCTURE AND SAFETY FILE FOR RED MESA RESERVOIR (2001) (on file with author).

15. E-mail from Patricia Turney, Staff, Interstate Stream Commission of New Mexico, to the author (Sept. 17, 2001) (on file with author).

II. GENESIS OF THE LA PLATA RIVER COMPACT

Construction of irrigation ditches commenced almost simultaneously in Colorado and New Mexico. The first recognized ditch construction began in 1879 in New Mexico and continued at a vigorous pace to serve all land then under cultivation.¹⁶ Nascent water irrigation in Colorado along the La Plata River coincided with the United States Army's establishment of an Indian agency at Fort Lewis in 1880, near present day Durango, Colorado.¹⁷ Development of irrigated farmlands in Colorado was delayed until 1896 when a portion of the unallocated land in the eastern part of the Ute reservation (now known as the Southern Ute Reservation) became available to white settlers.¹⁸ By the turn of the century, Colorado had 19,000 acres of irrigated land.¹⁹ Unfortunately, the limited streamflow did not provide an adequate water supply to all irrigable lands.

The land area in the La Plata River watershed predominantly consists of table mesas at approximately 7,000 feet in elevation that provide minimal runoff or tributary flows supplementing limited spring runoff from high altitude snowmelt. The La Plata River typically will enjoy its peak runoff in late April to early May.²⁰ However, the descending limb of the hydrograph, or the rate of flow after the peak, diminishes drastically. A review of the streamflow records indicates the mean daily flows in the La Plata River often decline approximately 85 to 90 percent within thirty days from their high flows of spring runoff.²¹ Further, during periods of moderate to severe drought, it is not uncommon for the streambed to become completely dry for miles in the lower reaches of the river for extended periods after the first week in July.

During periods of drought in the early twentieth century, upstream Colorado water users diverted all available supplies. This practice effectively deprived downstream New Mexico ditches of any water during the late irrigation season, except for marginal return flows from irrigated lands in Colorado and the occasional streamflow from prolonged rainfall or flash floods. The water supply in the La Plata River became so distressingly low in 1902 and 1903 that New Mexico water users brought the severity of the situation to the attention of the newly authorized United States Reclamation Service.²²

The Reclamation Service subsequently dispatched engineers in

16. RALPH I. MEEKER, PERTINENT INFORMATION ON THE BACKGROUND AND NEGOTIATION OF THE LA PLATA RIVER COMPACT: COLORADO AND NEW MEXICO 2 (1954). Report prepared by Ralph I. Meeker, an irrigation engineer employed by the state of Colorado to conduct an investigation and survey of the ditches and irrigated lands in both New Mexico and Colorado during the 1919 irrigation season.

17. CRAMPTON, *supra* note 9, at 29.

18. Blair, *supra* note 1, at 230.

19. MEEKER, *supra* note 16.

20. USGS, *supra* note 11.

21. *See id.*

22. MEEKER, *supra* note 16, at 3.

1904 to survey the area and make recommendations for improvement.²³ Recognizing that the Animas River, located just to the east of the La Plata River, had ample supplies, the supervising engineer, M. C. Hinderlider, surveyed a 40,000 acre project area in New Mexico that the Animas River could supplement.²⁴ The proposed transbasin water was to be carried through a thirty-two mile canal that would divert water from the Animas River near Durango, Colorado, and then through a three mile tunnel that would penetrate the Animas-La Plata divide for subsequent delivery to the La Plata River.²⁵ The estimated project cost was \$3,000,000 or \$61 per acre reclaimed. Since this was not cost effective, the Reclamation Service abandoned the project.²⁶

Periodic drought conditions continued to plague the La Plata River watershed. For example, during the week of October 13, 1917, the mean daily flow at the upper streamflow river gaging station at Hesperus, Colorado was only 1.9 cubic feet per second, the lowest seven day minimum daily flow in the record.²⁷ The drought extended into the following spring and summer of 1918. The total recorded flow of the La Plata River was 19,000 acre-feet at the Hesperus streamflow gaging station and only 6,800 acre-feet at the gaging station near the state line, with many reaches of the river dry during the late summer months.²⁸

Because of the drought and because upstream water users were fully appropriating the marginal water supplies of this ephemeral river, the state of New Mexico took action to protect its users. In March of 1919, New Mexico officials notified the Attorney General of Colorado of its intent to seek relief in the United States Supreme Court over the La Plata River.²⁹ This action provided the impetus for Colorado to employ Mr. Ralph I. Meeker to identify, quantify, and map the ditches and irrigated lands in Colorado during the 1919 irrigation season.³⁰ In a similar fashion, the State of New Mexico retained Mr. George McNeil to perform the same services for the La Plata River in New Mexico.³¹ Both Colorado and New Mexico continued engineering and hydrologic analyses for the next three years. To represent Colorado's interests, Governor Oliver H. Shoup appointed Mr. Delph E. Carpenter as commissioner for negotiating a potential interstate river compact, with technical assistance provided by Mr. Meeker.³² In a

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.*

27. See USGS, *supra* note 11, at 400.

28. MEEKER, *supra* note 16, at 3.

29. *Id.*

30. *Id.* at 4.

31. *Id.*

32. DELPH E. CARPENTER, REPORT OF DELPH E. CARPENTER, COMMISSIONER OF THE STATE OF COLORADO IN RE LA PLATA RIVER COMPACT (1922). Mr. Carpenter was appointed La Plata River Compact Commissioner by Governor Shoup under authority

similar fashion, Mr. Stephen B. Davis represented New Mexico as commissioner and Mr. Charles A. May provided technical expertise.³³

Along with site-specific and technical efforts taking place in the La Plata River Basin, it is important to recognize two United States Supreme Court decisions that provided legal guidance to the negotiating parties. The first case, *Kansas v. Colorado*,³⁴ involved a controversy over the Arkansas River that retained two striking similarities to the ongoing issues in the La Plata River basin. First, neither the La Plata River nor the Arkansas River provides sufficient streamflows to satisfy the consumptive water use demands in either state. Second, Colorado water users asserted the right to use all available Arkansas River waters without any delivery obligation to Kansas as the downstream state.³⁵ The Court's decision, articulated by Justice Brewer, centered upon the cardinal rule of equality among states, which he applied to the allocation of interstate waters.³⁶ The Court recognized the amount of beneficial use in each state and provided the means to protect those existing uses and inherent values through the principle of equitable apportionment.³⁷ Essentially, the Court's enunciation of the principle of equitable apportionment provided cogent direction that unregulated diversions and use of water in an upstream state cannot occur to the detriment of the interests of downstream states.³⁸

Additional guidance in the construction of an interstate river allocation system for the La Plata River came from the 1922 United States Supreme Court decision in *Wyoming v. Colorado*.³⁹ Again, Colorado asserted it was entitled to full use of the Laramie River,⁴⁰ which originates in the mountains of northern Colorado and flows approximately twenty-seven miles before entering Wyoming. At the time of the proceeding, both states administered their water rights within their respective boundaries in accord with the doctrine of prior appropriation, or the priority system.⁴¹ The central issue before the Court was how to equitably apportion these interstate waters—should the Court apply the doctrine of prior appropriation, or some other mechanism that would provide the requisite equity?⁴² In its decision,

of Chapter 244, Session Laws of 1921. 1921 Colo. Sess. Laws 803. Mr. Carpenter also served as lead negotiator and Compact Commissioner for the Colorado River Compact, 1923 Colo. Sess. Laws 684, COLO. REV. STAT. § 37-61-101 (2001), and the South Platte River Compact, COLO. REV. STAT. § 37-65-101 (2001), 44 Stat. 195.

33. MEEKER, *supra* note 16, at 2.

34. *Kansas v. Colorado*, 206 U.S. 46 (1907).

35. *Id.* at 98. The state of Colorado argued, in part, it had a right to fully appropriate the available water supplies and develop irrigable lands for increasing the value of lands and its inherent prosperity within its boundaries. *Id.*

36. *Id.* at 113-14.

37. *Id.* at 118.

38. *Id.* at 117-18.

39. *Wyoming v. Colorado*, 259 U.S. 419 (1922).

40. *Id.* at 466.

41. *Id.* at 465.

42. *Id.* at 467.

the Court reaffirmed the doctrine of prior appropriation, holding that the priority of an appropriation provides the superiority of one water right over another.⁴³ Further, the Court found the doctrine's allocation of water no less applicable to interstate streams and controversies than to others.⁴⁴ In a concluding statement, Justice Van Devanter, who delivered the opinion of the Court, stated in reference to the doctrine and central issue that "its application to such a controversy as is here presented cannot be other than eminently just and equitable to all concerned."⁴⁵ F

For those parties contemplating the creation of an interstate compact in the La Plata River basin in 1922, the Court had just provided two guiding legal principles. First, the allocation system of water between Colorado and New Mexico should equitably satisfy the demands of water users in both states based upon existing needs at that time. Second, the priority of water rights across state boundaries must be taken into consideration.

It was within this context of legal, physical, and hydrologic parameters that the appointed state representatives negotiated the terms and conditions of an interstate compact at Bishop's Lodge near Santa Fe, New Mexico.⁴⁶ The success of their efforts culminated in the acceptance and signature of the La Plata River Compact on November 27, 1922.⁴⁷ The drafters' goals were to provide a tangible and effective mechanism that would remove all present and future controversies in the La Plata River basin, to equitably distribute water, and to promote interstate comity between Colorado and New Mexico.⁴⁸

Although the essence of these three noble precepts is embodied within the context of several other interstate river compacts, the proximity and relationship among its water users is rather unique to the La Plata River basin.⁴⁹ Irrigated land ownership is not based upon location north or south of the Colorado-New Mexico state line, and many water users rely upon ditches in both states to serve their individual farms and ranches. For example, the Pioneer and Enterprise Ditches are interstate water conveyance structures that divert water from the La Plata River in Colorado but serve approximately equal areas in both states.⁵⁰ Therefore, in addition to the other physical, hydrologic, and legal parameters that warranted

43. *Id.* at 496.

44. *Wyoming v. Colorado*, 259 U.S. 419, 424 (1922).

45. *Id.* at 470.

46. U.S. CONST. art. I, § 10, cl. 3. The most definitive treatise on the Compact Clause is Felix Frankfurter & James M. Landis, *The Compact Clause of the Constitution—A Study in Interstate Adjustments*, 34 YALE L.J. 685 (1925).

47. La Plata River Compact, COLO. REV. STAT. § 37-63-101 (2001), 43 Stat. 796.

48. *Id.*

49. See Colorado River Compact, 1923 Colo. Sess. Laws 684, COLO. REV. STAT. § 37-61-101 (2001); South Platte River Compact, COLO. REV. STAT. § 37-65-101 (2001), 44 Stat. 195; Rio Grande River Compact, COLO. REV. STAT. § 37-66-101 (2001), 53 Stat. 785; Republican River Compact, COLO. REV. STAT. § 37-67-101 (2001), 57 Stat. 86.

50. See La Plata River Compact, COLO. REV. STAT. art. I, § 37-63-101 (2001), 43 Stat. 796, 796.

attention during their deliberations, the La Plata River Compact negotiators needed to consider the integrated use of ditches to serve lands on both sides of the border and represent water users with dual state interests.

III. WATER ALLOCATION SYSTEM

The water allocation system for the La Plata River Compact is based upon an index supply measured at two permanent streamflow gaging stations, one at Hesperus, Colorado, and the other thirty-one miles downstream at the state line, known as the Interstate Station.⁵¹ Both stations are equipped with streamflow recorders that provide a continuous record of the gage height of the river, which is used to calculate the La Plata River streamflows at all times.⁵² Article II of the Compact, which equitably apportions the La Plata River between Colorado and New Mexico, states:

1. At all times between the first day of December and the fifteenth day of the succeeding February, each State shall have the unrestricted right to use of all water which may flow within its boundaries.

2. By reason of the usual annual rise and fall, the flow of said river between the fifteenth day of February and the first day of December of each year, shall be apportioned between the States in the following manner:

(a) Each State shall have the unrestricted right to use all the waters within its boundaries on each day when the mean daily flow at the Interstate Station is one hundred cubic feet per second, or more.

(b) On all other days the State of Colorado shall deliver at the Interstate Station a quantity of water equivalent to one-half of the mean flow at the Hesperus Station for the preceding day, but not to exceed one hundred cubic feet per second.

3. Whenever the flow of the river is so low that in the judgment of the State Engineers of the States, the greatest beneficial use of its waters may be secured by distributing all of its waters successively to the land in each State in alternating periods, in lieu of delivery of water as provided in the second paragraph of this article the use of the waters may be so rotated between the two States in such manner for such periods, and to continue for such time as the State Engineers may jointly determine.

4. The State of New Mexico shall not at any time be entitled to receive nor shall the State of Colorado be required to deliver any water not then necessary for beneficial use in the State of New Mexico.

5. A substantial delivery of water under the terms of this Article shall be deemed a compliance with its provisions and minor and compensating irregularities in flow or delivery shall be disregarded.⁵³

51. *Id.*

52. *Id.*

53. La Plata River Compact, COLO. REV. STAT. art. II, § 37-63-101 (2001), 43 Stat. at 797.

IV. COMPACT ADMINISTRATION ISSUES

A. COMPETITION WITH THE NATURAL ENVIRONMENT

Since the inception of the La Plata River Compact in 1922, many of the issues and concerns that served as the impetus to create a defined interstate water allocation system have continued to plague the river system. Foremost among these problems is the limited amount of water available to serve irrigation demands. This problem is especially acute after the spring runoff. As indicated by Article II of the Compact, Colorado must deliver one-half of the measured streamflow at Hesperus to the state line.⁵⁴ Further compounding the difficulty of providing water to the state line is competition among the natural elements. The headwaters of the La Plata River reach 13,000 feet in elevation, the river quickly descends 4,900 feet during its six mile journey to Hesperus, accompanied by a climatic transformation from alpine to arid-desert conditions.⁵⁵ The river channel itself is composed of a consortium of cobbles, gravel, and fine sands that promote excessive seepage into the shallow alluvium.⁵⁶ Consumptive use from riparian vegetation also affects the delivery of water through the river corridor. Within the fifty-two miles the La Plata River flows from Hesperus to Farmington, New Mexico, there are an estimated 3,580 acres of riparian/wetland plant communities within the one-mile wide river corridor.⁵⁷ The plant species in this area vary in type and density, but the predominant phreatophyte species include cottonwood trees and willows, which consume an average of 5.5 feet of water each year.⁵⁸ These natural, physical elements can have a dramatic effect on the delivery of one-half of the streamflow at Hesperus to the state line. For example, during dry periods in the middle to late summer when the streamflows at Hesperus are in the 80-100 cubic feet per second range, the transit losses through the thirty-one mile river corridor to the state line routinely approach 45-50 percent.⁵⁹ As the flows continue their decline to a "benchmark" of twenty-five cubic feet per second at Hesperus, the La Plata River streambed often becomes completely dry for intermittent stretches above the state line.⁶⁰

54. *Id.*

55. *See* USGS, *supra* note 11, at 400.

56. 1 U.S. DEP'T OF INTERIOR, ANIMAS-LA PLATA PROJECT: FINAL SUPPLEMENT TO THE FINAL ENVIRONMENTAL STATEMENT III-56 (1996).

57. *Id.*

58. *See* MORTON, W. BITTINGER & GLEN, E. STRINGHAM, A STUDY OF PHREATOPHYTE GROWTH IN THE LOWER ARKANSAS RIVER VALLEY OF COLORADO 17 (1963).

59. Report of the La Plata River Compact Administration, prepared by the Division VII Irrigation Engineer 11 (1954).

60. *See id.*

B. WATER ROTATION

The authors of the Compact provided for a water rotation mechanism for the express intent of maximizing the beneficial use of limited water supplies in the La Plata River.⁶¹ Review of historic La Plata River Compact Administration Reports indicate the practice enjoyed varying degrees of success in terms of increased irrigated acreage and crop production, particularly to ditches that are junior in priority.⁶² However, mutual agreement by both state engineers as to the mechanics of the rotation, including: specifics of when each rotation would begin and end, the length of each rotation (typically seven, ten, or fourteen days), and which state would be entitled to the first rotation, was often very difficult to establish. The decision making process for representatives of both states required an intimate understanding of the daily physical and hydrologic demands and an innate ability to forecast water user needs, streamflows, and weather patterns.

The reports of the La Plata River Compact operations are replete with examples in which the timing and duration of rotations was critical. For example, in 1936, Colorado completed a nine-day water rotation on July 3 that resulted in such a dramatic decline in base streamflows that the stream channel became dry for several miles and the only water available to New Mexico during its rotation was minimal accumulated seepage and return flows from irrigated lands in the lower part of the basin.⁶³ Conversely, on May 10, 1955, New Mexico commenced a fourteen day rotation that provided full water supply to its users, much to the chagrin of Colorado because the anticipated increase in flows during spring runoff never materialized and Colorado water users were left wanting.⁶⁴ In recent years, Compact administration officials have not implemented a rotation schedule and instead have operated in accordance with delivery obligations by providing one-half of the streamflow at Hesperus to the state line. Nevertheless, the implementation of a rotation schedule has proven beneficial for all water users in the La Plata River Basin and its use under appropriate conditions is anticipated to resume.

61. See La Plata River Compact, COLO. REV. STAT. art. II(3), § 37-63-101 (2001), 43 Stat. 796, 797.

62. Report of the La Plata River Compact Administration, prepared by the Division VII Irrigation Engineer 1-5 (1929). The term junior within the priority system implies subsequent construction of those ditches that diverted water for application to beneficial use at a later date compared to structures that preceded them.

63. Report of the La Plata River Compact Administration, prepared by the Division VII Irrigation Engineer 4 (1936).

64. See Report of the La Plata River Compact Administration, prepared by the Division VII Irrigation Engineer 11 (1955).

C. FUTILE CALL

The problems of interstate administration of the La Plata River become especially acute when the measured streamflows at Hesperus decline to the threshold amount of twenty five cubic feet per second. An historic “‘working agreement’ with the State Engineer’s office in New Mexico when the flow at Hesperus drops to 25 cubic feet per second that Colorado takes all the water above the confluence of Cherry Creek and New Mexico takes the flow of water out of Cherry Creek and Long Hollow.”⁶⁵

At Hesperus, the stream channel typically becomes dry for several miles at intermittent stream reaches in Colorado.⁶⁶ When the La Plata River streamflows approach this level in which neither an attempted delivery of one-half of the flow at Hesperus to the state line nor a rotation schedule flow would provide water to New Mexico, Colorado water administration officials are usually called upon to conduct a trial run to attempt delivery.⁶⁷ The trial run requires a closely monitored attempt to deliver one-half of the flows at Hesperus past all Colorado diversions for a limited amount of time, typically three to four days. If the water does not appear at the state line in sufficient quantity to provide the slightest measure of beneficial use, the Colorado State Engineer will invoke the futile call doctrine.⁶⁸

Invocation of a futile call is not a pleasing situation to the water users or compact administration officials in either state because it indicates drought conditions that harm all La Plata River water users. This practice does, however, release Colorado from an obligation to deliver water past upstream diversion headgates and apply the very limited streamflow to beneficial use, as opposed to letting water evaporate into the atmosphere or seep through the streambed unused.⁶⁹

D. COMPACT WATER ADMINISTRATION WITHIN A STATE

An oft-repeated adage among water users located in the upper reaches of a river or stream is “highority is better than priority.” For upstream state water administration officials, a perpetual issue is shepherding water past diversion structures and water users in the

65. Letter from George E. Barclay, Colorado State Engineer, to A. Ralph Owens, Colorado State Engineer (Aug. 19, 1967) (on file with author).

66. See Report of the La Plata River Compact Administration, prepared by the Division VII Irrigation Engineer 9 (1961).

67. See *id.* tbl. 11.

68. See generally COLO. REV. STAT. § 37-92-502 (2001). In its application, the futile call doctrine allows an upstream junior out-of-priority water diversion to continue under time and site-specific physical, hydrologic, and climatic conditions. The applied test is that curtailment of the upstream junior water right would not provide sufficient water to the downstream senior water for application to beneficial use. *Id.*

69. See La Plata River Compact, COLO. REV. STAT. art. II(4), § 37-63-101 (2001), 43 Stat. 796, 797.

upper reaches of an interstate river in order to meet the compact delivery obligations to a downstream state during dry periods. As a poignant example of this dilemma, on July 5, 1928, the La Plata River and Cherry Creek Ditch Company ("Ditch Company") filed a lawsuit in the La Plata County District Court against the Colorado State Engineer, M. C. Hinderlider. The case ultimately went to the United States Supreme Court.⁷⁰

For a brief historical foundation, the United States Congress approved the La Plata River Compact on January 25, 1925 and the President promulgated the Compact four days later on January 29.⁷¹ During the first two years of operation under the Compact, little water flowed across the state boundary and New Mexico water officials threatened to bring a lawsuit against Colorado for failure to comply with the Compact.⁷² The water supply improved in 1927 and New Mexico withdrew its complaint.⁷³ Unfortunately, drought conditions returned the next year and in June 1928, the Colorado and New Mexico State Engineers agreed upon a rotation schedule to effectively distribute the limited amount of water available at that time in the La Plata River and maximize the beneficial use in both states in conformance with Article II, paragraph 3 of the Compact.⁷⁴ On June 24, 1928, Colorado water officials curtailed all of the irrigation water in the ditch to permit the entire flow of the river to pass to New Mexico under the rotation agreement up to the time of filing the complaint.⁷⁵

The consternation felt by shareholders in the La Plata River and Cherry Creek Ditch was understandable; the structure was Priority No. 6 in the La Plata River system with a June 2, 1890 appropriation date for 41.5 cubic feet per second, and had never been subject to curtailment.⁷⁶ In its complaint, the Ditch Company put forth two allegations. First, the actions of the Colorado State Engineer damaged the crops of the Ditch Company's shareholders. Second, these actions would cause the Ditch Company irreparable loss if allowed to continue. The Ditch Company sought a mandatory injunction to instruct Colorado water officials to administer the La Plata River in accordance with Colorado water rights and priorities only.⁷⁷

70. See *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92, 95 (1938).

71. See MEEKER, *supra* note 16.

72. Letter from J. R. Williams, Colorado State Engineer to Mr. Price Nelson, Compact Representative for the State Engineer of New Mexico 2 (May 25, 1956) (on file with author).

73. *Id.*

74. See Appellant's Brief at 10, *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938) (No. 588).

75. *Id.* On June 24, 1928, the streamflow at the Hesperus gaging station was fifty-seven cubic feet per second and the curtailment at the Company's headgate did not include four cubic feet per second which was allowed to be diverted for domestic and stockwatering purposes. *Id.* at 10-11.

76. Defendant's Answer Brief at 12-13, *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938) (No. 588).

77. Appellant's Brief at 11, *Hinderlider* (No. 588).

In the ensuing years, the case progressed from the La Plata County District Court to the Colorado Supreme Court. The supreme court reversed the lower court and found in favor of the Ditch Company. The court asserted that the Compact was not a defense and ordered Colorado water officials to allow the Ditch Company to divert whenever water was available in the La Plata River that was not subject to prior appropriations in Colorado.⁷⁸

Colorado water officials appealed the decision to the United States Supreme Court. In rendering the opinion of the Court, Justice Brandeis reaffirmed the intent of the Compact to equitably apportion the La Plata River between the two states for application to beneficial use.⁷⁹ The Court reversed the Colorado Supreme Court's decision and found the Compact the binding instrument among both states and their respective individual water users.⁸⁰ The central thrust of the decision was based upon the finding that the priority of the Ditch Company's water right could only be administered within Colorado's share of the interstate river, and not New Mexico's portion.⁸¹ The Court's holding confirmed the position of the Colorado State Engineer to meet Colorado's Compact obligations, but working with local upstream water users in drought conditions to deliver water past their headgates for delivery to a downstream state continues to present challenges.

E. COORDINATION BETWEEN COLORADO AND NEW MEXICO WATER ADMINISTRATION OFFICIALS

Effective interstate water administration of the La Plata River Compact is based upon knowing the amount of water available at the two index streamflow gaging stations, the amount and location of ditch diversions, and the travel time between key locations in the system. Advancements in water measurement and reporting technologies aid water officials in the daily administration of this ephemeral river. For example, the two streamflow gaging stations are equipped with remote sensing equipment that instantaneously measures river height at fifteen minute intervals to complement the continuous streamflow recorders.⁸² A satellite transmits this information at regular intervals. The information is then transformed into streamflow amounts for viewing by water officials and public water users in both states. This instant and perpetual source of information provides an effective tool to monitor and distribute the greatly varying water supplies to intrastate water users and to meet compact delivery requirements with the highest level of efficiency and confidence. It also subjects water administration officials to intense scrutiny by both

78. *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92, 99 (1938).

79. *Id.* at 103-104.

80. *Id.* at 106.

81. *Id.* at 108.

82. *See* La Plata River Compact, COLO. REV. STAT. art. I, § 37-63-101 (2001), 43 Stat. 796, 796.

interstate and intrastate water users who may not have full appreciation or knowledge of transit losses, the travel times between key locations, and the changing river call priority.⁸³

Contested issues of water entitlement and delivery often occur over the infrequent rainstorms that provide a short-term increase in streamflow within a confined reach of the river. Water users throughout the La Plata River Basin justifiably demand incorporation and administration of these additional streamflows within the priority system of each state. Similarly, the downstream state water officials also seek assurance to include and deliver these flows under the Compact. Unfortunately, it is often impractical to distribute small increases in streamflow that result from a twenty minute rainsquall that passes through a small portion of the basin.

The authors of the La Plata River Compact recognized the intricate balance between maximizing the beneficial use of water and assuring its equitable apportionment among the states in an occasionally volatile natural environment.⁸⁴ For that reason, the Compact authors instructed state water officials that upon substantial delivery of water to meet Compact obligations at the state line, they should disregard the minor and compensating irregularities in flow or delivery.⁸⁵

V. CONCLUSION

The average annual streamflow for the La Plata River pales in comparison with the yield of other major interstate river systems that originate in the mountains of Colorado.⁸⁶ Nevertheless, water users in Colorado and New Mexico who rely upon streamflows in the arid La Plata River Basin for irrigating their crops or filling their pitchers of drinking water place no less value and importance on it as a precious resource. Since the adoption of the La Plata River Compact seventy-nine years ago, the La Plata watershed has enjoyed a few periods of abundant water supply and suffered though many droughts. However, one measure of the success of an interstate compact is whether it has ever been the subject of interstate litigation. While *Hinderlider v. La Plata River and Cherry Creek Ditch Co.*⁸⁷ tested the weight of interstate

83. The river call priority will often change on a daily basis toward early appropriation dates in the 1890s for the La Plata River during periods of rapidly declining streamflows. It is the priority of the ditch or structure exercising its authority to demand curtailment of junior water rights in time and amount necessary to provide sufficient water to satisfy its demand.

84. See La Plata River Compact, COLO. REV. STAT. art. II, § 37-63-101 (2001), 43 Stat. 796, 797.

85. See La Plata River Compact, COLO. REV. STAT. art. II(5), § 37-63-101 (2001), 43 Stat. at 797.

86. 2 U.S. GEOLOGICAL SURVEY, WATER RESOURCES DATA: COLORADO: WATER YEAR 1999, at 154, 279, 387, 409, 422 (1999). The average streamflows leaving the State of Colorado are as follows: La Plata River (26,100 acre-feet), Colorado River (4,632,000 acre-feet), South Platte River (408,900 acre-feet), Arkansas River (163,200 acre-feet), and the Rio Grande River (328,400 acre-feet). *Id.*

87. *Hinderlider v. La Plata River & Cherry Creek Ditch Co.*, 304 U.S. 92 (1938).

compact compliance against intrastate water administration practices, it was not an action brought by one state against another, like *Kansas v. Colorado* and *Wyoming v. Colorado*. It is therefore a significant tribute to the designers of the Compact in 1922 and to the state water officials charged with enforcement of its provisions to date that the La Plata River Compact has proven viable, effective, and defensible over time.

VI. APPENDIX

LA PLATA RIVER COMPACT

The General Assembly hereby approves the compact, designated as the "La Plata River Compact", signed at the City of Santa Fe, State of New Mexico, on the 27th day of November, A. D. 1922, by Delph E. Carpenter as the Commissioner for the State of Colorado, under authority of and in conformity with the provisions of an Act of the General Assembly of the State of Colorado, approved April 2, 1921, entitled "An Act providing for the appointment of a commissioner on behalf of the State of Colorado to negotiate a compact or agreement between the States of Colorado and New Mexico respecting the use and distribution of the waters of the La Plata River and the rights of said States thereto, and making an appropriation therefor.", the same being Chapter 244 of the Session Laws of Colorado, 1921, and signed by Stephen B. Davis, Jr., as the Commissioner for the State of New Mexico, under legislative authority, which said compact is as follows:

The State of Colorado and the State of New Mexico, desiring to provide for the equitable distribution of the waters of the La Plata River and to remove all causes of present and future controversy between them with respect thereto, and being moved by considerations of interstate comity, pursuant to Acts of their respective Legislatures, have resolved to conclude a compact for these purposes and have named as their commissioners:

For the State of Colorado

Delph E. Carpenter

For the State of New Mexico

Stephen B. Davis, Jr.

Who have agreed upon the following Articles:

ARTICLE I

The State of Colorado, at its own expense, shall establish and maintain two permanent stream-gauging stations upon the La Plata River for the purpose of measuring and recording its flow, which shall be known as the Hesperus Station and the Interstate Station, respectively.

The Hesperus Station shall be located at some convenient place near the village of Hesperus, Colorado. Suitable devices for ascertaining and recording the volume of all diversions from the river above Hesperus Station, shall be established and maintained (without expense to the State of New Mexico), and whenever in this compact reference is made to the flow of the river at Hesperus Station, it shall be construed to include the amount of the concurrent diversions above said station.

The Interstate Station shall be located at some convenient place within one mile of, and above or below, the interstate line. Suitable devices for ascertaining and recording the volume of water diverted by

the Enterprise and Pioneer Canals, now serving approximately equal areas in both States, shall be established and maintained (without expense to the State of New Mexico), and whenever in this compact reference is made to the flow of the river at the Interstate Station, it shall be construed to include one-half the volume of the concurrent diversions by such canals, and also the volume of any other water which may hereafter be diverted from said river in Colorado for use in New Mexico.

Each of said stations shall be equipped with suitable devices for recording the flow of water in said river at all times between the 15th day of February and the 1st day of December of each year. The State Engineers of the signatory States shall make provision for co-operating gauging at the two stations, for the details of the operation, exchange of records and data, and publication of the facts.

ARTICLE II

The waters of the La Plata River are hereby equitably apportioned between the signatory States, including the citizens thereof, as follows:

1. At all times between the first day of December and the fifteenth day of the succeeding February, each State shall have the unrestricted right to use of all water which may flow within its boundaries.

2. By reason of the usual annual rise and fall, the flow of said river between the fifteenth day of February and the first day of December of each year, shall be apportioned between the States in the following manner:

(a) Each State shall have the unrestricted right to use all the waters within its boundaries on each day when the mean daily flow at the Interstate Station is one hundred cubic feet per second, or more.

(b) On all other days the State of Colorado shall deliver at the Interstate Station a quantity of water equivalent to one-half of the mean flow at the Hesperus Station for the preceding day, but not to exceed one hundred cubic feet per second.

3. Whenever the flow of the river is so low that in the judgment of the State Engineers of the States, the greatest beneficial use of its waters may be secured by distributing all of its waters successively to the land in each State in alternating periods, in lieu of delivery of water as provided in the second paragraph of this article the use of the waters may be so rotated between the two States in such manner for such periods, and to continue for such time as the State Engineers may jointly determine.

4. The State of New Mexico shall not at any time be entitled to receive nor shall the State of Colorado be required to deliver any water not then necessary for beneficial use in the State of New Mexico.

5. A substantial delivery of water under the terms of this Article shall be deemed a compliance with its provisions and minor and compensating irregularities in flow or delivery shall be disregarded.

ARTICLE III

The State Engineers of the States by agreement, from time to time, may formulate rules and regulations for carrying out the provisions of this compact, which, when signed and promulgated by them, shall be binding until amended by agreement between them or until terminated by written notice from one to the other.

ARTICLE IV

Whenever any official of either State is designated to perform any duty under this compact, such designation shall be interpreted to include the State official or officials upon whom the duties now performed by such official may hereafter devolve.

ARTICLE V

The physical and other conditions peculiar to the La Plata River and the territory drained and served thereby constitute the basis for this compact, and neither of the signatory States concedes the establishment of any general principle or precedent by the concluding of this compact.

ARTICLE VI

This compact may be modified or terminated at any time by mutual consent of the signatory States and upon such termination all rights then established hereunder shall continue unimpaired.

ARTICLE VII

This compact shall become operative when approved by the Legislature of each of the signatory States and by the Congress of the United States. Notice of approval by the Legislatures shall be given by the Governor of each State to the Governor of the other State, and the President of the United States is requested to give notice to the Governors of the signatory States of approval by the Congress of the United States.

IN WITNESS WHEREOF, The commissioners have signed this compact in duplicate originals, one of which shall be deposited with the Secretary of State of each of the signatory States.

Done at the city of Santa Fe, in the State of New Mexico, this 27th day of November, in the year of our Lord One Thousand Nine Hundred and Twenty-Two.

Delph E. Carpenter, Stephen B. Davis, Jr.