

# RECLAMATION

*Managing Water in the West*

**FINAL ENVIRONMENTAL IMPACT STATEMENT**

## **ASPINALL UNIT OPERATIONS**

**ASPINALL UNIT—COLORADO RIVER STORAGE PROJECT  
GUNNISON RIVER, COLORADO**



## **VOLUME III-Comment and Responses**



**U.S. Department of the Interior  
Bureau of Reclamation  
Upper Colorado Region  
Western Colorado Area Office  
Grand Junction, Colorado**

January 2012

**Mission Statement:**

The Mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American Public.

## COMMENTS AND RESPONSES

- Introduction
- Organization of Comments and Responses and How They Were Addressed
- Federal Agencies (FG)
- State and Local Governments (SLG)
- Power and Water Interests (PWI)
- Environmental Groups (EG)
- Other Organizations (OO)
- Individuals (I)
- Public Hearings (PH)

### Introduction

The purpose of this “Comment and Responses” volume is to describe how the comments received on the Aspinall Unit Operations draft environmental impact statement (DEIS) were considered and addressed in this final environmental impact statement (FEIS). Public and agency comment letters, emails, and public hearing transcripts are included in this volume along with the Bureau of Reclamations (Reclamation’s) responses. Changes made to the FEIS resulting from public comments ranged from minor editorial changes to updating information and analyses by incorporating the Black Canyon NP Water Right included in the January 8, 2009 court decree.

In addition, comments and Reclamation’s responses on a Preliminary Final Environmental Impact Statement (PFEIS) submitted for cooperating agencies review, are included in this volume.

### Draft EIS Comments and Responses

On February 13, 2009, the DEIS was filed with the Environmental Protection Agency (EPA) and a Notice of Availability was published in the Federal Register. Public hearings were held on April 7, 2009 in Gunnison, Colorado and April 8, 2009 in Delta, Colorado. News releases announcing availability of the document and dates, times, and locations of public meeting were also released on February 13, 2009.

The official comments period ran from February 13 to April 24, 2009. Approximately 150 copies of the DEIS were distributed to Federal agencies, Tribes, State and local government agencies, power and water interests, environmental groups, individuals, and other interested parties on the distribution list.

A total of two-hundred and twenty-five comments were identified from letters and public hearings for inclusion in the FEIS. Of twenty-seven written comment letters received, four were from Federal agencies, one Tribal government, five State and local governments, ten power and water interests, five environmental groups, one other organizations, and one individual. The majority of comments were received in writing.

## **Preliminary Final EIS Comments and Responses**

A PFEIS was prepared and provided to cooperating agencies for additional review in 2011. A total of fifteen comment letters were received on the PFEIS. The comment letters and Reclamation's responses are provided as additional information.

## **Organization of Comments and Responses and How They Were Addressed**

The National Environmental Policy Act (NEPA) requires that the agency preparing an environmental impact statement (EIS) consider and respond to all substantive comments on the DEIS. Some types of comments received do not require an agency response, as directed by NEPA regulations, and include those:

- Expressing a position or a preference regarding one or more of the alternatives
- Asking the proponent to make modifications to its to its proposal
- Not relevant to the EIS scope

There were a number of identical or similar comments, and if the substance of a comment already received a response, the reader is referred to a previous response. The following summary tables provide a list of who commented on the DEIS, the alphanumeric designation of the comment document, the page number where the comment document and corresponding response appear, and the comments themselves. The actual written comments and public hearing testimony follow the summary tables.

Comments and responses on the PFEIS are present following follow the DEIS comment and responses section of this volume.

**Table 1-List of comment documents and page numbers of comments and responses.**

Commenter	Comment number designation	Page No.	
		Comments start on	Responses start on
<b>Federal Government Agencies (FG)</b>			
National Park Service - Gunnison, Colorado	FG01	7	175
Western Area Power Administration - Salt Lake City, Utah	FG02	13	180
Fish and Wildlife Service – Grand Junction, Colorado	FG03	17	181
Environmental Protection Agency – Denver, Colorado	FG04	23	181
<b>Tribal Governments (TG)</b>			
Ute Mountain Ute Tribe - Towaoc, Colorado	TG01	30	183
<b>State and Local Governments (SLG)</b>			
Colorado Office of Archeology and Historic Preservation – Denver, Colorado	SLG01	33	183
Colorado Department of Natural Resources, Colorado Water Conservation Board – Denver, Colorado	SLG02	35	183
Colorado Department of Natural Resources, Colorado Division of Wildlife – Denver, Colorado	SLG03	41	183
Gunnison County Board of County Commissioners – Gunnison, Colorado	SLG04	47	183
Arapahoe County Board of County Commissioners – Littleton, Colorado	SLG05	48	185
<b>Power and Water Interests (PWI)</b>			
Dolores Water Conservancy District – Cortez, Colorado	PWI01	54	186
Natural Energy Resources Company – Palmer Lake, Colorado	PWI02	57	186
North Fork Water Conservancy District – Hotchkiss, Colorado	PWI03	60	186
The Southwestern Water Conservation District – Durango, Colorado	PWI04	62	187
Colorado River Energy Distributors Association – Tempe, Arizona	PWI05	64	187
Colorado Water Partnership – Denver, Colorado	PWI06	70	188
Upper Gunnison River Water Conservancy District – Gunnison, Colorado	PWI07	72	188
Colorado River Water Conservation District – Glenwood Springs, Colorado	PWI08	78	188
Irrigation & Electrical Districts Association of Arizona – Phoenix, Arizona	PWI09	88	190
Water Consult – Loveland, Colorado	PWI10	90	190
<b>Environmental Groups (ENV)</b>			
Western Resource Advocates and The Nature Conservancy – Boulder, Colorado	ENV01	105	190
High Country Citizens' Alliance – Crested Butte, Colorado	ENV02	122	195
Information Network For Responsible Mining	ENV03	124	196

**Table 1 (Cont.)-List of comment documents and page numbers of comments and responses.**

Commenter	Comment number designation	Page No.	
		Comment starts on	Response
<b>Environmental Groups (ENV)</b>			
Living Rivers – Moab, Utah	ENV04	126	196
Western Resource Advocates – Boulder, Colorado	ENV05	132	197
<b>Other Organizations (OO)</b>			
Gunnison Basin and Grand Valley Selenium Task Forces – Gunnison, Colorado	OO01	133	197
<b>Individuals (IND)</b>			
Ralph E. Clark III – Gunnison, Colorado	IND01	136	197
<b>Gunnison, Colorado Public Hearing (GPH)</b>			
Michelle Garrison, Colorado Water Conservation Board	GPH1	145	197
Steve Glazer, High Country Citizens Alliance and Sierra Club	GPH2	145	197
<b>Delta, Colorado Public Hearing</b>			
Jim Dyer, Arapahoe County	DPH1	159	197
Alan Leak, Colorado Water Partnership	DPH2	162	198
Jim Brown, Individual	DPH3	165	198
Dave Kanzer, Colorado River Water Conservation District	DPH4	168	198

**Table 2-Preliminary Final EIS list of comment documents and page numbers of comments and responses.**

Commenter	Comment number designation	Page No.	
		Comments start on	Responses start on
<b>Federal Government Agencies (FG)</b>			
National Park Service - Gunnison, Colorado	FG-01	199	335
Western Area Power Administration - Salt Lake City, Utah	FG-02	200	335
Fish and Wildlife Service – Grand Junction, Colorado	FG-03	209	342
Western Area Power Administration-Salt Lake City, Utah	FG-04	217	342
<b>State and Local Governments (SLG)</b>			
Colorado Department of Natural Resources,– Denver, Colorado	SLG-01	223	343
Colorado Department of Natural Resources, Colorado Water Conservation Board – Denver, Colorado	SLG-02	241	343
Colorado Department of Natural Resources, Colorado Division of Wildlife – Denver, Colorado	SLG-03	250	342

**Table 2 (cont.)-Preliminary Final EIS list of comment documents and page numbers of comments and responses.**

Commenter	Comment number designation	Page No.	
		Comments start on	Responses start on
Colorado Department of Natural Resources, Colorado Water Conservation Board – Denver, Colorado	SLG-04	259	347
<b>Power and Water Interests (PWI)</b>			
Dolores Water Conservancy District – Cortez, Colorado	PWI-01	265	355
The Southwestern Water Conservation District— Durango, Colorado	PWI-02	268	355
Platte River Power Authority—Fort Collins, Colorado	PWI-03	269	355
Colorado River Water Conservation District – Glenwood Springs, Colorado	PWI-04	300	362
Platte River Power Authority—Fort Collins, Colorado	PWI-05	319	362
<b>Environmental Groups (ENV)</b>			
Western Resource Advocates – Boulder, Colorado	ENV-01	322	363
Trout Unlimited-Boulder, Colorado	ENV02	328	365

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United States Department of the Interior

NATIONAL PARK SERVICE  
Black Canyon of the Gunnison National Park  
Curecanti National Recreation Area  
102 Elk Creek  
Gunnison, Colorado 81230

IN REPLY REFER TO:

COMMENT LETTER FG01

L54(2380)

April 24, 2009

MEMORANDUM

To: Manager, Western Colorado Area Office, Upper Colorado Region, Bureau of Reclamation  
From: Superintendent, Black Canyon of the Gunnison National Park and Curecanti National Recreation Area. *CAE*  
Subject: Comments on the Aspinall Unit Operations: Aspinall Unit – Colorado River Storage Project, Gunnison River, Colorado – Draft Environmental Impact Statement.

The National Park Service (NPS) appreciates the opportunity to provide the attached general and specific comments to the Bureau of Reclamation's (BOR) regarding the Draft Environmental Impact Statement (DEIS) evaluating the proposed re-operations of the Aspinall Unit to benefit Endangered Fishes in the Colorado and Gunnison Rivers. In its present form, the DEIS cannot be supported by the NPS. Discussed below are our key issues of concern:

As pointed out in previous discussions and comment letters, to be sufficient we believe the DEIS must include (1) a description of the Black Canyon of the Gunnison National Park water right (as specified in the December 31, 2008 water right settlement decree); (2) the inclusion of this water right as a common element within each of the DEIS alternatives (including No Action); (3) an analysis of the impacts of each of the alternatives against No Action; and (4) the inclusion and recognition that NPS-related legal authorities also may substantially affect Aspinall Unit operations.

FG01-01

The NPS recommends that the water right be generally described within the narrative text with a complete copy of the decree appended to the DEIS. The BOR has a statutory obligation to ensure delivery of water to satisfy senior downstream water rights, thus BOR must operate the Aspinall Unit to be "in-position" to deliver or pass-through the full extent of those senior rights each year including those as decreed for Black Canyon of the Gunnison National Park, provided doing so does not violate the downstream flood-protection provision or the maximum content requirements identified in the Army Corps of Engineers flood control diagram for the Aspinall

FG01-02

Unit. Once so positioned, flows needed for endangered fish would then be added to this operation if necessary.

Failure to include the Black Canyon water right in the alternatives (including No Action) calls into serious question the validity of all the impact analyses currently within the DEIS. We believe the impact analyses must evaluate alternatives that are needed for endangered fish which are in addition to operations that include the existing Black Canyon water right.

Finally, it is essential that the DEIS acknowledge all laws and legal authorities that may affect Aspinall Unit operations. As now written, the DEIS infers just the opposite by discussing a very narrow interpretation of the law of the river by not including the laws and policies of the National Park Service.

FG01-03

I look forward to working with you to make the necessary changes that will make the DEIS acceptable to the National Park Service.

Following are general and specific comments:

General Comments:

The DEIS does not clearly explain what a reservoir operation is and it should explain how an operation includes a set of release decisions arising as an integrated response to hydrologic observation and forecast. The NPS also believes that the DEIS should discuss how forecasts of senior downstream water rights and forecasts of flooding risk affect operations and response. Moreover, the DEIS does not discuss forecasting errors and how forecast errors partly control the reasoning behind operations. The DEIS should explain what decisions underlie each alternative with a summary of what differentiates each alternative from the No-Action.

FG01-04

The DEIS is not clear regarding what new, different, or for that matter the same, operations the BOR intends to implement under each alternative. Section 1.1.4 states that the purpose of “modifying the operations... is to provide sufficient releases of water at times, quantities, and duration necessary to avoid jeopardy... and adverse modification of designated critical habitat...”

The Action Alternatives as presented simply represent model runs of what might happen under each alternative. The alternatives are simulations of different rules for releasing water beginning on or about May 15 of each year. The alternatives do not include new rules for operations up until then, such as rules to store more water or manage stored water differently to assure that water will be at or near reservoir spillways and available for release for the fish as described. Each alternative should specifically identify how operations will be modified to provide sufficient volumes of water for the fish and a release strategy for delivering that water downstream effectively and efficiently.

FG01-05

The draft EIS seemingly avoids the operation at Morrow Point Dam, and by extension the change in operation at Morrow Point. The EIS does not give an example of what is actually meant by peaking operations and it does not relate to the reader how peaking operations and

FG01-06

drawdown/landslide criteria affect the change in operations. Also, the draft EIS does not clearly explain the relationship between BOR and Western Area Power Administration and the interaction of each agencies operation(s).

Specific Comments:

P. 1-3: The Authority section should include the NPS Organic Act and acts/proclamations establishing Black Canyon of the Gunnison National Monument since these authorities clearly influence how water is now released from the Aspinall Unit. FG01-07

P. 1-4: "This action is limited to the proposition ..." It would seem that this action is required by the ESA and the important legal principal is definition of BOR's role in the endangering of the fish and therefore BOR's role in the recovery of the fish. FG01-08

It seems necessary that the document discuss which operation(s) attain ESA compliance and how it can be demonstrated that this proposed operation(s) does in fact equate to compliance. The discussion should also address what monitoring is required to know if Aspinall is operated under operations defined by the preferred alternative (B) versus any of the other alternatives. This is important since the Recovery Program comes equipped with measures that define success or failure with regard to recovery. FG01-09

P. 1-4: "*It does not follow that CRSP generally authorizes the release of water for fish and wildlife purposes.*" There needs to be a reference for the legal basis of this statement. Additionally, there should be a reference for the authority allowing release of water to satisfy trout flow needs (October through March). We suggest this paragraph be deleted, since it needlessly and perhaps incorrectly repeats and limits the information in the preceding paragraph. FG01-10

P. 1-5: Crystal Dam is stated as being a "run of the river" facility. Later the DEIS defines Crystal as a reregulation facility. Crystal Dam is seemingly assigned yet a somewhat different role in section 3.3.2.2.B (P. 3-46). The text should define the role served by Crystal Reservoir. As noted previously, the EIS does not give an example of what is meant by peaking operations and it does not relate how peaking operations at Morrow Point Dam are related to drawdown/landslide criteria there and downstream at Crystal, and how these criteria affect the change in operations. It was stated in the EIS cooperator meetings that operation outside of the defined landslide criteria is not discretionary – it sets a practical limit on operations – and it would seem that the interaction of each proposed operation and these landslide limits would be discussed within the body of the DEIS. FG01-11

P. 1-7: Dallas Creek and Dolores project depletions. The EIS addresses the volume of water in these depletions (148,000 AF), but it does not address what role (or need) the water serves in the critical reach and downstream in the mainstem Colorado. Is this water protected during computation of Aspinall yield? FG01-12

P. 1-10: Redlands Fish Ladder – the ladder requires as much as 73,190 AF annually. Please clarify if this water will come from Aspinall and if this water is a part of the 148,000 AF of water for which Aspinall is the prudent alternative. FG01-13

P. 1-18: The clause “subject to Aspinall Unit authorized purposes” is problematic since it could imply that the BLCA water right is subject to a requirement to maximize hydropower. This paragraph should be changed to clarify this relationship. FG01-14

P. 1-19: The NPS Organic Act (as amended), BLCA proclamation and enabling legislation, and 2006 NPS Management Policies should be included as part of the laws and policies that “may affect the operation of the Aspinall Unit.” FG01-15

P. 2-3: The statement in this bullet that spring peak would be shaped “without intentionally bypassing Morrow Point and Blue Mesa powerplants” is not clear and may be at odds with the BLCA water right decree. The discussion in this paragraph should not leave the impression that bypassing the power plant for the BLCA water right is not authorized. FG01-16

P. 2-4: The discussion in the first bullet infers that the BLCA water right will ultimately be included in the No-Action alternative but the analysis leaves it out. The DEIS should include and analyze the BLCA water right in the No-Action alternative and the action alternatives. We are concerned that omission of the Black Canyon water right from the alternatives may result in erroneous analysis of the alternatives since the BLCA water right possibly satisfies most requirements for fish. FG01-17

P. 2-7: Alternative B: Clarify what operations(s) decision governs how “over-forecasted” runoff saved during the period April 1-May 10 is to be utilized. FG01-18

P. 2-7: “Reclamation’s ability to meet a desired peak is limited by the physical constraints/availability of the Aspinall Unit outlet features in some years.” Clarify what operational commitments or modifications are proposed under each alternative to increase the likelihood of achieving these peaks. FG01-19

P. 2-8: Clarify what basis or analysis supports the decision to provide (or attempt to provide and satisfy) duration flows only in those years in which it is possible to reach 90% of the desired peak. FG01-20

P. 2-11: Adaptive Management – The AM provision will apparently allow BOR to re-evaluate its operational releases for ESA compliance should, with the passage of time, the fish be recovered. Clarify how much flexibility in the name of adaptive management is allowed. Presumably, there is no flexibility with respect to water-rights. A concern is that adaptive management can be used to justify a reduction in peak flows should monitoring suggest that the fish can withstand an extended period of time without these flows. A representative of the Recovery Program stated at a cooperators meeting that he envisioned a time when the fish were recovered and peak-flow fish releases could be relaxed. This also points out (yet another) need to insist that the water-right be incorporated into each alternative considered the EIS. FG01-21

P. 2-12: Drought provisions - clarify what operations or guidelines are in place to prevent an “artificially” induced drought. The concern is reservoir elevation decline to critical threshold FG01-22

levels as a result of out-of-basin depletions, power releases, or mismanagement of reservoir storage as opposed to true drought.

P. 2-12: The extreme conditions narrative makes little sense, specifically Bullet 1: Wet, Moderately wet ... following a dry year. Please discuss why action-alternative operations would call for a release of 122,000 AF (storage) plus all inflows in a year following a category dry year. Clarify what provision of the operation(s) would call for making reservoir storage space in anticipation for the runoff should drought criteria of any sort apply. FG01-23

P. 2-17: “[T]he unused portion of the Aspinall Unit yield would not be relied on as part of any permanent solution that seeks to provide releases for Flow Recommendations or any subsequent modifications to them.” This statement is inconsistent with the next statement which recognizes that future water sales or uses of the remaining yield will have to undergo NEPA and ESA consultation. Obviously, one possible outcome of this consultation might be that the unused portion is in fact necessary to provide for the flow recommendations. FG01-24

P. 2-21: “To assist in reaching the peak, the March 31 Blue Mesa Reservoir target would be increased by avoiding powerplant bypasses in the April-May period.” This is not clear (it is not possible to increase the March 31 target by changing operations in months that come after March); it appears that the narrative attempts to convey that operations will store water for 6 weeks in anticipation of the peak flow. The Gunnison Tunnel right would seem to preclude the effectiveness of this operation. Please discuss or explain. FG01-25

P. 3-9: Last paragraph -- Safe yield should be “remaining safe yield”. A range of values for remaining safe yield should be provided, not just the upper limit. FG01-26

P. 3-21: Flood Control - The draft EIS does not present the ACOE flood control diagram. It should be included. Flood control is referred to as an operational sidebar. Please discuss what this means and clarify operational sidebars in the DEIS. FG01-27

P. 3-22: The DEIS references flood control operations which include a goal of filling Blue Mesa without causing a spill. This is in conflict with action alternatives A – D each of which features a controlled spill. FG01-28

P. 3-23: Impact Analysis: Because RiverWare is referenced here, this is a logical place to add a discussion of the rule-set and how the rule-set mimics the operation, which should be included in the draft EIS. FG01-29

P. 3-46: Hydropower: Please discuss the current status of the Basin Fund (current balances, annual revenue/expenditures and so forth). Impacts of Alternatives on the Aspinall Unit Power System (e.g., Table 3.3.9) should be expressed as percentage of total revenue at Aspinall and/or the larger Colorado River Basin units. Simply reporting “thousands of 2008 dollars” provides no context for assessing the severity of impacts. FG01-30

P. 3-46: (Section 3.3.2.2.B) “The model simulates hourly hydropower generation ... over a one week interval.” This implies that fundamentally Aspinall is operated on a one week schedule. FG01-31

presumably a schedule dependent on observed inflows, the interplay of hydrological forecasts (short and longer-term), and a short term power demand forecast. Such an operation is not referenced in the DEIS or the in the formulation of alternatives. And certainly, none of the alternatives offer a discussion of any changes to the operations at a weekly scale. Indeed, the EIS implies the operation is a January to March, April to July and August to September operation. This is an important “disconnect” between real operations and the No-Action and action alternative operations listed in the EIS. In addition, Section 3.3.2.2.B states expressly that “the operation schedule ... complies with all environmental and institutional constraints”. This cannot be true. If it were true, there would be no need for the proposed action, hence the need to change operations and finally the need to undertake the EIS analysis. As one example, the operation schedule does not comply with the institutional constraint termed the Black Canyon Reserved Water Right.

P. 3-52: Operation and Maintenance and P. 3-57 Agriculture. Operation and maintenance costs of each alternative are misleading when compared to a No Action that does not include the Black Canyon water right. As the DEIS states on page 1-18, “[T]he reserved right and the preferred alternative for the Aspinall Unit operation will have similar impacts on resources.” It is misleading to present and compare costs and frequency of spillway use (and potentially diversion structure repairs) under each alternative to the current No-Action.

FG01-32

P. 3-66: Aquatic Resources.” Language in the EIS suggests that flows greater than 3,500 cfs are detrimental to the (trout) fishery, yet no supporting information is provided and seemingly contradictory statements can be found throughout this section. “Higher spring flows under action alternatives will have the benefit of moving sediment through the river and maintain/improving physical habitat conditions for aquatic insects and fish.” “Early in the twentieth century, the upper Gunnison already was considered a ‘world-renowned’ trout fishery.” [NOTE, during this time, the average MONTHLY peak flow in the Black Canyon was around 6,300 cfs, the average one-day peak about 9,300 cfs.] “There are more quality and trophy sized trout in the population than anytime in the last 24 years ... “ “The trout fishery between Crystal Dam and the North Fork confluence has been extremely productive over the last 30 years which have included extended droughts, high flow years, flash floods, and other extremes.” During these “extremely productive years” there have been 11 years with peak flows greater than 3,500 cfs and 15 years with flows greater than 3,000 cfs -- 3 of which were greater than 9,500 cfs. Certainly, peak flows in individual years have the potential to negatively affect fry emergence and recruitment, yet no consideration is given to the long-term cumulative effects (on the fishery and fish and aquatic insect habitat) of attempting to limit the magnitude of annual peak flows.

FG01-33

COMMENT LETTER FG02

Steve McCall  
U.S. Bureau of Reclamation  
Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, Colorado 81506

Subject: Comments by Western Area Power Administration on the Aspinall Unit Operations Draft Environmental Impact Statement, January, 2009 (DEIS)

Dear Mr. McCall:

Western Area Power Administration (Western) appreciates the opportunity to comment on the subject document.

General Comments:

The DEIS Should Include a Cumulative Impact Analysis:

With respect to the hydropower function of the Aspinall Units, the DEIS does not contain a cumulative analysis. In recent years, Reclamation has modified the operating criteria of the other two major CRSP powerplants. Under the authority of the Grand Canyon Protection Act, the Department of Interior and Reclamation modified the operation of Glen Canyon Dam. This resulted in an estimated loss of one third of the marketable electrical capacity of the powerplant at this dam. In 2005, Reclamation changed the operation of Flaming Gorge Dam to assist in meeting recommended flows for endangered fish in the Upper Green River. Electrically, Flaming Gorge powerplant had been used for electrical "load following". Since the new operating criteria and previous modifications for endangered fish, the powerplant at Flaming Gorge is – to a great degree – a "base load" unit.

Further, as described in Chapter 1 (page 1-6), Reclamation altered the operation of the Aspinall Units in 1991 in order to provide a "more natural hydrograph". Based on our analysis, Reclamation's changes to the operation of the Aspinall Units since 1991 have had a significant impact on electrical power production.

Western believes that the DEIS should include describe the impacts of the DEIS alternative in the context of the cumulative effects on CRSP power generation resulting from recent passed decisions to alter the power operation of CRSP dams – including the Aspinall Unit. This will allow the Federal decision maker and the public at large, to understand the context of further proposed restrictions on electrical power production at the Aspinall Units.

FG02-01

Presentation of Modeled Results for Impact Analysis:

Explained on page 3-23 is the choice of the period of record (1975 – 2005). According to analysis, completed by Reclamation and shared with the DEIS cooperating agencies, this period is notably drier than a longer period and is drier than the period used to develop the Gunnison River flow recommendations. Western does not propose that the period of record be changed or that any change be made in the modeling. Instead, Western recommends that the output of the model be described and presented – for impact analysis purposes – in a way that allows the results to reflect the hydrological probability of the years used. One way to accomplish this would be to “weight” the results by hydrological probability. This change in analyzing the modeled results will alter the number of the impact tables throughout the DEIS. Examples include the tables on page 3-101, tables 2.3 2 through 2.3 4 and table 2.4 1. Of course, the summary table – Table 2.7 1 in Chapter 2 would show a different quantitative result for several of resources – where the impacts are calculated merely by adding the results of the 31 years of modeled results.

FG02-02

Potential Mitigation for Hydroelectric Power Impacts:

Electrical utilities who purchase electrical power from the Aspinall Units through Western, pay upwards of 90% of the irrigation projects authorized by the CRSP Act and made possible by mainstem features like Aspinall. Undertaking actions that mitigate the impact to power production from more restricted operations benefits all parties.

In the development of an EIS, the EIS alternatives, the preferred alternative and a final decision, the action agency identifies potential impacts. It can then choose to modify or add to its preferred alternative (or to its decision) features or actions that can mitigate for impact identified in the EIS. Western notes that in some year types, there are significant impacts to hydroelectric power. Western suggests that Reclamation, working with the cooperating agencies, identify actions that can mitigate for the power impact of the alternatives – specifically the preferred alternative without reducing its benefits to endangered fish species.

FG02-03

Specific Comments:

Page 1 – 2, first paragraph states the Purpose and Need of the federal action. This language should be used whenever there is reference to the purposes and needs of this federal action. The cover letter used to transmit the EIS has a different statement as do the Environmental Assessment prepared by Reclamation to accompany this EIS.

FG02-04

Page 1 – 16 states that the peak flows resulting from the “treatments” at the Aspinall Unit for all of the alternatives are recommended to occur between May 15 and June 15 but should “should be managed, to the extent possible, by matching peak flows of the North Fork of the Gunnison, whenever they occur, with peak flows from the Aspinall Unit.” Western would prefer a more affirmative statement regarding the matching of the Aspinall Unit treatments with the North Fork. Western urges Reclamation add language – wherever relevant – that in “real time” – Reclamation will use its operational flexibility in an attempt match the North Fork peak. Implementing an alternative by using Reclamation’s operational flexibility in an attempt to match North Fork peaks will reduce the required Spring release at Aspinall. The attempt to match North Fork peaks would occur except under conditions that would cause flooding damage. Also, Western would like Reclamation to point out in the DEIS what is already known – that scheduling “treatments” to be timed with the North Fork Spring peaks will result in an operation that will meet the Gunnison River endangered fish targets more frequently than what the model predicts.

FG02-05

Page 2 – 24: Table 2.7 1, the Qualitative Summary was developed by the analyses described in Chapter 3. For some of the resources described, it is not clear how the index values was calculated. For example, the results of the model doesn’t seem to differ to such a degree that Alternative A and Alternative B would differ with regard to impact on the Black Canyon NP. Nowhere is the calculation of the value of these qualitative indices explained.

FG02-06

Page 1 – 3. Western would like clarification on the language: “not specific authorized purposes of the Aspinall Unit may not be fully maximized for limited durations in certain year types does not invalidate the actions of the Secretary, as long as the overall purposes of CRSP . . .” This sounds like a rationalization for allowing a significant impact to a resource – such as hydroelectric power in one year, as long as – on average, power impacts are not significant. Western objects to this reasoning.

FG02-07

Page 3 – 133: Impact Analysis of Non Use Values. In an earlier comment regarding Non Use Values, Western commented that a study, specific to the operation of Aspinall does not exist and therefore, we suggested that the concept of non use values be described, but not applied in the DEIS. Now, in the DEIS, Reclamation concludes that the alternatives “will result in an increase in the nonuse economic value”. This is speculative. Since each alternative reduces the amount of generation from a “carbon free”, green and renewable electrical resource, it is also possible that nonuse economic value could be reduced as a result of the implementation of the alternatives considered.

FG02-08

Thank you for this opportunity to comment. Please contact me if you have any questions or if you require any clarifications.

Sincerely:

Clayton Palmer  
Environmental Protection Specialist



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
764 Horizon Drive, Building B  
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:  
ES/CO: BR/Aspinall  
65412-2009-FA-0030

COMMENT LETTER FG03

April 24, 2009

Memorandum

To: Area Manager, Western Colorado Area Office, Bureau of Reclamation,  
Grand Junction, Colorado

From: Acting Western Colorado Supervisor, Ecological Services, Grand  
Junction, Colorado *Russ S. Allett*

Subject: Aspinall Unit Operations Draft Environmental Impact Statement

The Fish and Wildlife Service (Service) has reviewed the Aspinall Unit Operations Draft Environmental Impact Statement (DEIS) and is providing the following comments. The DEIS describes the environmental impacts of various operation scenarios of the Aspinall Unit which is comprised of Blue Mesa, Morrow Point and Crystal dams and reservoirs on the Gunnison River. The purpose of the proposed action is to provide sufficient releases of water at times, quantities, and duration to conserve the endangered Colorado pikeminnow, razorback sucker, humpback chub, bonytail and their designated critical habitat in the Gunnison and Colorado rivers in western Colorado and eastern Utah.

The DEIS describes and analyzes five alternatives. The Service supports Reclamation's selection of Alternative B as the preferred alternative. The Service supports Alternative B because it is based on the Aspinall Unit operating to meet specific downstream flow targets, while meeting authorized purposes of the Unit. Endangered Species Act section 7 consultation has been initiated on Alternative B and water depletions in the Gunnison River basin. The Service is in the process of preparing a Programmatic Biological Opinion (PBO) to address the proposed action presented in the Biological Assessment (BA).

FG03 - 01

Detailed Comments

**Page 2-7:** "Releases will be made from the Aspinall Unit using the necessary combination of available power plants, by passes and spillways, while attempting to reach the spring peak flow target."

**Page 3-55:** “Should damage to the spillway tunnel become excessive, repairs would be made or use of the spillway would be limited to when hydrologically necessary.”

**Comment:** The Service is concerned that if Reclamation limits spillway use to “when hydrologically necessary” they would not meet their commitment to attempt to reach the spring peak flow target. Reclamation should commit to repair any spillway damage so the spillways are serviceable to implement the operations of Alternative B. **FG03-02**

**Page 3-19, Figure 3.3-4**

**Comment:** This figure is a little confusing. It might be less confusing if a linear regression were performed using paired measurements of flow verses selenium concentrations. The publication Osmundson *et al.* (2000) also discusses the inverse relationship between in-stream flows and selenium concentrations in water and in Colorado pikeminnow muscle plugs. **FG03-03**

Osmundson, B.C., T.W. May, and D.B. Osmundson. 2000. Selenium concentrations in the Colorado Pikeminnow (*Ptychocheilus lucius*): Relationship with Flows in the Upper Colorado River. Arch. Environ. Contam. Toxicol. 38: 479-485.

**Page 3-19** “The median value for these samples was 5 ug/liter as compared to the Colorado chronic water quality standard for selenium of 4.6 ug/liter.

**Comment:** It needs to be specified if selenium values are total selenium or dissolved selenium. The Colorado chronic aquatic life selenium standard is 5 ug/liter total selenium, or 4.6 ug/L dissolved selenium. **FG03-04**

**Page 3-33** “Figures 3.3-21 and Table 3.3 8, respectively, show the annual maximum average monthly projected selenium concentration and the projected number of days per year the selenium concentration threshold of 4.6 ppb is exceeded for each alternative at the Whitewater gage. Figure 3.3.21 depicts a downward trend in selenium concentrations . . . .”

**Comment:** It is not mentioned how this projection was determined. Figure 3.3-21 looks like the x-axis is actually in-stream flows—thus, the selenium concentrations are related to in-stream flows. **FG03-05**

**Page 3-34** “These changes in the Uncompahgre Valley are expected to continue, resulting in a continued gradual reduction in selenium concentrations.”

**Comment:** No citation is included for the statement that “changes are expected to continue”. Any decline in selenium loads is dependent on future land use. Using the Devil’s Thumb golf course example, selenium concentrations can increase substantially when water is applied to previously un-irrigated land. Mayo (2008) noted that “control of deep percolation from unlined ponds that are created to support residential irrigation **FG03-06**

could be an increasingly important factor to consider for minimizing irrigation-induced salt loading to the Colorado River.” This would also apply to selenium loading.

Downward trends in selenium loads are dependent on selenium remediation. Thomas *et al.* (2007) projected that “the Uncompahgre River, Gunnison River at Delta, and Gunnison River near Grand Junction would require 69, 34, and 53 percent, respectively, of the mean annual load to be reduced for water years 2001 through 2005 to meet the water quality standard. Thus, selenium concentrations will continue to exceed Colorado water quality standards unless remediation efforts are implemented via the proposed Selenium Management Program outlined in the BA. Implementation of the Selenium Management Program should be explained in the EIS, as it is a conservation measure that Reclamation is proposing to help to mitigate the increase in days the selenium standard is not met when comparing the no-action alternative with the preferred alternative B (in Table 3.3 8). FG03-07

Mayo, J.W. 2008. Estimating the effects of conversion of agricultural land to urban land on deep percolation of irrigation water in the Grand Valley, Western Colorado. U.S. Geological Survey Scientific Investigations Report 2008-5086, 58 p.

Thomas, J.C., K.J. Leib, and J.W. Mayo. 2008. Analysis of dissolved selenium loading for selected sites in the Lower Gunnison River Basin, Colorado, 1978-2005: Reston, VA, U.S. Geological Survey Scientific Investigations Report 2007-5287, 25 p.

**Page 3-86** “The decline of populations is likely due to three primary factors: loss or degradation of habitat; blockage of migration; and introduction of non-native fish species. The two types of factors that appear to have had the greatest impact have been water development and introduction of non-native species.”

**Comment:** Hamilton (1999) suggested that “there is now evidence that selenium, historically and currently, may be contributing to the endangerment of fish in the Colorado River basin. Burdick (1995) concluded that the Gunnison River upstream of Redlands Diversion Dam is predominantly composed of native fishes that probably resembles the historic composition of the fish community, compared to reaches downstream in the Colorado River that are composed primarily of nonnative fishes. Within the Gunnison River, water development is the major factor that led to the decline endangered fish populations. Water development has changed the natural hydrograph as well as increased selenium concentrations through agricultural return flows. It needs to be recognized that elevated selenium concentrations may have played a role in the decline of endangered fish in the Gunnison River. FG03-08

**Page 3-89** “Others concluded that most of the evidence implicating selenium is circumstantial and that “neither the historical record nor the technical literature consistently supports the emphasis given selenium toxicity” (Korte 2000).

**Comment:** The Hamilton (1999) study was published in a peer-reviewed journal. Hamilton has published numerous studies on the effects of selenium to fish, including endangered fish. The following peer-reviewed Hamilton publications regarding selenium effects to razorback suckers were completed 5 years after the Korte (2000) report:

Hamilton, S.J., K.M. Holley, K.J. Buhl, F.A. Bullard, L.K. Weston, S.F. McDonald. 2005. Selenium impacts on razorback sucker, Colorado River, Colorado I. Adults. *Ecotoxicology and Environmental Safety* 61: 7-31.

Hamilton, S.J., K.M. Holley, K.J. Buhl, F.A. Bullard. 2005. Selenium impacts on razorback sucker, Colorado River, Colorado II. Eggs. *Ecotoxicology and Environmental Safety* 61: 32-43.

Hamilton, S.J., K.M. Holley, K.J. Buhl, F.A. Bullard. 2005. Selenium impacts on razorback sucker, Colorado: Colorado River III. Larvae. *Ecotoxicology and Environmental Safety* 61: 168-189.

Hamilton, S.J., K.J. Buhl, F.A. Bullard, S.F. McDonald. 2005. Reduced growth and survival of larval razorback sucker fed selenium-laden zooplankton. *Ecotoxicology and Environmental Safety* 61: 190-208.

Hamilton's results are similar to selenium toxicity results from the numerous other studies done on other species of fish from other locations that show adverse effects occurring at very similar selenium concentrations.

The Korte (2000) report was an internal report with Oakridge National Laboratory, and did not receive the level of scientific peer review and scrutiny that the Hamilton (1999) publication received. The Korte (2000) report presented no new scientific data. Report conclusions were based on interviews, and reinterpretation, and in some cases misinterpretation of other people's data. Korte (2000) also discussed nonnative fish removal, and stated "the role of nonnative fish is no less controversial than the other aspects involved with recovering the endemic endangered species", and wrote that "blaming nonnatives is preferred by those favoring population and land development because poisoning nonnative fish has no effect on the water diversions needed to promote population growth."

Skorupa (1998) evaluated 12 case scenarios demonstrating toxicity to fish and wildlife from both selenate and selenite inputs, and concluded that a national water-based criterion for selenium should be set below 5 ug/L. Lemly (1996) suggested that waterborne selenium concentrations > 2 ug/L and food-chain organisms with  $\geq 3$  ug/g dry weight selenium should be considered hazardous to the health and long-term survival of fish and wildlife populations. In the Gunnison River below Delta and the Colorado River below the Gunnison River confluence, selenium concentrations in sediment, water, prey items, and fish indicate a high hazard when assessing risk to aquatic life (Lemly 1995). In about 60 miles of designated critical habitat, selenium concentrations exceed water

quality standards for the protection of aquatic life. This all builds a weight of evidence case that selenium is adversely impacting endangered Colorado River fish, and moves the issue beyond the circumstantial status.

FG03-09

Lemly, A.D. 1995. A protocol for aquatic hazard assessment of selenium. *Ecotoxicol. Environ. Safety* 32: 280-288.

Lemly, A.D. 1996. Selenium in aquatic organisms. IN: Beyer, WN, Heinz GH, Redmon-Norwood A (eds). *Environmental contaminants in wildlife: interpreting tissue concentrations*. Lewis Publishers, New York, NY. Pages 427-445.

Skorupa, J.P. 1998. Selenium poisoning of fish and wildlife in nature: lessons from twelve real-world examples. IN: *Environmental Chemistry of Selenium*. W.T. Frankenberger, Jr. and R.A. Engberg editors, Marcel Dekker, Inc. New York, NY. Pages 315-354.

**Page 3-96** Overall, there is little evidence of successful recruitment of this species in the Upper Colorado River Basin, although recent surveys indicated that stocked razorback sucker are spawning successfully in the Gunnison and Colorado rivers (Osmundson and McAda 2006 and 2007”.

**Comment:** Although encouraging, finding a few razorback sucker larvae during 2006 and 2007 does not mean that reproductive impacts linked to high selenium concentrations are not occurring. Fecundity of one adult female can be several thousand eggs (Mcada 1977). Depending on survival of stocked razorback suckers, this could potentially result in thousands of larvae if survival was not reduced by selenium toxicity, predation, and other variables affecting survival. Recovery will occur when there is sufficient recruitment of larval and young-of-year fish to compensate for adult mortality.

FG03-10

McAda, C.W. and R.S. Wydoski 1980. The razorback sucker, *Xyrauchen texanus*, in the Upper Colorado River Basin, 1974-76. Technical papers of the U.S. Fish and Wildlife Service, 99. 15 Pages.

#### Page 4-1 4.2.3. Endangered Species

**Comment:** This would be an appropriate section to include the information on the Selenium Management Program as mitigation for selenium loads associated with the Uncompahgre Project area and increased days of elevated selenium concentrations associated with Alternative B.

FG03-11

Thank you for the opportunity to review the draft EIS and your continued coordination on the subject project. If the Service can be of further assistance, please contact Patty Gelatt at the letterhead address or (970) 243-2778, extension 26.

pc:  
FWS/ES/FO, Lakewood  
FWS/UCREFRP, Denver



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

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<http://www.epa.gov/region08>

APR 24 2009

Ref: 8EPR-N

COMMENT LETTER FG04

Carol DeAngelis, Area Director  
Bureau of Reclamation, Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, CO 81506

RE: Aspinall Unit Operations, Colorado River  
Storage Project, Gunnison River, Gunnison and  
Montrose Counties, Colorado, Draft Environmental  
Impact Statement, CEQ # 20090044

Dear Ms. DeAngelis:

The Region 8 Office of the U.S. Environmental Protection Agency (EPA) has reviewed the Bureau of Reclamation's (Reclamation) Draft Environmental Impact Statement (Draft EIS) for the Aspinall Unit Operations Colorado River Storage Project on the Gunnison River, in Colorado. Our review and comments are provided for your consideration pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332(2)(c) and Section 309 of the Clean Air Act, 42 U.S.C. § 7609.

This Draft EIS addresses a change in operational plans to improve conditions for downstream habitat of endangered fish. The Aspinall Unit consists of three reservoirs: Blue Mesa, Morrow Point, and Crystal operated by Reclamation under the Colorado River Storage Project Act of 1956. The proposed action is to alter the operation of these three reservoirs to avoid destroying or adversely modifying designated critical habitat for four endangered fish: the Colorado pikeminnow, the razorback sucker, the bonytail, and the humpback chub. These four species are found in the upper Colorado River Basin and nowhere else. Reclamation intends to modify operations to achieve certain flow conditions recommended for fish recovery under the Colorado River Endangered Fish Recovery Program developed pursuant to the Endangered Species Act (ESA). The DEIS analyzes four alternatives and the No Action Alternative. The operational change alternatives include Alternative A -- Risk of Spill Alternative, Alternative B -- Fish Peak with Duration Alternative, Alternative C -- Fish Peak with Increased Duration Alternative, and Alternative D -- Fish Peak with Revised Target Alternative. Alternative B is Reclamation's preferred alternative.

EPA supports the need for the proposed action and notes that fourteen native fish species inhabit the upper Colorado River, four of which are endangered. There are two types of adverse impacts that contributed to these circumstances including the adverse ecological effects from

operation of these water storage facilities and the introduction of non-native fish. Regardless of which operational alternative Reclamation implements, subsequent changes are likely to be needed, based on an adaptive management approach as described in the Draft EIS that may alter or modify operations needed to provide fish recovery through habitat improvement. According to the Draft EIS, Reclamation understands this need to later adapt to these uncertainties following its planned flow modifications. The Final EIS should contain monitoring protocols and adaptive management success criteria obligating operational changes if needed for ESA compliance. The adaptive management plan presented in the Final EIS should give specific attention to these vital, yet conflicting factors:

FG04-01

- 1) Peak flows – what frequency and duration of half bank full (8,070 cfs), bank full (median value of 14,350 cfs) and backwater habitat inundation (greater than 10,000 cfs) flows are needed to effectively maintain the river substrate and habitat heterogeneity, and to inundate floodplains and restore floodplain connectivity for spawning and juvenile habitat?
- 2) Base Flows – what are the trade-offs that result by providing critical peak spring-time flows which could lower reservoir storage needed to provide base flow conditions in the summer season?
- 3) Climate change – how will flows and operations be managed if there is increased jeopardy to endangered fish species following changes in hydrology resulting from climate change?
- 4) Future flow depletions above the Aspinall Unit – how will future water rights developed and depleted from the upper Gunnison River Basin affect the intended ESA goals?

Prior analysis provided by the U.S. Fish and Wildlife Service and others clearly established that flows equal to or greater than half bank full are vital to prevent fine sediment from accumulating in the bed, and that flows at bank full discharge are needed to mobilize the bed and maintain the channel's geometry.<sup>1</sup>

While the Draft EIS discusses some of the management challenges that must be addressed in order to achieve the peak flow conditions necessary for Reclamation to meet its ESA obligations, the Draft EIS fails to analyze the implications of the - recently-adjudicated federal reserved water right for the Black Canyon of the Gunnison National Park (National Park).<sup>2</sup> It is EPA's understanding that the January 8, 2009 water rights decree places the National Park's water right senior to the Aspinall Unit, and therefore, Reclamation must deliver, or be in a

FG04-02

<sup>1</sup> Pitlick, J., et al., *Geomorphology and hydrology of the Colorado and Gunnison Rivers and implications for habitats used by endangered fishes*. Final Report to the Recovery Program for Endangered Fishes of the Upper Colorado River, 1999.

<sup>2</sup> Decree, Case No. 01CW05, filed January 8, 2009, Colorado District Court Water Division 4, Water Judge J. Steven Patrick presiding. The calculations for peak flow obligations measured in the Gunnison River below the Gunnison Tunnel are presented in the graph as Attachment F to the decree.

position to deliver, these senior water rights (including the peak flows at specified inflow conditions) as required by the decree. This water right obligation should become part of the current operations and thus would be a common element of all the alternatives, including the no-action alternative. The alternatives in the Final EIS should be analyzed and modeled with this water right included. FG04-03

In 2001, the United States filed its claims for federal reserved rights in the Gunnison River for the National Park for three flow provisions:

- 1) base flows of 300 cfs for the year,
- 2) a peak flow to be provided during the spring season, and
- 3) a shoulder flow, or intermediate flow, for later in the summer season.

Of particular relevance to EPA's concerns that peak flows be given additional consideration for the purposes of fish recovery is that this federal reserved right establishes peak flows to be provided within the National Park downstream of the Aspinall Unit. This final decree establishes peak flows of 24-hour duration defined by projected annual inflow conditions for Blue Mesa, the uppermost and largest of the three reservoirs. Most importantly, the decree provides that when forecasted annual inflow in to Blue Mesa reservoir is greater than 1,050,000 acre-feet, then a peak flow for such a year should be approximately 11,000 cfs, at a minimum, to meet the provisions of the National Park's adjudicated federal reserved water rights. Thus the National Park's reserved federal water rights settlement appears to obligate Reclamation to attain certain peak flow conditions, but this was not applied as an operational constraint to Reclamation's Aspinall Unit Draft EIS process. Without this information, and the means by which Reclamation will specifically comply with these adjudicated water rights obligations, the analysis provided in the DEIS is deficient. FG04-04

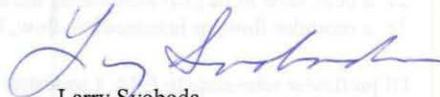
It appears that the action alternatives may provide flows that could provide greater environmental benefit than the decree requires for certain conditions. The decree does specify a methodology for calculating the annual peak flows for various flow classes based on inflow equations that differ from the peak flow volumes defined for each of the six year categories (Dry-Wet) presented in the Draft EIS. Reclamation should incorporate the decree criteria into the Final EIS and provide comparisons of the frequency, duration and magnitude of baseflows, shoulder (or ramping) flows and peak flows under the decree and all alternatives. The Final EIS should characterize and compare these two contrasting methodologies and assess how the results influence the environmental functions and economic costs. FG04-05

It is EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project pursuant to Section 309 of the Clean Air Act. In accordance with our policies and procedures for reviews under Section 309, EPA is rating this Draft EIS as "Environmental Concerns – Insufficient Information" (EC-2), for reasons provided in this letter and the enclosed detailed comments. The "EC" rating is based on EPA identifying environmental impacts that should be avoided in order to fully protect the environment. Specifically, Reclamation should disclose how it will provide peak flows needed to avoid continuing environmental harm. The "2" rating means that the Draft EIS does not contain FG04-06

sufficient information to fully assess environmental impacts that may be avoided in order to fully protect the environment, specifically since the Draft EIS does not consider the means of compliance with the 2009 federal reserved water right decree.

We appreciate the opportunity to review this Draft EIS and are available to discuss our comments. If you have any questions, please contact me at (303) 312-6004 or Wes Wilson, the lead reviewer for this project, at (303) 312-6562 or at [wilson.wes@epa.gov](mailto:wilson.wes@epa.gov).

Sincerely,



Larry Svoboda  
Director, NEPA Program

Enclosures: Summary of EPA Rating Definitions  
Detailed Comments

cc: Connie Rudd, National Park Service, Gunnison, Colorado  
Patty Gellett, Fish and Wildlife Service, Grand Junction, Colorado  
Tom Ryan, Western Area Power Authority, Salt Lake City, Utah  
Mike King, Colorado Department of Natural Resources, Denver, Colorado

**Detailed Comments by the Environmental Protection Agency  
on the  
Draft Environmental Impact Statement  
Aspinall Unit Operations, Gunnison River, Colorado**

**Project Purpose**

The purpose of the proposed action is to avoid jeopardy of the listed species and adverse modification to designated critical habitat. (DEIS at page 1-2.) However, Reclamation has the responsibility under the Endangered Species Act not only to avoid jeopardy of these species or adverse modification to their habitat, but also has an obligation to assist with the recovery of listed species. The Aspinall Unit change in operations is being done under the procedures identified under the Upper Colorado River Endangered Fish Recovery Program which provides that federal facilities will operate their facilities to improve habitat, rather than merely avoid jeopardy conditions. Note that on page 1-3 of the DEIS it states that "The flow recommendations for the Gunnison River, in concert with program actions, are intended to avoid jeopardy *and assist in recovery.*" (emphasis added.) Reclamation should consider whether the project purpose should be amended to be consistent with the broader policy goals of the Recovery Program and the Endangered Species Act.

FG04-07

**Alternative C provides more habitat improvement than Alternative B**

The DEIS states that Alternative B -- Fish Peak with Duration, is the preferred alternative *and environmentally preferred alternative* because it avoids jeopardy while meeting Aspinall Unit authorized purposes. However, the evaluation criteria presented on page 2-25 appear to be inconsistent with the conclusion that Alternative B would be environmentally preferred compared to Alternative C. (See, for example, the number of Critical Habitat Annual Days provided in Table 2.7 1, page 2-25). This table shows that Alternative C provides a higher number of days for each flow category within the critical habitat than Alternative B. On this vital performance measure, Alternative C -- Fish Peak with Increased Duration, provides greater habitat values in each flow category. In addition, Alternative C provides for longer peak flow duration and thus would appear to better meet the objective to assist in recovery rather than avoidance of jeopardy if that were the amended project purpose. For example, the Draft EIS identifies backwater habitat inundation as an important habitat component for native fish, especially the razorback sucker (Draft EIS at pages 3.89-90). The duration of backwater habitat inundation, provided by flows greater than 10,000 cfs, is greater under Alternative C than all other alternatives. Thus, Alternative C provides for longer peak flow duration and thus would appear to better meet the objective to assist in recovery in addition to avoidance of jeopardy, if that were the amended project purpose. (See above comment on amending or expanding upon the project purpose.)

FG04-08

**Addressing the impacts of climate change**

According to the Draft EIS, the variability of future conditions is solely based on the period of record and that future climatic conditions could be either warmer, wetter, cooler, or

drier than the modeled conditions based on the historic stream flow record (DEIS at page 2.14). However, the Draft EIS does recognize that it is possible that the frequency of dry years will increase due to climate change and possibly reduce the ability of Reclamation to manage the system to move sediment and improve habitat. Recent analysis completed by the U.S. Geological Survey on the response of the Colorado River Basin to climate warming, including the record of deeper prolonged droughts provided by tree ring reconstruction, however, point to an additional and increased likelihood of additional drought conditions rather than wetter and cooler conditions.<sup>3</sup> In part, their analysis was based on observed long term trends of increasing temperatures over the last several decades. Projected future surface temperatures associated with business as usual emission scenarios were provided by the Intergovernmental Panel of Climate Change which predicts increasing temperatures this century in western North America. McCabe and Wolock considered flow reductions based on either an increase of less than 1 degree C or 2 degrees C by 2100. Their work showed that either warming condition could substantially reduce Colorado River Basin flow.

The Draft EIS states that the frequency of dry and moderately dry years may increase, reducing the ability of the rivers to move sediment and maintain or improve habitat conditions (Draft EIS at page 2.14). The current analyses do not appropriately incorporate the potential risks associated with climate change, including increased jeopardy for endangered fish species following a lack of habitat maintenance. EPA suggests that Reclamation revise its analysis of meeting needed fish flow provisions based on changed future conditions due to climate warming as appropriate to address the risk and consequences of future flow reductions. EPA requests that Reclamation 1) expand the hydrologic modeling to incorporate projections of future inflows, instead of solely relying upon the 31-year historic record, and 2) assess the uncertainty associated with climate change by analyzing conservative climate change scenarios, such as a 10% and 20% reduced future yield.

FG04-09

**Considering additional information on flood flow restrictions**

The Draft EIS states that the Corps of Engineers flood management objective is to keep flows below 15,000 cfs in the Gunnison River near Delta, Colorado. This is based on the combined flows as measured at the confluence of the Gunnison and Uncompahgre Rivers. (See Draft EIS at page 2-14.) The Draft EIS notes that Delta has recently made improvements to its wastewater treatment plant (DEIS, page 3-22). However, these upgrades are meant to protect the facility against a 100-year flood of over 33,000 cfs. EPA suggests that these flood flow restrictions be reconsidered in light of the experience of no structural damage at the 12,000 cfs flow event and then reconsider whether the Corps' flood management objective could be altered to reflect the improvements provided at the wastewater treatment plant in Delta.

FG04-10

<sup>3</sup> McCabe, Greg J. and Dave Wolock, (2007) Warming may create substantial water supply shortages in the Colorado River basin, *Geophysical Research Letters.*, Vol. 34, L22708, doi:10.1029/2007GL031764.



**U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements  
Definitions and Follow-Up Action\***

**Environmental Impact of the Action**

**LO - - Lack of Objections:** The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC - - Environmental Concerns:** The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO - - Environmental Objections:** The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU - - Environmentally Unsatisfactory:** The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

**Adequacy of the Impact Statement**

**Category 1 - - Adequate:** EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 - - Insufficient Information:** The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 - - Inadequate:** EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

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**ORIGINAL**  
*The Ute Mountain Ute Tribe*  
Office of the Chairman

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COMMENT LETTER TG01

Mr. Ernest House, Sr.  
P.O. Box JJ  
Towaoc, CO 81334

Ute Mountain Ute Tribe  
Office of the Chairman  
Mike Wash Road  
Towaoc, Colorado 81334

April 23, 2009

Larry Walkoviak  
Regional Director  
Bureau of Reclamation  
1255 State Street  
Salt Lake City, Utah 84138

fax 801-524-3855

Re: Supplemental Irrigation Water to the Ute Mountain Ute Tribe Using Dolores Project Facilities

Dear Larry

I write to set forth the views of the Ute Mountain Ute Tribe as they relate to any potential obligation it may have to the Bureau of Reclamation (BOR) arising out of its past and current use of Dolores Project facilities to provide supplemental water to irrigate the Ute Farm.

The purpose in securing water supplies in addition to those provided in PL 100-585 (Colorado Ute Water Rights Settlement) is to generate greater alfalfa yields, greater financial return and to better utilize those returns to pay the substantial O&M charges associated with securing water from the Dolores Project. In addition, the Tribe is using those additional revenues to train tribal members to master long term irrigation practices. The additional water is provided by senior direct flow rights of the Montezuma Valley Irrigation Company and those additional water supplies were always understood by BOR to exist when it authorized the Dolores Project and when it agreed to the specific terms of PL 100-585.

It has come to my attention that BOR now believes that the Tribe and its suppliers are in fact liable to BOR to pay additional capital repayment under the terms of the Warren Act, 43 USC 523. As next set out, the Tribe has reviewed that statute and its relationship to PL 100-585 and does not agree.

a. The Warren Act provides:

Whenever in carrying out the provisions of the reclamation law, storage or

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Chief Jack House, Last Traditional Chief 1896-1972

carrying capacity has been or may be provided in excess of the requirements of the lands to be irrigated under any project. the Secretary of the Interior, preserving a first right to lands and entrymen under the project, is authorized, upon such terms as he may determine to be just and equitable, to contract for the impounding, storage, and carriage of water to an extent not exceeding such excess capacity with irrigation systems operating under section 641 of this title, and individuals, corporations, associations, and irrigation districts organized for or engaged in furnishing or in distributing water for irrigation. Water so impounded, stored, or carried under any such contract shall be for the purpose of distribution to individual water users by the party with whom the contract is made. (emphasis supplied)

The underlined sections demonstrate that the Act targets lands not otherwise served by the Project and irrigators not otherwise associated with the Project.<sup>1</sup> As you know, the Ute farm lands have always been served by the Dolores Project and the United States waived capital costs and postponed O&M costs in PL 100-585. In so settling the Tribe's reserved water rights, the United States made no reference whatsoever that as the Tribe gained experience and sophistication in farming, its use of excess water supplies—known to exist by BOR when it formulated the Dolores Project --- would trigger capital costs that the United States had waived for the Tribe's base water supply. It is the view of the Tribe that BOR's effort to squeeze it at the Ute Farm is out of sync with federal law.

b. The 1988 Settlement

<sup>1</sup> This straightforward language of the 1911 Act has of course been adopted by the federal courts. Thus as of U.S. v. Tilley 124 F.2d 850, 853 (C.A.8 1941), the United States knew that the Warren Act was only triggered when new lands and —not project lands—were proposed to be serviced using Project facilities. “ The contract of August 12, 1912, between the United States and the Company was made under the provisions of the Warren Act of 1911, 36 Stat. 925, 43 U.S.C.A. §§ 523-525, which authorized the Secretary of the Interior to contract with distributors of irrigation waters for the impounding, storage, and carriage of water, to the extent of the excess capacity of the facilities of any project constructed under the Reclamation Act of 1902, 32 Stat. 388, 43 U.S.C.A. § 372 et seq., not required for the purposes of the lands intended to be reclaimed and irrigated by such project. By the terms of the contract, the Company was to pay the United States the sum of \$500,000, and was further to bear one fourth of ‘the total operation and maintenance charges in connection with the storage works from which said stored water may be supplied.’” (emphasis supplied)

Not only does the Warren Act not contemplate the imposition of capital costs on surplus water which may be available from time to time to add to the financial return at the Ute Farm, but the capital cost terms of water provided the Tribe from the Dolores Project was expressly addressed by Congress in 1988, 77 years after its enactment of the general terms of the Warren Act. In the 1988 settlement, the Tribe was granted a waiver of capital costs as an inducement to waive its 1868 claims on the Mancos and Dolores Rivers.

The protections incorporated into the 1988 settlement—agreed to by the United States—would be undermined were the Warren Act to be applied here in circumstances not contemplated in that Act itself. The 1988 Act provides in relevant part:

b) AGRICULTURAL IRRIGATION WATER. -- (1) The Secretary shall defer, without interest, the repayment of the construction costs within the capability of the land to repay, which are allocable to each Tribe's agricultural irrigation water allocation from the Animas-La Plata and Dolores Projects in accordance with the Act of July 1, 1932 (25 U.S.C. 386a; commonly referred to as the "Leavitt Act"), and section 4 of the Act of April 11, 1956 (70 Stat. 107; 43 U.S.C. 620c; commonly referred to as the "Colorado River Storage Project Act"). Such allocated construction costs which are beyond the capability of the land to repay shall be repaid as provided in subsection (g) of this section

(g) COSTS IN EXCESS OF ABILITY OF THE IRRIGATORS TO REPAY. -  
- The portion of the costs of the Animas-La Plata Project in excess of the ability of the irrigators to repay shall be repaid from the Upper Colorado River Basin Fund pursuant to the Colorado River Storage Project Act and the Colorado River Basin Project Act.

c. Conclusion

Please feel free to call me at 970 564-3600 to discuss this matter further. Unless I have missed something in this letter, the imposition of new capital charges by BOR on the Tribe just as the Tribe has assumed the large O&M costs required to transport its base settlement irrigation water to its farm would appear to be contrary to federal law. Such charges will slow down and most certainly not expedite the Tribe's long term strategy of making its Ute Farm a productive and innovative irrigation project in the Four Corners Region.

Very Truly Yours,



Ernest House, Chairman

CC Dolores Water Conservancy District: Montezuma Valley Irrigation Company



 OFFICE of ARCHAEOLOGY and HISTORIC PRESERVATION

**Comment Letter SGL01**

March 9, 2009

Carol DeAngelis  
Area Manager  
Bureau of Reclamation  
Upper Colorado Region  
Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, CO 81506-8785

Re: Aspinall Unit Operations Draft Environmental Impact Statement (EIS) (CHS #54216)

Dear Ms. DeAngelis:

Thank you for your correspondence dated February 13, 2009 (received by our office on February 17, 2009) and for providing the subject Draft EIS for our review and comment.

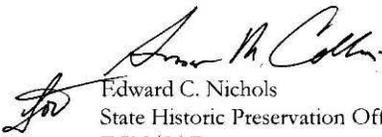
We have reviewed the subject EIS and as stated on page 3-148, we note that under all alternatives, including the no action alternative, no significant new impacts to cultural resources are expected to occur as a result of the proposed project because, "reservoir fluctuations would remain within the range expected for the No Action Alternative and well within the range that has occurred since Blue Mesa was first filled" (page 3-147). In addition, the EIS notes that "[m]onitoring, site protection, and surveys by the NPS would be expected to continue" (page 3-147).

As there are no substantial differences between alternatives with regard to their potential impact on cultural resources, our office does not have a preferred alternative. However, we do recommend that the EIS clarify or provide more detail regarding the continuing monitoring, site protection, and surveys that will occur within the project area. For example, will monitoring and/or survey be conducted on an annual basis?

**SLG01-01**

Thank you for the opportunity to comment. If we may be of further assistance, please contact Shina duVall, Section 106 Compliance Manager at 303-866-4674 or [shina.duvall@chs.state.co.us](mailto:shina.duvall@chs.state.co.us).

Sincerely,

  
Edward C. Nichols  
State Historic Preservation Officer  
ECN/SAD

**COLORADO HISTORICAL SOCIETY**

1300 BROADWAY DENVER COLORADO 80203 TEL 303/866-3395 FAX 303/866-2711 [www.coloradohistory-oahp.org](http://www.coloradohistory-oahp.org)

# STATE OF COLORADO

**OFFICE OF THE EXECUTIVE DIRECTOR**

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COMMENT LETTER SLG02

April 24, 2009

Steve McCall  
Bureau of Reclamation  
2764 Compass Drive, Suite 106  
Grand Junction, Colorado 81506

COLORADO



DEPARTMENT OF  
NATURAL  
RESOURCES

Bill Ritter, Jr.  
Governor

Harris D. Sherman  
Executive Director

Re: Aspinall Unit Operations Draft Environmental Impact  
Statement (DEIS) January 2009

Dear Mr. McCall:

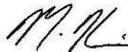
On behalf of the Colorado Department of Natural Resources, I submit the following comments on the Draft Environmental Impact Statement for the Aspinall Unit Operations. I would like to thank the Bureau of Reclamation for the opportunity to serve as a cooperating agency during this effort.

We appreciate the cooperation and consideration that the Bureau of Reclamation has provided during the EIS process and believe it has resulted in better understanding and cooperation with regard to the management of federal reservoirs within Colorado. We look forward to working with the agencies as this important planning process moves forward.

Please find enclosed a letter from The Colorado Water Conservation Board, one of the two agencies within the Department of Natural Resources submitting comments. The other agency, the Colorado Division of Wildlife, will submit their comments to you next Friday. Both of these documents represent the technical and policy analysis of our staff experts.

Again, thank you for the opportunity to submit these comments. We look forward to working with you regarding the future management of the Aspinall Unit. Please let me know if there is any additional information that you may need from us.

Sincerely,



Mike King  
Deputy Director  
Colorado Department of Natural Resources

---

Board of Land Commissioners • Division of Reclamation, Mining & Safety • Colorado Geological Survey  
Oil & Gas Conservation Commission • Colorado State Parks • Division of Forestry  
Water Conservation Board • Division of Water Resources • Division of Wildlife

# STATE OF COLORADO

## Colorado Water Conservation Board Department of Natural Resources

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April 20, 2009

Steve McCall  
Bureau of Reclamation  
2764 Compass Dr., Suite 106  
Grand Junction, CO 81506

Bill Ritter, Jr.  
Governor

Harris D. Sherman  
DNR Executive Director

Jennifer L. Gimbel  
CWCB Director

Dan McAuliffe  
CWCB Deputy Director

Ref: Aspinall Unit Operations Draft Environmental Impact Statement (DEIS) January 2009

Dear Mr. McCall:

The Colorado Water Conservation Board appreciates the opportunity to provide comments on and suggestions for the Draft Environmental Impact Statement for Aspinall Unit Operations. As a cooperating agency, the CWCB has worked closely with Reclamation and others on the development of this DEIS and we would like to thank Reclamation for its diligence and patience throughout the process. The CWCB is most concerned about maintaining an appropriate balance between the authorized purposes of the Aspinall Unit and the retiming of releases to better meet the USFWS Endangered Fish Flow Recommendations for the Gunnison River. CWCB appreciates Reclamation's efforts to find this delicate balance within the authorized project purposes of the unit as set forth in Section 1 of the 1956 Colorado River Storage Project Act (CRSPA). Storing water in the Aspinall Unit for beneficial consumptive use helps Colorado develop and utilize its Colorado River Compact apportionment and in the process provides additional benefits such as flood control. We believe maintaining the authorized purposes of the Aspinall Unit is vital to the Gunnison basin and to the state of Colorado. We generally find the language in the Draft EIS concerning the above-mentioned purposes of the unit to be thoughtful and appropriate and request that it be preserved in the final EIS document.

SLG02-01

We also recognize the importance of the Aspinall Operations DEIS to a Gunnison Basin Programmatic Biologic Opinion (PBO) that will provide ESA coverage for existing water uses, some future water uses, and continued operation of other Reclamation facilities in the Colorado River basin. Importantly, the PBO will also provide the necessary re-consultation on the Dolores and Dallas Creek projects to address the razorback sucker, which was not part of the original project BOs. We commend Reclamation for developing a draft Programmatic Biological Assessment that incorporates the necessary elements to allow the USFWS to consider a Gunnison PBO and provide the re-consultation necessary to provide full ESA compliance and coverage for the Dallas Creek and Dolores Projects.

Before providing our specific comments, we would like to acknowledge and place additional emphasis on some of the DEIS provisions that Colorado considers to be extremely important.

Water Supply Protection • Watershed Protection & Flood Mitigation • Stream & Lake Protection • Water Supply Planning & Finance  
Water Conservation & Drought Planning • Intrastate Water Management & Development

1. We feel that the current Aspinall Operations consultations, held three times a year, have been invaluable to the collection and dissemination of information and helps all interested parties gain a better understanding of the various water needs in the basin as well as reservoir operations and constraints. We believe these meetings will continue to be vital to the success of the Aspinall Reoperation plan and are pleased that Reclamation commits in this document to continue convening these meetings. These meetings have allowed all interested parties to provide meaningful input to Reclamation on Aspinall operations on an equal basis. We hope Reclamation will continue in this manner rather than allow any one agency to have preferential input. SLG02-02
  
2. We appreciate Reclamation’s willingness to protect up to 300,000 acre-feet (60,000 acre-foot subordination plus up to 240,000 acre-feet of additional beneficial use) of water in the Aspinall Unit for future development and not dedicate it to long-term flow enhancement. It is important to recognize in this DEIS that the Upper Colorado River Recovery Program is committed to the adaptive management of water in the Upper Colorado River Basin to recover the Colorado River endangered fish while allowing water development to continue. SLG02-03
  
3. Hydroelectric power is a clean, renewable source of energy and, to the extent possible, generation of the maximum amount of hydropower is encouraged. Hydropower revenues at the Aspinall Unit and other CRSP Units not only pay for the annual operation and maintenance costs of the units, but the revenues also support certain environmental programs such as the Upper Colorado and San Juan River Recovery Programs and the Colorado River Salinity Control Program. Furthermore, revenues are an important part of the CRSPA participating project repayments. SLG02-04
  
4. Finally, as discussed above, we want to again emphasize the importance of the Aspinall reoperations to obtaining ESA coverage for all water users in the Gunnison Basin and for the Dolores and Dallas Creek projects. SLG02-05

Below are the CWCB’s comments on the text of the draft EIS:

*Volume I*

*Section 1.2.3 Previous ESA Consultations Figure 1.2-1 pg. 1-7*

This figure contains a tremendous amount of information. It is important to note that 1992 – 2003 has the driest hydrologic conditions of all periods, but higher peaks than 1969 – 1991. Reclamation’s efforts since 1992 to release more water in the spring and less in other months are clear. The proposed operations will do even more to produce higher spring peak flows. Also important to note is that the hydrology of the pre-dam 1911 – 1937 period is significantly higher than all other periods and without similar hydrology, no reservoir operations can produce a similar hydrograph downstream. Some of this discussion is found with the figure in chapter 3, but it would be helpful to include it here as well. SLG02-06

*Section 1.2.3.2 Dolores Project pg. 1-9*

We realize this is a direct quote from the 1980 BO for the Dolores Project. However, we think it SLG02-07

would be helpful to include a footnote regarding the erroneous 131,000 AF depletion number as you mention elsewhere in the document.

We would also like to acknowledge the efforts of the “Dolores River Dialogue” (DRD) and the strides, although admittedly slow, that are being made to address the many environmental and recreational concerns on the Dolores River. Reclamation is an active participant in this effort and we continue to encourage Reclamation to increase its involvement with the DRD. SLG02-08

*Section 1.2.3.3 Upper Gunnison Subordination Agreement pg. 1-9, footnote 2*

We suggest shortening this footnote to the following:  
 “Subordination is the voluntary relinquishment of a water right’s priority to all junior water rights. In the case of the Aspinall Unit a decreed water right subordination exists.” SLG02-09

*Section 1.2.3.6 Other Reclamation Aspinall Unit Consultations pg. 1-11*

The narrative mentions totals of 650 AF, 130 AF and 37 AF of contracts. This appears to be a total of 817 AF of long-term contracts. The text mentions a total of 963 AF. SLG02-10

*Section 2.3.6 Characteristics Common to all Selected Alternatives*

We support the language in section 2.3.6 as written. Preserving Colorado’s ability to develop up to 300,000 acre-feet of water from the Aspinall unit and not have it dedicated long-term to endangered fish needs is very important to Colorado and this language recognizes that fact. It would be helpful to include a statement to this effect in the executive summary. SLG02-11

*Section 2.5.1, Hydrology Model, page 2-23*

Again, please note that the actual depletions of the Dolores Project are approximately 81,000 AF rather than the 131,000 AF listed in the original BO. With that footnote, we support sections 2.5 – 2.7 as written. SLG02-12

*Chapter 3 Affected Environment and Environmental Consequences*

We support the language in Chapter 3 as written, with the following comments:

*Figure 3.3-3* pages 3-12 same comments for this figure as for figure 1.2-1

**Flood risks:** We are pleased that Reclamation studied changes to the frequency of flows above 12000 cfs, as the City and County of Delta indicate considerable concern about flooding at this flow. While the preferred alternative as modeled does not increase the frequency of flows above 14000 cfs, it clearly increases the frequency of flows above 12000 cfs. We urge Reclamation during real-time operations to continue to work with the City and County of Delta to address their flooding concerns (as mentioned in chapter 4). SLG02-13

**Economic Impact:** As shown in Table 3.3 41, all alternatives result in negative economic impacts to the basin as compared to the No Action Alternative. Alternative C produces the worst impacts by a wide margin. Alternative B, the preferred alternative, produces the 2nd largest SLG02-14

negative economic impacts. We believe these estimated economic impacts (-237 jobs, -\$17 million in output, and -\$7 million in income) are of great concern to the economic health of the Gunnison River basin and need to be recognized and included elsewhere in the summary portions of the document.

*Chapter 4 Environmental Commitments and Mitigation*

The CWCB supports chapter 4, particularly the ideas discussed in sections 4.2.1 and 4.2.4. In section 4.2.3, page 4-1, we suggest changing “provide flows” to “assist in providing flows” as water for the endangered fish will also come from downstream tributaries such as the North Fork of the Gunnison. SLG02-15

*Volume II, Technical Appendices*

*Appendix A, Aspinall EIS Hydrology Report*

Page 36, change “poweplant” to “powerplant”

Tables 54 - 58, pages 55 - 60

In the modeling results for 1980, 1985 and 1997, peak flows at Delta are increased significantly. Using 1980 hydrology under the preferred alternative, peak flows would change from being less than 13000 cfs to over 15000 cfs. In 1985 and 1997, peak flows are increased from less than 10000 cfs to over 12000 and 13000 cfs. In general, peak flows above 14000 cfs do not increase, but flows over 10000 cfs and 12000 cfs do increase in frequency and therefore flood potential. SLG02-16

We again state our continued support for Reclamation’s long-standing cooperation with the City and County of Delta to address their flooding concerns in real-time operations. This is especially important when proposed peak flows under reoperation increase into the 12000 – 15000 cfs range when they would have been considerably less under the No Action Alternative.

*Appendix B, Biological Assessment*

*Section 2.2.2, Planned Operations, April – July, pg 19*

May 10 – June 1 releases would usually but not always optimize by matching North Fork peaks, but your model only optimizes releases coordinated with the North Fork within the May 15 – June 1 time period desired by the USFWS as per the Flow Recommendations. We support your suggestion that a longer window of opportunity extending from May 1 – June 15<sup>th</sup> could be used in the future if deemed appropriate for endangered fish and other resource concerns. SLG02-17

*Section 4.2.2, Razorback Sucker, pg 67* change “expatriated” to “extirpated”

*Section 4.2.3.1 Humpback chub, General, pg 71*

Change “is protected” to “are protected” and insert period at end of last sentence of paragraph.

*Section 4.2.4.2 Bonytail, Historical Distribution and Abundance, pg 72*

Put “although identification of this specimen has been questioned” inside parentheses or commas for clarification before continuing with “and 5 captures”

*Section 4.3 Historical Habitat Changes pg 72*

Some of these fish were also purposely removed from the river in the 1950s and 1960s as “trash fish” and that is another factor in their decline that should be mentioned here.

It might be good to include in this section a brief mention of the determination that a minimum flow of 100 cfs was deemed beneficial to the canyon at the time of construction and Aspinall’s part in regularly providing that 100 cfs (this minimum escalated to 200 and then to 300 cfs as recommended today). Graphs of the % time canyon flows exceed 100 cfs pre- and post-dam might also be helpful.

*Sections 4.3 Historical Habitat Changes and 5.2 Wildlife* both mention the invasive, non-native tamarisk plant. Mention of existing removal efforts might also be warranted. Reference could be made to both federal and state legislation aimed at removing tamarisk.

*Section 4.5 Activities to benefit the species*

pg 82 change “proportion” to “portion” and change “primary” to “primarily”

*Section 6.1 General pg 86* change; to,

*Section 6.5.1.2 Larval and young-of-year habitat, pg 99* “on which juvenile stages...rely on” - delete redundant “on”

*Section 6.5.2.2 Larval and young-of-year habitat, pg 100* “strongly associated off-channel” - insert “with”

The CWCB supports sections 6.6 *Cumulative Effects* and 6.7 *Uncertainties and Take* as written.

*Attachment 1 Project Descriptions*

The CWCB thanks Reclamation for including these helpful, detailed project descriptions.

*Bostwick Park Project, Unit descriptions and facilities, pg A-3*

Delete redundant “Silver Jack Dam”

*Dolores Project, Unit descriptions and facilities, pg A-9*

Paragraph beginning with “Dolores Canal”, change “extend” to “extends”

*Paonia Project, Unit descriptions and facilities, pg A-14*

“The outlet works also includes a concrete shaft house and concrete-lined shaft and add it between the gate chamber and access shaft.” Perhaps reword for clarity.

*Uncompahgre Project, Unit descriptions and facilities, pg A-19, last paragraph*  
“This unlined canal has an initial...” change “as” to “has”

*Attachment 2 Summary of Flow Recommendations to benefit endangered fishes in the Colorado and Gunnison rivers.*

*Hydrologic Categories*

All percentages for hydrologic categories are referenced “since 1937”, but should be referenced “for 1937 – 1997” for those who do not access the full USFWS Flow Recommendations document.

Also, if you have not already done so, we would encourage you to use the language verbatim from the flow recommendations report give the contentious nature of the recommendations.

*Attachment 8 Additional Hydrology Data, Table 8.3, pg A-46*  
1975 and 1978 report more days >8000 cfs than days > 5000 cfs.

The CWCB supports *Attachment 11 Additional guidelines for Aspinall Unit operations included in proposed action* as written.

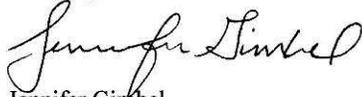
Attachment 12 is very informative.

*Volume I, Acronyms*

Black Canyon NP	change “Nation” to “National”
CDWR	change “Resource” to “Resources”
kWh	change “kilowatthour” to “kilowatt-hour”
NCA	change “Conversation” to “Conservation”
Ppb	change to ppb
RWCP	change to RWPC or RW&PC
UGRWCD	insert “Water” between River and Conservancy

The CWCB thanks you again for your considerable effort in this process. We appreciate the opportunity to be a cooperating agency and to submit these additional comments.

Sincerely,



Jennifer Gimbel  
Director, Colorado Water Conservation Board

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COLORADO



DEPARTMENT OF  
NATURAL  
RESOURCES

COMMENT LETTER SLG03

May 1, 2009

Steve McCall  
Bureau of Reclamation  
2764 Compass Drive, Suite 106  
Grand Junction, Colorado 81506

Bill Ritter, Jr.  
Governor

Harris D. Sherman  
Executive Director

Re: Aspinall Unit Operations Draft Environmental Impact  
Statement (DEIS) January 2009

Dear Mr. McCall:

Please find enclosed a letter from The Colorado Division of Wildlife, the second of the two agencies within the Department of Natural Resources to submit comments. We submitted the Colorado Water Conservation Board's comments by e-mail on Friday, April 24 and the originals were mailed to you on Monday, April 27. As I mentioned in my letter of April 24<sup>th</sup> both of these documents represent the technical and policy analysis of our staff experts.

Once again, thank you for the opportunity to submit these comments. We look forward to working with you regarding the future management of the Aspinall Unit. If there is any additional information that you need from us, please let me know.

Sincerely,

*Mike King*  
Mike King *by SKW*  
Deputy Director

Colorado Department of Natural Resources

Board of Land Commissioners • Division of Reclamation, Mining & Safety • Colorado Geological Survey  
Oil & Gas Conservation Commission • Colorado State Parks • Division of Forestry  
Water Conservation Board • Division of Water Resources • Division of Wildlife

STATE OF COLORADO

Bill Ritter, Jr., Governor  
DEPARTMENT OF NATURAL RESOURCES  
**DIVISION OF WILDLIFE**

AN EQUAL OPPORTUNITY EMPLOYER

Thomas E. Remington, Director  
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*For Wildlife-  
For People*

April 29, 2009

Steve McCall  
Bureau of Reclamation  
2764 Compass Dr., Suite 106  
Grand Junction, CO 81506

Dear Mr. McCall:

The Colorado Division of Wildlife (CDOW) appreciates the opportunity to provide comments on and suggestions for the Draft Environmental Impact Statement (DEIS) for Aspinall Unit Operations (issued February 13, 2009). As a cooperating agency, the CDOW has worked closely with the Bureau of Reclamation on the development of this DEIS and we would like to thank the Bureau for its past cooperation and this opportunity to comment. CDOW is concerned about three main components of the DEIS: (1) the impacts to native fish of the Gunnison River, (2) the impacts to the sport fishery in both the Gunnison River below Crystal Dam and in Blue Mesa Reservoir, and (3) the impacts of mitigating for water depletions in the Uncompahgre and Dolores River basins with releases from the Aspinall Unit.

The proposed re-operation of the Aspinall Unit will, in our opinion, benefit the native fish of the Gunnison under all of the action alternatives. We support the Bureau's attempt to meet the U.S. Fish and Wildlife Service flow recommendations for endangered fish in the Gunnison River and believe Alternative B achieves this while minimizing impacts to other authorized purposes of the Aspinall Unit. This alternative will provide a more natural hydrograph in the Gunnison River and will improve the quantity and quality of habitat for the native fish species including the Endangered Species Act (ESA) listed species, the Colorado pikeminnow and razorback sucker as well as the state listed species of special concern, the flannelmouth sucker, bluehead sucker, and roundtail chub. The timing of releases from the Aspinall Unit to coincide with the natural unregulated hydrograph of the North Fork Gunnison River maximizes the duration and magnitude of spring peak flows; this aspect of Alternative B increases the overall flow related benefits to the native fish of the Gunnison River.

SLG03 - 01

All of the DEIS's action alternatives (A-D) are likely to have varying degrees of negative impact upon the sport fishery of the Gunnison River downstream from Crystal Reservoir. The Gunnison River is a highly valued resource to the Division of Wildlife and to the angling public. The Gunnison River from Crystal Dam downstream to the Relief Ditch diversion, a reach of river approximately 25 miles in length, which includes the Black Canyon of the Gunnison National

SLG03 - 02

DEPARTMENT OF NATURAL RESOURCES, Harris D. Sherman, Executive Director  
WILDLIFE COMMISSION, Brad Coors, Chair • Tim Glenn, Vice Chair • Dennis Buechler, Secretary  
Members, Jeffrey Crawford • Dorothea Farris • Roy McAnally • John Singletary • Mark Smith • Robert Stroeter  
Ex Officio Members, Harris Sherman and John Stulp

Park and the Gunnison Gorge National Conservation Area, has been designated by the Colorado Wildlife Commission as a Gold Medal Water. The Gold Medal Water designation is reserved for the state's best fishery resources.

The Division of Wildlife has studied and monitored the Gunnison River fishery annually for decades and we believe that we have a good understanding of the impacts of flow on that fishery. The primary potential impacts to the trout fishery result from the more frequent high flows contemplated in the DEIS. More frequent high flows reduce the survival of trout fry and cause mortality of juvenile trout. In addition, the decreased base flows that go along with all of the action alternatives reduce habitat quality; this is especially true in the Gunnison below the confluence with the North Fork. Also, our studies have shown that the timing, magnitude, and ramping rates associated with spring peak flows have a large and lasting impact on the trout populations of the Gunnison River. Generally, trout fry survival is the limiting factor of trout populations in the river and is influenced primarily by habitat conditions during the first 4 to 6 weeks post emergence. This period varies by species but for brown trout it is usually during the month of May and for rainbow trout it occurs from mid-June to mid-July. Our data shows that high flows (those exceeding 3,000 cfs) or large flow fluctuations during this time period decrease fry survival. Spring peak flows, those higher than 3,000 cfs do not directly benefit the trout fishery in the river and can, in fact, negatively impact both fry recruitment and juvenile survival. We have observed that the magnitude of the impacts on trout fry and juveniles is highly dependent on the frequency, timing, magnitude, and ramping rates associated with the spring peak flow.

The Division of Wildlife's concerns are not limited to the Gunnison River cold water sport fishery; we are also concerned about the native warmwater fish community as well. CDOW is an active participating state agency in the Recovery Implementation Program in the Upper Colorado River Basin and as such is supportive of the Department of the Interior agencies' efforts to avoid jeopardy and recover the Colorado River endangered species. So, the CDOW is supportive of efforts to meet the US Fish and Wildlife Service's flow recommendations for the Gunnison River. In an attempt to balance sport fishery issues with native species conservation issues, we offer the following observations.

#### **Black Canyon and Gunnison Fishery Issues**

The native warmwater fish species in the Gunnison River benefit from higher spring flows (those greater than 6,000 cfs), while more moderate peaks (those in the 3,000 to 6,000 cfs range) are sufficient for habitat maintenance and sediment transport in the upstream trout fishery. To maximize native fish habitat and minimize impacts on the trout fishery, we recommend matching spring peak releases from the Aspinall Unit to the naturally timed peaks in the North Fork; these usually occur mid-to late-May. This hydrologic coordination will provide the best chance of meeting the flow recommendations downstream from Delta while minimizing the magnitude of peaks in the Black Canyon and Gunnison Gorge (because the peak flows downstream of the North Fork confluence will be less dependent upon Aspinall releases). Because the preferred alternative increases the frequency of spring peak flows, ramping rates (especially on the descending limb of the hydrograph) are critical for protecting trout fry. The ramping rates that are incorporated into all the alternatives are faster than we would recommend; CDOW has

SLG03 - 03

consistently recommended no more than 500 cfs per day at flows over 2,500 cfs, and no more than 250 cfs per day below 2,500 cfs. Alternatives B, C and D propose daily descending ramping rates of 15% or 400 cfs, whichever is greater, irrespective of the flow rate in the river at the time. These ramping rates are more rapid than we recommend when the flows are greater than 3,333 cfs and less than 2,500 cfs. This aspect of the preferred alternative is significant because that alternative will also produce spring peaks greater than 3,000 cfs more frequently than we see currently. CDOW therefore recommends a change in the descending ramping rates for the proposed alternative to less than 500 cfs per day for flows between 2,500 and 6,000 cfs and 250 cfs/day at flows below 2,500 cfs. The higher ramping rates proposed in the DEIS at flows above 6,000 cfs are acceptable due to the poor fry habitat that our modeling shows at these higher flow levels. The CDOW prefers that these ramping rate issues be addressed in a manner consistent with the Black Canyon Federal Reserved Water Right decree; mandatory annual consultation between the Department of the Interior and the Division of Wildlife. This process maximizes the opportunities for annual operational flexibility for the Aspinall Unit. The CDOW is of the opinion that while the No Action Alternative maximizes benefits to the trout fishery, Alternative B is the best compromise between meeting endangered fish flow recommendations and reducing impacts to this important sport fishery.

#### **Blue Mesa Reservoir Fishery Issues**

The proposed changes in Aspinall Unit operations are likely to impact the important sport fishery of Blue Mesa Reservoir. Blue Mesa will be affected primarily by lower water levels and a possible increased use of the reservoir's spillway. Operations that increase the frequency and duration of surface spills would negatively affect kokanee salmon growth by creating a shallower and cooler epilimnion, resulting in reduced zooplankton production. Decreased plankton levels could lead to reduced populations of kokanee salmon, the primary sport fish, and lake trout which depend on kokanee as their primary food source. Operational changes resulting in lower late summer storage levels are also likely to increase lake trout predation on kokanee by reducing thermal stratification and concentrating predators and prey. The changes in reservoir operations that occurred in 1992 are believed to have resulted in improved spawning success and natural recruitment of lake trout. Before that time, many lake trout eggs in the reservoir were likely dewatered as winter surface elevations dropped. Evidence of lake trout natural reproduction was not documented prior to 1992, although they have been present in the reservoir since 1968. All of the proposed action alternatives will result in more stabilized winter storage levels, and will likely continue to facilitate the expansion of the lake trout population and expanded predation pressure on the kokanee population. We recommend additional research to study the location, timing and success of lake trout reproduction and to assess whether any potential exists for manipulation of storage within the preferred alternative to reduce reproductive success of lake trout. Blue Mesa is the state's largest producer of kokanee salmon eggs routinely supplying over half of the state's egg supply. The recreational fishery of Blue Mesa is largely supported by kokanee, which make up about two thirds of the angler catch, and brings millions of dollars into the local economy. Generally, the No Action Alternative, Alternatives A, B, and D all would result in similar negative impacts to the sport fishery in Blue Mesa; Alternative C would produce the least favorable conditions for the Blue Mesa Reservoir fishery.

SLG03 - 04

**Issues Related to Dolores and Dallas Creek Projects**

The Aspinnall Unit DEIS attempts to meet flow recommendations in the Gunnison River as a reasonable and prudent alternative to avoiding jeopardy to endangered fish caused by the water depletions of Ridgway and McPhee Reservoirs. Mitigating for water depletions from Ridgway with Aspinnall releases is reasonable for native fish due to the proximity of the Uncompahgre and Gunnison Rivers and the lack of quality habitat in the lower Uncompahgre for native fish. However, in the case of McPhee Reservoir and the Dolores River, the Division of Wildlife has continuing and growing concerns about the native species (both the federally listed species and the state species of special concern) in the Dolores River system. Dolores Project depletions are impacting over 150 miles of native fish habitat including over 100 miles of habitat historically occupied by the Colorado pikeminnow. Pikeminnow have been known to occur in the river as recently as 1991 and historically have been documented as far upstream as Paradox near the confluence with the San Miguel River. Historically, the Dolores River could have provided habitat for ecologically distinct population of pikeminnow or part of a meta-population of pikeminnow in the Colorado River that used the Dolores as a significant portion of their range. The Dolores River also has resident populations of native fish that do not fall under the protections of the Endangered Species Act. These populations of native fish are also showing signs of significant decline. The CDOW is of the opinion that the significant reduction of native fish communities from over 100 miles of previously occupied habitat should not be mitigated by improving habitat in an entirely different river basin. We understand that these river basin specific impacts present difficult issues that the 'Dolores River Dialogue' group has been discussing for some time. Further, as you are aware, the state agencies collectively support a successful conclusion of this EIS process, including a biological opinion. In light of this, we request that the Bureau continue to actively participate in a collaborative process such as Dolores Biology Team to address these issues with the state and other agencies.

SLG03-05

The Bureau of Reclamation is a signatory party to the Three Species Conservation Agreement along with the Bureau of Land Management and state fish and wildlife management agencies from seven states in the Colorado River basin. This agreement outlines a basin-wide conservation strategy for three species of concern in the Colorado River basin, the flannelmouth sucker, bluehead sucker, and roundtail chub. The CDOW believes that the Bureau of Reclamation and the Fish and Wildlife Service should join CDOW and reaffirm its commitment to take affirmative steps toward the protection of these fish species in the context of this DEIS. By signing the agreement, all parties agreed to take such affirmative steps to avoid listing of these species under the Endangered Species Act. CDOW has determined that these three species are in serious trouble in the Dolores River below McPhee Dam. Enhanced instream flow management activities and more active management of spill water from McPhee Reservoir should be considered to protect native fish species (both the listed species and the state species of concern) in the Dolores River basin.

SLG03-06

In the event that the Bureau of Reclamation is looking for mitigation measures to offset sportfish impacts associated with Aspinnall re-operation, CDOW has a suggestion relating to Ridgway. One unexpected result of the construction of the Dallas Creek Project has been the development of a much better than average fishery in the Uncompahgre River downstream of Ridgway Dam.

Ridgway Reservoir operations have been found to impact the trout fishery in the Uncompahgre River primarily by low winter base flows and nitrogen supersaturation of the released water. Instream flow analyses conducted by the CDOW (both R2CROSS and IFIM) indicate that a minimum flow of at least 50 cfs is necessary to protect the trout fishery below Ridgway Dam. Base flows as low as 30 cfs are allowed under current operations. During these low flow conditions we see significant impacts of gas bubble trauma to trout caused by the water from the outlet works being supersaturated with nitrogen gas. We have recommended physical alterations to the outlet works of the dam to reduce the level of nitrogen supersaturation and/or the establishment of increased base flows during winter to mitigate for the Dallas Creek Project's impacts to the Uncompahgre sport fishery. To accomplish this, we believe that small operational changes such as the reallocation of water currently bypassed from January to April to earlier critical winter months could yield significant benefits to the region's overall fishery resource. We believe that this could occur without materially affecting the Dallas Creek Project's overall yield.

SLG03-07

### Conclusions

The Colorado Division of Wildlife supports the preferred alternative, Alternative B in the DEIS due to the potential benefits it has for native fish in the Gunnison River; we also support it because it strikes a reasonable balance between native fish management and sportfish management in Blue Mesa Reservoir and the Gunnison River. Alternative B also strikes a similar balance in approach for hydropower concerns and issues relating to water supply. We respectfully request that you address the issues related to ramping rates in the preferred alternative in a manner consistent with the Black Canyon decree. We also request that you consider our mitigation suggestions for Ridgway. Interagency cooperation has been vital in dealing with the issues on the Dolores, Gunnison and Uncompahgre River in the past. We look forward to continuing our role in operational discussions and further discussions on the Dolores. Please contact either Dan Kowalski or Jay Skinner if you have any questions or concerns regarding these comments.

Thank you for the opportunity to comment on this draft EIS. We also appreciate the efforts of the Bureau's Grand Junction Project Office staff, who have endeavored over the last several decades to manage this project in a manner that is sensitive to both water resource management and the preservation and protection of Colorado's fish and wildlife resources.

Sincerely,



Thomas E. Remington  
Director, Colorado Division of Wildlife



**GUNNISON COUNTY BOARD OF COUNTY COMMISSIONERS**  
Phone: (970) 641-0248, Fax: (970) 641-3061  
Email: [bocc@gunnisoncounty.org](mailto:bocc@gunnisoncounty.org)  
Website: [www.GunnisonCounty.org](http://www.GunnisonCounty.org)

April 21, 2009

COMMENT LETTER SLG04

Carol DeAngelis  
Western Area Office  
U.S. Bureau of Reclamation  
2764 Compass Drive, Suite 106  
Grand Junction, CO 81506

Re: Draft Environmental Impact Statement  
For Aspinall Unit Operations

Dear Ms. DeAngelis:

The Board of County Commissioners of Gunnison County, Colorado appreciates the significant efforts of the Bureau during the development of the Draft Environmental Impact Statement (DEIS) for Aspinall Unit Operations.

Please consider this letter to be a formal joinder by the Board of County Commissioners of Gunnison County, Colorado with the comments regarding the DEIS of the Upper Gunnison River Water Conservancy District and the Colorado River Water Conservation District in support of Alternative B as the preferred alternative and environmentally preferred alternative.

SLG04-01

Truly yours,

The Board of County Commissioners  
Of Gunnison County, Colorado

Paula Swenson  
Chairperson

Jim Starr  
Vice Chairperson

Hap Channell  
Commissioner

Cc: John McClow, UGRWCD  
Peter Fleming, CRWCD  
Bill Trampe, Gunnison Basin Representative, CRWCD



Board of County Commissioners

5334 South Prince Street  
Littleton, Colorado 80166-0001  
Phone: 303-795-4630  
Fax: 303-738-7894  
TDD: 303-795-4644  
[www.co.arapahoe.co.us](http://www.co.arapahoe.co.us)  
[commissioners@co.arapahoe.co.us](mailto:commissioners@co.arapahoe.co.us)

**COMMENT LETTER SLG05**

April 22, 2009

Bureau of Reclamation  
Western Colorado Area Office  
2764 Compass Drive, Ste. 106  
Grand Junction, CO 81506

Re: Comments to Draft Environmental Impact Statement,  
Aspinall Unit Operations

SUSAN BECKMAN  
District 1  
  
JIM DYER  
District 2  
  
ROD BOCKENFELD  
District 3  
  
PAT NOONAN  
District 4  
  
FRANK WEDDIG  
District 5

Dear Sirs:

These comments are being submitted on behalf of the Board of County Commissioners of the County of Arapahoe ("Arapahoe County") on the Draft Environmental Impact Statement for Aspinall Unit Operations ("DEIS"). The DEIS addresses a plan to avoid jeopardy to four endangered fish in the Gunnison and Colorado Rivers downstream from the Aspinall Unit, a Colorado River Storage Project ("CRSP") facility in Colorado. The plan focuses on modifying the operation of the Aspinall Unit to provide sufficient releases of water at times, quantities and duration necessary to avoid jeopardy and adverse modification to the designated critical habitat, while maintaining authorized purposes of the Aspinall Unit. Arapahoe County has been active for many years in maintaining the authorized purposes of the Aspinall Unit, and the County appreciates the Bureau of Reclamation's ("Reclamation") efforts to maintain those authorized purposes while protecting the designated critical habitat.

1. Authorized Purposes of the Aspinall Unit.

The Aspinall Unit was built pursuant to the Colorado River Storage Project Act ("CRSPA"). As referenced on pages 1-2 of the DEIS, Section 1 of CRSPA provides:

In order to initiate the comprehensive development of the water resources of the Upper Colorado River Basin, for the purposes, among others, of regulating the flow of the Colorado River, storing water for beneficial consumptive use, making it possible for states of the Upper Basin to utilize, consistently with the provisions of the Colorado

MISSION

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April 22, 2009  
Page Two

River Compact, the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Compact, respectively, providing for the reclamation of arid and semi-arid land, for the control of floods, and for the generation of hydroelectric power, as an incident of the foregoing purposes, the Secretary of Interior is hereby authorized to construct, operate, and maintain the following initial units of the Colorado River Storage Project, consisting of dams, reservoirs, transmission facilities and appurtenant works ...

CRSPA was enacted in 1956 to facilitate the development of the water resources of the Upper Basin consistent with the Compacts. The Compacts make it very clear that the Upper Basin includes all portions of the States of Colorado, Utah, Wyoming and New Mexico which can receive water from the Colorado River Basin.

Arapahoe County supports Reclamation's position in the DEIS that the action is intended to avoid jeopardy and make progress toward recovery of listed fish in order to facilitate the ability of the Upper Basin States to continue utilizing and further developing their Colorado River apportionments. (DEIS, pps. 1-4.)

2. Project Yield.

Arapahoe County fully supports Reclamation in its goals of storing water for beneficial consumptive use, making it possible for the states of the Upper Basin to utilize their apportionments consistently with the provisions of the Colorado River Compacts. (DEIS, pp. 2-16.) Further, the DEIS states several times that alternatives should recognize that the consumptive use up to a total of 300,000 acre feet of project yield from the apportionment may be used in the future under Colorado's Compact entitlement and that such use should not be precluded by any of the alternatives (see, *i.e.*, pp. 2-17). Arapahoe County agrees with these conclusions in the DEIS, and any alternative chosen in the FEIS should have similar recognition of the project yield from the Aspinall Unit.

SLG05-01

It should be noted that the Colorado Supreme Court also supports this conclusion. On November 20, 2000, the Colorado Supreme Court found in *Bd. of County Commr's. of the County of Arapahoe v. Crystal Creek Homeowners Association*, 14 P.3d at 342 (2000) that 240,000 acre feet are available from the Aspinall Unit Project yield for use anywhere within Colorado. This is consistent with the DEIS which recognizes that the 300,000 acre feet of remaining project yield includes the 240,000 acre feet referenced in the Colorado

April 22, 2009  
Page Three

Supreme Court decision and 60,000 acre feet of subordination to Gunnison Basin upstream uses.

It is extremely important for the State of Colorado and the Upper Basin States to recognize the purposes of CRSP facilities in determining any flows for endangered species purposes. Any other result would contravene the very purposes for which the CRSP facilities were constructed.

3. Black Canyon Federal Reserved Water Rights.

Arapahoe County was an active participant in the mediation which resulted in a Colorado State Decree in Case No. 01CW05, which quantified the federal reserved water right for the Black Canyon of the Gunnison National Park (“Black Canyon Decree”). That application claimed a priority date of March 2, 1933, which is senior to the Aspinall Unit. Thirty-two parties participated in numerous mediation sessions to pursue a settlement of the case.

A Decree was finally entered in Case No. 01CW05, which includes numerous terms and conditions for the flows through the Black Canyon. The computer modeling for that case preserved the project yield referenced in the DEIS, which is extremely important to the State of Colorado.

Under any alternative chosen pursuant to the DEIS, Arapahoe County asserts that the flows for the endangered species at issue should be provided in coordination with the flows for the Black Canyon so that maximum use of any water released from the Aspinall Unit is achieved for fish and wildlife purposes. Any other result could impact the project yield to the Aspinall Unit severely and its legislative purposes under CRSPA. That result must be avoided in any alternative ultimately chosen for operation of the Aspinall Unit.

SLG05-02

4. Computer Modeling.

Our review of Reclamation documents concerning Blue Mesa Reservoir indicates that Blue Mesa Reservoir has a storage capacity of 940,700 acre feet which includes 111,200 acre feet of dead storage and 81,100 acre feet of inactive capacity, leaving 748,430 acre feet of active capacity and a total of 829,650 acre feet of usable capacity. The Tables and Figures in the DEIS should clarify these values as well as identify when and how it is appropriate to utilize inactive capacity.

SLG05-03

April 22, 2009

Page Four

Assuming 829,650 acre feet of usable capacity, Blue Mesa Reservoir fills to within 10% of full over 60% of the time under the No Action Alternative. This is the same result with Alternative A. In contrast, Alternative D achieves storage within 10% of full only 52% of the time, Alternative B, only 42 % of the time, and Alternative C, only 29% of the time. These facts show that Alternatives B, C, and D store significantly less water than the No Action Alternative and Alternative A. This places the State of Colorado at further risk of not being able to utilize the Aspinall Unit for storage of the 300,000 acre feet of annual consumptive use water.

SLG05-04

Attached are three graphs showing the impact of the proposed alternatives on Blue Mesa Reservoir storage. We respectfully request that these graphs, or graphs of similar nature, be included in the Final EIS. They provide the general public a clearer picture of the impact of these alternatives on Blue Mesa Reservoir storage.

The first graph, labeled "Average Blue Mesa Reservoir Content" is based upon the data in Appendix A, Table - 3 of the DEIS. In general, Alternatives A, B, and D result in an average of 10,000 to 30,000 acre feet less storage content in Blue Mesa Reservoir compared to the No Action Alternative. Alternative C results in an average of 50,000 to 90,000 acre feet less of Blue Mesa Reservoir storage content compared to the No Action Alternative.

The second graph, labeled "Minimum Blue Mesa Reservoir Content" is also based upon the data in Appendix A, Table - 3 of the DEIS. In general, Alternatives B and D result in minimum contents of Blue Mesa Reservoir which are 40,000 to 100,000 acre feet less than the No Action Alternative with periods of significantly lower minimum storage contents in May, June, and July. Alternative C's minimum storage contents are typically an average of approximately 170,000 acre feet less than the No Action Alternative.

The third graph labeled "Maximum Blue Mesa Reservoir Content" is based upon the data in Appendix A, Table - 2, of the DEIS. Alternatives A, B, and D are very close to the No Action Alternative. Alternative C has the lowest maximum storage content of about 200,000 acre feet in 1981 which is a staggering 300,000 acre feet less than the other alternatives. This value is also less than the project yield of 300,000 acre feet that Reclamation has identified for use within the State of Colorado. Thus, Alternative C does not meet the primary purpose of the Aspinall Unit and endangers Blue Mesa of going dry with successive dry years. In addition, this graph shows Alternative C keeping Blue Mesa Reservoir at a maximum of only 60% full or less for a five year period. Alternative C does not achieve any reasonable intended use of Blue Mesa Reservoir.

April 22, 2009  
Page Five

Lastly, it is our understanding that the DEIS was prepared before the Black Canyon Decree was entered. However, most of the tables and figures that take that Decree into consideration have not been provided to the general public, thus making it impossible to provide accurate and detailed comments on the actual impact of any of the proposed alternatives when modeled in accordance with the Black Canyon Decree. We request that the Final Environmental Impact Statement include an additional definitive affirmation that the selected alternative will provide a project yield of 300,000 acre feet from the Aspinall Unit after the Black Canyon flows and releases for the critical habitat are made.

SLG05-05

In summary, Reclamation should choose the recommended alternative carefully to assure that the project yield is available for use in the State of Colorado while meeting the other uses of the Aspinall Unit.

5. Conclusion.

Arapahoe County fully supports Reclamation's efforts in the DEIS to protect the project yield of the Aspinall Unit for use anywhere within Colorado, while also operating the facilities to assist in meeting both river flows recommended by the Upper Colorado River Endangered Fish Recovery Program and the federal reserved water right for the Black Canyon of the Gunnison National Park. Any other result would be contrary to CRSPA and state law as recognized by the Colorado Supreme Court. Thank you for your consideration of these comments.

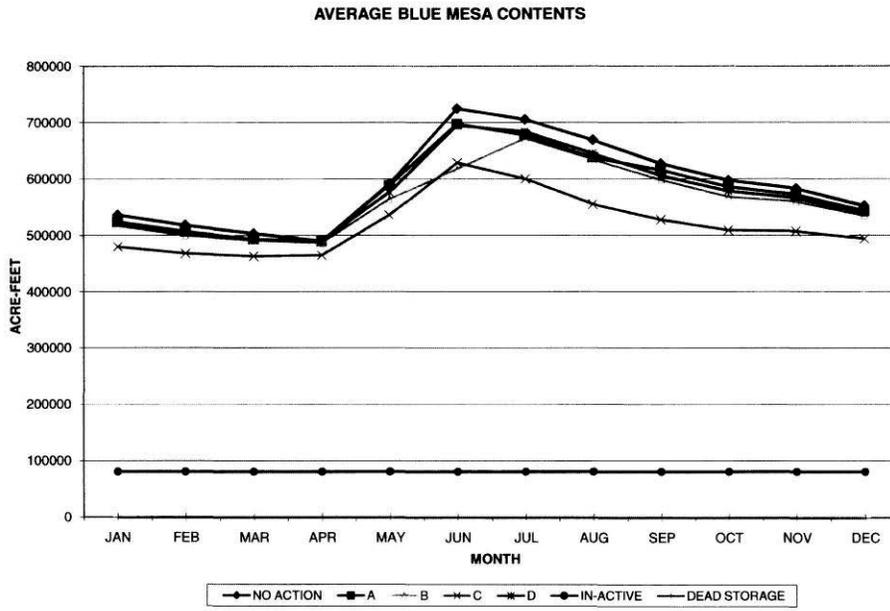
Sincerely,

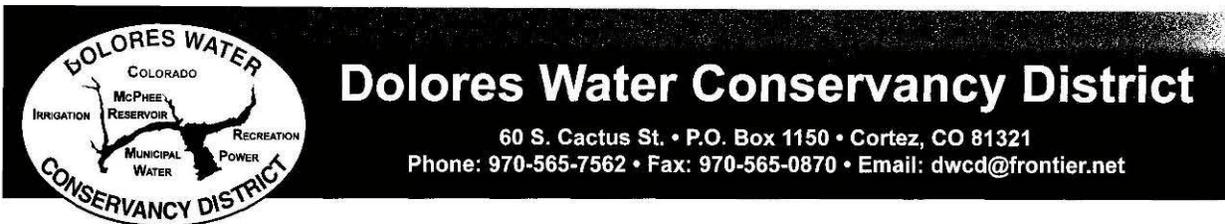
Board of County Commissioners of the  
County of Arapahoe

By:



Jim Dyer, Chair Pro Tem





March 11, 2009

COMMENT LETTER PWI01

Steve McCall  
Bureau of Reclamation, Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, Colorado 81506

Re: Comments on January, 2009 Final Draft Aspinall EIS

Dear Mr. McCall:

Dolores Water Conservancy District (DWCD) appreciates this opportunity to comment on the January 2009 Draft Environmental Impact Statement Aspinall Unit Operations (DEIS) and Biological Assessment (BA). DWCD has been apprised of the progress and content of the DEIS and BA through SWCD participation as a Cooperating Agency.

DWCD provides the following comments as the agency responsible for operation of the Dolores Project, a participating CRSP project.

1. DWCD fully supports the re-consultation for the Dolores Project as written in the DEIS and BA. The re-consultation will "update" the original 1980 Dolores Project consultation to address current issues. Specifically the Dolores Project re-consultation in the DEIS and BA: (1) rectifies the actual Dolores Project depletions of about 99,200 AF rather than 131,000 AF included in the original consultation which included over 30,000 AF of release for fishery below McPhee which is not a depletion; (2) includes all four endangered fish species rather than three in the original consultation; and (3) specifically includes releases from the Aspinall Unit as part of the consultation.

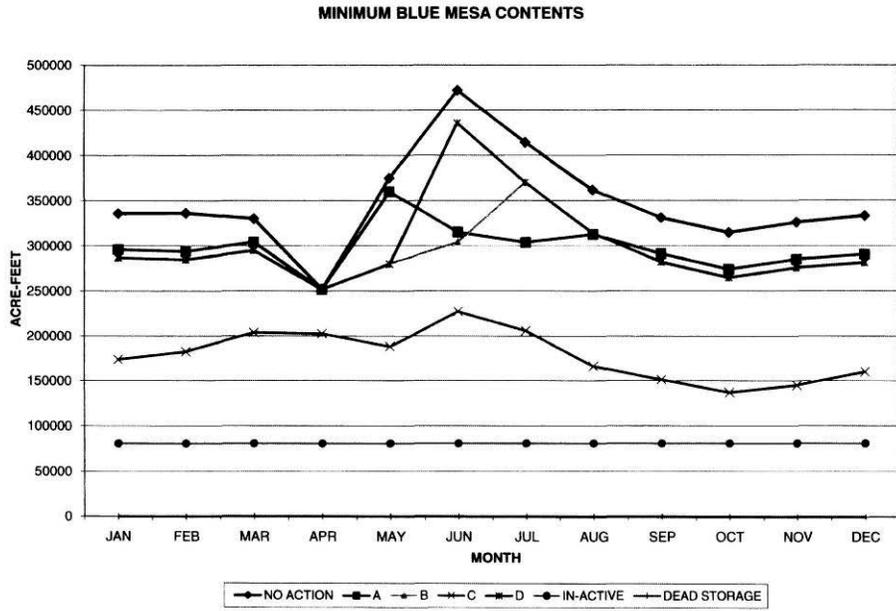
2. DWCD is concerned that the selected alternative may result in increased WAPA power rates, though small. The Dolores Project uses CRSP power through WAPA for pumping of irrigation water. The rising cost of WAPA power over the last decade has impaired the ability of Dolores Project irrigators to successfully farm their land and DWCD does not support further increases for this reason. DWCD suggests that Reclamation and WAPA investigate a reduced irrigation power rate for CRSP participating projects. A separate power rate is feasible because the amount of irrigation pumping required for CRSP participating projects is very small and probably would have little, if any, impact on the overall WAPA power rate.

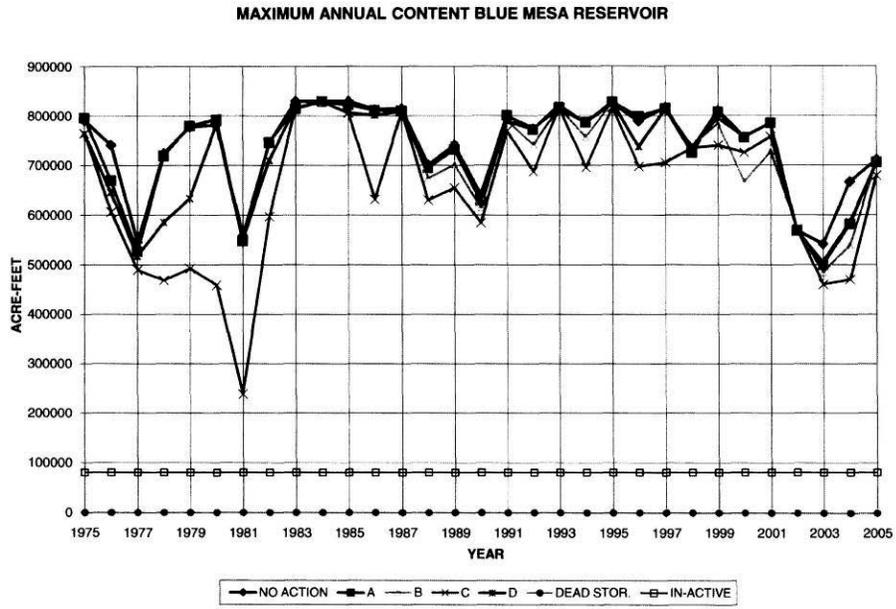
PWI01-01

Again, thank you for this opportunity to comment. Please contact me if you have any questions regarding these comments.

Sincerely,

Michael Preston, General Manager  
Dolores Water Conservancy District





Mar 16 09 07:43a

Dave Miller

719-481-3452

p1

**Natural Energy Resources Company**  
**P.O. Box 567, Palmer Lake, CO 80133**  
**719-481-2003, Fax 719-481-3452**  
*centralcoloradoproject@comcast.net*

COMMENT LETTER PWI02

March 16, 2009

Carol S. DeAngelis, Manager  
 USBR, Western Area Office  
 2764 Compass Drive  
 Grand Junction, CO 81506

Michael Ryan, Reg. Director  
 USBR, Great Plains Region  
 P.O. Box 36900  
 Billings, MT 59107

Larry Walkoviak, Reg. Director  
 USBR, Upper Colorado Region  
 125 S. State St., Rm. 6107  
 Salt Lake City, UT 84138

Harris Sherman, Exec. Director  
 CO Dept. of Natural Resources  
 1313 Sherman St., Rm. 718  
 Denver, CO 80203

Subject: Major omissions from Bureau's Aspinall Unit Operations Draft EIS

Dear Ms. DeAngelis, Mr. Walkoviak, Mr. Ryan, and Mr. Sherman:

This letter is to advise the Bureau of Reclamation and State of Colorado the recently completed Aspinall Unit Operations Draft Environmental Impact Statement (DEIS) is fundamentally flawed, because of the following major omissions and unanswered questions:

- The Aspinall Unit's primary 1956 Congressional purpose to help Colorado beneficially use 300,000 acre-feet of its Colorado River Compact entitlements for statewide consumptive needs was improperly excluded from the Bureau's extensive EIS modeling of secondary, non-consumptive, Aspinall Unit purposes;
- The DEIS improperly omitted all development information from the major Colorado/Bureau Upper Gunnison-Uncompahgre Basin Feasibility Study of nineteen viable Aspinall Unit trans-mountain alternatives, that was prepared during the late 1980's to solve escalating Front Range and Eastern Colorado water shortages;
- The DEIS largely ignored Natural Energy's extensive August 28, 2008 comments to help the Bureau correct its Preliminary Draft Aspinall Unit EIS omissions;
- The DEIS improperly omitted all references to Natural Energy's breakthrough Central Colorado Project (CCP) high altitude pumped-storage concept. This concept can convert the Bureau's undeveloped Aspinall Marketable Pool into integrated renewable water and energy solutions for Colorado, its down river states, and the western power grid;
- The DEIS omitted any comments on the Colorado Department of Natural Resources' August 29, 2008 request to contract for 200,000 acre-feet of the Bureau's undeveloped Aspinall Pool water for unspecified, non-consumptive, down stream purposes;
- The DEIS improperly omitted all references to Natural Energy's December 8, 2008 request for system-wide modeling of its breakthrough Central Colorado Project (CCP) solution for state-wide and region-wide renewable water and energy needs.

In addition to the above major omissions, the Bureau did not provide answers to the following conflicting water policy statements in the Aspinall DEIS Appendix E4 Scoping Summary Report, titled, Input from agencies and organizations:

- Why did the DEIS only model the Aspinall Unit's secondary, non-consumptive alternatives, while the Colorado Water Conservation Board's 2004 EIS Scoping Statement clearly required the: "Effect of alternatives on Aspinall yield should be determined."?
- Why did the Bureau proceed with its Aspinall Operations EIS, before Colorado's influential Colorado River District's "not one drop from the Gunnison policy" was addressed and resolved? (Please see the River District's Appendix E, pg.17 statement: "The marketable yield concept for Blue Mesa is fictional.")
- Why were Bureau and other federal resources offices on the east side of the Continental Divide not heavily involved in this EIS, which has major economic and environmental values and impacts for both slopes?

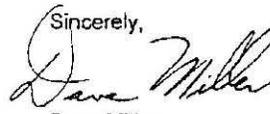
In view of the above critical omissions and unanswered policy questions, Natural Energy hereby requests a stay of the Aspinall Unit Operations EIS until the Central Colorado Project's breakthrough water and energy solutions can be concurrently modeled in conjunction with the Aspinall Unit's Congressionally authorized primary and secondary purposes.

Advanced modeling can quickly confirm CCP's innovative high altitude pumped water and energy storage methods and processes are essential for solving the Western Region's escalating water and energy shortage crises for droughts, growth, climate change, blackouts, and 20 to 50% renewable energy objectives.

Natural Energy looks forward to assisting with the Bureau's CCP modeling study to confirm its unprecedented capabilities to regulate and optimize water and energy resources throughout five major river basins and the western power grid. (Please visit [www.ueblacker.us](http://www.ueblacker.us) for Natural Energy's CCP White Paper, published U.S. Patent Application, etc.)

By honoring this CCP modeling request, the Bureau and State of Colorado can facilitate and expedite a major investor-funded development program that can serve as a global model for lowering current and future utility costs, while enhancing environments throughout multiple river systems.

Please immediately forward copies of this letter to all Aspinall EIS Consultation, Coordination, and Public Involvement Activities, as listed in Chapter 5. Thank you.

Sincerely,  
  
Dave Miller  
President

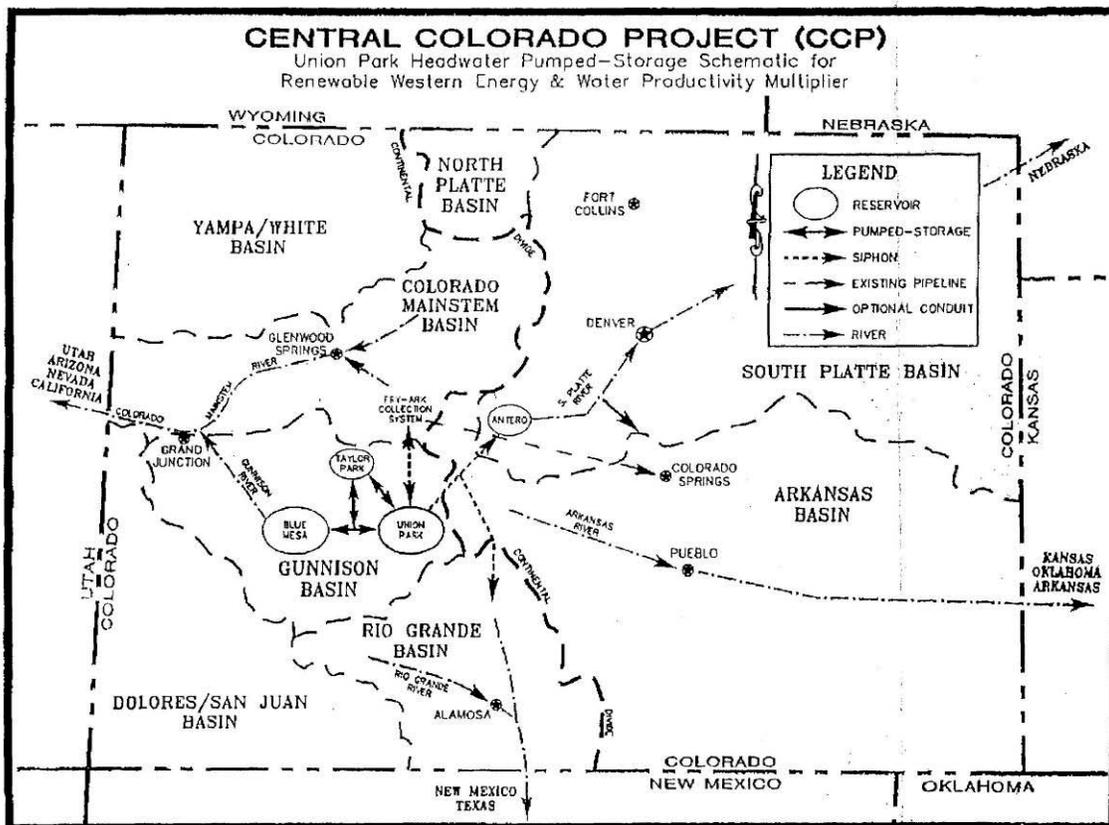
encl: Schematic of CCP's renewable regional water and energy productivity multiplier concept.

cc: EPA; Secretaries of Interior, Energy, and Agriculture; Western Governors Assn.; CO Governor Bill Ritter; USACOE; NAS; CEQ; The White House; CO legislative leaders; CO Congressional Delegation; Congressional Resources Committees.

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Mar 18 09 07:44

Dave Miller

719-481-3452

p.3

**NORTH FORK WATER CONSERVANCY DISTRICT**

**P. O. Box 217  
Hotchkiss, Co. 81419**

**(970)872-2155**

April 24, 2009

COMMENT LETTER PWI03

Carol DeAngelis  
Western Area Office  
Bureau of Reclamation  
2764 Compass Drive, Suite 106  
Grand Junction, CO 81506

Dear Ms DeAngelis:

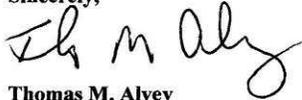
The North Fork Water Conservancy District (NFWCD) would like to provide the following comments concerning the Draft Environmental Impact Statement for Aspinall Unit Operations (DEIS). We appreciate the effort that the Bureau has expended in preparing the DEIS and believe in general that the Preferred Alternative (Alternative B) is the best and most reasonable solution. The NFWCD does have a few concerns which we would like to share with you.

- 1) **Flows at Redlands- As you know, the Redlands Water & Power Company has the senior right on the Gunnison, which can call out the upper Basin (including the North Fork) if unsatisfied. Alternative B seems to provide adequate flows in most cases, but we would like to see a recognition of the necessity of maintaining late season flows to protect against this call and to keep from negatively impacting existing water rights.** PWI03-01
- 2) **Flooding at Delta- The Bureau has always done an excellent job of consulting with and protecting Delta from flooding. However, the danger to Delta begins at 12,000 cfs and it is at this point that the Bureau begins to work with Delta to avoid flooding. The NFWCD would like to see this level identified instead of the 14,000 or 15,000 mentioned in the DEIS.** PWI03-02
- 3) **Selenium- Either in the DEIS or the PBA there should be a recognition of and a solution for the paradox of increased Selenium concentrations as a result of higher early season flows for the benefit of endangered fish. There is a balancing act required between higher flows and late season lower flows which result in higher concentrations of Selenium. Local water users should not have to bear the burden of increased costs to meet State and Federal standards if the problem is caused by lower flows mandated by operations to benefit endangered fish. In addition, local wastewater treatment plants may be negatively impacted in their permits by higher Se concentrations.** PWI03-03

- 4) **Black Canyon Water Right-** The DEIS may need to be updated to reflect the settlement of the Black Canyon Water Right decree entered Dec 31, 2008.
- 5) **Yield of Aspinall Unit-** There has never been a study to answer the question of firm yield from the Aspinall Unit. It would be better for the DEIS to remain mute on this topic since providing a figure for remaining yield only serves to give a federally sanctioned target to water marketers. PW103-04

The NFWCD again wishes to express our appreciation to the Bureau for its efforts and our hopes that this DEIS will lead to a speedy Record of Decision.

Sincerely,



**Thomas M. Alvey**  
**President, NFWCD**

**THE SOUTHWESTERN WATER CONSERVATION DISTRICT**  
A Municipal District Organized Under State Law For Development And Conservation Of The Waters in the  
SAN JUAN AND DOLORES RIVERS AND THEIR TRIBUTARIES  
IN SOUTHWESTERN COLORADO

West Building – 841 East Second Avenue  
DURANGO, COLORADO 81301  
(970) 247-1302 – Fax (970)259-8423

April 14, 2009

Steve McCall  
Bureau of Reclamation  
Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, Colorado 81506

**COMMENT LETTER PWI04**

Re: Comments on January, 2009 Final Draft Aspinall EIS

Dear Mr. McCall:

Southwestern Water Conservation District (SWCD) appreciates this opportunity to comment on the January 2009 Draft Environmental Impact Statement Aspinall Unit Operations (DEIS) and Biological Assessment (BA). SWCD would like to express our appreciation of the Cooperating Agency process that allowed Steve Harris (consulting water engineer representing SWCD) to participate in the development of the DEIS over the past four or five years. SWCD also participated as a cooperating agency for the EIS to re-operate Navajo Reservoir to assist in recovery of the endangered fish in the San Juan River. SWCD fully supports the Cooperating Agency process as a method to provide transparency and collaboration with involved governmental parties.

SWCD provides the following comments which are consistent with comments provided during the Cooperating Agency process. SWCD understands that Reclamation has considered these comments in preparation of the DEIS and BA and, therefore, SWCD supports the DEIS and BA as written.

1. SWCD fully supports the re-consultation for the Dolores Project as written in the DEIS and BA because: (1) it rectifies the actual depletions from the Project that were incorrect in the original consultation; (2) all four endangered fish species are now included rather than three in the original consultation; (3) and releases from the Aspinall Unit are now specifically part of the consultation.

2. SWCD would have preferred to have had the Dolores (including San Miguel) River basin included in the Programmatic Biological Opinion (PBO) along with the Gunnison River basin. SWCD requested this inclusion during the development of the DEIS and BA. SWCD understands that Reclamation did not want to expand the PBO beyond the Gunnison River basin but did leave the door open for a PBO on the Dolores River basin in the future.

**PWI04-01**

Aspinall Draft EIS Comments  
April 14, 2009  
Page 2

3. SWCD is concerned that the selected alternative could result in reduced power production, though small, which would reduce CRSP income and increase costs to purchasers of the power. The selected alternative is somewhat based on the theoretical flows necessary for recovery which have not been proven to accomplish the purpose. SWCD understands that Reclamation attempted to balance the recovery of the endangered fish with hydropower production. However, reducing power production could impact the revenues necessary to pay for the recovery program and many other critical water needs that are dependent upon CRSP power revenues. SWCD suggests that within the criteria for operation of the Aspinall Unit, Reclamation use caution in determining year-to-year operations that may significantly reduce power production in order to achieve flow recommendations that are unproven.

PWI04-02

4. Related to comment 3 above, the Dolores Project uses CRSP power through WAPA for pumping of irrigation water. The rising cost of WAPA power over the last decade has impaired the ability of Dolores Project irrigators to successfully farm their land. SWCD does not support further increases in power rates for irrigation pumping and suggests that Reclamation and WAPA investigate a reduced power rate for CRSP participating projects that require irrigation pumping. The amount of irrigation pumping required for CRSP participating projects is very small and probably would have little, if any, impact on the overall WAPA power rate.

PWI04-03

Again, thank you for this opportunity to comment. Please contact Steve Harris (970-259-5322 or [steve@durangowater.com](mailto:steve@durangowater.com)) if you have any questions regarding these comments.

Sincerely,

  
John Porter  
President  
Southwestern Water Conservation District

Cc: SWCD Board  
Bruce Whitehead  
Mike Preston



**CREDA**  
**Colorado River Energy Distributors Association**

**COMMENT LETTER PWI05**

**ARIZONA**  
 Arizona Municipal Power Users Association

Arizona Power Authority  
 Arizona Power Pooling Association  
 Irrigation and Electrical Districts Association

Navajo Tribal Utility Authority (also New Mexico, Utah)  
 Salt River Project

**COLORADO**  
 Colorado Springs Utilities  
 Intermountain Rural Electric Association  
 Platte River Power Authority  
 Tri-State Generation & Transmission Association, Inc. (also Nebraska, Wyoming, New Mexico)  
 Yampa Valley Electric Association, Inc.

**NEVADA**  
 Colorado River Commission of Nevada  
 Silver State Power Association

**NEW MEXICO**  
 Farmington Electric Utility System  
 Los Alamos County  
 City of Truth or Consequences

**UTAH**  
 City of Provo  
 City of St. George

South Utah Valley Electric Service District  
 Utah Associated Municipal Power Systems  
 Utah Municipal Power Agency

**WYOMING**  
 Wyoming Municipal Power Agency

**Leslie James**  
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April 23, 2009

Mr. Steve McCall  
 Western Colorado Area Office  
 Bureau of Reclamation

VIA EMAIL: [smccall@uc.usbr.gov](mailto:smccall@uc.usbr.gov)

RE: Draft Environmental Impact Statement on the Operations of the Aspinall Unit, (74 FRN No. 29, February 13, 2009) ("EIS")

Dear Mr. McCall:

The Colorado River Energy Distributors (CREDA) is a non-profit organization of firm power customers of the Colorado River Storage Project (CRSP). CREDA members are all non-profit entities, including political subdivisions, irrigation and electrical districts, state agencies, tribal utilities and rural electric cooperatives. CREDA members serve over four million electric consumers in six western states. Power generation from the Aspinall Unit represents a significant portion of the peaking resources of the CRSP; CREDA members have a direct interest in the above referenced EIS and associated processes.

CREDA offers the following comments on EIS, some of which were included in comments provided by cooperating agency Platte River Power Authority on the cooperating agency preliminary draft EIS (August 2008). We offer for your consideration comments organized into six topical areas, followed by some specific comments listed by EIS section.

**I. NEPA AND THIS EIS**

Fundamentally, NEPA must "achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities."<sup>1</sup> "NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail ...."<sup>2</sup> NEPA requires informed decisions—not ideal decisions.

Consistent with NEPA, Reclamation must respond to comments by modifying its analysis, making factual corrections or explaining in detail why comments do not warrant such actions. 40 C.F.R. § 1503.4.

Here, Reclamation has clearly given environmental factors appropriate consideration and weight in this EIS. CREDA believes the public benefits related to Alternative A far outweigh their environmental costs (if any).

Reclamation should analyze impacts to hydropower, and cumulative impacts to hydropower, in depth. NEPA regulations expressly require discussion of energy requirements, in an EIS. 40 C.F.R. § 1502.16(e).

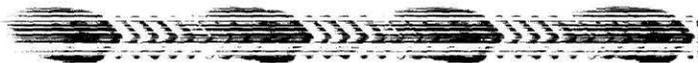
**II. CRSP HYDROPOWER GENERATION**

According to Reclamation, hydropower production in the Upper Colorado Region in 2007 precluded the need for 3,300,427 tons of carbon dioxide emissions. Reclamation hydropower facilities as a whole, in 2006, precluded the need for 31,088,781 tons of carbon dioxide emissions. An average household of 2 creates about one ton of carbon dioxide emissions per year; a household of 4, two tons. By way of example, Glen Canyon Dam can produce 1300 MW. It would take up to 3.5 million tons of coal or 11 million barrels of oil to generate the same amount of power as Glen Canyon Dam. These figures are based on average generation and average offsets. The figures would be higher if the offsets were calculated against coal-fired generation, and lower if the offsets were considered against natural gas generation.

**PWI05-01**

The Aspinall Unit currently provides up to 50% of the peaking power in the CRSP. WAPA has already been forced to purchase power on the spot market to meet its contract obligations at a cost to consumers of \$436,483,349.00 over the past nine years. Impacts to peaking power from Aspinall could contribute to regional energy shortages, higher energy prices and significant economic harm. EIS page 1-5 recognizes the importance of this peaking resource:

**PWI05-02**



The Western Area Power Administration (Western) markets power generated in conjunction with power from Glen Canyon and Flaming Gorge Dams and other plants as part of an integrated system that provides power to seven states. The upstream powerplants (Blue Mesa and Morrow Point) are critical in that they are operated to provide peaking power. Peaking operations help Western meet demands for power that change on an hourly, daily, and weekly basis. The flexibility offered by Blue Mesa and Morrow Point Dams is very important for meeting peaking, automation generation control, and reserve sharing obligations of CRSP.

43 U.S.C section 620f requires the Secretary of the Interior to operate CRSP hydroelectric power plants "in conjunction with other Federal powerplants, present and potential, so as to produce the greatest practicable amount of power and energy that can be sold at firm power and energy rates." (emphasis added). Consistent with this obligation, nationwide concerns about reducing greenhouse gas and the need to balance authorized purposes of the CRSP, Reclamation should be maximizing hydropower generation rather than reducing it. Recently, the American Reinvestment and Recovery Act (ARRA) was signed into law. The ARRA encourages nationwide development of renewable energy resources. Flexibility in operation of the CRSP power plants, while maintaining the obligation "to produce the greatest practicable amount of power and energy....", from the CRSP power plants, may assist integration of intermittent renewable energy technologies into the grid.

PWI05-03

**III. SCOPE/PURPOSE AND NEED/AUTHORITY**

1.1.3 SCOPE: CREDA urges Reclamation to revise its description of the scope of the proposed action to exclude the Colorado River downstream of the confluence of the Gunnison River. EIS p. 1-2. As Reclamation acknowledges, even the Gunnison River is heavily influenced by other tributaries. It should not be implied that Aspinall operations significantly influence the flows on the mainstem of the Colorado River from Grand Junction to the Utah border. As discussed below, the characterization of the scope (downstream to Lake Powell) is particularly egregious in the Biological Assessment.

PWI05-04

1.1.4: PURPOSE AND NEED: The first sentence of this section could better reflect the Purpose and Need. **In fact, all references to the Purpose and Need should quote the Purpose and Need published in the Federal Register rather than paraphrasing.** EIS p. 1-2. The reference to 14 native fish species should be deleted as it misleads the reader to believe that 14 fish species have gone extinct. This paragraph (as well as references in sections regarding the affected environment) should also reflect the federal and state campaign to eradicate native fishes, and implementation of such, as a reason for the decline of the listed species. Where provisions of the Endangered Species Act (ESA) are cited, they should be quoted verbatim or deleted. For example, the ESA says nothing about "destroying" critical habitat. EIS p. 1-2.

PWI05-05

CREDA appreciates that Reclamation recognizes that only actions within its discretionary authority are subject to consultation under the ESA. EIS p. 1-2.

1.1.5: AUTHORITY: CREDA appreciates the delicate balance amongst competing issues Reclamation must undertake and commends Reclamation for its characterization of such. CREDA takes exception to the last sentence on EIS p. 1-3 and urges Reclamation to strike it as inconsistent with the Purpose and Need:

Moreover, that specific authorized purposes of the Aspinall Unit may not be fully maximized for limited durations in certain year types does not invalidate the actions of the Secretary, as long as the overall purposes of CRSP are met and Reclamation expects in this instance, these purposes will be met.

PWI05-06

EIS p. 1-3. In its place, CREDA recommends the following from language submitted in comments by the State of Colorado and endorsed by WAPA and Platte River Power Authority:

Flow recommendations developed for use by the UCRIP are intended to be evaluated, and revised through an adaptive management process. The operation of the Aspinall Unit under the preferred alternative is intended to meet the Gunnison River flow recommendations to the extent Reclamation can do so while maintaining authorized purposes. Reclamation's operations to assist in meeting the flow recommendations shall be implemented through adaptive management consistent with the authorized purposes of the Aspinall Unit. This allows flexibility to adjust management actions as additional understanding is gained and in the face of changing hydrologic conditions allows decision makers at each juncture to make the best decisions they can with the information available at that time.

In light of the above, CREDA also urges Reclamation to delete the following language on EIS p. 1-4:

In these particular and unique circumstances, therefore, we conclude the implementation of an operations regime consistent with the EIS alternatives is deemed to be within the authorization contained in Section 1 of the CRSP Act.

**IV. IMPACTS TO CRSP HYDROPOWER GENERATION/CUMULATIVE IMPACTS**

Reclamation has been required to significantly limit both the operations of Glen Canyon Dam and Flaming Gorge Dam for environmental reasons to the detriment of the power production and marketing capability of the CRSP. While the majority of CRSP generation comes from Glen Canyon Dam, the Aspinall Unit provides a significant amount of the CRSP load following capability. When experimental releases at Glen Canyon Dam produce steady flows, the Aspinall Unit provides nearly 100 percent of the load following capability of the CRSP. The Preferred Alternative will further limit CRSP generation by changing the operation

of the Aspinall Unit. The cumulative impacts of these decisions should be analyzed in the Aspinall EIS.

The EIS acknowledges that in comparison to the No Action Alternative, all alternatives result in a loss of electric generation as well as an economic loss from the Aspinall power system when considered on an average annual basis. The EIS incorrectly characterizes the annual average economic impact of Alternatives A, B, and D as "insignificant." The characterization is puzzling especially when the EIS recognizes that 1) monthly variations in generation and seasonal variations in power prices could make it necessary for WAPA to purchase replacement power to meet contract commitments; 2) power revenues available for deposit in the Basin Fund could be reduced and thus impact the amount of funding available for operation and maintenance of facilities, including support for environmental programs; and 3) could reduce repayment capability of the Basin Fund. In addition, reduced hydropower availability results in customers (or Western) having to purchase replacement resources (generally coal or gas), which in turn increase carbon emissions, which in turn increases the cost of electricity to customers.

PWI05-07

The EIS also fails to account for how increased operation and maintenance ("O&M") costs impact CRSP power rates. Increased O&M costs as a result of attempting to meet the 2003 Flow Recommendations are directly related to the increased use of spillways and bypasses at Aspinall Unit facilities. Alternative A requires less spillway use than Alternative B. In fact, Alternative B jumps to 71% of spillway use from 32% of spillway use in the No Action Alternative. Increased O&M costs are identified, but it is not clear that those impacts are borne by CRSP power customers through their rates. Section 3.3.3 contains a good discussion of the O&M impacts. Crystal Dam is the most susceptible because of the effect of spillway spray on the power transformer; therefore, the greatest impact to O&M is most likely to occur at Crystal with an associated maintenance cost estimated at \$200,000 per spill occurrence. These costs are borne by CRSP power customers.

Aspinall operations have been modified for environmental purposes for many years (beginning in 1992), prior to issuance of the EIS, in many cases impacting hydropower generation. Page 1-6 recognizes that "Over the last decade, the pattern for releasing water from the Aspinall Unit has been modified to accommodate endangered fish research and general environmental goals in the Gunnison River while continuing to meet authorized purposes." The impact of those operations on power generation should be identified and quantified.

An additional potential impact is correctly recognized on page 1-18, with reference to the implementation of the Black Canyon settlement.

Thus the reserved right and the preferred alternative for Aspinall Unit operations will have similar impacts on resources. The Secretary of Interior's exercise of the federal reserved right will be with due regard for, and shall be coordinated with, implementation of the Aspinall Unit's reoperation. To the extent practicable, this water right will be exercised so that it is coordinated with implementation of the preferred alternative to achieve a single peak flow, subject to Aspinall Unit authorized purposes, including, but not limited to, flood control to protect human health and safety and prevent the loss of property along the Gunnison River.

#### V. ADAPTIVE MANAGEMENT AND ASPINALL OPERATIONS

CREDA supports Reclamation's inclusion of adaptive management principles as it addresses the ongoing operation of the Aspinall Unit. While the EIS analysis was performed through the use of various computer models, the model is only a tool. "The model is used as a comparison and planning tool and will not be used for actual operations." (Page 2-2). Reclamation must have flexibility as it addresses the 2003 Flow Recommendations.

The operation of the Aspinall Unit under the action alternatives, including the preferred alternative, is intended to meet the Gunnison River flow recommendations to the extent Reclamation can do so while maintaining authorized purposes. Reclamation's operations to assist in meeting the flow recommendations shall be implemented consistent with the authorized purposes of the Aspinall Unit. This allows flexibility to adjust management actions as additional understanding is gained and in the face of changing hydrologic conditions allows decision makers at each juncture to make the best decisions they can with the information available at that time. For example, Reclamation will review and respond to forecasts as they become available, consistent with the authorized purposes. Real-time release decisions will be made daily as conditions change.

CREDA supports Reclamation's continuation of periodic operations meetings. "Reclamation considers the information exchange at these meetings in preparing operation plans for the Aspinall Unit. The projected operation of the Aspinall Unit is used by Reclamation in the development of the overall 24-month Study, a comprehensive planning model for the operation of Reclamation projects in the Upper and Lower Colorado River Basins, and includes operating plans for Glen Canyon, Flaming Gorge, and Navajo Units, as well as the Aspinall Unit." (Page 2-13).

Given the CRSP charge to maximize hydropower production, Reclamation should quantify and identify any impacts to hydropower production no fewer than 180 days prior to any research or studies that may impact hydropower production at the Aspinall Unit. Reclamation should coordinate its analysis with the Western Area Power Administration and make the results of the analysis publicly available prior to undertaking any research, studies or experimentation which could have an impact on CRSP hydropower production. Such hydropower analysis should also be discussed at Reclamation's periodic operations meetings for the Aspinall Unit.

PWI05-08

Adaptive management should also be considered in regards to the period of record. For example, the flow

recommendations are based upon long-term weighted averages. For consistency, the period of record in which Reclamation has considered the flow recommendations should also be based on weighted averages for each hydrologic category. In other words, Reclamation should consider the probability of occurrence of dry years in formulating its operations to assist in meeting the flow recommendations.

**VI. FLOW RECOMMENDATIONS**

CREDA urges Reclamation to note that operations may only partially assist in meeting the 2003 Flow Recommendations, particularly when they call for operations that are inconsistent with the Purpose and Need and the authorized purposes of the Aspinall Unit. To that end, the recovery of the species cannot rest upon the Aspinall Unit alone. It is unrealistic to place a burden of recovering the listed fish on a 35 mile stretch (only 2% of the 1,980 stream miles designated as critical habitat) of the Gunnison river downstream from Blue Mesa, Morrow Point and Crystal reservoirs. Moreover, the recovery goals for the listed fish do not require flow regimes in the Gunnison River. In fact, the only requirements related to the Gunnison River in the recovery goals are for continued fish passage and temperature modification at Aspinall if feasible and necessary. Page 2-10 of the EIS recognizes that while the recovery goals for the endangered fish do not require specific flow regimes in the Gunnison River, Reclamation is assisting in recovering the endangered fish through actions that are consistent with the Recovery Program's Recovery Action Plan (RIPRAP). Flow recommendations are one aspect of the larger habitat management elements of the Recovery Program (RIP), which Reclamation, along with the states, the Western Area Power Administration, CREDA and environmental organizations continue to work toward recovery of the endangered fish species while exploring flow and non-flow actions that will allow for this recovery consistent with authorized CRSP purposes.

PWI05-09

CREDA offers the following comments on some of the underlying analysis upon which the 2003 Flow Recommendations are premised. CREDA's understanding is that Pitlick's recommendation to "maintain habitat conditions" amount to 437,600 af cumulatively or 58% of the Aspinall Unit's active storage of 748,430 af. His recommendation to "improve habitat conditions" then amounts to a staggering 717,380 af cumulatively or 96% of the Aspinall Unit's active storage! Operations consistent with such a regime are unacceptable and would clearly violate congressionally authorized project purposes. These recommendations also result in significant flood damage to downstream communities. Moreover, high flows proposed in the preferred alternative would decrease temperatures, perhaps to the detriment of the listed fish.

PWI05-10

The Flow Recommendations developed by the RIP are simply an example of one way of meeting the biological needs of the species. The objective of the flow recommendations is to obtain a long-term weighted average of days of one-half bank full or bank full flows – not to meet the specific flows and durations described in Table 4.5 of the Recommendations. In fact, Aspinall operations could not meet these specific flows without causing substantial flooding in downstream communities.

The EIS correctly recognizes that significant uncertainties exist within the Flow Recommendations. Page 2-11 identifies some of these uncertainties, particularly with regard to the duration goals. They include:

- Determination of the amount and location of floodplain habitat necessary for recovery of species.
- Determination of relationship of reproductive success of pikeminnow and humpback chub to increased spring flows. Effect of new flow regime on nonnative fishes that adversely affect native fish.
- Determination of the frequency (recurrence interval) and duration (number of days) that flows need to exceed half-bankfull and bankfull discharge to maintain habitats required by the endangered fishes.
- Determination of response of primary and secondary production in the rivers to new flow regime.
- Consideration of the trade-off between high spring flows and base flows needed during the mid-to late summer.

Through adaptive management and ongoing assessment and actions of the RIP, the Flow Recommendations should continually be reassessed and revised as appropriate.

**VII. CREDA SUPPORTS A NEW PREFERRED ALTERNATIVE**

CREDA urges Reclamation to consider development of a new preferred alternative in the final EIS that would provide the least impact to the hydropower resource and flood control and water storage purposes. A new preferred alternative could also lessen impacts to water quality (selenium), erosion, fry habitat and recruitment for trout, recreation, jobs, and result in lower emissions than the current Preferred Alternative. Using operational flexibility, adaptive management and planning which takes into account the weighted averages of the flow recommendations and the probability of occurrence of dry years, a new preferred alternative could accomplish environmental benefits consistent with the authorized purposes with the least impact on the people and communities that depend upon water and power. Argonne National Laboratories demonstrated operations consistent with these principles are just as effective at achieving environmental goals as the huge peak flow releases and durations from storage that threaten downstream communities with flooding, impair Colorado water rights and impact the ability to produce renewable hydropower.

PWI05-11

All Action Alternatives negatively impact hydropower production, but Alternative A does so to a lesser degree. Page 3-43 recognizes correctly that the average annual impact to hydropower may be "small", but on an individual year basis could be significant. The EIS in Section 3.3.2.1.D provides an excellent description of the Basin Fund and financial and economic impacts to the Fund. All Alternatives, "to one degree or another, move water release and subsequently, electrical generation, to the spring (May). The added water release in the spring required that water be moved from other months of the year including those with a greater demand – or economic value – for electrical power." Coupled with impacts of the Black Canyon settlement, these impacts should be mitigated to the extent possible. Page 3-50 correctly notes that "Impacts analyzed on an annual average basis can hide the effect of monthly changes in electrical generation."

PWI05-12



Regarding CRSP rate impact, page 3-51 notes that all but one of the alternatives (Alternative A) could require an increase in the SLCA/IP (or CRSP) rate. Page 3-99 states that ALL Alternatives benefit native fish to varying degrees. In addition, Alternative A has the least impact to recreations (page 3-116). Alternative A has the least socioeconomic impact, whether the hydrologic condition is the mean, drought or wet (Table 3.3.32).

CREDA urges Reclamation to craft a new preferred alternative using the best concepts of Alternative B, Alternative A, operational flexibility, adaptive management and the probability of occurrence of dry years. Such a preferred alternative would be consistent with the Purpose and Need, beneficial to the environment, and would lessen impacts to the people and communities that rely upon CRSP water and power resources and would also support clean air initiatives by not increasing generation from gas and coal facilities.

PWI05-13

**ADDITIONAL COMMENTS BY SECTION**

1.6 Responsibilities and Compliance: Reclamation may wish to delete reference to the Fish and Wildlife Coordination Act from Table 1.6.1 as it was passed subsequent to CRSP and, we understand, applied only to prospective projects. EIS p. 1-19.

2.2 Alternative Formation: CREDA appreciates that the model is used as a comparison and planning tool and will not be used for actual operations. EIS p. 2-2.

2.3 Selected Alternatives: CREDA appreciates inclusion of language regarding operating consistent with authorized purposes.

2.3.6.5 Climate Change: CREDA questions the statement that there is "general consensus among the scientific community that the West will experience warmer temperatures, longer growing seasons, earlier runoff of snowmelt, and more precipitation occurring as rain rather than snow." EIS p. 2-14 and suggest revision that some scientists believe that to be the case. This statement appears to be belied by actual weather patterns being experienced.

2.3.6.6 Other: CREDA urges Reclamation to insert operations consistent with authorized purposes as the first bullet under this section.

3.3.1.1E. Water Quality: CREDA suggests removing reference to "Outstanding Waters Designation." The heading could mislead the reader to believe there has been such a designation. Unless and until there is such a designation, there should be no such reference in the EIS. The statement that "mining and uncontrolled grazing in early settlement years affected water quality and streamflows. . . ." should be deleted unless Reclamation has a specific citation for that assertion.

3.3.1.2C Water Rights: Reclamation may wish to clarify that use of storage in regards to the Redlands fish ladder will be made consistent with authorized purposes.

3.3.2.1. Power Generation: CREDA appreciates reference to CRSP direction to maximize hydropower production in this section and recognition of the importance of Aspinall to peaking power in the system.

3.3.2.2.C Economic Impacts: Reference to economic impacts to hydropower should also analyze the economic impacts from pre-1990s reservoir operation. The No Action alternative does not capture impacts to hydropower operations that have been imposed prior to this EIS.

3.4 Summary and Other Considerations: CREDA urges Reclamation to replace the following statement with the Purpose and Need of the EIS:

The Flow Recommendations are intended to reverse some of the hydrologic effects of the dam and its operations to allow recovery of the native razorback sucker and Colorado pikeminnow. EIS p. 3-160.

PWI05-14

CREDA also urges Reclamation to delete the following:

The growing body of scientific evidence suggests that global warming is not speculative. There is some general consensus among the scientific community that the West will experience warmer temperatures, longer growing seasons, earlier runoff of snowmelt, and more precipitation occurring as rain rather than snow (see Section 2.3.6.5). EIS p. 3-160.

PWI05-15

Appendix A: Aspinall EIS Hydrologic Report: The Purpose and Need should be reflected here verbatim. "Minimizing impacts to authorized purposes" is inconsistent with the Purpose and Need. P. 1. Also, what does Reclamation mean when it references that RIP participants and "other scientists" will be invited to participate in Aspinall Unit Operations meetings? P. 11.

Appendix B: Biological Assessment: CREDA would appreciate revisions such that the proposed action reflects verbatim the Purpose and Need. Also, the Dolores Project Biological Opinion states that depletions are to be replaced in the Colorado River Basin -- not the Gunnison River Basin.

1.2.2 Description of the Proposed Action: CREDA urges Reclamation to cite operational flexibility in regards to the timeframe for peak releases rather than specific date ranges between May 1 and June 10 or May 10 and June 15.

1.2.2.4 Coordination of Operations: CREDA strongly urges Reclamation to avoid a dual Aspinall Operations process with "appropriate agencies and organizations" prior to the scheduled Aspinall Operations meetings.

1.3 Authority: CREDA urges Reclamation to delete any and all references to its purported authority to operate in ways that adversely impact authorized purposes. CREDA recognizes that Reclamation has no discretion to operate for authorized purposes, but discretion in how Reclamation operates to meet authorized purposes.

2.4 Water Uses and Reservoir and River Operations: CREDA urges Reclamation to revise this section to clarify fishery management is not an authorized purpose of the Aspinall Unit. Rather, it is an incidental benefit to operations of the Unit.

2.8.5 Historical Habitat Changes: CREDA urges Reclamation to recognize, and incorporate into this BA, that state and federal efforts to replace native fish species with sport fish species contributed to the decline of the listed Colorado River fish.

In regards to selenium, CREDA notes that Hamilton (1999) "hypothesized" on the possible role of selenium in the decline of the listed fish and "suggested" that survival and recruitment of razorback sucker larvae in the Green River was limited due to selenium is significant. Moreover, the conclusions of Beyers and Sodergren (1999) and Korte (2000) directly counter Hamilton.

CREDA appreciates the opportunity to comment on the EIS. Please advise should you have any questions or require additional information.

Sincerely,

*/s/ Leslie James*

Leslie James  
Executive Director  
Cc: CREDA Board  
Kent Holsinger  
Carol DeAngelis  
Larry Walkoviak





Colorado  
Water  
Partnership

April 23, 2009

COMMENT LETTER PWI06

Steve McCall  
Bureau of Reclamation  
Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, Colorado 81506

and Via e-mail: smccall@uc.usbr.gov

Re: Aspinall Unit Operations, Draft Environmental Impact Statement,  
January 2009

Dear Mr. McCall:

The Colorado Water Partnership is a coalition of local elected officials, water providers, community leaders and concerned citizens seeking a collaborative approach to solve the State's need for more reliable water supplies. The Water Partnership membership includes Arapahoe County Water and Wastewater Authority, Arapahoe County, Elbert County, United Water, El Paso County Water Authority, Dominion Water, City of Lone Tree, Town of Bennett and the Regional Economic Advancement Partnership. Our mission is to support and encourage the development of a sustainable integrated water infrastructure necessary to meet the rapidly growing water needs in Colorado.

We appreciate this opportunity to submit comments and make a recommendation on the Draft environmental Impact Statement (DEIS) for the Aspinall Unit Operations.

While the Colorado Water Partnership acknowledges the Bureau of Reclamation's ("Reclamation") efforts to assist in conserving endangered fish in the Gunnison and Colorado Rivers by modifying the operations of the Aspinall Unit, we support Reclamation's recognition that "one of the purposes of the Aspinall Unit is storing water for beneficial consumptive use, making it possible for the States of the Upper Basin to utilize, consistently with the provisions of the Colorado River Compacts, the apportionments made to and among them . . ." and that use is compatible with the Recovery Program. Preservation of the "remaining project yield", approximately 240,000 to 300,000 acre feet, is extremely important as Colorado makes decisions to fulfill current demands and future agricultural, municipal and recreational water needs. Evaluation of the options to solve the State's water supply issues is on-going, but may take many years to complete, and continuation of the availability of the Aspinall Unit marketable pool is critical and should not be precluded by any of the alternatives presented in the DEIS.

PWI06-01

303-390-0028

Post Office Box 40265

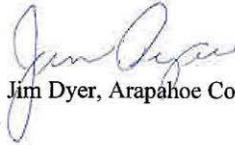
Denver, CO 80204

Steve McCall  
Bureau of Reclamation  
April 23, 2009  
Page 2

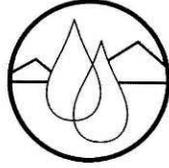
In conclusion, we recommend that Alternative B is the most appropriate selection to achieve Reclamation's goal of avoiding jeopardy to downstream endangered fish species while maintaining the Aspinall Unit's authorized purpose to store water for beneficial consumptive use and allow Colorado to utilize its full Compact apportionment.

Thank you for your consideration.

Sincerely,



Jim Dyer, Arapahoe County Commissioner, Chair



## *Upper Gunnison River Water Conservancy District*

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April 21, 2009

Mr. Steve McCall  
Bureau of Reclamation  
Western Colorado Area Office  
2764 Compass Drive, Suite 106  
Grand Junction, CO 81506

COMMENT LETTER PWI07

Re: January 2009 Draft Environmental Impact Statement for Aspinall Unit Operations.

Dear Steve:

I am writing to provide the comments of the Upper Gunnison River Water Conservancy District on the Draft Environmental Impact Statement for Aspinall Unit Operations. As a general statement, the District wishes to compliment the Bureau on the quality and thoroughness of this draft of the EIS, and in particular the Programmatic Biological Assessment included in Appendix B. Nevertheless, we offer the following comments with a list of errors and minor editorial suggestions attached.

1. The District supports the selection of Alternative B as the preferred alternative and environmentally preferred alternative. This alternative provides sufficient peaks and adequate high flow duration to avoid jeopardy to the endangered fish without placing unreasonable demands on the Aspinall Unit or compromising its authorized purposes, and appears to be compatible<sup>1</sup> with the water right decreed to the Black Canyon of the Gunnison National Park. The District believes that increasing the peak duration targets (Alternative C) places unnecessary demands on the Aspinall Unit without significantly improving the benefit to the endangered fish.

2. The District supports the proposed Selenium Management Plan to address potential selenium impacts on endangered fish species in the Gunnison and Colorado Rivers as described in Appendix B. Given the uncertainty about the effects of selenium concentrations on recovery of endangered fish and conflicting results from scientific studies currently available, the Management Program Long Range Plan provides for reasonable and effective measures to establish and resolve the effects of selenium on recovery of the endangered fish.

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<sup>1</sup> See item 5, below.

*Upper Gunnison River Water Conservancy District*

Mr. Steve McCall  
 April 21, 2009  
 Page 2

3. The District is concerned about the frequent discussion of the yield of Blue Mesa Reservoir in several respects.

PWI07-01

3.1 There continues to be inconsistency in terminology among the references to that yield. Section 2.3.6.6 (pages 2-16, 2-17) and Appendix B (page 45) refer to “remaining project yield”, while Section 3.3.1.1B (page 3-9) defines several terms (“yield”, “firm yield”, “safe yield”) and selects safe yield as the definition for “future reference”, which is limited to the discussion on page 3-10. There are other references to “Aspinall Unit yield” (page 2-17); “Unit yield”, “remaining yield”, “yield”, and “remaining project yield” all in a single paragraph (Appendix B, Page A-55). From the context, it appears that all of these terms are intended to describe the same thing, but if that is not true it should be clarified and any difference explained. To the extent that it is relevant, “firm yield” - as it is defined on page 3-9 - would be a more appropriate measure of water potentially available for future upstream or downstream development.

3.2 While the District generally concurs that the State of Colorado has identified significant needs through the SWSI process and likely has consumptive use depletions remaining for use under the Colorado River Compact of 1922 and the Upper Colorado River Basin Compact and a portion of this *could* be available for development using water stored in Blue Mesa Reservoir<sup>2</sup>, we strongly believe that identifying *any* quantity of potential yield is misleading and unnecessary. While anecdotal evidence and a few theories suggest various quantities, no analysis or modeling has been conducted that provides a credible basis for asserting a specific quantity of water that can be sold from Blue Mesa Reservoir. Determining the firm yield of the reservoir under all possible development scenarios would be a complex task, and one that has not been attempted. Therefore, the District strongly suggests that all references to a specific quantity of water be removed from the discussion of project yield (regardless of the term selected to describe it).

3.3 Specifically, the paragraph on page 3-9 which begins “The safe yield of the Aspinall Unit has not been officially determined . . .” is both inaccurate and unnecessary and should be deleted.

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<sup>2</sup> The terminology “legally be available for development using sources in the Gunnison Basin” implies that water is available for appropriation under Colorado water law, an assertion that was decisively rejected in litigation of the Union Park Reservoir application, and thus should be avoided.

*Upper Gunnison River Water Conservancy District*

Mr. Steve McCall  
April 21, 2009  
Page 3

3.4 In the Programmatic Biological Assessment, the environmental baseline is defined as follows (at page 38):

For purposes of this PBA, an environmental baseline was developed which includes the past and present impacts of all Federal, State, and private actions and other human activities in the action area; the anticipated impacts of all proposed projects in the action area that have already undergone formal Section 7 consultation under the ESA; and the impact of State or private actions contemporaneous with the consultation process.

Because there is no proposed project, the discussion of “remaining project yield” (at pages 45-46) is speculation regarding future events, and does not fit within the foregoing definition. This discussion of yield should be deleted in its entirety. PWI07-02

3.5 For similar reasons, the discussion of “remaining project yield” should be deleted from the description of additional guidelines for Aspinall Unit operations *included in the proposed action* (Appendix B, page A-54 - A-55). It is not included in the proposed action, and what *may* occur is not appropriate for discussion when the water is being modeled as continuing to be stored and released downstream. How and where the water is developed, and for what purpose, would have significant impact on determination of yield for that purpose and speculation about an amount thereof serves no purpose and is inconsistent with the other guidelines.

3.6 To the extent that any discussion of Aspinall yield is warranted - and we urge that it is not - the following description would be adequate: PWI07-03

Alternatives also recognize that one of the purposes of the Aspinall Unit is “...storing water for beneficial consumptive use, making it possible for the States of the Upper Basin to utilize, consistently with the provisions of the Colorado River Compact, the apportionments made to and among them in the Colorado River Compact and the Upper Colorado River Compact, respectively...”

This use is compatible with the Recovery Program which has a goal of fish recovery and water development. The potential use of remaining Aspinall Unit yield is not modeled because specific foreseeable proposals are not available. When future water sales or uses of portions of the “remaining project yield” from the Aspinall Unit are proposed, the proposals will be evaluated by Reclamation (or other lead Federal agency) under NEPA and potential effects to federally listed threatened and endangered species will be determined under the ESA to the extent of any applicable Federal nexus. If Reclamation

*Upper Gunnison River Water Conservancy District*

Mr. Steve McCall  
April 21, 2009  
Page 4

determines the proposed sale or use may adversely affect a listed species, formal ESA consultation will commence. If the Recovery Program has made sufficient progress implementing the Recovery Action Plan for projects of the magnitude of the proposed action, then implementation of the Recovery Program may serve as reasonable and prudent measures or reasonable and prudent alternatives, as appropriate. The Section 7 Consultation, Sufficient Progress, and Historic Projects Agreement for the Upper Colorado River Basin Recovery Implementation Program, as revised in 2000, provides information on ESA compliance for future projects, such as use of Aspinall Unit yield. The inclusion of the impact on safe yield in clarifying "use of storage" (page 3-10) is unnecessary. The point that requires clarification is whether "use of storage" is intended to mean a release of water previously stored in priority in Blue Mesa Reservoir under the water rights decreed to the reservoir. This is important because, although water thus stored that has been released can later be physically replenished, the release must still be charged against the storage right under which it was stored.

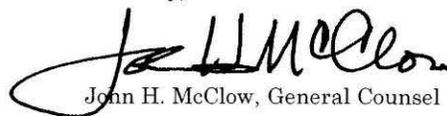
4. Analysis of the alternatives in relation to the Black Canyon National Park water right utilizing Tables 35 and 36 (Appendix A) and the tables enclosed in the cover letter is difficult. The water right decree confines the Black Canyon peak flow to the period May 1 to June 30. Table 35 shows only peak flows occurring during May, and Table 36 shows peak flows occurring during June and July. ("Black Canyon Actual" in the tables enclosed with the cover letter reflects the figures in Table 35.) The constraint on achieving an occasional 10,000 c.f.s. peak in the Black Canyon (deemed essential by the National Park Service) appears to be high flows in the North Fork during those years when such a peak would be possible under the Black Canyon water right formula. It may be appropriate to address modification of Aspinall operations in those years to allow for staggering the Black Canyon peak and the North Fork peak flows to increase the peak in the Canyon without jeopardizing Delta.

PWI07-04

5. The following table notes minor errors in the text and suggests changes to wording for clarification.

We have reviewed the comments provided by the Colorado River Water Conservation District and support those comments in their entirety.

Sincerely,

  
John H. McClow, General Counsel

*Upper Gunnison River Water Conservancy District*

Mr. Steve McCall  
 April 21, 2009  
 Page 5

ERRATA and EDITORIAL SUGGESTIONS

Section	Page	Current Text	Suggested Revision
Acronyms	i	Black Canyon of the Gunnison Nation Park	National Park
Acronyms	ii	kilowatthour	kilowatt-hour
Acronyms	ii	National Conversation Area	National <i>Conservation</i> Area
Acronyms	iii	Upper Gunnison River Conservancy District	Upper Gunnison River <i>Water</i> Conservancy District
1.5	1-18	1975 Taylor Park-Aspinall Unit Exchange Agreement	1975 Taylor Park <i>Reservoir Operation and Storage</i> Exchange Agreement
The 1975 Taylor Park Reservoir Operation and Storage Exchange Agreement might be added to the list of acronyms.			
2.3.6.6	2-17	Alternatives would include Taylor Park 1975 and 1991 agreements . . .	. . . 1975 and <i>1990</i> agreements . . .
2.3.3.6	2-17	. . . stored in Blue Mesa Reservoir under the Taylor Park Exchange Agreement.	. . . stored in Blue Mesa Reservoir under the <i>1975 Taylor Park Reservoir Operation and Storage</i> Exchange Agreement.
3.3.1.1B	3-9	(2) it is passed through for delivery to the Gunnison Tunnel as a storage release from Taylor Park Dam upstream,	(2) <i>a storage release from Taylor Park Reservoir is passed through for delivery to the Gunnison Tunnel,</i>
3.3.1.1D	3-15	. . . storage in Taylor Park and Blue Mesa Reservoirs through the 1975 exchange agreement . . .	. . . storage in Taylor Park <i>Reservoir</i> and <i>in</i> Blue Mesa Reservoir <i>pursuant to</i> the 1975 <i>Taylor Park Reservoir Operation and Storage Exchange Agreement</i>

*Upper Gunnison River Water Conservancy District*

Mr. Steve McCall  
 April 21, 2009  
 Page 6

Section	Page	Current Text	Suggested Revision
3.3.4.2	3-64	... storage available in Taylor Park and Blue Mesa Reservoirs through the 1975 exchange agreement . . .	... storage available in Taylor Park <i>Reservoir</i> and in Blue Mesa Reservoir <i>pursuant to the 1975 Taylor Park Reservoir Operation and Storage Exchange Agreement</i>
3.3.5.1B	3-67	The 1975 Taylor Park Exchange Agreement coordinates . . .	The 1975 Taylor Park <i>Reservoir Operation and Storage Exchange Agreement</i> coordinates . . .
Appendix B	27	complimentary	complementary
Appendix B	28	complimented	complemented
Appendix B	46	The baseline includes Taylor Park 1975 and 1991 Agreements and the Taylor Park refill right in place. Up to approximately 100,000 af of Taylor Park water may be stored in Blue Mesa at any given time. Aspinall Unit is operated to protect Uncompahgre Project water stored in Blue Mesa under the Taylor Park Exchange Agreement.	The baseline includes Taylor Park 1975 and <i>1990</i> Agreements and the Taylor Park refill right in place. Up to approximately 100,000 af of <i>water decreed to the first fill of Taylor Park Reservoir</i> may be stored in Blue Mesa at any given time <i>under the 1975 Taylor Park Reservoir Operation and Storage Exchange Agreement</i> . <i>The Aspinall Unit is operated to protect that</i> Uncompahgre Project water stored in Blue Mesa
Appendix B Attachment A	A-55	... stored in Blue Mesa Reservoir under the Taylor Park Exchange Agreement.	... stored in Blue Mesa Reservoir under the <i>1975 Taylor Park Reservoir Operation and Storage Exchange Agreement</i> .