

University of Colorado Law School

## Colorado Law Scholarly Commons

---

Instream Flow Protection in the Western United States: A Practical Symposium (March 31-April 1)

1988

---

3-31-1988

### Colorado's Instream Flow Program: Protecting Free-Flowing Streams in a Water Consumptive State

Steven J. Shupe

Follow this and additional works at: <https://scholar.law.colorado.edu/instream-flow-protection-in-western-united-states>



Part of the [Hydrology Commons](#), [Litigation Commons](#), [Natural Resources and Conservation Commons](#), [Natural Resources Law Commons](#), [Natural Resources Management and Policy Commons](#), [Property Law and Real Estate Commons](#), [Public Policy Commons](#), [Recreation, Parks and Tourism Administration Commons](#), [State and Local Government Law Commons](#), [Water Law Commons](#), and the [Water Resource Management Commons](#)

---

#### Citation Information

Shupe, Steven J., "Colorado's Instream Flow Program: Protecting Free-Flowing Streams in a Water Consumptive State" (1988). *Instream Flow Protection in the Western United States: A Practical Symposium (March 31-April 1)*.

<https://scholar.law.colorado.edu/instream-flow-protection-in-western-united-states/7>

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.



Steven J. Shupe, *Colorado's Instream Flow Program: Protecting Free-Flowing Streams in a Water Consumptive State*, in *INSTREAM FLOW PROTECTION IN THE WESTERN UNITED STATES: A PRACTICAL SYMPOSIUM* (Natural Res. Law Ctr., Univ. of Colo. Sch. of Law 1988).

Reproduced with permission of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment (formerly the Natural Resources Law Center) at the University of Colorado Law School.

**COLORADO'S INSTREAM FLOW PROGRAM**  
**PROTECTING FREE-FLOWING STREAMS IN A WATER CONSUMPTIVE STATE**

**Steven J. Shupe**  
**President**  
**Shupe & Associates**  
**P.O. Box 8854**  
**Santa Fe, NM 87504**  
**(505)983-9637**

**Natural Resources Law Center**  
**Symposium of March 31 - April 1, 1988**



## TABLE OF CONTENTS

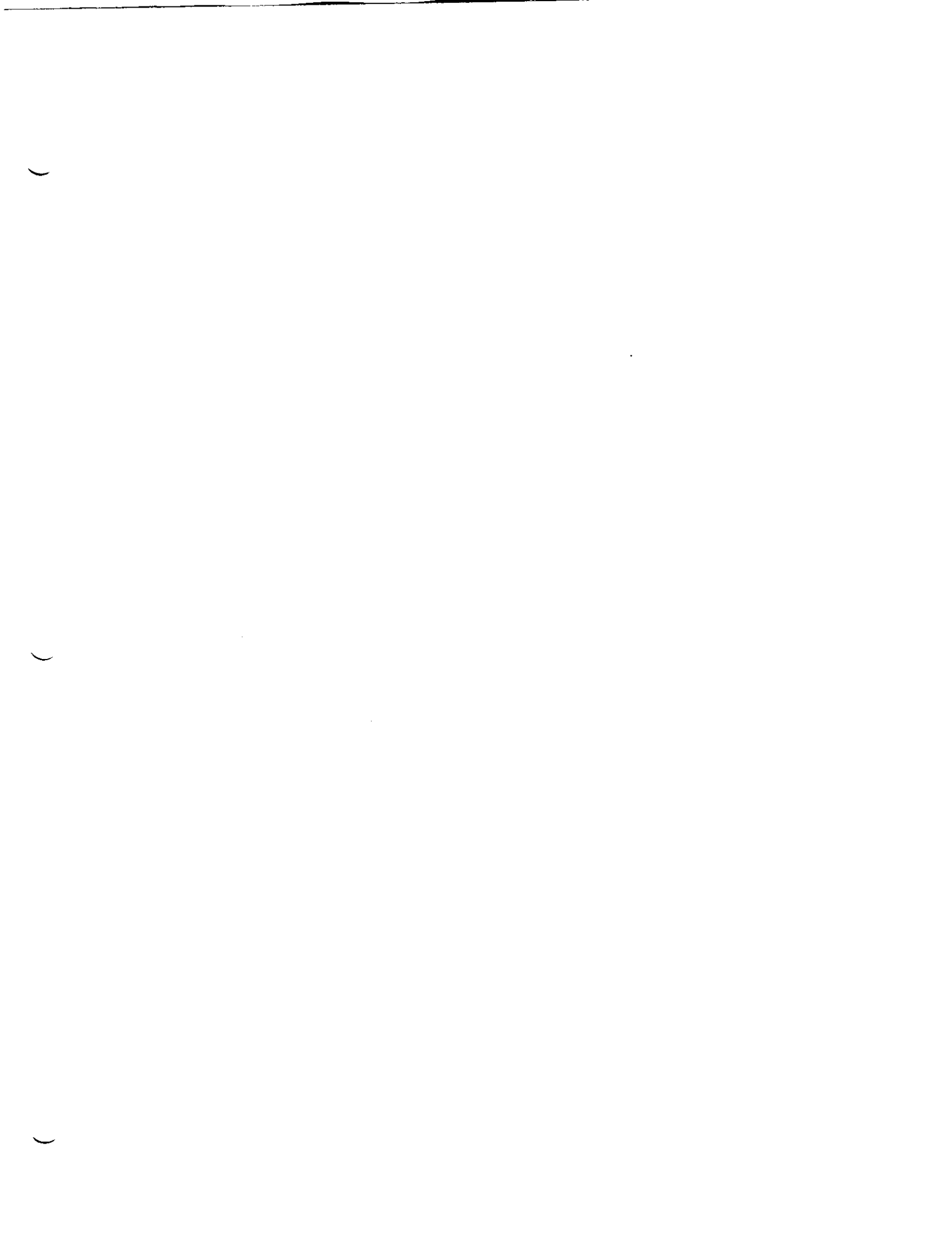
### I. INTRODUCTION

### II. LEGAL EVOLUTION OF THE INSTREAM FLOW PROGRAM

- A. SB-97: The Enabling Statute
- B. The Court Challenge
- C. The 1981 Amendment
- D. Inviting Federal Participation in 1986
- E. An Addition in 1987

### III. PROGRAM IMPLEMENTATION AND ENFORCEMENT

- A. Establishing the Instream Rights
- B. Enforcement Procedures
- C. Enforcement Efforts of the Past Decade
  - 1. No Substantive Action
  - 2. Protections Asserted
  - 3. The Westfork Application
- D. Conclusion



COLORADO'S INSTREAM FLOW PROGRAM:  
PROTECTING FREE-FLOWING STREAMS IN A WATER CONSUMPTIVE STATE

I. INTRODUCTION

The roots of instream flow protection in Colorado extend into the 1950s during negotiations over the transmountain Fryingpan-Arkansas Project. Controversy arose over operation of this project which transports supplies from the headwaters of the Colorado River into the over-appropriated Arkansas River basin of southeastern Colorado. The project threatened to dry up streams and destroy aquatic habitat important to recreation and fisheries in the western slope headwaters. After lengthy negotiations, a set of operating principles was drafted that allowed for specified levels of flow to bypass the transmountain diversion points in order to maintain natural streams in the headwaters.

These operating principles were formally approved by the governor, the local water districts, and the United States Congress. But Felix Sparks, executive director of the Colorado Water Conservation Board (CWCB) at that time, was "haunted [that] there was absolutely nothing in our state law to prevent other appropriators from taking these releases as soon as they left the various project diversion points." [1] Without additional state statutes to maintain these flows, the protections embodied in the agreement were worthless.

Establishing legal protection for free-flowing waters is a

difficult task in a state were consumptive water users, their lawyers, and representatives traditionally control the course of state water law. From the start of streamflow protection efforts in the West, irrigators have perceived instream flow laws as threats to their right to use and transfer water entitlements. In the headwater state of Colorado, this opposition is reinforced by decades of battles to minimize the amount of water flowing to downriver states. So Director Sparks, and other water interests that perceived the need for some form of instream flow law to augment the Fryingpan-Arkansas agreement, knew they had a difficult task.

In 1973, following many rounds of negotiations and a "somewhat unholy alliance"[2] between environmental organizations and the CWCB, the Colorado legislature was persuaded to enact Senate Bill 97 that established a state instream flow program. This bill empowered the CWCB to appropriate instream water rights on behalf of the public and to enforce these rights against proposed diversions. As expected, the bill was attacked by water user groups and was quickly tested in the Colorado supreme court.

This article looks at Senate Bill 97 and the streamflow efforts it set in motion. After discussing the initial authorization of the instream flow program and its survival in the supreme court, the article describes subsequent legislation that has refined the program. In Part III, program implementation by the CWCB is then addressed, including discussions of enforcement procedures and experience.



## II. LEGAL EVOLUTION OF THE INSTREAM FLOW PROGRAM

### A. SB-97: THE ENABLING STATUTE

The 1973 Colorado General Assembly amended existing state water law in Senate Bill 97 to create an instream flow program. It changed the definition of "beneficial use", removed the need to "divert" water to obtain a priority, and added to the declaration of water policy to recognize the "need to correlate the activities of mankind with some reasonable protection of the natural environment." The amendments were relatively short, with the concept of the program embodied in a one-sentence addition to the definition of beneficial use:

For the benefit and enjoyment of present and future generations, "beneficial use" shall also include the appropriation by the state of Colorado in the manner prescribed by law of such minimum flows between specific points or levels for and on natural streams and lakes as are required to preserve the natural environment to a reasonable degree.[3]

The bill then designated the Colorado Water Conservation Board (CWCB) as the body to hold the rights on behalf of the people, with the state Division of Wildlife and Division of Parks and Outdoor Recreation recommending to the CWCB appropriate levels of flow.[4] In order to appease opponents of strong instream flows protections, the bill provided that it did not

empower the state to condemn water rights nor should it be construed "to deprive the people of the state of Colorado of the beneficial use of those waters available by law and interstate compact." This final provision of SB-97 left the door open to interpretations of what deprivation of beneficial use meant--and off-stream water interests were quick to use this ambiguity, as well as other assertions, to challenge the program.

#### B. THE COURT CHALLENGE

Following the CWCB's application for instream water rights on the Crystal River system in the Colorado Rockies, opponents of the instream flow program took their objections to court in 1975. They argued that the new law was unconstitutional on its face and that it also was unlawfully applied in the Crystal River applications. By the end of the decade, the controversy had reached the Colorado supreme court, which ruled on the law's power and constitutionality.[5]

The first argument of those water districts that opposed the instream flow law was that it unconstitutionally permitted a water right to be created without a diversion of water. The supreme court disagreed, and ruled that the state lawmakers may establish a class of water rights that does not involve diversion from a streambed. Another constitutional attack--that the statute is so vague and as to create an impermissible delegation of legislative authority to the CWCB--was likewise rejected by the court. The districts contended that the standard set by the legislature for establishing instream water rights (i.e. "to

preserve the natural environment to a reasonable degree") is unconstitutionally vague because the terms do not have any commonly accepted meaning. The court, however, stated that "we cannot agree that the standards are not such as could be implemented by agencies having specific expertise regarding the preservation of flora, fauna and other aspects of the natural environment."

In other arguments, the objecting water districts asserted that the water court erred by not conditioning the instream water rights in a way to prevent depriving Colorado citizens "of the beneficial use of those waters available by law and interstate compact." The districts contended that the provision mentioning "waters available by law" meant that later junior appropriators will have rights superior to those set by the CWCB for instream flow protection. The court rejected this assertion. "Otherwise, upstream appropriations could later be made, the stream dried up, and the whole purpose of the legislation destroyed." Finally, the court also upheld the CWCB method for quantifying instream water rights based on the needs of fish, even if those fish were not indigenous to the stream (e.g. introduced species of eastern brook, brown, and rainbow trout.)

#### C. THE 1981 AMENDMENT

After the supreme court upheld the constitutionality of the instream flow law in 1979, opponents of the program took the fight back to the legislature. Although pressures grew to statutorily gut the program, advocates of instream flows were

able to stop such proposals. In 1981, a compromise bill was passed that added a set of four "principles and limitations" that the CWCB was required to follow in establishing instream water rights.[6] The first ensured that instream flow rights would not constrain use of water imported from one river basin to another. The second limitation subordinated instream flow rights to any existing water uses and exchanges existing prior to the instream right, even if such uses or exchanges had not previously been recognized as a protectable water right in court proceedings.

The third limitation was enacted by the legislature in response to criticism that the CWCB had simply rubber-stamped recommendations of the Division of Wildlife without determining the reasonableness of the quantity claimed. Some felt that the instream claims often exceeded historic flow levels and extended into dry stream reaches that no longer supported a riparian environment. The new statute therefore mandated that:

Before initiating a water rights filing, the [CWCB] board shall determine that the natural environment will be preserved to a reasonable degree by the water available for the appropriation made; that there is a natural environment that can be preserved to a reasonable degree with the board's water right, if granted; and that such environment can exist without material injury to water rights.

The fourth and final provision of the 1981 amendment related more to land than to water rights. It provided that the instream flow law does not create any public right to access streams

through private land nor empowers the state to condemn such rights of way.

#### D. INVITING FEDERAL PARTICIPATION IN 1986

Following additional rumblings to weaken the state instream flow program, a dramatic shift in attitude towards the program was expressed in the mid-1980s in Colorado. Those who had attacked the program in past legislatures and court actions were now publicly extolling its virtues. Many leaders of the agricultural community and water user groups expressed their satisfaction with the state instream flow program and the need for strong implementation. Although some of this attitude shift may have reflected a growing recognition of the intangible and economic benefits that free-flowing waters bring to the state, a stronger force lay behind the new mood. This force originated in Washington D.C. and reached into Colorado through federal claims to instream flows. Colorado water users now saw the state instream flow program as a useful tool to apply against federal water rights.

Water user groups began experiencing serious concern over federal claims to instream flows in 1983 when the U.S. Fish and Wildlife Service announced its policy regarding endangered species protection in the upper Colorado River basin. The federal agency defined minimum flow levels on the Colorado River and its major tributaries needed to protect habitat of three endangered fish species in the upper Colorado. The Fish and Wildlife Service planned to issue a "jeopardy opinion" for any

projects that would reduce the flows below the minimum levels, thereby severely constraining future water development in this region.

The threat of federal instream water rights intensified shortly thereafter when the United States quantified its reserved rights claims to instream flows in several National Forests in Colorado amounting to more than half the average annual yield from these watersheds. State concerns were compounded in 1985 when a federal district judge upheld Sierra Club's assertion that the federally-designated Wilderness Areas carried instream flow rights that could limit future high country dams and diversions.[7]

A major argument promoted by Colorado and local water users to counter the federal efforts to maintain instream flows was that the state already had an active instream flow protection program into which the federal claims should be assimilated. To bolster this argument, the Colorado legislature enacted SB-91 in 1986 to accommodate federal instream flow needs. The new statute provided that in addition to requesting instream flow recommendations from state agencies, the CWCB board "shall request recommendations from the United States Department of Agriculture and the United States Department of the Interior." The bill also bolstered the program by explicitly allowing the CWCB to acquire needed water rights for instream flows by "grant, purchase, bequest, devise, lease, exchange, or contractual agreement" with any person or governmental entity.

E. AN ADDITION IN 1987

The conflict over federal instream flow claims continued into 1987. This controversy was joined by another issue that the CWCB and many user groups fought--appropriation of instream water rights by private individuals and local entities. This issue was brought to the forefront by a claim of the City of Fort Collins for instream water rights for recreation, fish and wildlife habitat, and sewage dilution on the Cache La Poudre River.[8] The city claimed it needed this right for its Poudre River Recreation Corridor running through town. The CWCB countered that it was the only entity empowered under state law to hold instream water rights.

To settle the issue and to keep private instream claims from springing up throughout the state, the legislature in 1987 enacted SB-212. The new law affirmed that the CWCB "is the only person or entity authorized by state law to appropriate or acquire water for minimum stream flows." It did, however, also provide security to those persons or entities (including the federal government) that donated water rights or contracted with the state for instream flow enhancement:

Any contract or agreement executed between the board and any person or governmental entity which provides water, water rights, or interests in water to the board shall be enforceable by either party [in water court] under the terms of the contract or agreement.

### III. PROGRAM IMPLEMENTATION AND ENFORCEMENT

#### A. ESTABLISHING THE INSTREAM RIGHTS

By 1988, more than 1,000 instream water rights had been adjudicated on Colorado's rivers and streams through the efforts of the Division of Wildlife, Attorney General's Office, and Colorado Water Conservation Board. These rights represent the protection of more than 7,000 miles of streams and rivers mostly in the mountainous areas of the state, based primarily upon specified minimum flows needed to sustain local fisheries. Each right on the average extends through a 7 mile designated reach of stream (unlike diverted water rights that are measured at a single point) and is usually broken into two or more flow rates reflecting different seasons of the year (e.g. 15 cfs from April through September; 8 cfs from October through March). As mandated by statute, these rights are held by the CWCB on behalf of the people of the state.

The process through which instream water rights are established is complex and involves a number of steps. These include:

- Field work by the Division of Wildlife to gather fishery and flow data on streams targeted for protection.
- Efforts of the CWCB staff to work with the data, DOW personnel, local water users, and computer models to develop recommended minimum flow levels.
- Presentation of preliminary recommendations by the CWCB staff to the Board, with opportunity for further public



input.

- Vote by the Board to approve final instream flow levels.
- Filing for instream flow rights to the water court by CWCB and Attorney General staff.
- Completing the water court process to establish adjudicated instream water rights.

(For additional details on the process of establishing instream water rights, see Appendix A.)

#### B. ENFORCEMENT PROCEDURES

Once the instream flow rights are established, they are of little value unless they are enforced. Moreover, even if fully enforced, under Colorado water law they cannot guarantee that the minimum flow levels will be attained. Water users with priorities senior to the year in which an instream flow right is filed in water court will not be affected by the new CWCB right; senior users may continue diverting even if they reduce the flow below the specified instream level. Enforcement efforts, therefore, can only be pursued against junior diverters or against proposed transfers of senior rights to new places of use, different purposes, or new points of diversion.

The CWCB is in charge of protecting the instream flow rights against injury by other water users. The Board focuses its enforcement efforts on preventing changes in senior water rights that potentially injure instream flows, rather than enforcing against junior appropriators who may deplete instream flow segments. The Board has thus far elected to forego the latter

enforcement approach (i.e. making a "call" against junior users) because it typically involves installation of costly stream gaging stations and commitment of personnel to monitor the gages. This commitment of limited resources has not been made primarily due to the fact that very few junior appropriative water rights are being created in Colorado to diminish the instream rights. All flows on the eastern slope of the Colorado Rockies and most on the western slope have been fully appropriated in past decades. Therefore, instead of junior water rights being appropriated for new uses in Colorado, there is an active market for transferring senior water rights to meet new demands--and the CWCB is active in enforcing its instream water rights against injury created by such transfers.

The process of enforcement begins with the CWCB staff reviewing the monthly publication of water court filings for proposals that could adversely affect the instream rights. If one or more are spotted, or if a previous ruling of a referee of the water court is adverse to the CWCB right, the staff follows a sequence of actions set forth in formal procedures. These Procedures for Filing Statements of Opposition and Protests to Referee's Rulings, adopted by the Board in 1981 with subsequent amendments, are as follows:

- A. The [CWCB] director shall request the Attorney General to file statements of opposition and protests to referee's rulings on behalf of the CWCB whenever the degree of potential injury to a CWCB water right exceeds one percent of the CWCB water right as determined by the CWCB staff.

[e.g. more than an 0.1 cfs depletion on a stream segment with a 10 cfs instream water right.] When the degree of potential injury is one percent or less, the director shall file a statement of opposition or protest to referee's ruling only when the director has reason to believe that a CWCB water right may be significantly injured if an application for a change of water right or plan of augmentation, alone or in combination with other current or future applications, is approved.

B. The director shall advise the Board at its next regular meeting of any such statements of opposition or protests to referee's rulings which have been filed. At that time, the director shall provide, to the extent information is available, the Board with a summary of:

- 1) The applicant's requested change of water right or plan of augmentation,
- 2) The CWCB water right affected and the data upon which said water right appropriation was based.
- 3) The potential injury to the CWCB water right, and
- 4) Other pertinent information.

The director shall also provide the Board with a recommendation as to whether the statements of opposition or protests to referee's rulings should be pursued by the Board in order to preserve the natural environment to a reasonable degree.

C. The Board may:

- 1) Ratify the statements of opposition or protests to

referee's rulings and instruct the director as to how to proceed, or

2) Instruct the director to withdraw said statements or protests.

D. The director shall keep the Board current on all such statements and protests, and all attempts to settle such objections. Settlement of the Board's objections negotiated prior to trial shall not be filed with the court until approved by the Board, unless the settlement is entered into pursuant to instructions from the Board under part E. below.

E. No litigation regarding a statement of opposition or a protest of a referee's ruling shall be taken to trial without prior Board approval. If a matter is authorized for trial, the Board shall inform the director of the terms and conditions, if any, upon which he or she is authorized to settle the case.

#### C. ENFORCEMENT EFFORTS OF THE PAST DECADE

During the spring of 1987, research was undertaken to determine the impact of enforcement efforts of the CWCB during the previous decade.[9] Slightly more than one hundred cases were studied in which the Board had filed statements of opposition to water rights applications. Although it is difficult to numerically quantify results of this type of research, the following information summarizes past CWCB enforcement efforts.

1. No Substantive Action: About half of the cases examined resulted in no substantive action to protect instream water rights. In 31 cases, the CWCB determined that the potential for injury to the right was minimal, if any, and was not worth further expenditures of effort. The applicants in these cases received decrees without any specific provisions for instream flow protection. In 10 other cases, the applicants ended up withdrawing their proposals and no decree was entered. Finally, in 12 cases, the CWCB determined that the application represented a change of water use that had been initiated prior to establishment of the instream right potentially injured. Under the 1981 amendments to the instream flow statute (see Section II.C above), these historic practices, even if previously unadjudicated, are superior to subsequent instream water rights. The CWCB, therefore, could not demand protection of instream flows for these 12 cases and none was entered in the decrees.

2. Protections Asserted: In the other half of the hundred cases examined, provisions to protect instream flows were incorporated into the decree. Seventeen cases in which the CWCB filed statements of opposition resulted in the applicant receiving less water than requested in the final decree. Although a majority of these reductions reflected the efforts of other objecting parties as well, the reductions in three of the cases appear to have resulted directly from CWCB efforts to protect their instream rights.

Another instream protection strategy embodied in 6 decrees involves the applicant dedicating additional water to the stream

to augment depletions. In one case in which augmentation water was not readily available, the applicant agreed to move the location of its proposed wells to a different sub-basin, with final approval of the well locations subject to CWCB review. In 27 cases, the court incorporated language subordinating the applicant to the instream water rights and decreeing that the applicant must curtail diversions when streamflows fall below the protected level. Enforcement of these provisions, however, appear to be difficult in a number of cases where no gaging station exists to measure instream flows and where the applicants are responsible for self-enforcement. Also, in 3 of these cases, the CWCB agreed to protections below the quantity of the adjudicated instream water right because the right appeared to exceed that amount needed to "protect the natural environment to a reasonable degree."

Finally, a small number of cases objected to by the CWCB since 1980 demonstrate the complexity and breadth of potential strategies for instream flow protection associated with major water transfer projects. One such case involving a proposed ski resort development is described below.

3. The Westfork Application: In late 1983, Westfork Investment limited filed an application with the water court to augment new water uses at a proposed resort development on the West Fork of the San Juan River in southern Colorado near Wolf Creek Pass.[10] Westfork proposed to use surface and groundwater to supply 3,000 new residential units, associated commercial development, 49 acres of residential lawns, 78 acres of hay

meadow, a 127 acre golf course, and artificial snowmaking in the winter. The application proposed to retire existing local irrigation rights to offset depletions on the stream caused by the new uses.

The CWCB entered the case as an objector to protect its instream water rights established on the tributaries to the San Juan River. After months of negotiation, the parties agreed to stipulations to protect the instream rights from changes that could affect the amount and timing of flows. A major principle of the settlement was that when the West Fork of the San Juan River dropped below the CWCB's instream water right level, the applicant would take certain actions to prevent further injury to the CWCB rights. Also, in order to determine when the potential for injury exists, Westfork agreed to pay for the construction of four gaging stations to measure flows in the natural channel, at the main supply ditch, and at the sewage treatment plant outfall.

At such times when streamflow levels drop below the minimum, Westfork will either reduce its diversions or provide augmentation water to enhance instream flows. Westfork further agreed to build a minimum of two off-channel reservoirs to store water that could be released during low flow periods to augment the stream. Finally, the stipulated decree recognized that the applicant was planning to implement a fisheries enhancement program in the future to help provide improved habitat for the local fish. The CWCB agreed in good faith to reconsider, and potentially reduce, the restrictions embodied in the decree to protect its rights in light of future enhancement efforts by the

applicant.

#### D. CONCLUSION

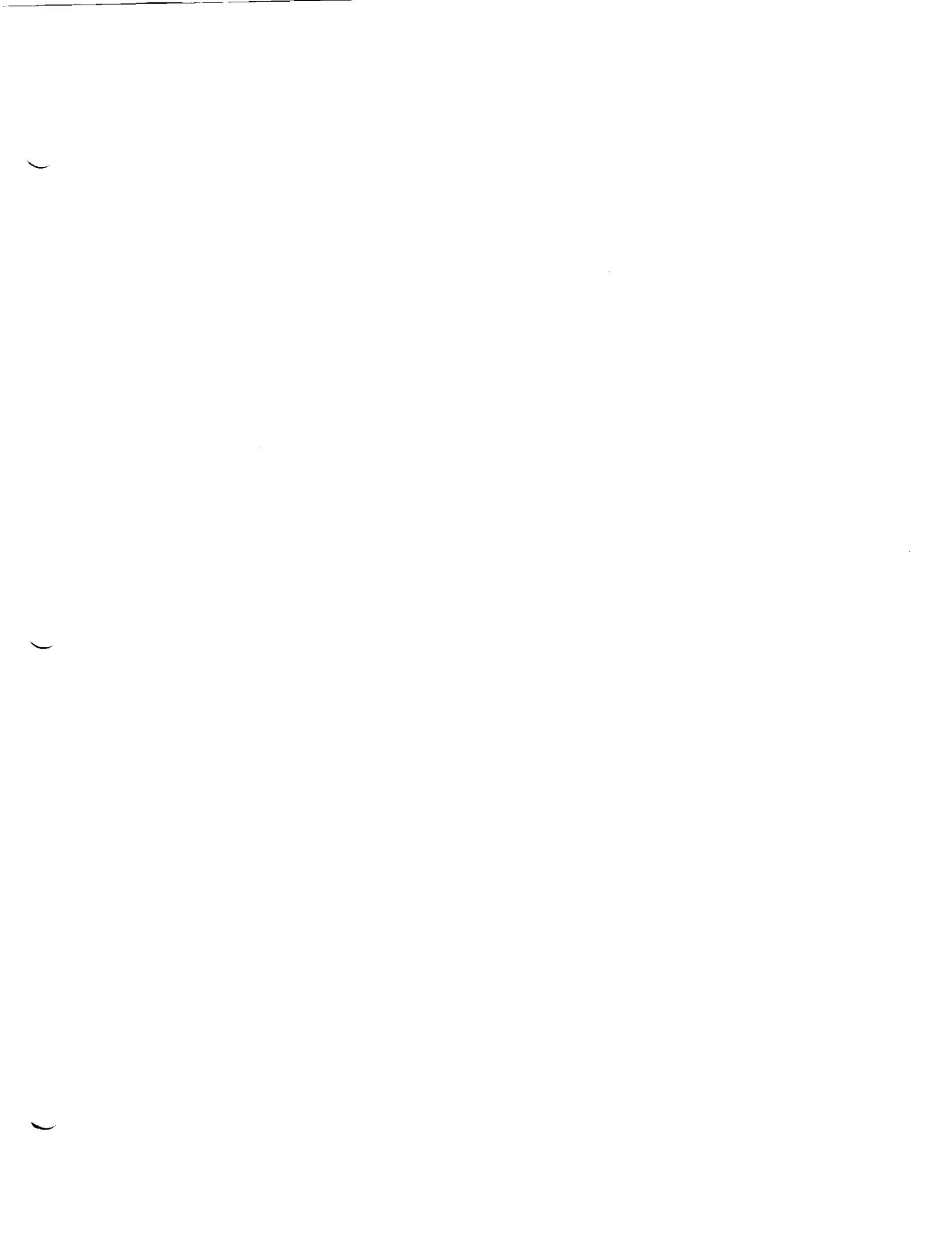
The effectiveness of efforts to enforce instream flow rights in the future will be a direct function of the level of money and personnel dedicated to the program. This level will, in turn, be dictated by the perception of how well the program is serving the constituencies of state legislators. The threat of federal water claims, the state of rural economies, and the need for municipal water transfer will all be weighed in the equation.

State legislators will also be cognizant of other emerging factors. For example, Colorado's \$4.4 billion recreational economy is heavily dependent on natural waters. Free-flowing streams provide fish and wildlife habitat essential to the regional ecosystem as well as to the pleasure of Colorado residents. Instream flows dilute effluent that would otherwise need additional, costly treatment by cities and industries. They carry sediment away that could clog stream channels, resulting in flooding and erosion. In short, they comprise an essential ingredient to making Colorado the place that it is, both economically and in intangible ways. As instream flow laws undergo future amendment, state lawmakers and interest groups will need to weigh these facts as they work to reach coordinated and effective solutions.



FOOTNOTES

1. Sparks, Felix L., "Legislative Protection of Aquatic Habitat in Colorado," Address to the Western Association of Fish and Wildlife Agencies; Snowmass, Colorado; July 17, 1985.
2. Id.
3. Currently codified at CRS 37-92-103.
4. Currently codified at CRS 37-92-102(3). All future references and amendments to the instream flow statute in the text of this paper refer to this section of the code.
5. Colorado River Water Conservation District v. Colorado Water Conservation Board, 594 P.2d 570 (1979).
6. Senate Bill 414, 1981 Session of the Colorado General Assembly.
7. Sierra Club v. Block, 622 F.Supp. 842 (D. Colo. 1985).
8. Application for Water Rights of the City of Fort Collins, Case No. 86CW371, Water Division 1; filed December 31, 1986.
9. The research was undertaken by University of Colorado law student, Steve Jeffers, under the direction of the author as part of a project funded by the General Service Foundation through the university's Natural Resources Law Center.
10. In the Matter of the Application for Water Rights of Westfork Investment, Ltd., Case No. 83CW144, Division 7 Water Court, filed December 29, 1983.



APPENDIX A

ADMINISTRATIVE PROCEDURES FOR ESTABLISHING INSTREAM WATER RIGHTS  
IN COLORADO

Excerpts from a paper by E.I. Jencsok and D.C. Merriman, Colorado Water Conservation Board, presented at the Western States Water Council , Water Management Symposium, Los Angeles, California, September 12, 1986.



## ADMINISTRATION OF THE PROGRAM

As previously stated, the CWCB is vested with the authority to appropriate water for the preservation of the natural environment to a reasonable degree. To carry out its authority the Board has adopted procedures for the administration of the instream flow/natural lake level program.

The procedure adopted for requesting recommendations, carrying out technical studies, processing recommendations and filing appropriations in water court are very similar for both the instream flow and the natural lake level filings. Basically the difference is in the technical recommendations, i.e., a flow rate in cubic feet per second is appropriated for instream flows and a natural lake level elevation in feet above MSL and volume in acre feet are appropriated for natural lake level filings. Because most of the program effort is directed toward the appropriation of instream flows, this paper will discuss the administration of the program through the instream flow perspective.

Initially, the CWCB requests recommendations for instream flow appropriations from the DOW. The selection of streams for which recommendations are requested takes into consideration the level of water resource development within a basin, the fishery resource value of the streams and the level of necessary protection.

The field work required for the recommendation is carried out by the regional offices of the DOW and is supervised by the DOW instream flow coordinator, who is located at the DOW headquarters office. Generally, field work, including the biological studies and streamflow measurements, are carried out during the low flow period in the late summer or fall.

### Data Collection and Analysis

Recommendations prepared by the Division of Wildlife and submitted to the Board are based on established biologic, hydrologic and hydraulic criteria. Documentation of the natural environment is provided by the Division in the form of a stream survey. This survey is a characterization of the fish population present, but may also include a water chemistry analysis and an inventory of benthic invertebrates present in the stream. The Division also provides a rating of the fishery value.

To date, the standard generally used by the Board to determine the amount of water needed "to preserve the natural environment to a reasonable degree" has been the maintenance of a cold water fishery. The statutory language, however, permits the Board to use other standards at its discretion.

To assess instream flow requirements for the maintenance of a coldwater fishery the Division uses the modified Forest Service's R-2 cross-sag tape methodology. Flow recommendations are based on the retention of certain hydraulic characteristics across what is termed a "critical" riffle. A "critical" riffle is defined as a habitat type generally representative of stream reaches which would be essential to fish passage at low flow, to successful reproduction and incubation of fish eggs and larvae and to production of benthic invertebrates.

Once a critical riffle reach has been selected in the field, a single transect is positioned across the stream encompassing the grassline to grassline (or bankfull) discharge channel and a standardized method is used to measure stream cross-section and discharge. Multiple discharge cells are evaluated by measuring width along a suspended steel tape (hence "sag tape"), total vertical depth from the channel bottom to the tape, water depth, and water velocity. Area and discharge by cells are computed and summed up to give total area and discharge. The channel slope (or gradient) at the transect site is also measured during the field evaluation.

Data is entered into the R-2 cross hydraulic model to compute stream discharge and velocity at various stream stages with stream discharge being computed by use of the Manning equation. An output summary of key hydraulic parameters including discharge, mean depth, maximum depth, mean velocity, wetted perimeter and hydraulic radius is used to select the appropriate flow recommendation for the channel being characterized.

Principal criteria to determine instream flow recommendations fall into three categories and include mean depth, mean velocity, and wetted perimeter. At least two of the three criteria must be met in determination of the appropriate instream flow recommendations. Once a recommended flow has been selected using this criteria, the recommendation, along with all supporting field documentation is then submitted to the Water Board staff for review and processing.

The technical data to support a natural lake level filing, also obtained by the DOW, consists of a lake survey which includes a fishery evaluation, water quality and temperature sampling and other biological studies, as well as survey data on the natural elevation and volume of the lake.

## CWCB Staff Review

Upon receipt of the recommendations and supporting data from the DOW, the CWCB staff reviews the data for completeness and accuracy and the flow recommendation as to reasonableness. If the CWCB staff concurs with the information furnished by the DOW, they will then conduct hydrologic studies and water availability analyses. These studies include gaging station analysis, hydrograph preparation, and, when no gaging records exist, synthetic models are sometimes used to estimate the basin yield. Water rights tabulations are researched and diversion records reviewed. After these analyses are completed, a consultation is held with the appropriate Division Engineer and his water commissioners to further identify any water availability issues and to complete a list of interested parties for the noticing procedure.

## Public Notice Procedure

After the CWCB staff has reviewed the DOW data and completed its hydrologic study and water availability analyses, preliminary recommendations for instream flow appropriations are developed. The preliminary notice/recommendation includes the name of the stream, the drainage basin and county in which the segment is located, the legal description of the upstream and downstream termini of the segment, the length of the segment, and the amount of the appropriation. The preliminary notice is mailed approximately thirty days prior to the Board meeting at which the notice is formally recognized. This notice is mailed to a lengthy list of parties who have either expressed interest in the instream flow recommendations or have been identified as having a potential interest. The list includes municipal governments, county commissioners, environmental groups, recreational water users, traditional water users, land management agencies, etc.

Any comments received by the CWCB staff as a result of this notice procedure are reviewed and any potential conflicts or issues addressed. Assuming no comments or the satisfactory resolution of potential conflicts, the CWCB procedures require a second mailing thirty days prior to the Board meeting where the recommendations will be considered for final approval by the CWCB (CWCB meets approximately five to six times a year, approximately every sixty days). The final notice, which includes the same information as the preliminary notice, is mailed to the same parties as the preliminary notice plus any new interested parties that may have been identified through the review process.

## Public Comment

Any comments which are received as a result of the noticing process are evaluated and considered by the Board in its

decision-making process. The public may address their comments to the CWCB staff who will then report to the Board at its public meeting or the public may appear in person to make its concerns known to the Board; either type of response is welcomed with written documentation of comments preferred.

CWCB Board Action

When instream flow recommendations are presented for final Board action, the Board, after weighing all the evidence, may elect to approve the recommendations, table any decision and request additional data or staff review, or reject the final recommendations. Approval of the final recommendations by the Board establishes the appropriation date for the water rights filing.

#### Water Court Processing

Once an appropriation of water has been approved by the Board, the Attorney General's Office is instructed to file a water rights application with the appropriate water court. This initiates the following water court process:

- a. The publication of the CWCB application in the water division resume and public notice through the press.
- b. The resume notice starts a sixty-day period in which objections to such a filing can be made to the court.
- c. If no objection is made the water referee issues a ruling, which, if not protested within twenty days, is signed by the judge and becomes a court decreed water right.
- d. If objections are filed the CWCB must prove that no injury would occur to other vested water rights as a result of the CWCB filing.

When objections are filed against a CWCB appropriation, the objector is contacted and an effort to resolve his concern is made. The resolution of concerns often takes the form of a stipulation to recognize some feature of the objector's water right which requires special notice. Should a resolution of the issues not be possible the case is tried and decided in the water court. This decision may be appealed directly to the State Supreme Court by either party.