STATE OF COLORADO

Colorado Water Conservation Board
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TO: Colorado Water Conservation Board Members

FROM: Jeff Baessler
Stream and Lake Protection Section

DATE: January 14, 2011

SUBJECT: **Agenda Item 15, January 26-27, 2011, Board Meeting**
Stream and Lake Protection Section – New Appropriation Recommendations in Water Divisions 2, 4 and 5.

Summary

This memo provides an overview of the technical analyses that were performed by both the recommending entities and CWCB staff to provide the Board with sufficient information to declare its intent to appropriate in accordance with the Instream Flow Rules. Staff's detailed analysis of each stream, contained in the "Instream Flow Recommendation Notebook," which was mailed separately, provides the technical basis for each appropriation. Letters regarding these ISF recommendations are attached to this memo.

Staff recommends that the Board declare its intent to appropriate 8 new instream flow water rights in Water Divisions 2, 4 and 5 as identified in the attached tables.

Background

Pursuant to Rule 5d. of the Board's Instream Flow Rules, staff is requesting the Board to declare its intent to appropriate instream flow water rights on the stream segments identified in the attached tables. Staff has reviewed each proposed stream segment to ensure that for each instream flow recommendation, the data set is complete and standard methods and procedures were followed. In addition, staff has completed its water availability studies. Staff has identified 8 stream segments in Water Divisions 2, 4, and 5 for which sufficient information has been compiled and analyses performed upon which the Board can base its intent to appropriate. These segments are located in Huerfano, Montrose, Grand and Routt Counties. Letters and materials regarding some of these recommendations have either been included in the Instream Flow Recommendation Notebook or this Board Memo. All of these letters are also available on the Board's web site.

Technical Investigations

Staff's executive summary and technical analysis of each stream, contained in the Instream Flow Recommendation Notebook (mailed separately), forms the basis for staff's recommendations.

Natural Environment Studies

The Bureau of Land Management (BLM), United States Forest Service (USFS), Colorado Division of Wildlife (CDOW), and Trout Unlimited (TU) have conducted field surveys of the natural environment resources on these streams and have found natural environments that can be preserved. To quantify the resources and to evaluate instream flow requirements, the recommending entities have collected biologic and hydraulic data that were analyzed by CWCB staff. Based on the results of these analyses, staff prepared recommendations of the amount of water necessary to preserve the natural environment to a reasonable degree for each of the streams listed on the attached Tabulations of Instream Flow Recommendations.

Water Availability Studies

Staff has conducted an evaluation of water availability for the streams listed. To determine the amount of water physically available for the Board's appropriations, staff analyzed available USGS gage records, available streamflow models, and/or utilized appropriate standard methods to develop a hydrograph of median daily flows for each stream flow recommendation. In addition, staff analyzed the water rights tabulation for each stream and has consulted with the Division Engineers' Offices to identify any potential water availability problems.

After looking in detail at CWCB Staff's analysis, the Division 4 Engineer and his staff voiced concern over water availability on Tabeguache Creek because they performed an analysis that led them to conclude that less water was available than the amount computed by CWCB staff. By the same token, when USDA Forest Service staff reviewed the CWCB analyses for Tabeguache Creek, Red Canyon Creek and North Fork Tabeguache Creek, they also questioned CWCB staff's numbers. The Forest Service's own water availability analysis for its recommendations indicated that more water was available than was indicated in the CWCB analyses.

While CWCB staff computed water availability using its standard method, both the Division 4 Engineer and the USFS employed other methods. Since there is no existing stream gage on any of the three streams in question, each party had to extrapolate, utilize limited data and/or make assumptions in order to estimate and characterize the hydrology of the subject streams. The Division 4 Engineer utilized historic, but limited data, whereas the USFS employed the USGS StreamStats methodology. CWCB staff's results fell between those of the Division Engineer and the USFS. Differences of this sort are not unreasonable, given the many necessary assumptions underlying each approach as well as the need in each case to extrapolate to one degree or another. In view of the foregoing, CWCB staff's values for water availability and its representation of the hydrograph at the lower terminus of the subject reach are reasonable.

Based upon its analyses, staff has determined that water is available for appropriation on each stream to preserve the natural environment to a reasonable degree without limiting or foreclosing the exercise of valid water rights. For the Red Canyon Creek and North Fork Tabeguache Creek USFS recommendations, staff lowered or eliminated the flow recommendations during the late season and winter months based upon its estimate of water availability. However, staff and USFS agree that 1) the presence of reproducing trout fisheries on both of these streams suggests that more water may be available than that calculated by CWCB staff; 2) one or more of the streams may have gaining reaches/groundwater input; 3) the available hydrologic data limits the accuracy of any given hydrologic estimation; and 4) CWCB and USFS staff both hypothesize that during extreme low flow events, sufficient interstitial flow exists in the stream substrate to maintain and oxygenate pool habitat where the fish species are surviving until flows increase.

Instream Flow Rule 5d.

Rule 5d. provides that the Board may declare its intent to appropriate ISF water rights after reviewing Staff's recommendations for the proposed appropriations. Rule 5d. also sets forth the activities that take place after the Board declares its intent that initiate the public notice and comment procedure for the ISF appropriations. Specifically,

5d. Board's Intent to Appropriate. Notice of the Board's potential action to declare its intent to appropriate shall be given in the January Board meeting agenda and the Board will take public comment regarding its intent to appropriate at the January meeting.

(1) After reviewing Staff's ISF recommendations for proposed ISF appropriations, the Board may declare its intent to appropriate specific ISF water rights. At that time, the Board shall direct the Staff to publicly notice the Board's declaration of its intent to appropriate.

(2) After the Board declares its intent to appropriate, notice shall be published in a mailing to the ISF Subscription Mailing Lists for the relevant water divisions and shall include:

- (a) A description of the appropriation (e.g. stream reach, lake location, amounts, etc.);
- (b) Availability (time and place) for review of Summary Reports and Investigations Files for each recommendation; and,
- (c) Summary identification of any data, exhibits, testimony or other information in addition to the Summary Reports and Investigations Files supporting the appropriation.

(3) Published notice shall also contain the following information:

- (a) The Board may change flow amounts of contested ISF appropriations based on information received during the public notice and comment period.
- (b) Staff will maintain, pursuant to Rule 5e.(3), an ISF Subscription Mailing List for each water division composed of the names of all persons who have sent notice to the Board Office that they wish to be included on such list for a particular water division. Any person desiring to be on the ISF Subscription Mailing List(s) must send notice to the Board Office.
- (c) Any meetings held between Staff and members of the public will be open to the public. Staff may provide Proper Notice prior to any such meetings and may provide notice to persons on the ISF Subscription Mailing List(s).
- (d) Any Notice to Contest must be received at the Board office no later than March 31st, or the first business day thereafter. All Notices of Party status and Contested Hearing Participant status must be received at the Board office no later than April 30th, or the first business day thereafter.
- (e) Staff will announce its Final Staff ISF Recommendation concerning contested appropriations at the September Board meeting and will send notice of the Final Staff Recommendation to all persons on the Contested Hearing Mailing List.
- (f) The Board may take final action on any uncontested ISF appropriations at the May Board meeting.

(4) After the Board declares its intent to appropriate, notice of the Board's action shall be mailed within five working days to the County Commissioners of the county(ies) in which the proposed reach or lake is located.

Staff Recommendation

Staff recommends that, pursuant to Rule 5d., the Board declare its intent to appropriate an ISF water right on each stream segment listed on the attached Tabulations of Instream Flow Recommendations, and direct Staff to publicly notice the Board's declaration of its intent to appropriate.

Attachments

Colorado Water Conservation Board

Instream Flow Tabulation - Streams

Water Division 2

Case Number	Stream	Watershed	County	Upper Terminus	Lower Terminus	Length (miles)	USGS QUADS	Amount(dates) (CFS)	Approp Date
10/2/A-006	Chaparral Creek	Huerfano	Huerfano	headwaters in the vicinity of lat 37 20 40N long 105 1 50W	Forest Service boundary at lat 37 22 58N long 105 3 22W	3.11	Cuchara Cucharas Pass	0.85 (4/1 - 4/30) 2.5 (5/1 - 6/30) 1 (7/1 - 8/15) 0.45 (8/16 - 3/31)	
10/2/A-007	Dodgeton Creek	Huerfano	Huerfano	headwaters in the vicinity of lat 37 22 33N long 105 9 56W	Forest Service Boundary at lat 37 22 57N long 105 6 37W	3.43	Cuchara McCarty Park	0.5 (11/1 - 3/31) 0.8 (4/1 - 4/30) 1.5 (5/1 - 7/31) 0.8 (8/1 - 10/31)	

Totals for Water Division 2

Total # of Stream Miles = 6.54

Total # of Appropriations = 2

(Totals do not include donated/acquired water rights)

Instream Flow Tabulation - Water Division 4

Case Number	Stream	Watershed	County	Upper Terminus	Lower Terminus	Length (miles)	USGS QUADS	Amount(dates) (CFS)	Approp Date
10/4/A-008	North Fork Tabeguache Creek	San Miguel	Montrose	headwaters in the vicinity of lat 38 27 14N long 108 31 50W	confl Tabeguache Creek at lat 38 22 43N long 108 27 44W	9.67	Starvation Point Windy Point	1.4 (4/1 - 4/30) 2.3 (5/1 - 6/30) 1.4 (7/1 - 8/14) 0.5 (8/15 - 3/31)	
10/4/A-009	Red Canyon Creek	San Miguel	Montrose	confl Big A Creek at lat 38 16 18N long 108 12 19W	confl Horsefly Creek at lat 38 14 23N long 108 13 24W	2.69	Antone Springs Sanborn Park	1.2 (4/1 - 6/30) 0.25 (7/1 - 10/31)	
09/4/A-009	San Miguel River	San Miguel	Montrose	confl Calamity Draw at lat 38 15 24N long 108 36 49W	confl Dolores River at lat 38 22 47N long 108 48 13W	17.24	Atkinson Creek Nucla Red Canyon Uravan	115 (3/1 - 4/14) 325 (4/15 - 6/14) 170 (6/15 - 7/31) 115 (8/1 - 8/31) 80 (9/1 - 2/29)	
10/4/A-010	Tabeguache Creek	San Miguel	Montrose	confl NF Tabegauche Creek at lat 38 22 43N long 108 27 43W	confl Forty Seven Creek at lat 38 22 10N long 108 31 5W	3.66	Big Bucktail Creek Nucla Starvation Point	1.6 (11/1 - 3/31) 3.5 (4/1 - 6/30) 2 (7/1 - 10/31)	

Totals for Water Division 4

Total # of Stream Miles = 33.259

Total # of Appropriations = 4

(Totals do not include donated/acquired water rights)

Instream Flow Tabulation - Water Division 5

Case Number	Stream	Watershed	County	Upper Terminus	Lower Terminus	Length (miles)	USGS QUADS	Amount(dates) (CFS)	Approp Date
11/5/A-002	Little Green Creek	Colorado headwaters	Routt Grand	headwaters in the vicinity of lat 40 18 43N long 106 40 42W	confl Muddy Creek at lat 40 18 42N long 106 36 28W	4.39	Lake Agnes Walton Peak	0.3 (11/1 - 3/31) 1.25 (4/1 - 7/31) 0.5 (8/1 - 10/31)	
11/5/A-001	Unnamed Tributary to Muddy Creek	Colorado headwaters	Routt Grand	headwaters in the vicinity of lat 40 19 41N long 106 38 52W	confl Muddy Creek at lat 40 19 51N long 106 37 00W	1.88	Lake Agnes Walton Peak	0.1 (11/1 - 3/31) 0.4 (4/1 - 4/14) 1.25 (4/15 - 6/30) 0.4 (7/1 - 8/15) 0.2 (8/16 - 10/31)	

Totals for Water Division 5

Total # of Stream Miles = 6.27

Total # of Appropriations = 2

(Totals do not include donated/acquired water rights)

Report Totals

Total # of Stream Miles = 46.069

Total # of Appropriations = 8

(Totals do not include donated/acquired water rights)

American Whitewater • Audubon Colorado • Center for Native Ecosystems
Colorado Environmental Coalition • Colorado Wild
Dvorak Expeditions • High Country Citizens Alliance
Rocky Mountain Recreation Initiative • San Juan Citizens Alliance
Save the Poudre • Sheep Mountain Alliance • Sierra Club • The Wilderness Society
Western Colorado Congress • Western Resource Advocates
Western Rivers Initiative • Wild Connections

Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, Colorado 80203

January 12, 2011

Honorable Board Members,

The undersigned business, recreational, and conservation groups, all with an interest in maintaining, restoring, and preserving the San Miguel River, the Dolores River, and their tributaries, strongly support instream flow protections for the San Miguel River River from Calamity Draw to the confluence with the Dolores River, as recommended by the Bureau of Land Management and in the form recommended by Colorado Water Conservation Board (CWCB) staff. We encourage the CWCB to apply for the right in 2011 to ensure a 2011 priority date.

The proposed instream flow reach has been identified as having an outstanding population of the three fish species of concern (roundtail chub, flannelmouth sucker, and bluehead sucker). As noted by CWCB staff, establishing instream flows is a priority under the multi-state agreement to prevent Endangered Species Act listing of these species. This instream flow recommendation—in both its volume and hydrograph—will protect essential habitat for these species.

The proposed instream flow protection will also help ensure the continued vitality of globally iimperiled riparian communities and other important riparian communities along the lower San Miguel River. These include New Mexico privet riparian shrubland, skunkbrush riparian shrubland, narrowleaf cottonwood, and Fremont cottonwood communities. The presence of these communities and species has prompted the Colorado Natural Heritage Program to identify two potential conservation areas along the lower San Miguel.

Flow determinations are created with a balance between the environment and human activities. CWCB is authorized to file for instream flow to preserve the natural environment to a reasonable degree. The proposed flow volumes and hydrograph are critical as the minimum needed for the future health of the San Miguel River itself, but also supports important scenic, historic, agricultural, riparian, and wildlife values and human activities in and along that iconic river, as well as the same values on the Dolores River below its confluence with the San Miguel.

We recognize that it is an important role of counties and municipalities to secure resources that allow for future services and potential development within their jurisdiction. The CWCB's decision to delay a decision for this instream flow for one year provided opportunity for interested parties to file for rights adequate to meet foreseeable demands, and extensive conditional beneficial use rights have now been filed, preserving the seniority of those rights over the proposed instream flow protection rights.

The undersigned therefore believe that the maintenance of healthy natural resources, such as through this instream flow recommendation, will continue to attract new opportunities, beneficial both to the natural environment and to human communities and enterprise.

The undersigned encourage the CWCB to promptly and diligently approve this instream flow recommendation and apply for this right in 2011.

Sincerely,

Nathan Fey, Director
American Whitewater

Ken Strom, Director
Audubon Colorado

Josh Pollock, Conservation Director
Center for Native Ecosystems

Becky Long, Water Caucus Coordinator
Colorado Environmental Coalition

Ryan Demmy Bidwell, Executive Director
Colorado Wild

Steve Glazer, Water Program Director
High Country Citizens Alliance

Meghan Maloney, River Program Director
San Juan Citizens Alliance

Hilary White, Executive Director
Sheep Mountain Alliance

Steve Smith, Assistant Regional Director
The Wilderness Society

Bart Miller, Water Program Director
Western Resource Advocates

Jean Smith, Executive Director
Wild Connections

Bill Dvorak, Owner
Dvorak Expeditions

Roz McClellan, Coordinator
Rocky Mountain Recreation Initiative

Gary Wockner, Director
Save the Poudre

Kirk Cunningham, Conservation Chair
Sierra Club, Rocky Mountain Chapter

Lee Gelatt, Organizer
Western Colorado Congress

Ken Neubecker
Western Rivers Initiative

The Nature Conservancy
Protecting nature. Preserving life.™

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January 12, 2011

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
Attn: Linda Bassi
FAX 303-866-4474

Dear Colorado Water Conservation Board Members,

The Nature Conservancy would like to voice its support for an instream flow right for the San Miguel River between Calamity Creek and the confluence with the Dolores River. As a landowner of nearly half of the river miles being considered for an instream flow, we believe strongly that dedicating the minimum amount necessary to support native warm water fish is of critical importance. The Colorado Division of Wildlife and the Bureau of Land Management's instream flow proposal is in line with our understanding of the minimum amount of water that is needed to support the three warm water fish species. Postponing this decision any longer will erode the effectiveness of an instream flow right, and in the long run may threaten the health of these fish species.

We also believe that the Board should not accept any future depletion allowances or development "carve-outs" as attachments or preconditions to the instream flow application as it moves forward. As the Board is aware, the proposed instream flow is for the minimum amount necessary to prevent further decline to the native fish species, and that any decrease in the proposed amount would likely jeopardize both the efficacy of the instream flow right and the health of the three fish species. However, we have been supportive of CWCB's year long delay of action that has allowed for water users in the area of the proposed instream flow to file for legitimate future water rights prior to the Board moving forward with the intent to appropriate.

We support the instream flow right because the San Miguel River is vital to the protection of three of Colorado's native fish. The flannelmouth sucker, roundtail chub, and the bluehead sucker have seen large population declines in the southwest United States. State governments throughout the region have recognized the need to ensure that these species do not decline further. In 2006, six states, including Colorado, signed the Range-wide Conservation Agreement and Strategy for Roundtail Chub, Bluehead Sucker, and Flannelmouth Sucker. In addition, these species have been identified as an important non-consumptive attribute by every West Slope Basin Roundtable.

Of particular concern is the roundtail chub, which has been listed as a Species of Concern by the states of Arizona, Utah, Wyoming, and Colorado, as well as being listed in New Mexico as "Endangered." Furthermore, the U.S. Fish and Wildlife Service has added the lower basin roundtail chub to the federal list of candidate species for the Endangered Species Act. This listing requires the Service to annually review findings on the chub until a "listing proposal is published, or a not warranted finding is made."

Several states have also formally recognized the decline in the numbers of flannelmouth suckers and bluehead suckers. Arizona, Utah, Colorado, and Wyoming have listed the flannelmouth sucker as a Species of Concern and Utah and Wyoming have also listed bluehead suckers as Species of Concern.

Because these species are native, present and healthy in the stretch of the San Miguel River under consideration for an instream flow right, TNC hopes that the instream flow right will protect these native fish in perpetuity and maintain the overall health of the river. We believe that this instream flow right is a critical step in preventing any further downgrade in the status of the species, and of course, the listing of any of the three species on the Federal endangered species list. To this end, we strongly urge you to declare the Board's intent to appropriate, in the amount proposed by the Colorado Division of Wildlife and the Bureau of Land Management, the instream flow right for the San Miguel at your January 2011 meeting.

Thank you very much for your consideration.

Sincerely,

Adam Bergeron
Water Project Director
abergeron@tnc.org
(720) 974-7032

Geotechnical
Environmental
Water Resources
Ecological

GEI Consultants

Memo

To: Montrose County Commissioners

From: Don Conklin

CC: Dan Ault

Date: January 14, 2011

Re: Proposed San Miguel River Instream Flow Recommendations

I have reviewed the instream flow recommendations for the lower San Miguel River segment from Calamity Draw downstream to its mouth at the Dolores River. The documents I reviewed included the DRAFT and FINAL versions of the Executive Summary of the Instream Flow Recommendation apparently prepared by the Colorado Division of Wildlife (CDOW) and the U. S. Bureau of Land Management (BLM), supporting information on fish habitat modeling provided by Mark Uppendahl of CDOW, a technical memo on this issue prepared by Bikis Water Consultants, LLC, from April, 2010, a letter from Linda Bassi and Jeff Baessler of the Colorado Water Conservation Board (CWCB) dated March 10, 2010 responding to the Bikis memo, a letter from Mark Uppendahl of CDOW to Linda Bassi of CWCB dated April 5, 2010 concerning the Bikis report and the flow recommendations, and a presentation given by CDOW in 2010 on the status of native fish in the Lower Dolores River. I also spoke to Mark Uppendahl on two occasions concerning the technical aspects of the PHABSIM modeling. This memo contains my conclusions concerning the recommended minimum flows.

The flow recommendations are based on R2CROSS and Physical Habitat Simulation (PHABSIM) habitat modeling from the San Miguel River. These techniques are widely used in Colorado for assessing minimum flows. The R2CROSS information appears to have been collected in the standard manner. However, this technique is usually more useful in smaller streams than the San Miguel River. The more useful and robust PHABSIM technique provides better information for a river of this size and was used by CDOW and BLM as the primary basis to support the flow recommendations. The PHABSIM habitat simulation only presented information for bluehead and flannelmouth suckers, two native species in the San Miguel River.

The agencies present a small amount of biological data from 2001 indicating the presence of the native species in the lower San Miguel River. Information in the CDOW presentation on the Dolores River indicates that the San Miguel River supports approximately three times the abundance of native fish, including suckers, as the Dolores River does upstream of the San Miguel confluence. The information does not indicate that the fish populations in the San Miguel River are declining. Sampling by GEI on another project in 2008 and 2009 in the San Miguel River near Nucla, just a few miles upstream of the reach in question, demonstrated that both sucker species were common to abundant. The fish populations in the river at present are being preserved with the flow regime that has occurred over the years without designated minimum flows. These two native species are in decline in some areas in western Colorado, including the Dolores River upstream of the San Miguel River. CDOW lists insufficient flow as one reason for the decline in native fish species in the Dolores River.

The purpose of Colorado's Instream Flow Program is "reasonable preservation of the natural environment" as stated in the Instream Flow Recommendation. However, the flows recommended by CDOW and BLM appear to be higher than needed to preserve the natural environment. The

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agencies' recommendation states that a flow of 325 cfs for the spring and early summer runoff period "is the **minimum** [emphasis added] amount necessary to preserve the natural environment…based on the assumption that 325 cfs would preserve 90% of the weighted useable area available to the bluehead sucker and 100% of the weighted useable area available to the flannelmouth sucker." The agencies' recommendation further states that "the instream flow recommendation of 170 cfs [during the high flow period of the year] was derived to **maximize** [emphasis added] the existing bluehead and flannelmouth sucker habitat available…." Maximizing habitat availability and preserving 90-100% of the optimum habitat for native suckers is not the stated purpose of the instream flow program. According to the PHABSIM information, a flow of 170 cfs to 325 cfs results in near-optimum habitat for flannelmouth suckers and relatively high levels of habitat for bluehead suckers. The flow data for the San Miguel River indicate that flows less than 170 cfs occur on most days during the year and the sucker populations persist and are preserved under the current flow levels. Optimum flow and habitat conditions only occur for a few days of the year. For the rest of the year, flows are too high or too low to provide optimum habitat. Flows considerably lower than 170 cfs would be sufficient to preserve habitat availability that now occurs on most days of the year for the two suckers and should be reflected in the minimum flow recommendations.

PHABSIM modeling by CDOW was used to determine habitat relationships for only the adult life stage of flannelmouth and bluehead suckers. Information was not presented for other life stages of these two species, such as for spawning, fry or juvenile fish, or for other native species in the river. Fry and juvenile suckers tend to have optimum habitat at lower flows than adults. Young suckers hatch in late spring or early summer, when flows are usually high in the river, and are vulnerable to being swept downstream. If the CDOW had modeled habitat relationships for the younger life stages, the optimum and minimum flow recommendations for preserving young suckers likely would be lower than for adult suckers alone. By not modeling habitat for other life stages, the agencies did not take into account important stages in the life history of the suckers. The flow recommendations of 325 cfs in spring and 170 cfs in summer may be too high and limit the survival of these life stages. Taking into account the habitat needs of young fish may have resulted in lower instream flow recommendations. The lack of information for other life stages of suckers or for other species limits the agencies' biological justification for the recommended flows.

The flow recommendations ignore the effects of higher flows on habitat availability. The habitat relationships for the two sucker species indicate a typical unimodal pattern, with optimum habitat availability at moderate flow levels of approximately 175 to 600 cfs. At flows lower than this range, habitat availability is lower, as expected. However, habitat availability is also lower at flows higher than this range. This occurs because water velocity gets too high and out of the suitable range for fish. Therefore, at flows higher than 600 cfs, habitat availability declines far out of the optimum range. The CDOW/BLM recommendation appears to state that flows of 325 cfs and higher are needed to protect optimum habitat while higher flows of 600 cfs or more, which appear to occur for at least a few weeks in most years, would have habitat availability similar to that at flows less than 170 cfs. This high flow period sometimes rivals the low flow period in terms of the detrimental effects on fish populations. Therefore, the agencies' flow recommendations cannot protect optimum habitat as long as normal runoff flows exceed approximately 600 cfs, as they do in most years.

The recommended instream flows do not appear to be available for nearly half the time based on the flow duration table in the DRAFT CDOW/BLM document. This indicates that the existing aquatic environment is being preserved with much lower flows than the recommendations. The FINAL CDOW/BLM document demonstrates that the recommendations are close to average flows in winter, yet average flow levels would not be met in approximately half the years. Since the purpose of instream flows is to preserve the existing aquatic environment, the recommended flows are more than what is necessary. Recommend flows that are met more frequently with existing hydrology would be more reasonable as minimum flows.

The recommended flows consist of five seasonal periods. This level of complexity is unusual and may not be necessary. Two seasonal tiers are more common and three tiers may be reasonable to account for seasonal changes and higher flows during spring runoff. The five tiers of instream flow recommendations appear to be too high and too complex for the lower San Miguel River. The recommended flows appear to be designed to enhance habitat for the two sucker species rather than to maintain and preserve the aquatic environment. Minimum instream flows for the lower San Miguel River to maintain existing conditions would be considerably lower than the CDOW/BLM recommendations.

Alternative Flow Recommendations

The available information indicates that the fish community in the lower San Miguel River is healthy. This reach of the river is classified as Warm 1 by the Colorado Water Quality Control Commission, indicating that it supports the expected abundance and diversity of fish. Therefore, the flows that are currently experienced in the river are sufficient to preserve the fishery and minimum flows that reflect current low flows would maintain the existing fish community. This includes the current seasonal pattern of high and low flows and the yearly patterns of wet and dry years. Alternative minimum flow recommendations are discussed below.

During the high flow period in late spring and early summer, the agencies' recommended flow of 325 cfs would be available in most years from April 15 to June 14, based on the flow data in the DRAFT agencies' filing. However, a flow of 200 cfs would still provide 90% of optimum habitat for flannelmouth suckers and 70% of optimum habitat for bluehead suckers. The lower minimum flow likely would be more suitable for younger life stages of suckers which are more sensitive to higher velocity. A minimum flow of 200 cfs is appropriate for the period from April 15 through June 14.

The agencies' recommendations of 170 cfs and 115 cfs through the summer are not available for approximately a third of the years in July and August. The existing fish community has apparently been preserved with lower flows in about one year out of three. Therefore, a lower minimum flow will preserve the fish community. A flow of 100 cfs would provide approximately 50% of optimum habitat for bluehead suckers and 35% for flannelmouth suckers. A flow of 100 cfs would be available in almost all years in July. However, in the irrigation season in August, even this flow would be met only in two years out of three. A flow of 100 cfs would still provide more habitat than the lower winter flows that normally occur. A minimum flow of 100 cfs is appropriate for the period from June 15 through August 31.

For the fall and winter period, the agencies' recommendation is 80 cfs. This would be available only about 50-60% of the time in December through February. Lower historical flows in many years have preserved the existing fish community through the winter. The flow availability information indicates that flows of 60 cfs have been available through the winter in nearly eight out of ten years. A minimum flow of 60 cfs would provide approximately 20% of optimum habitat for bluehead suckers and nearly 30% for flannelmouth suckers and is appropriate for the period from September 1 through April 14.