

APPENDIX B

HISTORICAL CONTEXT

The History of Water Law and Water Development in the Cache la Poudre River Basin and the Rocky Mountain West

"In studying the agricultural capacity of the vast Rocky Mountain region and broad plains of the West, and calculating the probable development of the same, it is necessary to lay aside, to a great extent, all our ideas of agriculture based upon experience in the States. For not only are the physical aspects of this portion of the West so different from the east half of our country as to strike the most superficial observer, but the climate is almost completely reversed, the thermometric and hygrometric conditions bearing no such relations to vegetation there as here."--Cyrus Thomas

INTRODUCTION

Very few streams tumble from the Rocky Mountains eastward to the undulating hills of the Great Plains. This limited stream flow, in combination with a general lack of precipitation initially hindered and later greatly altered Anglo-American agricultural settlement of the front range of Colorado. Here, traditional ways of farming broke down as settlers were forced, of environmental necessity, to adopt cooperative programs of intensive irrigation to water their crops. Because the Cache la Poudre River was one of the first river basins to be intensively settled, successful irrigation projects here set legal, legislative, and constitutional precedents, which would be adopted later by most other western states.

Between 1870, when members of the Union Colony at Greeley dug their first canal, and 1882, when water rights conflicts were eventually resolved, the state of Colorado established a new doctrine of water law and system of water allocation. Historically predicated on three components, legislative, legal, and constitutional, the Colorado System of Water Allocation is considered to be the foundation for water law in the intermountain region of the American West. Colorado was the first state to abandon the eastern-based doctrine of riparian right of surface waters and to establish prior appropriation as the exclusive right within its borders. The roots of this evolution in water allocation can be traced to early irrigation efforts within the Cache la Poudre River Basin.

HISTORIC BACKGROUND

Since most of the early arrivals to the Cache la Poudre Valley came from eastern farming backgrounds, they arrived with some knowledge of water law and irrigation practices. In the areas of the eastern United States, where water is relatively abundant, water law is based on the Riparian Doctrine. This doctrine limits water use to the lands adjacent to a body of water, either a stream, river, or lake. Individuals who own these lands are the only ones entitled to use the water for irrigation. Under the Riparian Doctrine, water had to be returned to the stream bed in order to insure an adequate supply necessary for water power or navigation. Under the provisions of English common law, water is considered to be public property and only those owning land adjacent to a watercourse are entitled to reasonably make use of the water.¹ After arriving in the Poudre Valley, settlers found the practices of the Riparian Doctrine did not work in the semi-arid environment. The Riparian Doctrine was impractical for the lands existing beyond the 100th meridian, a longitudinal demarcation that runs from North Dakota to Texas.² On the average, lands west of this meridian receive less than 15 inches of precipitation annually. The settlers realized that most land needed to be irrigated in order to adequately grow crops. If they continued to follow the Riparian Doctrine, then only lands adjacent to rivers and streams would benefit from irrigation. In order to irrigate as much acreage as possible, the Riparian Doctrine would have to be abandoned in favor of a doctrine that allowed water to be diverted away from riparian lands.³ The Doctrine of Prior Appropriation arose out of the need to divert water away from riparian areas without the need to own the land adjacent to the stream bank.⁴ This ended the tenet of appurtenance of the Riparian Doctrine, which tied the ownership of land to the ownership of water rights. According to Walter Prescott Webb in *The Great Plains*, this was an example of "environmental determinism,"⁵ here, the settlers of the Cache la Poudre Valley abandoned previously used institutions in favor of developing new, more practical institutions, which resulted from their adaptation to a new environment.

Though the Cache la Poudre Valley had been settled and farmed since the early 1860s, large-scale farming and the beginnings of irrigation within the valley did not begin until after 1870. When members of the Union Colony arrived, they immediately began planting crops and started a system of irrigation. By the end of the first year, 60,000 acres were under irrigated cultivation.⁶ In the fall of the same year, Union Colony members began constructing Colony Canal (Greeley) No. 2. When completed, this canal had the capacity of 280 cubic feet per second.⁷ By 1874, two more canals were under construction in the Cache la Poudre Valley: the Lake Canal and the Larimer County Canal. John C. Abbott, a former Union Colony member, and Benjamin Eaton, later Governor of the State of Colorado, built the Lake Canal. Another former Union Colony member, R.A. Cameron, organized the Larimer County Land Improvement Company. This company's purpose was to supply irrigation water to Cameron's Ft. Collins Agricultural Colony, which was established in 1872. Both of these canals were upstream of the Union Colony Canal (Greeley) No. 2. Though each of these facilities diverted less water than the Union Canal No. 2, they had the combined capacity to divert the entire volume of the river, in years of low run-off or late in the summer, as the river's flow began to recede.

CONFLICT OVER THE POUFRE

The combination of over-appropriation of the Cache la Poudre's waters and a drought during the summer of 1874, resulted in conflict between the communities of Ft. Collins and Greeley. Greeley area irrigators claimed a prior right to the waters of the Cache la Poudre and, historically, the Union Colony's canals predated the upstream diversions by more than two years. However, the Ft. Collins ditch operators could ignore the claims of the Greeley area farmers and deprive the downstream users of all water if they so desired⁸. By having their headgates located upstream of the Greeley area farmers, the Ft. Collins irrigators could divert the entire volume of the Poudre River and leave the downstream canals dry. Greeley area residents demanded recognition of their prior right, but had no legal means or institutions with which to prevent the Ft. Collins irrigators from appropriating all the water in the Poudre River. Nathan Meeker, the leader of the Union Colony, articulated the concerns of the Greeley area residents and sought a solution to the problems of allocation of water from the Poudre River. In an editorial to the *Greeley Tribune* on July 8, 1874, Meeker publicized the need to establish a supervisor for the Cache la Poudre River, to administer the allocation and division of all available waters, but only after the Ft. Collins water users recognized Greeley's prior right.⁹ While the principle of prior appropriation had been partially codified, first by miners in California and later in the Colorado gold fields, and the principle had been mentioned in the 1861 Colorado Territorial Laws, there was not any institution legally established to adjudicate claims involving priority of water rights. The local justice of the peace could appoint three commissioners to settle problems of water rights allocation whenever the situation necessitated, otherwise there was not an institution in Colorado Territory that solely existed to solve these water problems.¹⁰ At the suggestion of R. A. Cameron, superintendent of the Ft. Collins Agricultural Colony, both sides met on July 15, 1874, at a schoolhouse half-way between the two communities in order to reach an agreement over the water in the Poudre River. Although no settlements were reached, the Ft. Collins group consented to lower their headgates and release more water downstream. This meeting increased the desire of Poudre Valley residents to arrive at a more effective means of stream control¹¹.

The events of 1874 in the Cache la Poudre River Valley forced more people, both inside and outside the valley, to recognize the need to systemize State Water Law when writing the Colorado Constitution in 1876. While the controversial events of the 1870s in the Poudre Valley were well publicized, similar problems existed throughout the territory. Local governments struggled to solve water rights disputes using the 1861 Territorial Water Laws. Their difficulties illustrated the need to improve the administrative foundations of water law in the new constitution. David S. Plumb of Weld County chaired the committee, which oversaw the incorporation of a water law doctrine into the State Constitution. With regard to water doctrine, language in the State Constitution was kept short; the constitution incorporated the concept of priority of appropriation as the basis of state water law. The new Constitution only briefly mentioned that the state might have to pass and amend legislation affecting water in the state of Colorado.

THE COMPROMISE

By 1878, Benjamin Eaton began construction of another canal to take water from the Poudre. According to noted historian Robert Dunbar, the Larimer and Weld Canal, with a capacity of 720 cubic feet per second, was the single biggest event "to provoke the formulation of the Colorado System."¹² This canal, constructed upstream from all existing canals, had the potential to divert all water from the Poudre in years of low-volume runoff, leaving all the downstream canals dry. The threat of further over-appropriation of water in the Poudre River made a grave situation even worse. In response to this situation, Poudre Valley residents J. L. Brush and Silas Haynes called a meeting of farmers and irrigators from the Poudre Valley, along with some representatives from the nearby St. Vrain Valley. They hoped to discuss the possibility of introducing legislation at the next session of the Colorado General Assembly. The situation in the Poudre Valley demonstrated the need to create permanent institutions within state government that would adjudicate and allocate water use in Colorado. Proposed elements to be included in the legislation were the creation of a state irrigation bureau headed by a state official; the division of the state into water districts, measurement of all stream flows within the state of Colorado; and to clarify, through legislation, the meaning of "prior appropriation" in the State Constitution.¹³ Though attendance at the meeting was low, the agenda created for the meeting became "the embryo of the Colorado System of Water allocation."¹⁴ These representatives also called for a statewide irrigation convention the following December.

At the December meeting, farmers from throughout the state, but primarily from the streams of the South Platte River basin, pursued nearly the same agenda as the earlier meeting. Also, they established a five member committee to write a proposal for irrigation legislation. Of the five members of this committee, two, David Boyd and John C. Abbott, came from the Cache la Poudre Valley. All agreed on the essential elements of the proposal, but they differed over the "Nature of Prior Rights."¹⁵ The two Poudre Valley representatives favored the attachment of water rights to the ditch owners and operators, while the others, especially Isaac Bond of Longmont, hoped to tie the priority of rights directly to the water users. The bill that resulted from the Colorado Legislature in the fall of 1879 "placed emphasis on use of water rather than the diversion of water, giving prior rights to the farmers rather than the ditch operators."¹⁶ Ditch operators were not to divert any more water from a stream drainage than the water users could beneficially use. Other elements of the 1879 irrigation bill included the division of the state into ten water districts with a water commissioner to divide the water within the ditches of the stream. District courts would allocate and prioritize the available water rights after determining the history of the water use within a particular basin. In a departure from the proposals made from the December 1878, irrigation convention, the Colorado Legislature failed to include the establishment of a state water commissioner and to provide for the measurement of all rivers and streams within the state.¹⁷

The summer of 1879 again proved to be exceedingly dry due to unusually hot summer temperatures and the low volume of runoff from the preceding winter's snows. Again, valley residents became frustrated over their inability to allocate the available water amongst themselves. A situation similar to 1874 resulted, when water users in Ft. Collins

and Greeley began to fight over the available water. To compound problems, Governor Frederick Pitkin failed to appoint water commissioners for the valley that summer. In an attempt to establish order within the Poudre Valley, Judge Victor Elliot of the Second Colorado Judicial District appointed Silas Haynes' son, Harry, as the water referee for the Cache la Poudre River. Harry Haynes took testimony from the area water users in order to determine the dates of ditch construction and attempted to estimate the size, capacity, and gradient of the canals within the Poudre Valley. By spring of the following year, Harry Haynes had not presented his evidence to the court. The situation grew more complex as Poudre Valley farmers felt runoff would be lower than expected. Fearing a lack of water downstream from the diversions in Ft. Collins, Greeley area farmers began a lawsuit against Judge Elliot in an attempt to force him to determine the priority of water rights in the Cache la Poudre Valley. By mid-July of that year, the Poudre Valley finally got its water commissioner, Bryant La Grange. La Grange attempted to work with both sides to find some way of allocation of water within the Poudre Valley, but the absence of a legal decree eliminated the possibility of a settlement. In the fall of 1880, two candidates for the State Legislature from the Poudre Valley, James Freeman and J. L. Brush, promised to introduce legislation that would require court decrees in the establishment of priorities of water use.¹⁸ This situation helped to push the belief that more legislation should be enacted that would streamline Colorado's irrigation laws.¹⁹

Once elected, James Freeman became chairman of the Senate's Irrigation Committee. In this position, Freeman, with the help of other representatives, especially Ledru R. Rhodes of Ft. Collins, introduced legislation to establish a State Commissioner of irrigation and to require measurement of all rivers and streams within the state of Colorado. Freeman waited until the Colorado Supreme Court decided the case in favor of Greeley, against Judge Elliot to introduce his legislation. This legislation included improvements in the adjudication process. Prior to testimony being taken in these suits, the state engineer would measure the capacities of the streams and present this information as evidence in court.²⁰ A third part of the Freeman Bill required the clerk in each county to record and file all information regarding irrigation, in order to be part of the public record. By April of 1882, Judge Elliot finally determined that Greeley farmers had rights prior to those of the water users of Ft. Collins. This decree was the first adjudication granted under the newly completed Colorado System.²¹

The Colorado System of Water Allocation

The underlying principle of the Colorado System of Water Allocation is the Doctrine of Prior Appropriation. This doctrine is based on a rather simple concept. first in time, first in right. The first individual, being a person, group, or corporation who files for the water, is the first in line to use this water. Historically, the concept of prior appropriation came about as the result of placer mining in California. Miners, needing water to wash alluvial deposits for gold ore, diverted water away from stream beds to these ore deposits. In situations where more than one miner or group of miners vied to use the available water, the priority of water use resulted from the chronological order in which the water was put to use. In the 1855 California Supreme Court decision *Irwin v. Phillips*, the court decided in favor of a miner who first put water to use, the latter miner was found to be in "trespass" of the former miner's property.²² The Doctrine of Prior Appropriation came to

Colorado during the outbreak of gold discoveries. Miners from California who sought gold in the Colorado mountains brought with them a doctrine of water allocation based on the individual's timing of use.²³

There are three elements that make a valid appropriation: 1) An intent to apply the water to a "beneficial" use, 2) an actual diversion of water from a natural source, and 3) the application of the water to a beneficial use within a reasonable time.²⁴ A beneficial use is defined as any economic or social use that the state deems to be beneficial, this use must have a specific, stated purpose.²⁵ Water is considered to be beneficially used if it is reasonably or appropriately used in an efficient manner to accomplish, without waste, the purpose for which the appropriation is lawfully made. These uses include domestic, agricultural, industrial, municipal, recreational, and in many western states, a guaranteed minimal instream flow.²⁶ There must be an actual diversion or physical engineering feature present to divert water from a river or stream. This includes any pump, dam, or canal/ditch facility that physically moves the water away from its natural course. The water must be put to the stated beneficial use on the appropriators' property within a reasonable amount of time, depending on the nature of the stated use. Failure, in the long term, to put the water to a reasonable use within a reasonable amount of time denotes abandonment. In such cases, in the Colorado System of Water Allocation, the water right forfeits to the state.

Within the Colorado System, the Prior Appropriation Doctrine is applicable to all water, except nontributary ground water.²⁷ In Colorado and in most western states, a tributary is generally regarded as being "a surface water drainage system that is interconnected with a river system." For example, under Colorado Law, all surface and groundwater, the withdrawal of which would affect the rate or direction of flow of a surface stream within one hundred years, is considered to be tributary to a natural stream.²⁸ In many cases, some of the elements defining tributary water may be missing, but western states, especially Colorado, contend that the waters are in a water course and, therefore, subject to state control.²⁹

As a general rule within the Colorado System, water is considered to be public property. State governments exercise the authority to allocate water rights and to preserve, manage, and regulate this resource in a manner that is in the interest of the public.³⁰ Water ownership is sovereign rather than proprietary, the state has taken the duty to "regulate" its appropriation under the rubric of state ownership.³¹ But individuals own the right to beneficially use the water. Once title is acquired by an individual, that person has the right to divert and to use an amount of water. In this context, a water right becomes "private property." These rights may be bought and sold, leased, traded, or transferred to another locality as long as other water rights are not affected. Sales and transfers of these rights are subject to market prices and not subject to "the consideration of public interest values."³² Water rights are considered to be just like any other form of private property; they can be assigned and mortgaged, and not be taken involuntarily by a governmental entity without just cause and without proper monetary compensation.³³ Western states that use the Colorado System as the basis for their water allocation system protect water rights under the private property clauses of their constitutions.³⁴

Priority of water use is at the center of both the Prior Appropriation Doctrine and the Colorado System of Water Allocation. The appropriator with the earlier decree is given seniority over those individuals with later decrees. In terms of types of water rights, positions of seniority and juniority are assigned to the order in which water is used. For instance, when there is an inadequate amount of water for all water users, those users with senior rank receive water before any junior rights are fulfilled. However, there are some qualifications regarding this relationship. A senior appropriator may not change their point of diversion if it adversely affects a junior right. Additionally, a senior appropriator is not supposed to use any more water than the amount needed and is also not supposed to waste any of the resource.³⁵ Many of the states using the Colorado System have stated preferences within their state constitutions that specify a superiority of certain types of water use over others. Varieties of use are often ranked according to their greater benefit. For example, Colorado ranks water use preferences in the following manner: water for domestic uses is first, agricultural and irrigation uses are ranked second, and manufacturing uses are third. Water used in mining practices is classified with manufacturing uses.³⁶ Most often preference categories are overlooked, but in times of excessively low water, these categories influence the priority of water use and allocation.

Other Water Allocation Systems in the American West

In contrast to the Colorado System, three other water systems are used in the American West: the California System, the Mormon or Utah System, and the New Mexican Water System. Of these systems, only the California System is used to any great extent in the West. Both Utah and New Mexico eventually adopted the Colorado System as their dominant form of water allocation, but some elements of the old systems are still in use. The California System is an interesting combination of both the Riparian Doctrine and the Prior Appropriation Doctrine. States using variations of the California System; California, Oregon, and Washington, have very unique geographical and hydrological situations. High mountain ranges divide these states into wet and dry areas. West of the mountains, a narrow strip exists that receives thirty or more inches of rain per year. In the eastern part of these states, the same arid and semi-arid conditions exist as elsewhere in the West. California, from the beginning, adopted both the Riparian and the Prior Appropriation doctrines as the basis of their water system.³⁷ From its mining history, the State of California adopted the Prior Appropriation Doctrine to divert water away from streams. People living adjacent to streams applied for riparian rights under statutes, based on the fact that they bought land along a stream before anyone attempted to appropriate water away from the stream. To date, the understanding has emerged that the appropriator has acquired the superior right.³⁸ The states of Washington and Oregon have a modified California System. Both Riparian and Prior Appropriation doctrines are in use, but the doctrine used depends upon geographic location. In the arid portions of these states, the Prior Appropriation Doctrine is the basis of water allocation, while the "wet" western parts allocate water based on the Riparian Doctrine.

As the Mormons settled Utah in the 1840s, they quickly built small irrigation ditches in their desert home. Immediately following their arrival in the Salt Lake Valley, they began the construction of City Ditch. Under this doctrine, all water was public property, but

under the direct control of the theocracy of the Mormon Church. Mormon officials divided the available land into equal parcels and stated that water should be divided equitably amongst the water users. The theocracy placed each stream under a watermaster who answered directly to the local bishop or the local municipal council. The watermaster would allocate water equally to all water users and be responsible for maintenance of the ditch and canal facilities. In times of disputes, the watermaster would arbitrate between the parties involved. Appeals beyond the watermaster and more complex situations depended upon Mormon Church officials to act as the ultimate authority with regard to water-related matters.³⁹ Though this practice officially ended in 1880, the members of the Mormon Church retain many elements of this system today

The New Mexican Water System is based on Spanish concepts of water allocation. Under Spanish practices, irrigation ditches were cooperative in nature, but under the strict control of a mayordomo or ditch boss. The ditch members elected the mayordomo in addition to a peon council. The council oversaw the fiscal and political aspects associated with the ditch, while the mayordomo was responsible for the day-to-day allocation of water to ditch members. The mayordomo's authority to allocate water was without question. At times when other ditches along the water source took too much water for themselves, the mayordomo of the affected ditch worked out a compromise with the other mayordomos of upstream ditches in order to get water to his ditch. Many areas of northern New Mexico continue to use this system today though New Mexico has officially adopted the Colorado System as the basis of its water laws.

Development of the Colorado System

The Colorado System of Water Allocation did not develop overnight. Instead it developed through a series of legal and legislative steps, which gradually refined the Prior Appropriation Doctrine into what is now known as the Colorado System. The 1861 Territorial Legislature passed the first irrigation law in Colorado. This law stated if there was an inadequate amount of water, then a commission of three people would have to apportion the available water with "due regard to all legal rights."⁴⁰ This ill-defined system would work only as long as ditches were small and demand for water was minimal.⁴¹ At that time, the population of the Poudre Valley was still very small. The population only began to rise with the establishment of the Union Agricultural Colony in Greeley after 1870. Again in both 1864 and 1865, the Territorial Legislature amended this law, but did not change the mechanism for settling water priority disputes. The combination of this and over-appropriation, as seen in the Poudre Valley in the late 1870s, was enough to instigate changes within the system of Colorado's water laws.

Constitutional and Legislative Developments

Demand for water often began to exceed supply by 1876. As mentioned earlier, in 1874 the Poudre Valley experienced a low volume of runoff due to a lack of winter precipitation. When the constitutional drafting committee met in 1875, they must have been aware of changes in the demand for water since the passage of the 1861 law. Illustrated in the experiences of the Cache la Poudre Valley, the increased demand for water and the arguments concerning allocation resulted in the need to drastically amend Colorado's

Irrigation Laws. The 1876 Colorado Constitution does not classify these laws in terms of Water Law, but in terms of Irrigation Law. Immediately after intensive agriculture began in the Poudre River Valley, because of the establishment of both the Union Colony and the Ft. Collins Agricultural Colony, the Poudre Valley became the most agriculturally productive area in the entire territory. The 1876 Constitution officially stated that all waters in the state were public property and subject to appropriation. More importantly, the Constitution officially declared "the Priority of Appropriation shall give the better right as between those using the water."⁴² Though the new Colorado Constitution reemphasized Doctrine of Prior Appropriation as being the basic tenet concerning the allocation of water in the state, it did not prescribe any changes over the 1861 Territorial Statute in solving problems of priority of water allocation. Other sections of the constitution established the right-of-way or an easement for canal operators to construct their ditches across private property and gave county commissioners the ability to set the rates for water sold on the public market.

By 1878, there were enough problems regarding the allocation of water to justify revision to the older Territorial Laws and replace them with an improved system of water allocation. The Doctrine of Prior Appropriation would remain as the basis for the new system, but legislators decided changes must be made in the mechanism that settled water rights questions. The old mechanism of establishing three commissioners to settle water allocation problems had proved too slow and inefficient. The 1879 state act created the combination of a state water court to adjudicate questions of priority and divided the state into divisions based on geographic locale. Each division established would be controlled by a commissioner who had two primary responsibilities. He would gather information concerning water appropriations for the State Water Court and administer the river basins within his division. Divisions were then subdivided into districts based on the geographic parameters of individual river basins. Each basin was under the control of a river commissioner. The river commissioner was responsible for controlling all water allocations within his river basin. Hopefully, the river commissioner would be familiar enough with the workings of his valley that he would be able to settle small disputes without going to State Water Court.⁴³ Currently, there are seven water divisions within the State of Colorado and eighty river districts.

Following the passage of the 1879 law, incidents in the Poudre Valley made it necessary to again revise Colorado's Irrigation Laws. With 1879 being another drought year and the possibility of this continuing through 1880, the communities of Ft. Collins and Greeley resumed fighting over the available water. The courts had yet to decide on which community had the prior claim to appropriate water from the river. Both communities demanded more legislation, especially legislation that would measure streams and allow a state water engineer to oversee all allocations and appropriations of water.⁴⁴ The revised legislation would not only qualify appropriations, but quantify them as well. This would result in the possibility of further dividing the available water so the appropriator with the senior right might get the greater share of the water, while leaving some water for the other appropriators. The 1881 Water Law, passed through the effort of Poudre Valley legislative representatives, established both a state commissioner of irrigation or a state engineer and a system to be used for the measurements of streams. The state engineer

would coordinate between each of the ten water districts and be responsible for all stream measurements.⁴⁵

Legal Developments

By themselves, the legislative acts of 1879 and 1881 did not make up the entirety of the Colorado System. In shaping the Colorado System, three court cases from the period or shortly thereafter helped to define the earlier legislative efforts.⁴⁶ Though *Yunker v. Nichols* set a precedent in helping to establish interpretations of pre-Constitutional Colorado Water Law, it was still an important enough decree to apply it to the new laws of the state of Colorado. This opinion simply legally guaranteed the right of the irrigator for right-of-way across other people's property with regard to the building and maintenance of their facility.⁴⁷ Perhaps the single greatest water court case settled in Colorado was *Coffin v. Left Hand Ditch Co.* This 1882 case finally settled the question of Prior Appropriation in the State of Colorado. Two parties in the St. Vrain basin appropriated water from the St. Vrain River about the same time, but one lived within the riparian environment of the river basin, while the other appropriated water away from the river. The Colorado Supreme Court mandated that Prior Appropriation would be the doctrine of water law since "the climate invoked the imperative necessity for artificial irrigation to be applied to the soil"⁴⁸ This decision mandated sections 5 and 6 of Article XVI of the State Constitution. Questions of the priority of end use resulted with the 1891 *Armstrong v. Larimer County Ditch Co.* Section 6 of Article XVI of the Constitution states that domestic needs outweigh agricultural needs, which outweigh manufacturing end uses. This decision settled the differences between a farmer irrigating farmland with senior water rights and a group of families with junior rights. The inability of the families to obtain an adequate supply of water resulted in the decision guaranteeing a family's need for water superseded the need of water for agriculture.⁴⁹

Establishment of the Wyoming System

The Colorado System of Water Allocation, with regard to the creation of a workable arrangement for the allocation of water on a statewide level, has been adopted by most of the states in the Rocky Mountain West. The legal and legislative precedents of the Colorado System serve as the basis of these states' water laws. In 1886, Elwood Mead accepted a position at the Colorado Agricultural College, later Colorado State University at Ft. Collins, as Professor of Irrigation Engineering⁵⁰ He served at this position for two years until 1888, when he became territorial engineer of Wyoming. During his short tenure in the Cache la Poudre Valley, he observed the day-to-day workings of the infantile Colorado System and decided a few minor defects still persisted. When he became territorial engineer in Wyoming, he was in the position to correct these problems. Wyoming, like most of the other states in the region copied the 1879 and the 1881 Legislative Acts.⁵¹ Mead noticed there was room for improvement in the adjudication process. Incorporated into the Wyoming Constitution of 1896 were a series of techniques intended to streamline the adjudication process. Collectively, these techniques have become known as the Wyoming System of Administration. To Mead, the administration of the Colorado System resulted in unequal allocation of water to the water users and haphazard planning and construction of irrigation ditches⁵² Centralizing the ability to

allocate water within the office of the state water engineer instead of the water courts, would allow an individual seeking water to simply submit an application. The state engineer's office had the ability to approve or deny any permit for water use, depending upon the availability of water.⁵³ This eliminated the lengthy process of obtaining a court decree guaranteeing the use of water. While the Colorado System became the model for state water laws and institutions in the American West, most of the western states have copied the Wyoming System of administration.

Interstate Aspects of the Colorado System

As farmers pushed into new areas of the front range and as towns grew into cities, they continued to demand more water from the Cache la Poudre Basin. The search for additional water soon took them beyond the geographic confines of the Poudre Valley and brought them into conflict with other states. By 1922, water was being diverted through transmountain diversions from the Laramie River into the Cache la Poudre River drainage. The State of Wyoming sued the State of Colorado in federal court contending that irrigators in Wyoming had senior water rights to the users in Colorado. The court decided that the water rights of the irrigators in Wyoming were senior to those in Colorado and that water rights guaranteed through the Doctrine of Prior Appropriation held when water allocation from rivers had interstate impact. Interstate concerns of water allocation have been codified through various interstate river compacts, which allocate and divide water in interstate river drainages. With the advent of federally sponsored irrigation projects by the Bureau of Reclamation, interstate problems again were increased. States that store water in Bureau of Reclamation projects must not only divide water among water users within that state, but must also guarantee set water quantities to downstream users in other states. With respect to the Cache la Poudre River drainage, the development of the Colorado-Big Thompson Project in the mid 1950s added more water to the Poudre and Big Thompson rivers through a series of reservoirs and transmountain tunnels. With the increased flow of water to these rivers and others resulting from interbasin diversions, the state apparatus for policing the allocation of water set up through the Colorado System of Water Allocation took on interstate responsibilities.

CONCLUSION

From the context of the development of water-related institutions in the American West, the Colorado Doctrine of water allocation possesses national significance. The legislative, constitutional provisions, and court decisions associated with Colorado's system of water management, can in large measure be traced to historical events and resources within the Cache la Poudre River Basin. Eventually, all the semi-arid mountainous states, including Alaska, followed Colorado's lead in water allocation.

The aridity of the region forced the abandonment of old agricultural practices and the establishment of new farming methods and institutions. More specifically, the Riparian Doctrine did not function well in the American West due to the lack of adequate precipitation. Agricultural settlement of the Cache la Poudre River precipitated a major water crisis, which resulted in Colorado establishing the first complete system of water rights management in the Rocky Mountain region. The new system created from the

experiences in Colorado, especially in the Cache la Poudre River Basin, worked well within this semi-arid environment. The Colorado System, using the Doctrine of Prior Appropriation, established a means through which water rights could be both adjudicated and allocated effectively. The new system, created from the historical experiences of the Anglo-American settlers in the Cache la Poudre Valley, quickly became adopted and used as the basis of water law throughout the mountain states of the American West.

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2. *Ibid.*, 17.
3. Raymond L. Petros, Jr., "Administering Water Rights: The Colorado System", *Western Water in Transition*, Natural Resources Law Center: University of Colorado School of Law, 1985. (from the published proceedings of the spring, 1985 conference), 4.
4. Carl Ubbelohde, et. al., *A Colorado History* (Boulder, Colorado: Pruett Publishing Co., 1972), 197.
5. Walter P. Webb, *The Great Plains* (New York: Gossett and Dunlap, 1931), 8 and 439-443.
6. Steven F. Mehls, *The New Empire of the Rockies* (Denver, Colorado: U.S. Government Printing Office, 1984), 67.
7. Robert G. Dunbar, "The Origins of the Colorado System of Water-Right Controls," *The Colorado Magazine*, 27 (October 1950): 243.
8. Dunbar, "Water Conflicts and Controls in Colorado," *Agricultural History*, 22 (July 1948): 182.
9. Dunbar, "The Origins of the Colorado System of Water-Right Controls," 243.
10. Territory of Colorado, *General Laws, Joint Resolutions, Memorials, and Private Acts Passed at the First Session of the Legislative Assembly, 1861*, 68.
11. Dunbar, "Origins of the Colorado System of Water-Right Controls," 243-244.
12. *Ibid*, 245.
13. *Ibid*, 245.
14. *Ibid*, 245.
15. *Ibid*, 251.

16. *Ibid*, 254.
- 17 *Ibid*, 248-254.
18. *Ibid*, 257
19. *Ibid*, 256-259.
20. *Ibid*, 259.
- 21 *Ibid*, 261.
22. George Vranesh, *Colorado Water Law* (Boulder, Colorado: Vranesh Publishing Co., 1987), 63.
- 23 Perry F. Fritz, "The Constitutions and Laws of the Early Mining Districts In Boulder County, Colorado," *University of Colorado Studies*, 21 (March 1934): 127-148.
24. Getches, 79.
25. *Ibid*, 80
- 26 George Vranesh, *Colorado Citizen's Water Law Handbook* (Boulder, Colorado: Vranesh Publishing Co , 1989), 1
- 27 Petros, 4.
28. Vranesh, *Colorado Citizen's Water Law Handbook*, 3
29. Getches, 112.
30. *Ibid*, 86.
31. *Ibid*, 87.
- 32 Petros, 4
- 33 Getches, 88
34. Getches, 85-89 and Vranesh, *Colorado Citizen's Water Law Handbook*, 69-72.
- 35 Getches, 104-110
- 36 *Ibid*, 108-109
37. *Ibid*, 192
38. *Ibid*, 194-195.

39. Robert G Dunbar, *Forging New Rights in Western Waters* (Lincoln, Nebraska: University of Nebraska Press, 1983), 9-17.
40. Dunbar, "The Origins of the Colorado System of Water-Right Controls", 241.
41. *Ibid*, 241.
42. *Constitution of the State of Colorado*, Article XVI, sec. 6.
43. Dunbar, "Origins of the Colorado System of Water-Right Controls," 252-255
44. *Ibid*, 257-258.
45. *Ibid*, 257-259
46. All three of these cases come from ditch systems located within the South Platte River basin. The *Yunker v. Nichols* (1872) decision resulted from problems located in Weld County. The landmark decision, *Coffin v. Left Hand Ditch* (1882) grew out of questions in a ditch system located in the South Fork of the St. Vrain River. The decision settling the seniority of water rights, *Armstrong v. Larimer County Ditch Co* (1891) occurred in the Cache la Poudre Valley.
47. *Yunker v. Nichols*, 1 Colo 551(1872) and Vranesh, *Colorado Water Law*, 627-629
48. Vranesh, *Colorado Water Law*, 123-127
49. *Ibid*, 809-813.
50. Dunbar, "The Origins of the Colorado System of Water-Right Controls," 253.
51. Dunbar, *Forging New Rights in Western Waters*, 105
52. *Ibid*, 106.
53. J. Warner Mills, *Mills Irrigation Manual* (Denver, Colorado: Mills Publishing Co., 1907), 83.