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## Water Institutional Structure in the Upper Midwest

Douglas Franklin

*South Dakota State University*

John R. Powers

Ardelle Lundeen

*South Dakota State University*

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WATER INSTITUTIONAL STRUCTURE IN THE UPPER MIDWEST\*

by

Douglas R. Franklin, John R. Powers, & Ardelle Lundeen\*\*

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ABSTRACT: This report describes the institutional structure of water allocation laws in six Upper Midwest States of the United States. The major difference in water allocation laws of the six states is in the degree of mobility of water rights to alternative water users.

\* This report is the third in a series of four reports concerning water institutions and laws in South Dakota and the Upper Midwest States and water use trends in South Dakota and Upper Midwest States. The four reports are entitled:

"Water Institutional Structure in South Dakota" Economics Research Report 91-5 Economics Department South Dakota State University August 1991;

"Water Use trends in South Dakota" Economics Research Report 91-6 Economics Department South Dakota State University August 1991;

"Water Institutional Structure in the Upper Midwest" Economics Research Report 92-2 Economics Department South Dakota State University June 1992;

"Trends in Water Use in the Upper Midwest" Economics Research Report 92-3 Economics Department South Dakota State University June 1992.

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\*\* Franklin is an Assistant Professor of Economics, Powers is a former research assistant, and Lundeen is Professor of Economics and Head of the Department Economics at South Dakota State University, Brookings, South Dakota.

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## WATER INSTITUTIONAL STRUCTURE IN THE UPPER MIDWEST

### INTRODUCTION

The upper Great Plains and Mountain States of the United States use a substantial quantity of water. Primary uses are irrigation, domestic, and industrial. The amount of water used is increasing as population grows, as more users exercise water rights, as farmers implement the use of irrigation to reduce risk, and as the states' economies become more diverse. Within the Upper Midwest, there is both geographic and temporal variability of water supply, resulting in various degrees of scarcity relative to the quantities demanded. The allocation method for the available water must be appropriate for these variations.

### THE DEVELOPMENT OF WATER LAW

Current water law in the Upper Midwest region, defined here as the states of Montana, Wyoming, Colorado, North Dakota, South Dakota, and Nebraska, is the result of adaptations of earlier laws. The system of water allocation used in the more humid regions of the United States is called riparian, meaning riverbank in Latin. It was developed and used in England and brought to the New World. It remains the dominant method of allocating water in the eastern United States. Another system of water law, prior appropriation, was developed and used upon settlement of the drier western United States, including the Dakota Territory (Garton, 1976). The two systems are based on two fundamentally different concepts.

#### Riparian Method

Riparian laws are most effective in regions of abundant water supply. The basis for riparian allocation is a right to use water that is adjacent to,

or on top of, a land owner's property. This land is called riparian land. The fundamentals of riparian allocation are based on respect for the possible future development of the water resource and the aesthetic beauty water adds to the surrounding area (Wilkinson, 1989). In short, water has multiple purposes: development for economic benefit and appreciation of its aesthetics.

Riparian law is the legal right to use water solely dependent upon the ownership of land and cannot be separated or taken away from land rights. Under riparian law, water may only be used on the riparian tract of land and may not be used, or sold for use, on another tract of land. Conflicts due to competing uses of riparian water are resolved through one of two branches of the riparian doctrine. The natural flow branch is based on the concept that one riparian user may not impair or diminish the availability of water to another riparian user. This implies that all riparian users have the right to have water flow by their property as if the river or lake were in its natural state. The second branch is called reasonable use and is more common. Each riparian user is entitled to reasonable use of the water. This takes into consideration the various needs and uses of other riparian water right holders. Conflicts over competing uses that exceed the stream capacity are decided in the courts, which determine what is considered a reasonable amount of water for each riparian user (Davidson).

In the water-abundant eastern states, the riparian method was effective. There were few shortages and thus few conflicts. The riparian method was not widely adopted in the west, though, because the method was not suited for an arid region. Great expanses of land were not adjacent to any water source. Limiting the use of water to adjacent tracts of land would limit the economic and social development of the region. The priority was simple: survival was

most important and water was used with a utilitarian perspective to make money. Another water allocation system was needed which permitted users to secure a reliable quantity of water that could be transported away from riparian lands.

#### Prior Appropriation Method

A solution to the problem was an allocation technique not dependent upon land ownership, prior appropriation. A right to use water could be obtained just by diverting water and applying it to beneficial use, defined as an economically valuable use (Davidson). In contrast to a riparian system of allocation, prior appropriation water may be lost due to a failure to continue its use, and the water may be used anywhere, not only on riparian tracts. In times of shortage, when there were competing uses, the rule -- first in time, first in right -- was applied. This resulted in a rank of seniority. Junior appropriators were the first to lose their rights, allowing the more senior users access to their legal appropriation. "Pure" appropriation allowed complete separation of water from land if it was necessary to meet the demands of the appropriators.

Prior appropriation was developed to meet the needs of the mining camps during the California gold rush in the 1840's. Water was not an amenity, but an engine. The first users of the water held the right for beneficial use and junior right holders could use what was left. A stream or lake could be drained with little concern for the resulting impact on non-economic uses of the water. The use of water by appropriators was largely ungoverned in the early days, resulting in the basic premise that decisions on water use were to be worked out by the private water users themselves (Wilkinson).

As western settlement expanded, the prior appropriation doctrine was adopted and assured the first users of water the first right to the available resources. The water right essentially became a property right. A more secure allocation system had been developed for the west.

#### Water Allocation in Early Settlement Period

Immigrants from the east brought their ideas, laws and customs with them. This included the riparian doctrine which had been effective in the more humid east. The riparian system entered the Plains region as common law and was codified in an 1866 statute of the Dakota Territory. It provided that the flow of water could not be dammed or altered so as to "prevent the natural flow" (Dakota Laws, ch.1, § 256 [1866]; Dak. Code § 255 [1877]). The natural flow branch was thus used. The need to move water resources to new uses and use sites is largely related to the demand-supply relationship of available water resources. Having created the opportunity for almost free acquisition of land in the west with the Homestead Act of 1862, the United States Congress passed the Reclamation Act of 1902, authorizing the development of large scale water development projects intended to irrigate the homesteaded west. Now, almost a century later, the water supplied through the U.S. Bureau of Reclamation accounts for about 15 percent of western water supplies.

Riparian rights were property rights. Statehood, to North and South Dakota in 1889 and Montana and Wyoming in 1890, soon brought the reasonable use concept into effect. The concept of reasonable use was important in that it limited use to that which could be used beneficially without impairing the rights of other users (Redwood Land & Canal Co. v. Reed, 26 S.D. 466, 128 N.W. 702 [1910]; Stenger v. Tharp, 17 S.D. 13, 94 N.W. 402 [1903]).



As settlement expanded and water resources were strained, people realized that the riparian system was not appropriate in the entire region. Adaptation of the prior appropriation method followed. The appropriation doctrine allowed for the acquisition by non-riparian water right holders of water that could be applied to use apart from the riparian tracts of land.

Several western states completely eliminated the riparian system from their laws and replaced it with the prior appropriation system. South Dakota added the prior appropriation system to its existing riparian law, creating a dual legal system of water allocation. After dealing with the ambiguities and conflicts of a dual water allocation system, South Dakota later developed a plan to incorporate the vested rights of the riparian system into an appropriation system.

The riparian and appropriation methods of allocation in South Dakota were applicable to all surface waters and all subsurface water that formed a definite and chartable stream. Ground water that did not form a definite and chartable stream was considered the absolute property of the land owner (Davidson).

Today, the same system of water law exists in South Dakota. Several adjustments within the system have been made to more appropriately reflect current water use conditions. One such change allows the transfer of some water rights. Transferability is important to meeting the demands of future generations of water users. The motivating reasons for the market transfer of water rights include a mutual perception by both the buyer and seller that the water right can be used to achieve greater economic returns in the new location, season, or purpose of use (Colby).

### Summary

States differ as to their basic approach to water use. Some favor more mobile resources and thus more immediate economic benefit, while others favor more regulation in favor of conservation, at the expense of economic return. Also, states differ as to the degree of need of aggressive, new water laws, based on the supply and demand situation in the state. For these reasons, it is apparent that the legal status of water allocation is largely a reflection of the conditions of the state and that it changes only upon need.

The laws of states such as California, Arizona, and New Mexico reflect greater water mobility as a result of water shortages and more aggressive water use plans. Northwestern and central states such as the Dakotas, Wyoming, and Montana are in less advanced water allocation environments, probably because they have more rain and smaller populations and economies. These states should recognize that, in the long run, the circumstances of water scarcity that are occurring in the southwestern states may confront in their own states as population and economic growth occurs. Therefore, implementation of water laws that are appropriate for these conditions and that have been proven successful should occur.

### CURRENT WATER ALLOCATION LAWS

The institutional structure of the water allocation laws of the Upper Midwest states follows. The states are divided into two groups, the Plains States (North Dakota, South Dakota and Nebraska) and the Mountain States (Montana, Wyoming and Colorado). These states have been chosen because of similarities in climatic conditions, location, irrigation use, and prior appropriation law. The key features of the laws are the preferences among

allocation laws. The features reflect the guidelines by which water resources are regulated. States with laws allowing for extensive mobility of water resources, with well defined restrictions to such movement, achieve maximum benefit from the resource's use. States with laws allowing for limiting mobility of water resources, have the least benefit from the resource's use. Extra benefit is achieved by the group of water rights holders that, given mobile rights, find greater opportunity to reallocate the water resources primarily due to lower transactions costs. States with more regulated water use receive the benefits of the resource's conservation.

#### Plains States

##### South Dakota

Introduction -- Allocation Method. The people of South Dakota own the waters found within the state's boundaries. This water is available for use by application through appropriation methods (SDCL § 46-1-3). Appropriative rights granted since March 7, 1907, are in full effect and their respective priority dates are retained (§ 46-5-4). Seniority of the water right determines priority during times of scarcity. Appropriative rights and vested rights constitute the water rights in South Dakota.

The term "vested right" means, for surface water:

- (1.) The right of a riparian owner to continue to use water actually applied to any beneficial use on March 2, 1955, or within three years immediately prior to that date to the extent of the existing beneficial use made of water;
- (2.) Use for domestic purposes...;
- (3.) The right of a riparian owner to take and use water for beneficial purposes if the riparian owner was engaged in the construction of works for the actual application of the water to a beneficial use on March 2, 1955, provided the works were completed and water was applied to use within a reasonable time thereafter;
- (4.) Rights granted before July 1, 1955, by court decree;
- (5.) Uses of water under diversions and applications of water prior to the passage of the 1907 water law and not subsequently abandoned or forfeited" (§ 46-1-9).

As for groundwater, the term "vested rights" means:

- (1.) Beneficial uses of groundwater under diversions and applications of water prior to February 28, 1955;
- (2.) The right to take and use groundwater for beneficial purposes where an owner or lawful agent was engaged in the construction of works for actual application of water to a beneficial use on February 28, 1955, provided such works shall be completed and water is actually applied for such use within a reasonable time thereafter (§ 46-6-1).

Preference Among Uses. The domestic use of water, primarily wells for one household, is the highest priority in South Dakota, therefore, no permit is required.

Administration of Water Resources. A water management board regulates and controls the development, conservation, and allocation of all state waters according to the principles of beneficial use and priority of appropriations (§ 46-2-11). The chief engineer acts as adviser to the water management board in all matters pertaining to the distribution and conservation of waters of the state (§ 46-2-3).

Change in the Use or Place of Use. By obtaining permission from the water management board, an appropriator may change the use of a permit through amendment of all permits, other than those for irrigation (§ 46-5-32). Priority is retained upon amendment of the permit. The rate of diversion and the volume of water appropriated may not be increased by amendment to the permit. An amendment may not impair existing rights (§ 46-5-30.4).

A transfer of irrigation rights apart from the land to which it is appurtenant may occur if the transfer is for domestic use or use within a water distribution system. The transfer may be a part or the whole of the right, must be approved by the water management board, and may not be detrimental to existing rights having a priority date before July 1, 1978, or to individual domestic users (§§ 46-5-33, 46-5-34.1)

Unique Features. South Dakota law prohibits "mining" of groundwater. Mining occurs when a quantity of water is pumped annually from a ground aquifer that is greater than the annual recharge to that aquifer (§§ 46-2-14 and 46-6-3.1). An exception to this rule is made for water distribution systems.

A water use control area may be declared if the holders of the rights to 50 percent or more of the total diversion of water under permit petition the water management board and it is approved. Approval by the board shall occur if it is within the public interest, if it is necessary to equitably apportion the available water supplies for use among the water right holders, and if it is feasible. Irrigation, conservancy, and water development districts are other methods of promoting conservation, development, and good management of water resources.

Summary. The water allocation laws of South Dakota allow for economic benefit from the use of water. Restrictions on the transfer and the mining of water resources, and the establishment of water use control areas, are examples of conservation and protection of the state's water resources from exploitation.

Protection of water resources through the prohibition of mining is a good long run conservation tool, as is the establishment of water use control areas. Given that these methods of conservation are worthy, restrictions on the transfer of water rights limit the mobility of the water resources, thus impairing the use of the resource in its highest valued use.

#### North Dakota

Introduction -- Allocation Method. All waters within the limits of North Dakota that are not privately owned belong to the public and are subject

to appropriation for beneficial use (NDCC § 61-01-01). This method of allocation, although not defined in the law books specifically, is prior appropriation.

The state engineer will issue a permit to appropriate if all of the following criteria are met:

- (1.) The rights of a prior appropriator will not be unduly affected.
- (2.) The proposed means of diversion or construction are adequate.
- (3.) The proposed use of water is beneficial.
- (4.) The proposed appropriation is in the public interest. In determining the public interest, the state engineer shall consider all of the following:
  - (a.) The benefit to the applicant resulting from the proposed appropriation.
  - (b.) The effect of the economic activity resulting from the proposed appropriation.
  - (c.) The effect on fish and game resources and public recreational opportunities.
  - (d.) The effect of loss of alternate uses of water that might be made within a reasonable time is not precluded or hindered by the proposed appropriation.
  - (e.) Harm to other persons resulting from the proposed appropriation.
  - (f.) The intent and ability of the applicant to complete the appropriation.

Preferences Among Uses. North Dakota law (§ 61-04-06.1) establishes a rank of preference order as follows:

- (1.) Domestic use;
- (2.) Municipal use;
- (3.) Livestock use;
- (4.) Irrigation use;
- (5.) Industrial use;
- (6.) Fish, wildlife, and other outdoor recreational uses.

This ranking indicates different levels of value to society. The priority of time shall give the superior right, and thus the order of seniority used in times of water scarcity. The ranking of preference is important in the transfer of a water right and will be discussed in more detail later.

Administration of Water Resources. The North Dakota state water commission is responsible for the allocation of the state's water resources (§

61-02-29). The commission consists of the governor, the commissioner of agriculture, and seven other members to be appointed by the governor. Geographic diversity is considered in these appointments (§ 61-02-04). A state engineer is appointed by the state water commission to conduct the day-to-day operations of the commission.

Change in Use or Place of Use. A water permit may be transferred to any parcel of land owned or leased by the holder of such water permit if approved by the state engineer. Reasonable proof indicating that the transfer can be made without detriment to existing rights is necessary. The state engineer then assigns or simultaneously severs and transfers the permit without changing the priority date of the water right (§ 61-04-15). A change in the purpose of use may occur only if it is for a superior use as determined by the order of priorities listed above (§ 61-04-15.1).

Unique Features. North Dakota water law includes a section requiring responsible use of water. A water right that has been injured by either diminished quantity or quality by another water right holder can be awarded damages if so found by an appropriate court. The damages can amount to the cost of making repairs, alterations or construction such that the surface owner may be ensured that delivery of water will return to the same levels of quality and quantity as before the illegal diminution.

Summary. North Dakota water law allows for economic benefit through the prior appropriation method of allocation. Transfers of the point of diversion or use are permitted only within a single right holder's land, thus restricting the mobility of water as a resource. This trait, along with the unique feature punishing those who illegally diminish the supply of usable water through reduction in quantity or level of quality, indicate a desire to

limit abuse of the water supply and to protect the first users in North Dakota.

The preference list for granting permits and the need for changes in use indicate an attempt to put the water resources to their highest preferred use.

#### Nebraska

Introduction -- Allocation Method. The state of Nebraska is a "prior appropriation" state. The waters of every natural body of water, not appropriated as of 1895, are the property of the public and subject to appropriation (NRS § 46-202). Water for irrigation use is declared a "natural want" (§ 46-201). All water appropriated for storage is subject to reappropriation for recovery and beneficial use (§ 46-202). The right to divert unappropriated water shall never be denied unless such appropriation is not in the public interest (§ 46-203).

Preference Among Uses. Preference among uses of the same kind are determined by the priority of appropriation, or seniority. In times of insufficient supply, domestic use takes preference over all other uses and the use of water for agricultural purposes takes preference over manufacturing purposes (§ 46-204).

Administration of Water Resources. The Department of Water Resources is given jurisdiction over matters pertaining to water rights, including the appropriation of water. The state is divided into two water divisions. One or more division engineers, acting for the Department of Water Resources, administers the public water of the state in each water division. The division engineers, under the direction of the Department of Water Resources, see that the laws relative to the distribution of water are executed in accordance with the rights of prior appropriation.



Interbasin Transfers. The appropriated waters from a surface water source must drain back into the same basin from which it is taken. Exception to this rule may be made if the receiving river is at least 100 feet in width, and if the quantity of water removed from the river of origin is not more than 75 percent of the river's regular flow (§ 46-206). The transfer is subject to the evaluation of the Director of Water Resources. Consideration is given to several factors, including:

- (1.) The economic, environmental, and other benefits of the proposed interbasin transfer and use;
- (2.) Any adverse impacts of the proposed interbasin transfer and use;
- (3.) Any current beneficial uses being made of the unappropriated water in the basin of origin;
- (4.) The economic, environmental, and other benefits of leaving the water in the basin of origin for current or future beneficial uses;
- (5.) Alternative sources of water supply available to the applicant; and
- (6.) Alternative sources of water available to the basin of origin for future beneficial uses.

The application is determined in the public interest if the overall benefits to the state and the applicant's basin are greater than or equal to the adverse impacts to the state and the basin of origin" (§ 46-289).

Intrabasin Transfers. A person possessing a permit to appropriate water who wishes to apply for a transfer of use to a different location within the same river basin must apply to the Department of Water Resources for such change. After public notice has been given and a hearing has taken place, the Director shall approve such transfer if:

- (1.) The requested change of location is within the same river basin and will not adversely affect any other water appropriator and will not significantly affect any riparian water user who files an objection in writing prior to the hearing;
- (2.) The requested change will use water from the same source of supply as the current use;
- (3.) The change of location will not diminish the supply of water otherwise available;

- (4.) The water will be applied to a use in the same preference category as the current use, provided in § 46-204 (see above);
- (5.) The requested change is in the public interest (§ 46-294).

Summary. The water allocation laws of Nebraska allow for significant economic benefit from the use of water. The reservation of water for domestic use above all other uses indicates concern for the well-being of Nebraska citizens. The declaration of water for irrigation uses as a "natural want" is a reflection of the agricultural heritage of the state. Preference of agricultural uses over manufacturing uses of water indicate the commitment of the Nebraska people to an agricultural economy.

The factor that is most reflective of the intent to use water as an economic resource is the legal structure that allows for the transfer of a water right by one user to another user, both within the same basin and to another basin. The conditions which such transfers must meet ensure that the benefits of the transfer are greater than the detriments.

#### Mountain States

##### Montana

Introduction -- Allocation Method. The waters within the state of Montana are the property of the state and are for the use of its people. The use of water is a public use, subject to appropriation for beneficial uses. Significant changes in Montana's water law took place in 1973. One such change gives significant priority to appropriations perfected before July 1, 1973. Other significant changes occurred in 1985. The Montana Legislature enacted major legislation providing for the marketing of water by private users, the state, and Indian tribes (Thorson).

To acquire a permit, the applicant must show "substantial credible evidence" that the following criteria are met:

- (a) There are unappropriated waters in the source of supply at the proposed point of diversion;
- (b) The water rights of a prior appropriator will not be adversely affected;
- (c) The proposed means of diversion, construction, and operation of the appropriation works are adequate;
- (d) The proposed use of water is a beneficial use;
- (e) The proposed use will not interfere unreasonably with other planned uses or developments for which a permit has been issued or for which water has been reserved; and
- (f) The applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use" (MCA § 85-2-311).

Additional sections of this law restrict appropriations to large scale users through additional stipulations that must be met before allocation.

Preference Among Uses. There is no specific order of preference among water uses. However, significant procedural differences exist for appropriations of surface water and ground water that are less than specified sizes. These exceptions allow for quicker access to water for livestock and domestic uses (Appropriation of Water in Montana).

Administration of Water Resources. A Water Policy Committee, consisting of eight members, four each from the state senate and house of representatives, acts as the advisory body for all water policy within the state of Montana. This committee oversees the Department of Natural Resources and Conservation, which enforces and administers the state's water laws and policies.

Change in Use or Place of Use. Approval of the Department of Water Resources and Conservation is necessary before there is any change in use, location, diversion or storage of any existing water right or plan to separate or sell all or any part of a water right from the land on which it is used (Appropriation of Water in Montana). The department shall approve a change in

appropriation right if the appropriator proves by substantial credible evidence that the following criteria have been met:

- (a) The proposed use will not adversely affect the water rights of other persons or other planned uses or developments for which a permit has been issued or for which water has been reserved.
- (b) The proposed means of diversion, construction and operation of the appropriation works are adequate.
- (c) The proposed use of water is a beneficial use.
- (d) The applicant has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use (§ 85-2-402 Effective July 1, 1993).

Additional sections of this law pertain to large scale transfers, those involving more than 4,000 acre feet of water per year and 5.5 or more cubic feet per second of water.

Unique Features. Montana state water law provides for a water leasing program to be administered by the Department of Water Resources and Conservation. The department may acquire rights to water for leasing under this program through an appropriation of water in its own name or by agreement with or purchase from another holder of a water right. Water obtained for use in this program is restricted to several sources. Water may be leased for any beneficial use. The amount leased under this program may not exceed 50,000 acre feet. The terms of an original agreement may not exceed 50 years, yet may be extended for up to another 50 years.

Consideration for approval of such application for lease is determined by the following:

- (1.) The content of an environmental impact statement, if one is required;
- (2.) The sufficiency of water available under the water leasing program; and
- (3.) Whether the criteria for the issuance of a permit has been met.

The department may differentiate in pricing, depending on the proposed beneficial use of the water (§ 85-2-141).

Another unique feature of Montana water law is the existence of "controlled ground water areas". This legislation requires that a permit to appropriate be acquired before appropriation of ground water in any amount. As of May 1982, only one area of the state had been declared as such.

Summary. Significant benefit from the use of water as a resource may be obtained in Montana. The reasons for this include the mobility of water through the transfer of use and place of use laws, the nature of the prior appropriation system, the leasing program, and the ease by which small appropriations for domestic and livestock use can be made.

The declaration of controlled groundwater areas and the stipulation that appropriation permits, as well as changes in use or place of diversion, be given only when sufficient water is available are indicators of conservation efforts.

## Wyoming

Introduction -- Allocation Method. Wyoming water allocation law is based on the doctrine of prior appropriation. Water rights are regulated by priority. The Wyoming Constitution provides that all natural streams, springs, lakes or other collections of still water within the state are the property of the state.

Preference Among Uses. Wyoming water law defines two types of uses of water: "preferred" and "non-preferred" uses. The definition of preferred uses, for both ground and surface water is as follows:

- (1.) Water for drinking purposes for both man and beast;
- (2.) Water for municipal purposes;
- (3.) Water for steam engines and general railway use; water for culinary, laundry, bathing, and refrigerating (including the manufacture of ice)uses; water for steam and hot water heating plants; and water for steam power plants;
- (4.) Industrial purposes" (Brosz, et al).

All uses of water that are not "preferred" are "non-preferred". In times of insufficient water supply, the priority date of a water right determines who has access to the water, not whether the right is "preferred" or "non-preferred". The only way to obtain a preferred right from a non-preferred right is by purchase or by condemnation through court action. Due compensation is required if condemnation is necessary for a municipality to get the water right. Public interest is considered in cases of initial appropriation.

Administration of Water Resources. Wyoming waters are administered by the state engineer. The state is divided into four divisions, each administered by a water division superintendent. Water commissioners and hydrographer-commissioners assist the division superintendents. The four division superintendents and the state engineer constitute the state board of control. "The board meets quarterly to adjudicate or finalize water rights and to consider other matters pertaining to water rights such as change in point of diversion, or other amendments or corrections of water rights" (Brosz, et al).

Change in Use or Place of Use. To change the use or place of use of an existing water right, the right holder must file a petition requesting such change. The state board of control hears the request and determines, based on several factors, whether the change can take place. These factors include reassurance that the quantity of water transferred by granting the petition is not in excess of the water historically diverted under the existing use, that the historic rate of diversion and the amount consumed cannot exceed that under the existing use, and that the change in use does not decrease the historic amount of return flow, or in any manner injure other existing lawful

appropriators. The board of control considers all facts it believes pertinent to the transfer. These facts may include:

- (1.) The economic loss to the community and the state if the use from which the right is transferred is discontinued.
- (2.) The extent to which such economic loss will be offset by the new use.
- (3.) Whether other sources of water are available for the new use.

In all cases where the matter of compensation is in dispute, the question of compensation shall be submitted to the proper district court for determination" (Brosz, et al).

Unique Features. Two or more water rights holders may rotate the use of their combined water rights after obtaining permission from the water division superintendent or water commissioner. This plan may allow for economic benefits to the participants by concentrating their combined water in the use most highly valued among them.

Summary. Wyoming water laws allow for significant benefit from the use of water. The factors that are most reflective of the intent to use water as an economic resource include the legal structure that allows for the transfer of water rights to a different use and to a different location, and the ability to rotate combined water rights among several users. These laws allow for substantial mobility of water resources, and thus a competitive market for water use.

The classification of "preferred" and "non-preferred" uses of water determines what uses of water are considered most valuable by the people of Wyoming. Irrigation water use is a "non-preferred" use of water. Therefore, irrigation water use is of less value than industrial water use. This is a reflection of the higher economic value generally associated with the use of

water in industry rather than in agriculture, and the intent of the people of Wyoming to capture that benefit.

### Colorado

Introduction -- Allocation Method. The waters of streams in Colorado are public property. These waters are subject to appropriation. The right to divert unappropriated waters of any natural stream to beneficial uses may not be denied. Appropriation occurs with physical diversion and transportation to another locale for beneficial use. Diversion and beneficial use are necessary for acquisition of a priority right (Colorado Constitution, §§ 5 & 6, Article XVI). An absolute right is the permanent right approved by the State Engineer after perfection of the water right. A conditional right is a water right in the process of being perfected.

Preference Among Uses. Priority among users in times of scarcity are determined by priority of appropriation among uses for the same purpose. Domestic uses take preference over all other uses, and agricultural uses take preference over manufacturing uses.

Administration of Water Resources. The State Engineer is responsible for the administration and distribution of the waters of the state with the help of the Division of Engineers (CRS §§ 37-80-101 to 37-80-111, and 37-92-301 [1973 & 1988 Supp.]). There is one Division Engineer for each of seven water divisions within the state who is responsible for the day-to-day administration of the waters within his or her division (§ 37-92-202, [1973])

Change in Use or Place of Use. The use of water may be changed or expanded only if approved by the State Engineer. A change in a water right constitutes any change from what that right has been historically. Any form of water right, whether it be absolute or conditional, surface or ground, may



be changed. A water right is a property right in Colorado, and thus may be bought, sold, or moved and put to beneficial uses without any limitation as long as the change does not injure another vested water right (§ 37-92-103(5), [1973]; *The City of Colorado Springs v. Yust*, 126 Colo. 289, 249 P.2d 151 [1951]; *Green v. Chaffe Ditch Co.*, 150 Colo. 91, 371 P.2d 775 [1962]).

Proposed changes in the point of diversion are approved based on the same factors involved with a change in the water right. A change may be granted if vested junior rights are not injured as a result of the change. If injury exists, compensation may be agreed upon and included in the decree.

Unique Feature. A special water organization administers the use of water in the Denver Basin. This is an area of several aquifers where a modified system of allocation is applied such that the right to appropriate water is based on land ownership or consent to withdraw.

Summary. The state of Colorado receives significant benefit from the use of the waters within its boundaries. The prior appropriation method and a very transferable water right allow for mobility of water resources and efficient allocation to the highest valued uses. The protection of domestic and agricultural water use interests is a reflection of the necessity to preserve human life and the agricultural heritage of Colorado's economic foundation.

#### Summary

The water allocation laws are quite similar among these six states. All define their water supply as being owned by the people of the state and available for appropriation for beneficial use. Domestic use is the highest valued use and superior to any senior appropriation. Public interest criteria for appropriation are used in the Plains states. All six states have state-

supervised governing boards that make all final decisions (except for a few exceptions, where the state legislature so decides) on water rights issues.

The Mountain states and Nebraska allow for significant transferability of water rights to new places of use, uses, and owners. Third party protection and public interest criteria are significant factors considered by the state water agencies in determining whether such transfers may occur. South Dakota allows only for the transfer of irrigation rights for domestic use or use within a water distribution (drainage) system. North Dakota does not allow transfers of water rights to new rights holders.

South Dakota is the only state prohibiting mining of water resources. North Dakota specifies liability criteria for protecting individual rights holders from infringement of their rights by others.

Nebraska is the only state that the law specifies criteria that must be met for interbasin and intrabasin transfers of water rights. The other states do not have specific laws that specify the criteria that allow permits for such transfers to occur.

#### SUMMARY

Circumstances regarding water use are changing. Within the last several years water shortages and drought have occurred in urban communities and in vast rural regions. Even greater flexibility in water allocation will be necessary in the future as demand continues to increase and total available supply remains relatively inelastic due to current economic and institutional impediments.

Within the Upper Midwest region, the vast physical supplies of water can meet the expected demands for water for years to come if economic and

institutional limitations are overcome. Until this occurs, the uneven distribution of supplies and varying quantities and qualities of water will persist in restricting the efficient use of water.

Several approaches for dealing with this situation exist. One includes increasing the quantity of water supplied through water development. However, limitations exist, particularly on large scale developments with respect to environmental and economic concerns. Another approach is to reduce the quantity of water demanded. This could be accomplished through conservation measures and incentives and by eliminating waste in current uses. The use of economic principles to ration water may be needed. However, other alternatives also are necessary. The most important is change in water laws and policies that increase the mobility of the water rights between uses without harm that such changes might have on third parties. By increasing the mobility of water resources then the market for water right plays an important roll. Users with a greater economic benefit will be willing to pay a greater amount for the right. Thus, the change in the legal structure will allow for a larger benefits from the resource use than under the current legal institution.

## REFERENCES

- Brosz, D.J., G.L. Christopulos, and J.J. Jacobs. Wyoming Water Law: A Summary. Agricultural Extension Service, University of Wyoming, Laramie, WY, August 1985.
- Colby, Bonnie G. "Economic Impact of Water Law -- State Law and Water Market Development in the Southwest." Natural Resources Journal. Volume 28, No. 4, 1988.
- Davidson, John H., Jr., "Basis of South Dakota Water Law." (Pamphlet) Cooperative Extension Service, South Dakota State University and the U.S. Department of Agriculture, Brookings, SD, no date.
- Davidson, J.H., Jr., and J.L. Wiersma. "Obtaining a Water Right." (Pamphlet) Cooperative Extension Service, South Dakota State University and the U.S. Department of Agriculture, Brookings, SD, no date.
- Garton, William A. "South Dakota's System of Water Management and Its Relation to Land Use and Economic Development." South Dakota Law Review. Volume 21, No.1, 1976.
- "Montana Water Law" Montana Codes Annotated, Title 85, Chapter 2; Administration Rules of Montana, Title 36, Chapter 12; 1989.
- North Dakota State Water Commission. "North Dakota Water Laws." Bismarck, ND, 1985.
- South Dakota Division of Water Rights. "Summary of South Dakota Water Law and Water Rights Information." Department of Water and Natural Resources. Pierre, SD, May 1987.
- Thorson, John E. "Water Marketing in Big Sky Country: An Interim Assessment." Natural Resources Journal. Volume 29, No.2, 1989.
- Water Rights Division. "Appropriation of Water in Montana," (Pamphlet) Montana Department of Water Resources and Conservation, Helena, MT, May 1982.
- Wilkinson, Charles F. "Western Water Law in Transition." National Forum: The Phi Kappa Phi Journal. Winter 1989.

## Legal Cases

- Green v. Chaffe Ditch Co., 150 Colo.91, 371 P.2d 775 (1962).
- Redwood Land Canal Co. v. Reed, 26 S.D. 466, 128 N.W. 702 (1910).
- Stenger v. Tharp, 17 S.D. 13, 94 N.W. 402 (1903).
- The City of Colorado Springs v. Yust, 126 Colo. 289, 249 P.2d 151 (1951).

## State Laws

California Water Code §§ 470, 475, 480-483, 1725-30, 1810-14 (West. Supp. 1988).

California Water Code §§ 1735-1739 (West. Supp. 1986).

Colorado Constitution §§ 5 & 6, Article XVI.

Colorado Rev. Stat. §§ 37-80-101 to 37-80-111, and 37-92-301 C.R.S. (1973 and 1983 Supp.).

Dakota Laws, ch. 1, § 256 (1866).

Dakota Code, § 255 (1877).

Montana Code Ann. §§ 85-2-311, 85-2-402, 85-2-141 (1989).

Nebraska Rev. Stat. §§ 46-201 to 46-204, 46-206, 46-289, 46-294 (1989).

Nevada Rev. Stat. § 533.040 (1985).

North Dakota Cent. Code §§ 61-01-01, 61-04-06.1, 61-02-29, 61-02-04, 61-02-04, 61-04-15, 61-04-15.1 (1989).

New Mexico Stat. Ann. §§ 72-6-1 to 72-6-7 (Repl. Pamph. 1985).

Oklahoma Stat. Ann. § 82-105.22 (Supp. 1987-88).

South Dakota Statute Compilation Commission. South Dakota Codified Laws Annotated §§ 46-1-3, 46-1-5(1,2,6), 46-5-4, 46-1-9, 46-6-1, 46-2-11, 46-2-3, 46-5-32, 46-5-30.4, 46-1-6(6), 46-5-33, 46-5-34, 46-5-34.1, 46-2-14, 46-6-3.1., Indianapolis: The Allen Smith Co., 1989.

Utah Code Ann. § 73-3-3 (Cum. Supp. 1987).

Washington Rev. Code § 90.03.390 (Supp. 1988).

Wyoming Stat. §§ 41-3-110 and 41-3-110(c) (Cum. Supp. 1988).