

CITIZEN'S GUIDE TO

# COLORADO WATER LAW

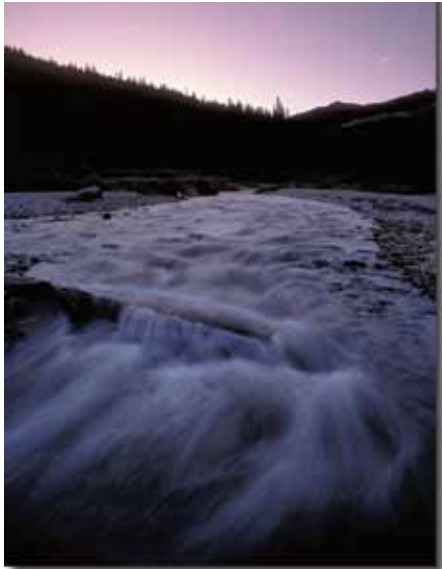
Prepared by

Colorado Foundation for Water Education

3<sup>rd</sup>  
EDITION



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The headwaters of the Colorado River (above) are in Colorado Water Division Five.

## Citizen's Guide to Colorado Water Law

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The mission of the Colorado Foundation for Water Education is to promote a better understanding of water issues through educational opportunities and resources, so Colorado citizens will understand water as a limited resource and make informed decisions. The Foundation does not take an advocacy position on any water issue.



Early irrigation project near Eaton, Colorado.

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## TWO RIVERS

by Thomas Hornsby Ferril

Two rivers that were here before there was  
A city here still come together: one  
Is a mountain river flowing into the prairie  
One is a prairie river flowing toward  
The mountains but feeling them and turning back  
The way some of the people who came here did.

Most of the time there people hardly seemed  
To realize they wanted to be remembered,  
Because the mountains told them not to die.

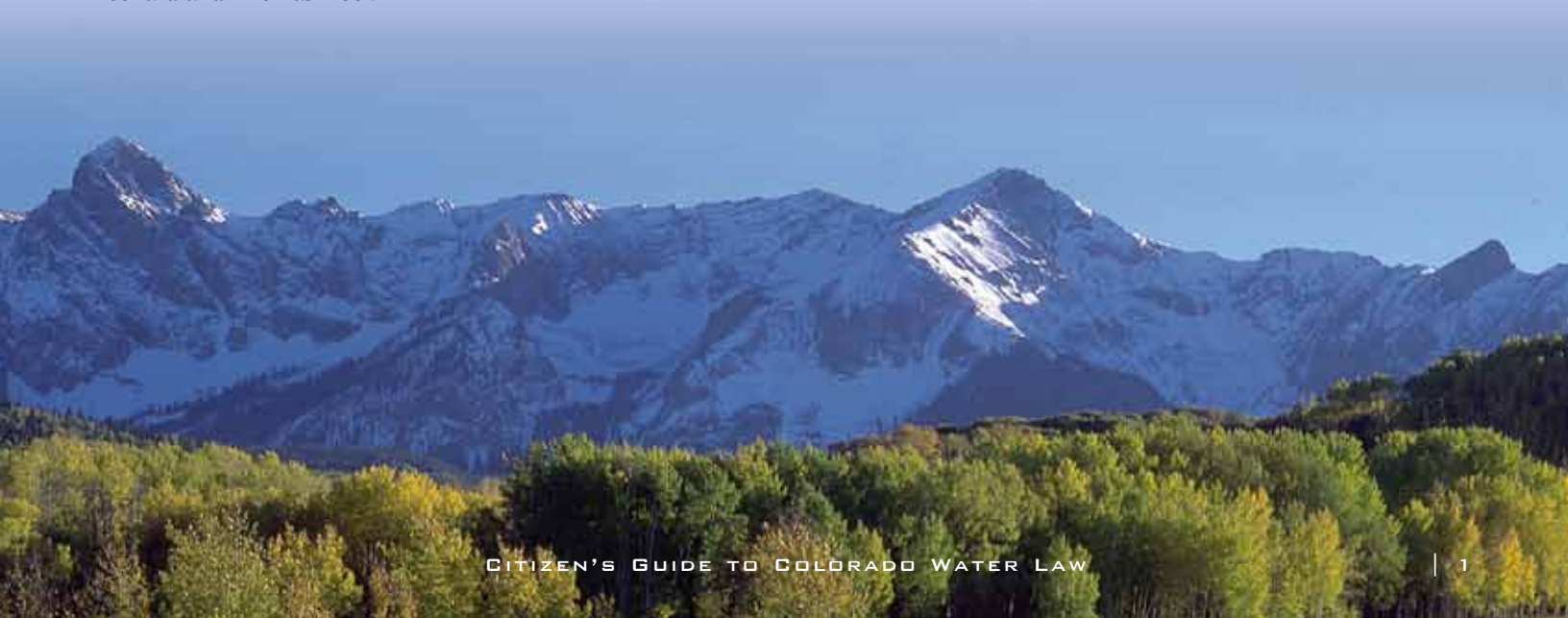
I wasn't here, yet I remember them,  
That first night long ago, those wagon people  
Who pushed aside enough of the cottonwoods  
To build our city where the blueness rested.

They were with me, they told me afterward,  
When I stood on a splintered wooden viaduct  
Before it changed to steel and I to man.  
They told me while I stared down at the water:  
*"If you will stay we will not go away."*



Written by Thomas Hornsby Ferril in reference to the confluence of Cherry Creek and the South Platte River. The discovery of gold at the confluence of these rivers in 1858 led the way towards development of what is now the metropolitan Denver area.

From *Thomas Hornsby Ferril and the American West*, edited by Robert Baron, Stephen Leonard and Thomas Noel.



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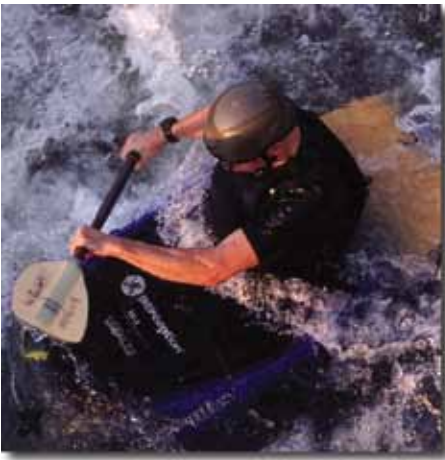
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*Under Colorado water law, environmental and recreational needs are acknowledged as a beneficial use of water. Recreational in-channel diversions provide courses for kayakers and instream flow requirements benefit fish and fisherman. The Sandhill Crane’s habitat (above) in Nebraska is protected in part by interstate agreements governing water in the South Platte River.*



*In some cases water rights that have been traditionally used for agriculture are being transferred to urban use. The water right that provided irrigation for these mountain pastures near Kremmling, Colorado now provides water for the Denver area.*

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*The availability of our most precious resource – water – is often taken for granted in the semi-arid west. Times of drought and flood focus attention on water resources, but it is our system of laws and regulations that protect individual and community rights.*



# History of Colorado Water Law: Adaptation & Change

## Introduction

Colorado water law rests on a strong foundation of territorial and state law. These laws prove a basic proposition time and again. Water is a public resource and water law evolves with the customs and values of the people.

The story of Colorado water law is one of adaptation and change. Territorial law

regions may receive more than 40 inches of precipitation annually. The timing of precipitation also varies throughout the year. Rivers may flood with the rush of spring snowmelt, or dry up during hot summers interrupted only by the occasional thunderstorm. (See *Citizen's Guide to Where Your Water Comes From*, [www.cfwe.org](http://www.cfwe.org)).



*The first diversion of the Colorado River, Rocky Mountain National Park.*

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*Water is a limited resource, vital to Colorado. The Colorado census of 1861 reported slightly over 26,000 persons. By 2008, the state's population had grown to some 5 million. Natural limitations on the state's water resources may be further aggravated by climate change.*

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that started out to promote mining and irrigation has turned into state law that serves a multitude of human and environmental needs.

Water is a limited resource, vital to Colorado. The Colorado Territorial census of 1861 reported slightly over 26,000 persons. By 2009, the state's population had grown to over 5 million. Natural limitations on the state's water resources may be

In light of water's scarcity and value in this arid region, Colorado water law guarantees security, assures reliability and creates flexibility in the development and protection of water resources.

- Security resides in the law's ability to identify and protect water rights;
- Reliability is assured by the system's capacity to administer and enforce water rights over time; and,
- Flexibility allows water rights to be changed, transferred, sold or exchanged.

## The Colorado General Assembly

The Colorado General Assembly is comprised of the House of Representatives (65 members) and the Senate (35 members). It meets in regular session from January to early-May each year. The House and Senate Committees on Agriculture and Natural Resources consider most water-related legislation. If state funding is involved, the appropriations committees of the House and Senate also consider water-related bills. Follow the legislative process and listen to hearings and floor proceedings by visiting the General Assembly's Web site at [www.leg.state.co.us](http://www.leg.state.co.us).

This Citizen's Guide is designed to provide a comprehensive and balanced overview of Colorado water law. It is for educational purposes only and is not intended to substitute for legal or engineering advice regarding Colorado water law or water rights.

## Native American and Hispanic Water Uses

Water scarcity has always been a fact of life in the western Americas. The relatively new science of paleohydrology (i.e., the archeological study of ancient water structures) has uncovered ditches, reservoirs, aqueducts, cisterns and fountains crucial to native peoples for water supply and worship.

**Statute** – A law enacted by a legislative body, such as the U.S. Congress or the Colorado General Assembly.

**Riparian** – Referring to land or habitat immediately adjacent to the stream channel.

further aggravated by climate change.

Many areas of Colorado receive little natural precipitation. The average yearly precipitation in Colorado is about 17 inches, although there is substantial variation across the state. For example, the San Luis Valley and parts of south central Colorado receive an average of less than 12 inches of precipitation each year. In contrast, mountainous

# History of Colorado Water Law: Adaptation & Change

Here in Colorado, paleohydrologists have discovered that four mounded areas at Mesa Verde National Park—once thought to be dance platforms—were actually canyon bottom and mesa top reservoirs operated between 750 and 1180 A.D. to intercept intermittent storm runoff.

Hispanic peoples from northern New Mexico who first settled in Colorado's San Luis Valley brought with them the tradition of community irrigation ditches, known as acequias (pronounced ah sek e ahs). More than 350 acequias operated in New Mexico by the mid-1800s. Today in Colorado, the oldest continuous water right is the 1852 San Luis People's Ditch, diverting water from Culebra Creek in Costilla County.

## Colorado's Early Territorial and State Law

In 1861, when Congress created the Colorado Territory, Colorado's settlement and growth depended on the ability of its citizens and businesses to obtain property rights in land and water held by the United States. Accordingly, the first territorial legislature enacted land and water laws taking the broadest possible approach towards settler's rights.

Federal law made public land and water available for local governmental and private use. In 1862, Congress adopted the Homestead Act for settlement on public lands. It followed with the 1866 Mining Act and subsequent federal statutes that allowed settlers to build ditches and reservoirs and divert water on public lands. Congress did not enact a federal water law. Instead, it allowed the territories and states to create their own water law and water rights.

*Yunker v. Nichols* in 1872 was the Territorial Supreme Court's first major water law decision. The court held that water could be diverted from the stream and ditches built across public and private land to convey water to its place of beneficial use.

Chief Justice Moses Hallett proclaimed that, "In a dry and thirsty land it is necessary to divert the waters of the streams from their natural channels." Justice Wells added that Colorado water law is based on



*This aerial view shows the restored Far View Reservoir (above) in Mesa Verde National Park. Formerly known as "Mummy Lake" and thought to be an ancient dance pavilion, recent research has shown it was actually an important water storage facility for the native Pueblo people dating from AD 950-1180. Before the structure was restored, cowboys (at left, ca 1915) would water horses there while riding on Chapin Mesa.*

"the force of necessity arising from local peculiarities of climate."

The court decided that Colorado law broke away entirely from the water law framework followed in many other areas of the country, known as the Riparian Doctrine. Under riparian law, only those with land adjoining the stream had a right to use stream water. But, in Colorado, farmers with lands many miles from the stream required water to irrigate crops and ditches were necessary to get water to them. The settlers feared corporations might tie up water for future development and deprive small farmers of a water supply. From the outset, Colorado law contained actual beneficial use and anti-speculation components.

Over time, these founding legal principles have evolved into a framework of water law known as the Colorado Doctrine.

## The Colorado Doctrine

The Colorado Doctrine is a set of laws regarding water use and land ownership, adopted by the people of Colorado starting in the 1860s. It defines four essential principles of Colorado water law:

- 1) All surface and groundwater in Colorado is a public resource for beneficial use by public agencies and private persons;
- 2) A water right is a right to use a portion of the public's water resources;
- 3) Water rights owners may build facilities on the lands of others to divert, extract, or move water from a stream or aquifer to its place of use; and,
- 4) Water rights owners may use streams and aquifers for the transportation and storage of water.

# Basics of Colorado Water Law

## The Prior Appropriation System for Surface and Tributary Groundwater

A legal framework called the prior appropriation system regulates the use of surface water and tributary groundwater connected to rivers. This system, mandated by Colorado's Constitution, is called the "prior appropriation doctrine." The 1969 Water Right Determination and Administration

Act contains the primary legal provisions governing the prior appropriation system, along with certain provisions of the 1965 Groundwater Management Act.

To better understand how this system works, let's begin word-by-word.

### Tributary Groundwater

Tributary groundwater is found below the Earth's surface. It is hydrologically connected to a river. The interaction between streams and tributary groundwater occurs in three basic ways:

- 1) Streams gain water from inflows of groundwater;
- 2) Streams lose water to aquifers via outflows from the stream; or
- 3) Streams do both by gaining water from aquifers in some reaches and losing it to aquifers in other reaches.

Water added to a groundwater system from irrigation can increase the flow of the surface stream; conversely, well pumping can deplete the surface stream. An aquifer is a water-bearing geological formation. Inflows to an aquifer, also called recharge, occur when surface water percolates through soil or geologic fractures into the aquifer. Discharge is the contribution of water from the aquifer to the surface stream or spring. Storage refers to the capability of the aquifer to hold water for a period of time.

### Prior

Water users with earlier court-decreed rights (senior rights) can divert in times of short natural supply before later-acquired rights (junior rights) can begin to use water. The phrase "first in time/first in right" is a shorthand description of the prior appropriation doctrine.

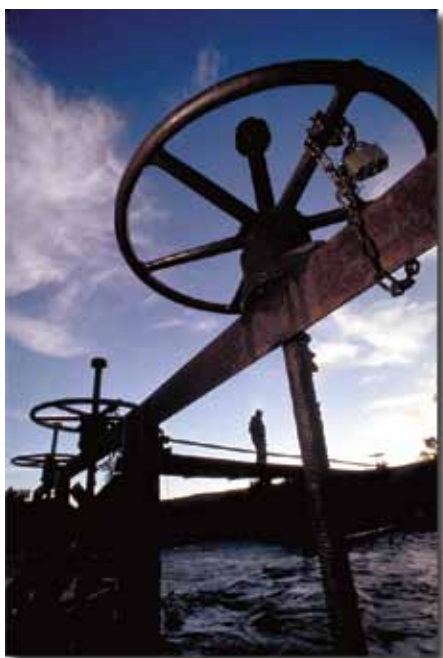
### Appropriation

Appropriation occurs when a public agency, private person, or business places available unappropriated surface or tributary groundwater to a beneficial use according to procedures prescribed by law. The appropriator must have a plan to divert, store, or otherwise capture, possess and control the water and must specify the amount of water to be used, the type of beneficial use and the locations of diversion or storage and use. Without such a plan, the water right application is considered speculative and is, therefore, prohibited.

### System

The prior appropriation system provides a legal procedure by which water users can obtain a court decree for their water right (see *Water Courts*, p. 12). This process of court approval is called adjudication. Adjudication of a water right results in a decree that confirms the priority date of the water right, its source of supply, amount, point of diversion, type and place of use and includes conditions to protect against injury to other water rights.

There are two basic types of prior appropriation water rights: storage rights and direct flow rights to surface water and tributary groundwater. The first puts water into a reservoir. The second takes water directly from the stream or aquifer by a ditch or well to its place of use. The prior appropriation



*An irrigation headgate near Kremmling, Colorado controls the amount of water diverted from the Colorado River.*

***Diversion or Divert*** – The removal or control of water from or within its natural course or location, by means of a water structure such as a ditch, pipeline, boat chute, whitewater course, reservoir, or well.

***Injury*** – The results when the action of another that causes or may cause the holders of decreed water rights to suffer loss of water in the time, place and amount they are entitled to use the water.



system also lays out an orderly procedure for state officials to distribute water according to the decreed water right priority dates, shutting off junior rights as needed to satisfy senior rights. The only exceptions to this order of priority occurs when there is an approved replacement water supply plan in place that would allow out-of-priority diversions (see Augmentation Plans, Exchanges and Substitute Water Supply Plans, p. 16, 17), when there is a statutory exemption from administration (see Exempt and Non-Exempt Wells, p. 17), or when the water officials declare a futile call (see Futile Call, p. 32).

## Beneficial Use

Beneficial use is the basis, measure and limit of a water right. Colorado law broadly defines beneficial use as a lawful appropriation that employs reasonably efficient practices to place water to use.

What is reasonable depends on the type of use and how the water is withdrawn and applied. The goal is to avoid water waste, so that the water resource is available to as many decreed water rights as possible.

Over time, the uses of water considered “beneficial” have increased in response to the changing economic and community values of Colorado’s citizens. Recognized beneficial uses under the prior appropriation doctrine now include, among others:

- Augmentation
- Colorado Water Conservation Board instream flows and natural lake levels
- Commercial
- Domestic
- Dust suppression
- Evaporation from a gravel pit
- Fire protection
- Fish and wildlife culture
- Flood control
- Industrial
- Irrigation
- Mined land reclamation
- Municipal
- Nature centers
- Power generation
- Produced water from gas production

## Domestic Preference

The Colorado Constitution provides in times of shortage that domestic water use has preference over any other purpose and that agricultural use has preference over manufacturing use. In an early 20th century court case pitting a junior municipal use against a senior irrigation use, the Colorado Supreme Court said that this provision did not intend to alter the priority system. However, it does give municipalities the power to condemn water rights, if the owners of those water rights are paid just compensation. For example, in 1911 the City of Grand Junction used this power to condemn water rights others had previously held on Kannah Creek. Colorado statutes regulate how cities may use their water rights condemnation power.

Diversion records as of 2009 maintained by the Colorado Division of Water Resources show water delivery percentages by major use sections as follows: municipal and domestic 7 percent, agriculture 86 percent, industrial and commercial 2 percent, recreation and fisheries 3 percent, augmentation 1 percent and recharge of groundwater aquifers 1 percent.



*Up to half of all annual household water goes to watering lawns. Plant selection and proper management can greatly reduce this demand.*

- Recreation on reservoirs
- Recreational in-channel diversions
- Release from storage for boating and fishing
- Snowmaking
- Stock watering

Colorado’s prior appropriation doctrine has evolved to include beneficial uses that were previously thought to be incompatible with Colorado’s constitution. In 1973, for example, the State Legislature recognized the “need to correlate the activities of mankind with some reasonable

preservation of the natural environment.” To accomplish this, it created the Instream Flow and Natural Lake Level Program within a state agency, the Colorado Water Conservation Board (CWCBC).

Newly-appropriated instream flow and natural lake level water rights are the minimum stream flows and lake levels needed to preserve the natural environment to a reasonable degree. The CWCBC currently holds instream flow rights on 8,679 miles of Colorado streams and 480 lakes.

The CWCBC is the only entity legally permitted under state law to make instream

# Basics of Colorado Water Law

flow appropriations. Starting in 1986, the Legislature has enacted a series of laws allowing the CWCB to supplement their junior instream flow rights by acquiring, without condemnation, the use of more senior water rights.

Another example of the evolution of the prior appropriation doctrine occurred through a 2001 statute that allows cities, counties and water districts to have recreational in-channel diversions for rafting and kayaking. Entities that have obtained

such rights include Aspen, Breckenridge, Chaffee County, Durango, Fort Collins, Eagle River Water and Sanitation District (Vail), Golden, Longmont, Littleton, Pueblo, Steamboat Springs, Durango and the Upper Gunnison River Water Conservancy District, among others.

## Water Waste and Return Flows

In Colorado, a water right is a special kind of property right known as a usufructary right. Usufructary means having the right

to use a resource without actually owning it. Ownership of the water resource always remains in the public under Colorado law.

The saying that a water appropriator must “use it or lose it” reflects only one facet of a usufructary right. This simply means that if you do not need to use all or part of your decreed right, the water goes to those who can use the water beneficially, according to the priority date specified in their decrees.

Colorado Supreme Court water law decisions state that a water user may not take from the stream any more water than is needed for beneficial use at the time the actual diversion is made, despite the amount allowed on the face of the water right decree. To divert more water than is needed for beneficial use is water waste and water waste cannot be included within the measure of a water right.

What defines need for beneficial use? Need is a combination of the amount required to move water to the place where it will be used and the amount required by the actual use.

For example, agricultural water use can generally be 20 to 85 percent consumptive, depending on soil type, crop type, irrigation management, geographic location, or irrigation method. Municipal use varies from 5 percent consumptive during the winter, to 50 percent consumptive during summer landscape irrigation.

Beneficial consumptive use over a representative historical time period is typically the measure and limit of a water right. It is calculated in number of acre feet of water consumed monthly by the water use and is determined when a water right is proposed for change to another type of use, point of diversion, or place of use.

Many types of water use produce ground or surface water return flows. Some examples of return flows are water that percolates below the root zone of a crop and into the shallow groundwater, water seeping from unlined earthen ditches, or discharges from wastewater treatment plants, among other sources. Return flows are important for satisfying downstream water rights, providing instream

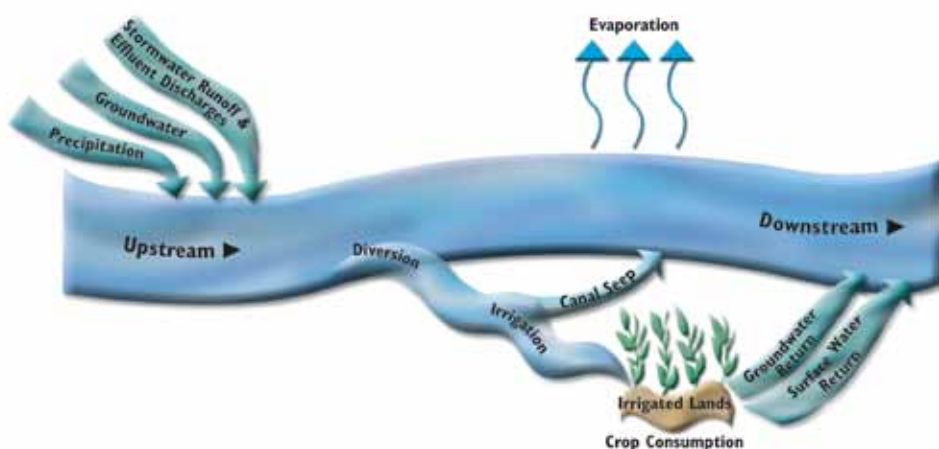
## Efficiency of Water Diversions

Colorado water law requires reasonably efficient measures for diversion, conveyance and use. For example, Colorado law favors pipelines as a reasonable means to convey municipal water. Wells can be used as an alternative to ditch diversions. For agricultural uses, unlined irrigation canals and reservoirs—despite the seepage and evaporation they cause—are also considered reasonably efficient. The present law adopts this stance because seepage water recharges aquifers and streams and because a certain amount of evaporation accompanies every exposed water source and use. Seepage losses return water to streams more slowly and help to maintain riparian areas year round.

## Conjunctive Use

One way water rights may be used more efficiently is through conjunctive use. Conjunctive use involves coordinated use of surface and groundwater to meet water needs.

For example, as part of a conjunctive use project, water courts may issue decrees for placing water in groundwater aquifers. Water managers can use wells or unlined ponds to transfer surface water into a groundwater aquifer to generate “credits” for out-of-priority well pumping or endangered species recovery programs.



*Irrigation diversions can take away, then return water to the stream system. Streams also receive inputs from natural sources – precipitation and groundwater – and from municipal and industrial discharges.*

flows and delivering water for interstate compacts (see Interstate Compacts, p. 22).

Many water rights depend on surface and subsurface return flows. Under Colorado case law, return flows are not wasted or abandoned water. Junior water users cannot intercept return flows upon which senior water rights depend, unless they replace them with another water supply of suitable quantity and quality to satisfy the senior rights. This is because decreed water rights are entitled to maintenance of the same stream conditions that existed at the time each of the appropriations occurred. However, if the water is imported into a river basin from an unconnected source, that water can be used and reused to extinction.

## Overappropriation

A watershed, stream segment, or aquifer is considered overappropriated if there is no remaining water available to fill new appropriations without causing injury to existing water rights. Water availability is determined by physical and legal constraints. Physical constraints refer to the natural water supply available from year to year. Legal constraints refer to the amount of water already placed to use by senior water rights within Colorado, further constrained by the amount of water Colorado must allow to flow out of the state to fulfill interstate water compacts or U.S. Supreme Court equitable apportionment decrees (see Interstate Compacts, p. 22).

By the late 1960s, if not before, it became apparent that the South Platte, Rio Grande and Arkansas Rivers within Colorado were reaching overappropriated status. This spurred increased use of groundwater, conservation, reuse of imported water, change of agricultural rights to municipal use, water exchanges and augmentation plans (see Augmentation Plans, Change of Water Rights and Exchanges, p. 16, 17).

In addition to conditional and perfected appropriations, provisions of the 1969 Water Right Determination and Administration Act address court



*During 2002, rivers across Colorado experienced record low flows, including Cochetopa Creek (above) near Gunnison. Tree ring data suggests that the spring and summer of 2002 may have been the driest in more than 300 years.*

## Abandonment of Water Rights

Absolute water rights are presumed to have been abandoned back to the stream if they are not exercised for a consecutive 10-year period. Owners of water rights may rebut this presumption in water court, by showing intent not to abandon. All or a part of a water right can be declared abandoned through a water court process. The State Engineer compiles a periodic ranking list of active decreed water right priorities and an abandonment list. The General Assembly has enacted statutes forestalling abandonment in certain circumstances, such as participation in a federal conservation reserve program or leasing water for Colorado Water Conservation Board instream flow use. Municipalities, without risking abandonment, can obtain amounts of water for future use, based on reasonable population projections for a reasonable water supply planning period and land use mix, taking into account available water conservation measures.

approval of water exchanges, changes of water rights, substitute water supply plans and augmentation plans. These provisions allow newer uses of water, such as municipal, environmental and recreational uses, to come into being and operate even though a basin is overappropriated. This occurs only because water court decrees for new or changed uses contain provisions to protect against injury to other water rights.

**Developed or Imported Water** – Water brought into a stream system from another unconnected source, for example, transmountain surface water or nontributary well water. This type of water can be reused to extinction, or used in augmentation or exchange plans.

**Consumptive Use** – Water use that permanently withdraws water from its source; water that is no longer available because it has evaporated, been transpired by plants, incorporated into products or crops, consumed by people or livestock, or otherwise removed from the immediate water environment.

**Return Flow** – Water that returns to streams, rivers or aquifers after it has been applied to beneficial use. It may return as a surface flow or groundwater flow.



# Groundwater Other Than Tributary

## Different Types of Groundwater

Coloradans rely heavily on groundwater for a variety of municipal, agricultural, industrial and other uses. Groundwater that is not tributary describes aquifers that have minimal or no connection to surface waters. All groundwater in Colorado is presumed to be tributary unless shown to be otherwise.

Tributary groundwater is recharged from precipitation including seasonal runoff from snow melt and from irrigation return flows. Other types of groundwater are not readily replenished. Groundwater pumping at a rate in excess of annual recharge creates what is called a groundwater mining condition. Unless the rate of pumping is regulated,

mining will ultimately lower groundwater levels to a depth where water can no longer be withdrawn economically.

Colorado's prior appropriation system regulates tributary groundwater. Groundwater other than tributary groundwater is divided by statute of the Colorado General Assembly into three categories: (1) designated (2) nontributary and (3) Denver Basin groundwater. Geothermal groundwater is another classification of groundwater; it can be tributary or nontributary and is regulated by the Geothermal Resources Act and administered by the Colorado Division of Water Resources.

## Colorado Ground Water Commission

The Colorado Ground Water Commission is the regulatory and permitting agency authorized to manage and control groundwater use in designated groundwater basins. It may hold rulemaking and adjudicatory hearings, subject to judicial review. Its web site address is [www.water.state.co.us/cgwc](http://www.water.state.co.us/cgwc).

The Commission has 12 members, nine appointed by the governor and three others consisting of the directors of the Department of Natural Resources, Colorado Water Conservation Board and the Colorado Division of Water Resources.

For a detailed description of the well permit application process, different types of wells and other subjects related to groundwater management, see the Guide to Colorado Well Permits, Water Rights and Water Administration, published by the Colorado Division of Water Resources.

## Designated Groundwater

Managed by the Colorado Ground Water Commission, Colorado statutes define designated groundwater as groundwater "which in its natural course would not be available to and required for the fulfillment of decreed surface rights." It also includes groundwater "in areas not adjacent to a continuously flowing stream wherein groundwater withdrawals have constituted the principal water usage for at least fifteen years" prior to initiation of a designated basin. In 1965, the Legislature authorized the Colorado Ground Water Commission to create designated groundwater basins. There are currently 8 designated basins located on Colorado's eastern plains: Kiowa Bijou, Southern High Plains, Upper Black Squirrel Creek, Lost Creek, Camp Creek, Upper Big Sandy, Upper Crow Creek and the Northern High Plains. Appeals in designated groundwater basin cases go before groundwater judges appointed by the Chief Justice of the Colorado Supreme Court. See "water courts" at the Colorado Judicial Branch web page, [www.courts.state.co.us](http://www.courts.state.co.us).

## Nontributary Groundwater

Nontributary groundwater is water outside of a designated groundwater basin whose pumping will essentially not deplete surface streams within 100 years. As specified by Senate Bill 213 in 1973, it is available to the overlying landowner at a rate of 1 percent per year, assuming a 100-year life of the aquifer. It is important to note that this is not a determination that the aquifer could actually provide the permitted well with a 100-year water supply. This assumption is only used to calculate an annual allocation.

## Geothermal Resources

All subsurface geothermal fluids are considered part of the state's groundwater resources and are subject to the Colorado Geothermal Resources Act. Use of this resource requires a permit from the State Engineer, as with all other types of groundwater extraction.

**Tributary Groundwater** – Water below the Earth's surface that is hydrologically connected to a river. Deep groundwater is not connected to a river.

### Ground Water Management Districts

– Local districts formed to consult with the Ground Water Commission on groundwater use in designated basins. There are 13 districts in Colorado.



Colorado Designated Groundwater Basins

## Denver Basin Groundwater: Not Nontributary and Nontributary

Denver Basin Groundwater is water within the Dawson, Denver, Arapahoe and Laramie-Fox Hills aquifers located on Colorado's eastern slope between Greeley and Colorado Springs and the foothills and Limon. There are two types of Denver Basin groundwater and both require some measure of protection for water rights decreed for surface streams. "Not nontributary" water is closer to surface streams and its use requires at least 4 percent of the water pumped to be returned to the surface stream and, in some instances, actual replacement of depletions. Use of "nontributary" groundwater in the Denver Basin aquifers requires relinquishment of 2 percent of the water pumped. Both of these types of groundwater are allocated to overlying landowners and pumping per year is limited to 1 percent of the water under the land.

## Permit Requirements and Use Rights

According to the 1965 Ground Water Management Act, every new well in the state of Colorado that diverts tributary, nontributary, designated groundwater, Denver Basin groundwater, or geothermal resources must have a permit. Groundwater use rights depend on the source of the groundwater and the type of beneficial use.

In order to obtain a permit to drill a well, one must file an application with the Colorado Division of Water Resources, also known as the State Engineer's Office. To obtain a water right decree for tributary groundwater, one must file required documentation to the regional water court.

When well permit applications are submitted, division staff determines the amount of groundwater available, the potential for groundwater use to injure other existing water rights and if the withdrawal will not be unreasonably wasteful. The State Engineer also has authority to adopt and amend tributary, nontributary and Denver Basin groundwater rules and regulations

that are subject to water court review.

The designated groundwater permit system was designed to protect and maintain reasonable groundwater pumping levels. The Division of Water Resources assists the Colorado Ground Water Commission in issuing designated groundwater permit applications.

Designated groundwater is allocated and administered in a coordinated manner by the State Engineer's Office, Colorado Ground Water Commission and local Ground Water Management Districts. The regional water court issues decrees for the non-designated aquifers of the Denver Basin.

Statutes allow public entities, such as cities and water districts, to claim and use Denver Basin groundwater underlying the lands of others, if the entity makes water service available to the landowners and if the landowners have not already claimed



*The Denver Basin Aquifer System (above) is comprised of four aquifers that lie under the plains east of the mountains.*

## Denver Basin Aquifers

Water in each of the four Denver Basin bedrock aquifers is allocated to overlying landowners at a withdrawal rate of one percent per year for up to 100 years or until exhausted, whichever occurs first.

The Colorado Geological Survey estimates that up to 292 million acre feet of water lies in the 6,700 square-mile Denver Basin, although less than one-third of that may be economically recoverable. New communities, homeowners and other landowners in the southern Denver metropolitan area have depended heavily on this finite resource, but are now looking for other water supplies and implementing conservation options. (See *Citizen's Guide to Denver Basin Aquifers*, [www.cfwe.org](http://www.cfwe.org)).

the groundwater rights by obtaining a court decree or a well permit from the State Engineer.

The Denver Basin statutes and rules are in place because the General Assembly recognized that this groundwater is of great economic importance to overlying landowners and to local public water suppliers and therefore should be available for present and future use, to the extent it exists.

Geothermal resources are administered and managed according to the "Geothermal Well Rules" by the Colorado Division of Water Resources.

# Water Rights and Decrees

## Monthly Water Resumes

Each water court publishes a monthly resume of the applications it has received, both in newspapers and by mailing individual copies to persons on the water clerk's mailing list. This is how the citizens of Colorado are informed of pending water cases.

The Colorado Courts post all seven water court division monthly resumes on the Colorado Court's web site under "water courts" at [www.courts.state.co.us](http://www.courts.state.co.us).

## Statements of Opposition

Owners of water rights may file a statement of opposition to any water right application they think might cause injury to their water rights. A statement of opposition must be filed within 60 days of when notice of the application appears in the resume. In addition, any citizen may oppose a water rights application to require an applicant to bear its burden of proof in conformance with legal requirements, but Colorado law does not allow citizens to raise questions of injury to water rights they do not own. The State and Division Engineers can file a statement of opposition to any application. Colorado law generally does not allow opposition on public interest or environmental grounds.

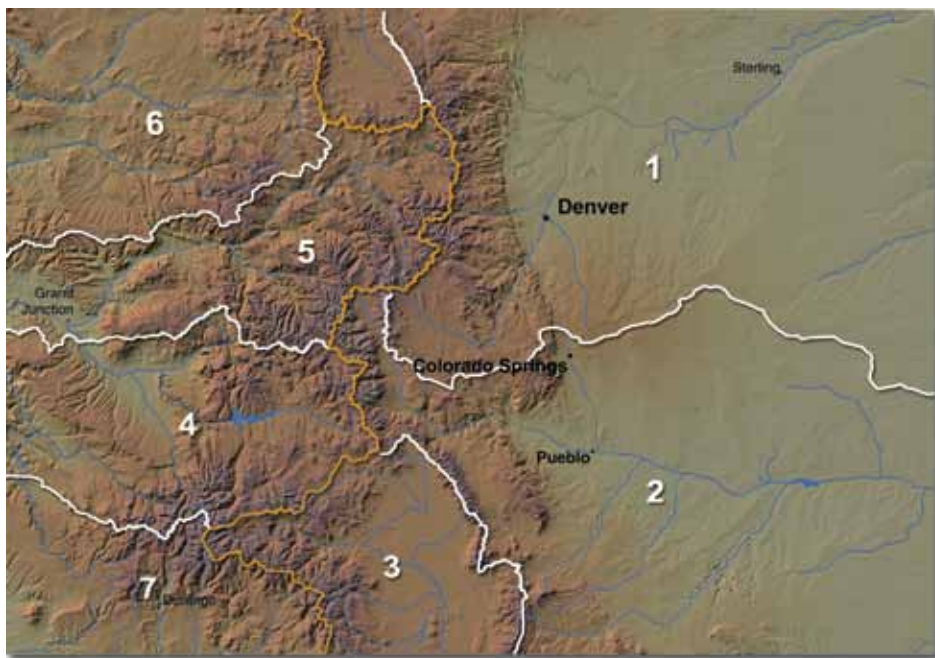
Water Court forms and rules for applications, statements of opposition and referee and water judge proceedings are maintained at the local water clerk's office and on the Colorado Judicial Branch web site under "water courts" at [www.courts.state.co.us](http://www.courts.state.co.us).

## Water Courts

Starting with an 1879 statute, the Colorado General Assembly assigned the duty of setting water right priority dates and amounts to the district courts. This differs from almost all other western states, which use a permit system. A water court decree confirms a water right, but does not create it. Actual application of water to a beneficial use creates a water right to surface water and tributary groundwater.

In 1969, the Legislature created seven water divisions based on the major watersheds of the state. The water court for each division is headquartered in the following locations:

- Greeley: South Platte River Basin
- Pueblo: Arkansas River Basin
- Alamosa: Rio Grande River Basin
- Montrose: Gunnison, Little Dolores portions of the Dolores River and San Miguel River Basins
- Glenwood Springs: Colorado River Mainstem
- Steamboat Springs: Yampa, White and North Platte River Basins and
- Durango: San Juan River Basin and portions of the Dolores River.



### Colorado Water Divisions

- Division 1 – South Platte River*
- Division 2 – Arkansas River*
- Division 3 – Rio Grande River*
- Division 4 – Gunnison, San Miguel and portion of Dolores rivers*
- Division 5 – Colorado River*
- Division 6 – Yampa, White and North Platte Rivers*
- Division 7 – San Juan, Animas and portion of the Dolores rivers*

In Colorado, water courts have jurisdiction over all water right decree applications for surface water, tributary groundwater, nontributary groundwater, Denver Basin groundwater outside of designated groundwater basins and geothermal groundwater. In addition, they review cases of reasonable diligence for conditional water rights, changes of water rights, exchanges and augmentation plans and appeals from certain State or Division Engineer actions, such as enforcement orders and approvals of temporary changes of water rights and substitute supply plans.

Water courts also have jurisdiction to review cases where the State and Division Engineers have refused to enforce reductions or shutdowns of undecreed water uses or decreed junior water rights after a "call" was placed by a senior water right (see *The Workings of a River Call*, p. 18).



Appeal of any water court decision goes directly to the Colorado Supreme Court.

Water courts set the priority date for water rights decrees based on the year in which the application is filed and, within that year, the date when the water appropriation was initiated.

In decreeing water rights priorities, Colorado water courts are not free to choose between different types of beneficial uses. They are not generally allowed to deny water right applications based on public interest or environmental grounds.

The public trust doctrine is not recognized in Colorado, although the Colorado Supreme Court has ruled that the Colorado Water Conservation Board has a legal responsibility to the people of Colorado to enforce its instream flow water rights.

## Water Rights

All water in Colorado is a public resource known as “water of the state.” In creating water rights, Colorado law distinguishes between waters of the natural stream, which includes surface water and tributary groundwater and other groundwater, which includes designated groundwater, nontributary groundwater and Denver Basin groundwater.

## Obtaining a Decree

Most new water users can no longer appropriate water by simply going out to the stream and digging a diversion ditch. Modern water projects involve a complex process of planning, permitting, engineering and financing.

To allow time for these efforts, while also holding a date in the priority system, waters users apply for conditional water right decrees to unappropriated water, if any remains available. A conditional decree holds a date in the priority system, which is then finalized or made “absolute” when the water is actually put to beneficial use. To obtain a conditional water right decree, the applicant must show there is unappropriated water available for appropriation, taking into account the historical exercise of decreed water rights.

The South Platte, Arkansas and Rio

Grande river basins are generally overappropriated. Within those watersheds, there may be some water still available for appropriation during a small part of the year, or only in some years. In overappropriated areas, a junior water user must seek a decree for an out-of-priority diversion using an augmentation plan (see Augmentation Plans, p. 16) or change a decree for an existing water right (see Change, Sale and Transfer of Water Rights, p. 15).

Obtaining a court decree can be a complex process, although individuals may choose to proceed through the trial of a water case without a lawyer. Corporations may appear before the referee without an

proceedings, under “forms” and “water courts” at [www.courts.state.co.us](http://www.courts.state.co.us).

To obtain a decree for a water right, the water user must:

- 1) Intend to make a beneficial use of the water;
- 2) Demonstrate this intent openly, for example, by conducting field surveys, posting notice at a diversion point, or filing a water right or well permit application;
- 3) File an application with the regional water court clerk on the proper form with the information required;



*Building golf courses in the semi-arid west can create substantial water use issues, but proper planning, construction and management, as well as the use of water not suitable for human consumption, can reduce the demand on water supplies.*

attorney but may proceed before the water judge for trial only through an attorney. Generally, applicants should seek both legal and water engineering advice, particularly in cases that involve a change of water right or augmentation plan.

The following steps for obtaining a decree are provided as a guideline. They are not intended to address all situations. The Colorado Courts web page contains application forms and instructions for the various types of water applications, as well as the applicable rules for water court

**Public Trust Doctrine** – A doctrine of state ownership of stream and lakebeds that has been applied, most notably in California, to preserve water flows and in some instances cut back on historic diversions, in order to sustain fish and wildlife habitat and recreation.

# Water Rights and Decrees

## Different Types of Decrees and Water Rights

**Absolute Decree:** a water court decree recognizing that a water right has been perfected, or made real, by placing previously unappropriated water to a beneficial use.

**Augmentation Decree:** a water court decree that allows a water user to divert out of priority by replacing water depletions made to the stream system that would cause injury to senior rights by intercepting water the senior would otherwise receive absent the depletion.

**Change of Water Rights Decree:** a water court decree that allows a different use, different point of diversion, or different place of use, while retaining the senior priority of the original water right. The water consumption under the change is limited to the beneficial historical consumptive use of the original water right based on a representative time period, maintenance of the historic return flow patterns and other conditions necessary to prevent enlargement of the water right or injury to other water rights.

**Conditional Decree:** a water court decree recognizing a priority date for a newly proposed appropriation. The priority becomes fixed when the water is actually placed to beneficial use. The applicant for a conditional decree must show that there is unappropriated water available and must have a plan to divert, store, or otherwise capture, possess and control the water. To continue to hold a conditional decree, the potential water user must periodically prove to the water court diligent progress towards putting the water to a beneficial use. A holder of a conditional decree must show diligence every six years after issuance of the original conditional decree or issuance of the most recent diligence decree.

**Direct Flow Right:** a right that takes its water directly from the surface stream or groundwater for applica-

tion to beneficial use. It is expressed in cubic feet per second of flow (cfs) or gallons per minute (gpm).

**Exchange Decree:** a water court decree that allows an upstream diverter to take the water that would usually flow to a downstream diverter. The upstream diverter must provide the downstream diverter with a suitable replacement supply of water, in amount, timing and quality, from some other source.

**Federal Reserved Right:** a right to previously unappropriated water expressly created by federal law. Federal reserved rights may also be created by implication, meaning that even if such rights were not named explicitly, Congress implied that it was necessary to reserve water rights for present or future use on federal lands so as not to defeat the purposes for which the federal reservation of land was made. Diligence requirements are not applicable. The water is for beneficial use but may be reserved for future use, as with Indian Reservations, far into the future before actually being placed to use. Reserved rights are subject to quantification in federal court or state court proceedings. Federal reserved water rights have been decreed for tribal reservations, national parks, forests and monuments (see Federal Reserved Water Rights, p. 24).

**Instream Flow Water Right:** a water right held by the Colorado Water Conservation Board to preserve or improve the water-dependent natural environment.

**Recreational In-channel Recreational Diversion Right:** water right held by a local governmental entity for structures that control the flow of water for rafting and kayaking.

**Storage Right:** a right to impound water in priority for later use, expressed in acre feet of water that the reservoir or storage vessel can hold. Oftentimes a rate of fill is included in the decree.

- 4) In regard to any type of application, whether surface, groundwater, storage, change of water right, or augmentation plan, among others, publish the application through the water court monthly water resume and by legal notice in local newspapers;
- 5) Allow two months for other parties to file statements of opposition;
- 6) Colorado Division of Water Resources engineers at the local Division Engineer's Office and State Engineer's Office will review the application;
- 7) Staff from the Division Engineer's office, generally the local water commissioners, perform field investigations to confirm the claims in the application;
- 8) After consultation with the water referee, the Division Engineer submits a written report to the regional water court, with recommendations;
- 9) If there is no opposition, the application is reviewed by a water court referee who then issues a ruling. If there is opposition, the referee works with all parties to the case to establish a case management schedule and produce a ruling;
- 10) If no protest to the ruling is filed in the water court, the referee's ruling goes before the water court judge and he/she signs it in the form of a decreed water right.
- 11) If there is a protest, the case goes before the water court judge for trial and a decision and decree, unless the parties can reach agreement. In that instance, the water court may enter an agreed-upon decree.
- 12) The applicant bears the burden of proof in all applications. As an example, for a conditional water right, the applicant must show there is unappropriated water available for appropriation. For a change of water right, the applicant must demonstrate the historical beneficial consumptive use of the water right to be

changed. For an augmentation plan, the applicant must show there is sufficient replacement water to prevent injury to senior water rights. In all cases, the applicant must show that its proposed water use, if decreed, will not injure other water rights. Maintenance of existing return flow patterns will generally be required to prevent injury.

## Access for Building and Operating Water Facilities

The right to cross another person's land to construct, maintain and operate a water facility, such as a reservoir, ditch, or headgate, has always been an essential feature for obtaining and maintaining a water right. Maintenance may include activities such as cleaning of ditches, weed control, or monitoring water diversions, among others.

Those who interfere with the operation of a water facility, damage it, or prevent access for those who own the structure, are subject to trespass lawsuits, payment of damages and restoration of the structure.

If applying for a water right, the applicant must have the necessary legal interest in the land where the water facilities will be built, or show that he or she can obtain it. If the landowner does not consent, the Colorado Constitution and statutes provide a private right of condemnation across the private lands of others for the construction and operation of water facilities, such as pipelines and reservoirs, upon payment of just compensation to the property owners.

Consent is also typically required when a governmental entity owns the land because governmental land cannot be condemned. This is usually obtained through a permit process.

## Exchanges

A water exchange can occur within the prior appropriation system. An exchange allows an upstream diverter to take water a downstream diverter would otherwise receive, if the water is replaced at the time, place, quantity and suitable quality

## Historical Excess in Granting Conditional Decrees Brings About the “Can and Will” Requirement

Historically, many early conditional water right decrees awarded in Colorado were in excess of the amount necessary for the petitioner's true beneficial use. Old decrees may have allowed for diversion amounts not actually available under natural conditions, or did not take into account the fact that senior water rights were already diverting and using all of the available water. Some decrees even went so far as to grant more water than a particular ditch could carry.

In 1979 the General Assembly adopted the “can and will” requirement for conditional water rights decrees. It requires the applicant to show that there is unappropriated water available and that the applicant can and will place the water to a beneficial use with diligence and within a reasonable time.

the downstream diverter enjoyed before the exchange. The four critical requirements for a water exchange are: (1) the source of substitute water supply must be upstream of the senior diversion calling the water; (2) the substitute water supply must be equivalent in amount and of suitable quality for the downstream senior; (3) substitute water must be from legally available flows; and (4) the water rights of others cannot be injured when implementing the exchange.

Court approval of an exchange assigns it a priority in relation to other water rights and exchanges operating in the same stream reach. The State and Division Engineers may allow a water exchange without a court decree, if water is available in priority and the exchange will not cause injury to other water rights. A water exchange may decrease water flows in a particular stream segment in return for substituting water into another stream segment above the water right to which the exchange is made.

## Change, Sale and Transfer of Water Rights

Colorado water law provides a market for water rights. A water right holder may change the water right to another type and place of use, retaining its priority date. However, the change is (1) subject to obtaining a court decree, (2) measured by the decreed water right's historical beneficial consumptive use in time, location and quantity and (3) must include conditions

preventing enlargement of the water right and injury to other water rights.

A critical component of the change of water right procedure is measurement in acre feet of the amount of water historically put to beneficial consumptive use. No more than that amount of water consumed under the prior right may be consumed under the changed right. In this way, the new right removes from the stream system no more water than was consumed beneficially by the old. However, given conditions in the decree to protect against injury to other water rights, the priority date of the decreed original right will still be maintained so that it may be utilized in different uses and locations. Ditch companies may adopt reasonable bylaw restrictions applicable to proposed transfers of water out of the ditch system.

The Legislature established authority for water banks in each of Colorado's seven water divisions. Upon request by a sponsoring entity in the water division, the State Engineer will create rules for operation of the bank. This legislation allows a farmer to lease, loan, or exchange legally stored water for payment, without losing the water right or permanently selling it. Direct flow water rights are not included in the bank, only storage rights. The Legislature has also allowed the water courts to decree crop rotational management plans for leasing water, as an alternative to permanent water transfers.



# Water Rights and Decrees



Siebring Reservoir (above) and the Lower Latham Ditch in northern Colorado are two of the water developments used by the Central Colorado Water Conservancy District to store and convey water to the South Platte River to replace water used by member wells.



## Augmentation Plans

In 1969, the General Assembly allowed development of augmentation plans. An augmentation plan is a court-approved plan designed to protect senior water rights, while allowing junior water rights to divert water out of priority and avoid State Engineer shutdown orders.

In overappropriated areas, applicants are unable to obtain a well permit for tributary groundwater or make a surface diversion, without an augmentation plan. Augmentation plans are required for diversion of water at times when there is no unappropriated water available, in all watersheds that are overappropriated during at least part of the year. In an overappropriated basin, junior water rights would be shut off, unless they operate in priority or replace the depletions they make, when they are not in priority.

Augmentation plans allow for out-of-priority diversions by replacing the water that junior water users consume. The replace-

ment water must meet the needs of senior water rights holders at the time, place, quantity and suitable quality they would enjoy absent the out-of-priority diversions. This allows a junior water user, for example, to pump a tributary groundwater well, even when a river call exists on the stream (see *The Workings of a River Call*, p. 18).

Replacement water may come from any legally available source and be provided by a variety of means. An augmentation plan identifies the structures, diversions, beneficial uses, timing and amount of depletions to be replaced, along with how and when the replacement water will be supplied and how the augmentation plan will be operated. Some augmentation plans use storage water to replace depletions. Others include the use of unlined irrigation ditches and ponds during the non-growing season to recharge the groundwater aquifers that feed the river. In this way, they generate augmentation credits to replace depletions from out-of-priority groundwater pumping.

A person who wants to divert out of priority by implementing an augmentation plan must file an application with the regional water court. Under certain circumstances, the State Engineer may approve temporary changes of water rights and plans to replace out-of-priority depletions using substitute water supply plans. This allows water deliveries to continue, while water court applications for changes of water rights or augmentation plans are pending. A substitute water supply plan requires adequate replacement water to cover depletions of water that would injure senior water rights. Injury occurs if the out-of-priority diversion intercepts water that would otherwise be available under natural conditions to the senior right at the time and place of its need.

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*Augmentation plans allow for out-of-priority diversions by replacing the water that junior water users consume. However, the replacement water must meet the needs of senior water rights holders at the time, place, quantity and suitable quality they would enjoy absent the out-of-priority diversions.*

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# Administering, Managing and Regulating Water

## Administration of Water Rights: Colorado Division of Water Resources

The Colorado Division of Water Resources, which includes the State Engineer, division engineers and water commissioners, has the authority to administer all surface water and Denver Basin, tributary and nontributary groundwater in the state of Colorado.

The 1969 Water Right Determination and Administration Act, section 37-92-501(2)(e), states that rules of the State Engineer “shall have as their objective the optimum use of water consistent with preservation of the priority system of water rights.” Although Colorado statutes and court decisions appear to refer interchangeably to maximum utilization and optimum use, the Colorado Supreme Court says that Colorado water law does not require squeezing out every drop of water available. Rather, the law favors optimum use, which entails “proper regard for all significant factors, including environmental and economic concerns be taken into account.”

Throughout Colorado, the holders of decreed water rights depend on the State Engineer to shut down or reduce junior decreed uses, in addition to undecreed uses, to satisfy the demand of decreed senior uses.

There is a division engineer's office located in each of the seven water divisions in Colorado. Each division office employs a number of water commissioners. It is the primary job of the water commissioners to go into the field and distribute the waters of the state in priority and according to the decreed terms. This involves monitoring headgates, responding to calls for water, issuing orders to reduce or cease diversions and collecting data on diversions. The State Engineer operates a statewide satellite-linked monitoring system that records stream flows, storage and diversions on a real-time basis. This system is a vital component to water administration and flood and drought monitoring efforts.

The State Engineer also administers nontributary and Denver Basin groundwater under its well permit and rulemak-

ing authority. The Colorado Groundwater Commission and local groundwater management districts administer groundwater in the designated groundwater basins (see Designated Groundwater, p.10).

The State Engineer has authority to adopt rules for administration of surface and tributary groundwater rights in each of Colorado's river basins. Proposed rules are subject to water court review and approval. The Arkansas and Rio Grande Basins, for example, operate under approved rules.

Much information regarding water administration in Colorado appears on the Division of Water Resources' Web site [www.water.state.co.us](http://www.water.state.co.us).

## Substitute Water Supply Plans

Substitute water supply plans allow temporary out-of-priority diversions if sufficient replacement water can be provided to senior rights to cover depletions. Substitute water supply plans are approved by the State Engineer for defined

periods. In contrast, augmentation plans, which are long-term, must be approved by the water courts.

The Colorado General Assembly adopted legislation allowing the State Engineer to approve substitute water supply plans, under certain circumstances, while augmentation plan applications are pending in water court. A specific provision of this legislation requires that notice of the substitute water supply plan be provided to all interested parties, so they can submit comments to the State Engineer's Office.

After a substitute water supply plan has been reviewed, the State Engineer will require terms and conditions to assure that operation of the plan will replace all out-of-priority depletions in time, location and amount to prevent injury to other water rights. Some approval by the State Engineer of a substitute water supply plan can be appealed to the regional water court on a fast track basis.

The General Assembly has also given

## Exempt, Non-Exempt and Designated Groundwater Basin Wells

There are four categories of groundwater wells: (1) exempt wells, meaning those that are exempt from water rights administration under the priority system, (2) non-exempt wells, meaning those that are governed by the priority system, (3) wells in designated groundwater basins governed by the Groundwater Commission, and (4) nontributary and Denver Basin groundwater wells.

Permits for exempt wells typically limit the pumping rate to no more than 15 gallons per minute. Examples of exempt wells include: household use only, domestic and livestock wells, pre-1972 domestic or livestock wells, small commercial wells, monitoring and observation wells and fire protection wells. Exempt wells cannot be pooled to constitute a subdivision water supply. Until 1971, wells providing groundwater for domestic use were not regulated. Now, although still exempt from the priority system, they do require a permit from the State Engineer's Office.

The State Engineer does not curtail exempt wells when responding to a senior call, because the legislature presumes non-injury to other water rights due to the low amount of consumptive water use from these wells.

Non-exempt wells are governed by the priority system and may be curtailed. These wells include any other type of well not noted above. In overappropriated areas of the state, new non-exempt wells are required to replace out-of-priority diversions generally by means of an augmentation plan.

For more detail, see the *Guide to Colorado Well Permits, Water Rights and Water Administration*, published by the Colorado Division of Water Resources. For well permitting procedures and requirements in designated basins, consult the Colorado Groundwater Commission and Groundwater Management Districts.

## The Workings of a River Call

In Colorado, after the streams peak from spring snowmelt, the reservoirs have filled as much as they can based on their allotment in the priority system and stream flows start to drop, some water rights in the river system may not have sufficient water to fulfill their court-decreed diversion amount. Water users may then start to call for their water based on the priority system of “first in time, first in right.”

For example, in late July, irrigator Jane is not getting enough water to irrigate her garlic farm. She has a decreed water right with a 1940 priority date. Time to place a call.

- 1) Irrigator Jane contacts her local designated ditch official and says she needs to call for her water. She can only call for the amount of water provided in her water right decree and only for the amount that she can actually put to beneficial use (e.g., irrigation of a crop).
- 2) The ditch official contacts the local water commissioner at the Colorado Division of Water Resources and places the initial call. Depending on the river system, a verbal call may be made, but in many cases a formal written call for water is required.
- 3) When the call comes on, the water commissioner verifies its legitimacy, then starts looking upstream to shut down all undecreed uses. Still not enough water!
- 4) The water commissioner then limits all decreed upstream users to decreed amounts of diversion. Still not enough water to fulfill irrigator Jane’s 1940 water right!
- 5) Now, the water commissioner will use the priority system to look upstream from Jane’s headgate diversion, for decreed

users with priority dates more recent than 1940. These users are considered “junior” and their diversions will be reduced or shut down.

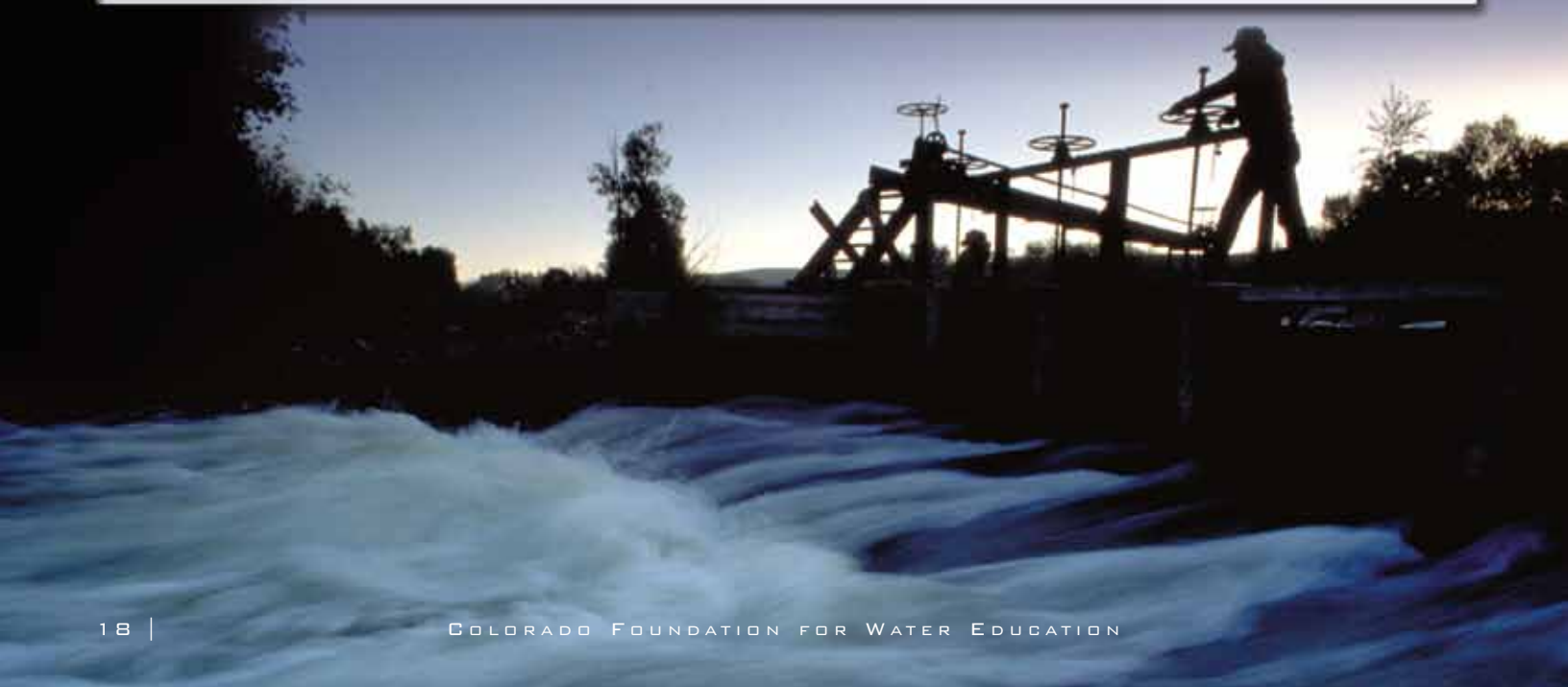
- 6) Each decreed junior water user, based on their order of priority, junior to senior, is curtailed until Jane gets enough water to fulfill her 1940 water right.
- 7) However, stream levels are still dropping and now, downstream municipal user Blue City does not have enough water to fulfill its 1927 water right. Blue City places a call.
- 8) The water commissioner will go through the same process, reducing or shutting down all rights more recent than 1927 until Blue City’s rights are met. This may mean that irrigator Jane will have to let water flow past her headgate to fulfill Blue City’s senior downstream right.
- 9) If you don’t comply, the water commissioner will lock down your headgate!

The priority date of the river call may change each day depending on the stream flow available and the seniority of the diversions that need water on that day.

An additional consideration: Some water must be carried down river and cannot be diverted. This could include reservoir water, trans-basin diversion water, the state’s instream flow water rights, or water that must be delivered under interstate compacts or U.S. Supreme Court equitable apportionment decrees.

The Colorado Division of Water Resources keeps track of all calls for water on its Web site [www.water.state.co.us](http://www.water.state.co.us).

Adapted from *What Exactly is a River Call?* by Ken Beegles, Colorado Division of Water Resources, Division 7, 2002.





# Administering, Managing and Regulating Water

the State Engineer authority to approve interruptible water supply agreements, emergency water supply plans and short-term water uses, including temporary loans of water to the Colorado Water Conservation Board for instream flow use. This legislation requires the State Engineer to fashion conditions that will protect other water rights against injury when exercising this administrative authority. In the severe drought year of 2002, the State Engineer approved some 13 emergency supply plans.

## Colorado Water Conservation Board

The Colorado General Assembly created this statewide board in 1937. Its purpose is to aid in the protection and development of the state's waters. The CWCB has 15 members. The Governor appoints eight members from each of the state's major river basins and one member from the City and County of Denver. All appointees are subject to Senate confirmation and serve three year terms. Other members of the Board appointed by virtue of office or position include the executive director of the Department of Natural Resources, Attorney General, State Engineer, commissioner of agriculture and director of the CWCB. Only the executive director of the Department of Natural Resources has a vote among those on the Board serving by virtue of their office or position, all others as ex-officio members.

The CWCB is responsible for flood control and protection, development of statewide water policy and identifying and recommending water development projects, among other duties. It also makes loans and grants available for the construction of water projects. The CWCB also has certain interstate compact responsibilities on the Colorado River and Arkansas River and assists the Colorado Division of Water Resources and State Engineer on the other interstate compacts.

In 1973, the State Legislature recognized the "need to correlate the activities of mankind with some reasonable pres-



*Trout are among the species that benefit from the CWCB's Instream Flow Program.*

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***Instream flows, according to legislative definition, are the flows or lake levels needed to preserve the natural environment to a reasonable degree.***

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ervation of the natural environment." It created the Instream Flow and Natural Lake Level Program as part of the CWCB's responsibilities. Instream flows and natural lake levels, according to legislative definition, are the flows or lake levels needed to preserve or improve the natural environment to a reasonable degree. In addition, there are three endangered species recovery programs (Upper Colorado, San Juan and Platte) for which the CWCB takes lead responsibility.

Citizens can follow CWCB activities and find other useful information on its Web site at [www.cwcb.state.co.us](http://www.cwcb.state.co.us).

## Local and Regional Water Management Agencies

Local water management agencies include water conservancy districts, water conservation districts, groundwater management districts, water and sanitation districts, towns and cities and irrigation districts. Legislation for each of these types of water management entities spells out their roles

and authorities.

Water conservancy districts are local government agencies originally created to construct, pay for and operate water projects. There are over 50 water conservancy districts in Colorado. A conservancy district may issue bonds and levy taxes and user fees.

A water conservation district is a local policy-making body that the General Assembly created directly by statute to protect and develop the waters to which Colorado is entitled in specific regions of the state. Each conservation district covers a large geographical area and has a number of conservancy districts within it. Conservation districts also have the power to issue bonds and levy taxes and user fees.

There are currently four conservation districts in Colorado: Colorado River Water Conservation District, Republican River Water Conservation District, Rio Grande Water Conservation District and Southwestern Water Conservation District.

# Administering, Managing and Regulating Water

## Trans-basin Diversions and Basin of Origin Protection

A trans-basin diversion occurs when water is exported from one watershed into another. West Slope water diverted to points east of the Continental Divide supplies many Front Range water uses. This imported water is 100 percent consumptive to the exporting basin. This means that the water can be reused to extinction and is not required to provide return flows. This is because the law recognizes that no water from the diversion will ever flow back to its basin of origin.

In the Colorado River Basin specifically, Colorado statutes require that water conservancy districts on the east slope have basin of origin protection plans in place as a condition for exporting water from the natural Colorado River Basin to other areas of the state. The General Assembly has not extended this requirement to other entities, such as municipalities, or to water appropriated and removed from other basins.

According to the statute, a basin of origin protection plan must include measures for the design, construction and operation of water exportation facilities, so that present and future beneficial consumptive water uses will not be impaired, nor increased in cost, at the expense of the water users within the natural basin.

Other statutes provide for replacement of lost tax revenues for up to 30 years when agricultural water rights of more than 1000 acre feet of consumptive use per year are permanently removed from one county for use in another county and for the water court to review the water quality impacts of such transfers.

*Trans-continental diversion projects bring water from west of the Great Divide to the more populous eastern slope. Throughout Colorado, there are many diversions between river basins and sub-basins that are not shown on this map. Data provided by the Colorado Division of Water Resources, Hydrobase and Colorado Decision Support System.*



## Water Storage

In his 1879 *Report on the Lands of the Arid Regions*, John Wesley Powell stressed the necessity of water storage in the western United States. He feared that corporate monopolies would control the sale and use of water unless government intervened on behalf of the farmers.

In 1902, Congress passed the Reclamation Act to help Colorado and the other western states finance reservoirs. Under a provision of the Reclamation Act, reclamation projects generally obtain their water rights priorities in accordance with state law.

Faced with requirements in the Reclamation Act for local project sponsors to help repay a portion of project costs, the Colorado General Assembly adopted laws creating irrigation districts, water conservancy districts and water conservation districts. These entities were given authority to contract directly with the U.S. Bureau of Reclamation. The contracts for early reclamation projects were devoted almost entirely to irrigation. Later projects, like the Colorado-Big Thompson and Fryingpan-Arkansas projects, also served some municipal and industrial uses.

The Colorado-Big Thompson Project provides up to 240,000 acre feet of water annually for some 600,000 acres of farmland and 30 cities and water districts in seven northeastern Colorado counties. The Fryingpan-Arkansas Project supplies water to farmers and cities in the Arkansas River Basin delivering an average of 74,982 acre feet of project water annually.

Other examples of U.S. Bureau of Reclamation projects include the Uncompahgre Project in the Gunnison River Basin and the Grand Valley Project which diverts water from the Colorado River near Grand Junction. These two federal projects currently irrigate approximately 122,000 acres in western Colorado.

The Aspinall Unit is one of the four major reservoirs developed pursuant to the Colorado River Storage Project Act. The Aspinall Unit is located near Gunnison and helps the Upper Colorado River Basin States (Colorado, New Mexico, Utah and Wyoming) meet their Colorado

# Administering, Managing and Regulating Water

River Compact water obligations to the lower basin states (Arizona, California and Nevada). It operates in connection with three other major Colorado River Storage Project facilities; Navajo Dam in New Mexico and Colorado, Glen Canyon Dam in Utah, New Mexico and Arizona, and Flaming Gorge Dam in Utah and Wyoming. (See *Citizen's Guide to Colorado's Water Heritage*, [www.cfwe.org](http://www.cfwe.org)).

The Closed Basin Project operates in the San Luis Valley to assist in meeting Rio Grande Water Compact delivery requirements. The Animas-La Plata Project is being constructed outside of Durango to satisfy Ute and Navajo federally reserved water rights under settlement agreements.

In addition to reclamation reservoirs, many other reservoirs owned by farmers, cities and businesses exist throughout the state. There are approximately 2,000 reservoirs in Colorado, with an active storage capacity of some 7.31 million acre feet of water. They are the backbone of the state's water supply infrastructure and, together with flowing streams, constitute a valuable recreational fishing and boating resource. In the 2002 drought year, Colorado evacuated nearly 6 million acre feet of water from these reservoirs to keep taps and irrigation ditches flowing.

## Water Quality Control Commission and Division

The Colorado Water Quality Control Commission is the governmental agency responsible for developing state water quality policies and regulations for the surface and groundwater of the State. The Commission classifies all of Colorado's streams, lakes and aquifers for designated uses, including aquatic life, drinking water, agriculture and recreation. Then, the commission adopts numeric and narrative standards and other regulations to protect those uses (see *Citizen's Guide to Colorado Water Quality Protection*, [www.cfwe.org](http://www.cfwe.org)).

Located in the Colorado Department of Public Health and Environment, the Water Quality Control Division is responsible for implementing the state water quality statutes and the Commission's rules. To do this,



*Lake Granby (above) provides storage for the Colorado-Big Thompson Project which diverts water beneath the Continental Divide through the Alva B. Adams Tunnel (below).*

the Division issues permits for discharges of pollutants into streams, certifies that federally-issued permits will protect Colorado water quality, evaluates proposals for new or expanded wastewater treatment plants and administers a non-point source pollution control program. The Water Quality Control Division also participates in the voluntary Colorado River Salinity Control Program along with the Director of the CWCB and a citizen representative.

The U.S. Environmental Protection Agency (EPA) must approve the Commission's water quality classifications and standards. In addition, the EPA has the authority to step in and enforce state-issued permits if the Division does not do so.

The Commission has the authority to prescribe and enforce water quality standards, but it is prohibited by state statute from requiring instream flows to dilute pollution. In addition, neither the Commission nor the Division can take regulatory action that impairs the exercise of a water right. This places a premium on treatment techniques that control pollution at its source, so that the surface water and groundwater in Colorado will be suitable for beneficial uses under the water rights system.

While the Commission has the authority over water quality issues, the water courts, with input from the State Engineer's office, have authority over the quality of the replacement water used in exchanges and augmentation plans (see Exchanges, p.15 and Augmentation Plans,



p. 16). In this way, the state's water quantity and water quality laws interact with one another.

You will find the Web site for the Colorado Water Quality Control Commission at <http://www.cdphe.state.co.us/wq/index.html>.



# Interstate and Federal Law



The Imperial Dam at Yuma, Arizona (top) diverts Colorado River water to the All-American Canal to irrigate fields in the Imperial Valley in California. Interstate agreements govern how water is shared among the states. The system of pumps and canals that make up the Central Arizona Project (CAP) is monitored from a control room in Phoenix (above). The CAP carries water from the Colorado River.

## Interstate Compacts, Treaties and Equitable Apportionment Decrees

- Colorado River Compact, 1922
- La Plata River Compact, 1922
- South Platte River Compact, 1923
- Rio Grande River Compact, 1938
- Republican River Compact, 1942
- Arkansas River Compact, 1948
- Upper Colorado River Compact, 1948
- Amended Costilla Compact, 1963
- Animas-LaPlata Project Compact, 1968
- U.S.–Mexico Water Treaty, 1906
- U.S.–Mexico Rio Grande, Colorado and Tijuana Treaty, 1944
- Wyoming v. Colorado
- Nebraska v. Wyoming
- Colorado v. New Mexico

## Interstate Compacts, Equitable Apportionment Decrees and Treaties

Colorado must live within its water constraints. The first and most basic constraint on water use within the state is the amount of rainfall and snowfall that occurs each year.

The second constraint is legal: Colorado has obligations to limit its uses and deliver water to downstream states under interstate water compacts and United States Supreme Court equitable apportionment decrees. Meeting these obligations can be viewed as Colorado's number one water right administrative priority. Failure to meet the terms of the Arkansas River Compact, for example, resulted in expensive litigation and a 30-plus million dollar payment to Kansas. International treaties with Mexico also affect Colorado's water use.

The unbridled ability of states to allocate and govern water use within their states halted early in the 20th century. In 1907, the Supreme Court in *Kansas v. Colorado* held that all states sharing a stream system were entitled to an equitable share of river water.

Under equitable appor-

tionment, the U.S. Supreme Court has authority to allocate a state's share of river water from time to time based on another state's need, if a state files directly with the high court.

The compact clause of the United States Constitution allows states to fix their allocations in perpetuity by contract, with Congressional approval. An interstate compact is both state law and a law of the United States. This promotes long-term planning and reliability and diminishes the rush to develop water as soon as possible.

Due in great measure to the efforts of Delph Carpenter, son of a Weld County homesteader, Colorado entered into nine interstate water compacts as alternatives to court-apportionment. Colorado water use is also affected by two U.S. Supreme Court equitable apportionment decrees.

Because of interstate and international requirements, Colorado passes a large amount of water out of state. In an average year, Colorado generates approximately 16 million acre feet (maf) of renewable water that flows in streams and groundwater. After accounting for all the water diverted for beneficial use, Colorado currently passes out of the state an annual average 9.19 maf to the Pacific side of the Continental Divide and 1.051 maf to the Atlantic side. Colorado can consume only approximately one-third of the water it produces because of interstate and international legal obligations. While there may be water in the Colorado River system Colorado has not yet developed under its 1922 and 1948 Colorado River Compact entitlements, its use of Arkansas, Republican, Rio Grande and South Platte river water is subject to strictly enforced requirements constraining water uses within Colorado.

Drought can greatly alter the amount of water Colorado produces for in-state and out-of-state use. For example, in the severe drought year of 2002, natural flows in Colorado rivers were closer to 4 maf, compared to the 16 maf average. Approximately 6 maf of reservoir storage was used up in 2002 to supplement these meager natural streamflows.

For a summary of the compacts,

equitable apportionment decrees and treaties, see the Compact Fact Sheet at <http://cwcb.state.co.us/WaterSupply/InterstateCompacts/> and the *Citizen's Guide to Colorado's Interstate Compacts*, [www.cfwe.org](http://www.cfwe.org).

## Colorado River Compact of 1922

The Colorado River Compact of 1922 divides the water of the Colorado River between what are known as the upper and lower basin states. The lower basin states are comprised of Arizona, California and Nevada and those parts of New Mexico and Utah below Lee Ferry, Arizona. The upper basin states include Colorado, New Mexico, Utah and Wyoming and that part of Arizona above Lee Ferry.

This compact allocates 75 million acre feet of water for consumptive use averaged over a running 10-year period, for the Lower Colorado River Basin. The remainder is for use by the upper basin states. Lake Powell, located immediately upstream of Lee Ferry, is managed, but not required, to deliver some 7.5 maf annually to the lower basin states, plus 750,000 acre feet or half of the Mexican treaty obligations.

## Arkansas River Compact of 1948

This compact apportions the waters of the Arkansas River between Colorado (60 percent) and Kansas (40 percent) based on the inflow to John Martin Reservoir during the winter storage season (December 1 to March 31). This water in storage can be released at the demand of either state after April 1.

Colorado and Kansas have often been in litigation before the U.S. Supreme Court over Arkansas River water since the early twentieth century. In 1995, the U.S. Supreme Court found that Colorado had depleted the flow of the Arkansas River at the state line in violation of the compact. Irrigation wells installed after execution of the compact caused these depletions. The states have litigated the nature and extent of the injury to Kansas and Colorado paid over \$30 million in damages to Kansas, as directed by the U.S. Supreme Court. In response to an order of the Special Master, the Colorado State Engineer has developed well administration rules to bring

## Upper Colorado River Basin Compact of 1948

This compact distributes the consumptive use of Colorado River water among the upper basin states. Subject to interpretation of the compacts and other laws, as well as the amount of water available in the river, Colorado's consumptive use rights for Colorado River water can vary.

The following calculation is a way of viewing how the 10-year running average 75 million acre feet obligation to the lower basin might translate into water available for consumptive use by the upper basin states in an average water year:

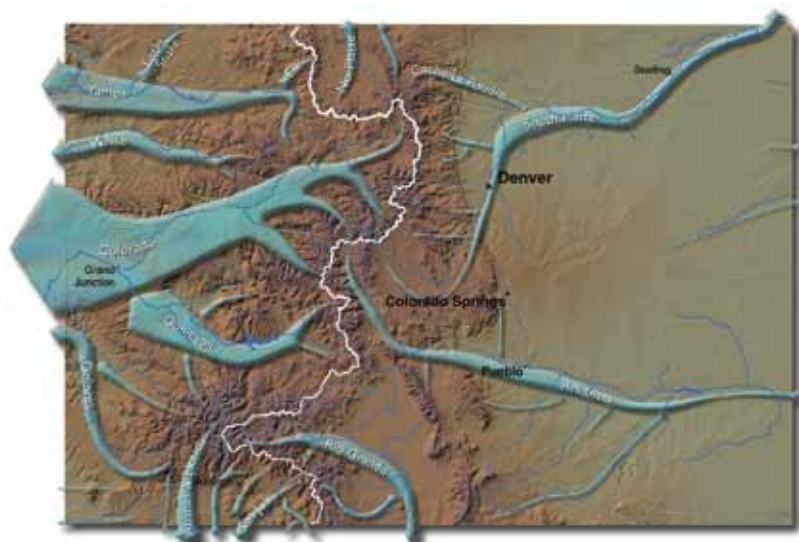
Acre feet per year	Provisions
14,800,000*	Total average annual water production in the Upper Colorado River Basin
<b>Minus 7,500,000</b>	Or the amount released to the Lower Basin annually under the current management strategy to assure the 10-year running average is met.
<b>Minus 750,000</b>	Release for Mexican Treaty purposes equal to one-half of the U.S. obligation (a disputed point)
<b>Minus 50,000</b>	For portion of Arizona above upper/lower basin dividing point (above Lee Ferry)
<b>= 6,500,000</b>	<b>Total Annual Average Available to Upper Basin</b>

\* Long-term average 1896-2003. Upper Colorado River Comm'n 55th Annual Rpt. (2003).

Within the Upper Basin, the portion of Colorado River available to the Upper Basin States (Arizona being excluded) is allocated according to the following percentages:

Colorado = 51.75%, Utah = 23%, Wyoming = 14%, New Mexico = 11.25%

For water planning purposes, the Colorado Water Conservation Board assumes that there is up to 400,000 additional acre feet of Colorado River water remaining for consumptive use that Colorado can develop under the 1922 and 1948 Colorado River compacts. A study is underway to determine whether this assumption should be altered. Water availability under the compacts may be adversely affected by climate change. (See *Citizen's Guide to Colorado Climate Change*, [www.cfwe.org](http://www.cfwe.org)).



Colorado is a source state. This map shows the relative, historical average annual stream flows leaving Colorado.



## Interstate and Federal Law



*Millions of people depend on state, federal and international law to allocate and protect the water resources that begin their journey to the sea in Colorado. Eighteen states and Mexico depend on water from Colorado. Water from the headwaters of the Colorado River in Rocky Mountain National Park (above) may make its way towards the Sea of Cortez (below) in Mexico or a dinner table in Los Angeles.*



Colorado into compliance with the compact (see 37-69-101 to 37-69-106 C.R.S.). In 2003, the Colorado General Assembly affirmed the State Engineer's authority to adopt and enforce the Arkansas Basin rules.

### Federal Reserved Water Rights

In 1907, the Supreme Court in *Winters v. United States* determined that the states could not deprive Native Americans of the water reserved for them by implication when Congress created tribal reservations.

This generated the concept of federal reserved water rights, created expressly or by implication.

Implied federal reserved rights refer to water that was unappropriated on the date the reservation was created, in the minimum amount necessary to achieve the primary purposes of the reservation. The priority date of this type of reserved water right is the date the reservation was created.

Subsequently, the U.S. Supreme Court and various state supreme courts have upheld implied federal reserved rights for numerous national parks, monuments and other federal reservations created through acts of Congress.

Federal reserved water rights may also be created expressly, for example, by the Wild and Scenic Rivers Act.

As a result of this legal precedent and to allay western concerns about exclusive federal control over tribal and federal water claims, Congress adopted the 1952 McCarran Amendment. This amendment permitted state courts to adjudicate federal and tribal water claims. These included express and implied federal reserved water rights and federal claims to state law-based water rights. Since then, Colorado has adjudicated federal and tribal reserved rights claims and the state administers them in



*A brief summer rain falls on the Pawnee National Grasslands. The eastern prairie receives an average of approximately 12 inches of annual precipitation, while parts of the mountains may receive more than 70 inches. Denver averages approximately 14 inches of precipitation a year.*



priority, along with state-based water rights.

For example, Rocky Mountain National Park and the Cache La Poudre Wild and Scenic River have Colorado water court decrees for federal reserved water rights. A negotiated decree entered in Colorado water court for the Rio Grande Basin, recognizes U.S. Forest Service rights. The Southern Ute and Ute Mountain Ute Tribes settled their federal reserved water rights claims in return for the Animas-La Plata Project, which is now under construction by the U.S. Bureau of Reclamation.

A proceeding to determine the amount of the reserved water right for the Black Canyon of the Gunnison National Park has been settled in the regional water court.

### Environmental Protection

The 19th century's pro-development policies of the state and federal governments had consequences. Back then, the beauty and natural resources of Colorado must have seemed inexhaustible and the need to use them so pressing.

By the close of the 19th century, national and state agendas began to shift from unmitigated use of natural resources to progressive conservation. As a result, President Teddy Roosevelt and his forester, Gifford Pinchot, pushed to protect the forested lands from impacts caused by uncontrolled timber harvesting, homesteading and other uses. More than 14 million acres of national forest land exists in Colorado today and, within that, nearly 4 million acres of designated wilderness.

Creation of the national forests initially caused alarm in Colorado because many reservoirs and ditches existed within the forest due to the earlier laws that allowed entrance on public lands for water diversion, storage and delivery systems. President Roosevelt convinced farmers and cities that forest protection was important to water production.

To alleviate concern that creation of the forest reserves would obstruct the on-going use and development of water resources on the national forests, the 1897 Forest Organic Act contained a pro-



*Congress created the Cache la Poudre Wild and Scenic River in 1986, preserving some 75 miles of river north of Fort Collins from future dam building. This legislation created a federal reserved water right for this Wild and Scenic River, but also protected all pre-existing perfected and conditional water rights and exchanges along the river.*

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***By the close of the 19th century, national and state agendas began to shift from unmitigated use of natural resources to progressive conservation. As a result...more than 14 million acres of national forest land exists in Colorado today.***

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vision preserving federal law and forest rules and also saying that state water law would continue to apply to water rights on the national forests.

By the mid-1960s, 100 years of United States policy favoring water development was beginning to shift to include environmental protection and preservation. Laws such as the Wilderness Act, National Environmental Policy Act, Clean Water Act, Endangered Species Act and Federal Land Policy and Management Act imposed regulatory constraints on the construction of new water projects.

These laws have greatly expanded citizen participation in water decision-making processes. No significant action affecting the environment can go forward without the opportunity for citizens to comment. In turn, this has pushed



*Fish are not the only animals effected by instream flows. Elk (above) and other species are impacted by river flows, drought, flood and water developments.*

## Interstate and Federal Law



U.S. Fish and Wildlife Service biologists – pictured near Vernal, Utah (top) – are part of the effort to restore populations of pikeminnow, humpback chub, bonytail chub (above) and razorback sucker under the Upper Colorado River Endangered Fish Recovery Program.



Construction of new dams is subject to federal approval. The controversial Two Forks Dam project in Colorado was vetoed by the Environmental Protection Agency (EPA) in the 1980s. When completed in 1935, Hoover Dam (above) on the Colorado River, which produces more than four billion kilowatt hours of electricity each year, was the largest dam in the world.

Colorado decision-makers to examine alternatives to proposed water projects.

Compliance with the Endangered Species Act is important to Colorado's ability to use the waters provided in its interstate compacts. In connection with further development of their Colorado River Compact entitlements, for example, the upper basin states—Colorado, New Mexico, Utah and Wyoming—participate in a program called the Upper Colorado River Endangered Fish Recovery Implementation Program.

The recovery program is a joint effort with the U.S. Fish and Wildlife Service and

other federal, state, water user and environmental organizations to recover four endangered Colorado River native fish, including the pikeminnow, humpback chub, bonytail chub and razorback sucker. Participation allows upper basin state water users to qualify for federal permits and other approvals needed to construct water facilities and apply for new water uses.

Federal laws and regulations add much complexity to Colorado's ability to meet its water needs. For example, section 404 of the Clean Water Act requires a U.S. Army Corps of Engineers permit to place dredged or fill material into waters of the United States, which includes rivers and wetlands. This means that virtually all dams require federal approval. The U.S. EPA exercises veto authority over these permits. In the 1980s, the U.S. EPA vetoed the Denver Water Board's application for the Two Forks Dam, which had attracted substantial opposition throughout Colorado. (See *Citizen's Guide to Colorado's Environmental Era*, [www.cfwe.org](http://www.cfwe.org)).

Particularly controversial have been cases where the U.S. Forest Service has required by-pass flows as a condition for issuing or renewing permit right of ways for on-forest diversions and reservoirs.

A by-pass flow is an amount of water required to flow past a dam or diversion to support downstream forest water needs, such as wildlife habitat or recreation. Opponents of by-pass flows argue they illegally and inappropriately intrude into Colorado's legal authority to allocate and manage water use; supporters insist they are a necessary tool for protecting water-dependent resources on the national forests, given the existing decreed water rights held by private water users with on-forest dams and diversions.

The Colorado General Assembly has urged the U.S. Forest Service and other federal agencies to work with the Colorado Water Conservation Board on instream flow needs using the Board's Instream Flow Program.



Efficient water diversion and storage, beneficial use without waste, recognition of all beneficial uses that Coloradans value—these have always been fundamental precepts of Colorado water law. The era of their fuller implementation is upon us. There is an extensive round-table effort across Colorado to identify future needs and negotiate workable solutions.

As Colorado's water consumption reaches the limits of its allotments under interstate compacts and treaties, intensive water management will become even more critical. Water management decisions will involve examination of all options. Conservation will be indispensable. (See *Citizen's Guide to Colorado Water Conservation*, [www.cfwe.org](http://www.cfwe.org)). Colorado has always been good at adapting its water law to accommodate scarce supply and changing needs. Climate change will likely result in added innovation.

Inevitably, as each generation must learn, the land and the waters will instruct us in the ways of community. Thomas Hornsby Ferril reminds us of this in his profound poem, "Time of Mountains."

*So long ago my father led me to  
The dark impounded orders of this canyon,  
I have confused these rocks and waters with  
My life, but not unclearly, for I know  
What will be here when I am here no more.*

From *Thomas Hornsby Ferril and the American West*, edited by Robert Baron, Stephen Leonard and Thomas Noel



# Chronology

This chronology traces significant historical events in federal and Colorado water law and is not intended to be comprehensive.



This 1950s map shows a portion of the Colorado-Big Thompson Project which is managed by the Northern Colorado Water Conservancy District.



An American Water Works survey showed that North American households included in the study used approximately 146,000 gallons of water annually. Of this amount, 42 percent (61,300 gallons) were used indoors. The remaining 58 percent (84,700 gallons) were used outdoors.

**1803** United States makes the Louisiana Purchase, adding the territory of the Mississippi, Arkansas and Missouri River watersheds to the Continental Divide.

**1848** The United States and Mexico sign the Treaty of Guadalupe Hidalgo. Mexico cedes to the U.S. the entire area west of the Continental Divide all the way to California.

**1852** Hispanic settlers in Colorado's San Luis Valley construct the People's Ditch, the oldest prior appropriation water right existing in Colorado today.

**1859** Pikes Peak Gold Rush

**1861** Congress established Colorado Territory out of the Kansas, Nebraska, New Mexico and Utah Territories.

**1861** The first legislative session in the Colorado Territory enacts statutes recognizing the right of irrigators to withdraw water from the streams.

**1862** Congress adopts the Homestead Act, allowing settlers to occupy public land and obtain land ownership if they live on and improve the land for five years (later reduced to two years).

**1866** Congress enacts the Mining Act, allowing Territories and States to adopt their own water laws, which will also apply to public lands.

**1872** Territorial Supreme Court of Colorado decides *Yunker v. Nichols* holding that Colorado water law arises from necessity in an arid climate and includes the right to cross public and private lands to build water diversion and conveyance structures.

**1876** Colorado adopts its Constitution and is admitted to the Union. The Constitution provides that the natural waters of the streams are a public resource dedicated to the use of the people and the right to appropriate unappropriated water for beneficial use shall never be denied.

**1879** Colorado General Assembly adopts the state's first adjudication and administration statute, which provides for court decree of water rights to establish

priority dates for irrigation uses. It also established water commissioners to enforce the priority system. The Adjudication Act was re-adopted with changes in 1881.

**1879** Office of State Engineer created

**1882** Colorado Supreme Court in *Coffin v. Left Hand Ditch* holds that Colorado law recognizes prior appropriation water rights and not riparian water rights. The court also holds that the Colorado constitution permits diversions of unappropriated water from one watershed for beneficial use in another watershed.

**1891** Colorado Supreme Court decides *Strickler v. City of Colorado Springs*, holding that cities may buy and transfer agricultural water rights to municipal use, so long as injury to other water rights does not occur.

**1897** Congress adopts National Forest Organic Act. This prohibited further homesteading and sale of forested watersheds. The U.S. Supreme Court in *United States v. New Mexico* has held that this and other forest statutes do not create instream flow rights for fish and recreation within the national forests.

**1897** Colorado General Assembly adopts first statute for exchanges of water rights.

**1899** Colorado General Assembly adopts first statute for changes of water rights.

**1902** Congress adopts the Reclamation Act providing federal financing for construction and operation of water diversion, storage and delivery projects to assist irrigation in the western states.

**1903** Colorado General Assembly extends the system of court decree of water rights to all beneficial uses, not just irrigation.

**1907** United States Supreme Court in *Kansas v. Colorado* establishes the law of interstate equitable apportionment (states sharing a river system are entitled to a water allocation for their use).

**1907** United States Supreme Court in *Winters v. United States* establishes the implied federal reserved water rights doctrine, first made applicable to Native American tribal reservations.

**1913** Colorado Supreme Court decides *Comstock v. Ramsay*, holding that “return, waste and seepage” from diversion of native water belongs to that stream system. New water rights can be created from this water, but only to the extent that senior rights will not be injured.

**1922** Colorado enters into Colorado River Compact and La Plata River Compact.

**1922** United States Supreme Court in *Wyoming v. Colorado* limits Colorado’s use of Laramie River.

**1923** Colorado enters into South Platte River Compact.

**1938** United States Supreme Court in *Hinderlider v. La Plata & Cherry Creek Ditch Co.* holds that interstate water compacts and equitable apportionment decrees apply to the water rights established by the Territories and States before the compacts and equitable apportionment decrees were adopted.

**1938** Colorado enters into Rio Grande River Compact.

**1942** Colorado enters into Republican River Compact.

**1948** Colorado enters into Upper Colorado River Compact and Arkansas River Compact.

**1951** Colorado Supreme Court decides *Safranek v. Town of Limon*, holding that all groundwater in Colorado is presumed to be tributary to a surface stream and is subject to the prior appropriation system, unless the groundwater is proved to be nontributary by clear and convincing evidence.

**1952** Congress adopts the McCarran Amendment, allowing the states to determine the existence, priority and quantity of federal and tribal water rights claims. These claims may be based on state law or federal law or both.

**1956** Congress adopts Colorado River Storage Project Act, authorizing Glen Canyon, Flaming Gorge, Cuerecanti (Aspinall) and Navajo dams in the Upper Basin to meet the 1922 Compact requirements of the Lower Basin.

**1957** First requirement for well permits by the State Engineer’s Office

**1963** Colorado enters into Amended Costilla Creek Compact.

**1964** United States Supreme Court in *Arizona v. California* determines the Colorado River Compact allocations of Arizona, California and Nevada based on the Boulder Canyon Project Act. Court also determines that the federal reserved water rights doctrine is applicable to other federal reservations, in addition to tribal reservations. Existence, priority and amount of the water reserved depend on the intent and wording of Congressional legislation.

**1965** Colorado General Assembly adopts the Groundwater Management Act.

**1968** Colorado enters into Animas-La Plata Project Compact.

**1968** Congress adopts Colorado River Storage Project Act, authorizing the Central Arizona Project and the Animas-La Plata Project.

**1968** Colorado Supreme Court decides *Fellhauer v. People*, requiring the State Engineer to adopt tributary groundwater regulations.

**1969** Colorado General Assembly adopts Water Rights Determination and Administration Act, with seven water divisions in the state and a division engineer and water court in each division.

**1969** Congress adopts the National Environmental Policy Act (NEPA).

**1972** Colorado Supreme Court decides *City and County of Denver v. Fulton Irrigating Ditch Co.*, holding that water imported from one river basin to another can be fully consumed by reuse and successive use, to extinction.

**1972** Congress adopts Water Pollution Control Act Amendments.

**1973** Colorado General Assembly adopts the instream flow and lake level law, allowing the Colorado Water Conservation Board to obtain new water rights sufficient to “preserve the natural environment to a reasonable



*Increasing population and development puts additional demands on Colorado’s water resources. Water that flows in the Indian Peaks Wilderness Area (below) may find its way to homes in Denver (above) and the eastern plains, being used and re-used along the way for agriculture, wildlife, power generation, industry and recreation.*



# Chronology

- degree.” Groundwater appropriation based on land ownership for nontributary groundwater.
- 1973** Congress adopts Endangered Species Act.
- 1976** United States Supreme Court decides *Colorado River Dist. v. United States (Mary Akin)*, recognizing the authority of the Colorado water court over the Native American reservation water rights of the Southern Ute and Ute Mountain Ute Tribes.
- 1976** Congress adopts the Federal Land Policy and Management Act.
- 1977** Congress adopts Clean Water Act.
- 1979** Colorado Supreme Court decides *People v. Emmert*, holding that Colorado does not follow the public trust doctrine and the stream beds belong to the adjoining landowners.
- 1979** Colorado Supreme Court rules in *Colorado River Water Conservation Dist. v. Colorado Water Conservation Board* that the state instream flow program is not unconstitutional under the state constitution’s prior appropriation provisions.
- 1980** Colorado Supreme Court in *Weibert v. Rothe Bros.* holds that the historic beneficial use of a water right governs its change to a different point of diversion, place, or type of use.
- 1983** Colorado Supreme Court in *Colorado v. Southwestern Colo. Water Conservation Dist.* holds that the prior appropriation doctrine applies only to surface water and tributary groundwater. The General Assembly may decide how to allocate nontributary groundwater.
- 1985** General Assembly adopts Denver Basin groundwater legislation.
- 1992** Colorado Supreme Court decides *City of Thornton v. City of Fort Collins*, recognizing the validity of water rights for boat chute and nature center diversions.
- 1992** Colorado Supreme Court decides *Board of County Commissioners v. Upper Gunnison River Water Conservancy Dist.*, upholding the storage, release and administration of water for use downstream for recreation and fishing flows.
- 1995** United States Supreme Court decides *Kansas v. Colorado*, holding that Colorado post-compact well pumping of Arkansas River tributary groundwater caused violations of the 1948 Arkansas River Compact.
- 1996** Colorado Supreme Court decides *City of Thornton v. Bijou Irrigation Co.*, establishing standards for large agricultural water transfers to municipal use.
- 1997** Colorado Supreme Court decides *Shirola v. Turkey Canon Ranch Ltd. Liab. Co.*, recognizing the standing of any citizen to oppose an application filed in water court, in order to hold the applicant to a strict standard of proof. However, to assert injury to a water right, a person must have a legally protected interest in a vested water right or conditional decree. The State and Division Engineers have broad standing to appear in water court cases.
- 2001** General Assembly adopts Arkansas River Basin Pilot Water Bank and Recreational In-Channel diversion statutes. Colorado Supreme Court issues the *Empire Lodge v. Moyer* case enforcing statutory requirements for augmentation plans.
- 2002** Colorado Supreme Court decides *Board of County Commissioners v. Park County Sportsman’s Ranch*, restating the “Colorado Doctrine” and holding that aquifers can be used to store water under a decreed water right. To obtain such a storage decree, the appropriator must capture, possess and control water and place it into the aquifer. The applicant for this kind of decree must prove that storage space is available in the aquifer without injury to other water rights.
- 2002** General Assembly adopts law allowing Colorado Water Conservation Board Instream Flow Program to purchase, lease or accept donation of senior water rights to improve the natural environment to a reasonable degree. Previously, the Board could acquire water rights only to provide minimum stream flows or lake levels necessary to preserve the natural environment to a reasonable degree. General Assembly adopts law granting authority to State Engineer to issue substitute supply plans.
- 2003** General Assembly adopts legislation for stored water banks in all seven Water Divisions, prohibits new residential covenants that restrict use of drought-tolerant landscape, authorizes conservation easements for water rights, requires financial mitigation to a county when transferring over 1000 acre feet of agricultural consumptive use water permanently out of the county and authorizes interruptible water leasing from farms to cities and for instream flows during drought emergencies. Colorado Supreme Court issues decision requiring State Engineer curtailment of wells that cause injury to surface water rights unless they have a court-approved augmentation plan.
- 2005** General Assembly adopts the Water for the 21st Century Act creating the Inter Basin Compact Committee and the Basin Roundtables.
- 2006** General Assembly adopts law for rotational crop management contracts for leasing water as an alternative to permanent transfers of water rights.
- 2008** General Assembly requires local governments to determine whether proposed new subdivisions have an adequate future water supply.
- 2009** General Assembly adopts law for use of leased water to satisfy requirements of court-approved augmentation plans. Colorado Supreme Court rules that coalbed methane gas production from tributary groundwater is a beneficial use and requires a State Engineer well permit. General Assembly approves legislation to allow pilot projects in new urban developments for rainwater harvesting and an allowance for collecting rainwater on rooftops for properties that can or are being served by exempt wells. General Assembly also allows tax credits for donation of water rights to the Colorado Water Conservation Board instream flow program.



**Abandonment** Loss of whole or part of an absolute water right by intent to permanently discontinue use. Period of non-use for ten consecutive years raises rebuttable presumption of abandonment. A conditional water right is conclusively presumed to be abandoned, if an application for finding of reasonable diligence is not made within six years of the entry of the conditional decree or the most recent diligence decree. The State Engineer prepares a periodic abandonment list. Water rights are declared abandoned through a water court proceeding. The Legislature has forestalled abandonment in certain circumstances, such as participation in a federal conservation reserve program and leasing water for Colorado Water Conservation Board instream flow use.

**Acre-Foot** Volumetric measurement of water used for quantifying reservoir storage capacity and historic consumptive use. This is the amount of water that will cover an acre of land at a depth of one foot, or 325,851 gallons of water.

**Adjudication** The process for obtaining a water court decree for a conditional water right, a finding of reasonable diligence, an absolute water right, an exchange, an augmentation plan, a change of water right, or a right to withdraw nontributary water or Denver Basin groundwater that is outside of a designated groundwater basin.

**Appropriation** Placement of a specified portion of the waters of the state to a beneficial use pursuant to the procedures prescribed by law. Speculation is prohibited. The appropriator must have its own use for the water or have a contract to serve the customers that the water will benefit. Only previously unappropriated surface or tributary groundwater water can be appropriated. The appropriator must have a plan to divert, store, or otherwise capture, possess and control the water for beneficial use.

**Aquifer** A subsurface water-bearing geological structure capable of storing and yielding water to streams, springs, or wells.

**Augmentation** Replacing the quantity of water depleted from the stream system caused by an out-of-priority diversion. When adjudicated and operated to replace depletions to the stream system, the out-of-priority diversion may continue even through a call has been placed on the stream by senior decreed rights.

**Beneficial Use** Beneficial use is the basis, measure and limit of a water right. Colorado law broadly defines beneficial use of water as a lawful appropriation that uses reasonably efficient practices to put that water to use without waste.

**Call** Demand for administration of water rights. In times of water shortage, the owner of a decreed water right will make a “call” for water. The call results in curtailment orders against undecreed water uses and decreed junior water rights as necessary to fill the beneficial use need of the decreed senior calling right.

**Colorado Revised Statutes or C.R.S.** The annual compilation of Colorado statutes and court rules published by the Colorado General Assembly. Also called “the red books.”

**Conservation Easement for Water Rights** Legal provision under 2003 statute allowing owners of water rights to covenant for keeping the water in use for open space, wetlands, recreation, ecological diversity, or farming.

**Consumptive Use** Water use that permanently withdraws water from its source; water that is no longer available because it has evaporated, been transpired by plants, incorporated into products or crops, consumed by people or livestock, or otherwise removed from the immediate water environment.

**Cubic Feet Per Second (cfs)** Measurement of flow rate of water in running stream or taken as direct diversion from the stream. Water flowing at 1 cfs will deliver 448.8 gallons per minute or 648,000

gallons per day or approximately 2 acre feet per day.

**Denver Basin Groundwater** Groundwater of the Dawson, Denver, Arapahoe and Laramie-Fox Hills aquifers underlying the Front Range area from Colorado Springs to Greeley, the foothills to Limon. This water is allocated to the overlying landowner by statute, administered by rules of the State Engineer, allowing pumping at a rate of one percent per year assuming a hundred-year life of the aquifer and requiring some of the pumped water to be put back into the stream system.

**Designated Groundwater** Groundwater areas not adjacent to a continuously flowing natural stream. Also includes areas where groundwater had been the principal water supply for at least fifteen years preceding the designation of the groundwater basin. Eight designated groundwater basins exist on Colorado’s eastern high plains. Use of designated groundwater requires a permit from the Colorado Groundwater Commission.

**Developed or Imported Water** Water brought into a stream system from another, unconnected source, for example, trans-basin water or nontributary groundwater. This type of water can generally be reused and successively used to extinction and is often used in augmentation or exchange plans. In contrast, native basin water is subject to one use and the return flow belongs to the stream system to fill other appropriations, unless a decree was obtained for the right to reuse and successively use return flows.

# Glossary

**Diligence** Reasonable progress towards making a conditional water right absolute by putting unappropriated water to a beneficial use. Must be proved in a water court proceeding through an application initiated every six-years after entry of the conditional decree or most recent diligence decree. Acts demonstrating diligence include engineering, permitting, financing and construction of water facilities needed to complete water diversion and delivery to the place of use.

**Diversion or Divert** Removing water from its natural course or location, or controlling water in its natural course or location, by means of a water structure such as a ditch, pipeline, pump, reservoir, or well. The Colorado Water Conservation Board may appropriate instream flows without diversion and local governmental agencies may make recreational in-channel diversions, under specified statutory procedures.

**Futile Call** Determination made by the State or Division Engineer to lift a shut down order if cessation of diversions by junior decreed water rights will not result in making water available to the senior calling right.

**Injury** The action of another that causes or may cause the holders of decreed water rights to suffer loss of water at the time, place and amount they would be entitled to use under their water rights if the action had not occurred. Injury is a significant issue in any water court proceeding and in determinations of the State and Division Engineers.

**Interstate Compacts** Contracts between states approved by the United States Congress governing the allocation and use of interstate waters.

**Interruptible Water Leasing** Authorization by the Colorado General Assembly authorizing farmers to lease water to cities during drought emergencies.

**Nontributary Groundwater** Groundwater outside of the boundaries of any designated groundwater basin, the withdrawal of which will not, within one hundred years, deplete the flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal.

**Not Nontributary Groundwater** Denver Basin groundwater, the withdrawal of which will deplete the flow of a natural stream at an annual rate of greater than one-tenth of one percent of the annual rate of withdrawal.

**Priority** The ranking of a water right vis-à-vis all other water rights drawing on the surface stream and tributary groundwater system. Priority is determined by the year in which the application for the water right was filed. The date the appropriation was initiated determines the relative priority of water rights for which the applications were filed in the same year. Priority is the most valuable aspect of a water right because priorities determine who may divert and use water in time of short water supply.

**Public Trust Doctrine** A doctrine of state ownership of stream and lake beds that has been applied, most notably in California, to regulate historic diversions in order to sustain fish and wildlife habitat and recreation. This doctrine has not been recognized in Colorado, although the Colorado Supreme Court has ruled that the Colorado Water Conservation Board has a fiduciary duty to the people of Colorado to enforce the instream flow water rights it obtains.

**Return Flow** Water that returns to streams, rivers and aquifers after it has been applied to beneficial use. It may return as a surface flow, or as groundwater flow.

**Riparian** Referring to land or habitat immediately adjacent to the stream channel.

**Riparian Water Law** A legal system that permits water use only by those who own land along the banks of a stream or lake. The right typically is for reasonable use and is correlative with the right of every other property owner to prohibit unreasonable use that diminishes the instream quantity or quality of water. Colorado law does not recognize riparian rights.

**Statute** A law enacted by a legislative body such as the U.S. Congress or the Colorado General Assembly.

**Substitute Supply Plan** A State Engineer-approved temporary plan of replacement supply allowing an out-of-priority diversion while a plan for augmentation is proceeding through the water court. The State Engineer may also approve substitute supply plans for water exchanges, water uses that will not exceed 5 years and limited emergency situations affecting public health or safety.

**Tributary Groundwater** All subsurface water hydraulically connected to a surface stream, the pumping of which would have a measurable effect on the surface stream within one hundred years.

**Water Bank** A program operating under rules of the State Engineer in each of Colorado's seven water divisions to facilitate the lease, exchange, or loan of legally stored water as an alternative to sale of water rights, while protecting against injury to other water rights.

**Water Right** A property right to the use of a portion of the public's surface or groundwater resource obtained under applicable legal procedures.

**Well** Any structure or device used for the purpose or with the effect of obtaining groundwater for beneficial use from an aquifer. Every well requires a State Engineer-issued permit.

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*The South Platte River, pictured near Kersey, is one of the major rivers that carries water to other states.*

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THIS 1841 MAP OF THE AMERICAN WEST, COMPILED BY NAVY CAPTAIN CHARLES WILKES, ILLUSTRATES ONE OF THE FIRST ATTEMPTS TO MAP THE LARGELY UNEXPLORED AMERICAN WEST. MUCH OF THIS MAP IS VAGUE AND LARGELY HYPOTHETICAL. THE INTERIOR PART OF THE WEST BEARS THE NOTATION, IN PART, "THIS PLAIN IS A WASTE OF SAND, WITH A FEW DETACHED MOUNTAINS, (SOME OF WHICH ARISE IN THE REGION OF PERPETUAL SNOW), WHOSE POSITIONS ARE UNKNOWN; FROM THESE FLOW SMALL STREAMS THAT ARE SOON LOST IN THE SAND."

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