

COLORADO'S INSTREAM FLOW PROGRAM—HOW IT WORKS AND WHY IT'S GOOD FOR COLORADO

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COLORADO'S INSTREAM FLOW PROGRAM

History

In the early 1970's, the environment was at the forefront of the nation's agenda and Colorado's focus was no different. Colorado mountain streams were being tapped to meet urban water needs, and federal minimum bypass flow requirements at diversion structures were not protected from diversion past the point of release. In 1973, the Colorado legislature recognized the need to "correlate the activities of mankind with some reasonable preservation of the natural environment" and passed Senate Bill 97 creating the State's Instream Flow Program. This program, one of the first of its kind, vested the Colorado Water Conservation Board (CWCB) with exclusive authority to protect streamflow through a reach of stream rather than just at a point, and to protect levels in natural lakes. Until this law was passed, all appropriations of water in Colorado were required to divert water from its natural course in the stream. SB 97 removed the diversion requirement for the CWCB and allowed the Board to appropriate water "instream".

In Colorado, diversion and use of water is governed by the Prior Appropriation Doctrine, and to be enforceable, water rights must be assigned priorities and decreed by the Water Court. Sometimes referred to as "first in time, first in right", the Doctrine awards priorities to water rights based on dates of appropriation. Better priorities are assigned to early claims for water from a stream than to those rights with later claims. With the exception of instream flow or natural lake level claims by the CWCB, all water rights claimed in Colorado must demonstrate that water has been diverted, or otherwise captured, possessed or controlled and applied to a beneficial use in order to be awarded a decree by the Water Court. An instream flow or natural lake level water right is unique in the system. These rights are "in-channel" or "in-lake" appropriations of water made exclusively by the CWCB for a specific lake or reach of stream for the purpose of preserving the natural environment. Once decreed by the water court, these water rights are assigned a priority, just as any other water right claim, and administered within the State's water right priority system.

Since 1973, Colorado has passed additional legislation to clarify and strengthen the program. In addition to the authorities granted for new appropriations of water rights, the legislature clarified the CWCB's authority to acquire existing, decreed senior water rights on a voluntary basis from willing owners for instream flow uses. This authority allows the CWCB to improve the natural environment by adding water to streams or restoring native flows. Most recently, the legislature clarified the CWCB's authority to accept temporary loans or leases of water for instream flows or natural lakes.

Since 1973, Colorado has appropriated instream flow water rights covering over 8,500 miles of stream and 486 natural lakes. This protection represents approximately 30% of the perennial stream miles in the state. In addition, the CWCB has completed 21 water acquisition transactions, including acquisitions to protect critical habitat for endangered species on the Yampa River, to improve the natural environment of the Blue River downstream from Dillon Reservoir, and to restore native flows to a degraded stream system near Silverton, Colorado.

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Key Program Areas

Colorado's Instream Flow Program is comprised of three key program areas – **New Appropriations**, **Water Acquisitions** and **Water Rights Protection**. These key program areas represent the CWCB's "toolbox" for preserving or improving Colorado's water-dependent natural environment.

New Appropriations

New appropriations are new, junior water rights claimed by the CWCB to preserve the natural environment. New appropriations are considered by the CWCB each year and are filed annually with the Water Court for adjudication.

Water Acquisitions

Under this program area, the CWCB can acquire "water, water rights or interests in water" to preserve or improve the natural environment, and can acquire by a variety of contractual arrangements including purchase, bequest, donation, devise, lease, exchange, or any other contractual arrangement. Water acquisitions allow the CWCB to obtain water rights with a more senior priority date than the CWCB could obtain with a new junior instream flow appropriation. As a result, the CWCB is able to obtain more senior priorities for water to preserve or improve the natural environment.

Water acquisitions are considered by the CWCB on an "as-offered" basis. The CWCB cannot acquire water rights by eminent domain, or force an individual to convey a water right to CWCB for instream flow purposes. All water acquisitions are voluntary transactions proposed by a water right owner.

Water Rights Protection

Once decreed, it is important to monitor stream flows to ensure the instream flow water rights obtained by CWCB are being fully met, and to protect those rights from potential injury that may result from subsequent claims for water from the same stream system. The CWCB provides **Physical Protection** for decreed instream flow rights by installing stream gages and monitoring stream flow on critical reaches of stream, and seeking administration by placing "calls" for rights entitled to receive water. The CWCB provides **Legal Protection** for instream flow or natural lake level water rights by reviewing other water right applications for potential injury to its rights. If a potential injury is identified, the CWCB files a Statement of Opposition with the Water Court, and seeks protective terms and conditions in that decree. If the CWCB is unable to reach a stipulated settlement, the CWCB may pursue litigation.

Support Services

Administration of the Instream Flow Program requires technical and professional support from a team of experts. CWCB staff provides engineering expertise to assist with water availability and consumptive use analyses. These experts perform complex water resource engineering to support water right applications and evaluate potential injury to instream flow and natural lake level water rights. Additionally, CWCB engineers and scientists may provide expert testimony in the event water cases are litigated.

The CWCB staff also relies on various technical tools to assess instream flow needs, and to evaluate other water right applications. The Colorado Decision Support System houses a library of tools including GIS maps, hydrologic, climatologic and water use data, water right databases, and predictive models. These tools are developed and maintained by the CWCB and are essential to program development and administration.

CWCB also relies on outside expertise to develop and protect instream flow water rights, with the Colorado Division of Wildlife (CDOW) as an integral partner in this effort. The statutes require the CWCB to determine that a natural environment exists in order to appropriate or acquire water for an instream flow right. Additionally, the CWCB must determine the minimum amount of water required to preserve the natural environment to a reasonable degree. CWCB relies upon CDOW scientists to provide the biological information needed to make the statutory determinations.

How the Program Works

New Appropriation Process

The process for appropriating a new instream flow or natural lake level begins with the CWCB's request for recommendations. Each February, staff hosts an Instream Flow Workshop where requests for streams and lakes to be protected are solicited. Any person, including any governmental entity, can submit recommendations. Recommendations must be submitted in writing and with specificity. All recommendations are compiled in the Instream Flow Work Plan and prioritized by staff based on resource value, data requirements and other criteria. Priority streams and lakes are added to the Candidate Stream List for immediate processing.

Once field work is collected for the candidate streams and lakes, the data is analyzed and the instream flow amount is quantified using R2Cross or other standard methodologies. Colorado adapted the R2Cross methodology from a cross-section model used by Region 2 of the Forest Service; hence the name. The R2Cross model stages streamflow at a cross-section location using Manning's equation, and calculates key hydraulic parameters necessary for fish passage, egg incubation and food production. The R2Cross model is a cost-effective tool that provides consistent, reproducible results, and is easy to use. The model has been upheld by Colorado's Water Courts and is used by other agencies and states for quantifying instream flow needs. The model was also recently adopted by the Montana Water Trust for use in evaluating needs for project streams³.

Most instream flow water rights are based on the presence of a cold water fishery as an indicator of healthy natural environment. Numerous models have been developed to quantify the flow requirements for fish, and those models have been upheld in court challenges. However, Colorado's Instream Flow Program is not limited to protecting coldwater fisheries. The CWCB has appropriated and acquired water for non-fishery purposes. On Gageby Creek in southeastern Colorado, the CWCB's appropriation was based upon maintaining wetlands for waterfowl habitat. On the Arikaree River in northeastern Colorado and the Mexican Cut Ponds near Crested Butte, water was appropriated to protect unique species of frogs and salamanders. The CWCB has also appropriated water to protect unique hydrologic and geologic features (Hanging Lake) and acquired water to maintain critical habitat for endangered native, warm water fish (Yampa and Colorado River). The challenge in securing water for non-fishery purposes is identifying a scientifically reproducible and acceptable method for quantifying flow needs.

Once flow needs are quantified, the statutes require that the CWCB determine whether water is available to meet those requirements. The intent of the water availability requirement is to ensure that water is legally and physically available to meet the modeled flow recommendations. To estimate hydrology, CWCB staff relies on existing gage records or standard methods or models for determining flow for ungaged basins in Colorado. Staff relies heavily on the resources and technical tools available through the U.S.G.S. and the Colorado Decision Support System.

Recommendations that meet the statutory tests of 1) presence of a natural environment and 2) water available to preserve the natural environment are presented to the CWCB for appropriation. Colorado water rights are adjudicated by the Water Court on an annual basis; therefore, new instream flow or natural lake water rights are junior to existing decreed water rights. For that reason, new instream flow appropriations can not affect or impact existing uses on a given stream, so long as those senior rights are used for their decreed purposes.

Water Acquisitions

CWCB can acquire water released from storage reservoirs, direct diversions, interests in water owned in a ditch or reservoir, water pumped from wells, or other water, water rights or interests in water to preserve the natural environment to a reasonable degree. The CWCB does not need to hold title to the water, but can lease or contract for water using a variety of legal mechanisms including "purchase, bequest, devise, lease, exchange, or other contractual agreement". The water acquisition process is different from the process for new appropriations since each water acquisition is a voluntary proposal initiated by a water right owner.

The process typically begins with a request for consideration of an acquisition proposal. Once a proposal is received, CWCB staff will evaluate the water or water right proposed for acquisition. Additional engineering

³ Montana Water Trust web site, <http://www.montanawatertrust.org/>

analyses may be required to determine historic consumptive use or return flow issues. The CWCB determines the amount of water required to preserve or improve the natural environment to a reasonable degree, and decides whether to combine the acquired water with any existing instream flow water right currently decreed for the stream. A draft acquisition agreement is prepared between CWCB and the proponent and presented to the CWCB for consideration. If the CWCB accepts the proposal, a change of water right application is filed with the Water Court seeking adjudication of the use for instream flow purposes. Adjudicated acquisitions are monitored and protected according to the terms of the acquisition agreement and Water Court decree.

Protection

The CWCB has a very active program to protect instream flow and natural lake level water rights, and staff relies on the latest technologies to accomplish this job. Legal protection of instream flow or natural lake level water rights requires review of every water right application filed in the state. CWCB staff utilizes GIS mapping tools to locate each claim and to evaluate the potential for injury. Staff may also consult water right databases or other electronic information to understand historic patterns of use. If a potential injury to instream flow water rights is identified, a Statement of Opposition is filed with the Water Court, and staff works with the applicants to develop terms and conditions to protect the instream flow or natural lake level water rights from injury.

Monitoring actual streamflow conditions is equally important in the protection of instream flow rights. Over the years, staff has worked with the U.S.G.S. and the State Engineer's Office to develop a system of satellite linked stream gages on streams throughout the state. Real-time streamflow data is transmitted via satellite to the Denver office, and is readily accessible through the Internet. CWCB staff has also developed a low flow alert system to notify staff by email and cell phone if stream flow drops below decreed amounts on critical reaches of stream. In the event a low flow condition is identified, CWCB staff will contact the Division Engineer to determine whether the instream flow right is in-priority and entitled to receive water. If so, CWCB staff will place a "call" for water, and junior rights diverting out-of-priority may be curtailed to satisfy the "call" for water.

WHY THE INSTREAM FLOW PROGRAM IS GOOD FOR COLORADO

Colorado Has a Strong Track Record of Protecting Stream Flows and Natural Lake Levels

Colorado is a leader in instream flow protection, having established one of the first programs among the western states, and it remains one of the most active programs. Colorado has been appropriating, acquiring and protecting water in streams and natural lakes for over 32 years, and has committed significant staff and financial resources to the program. The program currently maintains a staff of six permanent positions, and sponsors an active internship program.

A recent study by Trout Unlimited⁴ viewed Colorado's Instream Flow Program this way:

"In water law, Colorado has a reputation for doing things a bit differently than other states – for instance its water court system requires the use of more lawyers and water engineers than any other state. With instream flows, Colorado maintains its reputation, requiring very careful scrutiny of water rights used to protect the environment. This approach creates additional costs and hurdles for environmental water transactions, but results in rights that are well defined, secure and defensible."⁴ (page 52)

"Assuming that environmental rights are defended and enforced once established, rights are more secure because of the Colorado water system. Unlike many western states, Colorado water rights are essentially fully adjudicated. Information about water rights and use is easy to find and rely upon compared to most states. It is comparatively easy to know about new appropriations or changes to existing rights that may affect an instream right."⁴ (page 56)

⁴ "Liquid Assets: Protecting and Restoring the West's Rivers and Wetlands through Environmental Water Transactions", Steven Malloch for Trout Unlimited, March 2005

Another recently completed study comparing instream flow programs in western states found that Colorado has “perfected more permanent water rights than any other [western] state; in fact, more than most other [western] states combined.”⁵ Colorado has established instream flow rights on over 8,500 miles of stream and 486 natural lakes in the state, and continues to provide instream flow protection to approximately 40 new stream segments each year.

Instream Flow and Natural Lake Level Rights Provide Legal Protection for the Natural Environment

Balancing human needs with the needs of the environment can be a difficult task; providing legal protection for environmental needs can be even more daunting. Rather than creating a “super” right, or mandating bypass flows, Colorado’s system of integrating instream flow and natural lake level water rights into the state’s water right allocation system places these water rights on an even plane with traditional, consumptive water uses. Instream flow and natural lake rights are permanent, fully adjudicated water rights and are administered as any other water right in the state, consistent with Colorado’s Prior Appropriation Doctrine.

Instream flow and natural lake rights in Colorado provide legal protection for the natural environment by awarding them status as permanent, fully adjudicated water rights. These rights protect flow through a reach of stream, not just at a bypass point, and have legal standing in Water Court to protect against injury at any point within that instream flow reach.

New Appropriations Preserve Existing Stream Conditions

Under state water law, adjudicated water rights are entitled to stream conditions as they existed at the time of appropriation. Junior priority instream flow water rights cannot affect operation of any senior decreed water rights. However, if a change of water right is sought for the senior water right, CWCB has standing in Water Court, just as any other water right owner, to ensure stream conditions are not altered to the detriment of decreed instream flow water rights. This fundamental premise forms the basis for CWCB to file Statements of Opposition to potentially injurious change of water right applications, and to require protective terms and conditions in the applicant’s decree. The CWCB has successfully negotiated terms and conditions to insure its instream flow water rights are protected in over 99% of the cases it enters; thereby allowing the water right change to proceed and the stream to be protected.

Water Acquisitions Provide a Mechanism for Improving or Restoring Flows

Recent statutory changes have allowed the CWCB to acquire water to IMPROVE the natural environment. This expanded authority for water acquisitions allows the CWCB to work with willing owners to restore flows to degraded stream systems.

In 2001, CWCB was contacted by the San Juan Resources Conservation and Development Council with an acquisition proposal directed at restoration of a drainage impacted by mine runoff. In the North Mineral Creek drainage northwest of Silverton, a leaky, trans-basin diversion ditch was seeping into old mine workings and exacerbating water quality problems. In addition to the seepage problem, the ditch also diverted up to 15 c.f.s. of native flow into another water basin. Local conservation groups secured a grant to purchase the trans-basin water right, and conveyed the right, through a donation agreement, to the CWCB for instream flow use. The CWCB accepted the donation, and designated the use of the acquired right to improve the natural environment, thereby restoring native flows to the watershed. The old ditch alignment has been reclaimed, and the ditch no longer traverses the mine workings. The result has been increased streamflows and improved water quality.

Without the water acquisition process, it would have been difficult to restore and protect the natural environment. A new instream flow appropriation preserves existing conditions, and may have been difficult to

⁵ “Decades Down the Road: An Analysis of Instream Flow Programs in Colorado and the Western United States, prepared by Sasha Charney for the Colorado Water Conservation Board, July 2005.
<http://www.cwcb.state.co.us/isf/Programs/WesternISF.htm>

obtain as a result of the degraded natural environment. Water acquisitions provide a key mechanism for improving the natural environment and for river restoration efforts.

Water Acquisitions Provide a Mechanism for Temporary or Emergency Instream Flows

During the drought of 2002, many streams experienced record low flows and stream fisheries were stressed to the point of loss. Many water users also found themselves short of the water needed to meet decreed uses, and wished to dedicate water to the stream to sustain the fisheries. At the time, current statutes required any change in use, including temporary instream flow use, to be approved by the Water Court. Any water added to a stream to sustain a fishery without first obtaining a decree for that use was not protectable by CWCB, and was subject to diversion by other downstream water rights. Although the Instream Flow Program did provide for water acquisitions through lease arrangements, the existing process required Water Court approval, and could not be completed quickly enough to meet the urgent need.

As a result of the drought, the legislature recognized the need to streamline the water right loan process, and passed legislation allowing temporary loans of water to CWCB for instream flow use without the need to seek judicial approval. As a result of legislative foresight, the current process now provides for timely, administrative review by the State Engineer, and temporary loans of water for instream flows can be completed in a timely manner.

Program Provides a Mechanism for Identifying and Prioritizing Environmental Needs

In February of each year, CWCB staff hosts an Instream Flow Workshop to solicit recommendations for instream flow or natural lake appropriations. Any person, including any governmental entity, can recommend streams or lakes for protection, and invitations to the workshop are extended to over 100 interested parties, including federal, state and local representatives and members of the public at large. Recommended streams or lakes are added to the Instream Flow Work Plan list and included on GIS maps. As recommendations are prioritized, they are added to the Candidate Stream List, and processed for the CWCB's consideration. In this manner, high resource value or high risk streams or lakes are identified and prioritized for immediate consideration.

Program Provides an Opportunity for Federal Agencies and Conservation Groups to Accomplish Streamflow Protection Goals in a Manner Consistent with State Law

Colorado is one of the few western states that limits the appropriation and acquisition of instream flow or natural lake water rights to a single state agency. While that exclusive authority may strike some as being overly restrictive, in fact, the process for proposing streams and lakes for consideration is, by design, quite inclusive. The statutes require the CWCB to request recommendations for stream and lake protection from the CDOW, the Colorado Division of Parks and Outdoor Recreation, the U.S. Department of Agriculture, and the U.S. Department of Interior. Also, the Instream Flow Rules allow other interested parties to recommend streams and lakes for protection. After reviewing data and other information for the recommended streams and lakes, the CWCB makes the required statutory determinations and seeks to obtain permanent, fully adjudicated instream flow or natural lake level water rights.

By working through the Instream Flow Program, federal agencies can achieve streamflow protection goals on federal lands in a manner consistent with Colorado's system of prior appropriation and state water laws, and potentially avoid the need for costly litigation. In fact, the State has recently entered into MOUs with the U.S. Forest Service (April 2004) and the U.S. Bureau of Land Management (September 2005) committing to work together on streamflow protection efforts on federal lands, hopefully eliminating the need for federal bypass flow requirements. Instream flow water rights can provide protection for a reach of stream and are administrable under Colorado water law; whereas, federally-imposed bypass flow requirements may only be available in the stream at the point of bypass, are not administrable under Colorado water law, and cannot protect flows from diversion by other water users downstream.

Similarly, conservation groups or members of the public interested in environmental preservation and restoration are invited to recommend streams and lakes for protection through the annual ISF Work Plan process. In

2003, the Colorado Water Trust, a private non-profit conservation group, presented a water acquisition proposal to CWCB to preserve and improve the natural environment of the Blue River downstream from Dillon Reservoir. That segment of the Blue River, designated a Gold Medal Fishery by the CDOW, had been identified as a “water short” stream. The Colorado Water Trust purchased an existing irrigation water right from a willing seller, and donated the water right to the CWCB for use to improve the natural environment of the Blue River. In that manner, the Water Trust was able to achieve its goals by restoring flows to the Blue River, and the water right donation to CWCB comports with state law, integrates the water right into Colorado’s water right administration system, and provides an opportunity for CWCB to monitor and protect the donated right.

CONCLUSION

Colorado has a strong, active Instream Flow Program that provides legal protection for the natural environment. The program is inclusive, and benefits Colorado by providing an opportunity to preserve existing stream conditions or to restore native flows and improve the natural environment in a manner consistent with state law. The CWCB has been appropriating, acquiring and protecting water in streams and natural lakes for over 32 years, and will continue to carry out its mission to preserve, improve, and protect Colorado’s natural environment for present and future generations.