

State Water Policies and Programs

The recent drought and Colorado's rapid population growth have heightened interest in Colorado's water supply. During the upcoming session, Colorado's citizens may look to the legislature and state government for long-term solutions to the state's water supply challenges. The purpose of this pamphlet is to outline the major features of Colorado's water policy landscape including its water law, state water agencies, state financing mechanisms for water supply projects, and recent legislative activities to address Colorado's water supply challenges.

Overview of Colorado's Water Challenges

Limited and irregular precipitation. Colorado is a semi-arid state that receives a statewide average annual precipitation of 15 inches, with large areas receiving less than 10 inches annually. It periodically experiences extended droughts. In an average year, approximately 16 million acre feet (MAF) of water flows in Colorado's rivers. One acre foot of water is the amount of water needed to flood an acre of land to a depth of one foot, or 325,851 gallons.

Reliance upon snow melt and water storage. The majority of water in the state comes from snow in the mountains. Consequently, most of the annual stream flow occurs during the three-month spring run off, from May through July. To manage the state's inconsistent water supply, over 2,000 dams and reservoirs have been constructed throughout the state. Combined, these reservoirs can hold over 6 MAF of water. As of August 31, 2008, statewide water storage was 101 percent of average. In 2002, it was 48 percent of average. The Continental Divide also runs through the state and separates much of Colorado's water supply from its population centers. Approximately 80 percent of the rain and snow falls in the state west of the divide; however, most of the state's population lives on the eastern side. Colorado is a headwaters state, meaning its waters flow out to many states, but very little water flows in. The state is the source for several major river systems including the Arkansas, Platte, Colorado, and the Rio Grande that provide water to a number of neighboring states.

Water Law for a Semi-Arid Land

Colorado's water law was developed to address the state's water supply challenges. According to this law, a water right is a property interest that is separate from the land. This allows water to be moved across the state from where it occurs naturally to where it can be used. The law also allocates water during droughts and seasonal shortages based on the seniority of a water right, called the ***doctrine of prior appropriation***. Eight other western states have adopted a similar water law including Alaska, Arizona, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming. The remaining western states have adopted a modified version of this law. Most of the water used in Colorado comes from streams.

Water Law for Streams

A water right is a right to use water. In general, people who take water from a stream must allow the unconsumed water to return to the stream for use by others. For example, an acre of corn consumes approximately 40 percent of the water applied to it. The law requires that the remaining 60 percent of the water taken from the stream be allowed to return to the stream for use by others. Water users may lose all or part of their rights if a water court determines that the water has not been put to a beneficial use within legal deadlines or the user has abandoned his or her right.

Types of water rights. Water rights may be obtained for a number of beneficial uses. Agricultural, domestic, and mining are the oldest types of legally recognized uses. Others include power generation, snow making, stock watering, fire protection, and dust suppression. More recently, Colorado recognized the preservation of natural habitat and water-based recreation as beneficial uses of water.

Obtaining a water right. A water right is created by using water for a legally recognized use, such as irrigation. In general, a potential water user first goes to water court to determine if water may be removed from the stream without injuring existing water rights. If approved, a water judge sets a priority for the right to use a specific amount of water, the location of the diversion, the purpose, and if necessary, any conditions to protect senior water rights. The earlier the date of the appropriation, the more "senior" the water right and the more valuable it is. Some of Colorado's most senior water rights date to the 1860s. Court recognition of a water right enables the owner to make an enforceable "call" during water shortages. Once a valid call has been made, water use by junior water rights must be curtailed until the senior water right has been satisfied. A water right is a property interest that may be sold or transferred, provided that no other water right is injured and the transfer is approved by the division water court. Water rights have been granted for most of the stream flows in the state or obligated to downstream states by interstate compacts.

Tributary ground water. Many wells in Colorado pump ground water that is connected to a nearby river, called tributary ground water. For example, over 500,000 AF are pumped annually from wells near the South Platte and Arkansas rivers, primarily for agricultural purposes. Tributary ground water is regulated according to the same principles as water in streams. This policy helps maximize the use of Colorado's large tributary aquifers while protecting surface water rights. Consequently, most well users along the South Platte and other Colorado rivers are administered in priority, with most wells being junior to surface water users. One of the most contentious water battles in Colorado is currently being fought between senior stream users and junior tributary ground water users in the South Platte River Basin.

Interstate compacts. Approximately 10 MAF of river water flow across Colorado's borders annually. Almost all of this water is legally obligated to downstream states and Mexico by interstate compacts and federal court decisions. A compact is an agreement between two or more states that is approved by Congress. Compacts and court-ordered decrees are administered in the same manner as other water rights in the state. During times of shortage, certain in-state water users may be prohibited from diverting water until a compact obligation is satisfied.

Water Law for Ground Water that Is Separate from Streams

In eastern Colorado, there are few rivers, but there are large ground water resources that are important to agriculture. These waters include Colorado's portion of the Ogallala Aquifer that extends from South Dakota to Texas. This ground water is essentially nonrenewable and isolated from surface streams. Wells are the primary source of water used in this area. To administer these wells, the law allows the formation of designated ground water basins that are regulated according to a modified doctrine of prior appropriation. Colorado also has large ground water resources in deep underground rock aquifers, called nontributary ground water. Most of this water is found outside of designated basins. These waters include the Denver Basin Aquifer that underlies much of the Denver metro area and is primarily used by Parker, Highlands Ranch, and other southern metropolitan communities.

Designated ground water. Over 1 MAF of water is pumped each year from Colorado's eight designated ground water basins in eastern Colorado. Ground water basins are designated by the 12-member Ground Water Commission. In general, designated basins may only include ground water that is not naturally available for decreed surface water rights. Such basins may also include ground water in areas not adjacent to continuously flowing natural streams where wells have been the principal source of water for at least 15 years. Well-pumping in designated basins is regulated according to a modified doctrine of prior appropriation that seeks to protect older wells from impacts caused by newer wells.

Nontributary ground water. Use of nontributary ground water is based on legislatively defined criteria that allows for the gradual depletion of this nonrenewable resource. Nontributary ground water is defined in statute as ground water that will not, within 100 years, deplete the flow of a stream at an annual rate greater than one-tenth of one percent of the annual pumping rate. Ownership of nontributary ground water is based on overlying landownership. Annual well pumping is also limited to one percent of the underlying nontributary ground water. A well permit from the State Engineer in the Department of Natural Resources must be obtained prior to drilling for nontributary ground water. Unlike water in streams, claims for nontributary ground water typically do not go through water court.

What Are the Primary State Water Agencies?

Three state entities are primarily responsible for the allocation of water and water policy and planning in Colorado: water courts, the Division of Water Resources, and the Colorado Water Conservation Board. Twelve other state agencies also have water-related responsibilities. For example, the Division of Wildlife protects and enhances aquatic wildlife, the Division of Parks and Outdoor Recreation manages water-based recreation, and approximately nine state agencies address water quality issues, including the Water Quality Commission and the Colorado Department of Local Affairs.

Water courts. Water court judges have exclusive jurisdiction over determination of new water rights, changes of water rights, approval of plans to protect senior water rights, findings of reasonable progress on water construction projects, approval of exchanges, and approvals to use

water outside the state. A water judge may also order a water user to obey a division engineer's order to cease injury to senior water rights or to cease diversions that are not being used beneficially. There are no juries in water court cases and judgments entered by water courts are reviewed by the Colorado Supreme Court. Seven water divisions are established in statute, corresponding to the state's seven major river basins including the Arkansas, Colorado, Rio Grande, Gunnison, San Juan-Dolores, South Platte, and Yampa-White river basins. Each water division has a water court. The Colorado Supreme Court appoints district judges from each water division to act as water judges.

Division of Water Resources (DWR). The DWR is directed by the State Engineer in the Department of Natural Resources. The State Engineer administers water rights, issues water well permits, monitors stream flows and water uses, inspects dams for safety, and represents Colorado in interstate water compact proceedings. The State Engineer and staff are allowed to enter private property and inspect the transportation, storage and uses of water, and to stop diversions that injure senior water rights or are not being used beneficially. The 12-member Ground Water Commission grants new designated water rights. The Ground Water Commission has delegated many of its regulatory functions to the State Engineer, including the issuance of well permits and the determination of certain ground water rights. The State Engineer's decisions may be appealed to the Ground Water Commission. Nine of the commission members are appointed by the Governor for four-year terms, including six agriculturalists from designated ground water basins, one agriculturalist from the San Luis Valley, and two municipal or industrial water users from the state. For FY 2008-09, the General Assembly appropriated \$21.7 million and 274 FTE to the division from the following sources: \$19.9 million from the General Fund, \$1.7 million from fees, and \$84,000 from federal funds.

Colorado Water Conservation Board (CWCB). The CWCB in the Department of Natural Resources is the state's primary water policy and planning agency. Its major programs include water supply protection, flood protection, conservation and drought planning, stream and lake protection (instream flow program), and water supply planning and finance. The CWCB is governed by a 15-member board that is charged with conserving the state's waters to promote utilization and to prevent floods. Nine of its members are appointed by the governor for three-year terms to represent eight river basins and the City and County of Denver. Other members include the executive director of the Department of Natural Resources, the Commissioner of Agriculture, the State Engineer, the Colorado Attorney General, the Division of Wildlife director, and the CWCB director. For FY 2008-09, the General Assembly appropriated \$8.7 million and 47.7 FTE to the board primarily from the following sources: \$4.8 million from the CWCB Construction Fund, \$2.4 million from the Operational Account of the Severance Tax Trust Fund (funded by a tax on the extraction of nonrenewable natural resources), \$0.6 million from the Water Efficiency Grant Program Cash Fund (originally capitalized with an appropriation from the Operational Account of the Severance Tax Trust Fund), and \$0.1 from federal funds.

What Legislative Committees Address Water Policy Issues?

Committees of reference. In 2008, 13 water-related bills were considered by the General Assembly. Most of these bills were referred to the House Agriculture, Livestock, and Natural Resources Committee or the Senate Agriculture, Natural Resources, and Energy Committee. The Joint Rules of the House and Senate require these two committees to stay advised of the activities, functions, problems, new developments, and budgets of the Colorado Department of Natural Resources which includes the Division of Water Resources and the Colorado Water Conservation Board. The two committees also meet jointly on Wednesday mornings during the legislative session to receive briefings on issues affecting the agriculture and natural resources community. For example, in 2008, the joint committee heard briefings on the effect of dust on snow and spring runoff, the Colorado Water Conservation Board's flood response program, and water quality issues.

Water Resources Review Committee. The ten-member Water Resources Review Committee is charged with reviewing water issues and proposing legislation related to the conservation, use, development, and financing of Colorado's water resources. The committee may meet up to six times during even-numbered years and eight times during odd-numbered years, including twice during the legislative session. It is also authorized to take up to two field trips per year. Committee members serve for two-year. In odd-numbered years, the Senate President selects the committee chair and the Speaker of the House of Representatives selects the vice-chair. The opposite occurs in even-numbered years. Members are appointed according to the following criteria:

- five Senate members — three appointed by the President, two appointed by the minority leader;
- five members of the House appointed by the Speaker in consultation with the minority leader;
- at least four members must reside west of the Continental Divide, or their district must have a majority of its population residing west of the Continental Divide; and
- members should represent each of the seven water divisions to the extent possible.

2008 bill recommendation. The Water Resources Review Committee recommended a bill to move the White River drainage basin from the jurisdiction of the Water Court of Water Division 5 to the jurisdiction of the Water Court of Water Division 6. Currently, the White River drainage basin is within the jurisdiction of the water court for Water Division 5 and its water commissioners are under the jurisdiction of the Water Division 6 engineer. The split between the administrative and judicial jurisdictions causes confusion and has led to the misfiling of water rights applications. Moving the White River drainage basin to the jurisdiction of the water court of Water Division 6 will also help balance the case load between Water Division 5 and Water Division 6. The committee also considered, but did not recommend, bills concerning:

- easing regulation of ground water pumping by wells in the South Platte River Basin that occurred prior to certain laws taking effect;
- funding for small community drinking water and waste water projects from severance tax moneys;

- expanding the types of hydroelectricity that qualify as an eligible energy resource under Colorado's renewable energy standard; and
- authorizing use of water collected from rainwater harvesting systems by certain residences.

What Has the General Assembly Done Recently to Address Colorado's Water Supply Challenges?

In 2002, Colorado experienced one of the worst droughts in its history. This drought, and Colorado's rapid population growth, led the water community and the General Assembly to reexamine Colorado's water policies and to enact several major new laws. The following section highlights some of the major legislative actions since 2002 to address Colorado's water supply challenges.

Alternatives to permanent transfers of agricultural water rights. Currently, most of Colorado's water is used for agricultural purposes. Agricultural water rights are some of the most senior rights in Colorado. Large tracts of agricultural lands have been taken out of production permanently to provide water to Colorado's growing municipalities, especially in the lower Arkansas River basin. Several laws were enacted to allow alternatives to permanent transfers of agricultural water rights. For example, the General Assembly authorized formation of water banks in all areas of the state and allowed temporary transfers of water rights, called *interruptible water supply agreements*, between farms and cities, as well as longer term transfers, called *fallowing agreements*. It also authorized loans of water to the CWCB for instream flows. Other legislation specified that owners who temporarily transfer their water for such purposes have not abandoned their rights.

Statewide Water Supply Initiative. In 2003, the General Assembly Commissioned the *Statewide Water Supply Initiative (SWSI)* to explore water supply and demand issues in each of the state's eight major river basin. This study, completed by the CWCB in 2004, estimated that Colorado will need an additional 630,000 AF annually to meet demand in 2030, primarily for municipal and industrial purposes. It further determined that as much as 80 percent of this demand may be satisfied from existing and planned water projects. Depending on a community's geography, financial resources, and other factors, these projects may include transferring agricultural water rights, storing additional water, increasing water use efficiency, and using nonrenewable groundwater. This study was updated in 2007 to reflect additional information developed by technical roundtables concerning water conservation and efficiency, alternatives to agricultural water transfers, environmental and recreational resource needs, and alternatives to address the gap between current supply and future water needs.

Referendum A. In 2003, General Assembly referred a measure to help pay for water projects that was rejected by voters. This measure, labeled Referendum A, would have allowed the CWCB to borrow up to \$2 billion for public and private water projects by issuing bonds. These money would have been available to acquire water rights, build new storage facilities, improve existing facilities, or increase water conservation. Moneys would also have been available to provide environmental and recreational benefits, protect agricultural water, or assist communities negatively impacted by water projects.

Interbasin Compact Committee. In 2005, the General Assembly enacted the Colorado Water for the 21st Century Act which established a process to address the state's growing water demand. This law created nine basin roundtables covering the:

- Denver metropolitan area;
- South Platte River Basin;
- Arkansas River Basin;
- Rio Grande River Basin;
- Gunnison River Basin;
- Colorado River Basin;
- Yampa-White River Basin;
- Dolores-San Miguel-San Juan; and the
- North Platte River Basin.

These roundtables are charged with identifying water needs within each basin and conducting discussions with other basins to address interbasin water issues. The law also created a 27-member Interbasin Compact Committee (IBCC) to facilitate negotiations between the roundtables. In 2006, the General Assembly approved the IBCC's charter that includes principles to guide negotiations between roundtables and defines the process for ratifying interbasin compacts. It also defines the process for integrating the interbasin compact process with other water planning and development processes such as the SWSI. On October 31, 2008, the IBCC issued its third annual report to the General Assembly concerning the status of compact negotiations. The report includes reports from each of the nine basin roundtables that describe accomplishments and identify major water issues affecting a basin. In 2006, the General Assembly appropriated \$900,000 for Fiscal Year 2006-07 from the Severance Tax Trust Fund for on-going implementation of the law including basin roundtable meetings, IBCC meetings, water needs assessments, and public education. It also appropriated \$40 million for Fiscal Years 2006-07 through 2010-11 from the Severance Tax Trust Fund for water activities approved by basin roundtables, including water diversion projects and nonstructural activities.

Incentives for water efficiency. The General Assembly created a grant program to provide funding to help public water providers achieve the water efficiency goals outlined in their conservation plans and to promote the benefits of water efficiency. This law also appropriated \$1.6 million from the Severance Tax Trust Fund over three years to the CWCB for the grant program.

Water supply studies. At the recommendation of the CWCB, the General Assembly has appropriated nearly \$2 million since 2005 to study issues affecting Colorado's water supply and its ability to satisfy the state's growing demand for water including:

- \$500,000 in FY 2005-06 to continue the Statewide Water Supply Initiative;
- \$125,000 in FY 2006-07 to identify underground water storage sites in the South Platte and Arkansas River basins;
- \$500,000 in FY 2007-08 and \$500,000 in FY 2008-09 to determine how much water from the Colorado River Basin is available to meet Colorado's current and future water needs;

- \$150,000 in FY 2008-09 to assist Colorado and other Colorado River Basin states to identify options to augment water supplies in the basin; and
- \$150,000 in FY 2008-09 to develop and implement a strategy to address potential impacts from climate change on Colorado's water resources.

What Are the Primary State Funding Sources for Water Studies and Projects?

Most of Colorado's largest water projects were constructed with federal moneys, local property taxes, and user fees. The state funds several smaller programs for the planning, construction, and rehabilitation of private and public water supply projects.

The CWCB Construction Fund. This revolving loan program funds projects that increase the consumption of Colorado's undeveloped river entitlements and that repair and rehabilitate existing water storage and delivery facilities. Moneys in the fund may also be used to pay for up to 50 percent of the cost of feasibility studies and water supply investigations. Loans may not be used for domestic water treatment and distribution systems. The fund receives revenue from the repayment of loans, interest on the fund in the state treasury, and federal mineral royalty distributions. As of June 30, 2008, the fund's value was \$309 million including \$173 million in outstanding loans, \$81 million in authorized projects under contract, \$42 million in authorized projects not yet under contract, and \$13 million available for new loans. The CWCB is authorized to adjust loan interest rates that currently range from 2.5 percent for agricultural loans to 5.5 percent for commercial loans. Loans for more than \$10 million must be approved annually by the General Assembly. In 2008, the General Assembly appropriated \$11.2 million for a water project loan to purchase land for a reservoir. It also appropriated \$3 million to fund ongoing projects and studies. For example, \$1 million was appropriated for the South Platte Decision Support System to assist with the administration of water rights in the basin and \$500,000 was appropriated to continue a study to determine the availability of water in the Colorado River Basin. Other moneys are provided for flood plain studies, snow pack assessment, stream gauges, and weather modification. The law also transfers \$5 million for new projects and studies including \$2 million for acquiring additional storage in Chatfield Reservoir and \$1 million for the acquisition of water for the environment, called *instream flow use*.

Severance Tax Trust Fund Perpetual Base Account loans. The CWCB is also authorized to issue loans for water projects from moneys in the Severance Tax Trust Fund Perpetual Base Account, created by the General Assembly in 1997. As of June 30, 2008, the fund's value was \$290 million, including \$92 million in outstanding loans, \$46 million for projects under contract, \$134 million for projects not yet under contract, and \$18 million available for new loans. The severance tax is paid by producers of oil, gas, coal, and other minerals. In 2008, the General Assembly appropriated \$60.6 million from the Perpetual Base account for a loan to build a pipeline that will deliver water to the Republican River and help Colorado comply with its water delivery obligations to downstream states under the Republican River Compact.

Colorado Water Resources and Power Development Authority (CWRPDA). The CWRPDA is an independent public entity created by the General Assembly in 1981 to finance water supply and water quality projects. The CWRPDA may issue revenue bonds as an indebtedness of the authority which does not obligate the state or any political subdivision. The authority is governed by a nine-member board appointed by the Governor. The authority has provided over \$1 billion in low-interest loans to governmental entities in Colorado for water pollution control and drinking water projects. In 2001, the authority committed \$20 million for water resources development. These moneys are primarily used to help offset the cost of borrowing money by a project sponsor. For example, the authority's program for small water resources projects finances projects costing up to \$15 million by providing bond insurance for small, non-investment grade borrowers. This enables the project sponsor to issue lower-cost AAA-rated bonds. The authority's water revenue bond program helps investment grade borrowers finance projects by purchasing bond insurance, pooling borrowers, investing proceeds, and providing other cost-saving services. The authority is allowed to provide similar assistance for loans over \$500 million, provided the projects are determined to be feasible by the CWCB. The General Assembly must adopt a joint resolution authorizing the authority to consider the project, and the resolution must be signed by the Governor. Due to the streamlined approval process, projects under \$500 million may receive funds approximately three months after application. Due to the legislative cycle, the projects over \$500 million may require up to one year to complete the approval process. Nearly \$400 million has been issued for water supply project loans since 2001, and \$18.5 million is available in 2009 to subsidize the cost of borrowing money for water resource development projects.

Key Provisions of Law

Section 5 of Article XVI, Colorado Constitution:

Guarantees the right to appropriate available water for a legally recognized use.

Section 6 of Article XVI, Colorado Constitution:

Establishes the doctrine of prior appropriation.

Section 7 of Article XVI, Colorado Constitution:

Allows for the construction of rights-of-ways for ditches, canals, or flumes.

Section 37-60-101, et seq., C.R.S.: Specifies membership and the powers and duties of the Colorado Water Conservation Board including administration of the CWCB Construction Fund.

Section 37-75-101, et seq., C.R.S.:

The Colorado Water for the 21st Century Act creates the Interbasin Compact Process.

Section 37-80-101, et seq.; C.R.S., Section 37-92-301, et seq.; C.R.S., and Section 37-92-501, et seq.:

Specifies the powers and duties of the State Engineer and the Division of Water Resources.

Section 37-90-101, et seq., C.R.S.:

The Colorado Ground Water Management Act regulates the use of designated ground water, including defining the powers and duties of the Ground Water Commission and Ground Water Management Districts.

Section 37-90-137, C.R.S.:

Regulates the use of the Denver Basin Aquifer and other nontributary ground water located outside of designated basins.

Section 37-92-101, et seq., C.R.S.:

The Water Right Determination and Administration Act regulates the use of river water and ground water connected to rivers.

Section 37-92-102, C.R.S.:

Defines the basic tenets of Colorado water law.

Section 37-92-301 through 308, C.R.S.: Establishes the water court's process and criteria for determining and administering water rights.

Section 37-95-101, et seq., C.R.S.:

Specifies membership and the power and duties of the Colorado Water Resources and Power Development Authority.