

Exhibit B

**Operational Flexibility Language
Colorado, WAPA and PRPA
Submitted September 29, 2008**

Insert the following italicized revisions under Characteristics Common to all Selected Alternatives on p.2-8:

2.3.6.1 *Adaptive Management*

The re-operation of the Aspinall Unit is a significant component of the Upper Colorado Recovery Implementation Program (UCRIP). As such, re-operation must be viewed as a part of the overall recovery efforts described in the “Recovery Implementation Program Recovery Action Plan” (RIPRAP). There are many uncertainties related to endangered fish needs such as hydrologic patterns and the effects of water quality on the species. There are also a number of other factors such as the competition with non-native sport fish, like channel catfish, that affect the ability of the endangered Colorado River fishes to survive. These uncertainties and other factors are being addressed through the UCRIP and the recovery and adaptive management processes of the UCRIP. These recovery and adaptive management processes are part of an integrated process that is designed specifically to recover the endangered fish while allowing water development to proceed. The UCRIP is premised on the concept that facilities, such as the Aspinall Unit, have some discretion in their operations that can be integrated into planned operations, while maintaining the authorized purposes of those facilities (i.e. the Aspinall Unit).

Adaptive management is a systematic approach for improving resources and management of those resources by learning from management outcomes. Adaptive management promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become understood. The UCRIP monitoring of endangered fish species in the Gunnison and Colorado Rivers is an important element of the UCRIP adaptive management process and helps determine the response of the endangered fish and their habitat to the actions taken. We therefore would like the following language inserted into section describing the characteristics common to all alternatives.

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. 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. To the extent possible, peaks from the North Fork of the Gunnison that are projected to occur earlier or later than May 15 to June 1 of each year will be considered and utilized to contribute to spring peaks at Whitewater.

While the recovery goals for the endangered fish do not require flow regimes in the Gunnison River, Reclamation has voluntarily committed to assist in recovering the endangered fish through actions that are consistent with the UCRIP-RIPRAP. Flow recommendations are one aspect of the larger habitat management elements of the UCRIP, which Reclamation, along with the states and stakeholders, supports. Reclamation and the cooperating agencies will work within the UCRIP to continue to work toward recovery of the endangered fish species while exploring flow and non-flow actions that will allow for this recovery while mitigating the impact of the change in operation on hydropower production and water development.

Flow recommendations cannot, are not intended to, and need not be strictly adhered to in all hydrologic conditions. The flow recommendations are simply recommendations based on the best information at the time. This limitation has long been recognized in the Recovery Program: “. . . it is uncertain to what extent these [flow] recommendations can be met and what flow regimes will be necessary to meet the life history needs of the [species]”.¹ The flow recommendations themselves state: “This table [4.5] represents one possible way of achieving the long-term weighted average for sediment transport.”²

¹ See, e.g., Flow Recommendations for Razorback Sucker, pp. 33-34, 37-38.

² Footnote a to Table 4.5, Flow Recommendations to Benefit Endangered Fishes in the Colorado and Gunnison Rivers (July, 2003)(revised Oct., 2003).



PWI-04

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

April 4, 2011

Via email and U.S. Mail

Re: Aspinall Unit Preliminary Final Environmental Impact Statement

Dear Carol:

I am writing to provide the Colorado River Water Conservation District's ("River District") comments on the December 2010 Preliminary Final Environmental Impact Statement (PFEIS) for Aspinall Unit Operations. The River District is a cooperating agency for Reclamation's NEPA process on the Aspinall Unit and has been closely involved in Aspinall Unit operations and, more broadly, Gunnison River issues for decades. As you know, the River District appropriated the water rights for the Aspinall Unit and subsequently conveyed the rights to the United States.

We would like to recognize the significant effort of you and your staff in preparing the PFEIS, and in working closely with the River District and other interested parties.

As noted in our comments on the Draft EIS, the River District supports Reclamation's adoption of the Preferred Alternative (Alternative B). The PFEIS adequately demonstrates that Alternative B best balances the multiple demands on the Aspinall Unit, while continuing to honor its authorized purposes under the Colorado River Storage Project Act. We have not provided specific comment on the other alternatives considered by Reclamation but note that the adverse impacts to Aspinall Unit lake levels and the increased selenium concentrations that are predicted to occur in Alternative C demonstrate that it would not be viable for Reclamation to adopt Alternative C.

Our specific comments follow:

1. The provisions in the PFEIS that address the incorporation of the Black Canyon National Park reserved water right obviously generated substantial concern among many cooperating agencies and stakeholders. Following Reclamation's February 2, 2011 meeting with the NEPA Cooperating Entities, the River District worked diligently with the State of Colorado, CREDA, Platte River Power Authority, WAPA, Trout Unlimited, Western Resource Advocates, and the Upper Gunnison River Water Conservancy District on consensus comments and specific language suggestions for how the Black Canyon

201 Centennial Street / PO Box 1120 • Glenwood Springs, CO 81602
(970) 945-8522 • (970) 945-8799 Fax
www.ColoradoRiverDistrict.org

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water right and certain other issues are discussed in the EIS. Through tough negotiations and the compromise of many positions, that diverse group was able to reach consensus comments, with the exception of three issues that the State of Colorado has identified as requiring further discussion.

The River District is concerned that the three issues “reserved” by the State will cause further delay in the issuance of Reclamation’s final EIS and Record of Decision on the Aspinall Unit. All water users could be at risk from Endangered Species Act problems if a successful ROD is not entered in the near-term. We also are concerned that further positioning by the parties on the three “reserved” issues could upset the delicate balance that the stakeholders strove to achieve in negotiating compromise language. The “redline/strikeout” language attached to this letter is the exact same language submitted in the State’s comments, except that the redlining and balloon comments on the State’s three “reserved” issues has been deleted. We recommend that Reclamation adopt the language set forth in “Attachment A” to this letter because it best reflects the appropriate balance between the wide-range of stakeholder interests that worked on the compromise language. It is the River District’s belief that Attachment A also best meets the interests of Reclamation, the National Park Service, and the Fish & Wildlife Service for a final Aspinall Unit EIS. If necessary, the River District will continue discussion with the stakeholders on the State’s reserved issues because at least one of the issues could present risks to existing water users in the Gunnison River basin. However, as noted, we are concerned about further delay in finalizing the EIS.

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2. The River District supports the PBO (Attachment B to the PFEIS) and appreciates Reclamation’s work on the PBO. However, the PBO contains deadlines that may be difficult or impossible to achieve because the PBO was issued almost one and one-half years ago. Thus, the deadlines in the PBO do not bear the proper time-relation to the actual agency-action, *i.e.*, Reclamation’s proposed reoperation of the Aspinall Unit. We expect that, under the best circumstances, Reclamation will not issue a ROD on reoperation of the Aspinall Unit until the summer of 2011. This means that the deadlines in the PBO will be even further disconnected from Reclamation’s ROD. Despite this disconnect, the River District and other stakeholders have worked hard to meet the PBO deadlines (including entering a Selenium Management MOU in 2010), even in the current-absence of ROD. We are concerned about other looming deadlines in the PBO and request that the Final EIS and ROD recognize the time-disconnect, so long as the stakeholders continue to make good faith efforts in reaching the deadlines set forth in the PBO.

3. The PFEIS contains a few references to the State of Colorado’s remaining entitlement under the Colorado River Compact of 1922 and the Upper Colorado River Basin Compact. The amount of the state’s remaining compact entitlement is the subject of considerable discussion, study, and dispute within the State. A specific quantity likely

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cannot be determined; instead, the remaining compact entitlement can be best characterized by the level of risk the state and its water users are willing to accept that future depletions will be subject to curtailment for compact administration. The determination of that risk is dependent upon multiple complex factors that are substantially beyond the scope of the Aspinall Unit EIS. The language in the PFEIS effectively addresses this issue with one noted concern. In order to properly address the concern, we request that Reclamation delete the word "significant" from the following locations in the PFEIS:

PWI-04-03
Cont.

- a. Vol. I, pg. 2-17, last paragraph, second line.
- b. Vol. II, Appendix C, pg. 47, second full paragraph, line 12.

The River District believes that the State of Colorado does not oppose these two deletions.

Please contact me at your convenience with any questions about the River District's comments.

Yours very truly,



Peter C. Fleming
General Counsel

cc: Eric Kuhn, General Manager, CRWCD
John H. McClow, Upper Gunnison River Water Conservancy District
Karen Kwon, Colorado Attorney General's Office
Alexandra Davis, Colorado Department of Natural Resources
Bart Miller, Western Resource Advocates
Kent Holsinger

ATTACHMENT A

Aspinall Unit PFEIS

Language Excerpted for Cooperating Agency Discussions

Flow Recommendations call for flows decreasing below 1,050 cfs after the Colorado pikeminnow migration period. During wetter periods, base Flow Recommendations are higher.

The Flow Recommendations recognize uncertainties in understanding the biology of the fishes and the response of the fish and their habitat to flow changes. For that reason, the recommendations call for using adaptive management to respond to new knowledge and using monitoring to evaluate the physical response of the habitat and biological response of the fish to the flow regimes. It is expected that any refinements in operation of the Aspinall Unit would be within the scope of the current proposed action and that implementation of refinements would occur with appropriate Section 7 consultation as necessary.

Physical uncertainties discussed in the recommendations include:

- While relationships among initial motion, significant motion and streamflow are well defined, duration of flows necessary to accomplish habitat work is not completely known. Because flow duration recommendations were developed based on a wet period, the recommended durations require a large volume of water that may not always be available. According to the Flow Recommendations, "... the duration of flows necessary to accomplish in-channel and out-of-channel habitat maintenance objectives is not known."¹
- Water availability may limit the ability of the Gunnison River to meet the Flow Recommendations under certain conditions.
- Because of timing and other differences in runoff patterns of the Colorado and Gunnison rivers, it is difficult to predict the effect of Gunnison River flow changes on the Colorado River.
- Flow Recommendations for wet periods may cause flooding problems for which management activities may be necessary to prevent potential problems.

¹ Research under the Recovery Program is ongoing in the Gunnison River. Under one sediment-monitoring project the primary objective "... is to address key uncertainties in priority reaches of the Colorado, Gunnison, and Green Rivers relevant to the role of streamflows and sediment transport on the formation and maintenance of backwater habitats and spawning bars. A secondary objective is to collect the necessary sediment data to aide in the evaluation of Service Flow Recommendations for the Aspinall Unit and Flaming Gorge Reservoir." (Fish and Wildlife Service 2006).

In summary, the Flow Recommendations call for peak flows to periodically prepare cobble and gravel spawning areas, to connect backwaters, and to maintain channel diversity; and sufficient flows to cue and allow migration. Base flows that promote growth and survival of young fish during summer, fall, and winter are also included.

1.2.6 Black Canyon NP Water Right

On December 31, 2008, the Colorado Water Court issued a decree quantifying the 1933 federal reserved water right for the Gunnison River through the Black Canyon NP. The decree quantifies the March 2, 1933 ~~priority date direct flow~~ water right as a year-round minimum flow ~~and with~~ variable peak and shoulder ~~flowflows~~ for each year, the ~~magnitude~~~~magnitudes~~ of which are dependent upon ~~current~~~~that~~ ~~year's~~ Gunnison River Basin hydrologic conditions. The negotiations for the right were mentioned in the DEIS. The DEIS stated: "The Federal reserved water right for the Gunnison River through the

Black Canyon is nearing quantification. In general, the right will call for higher flows in the spring similar to flow recommendations for endangered fish. Thus the reserved right and the preferred alternative for Aspinall Unit operations will have similar impacts on resources. The Secretary of the Interior's exercise of the federal reserved right will be with due regard for, and shall be coordinated with, implementation of the Aspinall Unit reoperations. 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."

Now that the right is in place, additional detail has been included in the narrative of ~~the~~^{this} FEIS and a copy of the decree, ~~including a full statement of the terms and limitations~~, is included in Volume II, Appendix G.

The Black Canyon NP Water Right is ~~a~~^{subordinated} to all water rights with adjudicated priorities that are senior to the Aspinall Unit water rights. The Black Canyon NP Water Right is a downstream water right senior to the Aspinall Unit. As such, along with other senior water rights, it is a condition that is common to all alternatives. ~~In accordance with state water law and the decree, when~~ When the Secretary exercises the ~~right~~^{Black Canyon NP Water Right}, Reclamation ~~must take necessary~~^{shall undertake operational} actions ~~to meet~~^{consistent with Black Canyon Decree and in accordance with state laws. If the terms and conditions} Secretary places a water right call in the exercise of the decree. ~~The actions taken by~~ Black Canyon NP Water Right, Reclamation ~~to meet~~^{shall also comply with valid administrative orders from the Colorado State and Division Engineers' Offices for administering the decree are non-discretionary under state water law, for the Aspinall Unit and the Black Canyon Decree, both of which is} are made applicable to Reclamation ~~in this circumstance pursuant to the decrees for the Aspinall Unit and by section 8 of the Reclamation Act of 1902. The analysis contained in Chapter III, Section 3.3.1, of~~

~~As discussed below, this EIS depicts those year types, based on provides examples of historical record, when year types and describes examples of operational actions that Reclamation may undertake to coordinate the ESA fish flows for meeting ESA needs downstream will also satisfy the decreed water right and identifies when Reclamation will have to take the Black Canyon NP Water Right in a given water year.~~

~~For further non-discretionary actions to satisfy the decree. The narrative supporting this analysis provides an example of the types of non-discretionary actions that may be taken in such circumstances, as long as such actions are consistent with the terms and conditions in the decree. The discussion of these non-discretionary actions how the Black Canyon NP Water Right fits within the alternatives and is meant to provide examples of the types of actions that may be necessary to satisfy the decree and is consistent with the historic range of Aspinall Unit operations. Thus, the finalization of the decree on December 31, 2008, did not significantly change the impacts analysis. See section analyzed see sections 2.3.1.1 and 3.3.1.2C for further information.~~

1.2.7 Programmatic Biological Opinion

The Service has prepared a programmatic biological opinion (PBO) under the ESA (Volume II, Appendix B). The proposed action in the PBO differs from the proposed action in this EIS in that the PBO covers effects on endangered species of all water uses and depletions in the Gunnison Basin in addition to the Aspinall Unit operation changes addressed in this EIS. The proposed action in the PBO includes:

• Modification of the Aspinall Unit operations to address flow needs for endangered fish in the Gunnison and Colorado rivers by meeting or attempting to meet targets on the Gunnison River and in concert benefit Colorado River mainstem habitat as outlined in the Flow Recommendations.

• The continuation of operations of all existing Reclamation projects in the Gunnison River Basin (Smith Fork, Paonia, Fruitgrowers, Bostwick Park, and Uncompahgre).

• The continued operation of the Dolores Project in the Dolores River Basin, included based on a prior biological opinion's reasonable and prudent alternative, and reinitiation of consultation on it to address new listed species and depletions.

• The continued operation of the Dallas Creek Project, included based on a prior biological opinion's reasonable and prudent alternative and reinitiation of consultation on it to address new listed species and depletions.

• The continued operations and depletions of other Federal projects (e.g. BLM, the Service, NPS, and Forest Service) and all non-Federal projects and water uses in the Gunnison Basin.

• The future depletion for beneficial use within the Gunnison River Basin of 3,500 af of unspecified depletions in the Gunnison Basin as well as and 30,800 af of Aspinall Unit water rights subordinated to water users upstream users of the Aspinall Unit.

The PBO provides ESA coverage for existing and specified future water uses and depletions in the Gunnison River Basin, as well as, completes ESA reconsultation on the Dallas Creek and Dolores Projects.

Two main operational elements of the PBO are:

• The reoperation of the Aspinall Unit addressed in this FEIS, and

• The preparation and implementation of a selenium management program (SMP).

The SMP calls for developing a plan that will reduce selenium levels in the Gunnison and Colorado rivers. An estimated 90 percent of selenium loading to the Gunnison River results from operation of Federal and private irrigation projects in the basin (Reclamation 2006b). Seepage from irrigation ditches and deep percolation of irrigation water into the Mancos shale derived soils mobilize naturally occurring selenium in the shale which is then carried in groundwater to basin waterways. Irrigation in the Uncompahgre Valley is the most significant source with the majority of the irrigation in this valley provided by the Uncompahgre Project. Sixty percent or more of the selenium loading in the Gunnison Basin originates from an area encompassing the Uncompahgre River basin and the service area of the Uncompahgre Project (Reclamation 2006b). Other Federal Projects such as the Bostwick Park, Smith Fork, Paonia, Fruitgrowers, and Dallas Creek provide irrigation water that adds to seepage and deep percolation and selenium loading to waterways. Private irrigation systems in the Uncompahgre Valley and other portions of the lower Gunnison basin drainage are also significant sources also mobilize naturally occurring selenium. Other selenium loading sources include seepage from unlined ponds, urban lawn and park watering, and natural runoff from soils with high selenium content.

The Aspinall Unit itself does not furnish irrigation water and is not a source of selenium loading, although its operation can impact dilution volumes and thus, selenium concentrations in the lower Gunnison River.

The Service describes the selenium issue in the PBO as follows:

"The ongoing operation of irrigation projects and other water uses in the basin will continue to contribute selenium to the Gunnison and Colorado Rivers at levels that adversely affect the endangered fishes and their designated critical habitat and are inhibiting the survival and recovery of the

endangered fishes. Reclamation will develop and implement a Selenium Management Program (SMP), in cooperation with the State of Colorado and Gunnison River basin water users to reduce adverse effects of selenium on endangered fish species in the Gunnison and Colorado rivers (see Effects of the Proposed Action section). The SMP will incorporate and accelerate ongoing selenium reduction efforts in the Uncompahgre Valley and other areas of the Gunnison Basin and will add several new elements. The overall long-term goal of the program is to assist in species recovery per the Recovery Goals. The SMP will use the best available scientific information for all elements of the program. Elements of the SMP will include:

- Accelerated implementation of salinity/selenium control projects for irrigated agriculture
- Reduction of other non-point source selenium loading
- Technology development
- Water quality monitoring
- Monitoring of endangered fish populations
- Coordination with lower Gunnison River Basin watershed management plan
- Regulatory support
- Public information and education
- Adaptive management
- Institutional support

Reclamation is in the process of working with cooperators to develop the SMP; with finalization of the plan scheduled for December 2011. Once elements of the plan are identified, a determination can be made on the need for future NEPA compliance and compliance with other related regulations and laws.

The PBO concluded that the "...effects of the proposed action (including the proposed operation of the Aspinall Unit, the new and historic water depletions and the mandatory conservation measures), and the cumulative effects, it is the Service's biological opinion that the proposed action as described in this biological opinion, is not likely to jeopardize the continued existence of endangered fish and is not likely to destroy or adversely modify designated critical habitat."

The SMP is also described in the PBO in Volume II. Dependent on the actions in the program, additional NEPA compliance may be required for its implementation.

1.3 Issues of Concern

Issues raised in the public meetings held in 2004 and in written comments and internal scoping are discussed in Chapter 5 and Volume II, Appendix F. Briefly, the major concerns centered on possible effects to the following: water rights, water quality, recreation, fish and wildlife, endangered species, vegetation and wetlands, flood control, length or duration of peaks. When the reserved right is included in the No Action or Alternative A, spring peak targets would be similar to those that would occur under the other alternatives.

2.3.1 No Action Alternative

The **No Action Alternative** represents a projection of current operating practices to the most reasonable future conditions that would occur without any action alternatives being implemented. The No Action Alternative should not automatically be considered the same as the existing or past conditions, since reasonably foreseeable future actions may take place whether or not any of the project action alternatives are chosen and because the environment is not static and environmental consequences would still occur. Under the No Action Alternative, elements of the Recovery Program would

continue—for example, stocking of endangered fish, non native fish control, operation of the Redlands Fish Ladder and Screen, management of backwaters, and monitoring. However, altering operations of the Aspinall Unit to specifically assist in meeting the 2003 Flow Recommendations for endangered fish in the Gunnison and Colorado rivers would not occur.

2.3.1.1 Black Canyon NP Water Right

On December 31, 2008, the Colorado Water Court issued a decree confirming and quantifying the federal reserved water right for the Gunnison River through the Black Canyon NP (Black Canyon NP Water Right). The decree quantifies the ~~March 2, 1933 priority date~~ Black Canyon NP Water Right as a direct flow water right with a year-round minimum base flow and with variable one-day peak and runoff season “shoulder” flows for each year, the magnitude of which are dependent upon the May 1 forecast of the April 1 through July 31st unregulated inflow into Blue Mesa Reservoir. The negotiations for the Black Canyon NP Water Right were mentioned in the DEIS. Now that the right is decreed, additional detail has been included in the narrative of the FEIS (and Volume II, Appendix A) and a copy of the decree, including a full statement of the terms and conditions, is included in Volume II, Appendix G.

The As a senior water right downstream of the Aspinall Unit, the Black Canyon NP Water Right is a senior downstream water right to the Aspinall Unit. As such, along with other senior water rights, it is a condition that is common to all alternatives. In accordance with state exercise of the water law and the decree, when the Secretary exercises the right, Reclamation must take will undertake the operational actions necessary actions to meet the terms and conditions of the decree. The actions taken by the Secretary places a water right call in the exercise of the Black Canyon NP Water Right, Reclamation to meet the decree are non-discretionary under state water law, also will comply with administrative orders from the Colorado State and Division Engineers’ Offices regarding any administration on the Gunnison River including administration of the decree for the Aspinall Unit and the Black Canyon Decree, both of which is are made applicable to Reclamation in this circumstance pursuant to the decrees for the Aspinall Unit and by section 8 of the Reclamation Act of 1902. The

According to the Black Canyon Decree, the Secretary’s exercise of the Black Canyon NP Water Right “shall be with due regard for, and shall be coordinated with, requirements of the Endangered Species Act.” (Decree, Paragraph 32.4.3). “In order to implement the [negotiated resolution of the decree] and efficiently allow the streamflow patterns contemplated [therein], the use of the Aspinall Unit, including its storage and release capacity, may be needed in some years. Such operation of the Aspinall Unit in conjunction with the exercise of the [decreed Black Canyon NP Water Right], is within the scope of the Aspinall Unit’s federally authorized purposes and its Colorado Water Court decrees.” (Decree, Paragraph 25). The Decree also provides that ... “[n]othing in th[e] decree modifies the Aspinall Unit water rights or the federally authorized purposes of the Unit in any way.” (Decree, Paragraph 26).

Regarding the peak flow component of the water right, the Decree expressly notes as a Finding of Fact that:

“the United States recognizes that exercising the right to peak flows described in this claim will require careful consideration of numerous factors, including the structural capacity of upstream dams and potential downstream flooding, among other river management issues. Therefore, the Secretary of the Interior will confer with the State of Colorado, The National Park Service, the Bureau of Reclamation, the Western Area Power Administration, the Fish and Wildlife Service and other affected interests in order to ensure that operational decisions to exercise this right are in accord

with the best available information and with full consideration of the river management issues noted.”

(Decree, Paragraph 13). The Decree further provides that “[t]he Secretary shall exercise the Peak Flow . . . including any operation of the Aspinall Unit necessary to exercise the Peak Flow . . . with due regard for to the efficient use of water.” (Decree, Paragraph 31.5.2.8). The Decree instructs that “[t]o the extent practicable, the Black Canyon NP Water Right shall be exercised so that timing of the Peak Flow is coordinated with releases made [for the endangered fish flows] to achieve a single peak flow, subject to [flood control considerations]” with the understanding that “it may be necessary in some years to de-synchronize the [NP Water Right] Peak Flow from the peak runoff of the North Fork of the Gunnison River to reduce the potential for downstream flooding.” (Decree, Paragraph 32.4.4).¹

In view of this context, the analysis contained in Chapter III of this EIS depicts those year types, based on historical record, when flows for meeting ESA needs downstream will also satisfy the decreed water right and identifies when Reclamation will have to take further non-discretionary actions to satisfy the decree. The narrative supporting this analysis provides an example of the types of non-discretionary actions that may be taken in such circumstances, as long as such discusses examples of historical year types and a range of operational actions that Reclamation may undertake to coordinate the recommended endangered fish flows and the Black Canyon NP Water Right. Discussion of these operational actions is for illustrative purposes only and does not pre-determine the administrative requirements or specific actions that Reclamation may undertake when the Secretary exercises the Black Canyon NP Water Right. [kmk1]e conditions in the decree. The discussion of these non-discretionary actions is meant to provide examples of the types of actions that may be necessary to satisfy the decree and is consistent with the historic range of Aspinall Unit operations. Thus, the finalization of the decree on December 31, 2008, did not significantly increase or change the impacts analyzed and described in the DEIS. Operations for the Black Canyon NP Water Right will be consistent with the Aspinall Unit Operation’s PBO.

See section 3.3.1.2C for further information.

2.3.1.2 Other No Action Alternative Elements

The No Action Alternative would include the following elements in addition to elements common to all alternatives discussed later: Aspinall Unit in place, regulating the river using current operating practices as a guide, and operating for authorized Aspinall Unit purposes under a full range of annual inflow conditions. These current operational practices include:

- Filling Blue Mesa Reservoir at the end of runoff season would be a goal. Full reservoir is 7519.4 feet; however, operations are designed to reach around 7517 feet (or less, dependent on forecast) which provides a safety factor for controlling the reservoir in case of sudden high inflow events due to thunderstorms or high rate of snowmelt.

- The reserved water right for the Black Canyon NP as discussed above.

- The type of spring peak that could be provided for endangered fish would be determined annually by

¹ Note: Reference to specific provisions of the Black Canyon Decree is NOT meant to interpret, imply or otherwise emphasize meaning from the Decree. Rather, its sole purpose is to provide a general context for the discussion and analysis of the Black Canyon Water Right in conjunction with the recommended fish flows as contemplated in this EIS.

Reclamation with input received from the Aspinall Unit operations meetings. The peak would be planned to occur during the spring-early summer period. From January through April the goal would be to operate the Aspinall Unit to release all forecasted excess water through powerplants and to reduce future bypasses of powerplants while still giving priority to filling Blue Mesa Reservoir (flood control may occasionally require early bypasses). It is recognized that if the May 1 forecast proves to be higher than the actual inflow, there is some risk of not filling Blue Mesa Reservoir. Adjustments would also be made in the spring peak plan if the May 15 forecasted inflow changes significantly upward or downward.

Existing spring flood control operations would be continued by using discretion and being proactive to keep 14,000 cfs, or normally considerably less in the Gunnison River, above the Uncompahgre River confluence at Delta. The flood control manual requires that efforts be made to keep flows below 15,000 cfs.

The Aspinall Unit would be operated in accordance with Colorado State Water Law including but not limited to bypassing inflow for downstream senior water rights as necessary.

agencies and interested organizations as appropriate and as determined by regulation or policy in a timely manner as practical for advice on measures to minimize the effects; and formal consultation, if needed, will be conducted in accordance with Section 7 emergency consultation procedures, if the emergency requires ESA consultation.

2.3.6.4 Coordination of Operations

Reclamation will continue to conduct Aspinall Unit operations meetings three times per year. The purpose of operation meetings-- held in January, April, and August-- is to share information between Reclamation and Aspinall Unit stakeholders regarding issues in the Gunnison River Basin related to the operation of the Aspinall Unit. The meetings are used to coordinate activities among agencies, water users, and other interested parties concerning the Gunnison River. These meetings allow interested parties meaningful input to operations planning. 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. Operation of the Aspinall Unit considers projected hydrologic factors, authorized Aspinall Unit purposes, existing water rights, target elevations for reservoirs, implementing the preferred alternative for endangered fish, and other factors.

As discussed previously, Reclamation will monitor inflow forecasts for operation planning beginning in January. Throughout this process, Reclamation will keep the NPS, US Fish and Wildlife Service, State of Colorado, Western Area Power Administration and others apprised of current operations; specifically on the ~~ability of projected operations to allow~~ coordination of the endangered fish flows and the Black Canyon NP Water Right ~~to be met~~. Coordination will occur throughout the January to May period and formal notification will be made to NPS on April 1 concerning anticipated status of the potential of ~~meeting the water right~~ Water Right.

Reclamation will communicate with appropriate federal, state, local, non-governmental and non-profit agencies/organizations prior to scheduled operation meetings, or as needed, to gather information useful in developing proposed operation plans to be presented at the meetings.

2.3.6.5 Climate Change

In determining what future effects are reasonably certain to occur, Reclamation must determine the difference between future effects that are speculative, and effects that are likely to occur under the No Action Alternative as compared to the proposed actions. The hydrologic and water quality models

included variability designed to reflect conditions likely to occur in the future based on the period of record. However, future climatic conditions could be warmer, wetter, cooler, or drier than the modeled conditions.

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. Specific predictions for the

Flows at Whitewater—Figure 3.3-14 shows the annual peak flow distribution under each alternative at Whitewater. All alternatives result in higher peak flows than the No Action. Of particular note, in the 6,000 to 8,000 cfs range, Alternative B results in a higher occurrence than all other alternatives.

Colorado River Flows—Changes in flows in the Gunnison River would then affect the Colorado River flows between the Gunnison River confluence and Lake Powell. These changes are discussed under Special Status Species in Section 3.3.7.2A.

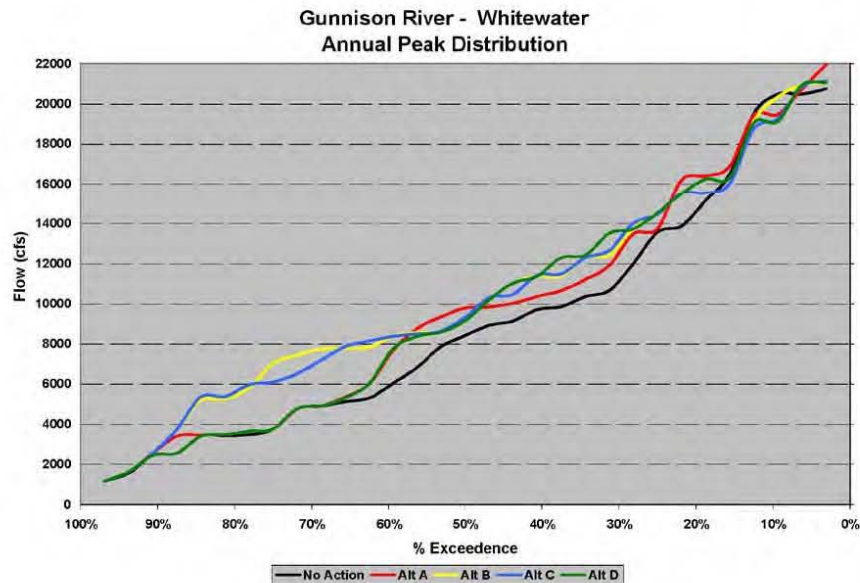


Figure 3.3- 14—Annual Peak Distribution at Whitewater

3.3.1.2C Water Rights

Each alternative under consideration will operate under the applicable water rights, contracts, law, interstate compacts, court decrees, and various rules, regulations, policies, and directives in place. ~~No specific Aspinall Unit storage releases are modeled for downstream senior water rights in any alternative.~~

Each action alternative ~~sets assumes a minimum~~ downstream ~~release for instream~~ base flow in the Black Canyon NP of generally 300 cfs, ~~but can be higher based on the previous year's operations which consider factors such as the fall brown trout spawn or downstream senior water rights.~~

Base flow releases attempt to meet fish flow targets from the Flow Recommendations as measured at Whitewater and are provided under each of the action alternatives and can vary under different hydrologic conditions. In most years, a base flow of 1,050 cfs will be maintained at the Whitewater gage; however, these targets will be reduced in dry or moderately dry years.

Table 2.3 2 in Chapter 2 previously summarized base flow targets. Additional releases will be made, when sufficient water is available, and to the extent consistent with authorized purposes of the Aspinall Unit, to provide 100 cfs to the Redlands Fish Ladder as needed in April through September and 40 cfs for the Redlands Fish Screen from March through November, using storage water if necessary.

The Redland's water rights senior to the Aspinall Unit total 750 cfs. Occurrences of flows below 750 cfs over the 31-year study period in the action alternative models, as shown in Figure 3.3.15, can be attributed to the lag between the time the model recognizes flows are dropping below 750 cfs at Whitewater and the time releases are adjusted and reach Whitewater. Actual operation should provide more foresight of flows dropping thus reducing the days below 750 cfs even further. By operating to the base flow targets, the days which the Redlands Diversion would potentially be calling are actually reduced over the period of record in each of the action alternatives as compared to the No Action. Therefore significant negative impacts on water rights are not expected under the action alternatives.

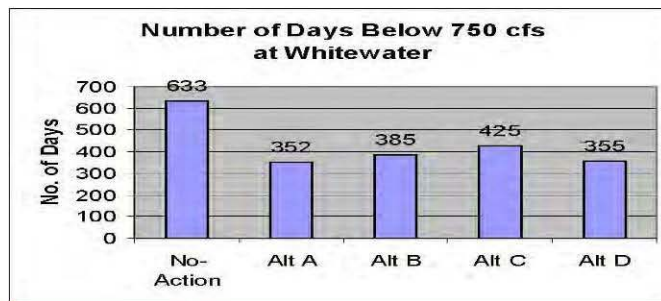


Figure 3.3- 15—Number of Days Below 750 cfs at Whitewater over the 31-Year Study period.

As projected in the DEIS As mentioned above, the Black Canyon NP Water Right is a senior downstream water right to the Aspinall Unit. As such, along with other senior water rights, it, and is a condition that is common to all alternatives. In accordance with state water law and the decree, when

the Secretary exercises the right, Reclamation must take necessary actions to meet the terms and conditions of the decree. The actions taken by Reclamation to meet the decree are non-discretionary under state water law, which is made applicable to Reclamation in this circumstance pursuant to the decrees for the Aspinall Unit and section 8 of the Reclamation Act of 1902. Table 3.3-8 below depicts those year types, based on historical record, when flows for meeting ESA needs downstream will also satisfy the decreed water right and identifies when—

Reclamation will have to take further non-discretionary actions to satisfy the decree. The further discussion, for purposes of illustration, provides an example of the types of non-discretionary actions that may be taken in such circumstances, as long as such actions are consistent with the terms and conditions in the decree. The discussion of these non-discretionary actions is meant to provide examples of the types of actions that may be necessary to satisfy the decree and is consistent with the historic range of Aspinall operations. Thus, the finalization of the decree on December 31, 2008, did not significantly change the impacts analysis. Operations for the Black Canyon NP Water Right will be consistent with the Aspinall Unit Operation's PBO.

The one day peak flow under the Black Canyon NP Water Right is based on the May 1 forecasted inflow into Blue Mesa Reservoir for the April through July period and is determined by formulae in the decree. These peak flows are summarized below.

Spring Peak for Range of Forecasted Inflows.

Blue Mesa Reservoir Forecasted April-July Inflow (af)	One-day peak flow in Black Canyon (cfs)
372,000 or less	1,019 or less
372,000-500,000	1,019-2,968
500,000-715,000	2,968-6,246
715,000-925,000	6,246-6,513
925,000-1,001,000	6,513-7,609
1,001,000-1,050,000	7,609-11,034
1,050,000-1,100,000	11,034-11,568
1,100,000-1,200,000	11,568-12,636
1,200,000-1,350,000	12,636-14,238
1,350,000-1,500,000	14,238-15,840

In addition to the one day peak, the Black Canyon NP Water Right includes a minimum year-round direct flow right of 300 cfs and May 1 to July 25 shoulder flows flow right of 300-1,000 cfs, which is based on forecasted inflow.

However, alternatives in this FEIS have not been specifically modeled to include the right. The, but the right, as decreed, will be included in operational planning undertaken each year by Reclamation, as are other senior water rights on the river. As discussed in the DEIS, recommended flow regimes for endangered fish and the Black Canyon NP Water Right are generally compatible in that they both are based on hydrologic conditions and both ~~each~~ provide for spring peak flows in the Gunnison River. With the Black Canyon NP Water Right assumed to be exercised and included in ~~each of the~~ alternatives, the incremental impacts of the action alternatives for the endangered fish flows are generally lessened, in comparison to the impacts portrayed in the DEIS. Endangered fish flows are targeted further downstream in critical habitat and also call for a longer duration of the peaks while the Black Canyon NP Water Right calls for a one day peak. Thus, impacts from operating to meet endangered fish peak flows are not significantly altered by ~~meeting~~ accomplishing the one day Black

Canyon NP Water Right peak flow.

Subject to the decree, including the framework set forth in Section 2.3.1.1, *supra*, Table 3.3-8, below, depicts those year types, based on analysis of the historical record, when flows for meeting ESA needs downstream will also satisfy the Black Canyon NP Water Right. Table 3.3-8 compares the model-derived peaks which occur in the Black Canyon under the preferred alternative with the Black Canyon NP Water Right peak flows. It further identifies those year types when further operational actions would be needed to accomplish both the recommended endangered fish flows and the Secretary's exercise of the Black Canyon NP Water Right. The accompanying discussion provides examples, for purposes of illustration only, of the types of operational actions that Reclamation may take in such circumstances. [kmk2]

Modeled Year	Reserved BC Right Peak Flow per decree (cfs)	Preferred Alternative - Modeled BC Peak flows (cfs)	Impact on Decreed Peak (See Notation A and B below)
1975	7595	6839	A
1976	4188	4387	MetXXXXX
1977	829	806	Met
1978	6484	6051	A
1979	11034	6684	B
1980	11568	6253	B
1981	886	753	Met
1982	6433	6451	Met
1983	5864	10707	Met
1984	13437	10458	B
1985	6513	9063	Met
1986	7595	6782	A
1987	5635	6346	Met
1988	3273	2921	A
1989	2176	3314	Met
1990	1673	903	A
1991	4492	4720	Met
1992	3578	3330	A
1993	8922	7587	B
1994	3883	4167	Met
1995	6866	11871	Met
1996	6484	8475	Met
1997	7595	7808	Met
1998	5864	3843	A
1999	4492	5093	Met
2000	3730	6204	Met
2001	3426	5537	Met
2002	778	858	Met
2003	2740	2863	Met
2004	2359	2863	Met
2005	6312	1535	A

Table 3.3-8—Black Canyon NP Water Right peak flow impact analysis [kmk3]

Notation A: In years identified with notation A, under actual operations, both the peak flow for model demonstrates that the Black Canyon NP Water Right and the peak flow target for the endangered fish as described in the preferred alternative will be met. As described in more detail later, releases from

the historical range of Aspinall Unit facilities operations will be adjusted to meet ensure that the one-day peak flow for the Black Canyon NP Water Right identified in the decree will be accomplished, although in some years operational adjustments are necessary. Adjustments will may involve operational changes that include including, but are not limited to, increased powerplant releases, timing releases with higher tributary inflows to the Aspinall Unit, or increased bypasses at Crystal or Morrow Point dams. All operational adjustments would be encompassed within operations already contemplated under alternatives being considered. Accordingly, as discussed more fully below, in 27 of the 31 years modeled in the study period, Aspinall Unit operations will ensure that both the one-day peak flow identified for the Black Canyon NP Water Right and the peak flow target for the endangered fish as described in the decree will be met, although in some years operational adjustments preferred alternative are necessary, accomplished. The model is based on historical hydrology. Future conditions may not replicate the modeled historical hydrology.

Notation B: In the four out of the 31 years of the study period with notation B, the model was able to achieve the peak flow targets for the endangered fish but did not meet the Black Canyon NP Water Right peak flow. In general, the model limited releases from the Aspinall Unit to avoid flooding at Delta due to high North Fork tributary flows. These high tributary flows provided most of the water that helped meet the endangered fish peak flow target and therefore higher releases from the Aspinall Unit into the Black Canyon were not required to meet the endangered fish peak flow target.

In these year types of years, when the Secretary exercises the Black Canyon NP Water Right peak flow can be met as decreed through operations of consistent with the terms and conditions of the decree and other applicable laws, operational adjustments at the Aspinall Unit will be required to accomplish the peak flows. Generally, when April-July inflows exceed 1,000,000 af, an operations plan to meet accomplish the Black Canyon NP Water Right peak can be developed. However, due to the increased risk of flooding in high water years, operational decisions may require the flexibility to make adjustments on a daily basis. To reduce the risk of flooding at Delta, Reclamation may look for opportunities to shift the operation to meet accomplish the Black Canyon NP Water Right peak flow (and/or the endangered fish peak flow target) to later in the spring/summer after high tributary flows have receded.

If the Black Canyon NP Water Right peak flow requires the usage Examples of the spillways at Blue Mesa Reservoir, the peak release operation may be retimed to a period when water levels in Blue Mesa Reservoir potential adjustments are high enough to allow use of the spillways.

In those 12 years where the Black Canyon NP Water Right peak flows were not met as modeled, the paragraphs listed below provide further detail, by year, as to the operational changes which would have been needed in order to achieve the Black Canyon NP Water Right peak flows; however it is important to note these modifications would take place with examples are based on "perfect knowledge" of past conditions using the results of the Riverware Hydrology model, and are being discussed solely to serve as examples of how operations could be modified in the future under similar conditions to meet the peak flow accomplish the Black Canyon Water Right peak flows. Future conditions may not replicate the modeled historical hydrology. Actual operational conditions will require adjustments to be made in real time under constantly changing conditions. Modeling of the study period has shown that during actual operations in high water years, there may be significant risks of flooding Delta and the Black Canyon decree requires Reclamation to give highest priority to flood control.

List of Sample Operational Adjustments:

- Bypassing water at Aspinall Unit facilities
- Use of the spillways at Aspinall Unit facilities
- Re-timing of Aspinall Unit storage operations to accomplish the peak flow with anticipated re-capture of any storage released within that water year.
- Timing of peak releases with higher side/tributary inflows above Crystal Dam to reduce the need to use spillways at Aspinall Unit facilities
- Timing the peak releases with peak runoff of the North Fork Gunnison in order to achieve one peak flow for both the Whitewater target flows and the Black Canyon
- In some cases it may be necessary to time peak releases from the Aspinall Unit to either before or after the peak runoff of the North Fork Gunnison River in order to meet the Whitewater target flows but avoid flooding in Delta

Yearly operation plans to meet the Black Canyon NP Water Right, endangered fish flow recommendations, and Unit purposes will be developed and coordinated through the established Aspinall Unit stakeholders' process. Wetter years will require an increased level of planning, analysis, and intense coordination and communication among all stakeholders.

1975-

Under assumptions of the modeling process, the only option for meeting the Black Canyon Right peak flow is to use the spillway at Morrow Point to release an additional 800 cfs. In the modeled peak operation, Blue Mesa Reservoir releases are at the maximum capacity of the powerplant and bypass. Side inflows to the Aspinall Unit are not high enough at other times of runoff to justify retiming the peak release. This modified operation would not cause flooding at Delta under the modeled scenario.

1978-

One option for meeting the Black Canyon Right peak flow is to utilize the spillway at Morrow Point to release an additional 500 cfs within the established drawdown limitations. During the modeled peak operation, Blue Mesa Reservoir releases are at the maximum capacity of the powerplant and bypass. Another option for meeting the peak flow is to time the peak release operation with higher side inflows to Crystal Reservoir. Side inflows are 600 cfs higher in the middle of June compared to the time of the modeled peak operation. If this additional inflow could be utilized, it would remove the necessity of using the spillway at Morrow Point Dam. This modified operation would not cause flooding at Delta under the modeled scenario.

1979-

As modeled under the preferred alternative, the peak release operation for the endangered fish was timed to meet the high flows of the North Fork and set to occur on May 28th. Releases were reduced once the peak target of 14,350 cfs for endangered fish was reached at Whitewater. Releases were increased again to try and return to the 14,350 cfs duration flow target (10 days) at Whitewater. Releases are then reduced with the goal of maintaining the 8,070 cfs duration flows for 40 days.

The first issue in meeting the 11,034 cfs Black Canyon NP Water Right peak flow in this year is to avoid flooding at Delta. This requires moving the peak release operation to either before or after the runoff of the North Fork. Since the spillways at Blue Mesa Reservoir will be needed to some degree to completely meet the peak flow, the peak release operation is moved to after the North Fork runoff when the reservoir will be at a higher elevation.

With Blue Mesa Reservoir contents relatively low this year, the best option is to rely on the Morrow

Point spillway to reach the Black Canyon NP Water Right peak flow. The magnitude of the release from Morrow Point to meet the water right requires the use of Morrow Point Reservoir storage. This is because Blue Mesa Reservoir releases and side inflows are less than required for Morrow Point Reservoir releases. However, the ramping rate guidelines for Crystal releases can result in a violation of the drawdown rate criteria at Morrow Point Reservoir, because Blue Mesa Reservoir releases do not keep up with Morrow Point Reservoir release requirements. The maximum release from Morrow Point Reservoir that will not violate the drawdown rate criteria for the reservoir or the ramping rate guidelines is 10,156 cfs, assuming Morrow Point Reservoir is at an elevation of 7,158.5 ft before the start of the spill operation and Blue Mesa Reservoir is at full powerplant and bypass release with no spilling.

In order to avoid flooding at Delta and to make maximum benefit of the side inflows into the Aspinall Unit, the peak release is moved from May 28th to June 16th. Under this scenario the peak flow in the Black Canyon can be met, providing Blue Mesa Reservoir has reached an elevation high enough to provide some water through the spillways. This additional water beyond the maximum powerplant and bypass release is needed to keep Morrow Point Reservoir from drawing down too quickly. Flows at Delta are just under 15,000 cfs at this time. This operation would be extremely difficult to carry out under real time conditions due to the “perfect foresight” required to accomplish the peak and avoid flooding at Delta.

Thus, the 1979 operation, as modeled using Riverware, resulted in a peak flow at Whitewater at the end of May, however this peak release did not meet the Black Canyon NP Water Right. Thus, a modified operation was developed that makes a peak release on June 16th which meets the Black Canyon NP Water Right.

1980

Under the preferred alternative the modeled peak release for endangered fish was timed to coincide with high flows on the North Fork and set for May 24th. Releases were reduced once flows at Delta exceeded 15,000 cfs. North Fork flows receded by 2,000 cfs over two days allowing for the Aspinall Unit to go to full powerplant and bypass releases for duration flows in the lower Gunnison River.

The primary constraint to meeting the Black Canyon NP Water Right peak flow in this year is flooding at Delta. This requires moving the peak release operation to either before or after the runoff of the North Fork. It is estimated that if the peak was set for earlier in the year, it would have to occur sometime before the last week in April due to higher flows on the North Fork. Spillway releases at Blue Mesa Reservoir would not be possible this early in the year due to the water level elevation of the reservoir.

Water level elevation in Blue Mesa Reservoir is high enough by June 5th for the spillways to make a release that would meet the peak flow but flooding at Delta remains a problem for the next two weeks. The earliest peak date that does not cause flows at Delta to exceed 15,000 cfs is June 20th. Water levels in Blue Mesa Reservoir are high enough at this time that spillway releases can assist in meeting the full extent of the peak portion of the Black Canyon NP Water Right. Moving the spring peak operation from May 24th to June 20th coincides with the time when water levels in Blue Mesa Reservoir are high enough that spillway releases can assist in meeting the full extent of the peak portion of the Black Canyon NP Water Right.

1984

In this year there is basically no opportunity to make an attempt at an operation to meet the Black Canyon NP Water Right peak flow. High runoff begins during the 2nd week of May and continues until the middle of June. Flooding issues at Delta remain a concern throughout May and June. Early in the runoff, releases from Blue Mesa Reservoir are reduced to zero and flows at Delta still exceed 15,000 cfs.

Blue Mesa Reservoir begins spilling on June 16th and continues through the first week of July.

The primary constraint to meeting the Black Canyon NP Water Right peak flow in this year is flooding at Delta. This requires moving the peak release operation to either before or after the runoff of the North Fork. Since Blue Mesa Reservoir was drawn down to handle the runoff volume, the spillways would not be available to assist in meeting the water right peak prior to the start of runoff. Therefore the Black Canyon peak could be moved to a time after the runoff when the water elevation in Blue Mesa Reservoir is high enough to permit the spillways to assist in meeting the Black Canyon Right peak flow.

The earliest peak date that does not cause flooding at Delta is July 21st. The spillways at Blue Mesa Reservoir can contribute enough water to prevent excessive drawdown at Morrow Point Reservoir during the peak release operation. The flow at Delta on July 21st is 14,888 cfs. During real-time operations it would be impossible to forecast flows on the North Fork and other tributaries to this level of accuracy, meaning a safer operation may require moving the peak to even later in the year to ensure there would be no further flooding at Delta. The peak target for endangered fish flows was previously met during the peak of the runoff by side inflows alone, with no additional release from Blue Mesa Reservoir. Since the Black Canyon NP Water Right was not met at this time, and an operation later in the year to meet the water right would create a second high water event along the length of the river downstream of the Aspinall Unit.

1986

The only option for meeting the Black Canyon NP Water Right peak flow is to use the spillway at Morrow Point to release an additional 800 cfs. During the modeled peak operation, Blue Mesa Reservoir releases are at the maximum capacity of the powerplant and bypass. Due to low water levels in Blue Mesa Reservoir, the spillways at Blue Mesa would not be able to contribute additional water until the middle of June. Side inflows to the Aspinall Unit are not high enough at other times of runoff to bother with retiming the peak release. This modified operation would not cause flooding at Delta under the modeled scenario.

1988

The Black Canyon NP Water Right peak flow could be met by increasing the bypass release at Crystal Dam by 400 cfs. Since this additional release would put Crystal Dam at the maximum capacity of the bypass release, it is possible that some water (up to 100 cfs) would need to be released over the spillway at Crystal to ensure the Black Canyon peak flow was met. Morrow Point Dam would need to increase powerplant releases to fill the reservoir at Crystal to initiate the spill. This would also require increasing the bypasses at Blue Mesa Dam by 400 cfs (or greater to fill Crystal Reservoir). Side inflows are too low this year to justify retiming the peak release operation.

1990

The Black Canyon NP Water Right peak flow could be met this year by bypassing up to 800 cfs at Crystal Dam, depending on the timing of the peak operation. Variations in the diversion rate of the Gunnison Tunnel would determine how much water needed to be bypassed at Crystal Dam.

1992

The Black Canyon NP Water Right peak flow could be met this year by spilling at Crystal Reservoir. Since Crystal Dam is at full powerplant and bypass release at the time of the modeled peak operation, the reservoir would need to spill 300 cfs to meet the Black Canyon peak flow. Releases would need to be increased at the powerplant at Morrow Point Dam to fill Crystal Reservoir to initiate the spill. It is possible that Blue Mesa Dam would need to release at full powerplant capacity and maybe even bypass up to 200 cfs during this modified peak release operation. Side inflows are too low this year to justify

retiming the peak release operation.

1993

Under the preferred alternative as modeled, the operation to meet endangered fish peak flow targets at Whitewater would have centered a peak release on May 17th. Due to the magnitude of tributary flows, no additional water from the Aspinall Unit was needed to meet the peak targets at Whitewater. The peak flow in the Black Canyon actually occurred near the middle of June when Aspinall Unit releases increased to manage high water levels in Blue Mesa Reservoir.

Again the primary constraint to achieving the peak flow of the Black Canyon NP Water Right in this year is the flooding issue at Delta. The earliest date the peak can occur without flooding Delta is June 4th. Water level elevations at Blue Mesa Reservoir are also high enough to permit releases from the spillway that can assist in meeting the Black Canyon Right peak flow and prevent Morrow Point Reservoir from violating the drawdown rate criteria during the peak operation.

1998

The Black Canyon NP Water Right peak flow could be met this year by increasing the spill at Crystal Reservoir by 2,100 cfs. In order to do this, Morrow Point powerplant releases would have to increase to full powerplant capacity and 1,100 cfs would need to be bypassed at Morrow Point Dam. Likewise Blue Mesa Powerplant bypasses would have to be increased by 2,100 cfs to minimize drawdown of Morrow Point Reservoir. Side inflows are not significantly higher at other times during the runoff to make retiming the peak release operation worthwhile.

2005

Meeting the Black Canyon NP Water Right peak flow would require full powerplant and bypass releases from Crystal Dam as well as spilling the reservoir. Total release from Crystal Reservoir would have to exceed 7,100 cfs. In order to reach this release rate, Morrow Point Dam would have to release at full powerplant and bypass capacity. Depending on the side inflows to Crystal Reservoir it is possible that the spillways at Morrow Point Dam would be needed to achieve this total release rate at Crystal Dam. Likewise Blue Mesa Dam would also need to release at full powerplant and bypass capacity. Since the water level in Blue Mesa Reservoir is low enough that spillway releases are not possible, there would be some level of drawdown at Morrow Point Reservoir. If the peak release operation was moved to the middle of June, water levels in Blue Mesa Reservoir would be high enough to utilize the spillways. This modified operation would not cause flooding at Delta under the modeled scenario, even if the peak release operation coincided with the high tributary flows of the North Fork.

3.3.1.2D Water Quality

Upper Gunnison and Aspinall Unit Water Quality Impacts—In general, water quality in Upper Gunnison basin will not be affected by any of the proposed alternatives.

3.3.7.2 Impacts

3.3.7.2A General

The Service has prepared a PBO on the proposed action and this report should be referred to for more information on impacts to the endangered fish (see Appendix B in Volume II). The opinions conclusion stated:

“After reviewing the current status of the Colorado pikeminnow, humpback chub, bonytail, and

PWI-05

**REVISED PRELIMINARY FINAL ENVIRONMENTAL IMPACT STATEMENT
ASPINALL UNIT OPERATIONS – August 2011 (PFEIS)
Platte River Power Authority Comments September 23, 2011**

As requested by Department of the Interior representatives on September 12, 2011, following are comments submitted by Platte River Power Authority (Platte River) on the above-referenced document, distributed in August 2011. It is our understanding that the federal agencies were particularly interested in PFEIS language that may indicate inconsistencies, so these comments are focused on those areas. However, these comments should be considered *in addition to* Platte River's April 1, 2011 comments (attached).

Platte River is a long-term firm power contractor for resources from the Salt Lake City Area Integrated Projects (SLCA/IP), and has been a cooperating agency in the Aspinall process since its inception. Platte River is also a member of the Colorado River Energy Distributors Association (CREDA). CREDA participated in the mediated settlement of the Black Canyon of the Gunnison water right case, and in the September 12 meeting. Platte River and CREDA have a direct interest in this EIS and the associated processes.

We recommend that once Reclamation has had an opportunity to review the comments submitted in response to the September 12 meeting, a revised draft be submitted to the Cooperators for additional review and comment.

We believe that sufficient time is available to incorporate these comments (and comments from other Cooperators) in order to meet its objective of completing and finalizing the EIS prior to the 2012 spring operations of the Aspinall Unit.

The following comments refer to the "clean" version of the PFEIS, not the red-line strike out version that was distributed on September 8.

- 1) **PURPOSE AND NEED:** The purpose and need statement should be consistent with the original Federal Register notice, and should include language from the Draft EIS. "Reclamation proposes to operate the Aspinall Unit to avoid jeopardizing the continued existence of downstream endangered fish species while maintaining and continuing to meet all of the project's authorized purposes." This statement is contained in various permutations on pages ES 1, ES-3, 1-2, 1-7. PWI-05-01
- 2) **BLACK CANYON WATER RIGHT:** As you know, Platte River worked diligently with other interested Colorado Stakeholders (State of Colorado, Colorado River Water Conservation District, Western Resources Advocates, and others) to develop specific proposed language regarding the Black Canyon Decree and the National Park Service (NPS) water right. Most of that language has been disregarded and the PFEIS continues to assert that Reclamation must exercise both the NPS water right and the endangered fish flows in all water years. This position ignores the Secretary's discretionary authority to exercise or not exercise the NPS water right, in light of the laws and other obligations that the Secretary must also uphold, including the authorized purposes of the Aspinall Unit. The discussion of the NPS water right should be modified to expressly incorporate such discretionary authority. See pages 1-18, 2-3, 2-25 and 3-34. PWI-05-02
- 3) **SPRING PEAK:** The third bullet on page 2-4 has been broadened to refer to a spring peak "for environmental purposes." The EIS is intended to address flows for endangered PWI-05-03

fish species. The bulleted language should be revised to refer to flow recommendations for endangered fish, and the following language (which had been previously deleted) should be reinstated: “The Secretary’s exercise of the federal reserved water right for Black Canyon of the Gunnison National Park will be coordinated with the implementation of any of the Aspinall action alternatives. To the extent practicable this water right shall be exercised to achieve a single peak flow, subject to all Aspinall Unit authorized purposes.” Also, the second paragraph on page 2-8 significantly broadens the original intent that “releases for duration of higher flows in conjunction with the desired peak at Whitewater will be made if it is possible to reach 90 percent of the desired peak. The length of duration of flows is dependent on the Year Type category in the Flow Recommendations. Minimum duration is targeted and may be exceeded at times.” The current language of the PFEIS implies a mandate for duration flows and has eliminated the 90 percent target concept. In addition, the last sentence refers to potential alteration of the May 10-June 1 timeframe “if appropriate for endangered species and other resource concerns.” That language is unnecessarily broad.

PWI-05-03
Cont.

- 4) **BASE AND PEAK FLOWS:** Platte River concurs with the State of Colorado’s comments and concerns regarding use of “at least” or “no less than” when describing the 300 cfs base flow (pages 2-7, 3-32 and elsewhere), as well as the comments relating to “Notation B” on page 3-33. Without the accompanying narrative, Notation B “doesn’t tell the whole story” regarding the intent to meet the NPS right and the flow recommendations with a single peak. Platte River also shares the concern expressed by the State of Colorado that the PFEIS merely states that “[a]ll operations, however, remain within the range of historical flows” (page 2-25). As noted below, Platte River believes that: (i) the PFEIS is deficient in that it has not adequately described and depicted the separate and cumulative impacts of the preferred alternative on the authorized purposes of the Aspinall Unit, and (ii) that the preferred alternative will have a significant impact on the historical flow pattern.

PWI-05-04

- 5) **COORDINATION OF OPERATIONS:** Platte River appreciates the revisions to the second paragraph of 2.3.6.4 (page 2-14), but believes that there is an inconsistency in that the last sentence states that “formal notification will be made to NPS on April 1 regarding project operations.” That notification should not be limited to the NPS, but should be extended to the entities listed in the preceding sentence.

PWI-05-05

- 6) **IMPACTS AND CUMULATIVE IMPACTS ASSESSMENTS:** Pages 3-48 and 3-50 should be updated because they contain include outdated information regarding the SLCA/IP rate and Basin Fund support of other programs. In addition, Platte River supports the comment made by the Western Area Power Administration at the September 12 meeting that the EIS must take a hard look at the economic and financial impacts, and if there is significant new information, the EIS must consider that information. We believe there is significant new information in the form of recent Argonne National Laboratory modeling of how inclusion of the NPS water right affects hydropower impacts as described in the DEIS. Platte River believes the hydropower impacts may be significant. This belief is reinforced by the PFEIS (at page 3-57), which states that “[a]ll but one of the alternatives (Alternative A) could require an increase in the SLCA/IP rate.” By way of context, an annual average economic impact of \$2.05 million from Alternative C was considered as “significant” (page 3-53). Reclamation provided cumulative impacts assessment as part of the Flaming Gorge EIS, and a similar cumulative impacts analysis on the value of SLCA/IP power as a result of

PWI-05-06

“past, present and potential future” federal actions should be included in the Aspinall EIS.

- 7) SOCIOECONOMICS: Because specific nonuse economics were not studied as part of this process and/or specific to the proposed action, the EIS should not contain reference thereto. References to nonuse economics are scientifically unsupportable. The cited works are in many cases outdated (1991, 1995, 1998) and the PFEIS contains speculative commentary and inferences (by way of example: “members of the general public *may* hold nonuse value for at least two of the resources described in this EIS” (page 3-132)). The PFEIS itself contradicts the purported reliance on this stale information on page 3-139, where the PFEIS acknowledges that the Ekstrand and Loomis 1998 study “cannot directly apply the estimates of nonuse economic value” because it was “based on a larger geographic area” and “the incremental effects of the action alternatives on critical habitat remain unquantified.” The qualitative conclusion cited above has no basis, and making inferences from studies conducted in the 1990s to apply to today’s economic situation is inappropriate. Such nonuse language should be deleted on pages 3-127, 3-128, 3-131, 3-135, 3-139, 3-140. PWI-05-07
- 8) MITIGATION: Chapter 4 should address how Reclamation intends to mitigate for power impacts. PWI-05-08
- 9) RECORD OF DECISION: Draft Record of Decision language should be circulated to the Cooperators for review and comment. The Record of Decision selecting the preferred alternative should contain language setting forth the operational flexibility and adaptive management concepts described in Section 2.3.6.1 of the PFEIS (pages 2-11, 2-12), similar to the language of the Flaming Gorge ROD. PWI-05-09

Platte River also renews its request made at the February 2, 2011 Cooperating Agency meeting for all technical analysis work products undertaken between the DEIS and the issuance of the PFEIS on December 20, 2010, as well as all mediation notes prepared by Chris Moore during the Black Canyon mediation process, which culminated in the NPS water right.

We appreciate your careful consideration of these comments. If you have any questions, or would like to discuss these matters further, please contact Leslie James at 480-477-8646.

With attachment: April 1, 2011 Platte River comments



ENV-01

April 1, 2011

Carol DeAngelis, Area Manager
Bureau of Reclamation
2764 Compass Dr., Suite 106
Grand Junction, Colorado 81506

Re: Comments on preliminary Final Environmental Impact Statement on Aspinall Unit
Operations (published December 2010)

Dear Ms. DeAngelis:

Western Resource Advocates (WRA)—a long-time member of the Upper Colorado River Endangered Fish Recovery Program (Recovery Program)—appreciates the opportunity to provide comments on the preliminary Final Environmental Impact Statement (PFEIS) related to re-operating the Aspinall Unit to benefit endangered fish.

The Bureau of Reclamation (BOR), in close coordination with other Department of the Interior agencies and staff, clearly spent significant time and attention on the PFEIS since issuance of the Draft EIS. We want to thank all the federal agencies for their efforts.

Although we continue to believe Alternative C would have even greater benefit for the endangered fish in the Gunnison and Colorado rivers, our comments below are made with the assumption the Bureau moves forward with its selection of preferred Alternative B.

Over-arching Comments

Over the past two months—since the February 2 cooperating agency meeting in Grand Junction—we collaborated closely with many Gunnison River stakeholders, specifically on language related to the inclusion of the Black Canyon water right inside the PFEIS. The proposed changes to language from the PFEIS—attached in redline/strikeout—are a compromise meant to address several concerns raised mostly by staff from the State of Colorado and hydropower interests. We support this compromise language.

ENV-01-01

To avoid confusion, we want to clarify our views on several important related issues.

COLORADO • 2260 BASELINE ROAD, SUITE 200 • BOULDER, CO 80302 • 303.444.1188 • FAX: 303.786.8054 • EMAIL: info@westernresources.org
NEVADA • 204 N. MINNESOTA STREET, SUITE A • CARSON CITY, NV 89703 • 775.841.2400 • FAX: 866.223.8365 • EMAIL: info@westernresources.org
NEW MEXICO • 409 E. PALACE AVENUE, SUITE 2 • SANTA FE, NM 87501 • 505.820.1590 • FAX: 505.820.1589 • EMAIL: info@westernresources.org
UTAH • 150 SOUTH 600 EAST, SUITE 2AB • SALT LAKE CITY, UT 84102 • 801.487.9911 • EMAIL: utah@westernresources.org
WYOMING • 262 LINCOLN STREET • LANDER, WY 82520 • 307.332.3614 • FAX: 307.332.6899 • EMAIL: info@westernresources.org

www.westernresourceadvocates.org

1. The FEIS properly includes the Black Canyon water rights and other downstream senior water rights in all of its alternatives.

Some assert the PFEIS minimizes Secretarial “discretion” on the Black Canyon (BC) water right. WRA believes “discretion” in the BC decree goes to the list of Aspinall operations available to meet the BC right, rather than to whether the right is exercised. But, the issue of levels of discretion need not be “resolved” for the purposes of this NEPA analysis. Rather, to enable proper NEPA analysis, the PFEIS properly assumes the BC right—along with other senior downstream water rights—will be exercised each and every year. Inclusion of senior water rights enables the PFEIS alternatives to be analyzed based on a common foundation. ENV-01-02

2. Aspinall Unit operations (including storage and release capacity) are important components of meeting the Black Canyon water right and endangered fish flows. ENV-01-03

Utilizing the Aspinall Unit’s storage and release capacity is an important—and proper—tool for meeting both the BC water rights and flows for endangered fish downstream. *See, e.g.,* Black Canyon Decree at p. 5, ¶ 25 (to meet the Black Canyon right “use of the Aspinall Unit, including its storage and release capacity, may be needed in some years”). Reservoir operations, especially starting April 1 of each year, are essential for enabling peak flows in the Gunnison. *See* PFEIS at 2-7 (“Reclamation will not bypass the powerplant at Crystal Dam from April 1st through May 10th, thus making more water available for a spring peak and/or duration flows”).

Immediately following Table 3.3-8, the PFEIS contains year-by-year examples of how operations can be utilized to meet BC and endangered fish flows (PFEIS, pp. 3-34 through 3-38). WRA appreciates BOR’s effort to provide such detailed examples. The stakeholders’ compromise language suggests trimming down the year-by-year examples into a short list of sample operational adjustments. WRA sees this list as a synthesis of approaches from the year-by-year examples, not in any way limiting the actual options BOR may utilize.

3. Most years, flows below Aspinall will be matched with flows from the North Fork in meeting endangered fish flows, but in some years they will be de-synchronized. ENV01-04

For many years, stakeholders in the Gunnison basin have agreed on the need to make efficient use of water to meet multiple purposes. Operationally, it has been contemplated BOR would, in most years, seek to coordinate releases from the Aspinall Unit to generate a peak in the Black Canyon that would synchronize with the run-off from the North Fork of the Gunnison to maximize the peak—measured at Whitewater—to benefit endangered fish in the lower Gunnison River.

But, at the same time, due to concerns over flooding in Delta County, it has been understood that in some years (usually the wettest of years) peak flows below Aspinall may need to be modified to avoid matching the peak from the North Fork. *See* Black

Canyon Decree, at p. 11, ¶ 32.4.4 (“It may be necessary in some years to de-synchronize the Peak Flow [in the Black Canyon] from the peak runoff of the North Fork of the Gunnison River to reduce the potential for downstream flooding”); PFEIS, p. 2-8 (releases may be re-timed in an attempt to reduce flooding).

At the February 2 cooperating agency meeting and since, some have expressed concern over having a “double peak.” But, as measured in the Black Canyon, the efficient use of water described above leads to only a single peak release from the Aspinall Unit. We support the efficient use of water while meeting both Black Canyon and endangered fish flows.

4. Aspinall purposes are consistent with Black Canyon and endangered fish flows. ENV01-05

Some have repeatedly suggested that meeting Black Canyon and endangered fish flows somehow conflicts with the purposes of the Aspinall Unit. This is simply not the case.

As part of the Colorado River Storage Project (CRSP), the Aspinall Unit is subject to CRSP’s authorizing legislation, subsequent amendments, and other federal law.¹ The PFEIS notes “implementation of the proposed operation supports the States in the utilization of their Compact apportionment while assisting in the recovery of endangered species” (PFEIS, p. 1-4). In other words, an important attribute of CRSP—facilitating continued use and further development of water—is furthered by the PFEIS. The Aspinall Unit also must satisfy downstream water rights, including the Black Canyon.

Reclamation has the responsibility under the Endangered Species Act to avoid jeopardy to, and assist in the recovery of, listed species. This responsibility is even more acute in this case due to the fact that the re-operation of the Aspinall Unit is being done inside the Recovery Program, a program whose underpinning is based, in part, on the agreement that federal facilities will play an important role in recovery. In short, there is no conflict between implementing the flow recommendations and meeting the other purposes of the Aspinall Unit.

Specific Comments ENV-01-06

WRA also makes the following specific comments on the PFEIS:

ES-1—we appreciate the revision of the stated “Purpose and Need” to include assisting in recovery of the species, not simply avoiding jeopardy.

¹ See CRSP, 43 U.S.C. § 620g (Secretary is to maintain CRSP projects to “mitigate the losses of, and improve conditions for, the propagation of fish and wildlife”); Colorado River Basin Project Act, 43 U.S.C. § 1501 (amending CRSP purposes to include “improving conditions for fish and wildlife”); Federal Water Project Recreation Act, 16 U.S.C. § 460l-12 (requiring Bureau to give full consideration to ways to enhance fish and wildlife); Fish and Wildlife Coordination Act, 16 U.S.C. § 661 (where legislative history makes clear that wildlife conservation shall receive “equal consideration” with other water project features, see S. Rep. No. 1981, 85th Cong., 2d Sess. 5 (1958)).

ES-1—we believe footnote #1 in the PFEIS provides an incomplete list of authorized purposes. Other federal laws, including amendments to CRSP, are applicable to Aspinall. See a partial list in the first footnote of these comments.

ES-3—the peak flow targets in Table ES-1 should indicate an instantaneous peak of at least 15,000 cfs in the “Wet” year hydrologic category.

ES-3—in Table ES-1, we continue to support the articulation of instantaneous peaks for “Moderately Dry” and “Average Wet” years as being inside a range; it is consistent with the 2003 Flow Recommendations’ aim to “ensure continued variability among years.”

p. 1-22, section 1.6.1—in the listing of applicable environmental laws, we suggest the FEIS should also include:

Colorado River Basin Project Act, 43 U.S.C. § 1501
Federal Water Project Recreation Act, 16 U.S.C. § 4601-12 and
Fish and Wildlife Coordination Act, 16 U.S.C. § 661

p. 2-13, section 2.3.6.3—we continue to ask whether the proposed “drought rules” are consistent with “drought recovery provisions” in the Black Canyon decree (p. 10, ¶ 32.3) and what exactly “shortage sharing” means, including what past years would have triggered these special cases. We again direct your attention to the Black Canyon decree, where parties agreed to scale back environmental flows by a small amount to assist in recovering reservoir storage after severe drought.

The Black Canyon decree, at paragraph 32.3.1, used a formula triggered only by the combination of extremely low end-of-year (December 31) Blue Mesa reservoir levels and current dry year conditions. In addition, the reduction in peak flows was made proportionate to the status of the reservoir.

The proposed drought rule (PFEIS, page 2-13) appears to be inconsistent in approach with the Black Canyon decree. For peak flow reductions, it makes no sense to look to March 31 (or April 30!) reservoir levels, as these are a product of current year operations, not prior year drought conditions. The DEIS cannot tier drought response to “artificial” drought created through reservoir management (specifically winter-time releases).

p. 2-18, third-to-last paragraph in section 2.3.6.6—the PFEIS accurately reflects there are no “specific foreseeable proposals” for use of any remaining “project yield” from Aspinall. We continue to be concerned about the language that follows, which should be amended (as underlined) to read:

Alternatives would recognize that consumptive use of the “remaining project yield” referenced above may be used in the future under Colorado’s compact entitlements and its use below the Aspinall Unit would not be precluded by any of the alternatives.

p. 3-31—includes a discussion of how additional releases will be made from Aspinall “to provide 100 cfs to the Redlands Fish Ladder as needed April through September and 40 cfs for the Redlands Fish Screen from March through November, using storage water if necessary.” We support meeting these threshold requirements that enable endangered fish access to the Gunnison River.

p. 3-52—somewhere inside the two-page exposition on “Power Marketing” (section 3.3.2.1C) it is appropriate to acknowledge flexibility in meeting hydropower contracts. To be fully accurate, the sub-section should note compliance with “federal environmental laws” consistently with applicable federal register notice for the Western Area Power Administration (WAPA) from 1999, which states:

Western recognizes that the Bureau of Reclamation is under a continuing obligation to ensure that the operation of the hydroelectric facilities comply with Federal environmental laws. Western may revise the amount of power marketed by the SLCA/IP as required to respond to changes in hydrology and river operations, upon 5 years’ notice to customers.

Indeed, WAPA can make immediate changes to hydropower deliveries as long as it makes up the difference between actual hydropower generation and contract delivery amounts through the purchase of power on the market.

pp. 3-57 & 3-58—if BOR has discussions with personnel from WAPA or CREDA about hydropower impacts or related financial impacts, we would appreciate the opportunity to attend.

We appreciate your attention to these comments and would be happy to discuss them. We also have authority from High Country Citizens’ Alliance to note their support of these comments.

Sincerely,

A handwritten signature in black ink that reads "Bart P. Miller". The signature is written in a cursive, flowing style.

Bart Miller, Water Program Director
Western Resource Advocates

razorback sucker, the environmental baseline for the action area, the effects of the proposed action (including the proposed operation of the Aspinall Unit, the new and historic water depletions and the mandatory conservation measures), and the cumulative effects, it is the Service's biological opinion that the proposed action as described in this biological opinion, is not likely to jeopardize the continued existence of endangered fish and is not likely to destroy or adversely modify designated critical habitat.

The implementation of the proposed action is expected to result in overall beneficial effects to the species and critical habitat in the Gunnison and Colorado Rivers downstream from the Aspinall Unit and induce a positive species response due to a more natural hydrologic regime and an improvement in water quality through the Selenium Management Program. The basis for the determination of no jeopardy and no adverse modification of critical habitat is summarized below. If the conservation measures are not implemented within the proposed timeframes, the effects to critical habitat will likely result in adverse modification to critical habitat that appreciably diminishes the value of critical habitat for both survival and recovery."

The action alternatives would have varying degrees of beneficial effects on the four listed fish and their critical habitat within the action area when compared to No Action. Benefits result from the increased frequency, magnitude, and duration of spring peak flows and protection of base flows. The flow changes would assist in improving and maintaining habitat conditions for spawning and recruitment and for maintenance of adult pikeminnow and razorback suckers. For Colorado pikeminnow (and probably other endangered fish), Osmundson and Burnham (1998) reported that the success of recovery efforts will largely depend on providing environmental conditions that increase reproductive success and survival of early life stages. In general, the implementation of a flow regime that more closely resembles a natural flow regime of the river would provide benefits to the endangered fish and their habitat.

Figure 3.3-33 and Table 3.3-23 summarize a comparison of peak flows and Table 3.3-24 presents a comparison of the frequency of selected flows in critical habitat. As discussed, flows adequate to move sediment through the Gunnison River system are essential to maintaining and improving critical habitat for the listed fishes. Reaching flows that are half bankfull or bankfull is considered key in the sediment movement. Goals of 8,070 and 14,350 cfs were established in the Flow Recommendations. At a flow of 8,070 cfs one half (27) of the river cross sections identified by Pitlick et al. (1999) reach half



Drew Peternell, Director, Colorado Water Project

April 1, 2011

ENV-02

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

Re: Aspinall Unit Preliminary Final Environmental Impact Statement

Dear Steve:

Thank you for providing Trout Unlimited ("TU") with the opportunity to review and submit comments on the December 2010 Preliminary Final Environmental Impact Statement ("PFEIS") on Aspinall Unit operations. On behalf of TU, its 10,000 Colorado members, and its Five Rivers, Grand Valley Anglers, Gunnison Angling Society, and Gunnison Gorge Anglers chapters, I am pleased to offer these comments.

TU supports the Bureau of Reclamation ("BOR") in selecting Alternative B as the preferred alternative. Below, we provide comments on the impacts of Alternative B on the trout fishery in the Gunnison River downstream of the Aspinall Unit. Next, we offer our view of the relationship of Alternative B to the recently decreed water rights for the Black Canyon of the Gunnison National Park. Finally, we offer suggestions on additional measures the BOR should promote to offset the impacts of the Dallas Creek and Dolores Projects on the Uncompahgre and Dolores Rivers, respectively.

Impacts to the Gunnison River Trout Fishery

Alternative B is designed to meet specific downstream flow targets to benefit endangered fish. *PFEIS*, p. 2-7. TU supports this goal. It is also important to us, however, that the modified Aspinall Unit operations not have adverse impacts to the trout fishery in the Gunnison River in the Black Canyon of the Gunnison National Park ("Black Canyon") and Gunnison Gorge National Conservation Area ("Gunnison Gorge") below the Aspinall Unit. We believe that Alternative B, if carefully implemented, can avoid impacts to, and create benefits for, the Gunnison River trout fishery.

Positive Effects of Higher Spring Flows

As a general matter, TU believes that Alternative B, by increasing flows during the spring to replicate natural conditions, will have positive effects on the overall health of the Gunnison River. Aside from the well-documented benefits of more natural flow conditions for endangered warm water fish, the PFEIS acknowledges that, "[h]igher spring flows under action alternatives will have

Trout Unlimited: America's Leading Coldwater Fisheries Conservation Organization
1320 Pearl Street, Suite 320, Boulder, CO 80302
(303) 440-2937 • Fax: (303) 440-7933 • www.tu.org

the benefit of moving sediment through the river and maintaining/improving physical habitat conditions for aquatic insects and fish. These flows may provide an added benefit by reducing fine-grained sediment habitat for tubifex worms, the intermediate host of [whirling disease]. Alternatives B and C that tend to shorten periods of consecutive low flow years, would have the most benefit.” *PFEIS*, p. 3-84. The suite of benefits resulting from higher spring flows is critically important to the long-term sustainability of the trout fishery in the Gunnison River.

Increased Frequency of Low Flow Days

There are potential negative effects, however, of the revised Aspinall Unit operations under the preferred alternative. Adult trout habitat is maximized in the Black Canyon and Gunnison Gorge when flows are in the range of 400 to 1200 cfs. *PFEIS*, p. 3-82. Flows between 300 and 400 cfs are adequate for supporting fisheries, but not optimal, and flows lower than 300 cfs are inadequate for adult trout. *Id.* Because the total annual volume of water flowing through Gunnison River downstream of the Aspinall Unit is not expected to change under any of the alternatives, Alternative B, by calling for higher spring peak flows than under historical operations, will shift the timing of flows to the spring peak from other times of the year. This, in turn, will increase the number of days of low flows in the Black Canyon and Gunnison Gorge.

ENV-02-01

While this increase in low flow days is not optimal from a trout perspective, the increase appears to be modest. Compared to status quo conditions prior to finalization of the Black Canyon reserved water right, Alternative B will increase the number of days of 300 to 400 cfs flows by only 5.2 per year on average. *Id.* p. 3-83. The PFEIS projects that under Alternative B “adult [trout] habitat should remain adequate to support a Gold Medal fishery” *Id.* p. 3-82. To minimize the impacts to adult trout habitat, the BOR should strive to limit the number of days of 300 to 400 cfs flows while also meeting the spring peak flow targets of Alternative B. Additionally, except in cases of extreme drought or emergency, the BOR should always deliver flows of at least 300 cfs, as it has committed to doing. *PFEIS*, p. 2-16, 4-1.

Potential Adverse Effects of Spring Flows

Another possible impact of Alternative B to the trout fishery is that, during the spring, higher peak flows or rapid changes in flow rates can reduce the success of trout fry recruitment. *PFEIS*, p. 3-83. As the PFEIS recognizes, however, it would be possible to minimize those impacts through careful timing of the peak flow and moderate ramping rates up to and down from the peak. *Id.* p. 3-78, 3-83 – 3-84. With respect to the timing, TU supports the BOR’s commitment to attempt to deliver the peak in the period of May 10 to June 1, *id.* p. 2-8, as this will minimize impacts to the rainbow trout population, which the Colorado Division of Wildlife (“CDOW”) and TU are both very interested in restoring. Any decision to deliver the peak flow outside of the identified time period should be made in consultation with the CDOW and other interested parties and in the overall interest of endangered warm water fish, coldwater trout populations, and other environmental resources.

ENV-02-02

The rates at which flows are ramped up to and down from the peak are also extremely important to minimizing adverse impacts to trout recruitment. Alternative B includes daily ramping rate “guidelines” of 500 cfs or 25% of flows on the previous day on the ascending limb of the hydrograph and 400 cfs or 15% of the previous day’s flow on the descending limb. *PFEIS*, p. 2-6, 2-9. TU understands that the CDOW supports these ramping rates as being adequately protective of the trout population, and we appreciate that the BOR has included these ramping rates in the

preferred alternative. We encourage the BOR to commit to honoring these ramping rates whenever practical, though we understand that doing so becomes more difficult when Crystal Dam is spilling. We also urge the BOR to deliver the ramping rate changes in two steps daily to further reduce the impacts of flow changes. We concur with the BOR's identification of Crystal Dam as a tool for maintaining stable flows downstream in the Black Canyon and Gunnison Gorge throughout the year. *Id.* p. 2-6.

Post-Spawn Changes in Flow Rates

ENV-02-03

Another important factor for trout recruitment is avoiding reductions in flow after the trout spawn; reductions in flow after spawning can cause trout redds to dry or freeze. According to the PFEIS, under the no action alternative whenever practical the BOR would avoid reductions in flows after the brown trout spawn in the fall and after the rainbow trout spawn in the spring. *PFEIS*, p. 2-5. TU is unable to find a similar commitment under the preferred alternative. Though the PFEIS indicates that reductions in flows after spawning would occur only very infrequently under Alternative B, *id.* p. 3-83, we would suggest that the BOR make a commitment in the Final Environmental Impact Statement and Record of Decision to avoid any such reductions under the preferred alternative, as it appears to have done under the no action alternative. The important periods of time in which to avoid reductions in flow are October to May for brown trout and April to June for rainbow trout.

With appropriately timed peaks, adherence to the ramping rate guidelines, and avoidance of dramatic flow decreases after trout spawning, TU believes that Alternative B could increase the number of years with adequate trout recruitment, as compared to status quo conditions prior to the finalization of the Black Canyon reserved right, as Table 2.7 2 of the PFEIS indicates. *PFEIS*, p. 2-28. Indeed, if implemented according to the suggestions included herein, Alternative B should improve the ecological condition of the Gunnison River as a whole, including its recreational trout fishery downstream of the Aspinall Unit.

Black Canyon Water Rights

ENV-02-04

In December of 2008, the Colorado water court for the Gunnison basin signed and issued a stipulated decree recognizing the United States' 1933 priority date federal reserved water right for the Black Canyon of the Gunnison National Park. The decree was the product of decades of analysis, litigation and, in the end, negotiation and settlement among a host of parties interested in Gunnison River issues. The decree confirms the United States' right to stream flows in the Black Canyon, including year-round base flows of 300 cfs as well as spring peak and shoulder flows, the size of which is determined annually based on forecasted inflow to Blue Mesa Reservoir.

According to the PFEIS, because the Black Canyon water right is a downstream water right senior to the Aspinall Unit, it is a condition common to all alternatives, including the preferred alternative. *PFEIS*, p. 1-18. TU is pleased that the PFEIS recognizes the seniority of the Black Canyon water right, and we believe that it is appropriate to include the Black Canyon water right in the preferred alternative.

Because the preferred alternative and the Black Canyon water right both call for higher flows during the spring, their effects on Aspinall Unit operations will be similar. *Id.* Indeed, the Black Canyon decree provides that the Secretary of the Interior will coordinate the exercise the Black Canyon water right with Aspinall Unit operations under the preferred alternative. *Id.* Given

the importance of the Black Canyon water right and the limited impact of the Black Canyon water right on Aspinall operations relative to the preferred alternative, we support the BOR in operating the Aspinall Unit to satisfy both the Black Canyon water right and the endangered fish flow recommendations, including through use of storage water as necessary.

The Dallas Creek and Dolores Projects

ENV-02-05

In the 1970s and 1980s, the U.S. Fish and Wildlife Service recognized operations of the Aspinall Unit as the reasonable and prudent alternative to avoid jeopardy from operations of the BOR's Dallas Creek and Dolores Projects on the Uncompahgre and Dolores Rivers, respectively. *PFEIS*, p. 1-7 – 1-8. The preferred alternative identified in the current PFEIS allows for continuation of historical operations of the Dallas Creek and Dolores Projects, with Aspinall Unit operations providing Endangered Species Act coverage for those projects. *Id.* p. 1-18 – 1-19, 2-17.

Because Aspinall Unit operations do not benefit the Uncompahgre River below the Dallas Creek Project (Ridgway Reservoir) or the Dolores River below the Dolores Project (McPhee Reservoir), TU notes that Aspinall Unit operations cannot fully offset the impacts of those projects. While we recognize that Aspinall Unit operations may be deemed sufficient to avoid jeopardy to endangered fish under the Endangered Species Act, there are nevertheless impacts from the Dallas Creek and Dolores Projects that the BOR could help to minimize.

Dallas Creek Project

Congress authorized construction of the Dallas Creek Project in the Colorado River Basin Act of 1968. Authorized project purposes include fish, wildlife, and recreation, among others. The BOR constructed the Dallas Creek Project during the late 1970s and 1980s, and Ridgway Reservoir first filled in 1990. The Tri-County Water Conservancy District ("Tri-County") operates Ridgway Reservoir, and pursuant to the original project authorization, Tri-County makes releases from the reservoir of at least 30 cfs during winter months for the benefit of the trout fishery in the Uncompahgre River downstream of the reservoir.

In the twenty plus years that the Dallas Creek Project has been operational, evidence has shown that the trout fishery below Ridgway Reservoir experiences adverse impacts during times of minimum low flow releases of 30 cfs. In particular, the CDOW has documented trout mortality resulting from nitrogen super-saturation and lack of available habitat at 30 cfs low flows. The CDOW has determined that winter base flows of at least 50 cfs are necessary to protect the trout fishery and that 70 cfs would be a more optimal winter base flow rate.

The CDOW has developed a spill management plan for Ridgway Reservoir that appears to accommodate winter flows of 60 to 70 cfs in most years without decreasing the likelihood that Ridgway Reservoir would fill in the spring. Specifically, under the CDOW plan, in November of each year Tri-County would set winter releases from Ridgway Reservoir at 60 to 70 cfs, depending on current storage and winter weather forecasts. In January of each year, winter releases would be reassessed, again based on current storage and run-off forecasts. If it appears that the reservoir is likely to fill, release rates would be maintained or increased. On the other hand, in very dry conditions, releases from the reservoir could be reduced as necessary to assure that the reservoir will fill. While such mid-winter flow reductions would have adverse impacts to the trout fishery, the CDOW's hydrologic analysis indicates that they would be necessary very infrequently.

A spill management plan similar to the one the CDOW has recommended would create significant benefits for the fishery without decreasing the likelihood that Ridgway Reservoir will fill. Thus, TU supports the CDOW's spill management plan in concept. We urge the BOR to take any steps it can to assure that such a spill management plan is implemented.

Dolores Project

Like the Dallas Creek Project, Congress authorized the Dolores Project in the Colorado River Basin Act of 1968, and like the Dallas Creek Project, the authorized purposes of the Dolores Project include fish, wildlife and recreation. The BOR constructed the Dolores Project during the late 1970s and early 1980s, and McPhee Reservoir began filling in 1984. The Dolores Water Conservancy District administers the Dolores Project.

In 1977, the BOR issued a final environmental impact statement and "Definite Plan Report" describing a schedule of releases from McPhee Reservoir designed to benefit the downstream trout fishery. The BOR estimated that annual storage of 25,400 acre-feet in McPhee Reservoir would be sufficient to supply these flows. After fishery declines in the early 1990s, the BOR reevaluated the downstream flow requirements in a 1996 environmental assessment. The BOR determined that the original 25,400 acre-foot pool was insufficient and established a pool target of at least 36,500 acre-feet of water annually to meet the requirements of the downstream fisheries. The BOR issued a plan to acquire water to increase the fish pool to 36,500 acre-feet. Since 1996, the BOR has acquired 3,900 acre-feet of water to add to the fish pool, but the fish pool is still short of the target of 36,500 acre-feet set in the 1996 environmental assessment and the accompanying finding of no significant impact ("FONSI").

In the past 20 years, the CDOW has documented dramatic declines in the Dolores River trout fishery and populations of flannelmouth sucker, bluehead sucker and roundtail chub, native fish populations listed as Colorado species of special concern. In addition, the Dolores River historically contained Colorado pikeminnow, a fish species native to the Colorado River basin that is now listed as endangered under the federal Endangered Species Act. Flow depletions resulting from operations of the Dolores Project are adversely impacting over 100 miles of habitat historically occupied by the pikeminnow, and today, the pikeminnow is largely extirpated from the Dolores River. All of these fishery declines in the Dolores River appear related to flow depletion from the Dolores Project.

The propriety of using Aspinall Unit releases to mitigate impacts of – and provide Endangered Species Act coverage for – the Dolores Project is questionable. Be that as it may, whether required under the Endangered Species Act or not, the BOR should take immediate affirmative steps to enhance stream flows in the Dolores River below McPhee Reservoir. We recommend two strategies.

First, the BOR should take all necessary steps to promote and facilitate a water leasing arrangement that would increase flows below McPhee Reservoir. The Montezuma Valley Irrigation Company is anxious to lease water to the Colorado Water Conservation Board's instream flow program to increase flows below McPhee. The BOR should support and help facilitate such a lease. BOR could also contribute funding to help finance the transaction. Increasing flows below McPhee Reservoir would have benefits for the trout fishery and the native warm water fish.

Second, the BOR should promote a spill management strategy that produces naturally-shaped spring flushing flows while also ensuring the best possibility of filling McPhee Reservoir. At the earliest feasible point during the spring, if reservoir content and forecasted April to July reservoir inflows indicate a high likelihood of a spill, the BOR should declare a spill and begin low volume spill releases, gradually building up to a naturally-shaped peak. Such active spill management would serve several purposes. As on the Gunnison River, higher spring flows in the Dolores that mimic a natural hydrograph would transport sediment, rejuvenate fish habitat, maintain geomorphic processes and provide spawning cues for native fish. Active spill management would also minimize debits to the McPhee Reservoir fish pool and maximize the number of days in the spring when the fish pool is not being drawn down, thus conserving more fish pool water for use during the remainder of the year. An active spill management strategy would be similar to operations at other BOR facilities, including the Aspinall Unit, and would have meaningful benefits for all fish species downstream of McPhee Reservoir.

Conclusion

In conclusion, Trout Unlimited would like to congratulate the Bureau of Reclamation for formulating a fair and balanced preferred alternative that should benefit the endangered warm water fish species as well as other aquatic resources of the Gunnison River, including the world class trout fishery in the Black Canyon and Gunnison Gorge. We also support the BOR's decision to include the Black Canyon water right in the preferred alternative, and urge the BOR to take steps to continue to meet the Black Canyon water right. While the preferred alternative will not create benefits for the Uncompahgre or Dolores Rivers, we believe that the BOR could promote other measure to improve those rivers, and we encourage it to do so.

Thank you for considering our comments. We look forward to working with the BOR on implementation of Alternative B.

Sincerely,



Drew Peternell

Table 4 -Preliminary Final EIS list of comment designations with corresponding responses.

Federal Government Agencies (FG)	
FG-01-01	Support for preferred alternative is recognized.
FG-02-01	This EIS describes examples of operational actions for meeting ESA needs downstream while also meeting the decreed water right. The discussion of how the Black Canyon NP Water Right fits within the alternatives is to provide examples of the range of actions that may be necessary to satisfy the decree and how such actions are consistent with the historic range of operations for the Aspinall Unit. Thus, the finalization of the decree did not significantly change the impacts analysis as displayed in the DEIS that was the subject of public notice and comment. See sections 2.3.1.1, 3.3.1.2C, and 3.3.2.2.
FG-02-02	The EIS is not intended to evaluate the Black Canyon NP Water Right. It is considered a senior water right along with other senior rights in the basin. The Black Canyon NP Water Right was disclosed in the draft EIS and is now considered included in the No Action Alternative. As indicated in the final EIS, the preferred alternative and the Black Canyon NP Water Right are generally compatible and inclusion of the Black Canyon NP Water Right does not significantly change the preferred alternative.
FG-02-03	<p>The Preferred Alternative still states that peak releases will be made in an attempt to match the peak from the North Fork in order to maximize the potential of meeting a desired peak at Whitewater. Releases may be reduced if the Gunnison River at Delta approaches 14,000 cfs in an attempt to reduce flooding. Peak releases would typically be made between May 10th and June 1st. However, this time frame could be altered to late April to late June to match North Fork peaks if appropriate for endangered species and other resource concerns.</p> <p>The magnitude of the desired peak at Whitewater is determined based on the “Year Type” category, as defined in the Flow Recommendations, in conjunction with the most recent inflow forecast information as shown in Figure 2.3- 1 and Table 2.3- 2. Releases will be made from the Aspinall Unit using the necessary combination of available powerplants, bypasses and spillways, while attempting to reach the spring peak flow target. Reclamation’s ability to meet a desired peak is limited by the physical constraints/availability of the Aspinall Unit outlet features in some years. For example, Blue Mesa Reservoir water surface elevation may not be high enough to use its spillway.</p>
FG-02-04	See Section 2.3.6.1 of the EIS. The suggested language was used as the basis for this section of the report. More discussion on adaptive management is found in 2.3.6.2.
FG-02-05	See response to DEIS Comment PWI08-02
FG-02-06	Impact analysis on hydropower is included in the final EIS and was conducted in cooperation with Western Area Power Administration. The hydropower purpose is protected and met under Aspinall Unit operations as well as operations of other Colorado River Storage Project Units.
FG-02-07	<p>Specific comments/responses:</p> <p>2. ES-2 The description of risk of spill is not accurate. Water at risk of spill was developed by an algorithm that predicted water that might be spilled, rather than historically spilled.</p> <p>--The description of the Risk of Spill alternative does not and is not intended to refer to historical occurrences. It should be understood that all alternatives are based on modeled results using historical hydrological data input.</p> <p>3. ES-4 Table ES-4 Where is the data for these comparisons? From what we know of the impacts of the alternatives, the numbers presented in this table are misrepresentations. For example, this table shows that the No Action Alternative is an improvement for Park resources compared to Alternative A. Another example: the impact on endangered species is +3 for Alternative 3, +1 for Alternative A and +2 for the No Action Alternative. Flows for half bank and bank full for Alternatives A and B are almost identical (especially when they are weighted by probability of occurrence), so how can the quantitative ranking of Alternatives A and B be so different?</p> <p>--Alternative A provides the fewest days in the Black Canyon with flows above 3,000 cfs. We do</p>

Federal Government Agencies (FG) (cont.)	
FG-02-07 (cont.)	<p>agree the differences are small for Black Canyon resources and Section 3.3.1.2B provides this information. Also, Section 3.3.7.2 provides more information on comparing effects on endangered fish.</p> <p>4. ES-4 Table ES-4 It is not clear if the reserved water right requirements are included within the action alternatives. It appears that they are not, since some of the resources which show benefit under the “no-action modeled with reserved water right” show less benefit or greater adverse effect under one or more action alternatives. On page 1-19, the EIS states “The Black Canyon NP Water Right is a senior downstream water right to the Aspinall Unit. As such, along with other senior water rights, it is a condition that is common to all alternatives.” Because of this, and compared to the no-action with reserved water right alternative, I would think that all of the action alternatives would show similar or greater benefit to certain resources that are expected to respond positively to higher flows, such as endangered fishes.</p> <p>--Section 3.3.1.2B provides flow data for the Black Canyon. It is noted that with the Black Canyon NP Water Right being exercised, differences between alternatives are lessened.</p> <p>5. 1-19 This section describes high flows for the water right as being “similar to” flows for the ESA. Does page 1-19 suggest these similar impacts are additive? The following information (as well as the description on page 1-19 indicates that there will be TWO Spring peaks. 1.2.6--The public DFEIS stated that: “the exercise of Black Canyon water right will be coordinated with Aspinall reoperations to the extent possible.” This language is not included in the preliminary final.</p> <p>--Reclamation concurs that operations for the Black Canyon NP Water Right and the endangered fish need to be coordinated. Efforts will be made to satisfy multiple needs with the same operation/flows and to reduce the possibility of two peak flows in any given year.</p> <p>6. 2-3 last paragraph A better description of the reserved water right should be provided in this chapter. Details may be provided later and in Volume II, but a summary should be provided in this chapter to allow the reader to see how the reserved right relates to the action alternatives. Throughout, the reader is assured that the right results in similar flows to the original action alternatives, but is not shown what the flows actually are.</p> <p>--The final EIS contains new language concerning the Black Canyon NP Water Right.</p> <p>7. 2-5 4th Bullet Western would like to reconsider the ramping rates that are currently allowed to produce spring peaks. This EIS could describe existing ramping practices, but the description should say that this is the current management practice.</p> <p>--Ramping rate recommendations are included as part of the operation of alternatives discussed.</p> <p>8. 2-5 4th Bullet Crystal Dam was authorized to steady the flows from Morrow Point Dam <i>for the purpose of facilitating the operation of the Gunnison Tunnel</i>. There is no authority, that we are aware of, that requires steady flows from Crystal Dam for downstream environmental resources.</p> <p>--Crystal Dam reregulates peaking releases from Morrow Point to provide stable flows downstream for a variety of purposes.</p> <p>9. 2-9 Fig. 2.3-1 Provide the rationale for the relationship shown in Fig 2.3-1.</p> <p>--The figure shows the relationship between forecasted inflow to Blue Mesa and peak flow targets and was developed based on Flow Recommendations and negotiations/reviews with the Fish and Wildlife Service and other cooperators.</p>

Federal Government Agencies (FG) (cont.)	
FG-02-07 (cont.)	<p>10. 2-16 Information about the use of the Aspinall Unit to meet regulation, reserves, assist in meeting power pool events, etc. has been removed from this EIS. Does this mean that USBR will not allow the Aspinall Units to be used for this purpose? Because Western has a legal requirement to provide these services, please add this text back to the Final EIS.</p> <p>--Text has been added back to report as suggested.</p> <p>11. 2-16 Paragraph 4 If Reclamation believes it is necessary to call out NPS in relation to the Black Canyon water right, suggest also naming Western because our specific operational needs to meet this requirement. Alternatively, suggest reference could be made to Federal partners or some other slightly more generic reference.</p> <p>--Reclamation concurs. It is the intent to coordinate with all cooperators.</p> <p>12. 2-29 Both Alternative A and Alternative B meet the flow recommendation as developed by the FWS and approved by the UC RIP. The USBR analysis of the Aspinall operation that would occur as a result of each of the alternatives was done by running the Riverware model. 31 years were modeled. The model output gives the degree of compliance with the ESA Gunnison River Flow Recommendations. The last 31 years included some of the driest years ever. If a different set of years is used for modeling purposes, both Alternative A and B comply with the Gunnison River Flow Recommendations. Western's comments on the public draft proposed that the final EIS including a "weighting" of the model outputs to deal with the fact that the 31 years modeled is not a representative sample. If the "weighting" were done, the impact tables would show that both Alternatives A and B met the Gunnison River Flow Recommendations. We believe that this would lead to a reconsideration of the preferred alternative.</p> <p>-- See response to DEIS Comment FG02-02 and PWI08-02</p> <p>13. 2-31 Table 2.7-2 It is not clear why the reserved water right is not included in this quantitative comparison of impacts. The footnote tries to explain that the relative impacts would be comparable, but since this is a quantitative comparison presented here, the water right effects should be included in the model.</p> <p>--As indicated in the table, the Black Canyon NP Water Right was not included in the modeling for the EIS. With the Black Canyon NP Water Right included in the No Action Alternative, the impact difference between No Action and action alternatives will be reduced. This is due to similarities in peak flows under action alternatives and the Black Canyon Water Right as is explained in more detail in the final EIS.</p> <p>14. 3-1 last paragraph Basing the analysis of impacts on hydrology modeling that does not include the reserved water rights effects seems like a fatal flaw. Since the water right is now considered an element of all alternatives, how can alternatives be compared if this is not taken into account? For instance, any difference between Alternatives A and B could be even more negligible than without the water right.</p> <p>--There remains a key difference between Alternatives A and B. Alternative B develops a target for peak and duration flows at the Whitewater gage and operates the Unit to meet this target, using storage water if necessary. Alternative A develops "excess" water if available into peak and duration flows.</p> <p>15. 3-31 Fig. 3.3-10 How different are the peak distributions if the water right is added to all alternatives?</p> <p>--Refer to Section 2.3.1.1 "The Black Canyon NP Water Right is a downstream water right senior to</p>

Federal Government Agencies (FG) (cont.)	
FG-02-07 (cont.)	<p>the Aspinall Unit and Reclamation will meet the right when it is exercised. As such, along with other senior water rights, it is a condition that is common to all alternatives.” Because the Black Canyon NP Water Right is a condition common to all alternatives the relative difference in peak distributions should be similar to that depicted in Fig. 3.3-10.</p> <p>16. 3-34 Fig. 3.3-14 It would be helpful if this graph was presented in the same form as the previous graph for the Black Canyon.</p> <p>--Thank you for the comment. Reclamation is satisfied that the graph conveys the needed information as it is presented.</p> <p>17. 3-36 Paragraph 4 The text notes that the alternatives were not modeled to include the Black Canyon water right, but that it was treated like other similar senior water rights. Were these other senior water rights included in the modeling or were they also excluded? It would be helpful to clarify the similarity or differences in how various water rights were treated in the impacts analysis.</p> <p>--Reclamation’s operations would honor all downstream senior water rights. Modeling used historic river flow data and downstream senior rights as appropriate.</p> <p>18. 3-38 In the discussion of how operations would be adjusted to meet Black Canyon water right needs, 4 years are identified in which endangered fish peak flow requirements can be met with less water from the Aspinall Unit, using North Fork flows to achieve much of the total volume needed to meet the necessary peak and duration targets. The discussion indicates that the water right requires Reclamation to give highest priority to flood control and then talks about adjusting the timing of Aspinall Unit releases to avoid flooding at Delta. In these years, it may be most appropriate and potentially within the flexibility of the water right decree, to forego meeting fully the peak flow requirement in the Black Canyon if the release cannot be achieved with the endangered fish peak release without flooding at Delta. There may very well be adverse effects to resources that accrue from a later offset release are counterproductive to the intent of the water right. An example is a decrease in spawning temperature in June and July when Colorado pikeminnow would be spawning.</p> <p>--Planning for spring operations will consider both the Black Canyon NP Water Right and the needs of the endangered fish. Coordination will occur with the Fish and Wildlife Service, National Park Service, and other cooperators.</p> <p>19. 3-39 and 3-40 Were modified operations for 1979 and 1980 with mid to late June releases examined in terms of environmental impact and impacts to hydropower? Does this June 16 release replace the May 28 release to meet endangered fish Flow Recommendations or would there be two peak releases to meet both requirements?</p> <p>--Reference to modified operations in this section have been completely deleted and sample operations needed to meet the Black Canyon NP Water Right peak targets have been generally described in Section 3.3.1.2C.</p> <p>20. 3-40 last paragraph Providing a peak release at the end of July to meet the Black Canyon NP Water Right does not seem consistent with the presumed objectives of the right. One would think that a peak that late would have potentially adverse ecological consequences during a normally base flow period (e.g., reduced spawning temperatures for pikeminnow).</p> <p>--It is Reclamation’s intent to manage peaks for the mid-May to mid-June period if possible. In certain years, conditions may occur that result in later peaks.</p> <p>3-36 through 3-42 Various paragraphs If Reclamation did not model the changes to water operations that would be required to meet both the ESA flows and the Black Canyon NP Water Right under</p>

Federal Government Agencies (FG) (cont.)	
FG-02-07 (cont.)	<p>notations A and B and summarized in this section, Western does not believe that the power impacts discussed later in the document are accurately reflected because the power impacts rely on the water from Reclamation's Riverware modeling tool.</p> <p>--Western has supplied an impact analysis which incorporates the Black Canyon NP water right. This analysis shows that incorporation of the Black Canyon NP Water Right lessens impacts to hydropower resulting from the preferred alternative.</p> <p>22. 3-53 Figure 3.3-25 This is the exact same figure as presented on page 3-34. This same figure appears repeatedly throughout the EIS.</p> <p>--The figure is used to illustrate different points, for example flood control or peaks for endangered fish.</p> <p>23. 3-54 The Issue Statement needs to be broadened to reflect that timing of generation as well as the legislative requirement to repay the project within the specified time frame are also factors that must be addressed. These factors, plus the ones already listed result in the rate determination. Focusing on the rate may tend to make the consideration too narrow, and discount the legal mandate for repayment within the framework of the body of Reclamation Law.</p> <p>--Reclamation believes the scope of impacts analyzed in this EIS is adequate.</p> <p>24. 3-56 Paragraph 4 Change "control area" to "Balancing Area" to reflect the terminology now used in the industry and by the regulators.</p> <p>--Change made as suggested.</p> <p>25. 3-57 Paragraph 1 The focus of the last sentence in this paragraph is too narrow in scope. Suggest inserting "and system reliability" after "contractual" to be more accurate. System reliability violations can result in sanctions from the Federal Energy Regulatory Commission against Reclamation and/or Western.</p> <p>--Change made as suggested.</p> <p>26. 3-57 Paragraph 2 Last sentence refers to CRSP power customers and CRSP marketing area. It is more technically correct to refer to SLCA/IP (Salt Lake City Area Integrated Projects) customers and marketing area, since, in 1987, Western combined the power from the CRSP powerplants with the generation from the Colbran and Rio Grand projects together for marketing purposes.</p> <p>--Change made as suggested.</p> <p>27. 3-57 Paragraph 3 Western's rate information needs to be updated to reflect current charges. Line 8—capacity charge is now \$5.18 per kilowatt-month; Line 11--energy charge is now 12.09 mills per kWh; Line 14--composite rate (not "combined") is now 29.62 mills per kWh. Also on line 13, the term should be "composite" rate, not "combined."</p> <p>-- Updated.</p> <p>28. 3-59 Paragraph 3, second bullet-Update AMP cost to current amount.</p> <p>--Updated.</p> <p>29. 3-60 Paragraph 1 Update amount in line 1 to current amount.</p> <p>--Updated.</p>

Federal Government Agencies (FG) (cont.)	
FG-02-07 (cont.)	<p>30. 3-60 Paragraph 2 O&M expenses are now in the neighborhood of \$130 M for Western (about \$60 M) and Reclamation (about \$70 M). Please update.</p> <p>--Updated.</p> <p>31. 3-61 Paragraph 1 Suggest the name of the modeling tool be used on first reference.</p> <p>--This section was provided by Western, name of the model is GTMax.</p> <p>32. 3-62 Table 3.3-10 It should be made clear that the alternatives do not include the effects of the Black Canyon Water Right.</p> <p>--Section 3.3.1.2 of the hydrology section of the final EIS explains the Black Canyon NP Water Right in regard to the hydrology analysis and tables.</p> <p>33. 3-66 Paragraph 2 Black Canyon water right is described as a “future” condition. The text also notes that the alternatives have not been modeled and that the incremental impacts of the action alternatives for endangered fish flows are generally lessened. Suggest the word “future” be deleted. The condition exists now. Also, the analysis discusses several years when fish flows will not meet the Black Canyon water right but that operational changes to the Aspinall unit can be used to meet this requirement. This operational change has an impact on hydropower that has not been modeled and is at this point unknown. It is inaccurate to state that the incremental impacts to hydropower will be generally lessened.</p> <p>--Word “future” has been deleted. In general it is believe that incremental impacts will be lessened over the period of study.</p> <p>34. 3-66 last paragraph Contrary to what is stated here, if implementation of the Black Canyon water right is as described in Section 3.3.1.2C, it seems there could be significant deviations from the impacts presented in this section.</p> <p>--See FG02-07 21.</p> <p>35. 3-67 Paragraph 1 The text correctly explains that SLCA/IP rates include a component for “assistance to irrigation.” It would be helpful to quantify the amount of that assistance by inserting “\$1.5 B” before “assistance.”</p> <p>--Done.</p> <p>36. 3-67 Table 3.3.13 The impacts summarized in this table use a previous lower rate. Current impacts are higher because the rate is higher. The data should be brought current to more accurately capture the amount of the impact.</p> <p>--Without updating the rate, the relative impacts should remain unchanged. WAPA recently provided an updated hydropower analysis that included the impacts of inserting the Black Canyon NP Water Right into the No Action and Preferred Alternative. This analysis used the same rates as those used to create Table 3.3.13..</p> <p>37. 3-86 paragraph 5 Justification, including supporting references, should be provided to support the statements here regarding limitations to ramping rates to protect trout. Is there empirical evidence that these ramp rates are protective and necessary? The next paragraph, which includes an extensive quote from the CDOW, does not provide any specific recommended flows to protect trout, but rather, general recommendations.</p>

Federal Government Agencies (FG) (Cont.)	
FG-02-07 (cont.)	<p>--Ramping rates have been developed by CDOW based on over 25 years of monitoring flows and fisheries in the Gunnison River. Rates primarily protect natural reproduction/recruitment of the rainbow and brown trout fishery, and also provide a degree of safety to river users. Further information can be found in references cited in response No. 38 below.</p> <p>38. 3-87 bullet lists The effects of specific flows on fisheries presented in these lists in the EIS should be supported by references.</p> <p>--Information is from Kowalski 2008. Past studies by CDOW include:</p> <p>Nehring, R. Barry. 1988. <u>Fish Flow Investigations</u>. Colorado Division of Wildlife, Federal Aid in Fish and Wildlife Restoration, F-51-R, Progress Report, Ft. Collins, CO.</p> <p>Nehring, R. Barry and R. Anderson. 1985. <u>Fish Flow Investigations</u>. Colorado Division of Wildlife, Federal Aid in Fish and Wildlife Restoration, F-51-R, Job No. 1, Progress Report, Ft. Collins, CO.</p> <p>Nehring, R. Barry and D.D. Miller. 1987. <u>The influence of spring discharge levels on rainbow trout and brown trout recruitment and survival, Black Canyon of the Gunnison River, Colorado, as determined by IFIM/PHABSIM models</u>. Proceedings of the Western Association of Fish and Wildlife Agencies and the Western Division of the American Fisheries Society.</p> <p>39. 3-92 paragraph 1 There seems to be a disconnect between the presentation of flow effects on young trout in this paragraph and that presented in the bullet list on page 3-87. Page 3-87 talks about negative effects of flows greater than 3,500 cfs. This section states that flows above 3,000 cfs have an adverse effect and that flows around 6,000 cfs reduce survival.</p> <p>--Flows in 300 to 3,000 cfs are suitable for fry survival. Above that survival decreases due to increased velocities and reduced water temperature.</p> <p>40. 3-97 last paragraph It would be more useful if the comparison of alternatives incorporated the Black Canyon water right effects.</p> <p>--As indicated in the final EIS, inclusion of the Black Canyon NP Water Right in both the No Action and action alternatives reduces the differences in impacts between the alternatives.</p> <p>41. 3-107 last paragraph The term "backwater" is used here to refer to flooded off-channel habitats (comparable to flooded bottomlands), but elsewhere in the EIS, and more commonly within the Recovery Program, backwaters are considered in-channel low velocity habitats that develop when flows drop and side channels are no longer connected at one end (usually the upstream end). The term should be defined, used consistently, and preferably be consistent with the more common use of the term.</p> <p>--Text clarified and comment noted.</p> <p>42. 3-112 first paragraph Replace "expatriated" with "extirpated." Do the same on page 3-116, first paragraph.</p> <p>--Change made as suggested.</p> <p>43. 3-115 last bullets There are few backwater habitats available in the Gunnison River. Backwaters do not Provide important nursery habitat for Colorado pikeminnow in the Gunnison River.</p> <p>--There are fewer backwater habitats along the Gunnison River than in other systems that provide</p>

Federal Government Agencies (FG) (cont.)	
FG-02-07 (cont.)	<p>critical habitat. There are, however, side channels and limited bottomland habitat. At the present time, there are so few pikeminnow in the system that use of these areas is unknown.</p> <p>44. 3-119 last bullets For summer and winter, There are few backwater habitats available in the Gunnison River. Backwaters do not provide important nursery habitat for razorback suckers in the Gunnison River.</p> <p>--See response to FG-02-07 No. 43.</p> <p>45. 3-124 last paragraph It is stated here that if peak flows remain at or above 3,000 cfs during June, favorable spawning conditions would occur in the Whitewater area but not the Delta area. It should be noted in the text that only the Colorado pikeminnow is likely to be spawning in the June time frame. This later spawning is one reason why the options presented earlier for making a Black Canyon water right release in June or July to prevent flooding could result in adverse impacts to endangered fish.</p> <p>--Text has been clarified to reflect this comment.</p> <p>46. 3-128 Figures 3.3-36 through 3.3-39 It looks like Alternative A would provide better spawning temperatures than the no-action and preferred alternatives in June and July.</p> <p>--In general, Alternative A would have lower flows in these periods and would thus warm faster with some potential benefit to pikeminnow spawning.</p> <p>47. 3-128 Figures 3.3-36 through 3.3-39 It is surprising that the relative performance of alternatives at Delta is not the same as at Whitewater, since the tributary and Aspinall contributions to flow would be the same. Are these graphs correct?</p> <p>--Reclamation rechecked the data, recreated the graphs, and found no errors. The graphs are correct.</p> <p>48. 3-187 Paragraph 5 The text states that there will be minor to moderate adverse effects to recreation, sport fisheries, and hydropower. Are there any plans to mitigate any of these effects? If so, suggest they be outlined and the reader pointed to the appropriate text in Chapter 4. In this version, I see no mitigation measures for these resources listed in Chapter 4.</p> <p>--Action alternatives were developed to assist in meeting Flow Recommendations for endangered fish while continuing to meet authorized purposes including hydropower. Alternatives are designed to limit powerplant bypasses as much as possible while still meeting downstream endangered fish targets and to provide flows in high power demand months.</p>
FG-03-01	Support for preferred alternative acknowledged.
FG-03-02	Section 3.3.1.2C discusses the needed coordination of operations, including coordination of the Black Canyon NP Water Right and endangered fish flows during high water years. The water quality (included in Section 3.3.1 and Section 3.3.7) have been updated to address these specific comments.
FG-04-01	The Black Canyon NP Water Right was based on the concept of the Action Alternatives, (higher spring peaks and moderate base flows) thus by their very nature are compatible. Reclamation believes the EIS adequately describes the relative impacts between alternatives and on the human and natural environment.
FG-04-02	The report developed by Argonne National Laboratory and provided by Western has been incorporated into the EIS in Section 3.3.2 (Hydropower). The report shows that relative impacts between the Preferred Alternative and the No-Action with the Black Canyon NP Water Right included are reduced from that between the Preferred Alternative and the No-Action without the Black Canyon NP Water Right included.

Federal Government Agencies (FG) (cont.)	
FG-04-03	Inclusion of the Black Canyon NP Water Right results in the relative impacts between No Action and the action alternatives being generally reduced. It follows then that what has been described in the EIS is generally the worst case with regard to all resources, not specifically hydropower. Also see FG-04-02 above. The descriptions of how the Black Canyon NP Water Right spring peak target may be met are examples of what may be done should the Secretary choose to exercise the Black Canyon NP Water Right.
FG-04-04	Section 2.3.6.1 discusses flexibility in operations. The Record of Decision will be based on the conclusions of the final EIS.
FG-04-05	Description of power customers has been changed from CRSP to SLCA/IP as suggested.
FG-04-06	Page 3-68 of the PFEIS provided to cooperators in PDF form describes crop yield in Montrose, Delta, and Gunnison Counties. Hydropower impacts are described beginning on page 3-45 and ending on page 3-57. The correct use of Section numbers to identify the area of comment would be most helpful and less confusing and time-consuming for Reclamation. In reference to the comment, the Hydropower section in this EIS was written and provided by Western as a cooperating agency. Reclamation has done its best to incorporate Western's contributions as they fit into the scope of this EIS. Also see FG-04-02.
State and Local Governments (SLG)	
SLG-01-01	The Black Canyon NP Water Right decree has been included in Volume II of the final EIS and should be relied on as the accurate description of the right. Volume I of the final EIS does contain information on the right as it relates to Aspinall Unit operations and the alternatives. Suggestions on wording about the right have been received from the state and used in the final EIS.
SLG-01-02	Reclamation will continue to work with the Division and others on river flows downstream from the Dolores Project, including planning spring spill operations and will continue to participate in the Dolores Biology Committee and the DRD. Minimum flow commitments in the Dallas Creek Project final EIS will continue to be followed. It is recognized that these minimums do not provide optimum winter flow levels. Suggestions in this comment are beyond the scope of the Aspinall EIS but can be considered through other activities.
SLG-01-03	Attachment A provided with the comment was developed by several cooperating agencies to better describe the Black Canyon reserved right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.
SLG-02-01	Language from the draft EIS has been used.
SLG-02-02	The description of the Black Canyon NP Water Right in the EIS has been changed pursuant to this comment. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Decree shall be resolved through examination of the Black Canyon Decree. Reclamation agrees that the Decree does not authorize releases from the Aspinall Unit under the Black Canyon NP Water Right to provide for fish flows at the Redlands Ladder or Fish screen. Section 3.3.1.2C is intended to address all water rights and the description of Base Flow releases are in the context of endangered fish releases and how they would affect the Redlands call. Comments in reference to the actions Reclamation may perform in order to accomplish peak flows have been addressed through changes and clarifications in Section 3.3.1.2C.
SLG-02-03	We have considered these comments and changes have been made accordingly.
SLG-02-04	As the State suggests, a contract may be required in order to shepherd released storage water to the Redlands area. This will be considered at a later date. Any and all water contracts from the Aspinall Unit require separate NEPA consideration. Transit losses are accounted for in the model by inclusion of historical tributary flows, The model thus compensates for transit losses through releases from storage.
SLG-02-05	The preferred alternative is designed to assist in meeting Flow Recommendations for the Gunnison River and for the Colorado River (Stateline gage). Therefore, the geographic scope has not been revised.

State and Local Governments (SLG) (cont.)	
SLG-02-06	Attachment A included in the comment was developed by several cooperating agencies to better describe the Black Canyon reserved right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.
SLG-02-07	<p>1. ES-I Incorporate the footnote regarding authorized purposes into the body of the text.</p> <p>--Reclamation believes the footnote as used is appropriate.</p> <p>2. ES-2 Please clarify the authority for relying on "using storage when necessary" to accomplish spring peaks and duration flows. See comments regarding "use of storage" above.</p> <p>--The Flow Recommendations address flows in the Gunnison River and in the Colorado River downstream from the Gunnison confluence. Aspinall operations address flow depletions in the Colorado River from the Dolores Project which depletes the Dolores River.</p> <p>3. ES-6 It remains unclear how the state standard for SE is relevant for purposes of ESA.</p> <p>--The initial goal of the selenium management program called for in the PBO is to meet state water quality standards for selenium. The ultimate goal is to reduce selenium concentrations to the point that selenium does not adversely affect recovery of the endangered fish.</p> <p>4. Revise "the right calls for a spring peak" to "the right provides for a spring peak." See comments regarding Black Canyon Decree and NPS Water Right above.</p> <p>--EIS changed pursuant to this comment.</p> <p>5. Revise language regarding the NPS Water Right to correspond with proposed edits in Attachment A.</p> <p>--See SLG-01-03</p> <p>6. I-I Clarify the purpose for changing "maintain congressionally authorized purposes" to "meet congressionally authorized purposes."</p> <p>--The intent is to continue to meet the authorized purposes. The word maintain is also appropriate and both are used in the final EIS.</p> <p>7. 1-2 Clarify the basis for identifying the geographic scope as including "the downstream Colorado River." See comment regarding Geographic Scope above.</p> <p>--The Flow Recommendations address flows in the Gunnison River and in the Colorado River downstream from the Gunnison confluence. Aspinall operations address flow depletions in the Colorado River from the Dolores Project which depletes the Dolores River.</p> <p>8. See comments regarding Purpose and Need above.</p> <p>--Language from the DEIS has been used.</p> <p>9. 1-5 The newly inserted sentences regarding the Black Canyon Water Right are out of place 1-7 and unnecessary to the discussion in these paragraphs. Recommend moving to end of section on page 1-8</p> <p>--Language clarified in the final EIS.</p>

State and Local Governments (SLG) (cont.)	
SLG-02-07 (cont.)	<p>10. 1-17 Please verify that the table with Flow Recommendations contemplates the negotiated qualifiers regarding targets, maximums and durations.</p> <p>--This table is directly from the Flow Recommendations and as such does not contemplate the negotiated qualifiers regarding targets, maximums and durations. These are contemplated in the Action Alternatives.</p> <p>11. 1-19 Revise language regarding NPS Water right to correspond with proposed edits in Attachment A. See comments regarding Black Canyon Decree and NPS Water Right, above.</p> <p>--See SLG-01-03.</p> <p>12. 1-20 Revise language to correspond with proposed edits in Attachment A.</p> <p>--See SLG-01-03.</p> <p>13. 1-21 The selenium standard for fish purposes remains uncertain.</p> <p>--The initial goal of the selenium management program is to meet the state standard. The long-term goal is to reduce selenium concentrations to the extent that selenium does not impede the recovery of the endangered fish.</p> <p>14. 2-1 The list of non-discretionary operations should be all inclusive.</p> <p>--River regulation has been added to list of non-discretionary operations.</p> <p>15. 2-2 Revise "the right generally calls for a one-day spring peak" to "the right generally provides for a one day spring peak. ..." The right does not call for anything. Revise "and a 300 cfs minimum flow" to "and a 300 cfs year-round flow." See comments regarding the Black Canyon Decree and NPS Water River above.</p> <p>--The term "calls for" has been appropriately replaced by "provides for". "300 cfs minimum flow" has been replaced by "300 cfs year-round flow".</p> <p>16. 2-3 Revise language to correspond with proposed edits in Attachment A.</p> <p>--See SLG-01-03.</p> <p>17. 2-7 See comment regarding "use of storage" above.</p> <p>--Section 1.1.5 of the final EIS describes the authority for the proposed action including the use of storage to assist in meeting Flow Recommendations for endangered fish.</p> <p>18. 2-14 Uncertainties regarding selenium should be reinserted.</p> <p>--This uncertainty was deleted based on information from the Programmatic Biological Opinion.</p> <p>19. 2-15 Revise language to correspond with proposed edits in Attachment A.</p> <p>--Attachment A was developed by several cooperating agencies to better describe the Black Canyon reserved right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.</p>

State and Local Governments (SLG) (cont.)	
SLG-02-07 (cont.)	<p>20. 2-18 The "minimum flow" refers to the year-round, non-peak and non-shoulder flows as a quantified portion of the NPS Water Right. There is no guarantee that these flows will exist and no obligation to provide release of stored safe-yield water to produce this amount..." See comments regarding the Black Canyon Decree and NPS Water Right above.</p> <p>--The State is correct; there is no obligation to provide release of stored safe-yield water to produce this year-round flow. This release of storage would be at the discretion of the Secretary.</p> <p>21. 2-24 The table should note direct flows are assumed to available for the NPS Water Right.</p> <p>--This table (2. 4 1) shows a comparison of 8 initial alternatives. Reclamation does not believe this comment would add value to the EIS.</p> <p>22. 2-27 Revise "This is because both now call for an increased ..." to "this is because both now provide for an increased ..." Also the modeling for the NPS Water Right should note that it is assumed direct flows are available to accomplish the water right.. See comments regarding the Black Canyon Decree and NPS Water Right above.</p> <p>--Changes made pursuant to this comment.</p> <p>23. Revise language to correspond with proposed edits in Attachment A. See comments regarding Black Canyon Decree and NPS Water Right above.</p> <p>--See SLG-01-03.</p> <p>24. Under "Scope" why was the scope changed to include the Colorado River? See comment regarding Geographic Scope above.</p> <p>--The Flow Recommendations address flows in the Gunnison River and in the Colorado River downstream from the Gunnison confluence. Aspinall operations address flow depletions in the Colorado River from the Dolores Project which depletes the Dolores River.</p> <p>25. Why change from "passed through" to "storage released from?"</p> <p>--Water released from the Unit may be inflow passed through or water that is stored and then released.</p> <p>26. See comment regarding "use of storage" above.</p> <p>--The Flow Recommendations address flows in the Gunnison River and in the Colorado River downstream from the Gunnison confluence. Aspinall operations address flow depletions in the Colorado River from the Dolores Project which depletes the Dolores River.</p> <p>29. Revise "This right calls for a spring peak ..." to "This right provides for a spring peak"</p> <p>--Done.</p> <p>30. Make format of tables consistent; correct typo in last table on 3-29 - i.e., change "Ave" to "Avg."</p> <p>--Done.</p> <p>31. What is the "recommended flow regime for the reserved right?"</p> <p>--The Black Canyon Decree describes the "recommended flow regime for the reserved right".</p>

State and Local Governments (SLG) (cont.)	
SLG-02-07 (cont.)	<p>32. Revise language to correspond with proposed edits in Attachment A. See comments regarding the Black Canyon Decree and NPS Water Right, Coordination between endangered fish flows and NPS Water Rights and Use of Storage above.</p> <p>--See SLG-01-03.</p> <p>33. What is the basis for the claimed source of selenium?</p> <p>--Extensive studies have been conducted by the U.S. Geological Survey and others on the sources of selenium in the Gunnison River. References are found in the PBO and biological assessment associated with this EIS.</p> <p>34. Why change from CRSPA obligations to contract obligations?</p> <p>--This change was made at the request of the Western Area Power Administration.</p> <p>35. What is the basis for presuming that the No Action has the same amount of release?</p> <p>--Over the 31 year study period, the volume of water released must be assumed to be the same in all alternatives.</p> <p>36. It would be helpful to clarify why the NPS Water Right alters the No Action alternative.</p> <p>--Section 2.3.1 addresses the No Action alternative and the Black Canyon NP Water Right. The right is a significant downstream senior right and would affect operations under the No Action alternative. Because of similarities between the Black Canyon NP Water Right and the action alternatives, inclusion of the Black Canyon NP Water Right does not have as much effect.</p>
SLG-03-01	Ramping rates were already included the DEIS and will be included in the Record of Decision along with minimum flow plans.
SLG-03-02	The PBO (Appendix B in Volume II) addressed endangered species and recognized that Aspinall operations would offset impacts to endangered fish from those projects. Other native and sport fish are beyond the scope of the PBO and EIS. Reclamation, however, will continue to work with the CDOW to help resolve fishery issues with these projects.
SLG-03-03	See response SLG-03-02 above.
SLG-04-01	Revisions have been made to address the state concerns concerning alternatives and the Black Canyon NP Water Right with the intent of accurately describing water rights in the state of Colorado.
SLG-04-02	Changes have been made as suggested.
SLG-04-03	Reclamation is not under an obligation to meet the Black Canyon NP Water Right under Colorado water law, unless the Secretary of Interior decides to place a call. Without placing a call, upstream junior water rights may continue their diversions. Actions taken by Reclamation in regard to the Black Canyon NP water right in the absence of a valid call under Colorado water law are discretionary and can still be considered part of the No Action Alternative, just as other discretionary operational actions described in the EIS under the No Action Alternative.
SLG-04-04	Identified language will continue to be used.
SLG-04-05	Water is released from the Aspinall Unit for a variety of purposes and, as the State of Colorado suggests, at any time this water can be described as a release of water previously stored pursuant to the Unit's storage rights, release of direct flows pursuant to the Unit's direct flow water rights, or bypasses of inflow in response to a downstream call. This EIS considers all of these types of releases to meet downstream purposes including endangered fish and the Black Canyon NP Water Right, but identifying each type under each context in this EIS is impractical as the type of release is dependent upon a myriad of factors including inflows, type of inflows (storage from Taylor Park), downstream calls and others. The model used to analyze alternatives in this EIS was not designed to identify each type of release under every condition.

State and Local Governments (SLG) (cont.)	
SLG-04-06	Operations to attempt to achieve goals described in the Flow Recommendations and this EIS will be achieved as described in Section 2.3.3 This EIS describes relative impacts between action alternatives and the No Action. This EIS does not presume there will an increase in frequency of operations to achieve the Black Canyon NP Water Right as mentioned in this comment. The EIS however does
SLG-04-07	Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon NP Water Right Decree shall be resolved through examination of the Decree.
SLG-04-08	<p>1. ES-1 Refers to minimum downstream flow requirements. <i>See Overview #3, supra</i></p> <p>--This is a general statement regarding the purposes of the Aspinall Unit which may include discretionary releases to meet downstream flow requirements for trout or other flow goals which may be identified such as described in the Black Canyon NP Water Right. <i>See SLG-04-03.</i></p> <p>2. ES-2 Refers to use of storage. <i>See Overview #4, supra.</i></p> <p>--Action Alternatives B, C, and D may require releases from storage of water which may be characterized in the variety of ways as described in the State's Overview #4. <i>See SLG-04-05.</i></p> <p>3. ES-3 Reference to settlement negotiations for the Black Canyon NP water right should be deleted.</p> <p>--Reclamation believes the wording presents an accurate picture of the timing of the Black Canyon NP Water Right quantification and the completion of the EIS.</p> <p>4. ES-5 Omits the Black Canyon NP water right from the list of discretionary actions analyzed as part of Reclamation's proposed federal action regarding water operations and management of the Gunnison Basin. <i>See Overview #5, #6.</i></p> <p>--Wording has been changed. The Fish and Wildlife Service was involved in the negotiation of the Black Canyon NP Water Right and were in possession of the Decree during preparation of the PBO.</p> <p>5. ES-6 References to Black Canyon NP water right minimum flows and proposition that Reclamation will meet the water right when exercised. <i>See Overview #2, 3, supra.</i> Instead Reclamation would be curtailed in response to a call as directed by the State water administration officials.</p> <p>--When the Secretary exercises the Black Canyon NP Water Right, Reclamation shall undertake operation actions consistent with the Black Canyon Decree and in accordance with applicable laws. If the Secretary places a water right call in the exercise of the Black Canyon NP Water Right, Reclamation shall also comply with valid administrative orders from the Colorado State Engineer or the Division Engineer related to the administration of the decree. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree.</p> <p>6. ES-6 Uses term "calls for" in relation to a water right without regard to placing a valid call. <i>See Overview #1, supra.</i></p> <p>--Changes made as suggested.</p> <p>7. ES-6 Foreshadows that range of actions necessary to "satisfy" the decree are discussed to demonstrate how such actions are consistent with the historic range of operations for the Aspinall Unit. Yet, the subsequent discussion does not clarify how the historic operations can be used to "satisfy" the decree consistent with existing laws. <i>See Overview # 5, supra.</i></p> <p>--Reclamation's intent is to coordinate operations under the preferred alternative and the Black</p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p>Canyon NP Water Right and other senior water rights. Operations will be coordinated with the State of Colorado and other cooperators.</p> <p>8. 1-1 1.1.2 To avoid unintended expansion of authorized purposes for the Aspinall Unit, recommend inserting “maintain and” between “would” and “meet” in the second paragraph of Section 1.1.2. <i>See Section 1.1.4</i> for consistency.</p> <p>--Change made as suggested.</p> <p>9. 1-5 1.2.1 What are the minimum downstream flow requirements as referenced? Also, recommend moving reference to the Black Canyon NP Water Right in the paragraph referring to non-discretionary actions to avoid mischaracterization or misunderstandings. Finally, it may be inappropriate to characterize litigation settlement negotiations in the NEPA documents.</p> <p>--Minimum downstream flow requirements refer to downstream senior water rights and the junior state instream flow rights. Reclamation does not believe suggested changes are necessary.</p> <p>10. 1-6 1.2.2 Uses term “calls for” in relation to fish flows. <i>See Overview # 1, supra.</i></p> <p>--Change made as suggested.</p> <p>11. 1-18 1.2.6 Refers to flow of no less than 300 cfs out of context. <i>See Overview # 3, supra.</i></p> <p>--We have considered the language provided by the State and other cooperators and utilized what is felt to be appropriate in this EIS. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon NP Water Right Decree shall be resolved through examination of the Decree.</p> <p>12. 1-18 1.2.6 States that Reclamation will meet the Black Canyon NP Water Right when exercised. <i>See Overview # 2, supra.</i></p> <p>--When the Secretary exercises the Black Canyon NP Water Right, Reclamation shall undertake operation actions consistent with the Black Canyon Decree and in accordance with applicable laws. If the Secretary places a water right call in the exercise of the Black Canyon NP Water Right, Reclamation shall also comply with valid administrative orders from the Colorado State Engineer or the Division Engineer related to the administration of the decree. The Department of Interior has considered the language provided by the State and other cooperators and utilized what is felt to be appropriate in this EIS. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree.</p> <p>13. 1-18 1.2.6 Does not describe all water rights subordinations in the Black Canyon NP water right. <i>See Overview #6 re: NEPA analysis of Black Canyon right, supra.</i></p> <p>--When the Secretary exercises the Black Canyon NP Water Right, Reclamation shall undertake operation actions consistent with the Black Canyon Decree and in accordance with applicable laws. If the Secretary places a water right call in the exercise of the Black Canyon NP Water Right, Reclamation shall also comply with valid administrative orders from the Colorado State Engineer or the Division Engineer related to the administration of the decree. The Department of Interior has considered the language provided by the State and other cooperators and utilized what is felt to be appropriate in this EIS. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree.</p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p>14. 2-2 2.2 Potential Scoping Inconsistency - Description of modeling encompassing the Gunnison River Basin to the confluence of the Colorado River is inconsistent with the description of the scope in Section 1.1.3., including the downstream Colorado River.</p> <p>--The Flow Recommendations address flows in the Gunnison River and in the Colorado River downstream from the Gunnison confluence. Aspinall operations address flow depletions in the Colorado River from the Dolores Project which depletes the Dolores River.</p> <p>15. 2-2 2.3 Refers to Black Canyon NP water right minimum flow. Uses terms calls for. <i>See</i> Overview #3, #1 <i>supra</i>.</p> <p>--Changed as suggested.</p> <p>16. 2-3 2.3.1.1 Does not describe all water rights subordinations in the Black Canyon NP water right. <i>See</i> Overview #6 re: NEPA analysis of Black Canyon right, <i>supra</i>.</p> <p>--When the Secretary exercises the Black Canyon NP Water Right, Reclamation shall undertake operation actions consistent with the Black Canyon Decree and in accordance with applicable laws. If the Secretary places a water right call in the exercise of the Black Canyon NP Water Right, Reclamation shall also comply with valid administrative orders from the Colorado State Engineer or the Division Engineer related to the administration of the decree. The Department of Interior has considered the language provided by the State and other cooperators and utilized what is felt to be appropriate in this EIS. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree.</p> <p>17. 2-3 2.3.1.1 States that Reclamation will meet the Black Canyon NP water right when exercised. <i>See</i> Overview #2, <i>supra</i>.</p> <p>--When the Secretary exercises the Black Canyon NP Water Right, Reclamation shall undertake operation actions consistent with the Black Canyon Decree and in accordance with applicable laws. If the Secretary places a Water Right call in the exercise of the Black Canyon NP Water Right, Reclamation shall also comply with valid administrative orders from the Colorado State Engineer or the Division Engineer related to the administration of the decree. The Department of Interior has considered the language provided by the State and other cooperators and utilized what is felt to be appropriate in this EIS. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree.</p> <p>18. 2-4 2.3.1.1 Same as specific comment 7, <i>supra</i>.</p> <p>--Reclamation's intent is to coordinate operations under the preferred alternative and the Black Canyon and other senior water rights. Operations will be coordinated with the State of Colorado and other cooperators.</p> <p>19. 2-4 2.3.1.2 3rd bullet item To avoid unintended expansion of authorized purposes for the Aspinall Unit, the new term "environmental purposes" should be changed back to "endangered fish."</p> <p>--Under the No Action alternative, there would be no special operations or flows for the endangered fish.</p> <p>20. 2-6 2.3.2.3 Although CWCW remains unclear about reference to use of storage water, <i>see</i> Overview #4, <i>supra</i>, the remainder of this text should be changed to be consistent with the language in section 2.3.1.2.</p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p>--This language is not consistent because they describe operations for different alternatives.</p> <p>21. 2-7 2.3.3.1 Refers to minimum downstream release for instream flow through the Black Canyon NP and Gunnison Gorge NCA. <i>See</i> Overview #3, <i>supra</i>.</p> <p>--The basis for this language is a description of the operational concepts of the alternative and was used in developing the model rule-sets used to calculate flows for each alternative. It is not meant to describe the Black Canyon NP Water Right. Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree. Reclamation is satisfied with this section as written.</p> <p>22. 2-9 2.3.3.3 Refers to minimum release criteria to provide at least 300cfs and minimum flow rate for Black Canyon NP water right. <i>See</i> Overview #3.</p> <p>--See response SLG-04-08 21. above.</p> <p>23. 2-14 2.3.6.4 The CWCB appreciates the PFEIS' inclusion of State of Colorado among those to be appraised on current Aspinall Unit operations, including the Black Canyon NP water right. For consistency sake, we recommend referencing Fish Flow targets in addition to the water right, and providing notice to the CWCB and others in addition to NPS on April 1 regarding project operations.</p> <p>--Change made as suggested.</p> <p>24. 2-16 2.3.6.6 The second bullet point references a minimum flow right of 300 cfs. <i>See</i> Overview #3, <i>supra</i>.</p> <p>--See response SLG-04-08 21. above.</p> <p>25. 2-17 to 2-18 2.3.6.6 Refers to use of storage water from remaining yield that may be developed. <i>See</i> Overview #4, <i>supra</i>.</p> <p>--See SLG-04-05.</p> <p>26. 2-18 to 2-19 2.4 Refers to releases of water and use of storage for No Action and Action Alternatives. No action alternative refers to releases in excess of the Aspinall Unit's needs. <i>See</i> Overview #4, <i>supra</i></p> <p>--Wording has been changed.</p> <p>27. 2-21 2.4.2.1 The indented paragraph starting with "Forecasted Blue Mesa Reservoir . . ." is missing a closing parenthetical or a phrase.</p> <p>--Clarified.</p> <p>28. 2-24 2.5.1 Refers to Black Canyon NP water right minimum flow amount. Overview #3, <i>supra</i>.</p> <p>--See response SLG-04-08 21. above.</p> <p>29. 2-25 2.7 Reference to Black Canyon NP Water Right negotiations, rather than to decree, should be removed.</p> <p>Wording corrected.</p> <p>30. 2-25 2.7 Uses the term "call for" in describing the need for an increased frequency of high spring</p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p>peaks. <i>See</i> Overview #1, <i>supra</i>.</p> <p>--Wording corrected.</p> <p>31. 2-25 2.7 Although the PFEIS surmises that all operations will remain within the range of historical flows, CWCB is still unclear as to how these operations will fit within the authorized purposes of the Aspinall Unit and whether changes in operations (historic release pattern) within the range of historical flows will have unforeseen impacts. <i>See</i> Overview #5, <i>supra</i>.</p> <p>--Operations will be within the range of historical flows; however, there will still be changes in the operations to assist in meeting endangered fish Flow Recommendations. The EIS evaluates the impacts of the new operations and Reclamation believes the new operations continue to meet and maintain authorized purposes.</p> <p>32. 3-1 3.1 Uses term “calls for” with regard to discretionary operation of the Black Canyon NP water right and regard to “fish flows.” <i>See</i> Overview #1, <i>supra</i>.</p> <p>--Wording corrected.</p> <p>33. 3-7 3.3.1 Refers to impacts to storage based on yield for end of month and end of storage year without apparent regard to water rights analysis. <i>See</i> Overview #4, <i>supra</i>.</p> <p>--See SLG-04-05.</p> <p>34. 3-9 to 3-11 3.3.1.1.B Reference to “use of storage” releases needs clarification, including how storage analysis considers impact to water rights. <i>See</i> Overview #4, <i>supra</i>.</p> <p>--Water right impacts are adequately described in Section 3.3.1, 3.3.1.1D, and 3.3.1.2C. <i>See</i> SLG-04-05.</p> <p>35. 3-25 3.3.1.2 It is unclear that Reclamation considered an impact to its water rights when concluding that the Aspinall Units may “re-set” themselves. This should be clarified.</p> <p>--See SLG-04-05.</p> <p>36. 3-25 3.3.1.2 Uses term “calls for” in reference to the discretionary exercise of the Black Canyon NP water right. <i>See</i> Overview #1, <i>supra</i>.</p> <p>--Wording corrected.</p> <p>37. 3-25 3.3.1.2 Reclamation should clarify the potential inconsistency associated with asserting that exercise of the water right exercise for Black Canyon NP water right is both within the No Action Alternative and “calls for” flows similar to Alternative B.</p> <p>--The term calls for should be changed to “includes.” However it is correct to say that the reserved right is included in No Action and action alternatives.</p> <p>38. 3-27 3.3.1.2.B Uses term “calls for.” <i>See</i> Overview #1, <i>supra</i>.</p> <p>--Wording corrected.</p> <p>39. 3-27 3.3.1.2.B “Use of storage” is mentioned or charted without explanation of how storage is used. <i>See</i> Overview #4, <i>supra</i>.</p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p>--See SLG-04-05.</p> <p>40. 3-31 3.3.1.2.C Refers to releases from Aspinall Unit and “use of storage when necessary”. <i>See Overview #4, supra.</i></p> <p>--See SLG-04-05.</p> <p>41. 3-32 3.3.1.2.C Description of Black Canyon NP water right is not consistent with the description in the first paragraph of section 2.3.1.1, including reference to minimum flows. <i>See Overview #3, supra.</i></p> <p>--Minimum changed to year-round.</p> <p>42. 3-32 3.3.1.2.C Uses term “calls for.” <i>See Overview #1, supra.</i></p> <p>--Wording corrected.</p> <p>43. 3-32 3.3.1.2.C Refers to operations to meet Black Canyon NP Water Right. <i>See Overview #2, Supra.</i></p> <p>--Recommended flow regimes for endangered fish and the Black Canyon Water Right are generally compatible in that they both are based on hydrologic conditions and both provide for spring peak flows in the Gunnison River. With the Black Canyon NP Water Right assumed to be exercised and included in each of the alternatives, the incremental impacts of the action alternatives for the endangered fish flows are generally lessened in comparison to the impacts portrayed in the DEIS. Endangered fish flows are targeted further downstream in critical habitat and also provide for a longer duration of the peaks while the Black Canyon NP Water Right provides for a one day peak. Thus, impacts from operating to meet endangered fish peak flows are not significantly altered by meeting the one day Black Canyon NP Water Right peak flow.</p> <p>44. 3-32 3.3.1.2.C The PFEIS should clarify how adjustments to provide for both the Black Canyon NP Water Right and fish Flow Recommendations will comport with existing law and the authorized purposes for the Aspinall Unit. It should further clarify how such adjustments will avoid impacts. <i>See Overview #5, supra.</i></p> <p>--Reclamation’s intent is to coordinate operations under the preferred alternative and the Black Canyon NP Water Right and other senior water rights. Operations will be coordinated with the State of Colorado and other cooperators.</p> <p>45. 3-34 3.3.1.2.C Use of releases.</p> <p>--This section has had significant modifications.</p> <p>46. 3-34 3.3.1.2.C Refers to Aspinall Unit releases. <i>See Overview #4, supra</i> 3-34 3.3.1.2.C Refers to operations to meet the Black Canyon NP water right. <i>See Overview, #2, supra.</i></p> <p>--It is important to note that examples of actions which may possibly be undertaken to meet the Black Canyon NP Water Right are based on “perfect knowledge” of past conditions using the results of the Riverware Hydrology model, and are discussed to serve as examples of how operations could be modified in the future under similar conditions to meet the Black Canyon NP Water Right peak flows. Future conditions may not replicate the modeled historical hydrology. Actual operational conditions will require adjustments to be made in real time under constantly changing conditions.</p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p>47. 3-33-to 3-35 “Notation B” explains that adjustments in operations “will be required to meet peak flows.” Table 3.3-8 sets forth peak flows above that allowed by the Flood Control Manual. On page 3-35, the PFEIS correctly states that “in high water years, there may be significant risks of flooding Delta and the Black Canyon decree requires Reclamation to give highest priority to flood control.” Given these statements, Reclamation should clarify how operations will be implemented to avoid flooding and to remain consistent with authorized purposes and existing laws. <i>See Overview #4, #5, #6.</i></p> <p>--The description of how operations will be implemented are provided in the final EIS. It is important to note that examples of actions which may possibly be undertaken to meet the Black Canyon NP Water Right are based on “perfect knowledge” of past conditions using the results of the Riverware Hydrology model, and are discussed to serve as examples of how operations could be modified in the future under similar conditions to meet the Black Canyon NP Water Right peak flows. Future conditions may not replicate the modeled historical hydrology. Actual operational conditions will require adjustments to be made in real time under constantly changing conditions. In modeled years identified as Notation A and B in Table 3.3- 9, a variety of modifications to operations depicted by the Riverware model may be undertaken in order to allow the Black Canyon NP Water Right and endangered fish flow targets to be met with one peak flow operation at the Aspinall Unit. For instance, in years with moderate Black Canyon NP Water Right peak targets in the 6,000 to 8,000 cfs range, the use of spillways at the Aspinall Unit may be utilized in conjunction with improved timing with tributary inflows. In years with lower water right peak targets, it may be as simple as increasing releases from the bypasses within the Aspinall Unit. Higher target years are often more complicated and in some cases it may be necessary to conduct peak releases from the Aspinall Unit either before or after the peak runoff of the North Fork Gunnison River in order to meet the flow targets but avoid flooding in Delta. In all cases, consideration will be given to the timing of Aspinall Unit storage and release operations to efficiently and safely allow the delivery of peak flows utilizing bypasses, power releases, spillways, and tributary flows as necessary. Yearly operation plans to meet the Black Canyon NP Water Right, endangered fish Flow Recommendations, and Unit purposes will be developed in coordination with the State of Colorado, the National Park Service, Reclamation, Western, the Service and other affected interests through the established Aspinall Operations coordination process in order to ensure that operational decisions to exercise this right are in accord with the best available information and with full consideration of river management issues. Wetter years will require an increased level of planning, analysis, and coordination and communication among all stakeholders. Under each of the alternatives, existing spring flood control operations would be continued by using discretion and being proactive to keep 14,000 cfs, or normally considerably less, in the Gunnison River measured at the gage above the Uncompahgre River confluence.</p> <p>48. 3-56 3.3.2.2.C Uses term “call.” <i>See Overview #1, supra.</i></p> <p>--Wording corrected.</p> <p>49. 3-65 3.3.4.1 Uses term “call” in water rights administration context. <i>See Overview #1, supra.</i></p> <p>--Wording corrected.</p> <p>50. 3-75 3.3.5.1.D Refers to minimum flow. <i>See Overview #3, supra.</i></p> <p>--This section refers to what has occurred in the past. “Reservoir operations have provided a minimum flow of at least 300 cfs through the Gunnison Gorge NCA except in extreme droughts.....since the mid 1980’s.” There is no need to reference the Black Canyon NP Water Right here.</p> <p>51. 3-144 3.3.10.2.B Refers to level of assurance for mainstem flows based on Black Canyon NP water right. Refers to Reclamation meeting the Black Canyon NP water right. <i>See Overview #2, #3,</i></p>

State and Local Governments (SLG) (cont.)	
SLG-04-08 (cont.)	<p><i>supra.</i></p> <p>--Changed.</p> <p>52. 4-1 4.2.2 Refers to minimum flow. <i>See Overview #3, supra.</i></p> <p>--Changed- however this was not intended to be in context of the Black Canyon NP Water Right.</p>
Power and Water Interests (PWI)	
PWI-01-01	Reclamation concurs and the PBO does provide the desired ESA compliance.
PWI-02-01	Reclamation concurs and the PBO does provide the desired ESA compliance.
PWI-02-02	It is recognized that every selenium sample does not exceed the state standard. Clarified in text.
PWI-03-01	Summary of work products are included in the EIS. Specific background material may be obtained from Reclamation.
PWI-03-02	Attachment A include in the comment was developed by several cooperating agencies to better describe the Black Canyon NP Water Right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.
PWI-03-03	Clarifying language has been included in the final EIS
PWI-03-04	Double peaks are not proposed in the EIS. The final EIS provides additional information on the Black Canyon NP Water Right.
PWI-03-05	Reliability paragraph has been restored to the EIS; Black Canyon NP Water Right is now included in all alternatives including No Action. The area analyzed continues to include the Colorado River because the Flow Recommendations include both the Gunnison River as measured at Whitewater and the Colorado River as measured at the Stateline.
PWI-03-06	Cost to hydropower was analyzed by Western Area Power Administration and has been reviewed. Potential impacts to Tribal power purchases included in the final EIS. WAPA has provided a hydropower impact analysis showing the effects of including the Black Canyon NP Water Right in the No Action and Preferred Alternative. With the Black Canyon NP Water Right included in the No Action and Preferred Alternative the economic cost of the Preferred Alternative on hydropower generation at the Aspinall Unit is a 0.35% reduction when compared to the average annual economic value of electrical generation at the Unit. The impact to hydropower generation at the Aspinall Unit by implementing the Preferred Alternative is quite small.
PWI-03-07	Language from the draft EIS has been reinserted in the final EIS to address this concern.
PWI-03-08	Weighted averages were considered in early modeling discussions and all cooperating agencies agreed on the current modeling method. Ramping rates may be adjusted in the future through adaptive management. Language describing Secretarial discretion related to the Black Canyon NP Water Right decree is included in the final EIS. Consideration of North Fork flows is critical to timing peak operations as described in the EIS. Language from the draft EIS has been restored recognizing that the preferred alternative is designed to continue to meet authorized purposes. Also see response to ENV01-02 DEIS.
PWI-03-09	Reclamation agrees, as is stated in the Decree in Paragraph 31.5, that the Black Canyon NP Water Right is a direct flow right and that it is not a storage right. However, the Decree also states in Paragraph 25 that "In order to implement the accommodation of the parties and efficiently allow the streamflow patterns contemplated by Paragraph 31.5, the use of the Aspinall Unit, including its storage and release capacity, may be needed in some years." Any discrepancy between the descriptions of the Black Canyon NP Water Right in this EIS and the Black Canyon Water Right Decree shall be resolved through examination of the Decree.
PWI-03-10	See Section 2.3.6.1 of the final EIS and DEIS. The suggested language was used as the basis for section of the report. More discussion on adaptive management is found in 2.3.6.2.
PWI-03-11	Secretarial discretion is clarified in the final EIS. Reclamation believes that the preferred alternative is consistent with authorized purposes of the Aspinall Unit.

Power and Water Interests (PWI) (cont.)	
PWI-03-12	Additional information has been included in the final EIS concerning the Black Canyon NP Water Right.
PWI-03-13	There is no intent to infer anything about authorized purposes in this section.
PWI-03-14	Section 1.1.5 presents the authority for selecting and implementing the preferred alternative. Actions proposed are not “contrary to CRSP.”
PWI-03-15	The Recovery Program is designed to recover endangered fish species while allowing existing and future water use and development to continue. The preferred alternative is designed to assist in recovery and in continuing to meet and maintain authorized Aspinall Unit purposes.
PWI-03-16	Authority of the proposed action is discussed in Section 1.1.5.
PWI-03-17	There were experimental flows provided for research activities during this period and operations change annually dependent on water supplies, weather patterns, input from cooperators and other factors. There were no irreversible or irretrievable changes made in this period of operations.
PWI-03-18	Hydropower impacts have been analyzed and are included in the EIS. The analysis has been updated to include the impacts of inserting the Black Canyon NP Water Right into the No Action and action alternatives. Hydropower impacts are discussed within the Hydropower section which does not contain discussion of sports fisheries or recreation. The hydropower analysis was provided by Western as one of our cooperators. The period of record for the model analysis has been discussed at length and all cooperating agencies agreed and determined it to be adequately representative of the variety of hydrologic conditions that may be experienced within the Gunnison Basin. The impact of spillway usage under the action alternatives is discussed in Section 3.3.3.2B.
PWI-03-19	CREDA’s estimation of the potential reduction in average annual Aspinall Unit water storage due to increased Black Canyon flows appears to be extremely large. The average annual storage usage from the Aspinall Unit to meet Alt C is just over 44,000 af/yr. It seems unlikely that meeting a 1 day peak target in the Black Canyon NP could use over 2 times the storage compared to an alternative that meets peak targets at Whitewater that can be up to 15 to 25 days long. WAPA has provided a hydropower impact analysis that evaluates the impact of adding the Black Canyon NP Water Right to the No Action and Preferred Alternative. The average annual economic cost of the Preferred Alternative with the Black Canyon NP Water Right is estimated to be \$148,000/yr when compared to the No Action with the Black Canyon NP Water Right. Even when the Preferred Alternative with the Black Canyon NP Water Right is compared to the original No Action without the Black Canyon NP Water Right, the average annual economic cost is \$981,000/yr, far below the estimates provided by CREDA or the Reclamation power office from the 2002 analysis. Western has provided a hydropower impact analysis.
PWI-03-20	Section 3.3.11 in the draft EIS addressed this issue and concluded that there would be no disproportionally high and adverse human health and environmental effects or other negative operational-related impacts to Tribes or minority and low-income populations.
PWI-03-21	<p>The comment is correct in that the purpose of the proposed action for the Aspinall EIS differed from the purpose stated for the Flaming Gorge EIS. The comment reflects a concern that the Aspinall operations should assist in recovery of endangered fish in addition to avoiding jeopardy.</p> <p>Reclamation believes the Aspinall Unit language is correct. Reclamation is required to avoid jeopardy to endangered species; and operations are authorized, but not required, to assist in recovery. The purpose as written does not preclude having or selecting an alternative that assists in recovery. Reclamation’s intent is to assist in recovery.</p>
PWI-03-22	The preferred alternative was selected from a range of alternatives and meets the purpose and need of the proposed action. The preferred alternative is compatible with the Black Canyon NP Water Right.
PWI-03-23	Reclamation believes that the draft and final EIS’s meet the intent and regulations of NEPA and a supplement is not needed.
PWI-03-24	<p>1. ES-1 Revise “water development facility” to “multi-purpose project”.</p> <p>--Done.</p>

Power and Water Interests (PWI) (cont.)	
PWI-03-24 (cont.)	<p>2. Insert “and produces hydropower” after “manages water” in last sentence, first paragraph.</p> <p>--Done.</p> <p>3. Purpose and Need sentence 1 should include “and continuing to meet all of the congressionally” after “maintaining” to ensure consistency with the FRN.</p> <p>--Done.</p> <p>4. ES-2 Revise “flow needs of” to “Flow Recommendations for”</p> <p>--Done.</p> <p>5. Delete the parenthetical “(such as in excess of filling Blue Mesa Reservoir and in excess of producing hydropower)”, or revise the hydropower reference to describe bypassing the powerplant.</p> <p>--The hydropower reference was clarified in the final EIS as suggested.</p> <p>6. ES-3 Revise first sentence to “while maintaining and continuing to meet all the congressionally authorized purposes”</p> <p>--Done.</p> <p>7. Is the last sentence correct or is it pre-decisional?</p> <p>--Language modified; it is not pre-decisional.</p> <p>8. ES-7 Delete “minor to moderate” in bullet referring to impacts to resources such as sport fisheries, hydropower generation, and recreation, as it is a subjective assessment of comments received.</p> <p>--Language was retained.</p> <p>9. 1-1 1.1.2 What was the purpose for changing “maintain” to “meet” in the second paragraph?</p> <p>--Cooperators suggested that “meeting” authorized purposes was more appropriate language than “maintaining” authorized purposes. Has been clarified.</p> <p>10. 1-2 1.1.3 Why was “in western Colorado” deleted? As drafted, it is unduly broad. It is also inconsistent with the description of the Unit’s operational modeling scope on p. 2-2.</p> <p>--No change necessary; study area includes Colorado River.</p> <p>11. 1.1.4 Why was the Purpose revised? At a minimum, re-insert “while maintaining and continuing to meet all” before “the authorized purposes” in first paragraph</p> <p>--Concur.</p> <p>12. Delete the newly added last sentence of paragraph 2. It goes beyond “assist in the recovery of” and is unduly broad by referring to “and other reservoirs”.</p> <p>--Examples given in final EIS; “assist in recovery” is appropriate.</p>

Power and Water Interests (PWI) (cont.)	
PWI-03-24 (cont.)	<p>13. 1-3 Recommend substituting first full paragraph with language proposed by CREDA, WAPA and State of Colorado.</p> <p>--Information from Exhibit A has been considered in finalizing the EIS.</p> <p>14. 1-6 1.2.1 Why was the last sentence of the first paragraph revised? The original DEIS language must be reinstated: “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.” Not all reliability obligations are “contractual”.</p> <p>--Change made as suggested.</p> <p>15. 1-7 1.2.2 Why was “other resources” added? Please be specific.</p> <p>--Example given in final EIS.</p> <p>16. 1-18 1.2.6 See attached Exhibit A.</p> <p>--Information from Exhibit A has been considered in finalizing the EIS. Attachment A was developed by several cooperating agencies to better describe the Black Canyon NP Water Right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.</p> <p>17. 1.2.7 See attached Exhibit A.</p> <p>--Information from Exhibit A has been considered in finalizing the EIS. Attachment A was developed by several cooperating agencies to better describe the Black Canyon NP Water Right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.</p> <p>18. 1-21 1.4 Colorado Water Conservation Board is listed twice</p> <p>--Corrected.</p> <p>19. 1-22 1.6.1 Why was the reference to CRSPA section 8 changed? This change is inconsistent with, for example, the same table in the Navajo Dam Operations PFEIS.</p> <p>--Explained in footnote.</p> <p>20. 2-1 2.1 The parenthetical “(i.e. flood control, water contracts, regulatory requirements)” should be deleted as it is not complete. Reference could be made to page A-28 of Vol. 2 of the PFEIS. For instance, river regulation is non-discretionary.</p> <p>--River regulation added in final EIS.</p> <p>21. 2-1 2.2.1 Why was the first sentence revised? Hydrologic modeling and operational discretion should be reinserted in the introductory sentence.</p> <p>--This section is for initial plan formulation, comment not applicable.</p> <p>22. 2-3 2.3.1.1 See attached Exhibit A.</p> <p>--Information from Exhibit A has been considered in finalizing the EIS.</p>

Power and Water Interests (PWI) (cont.)	
PWI-03-24 (cont.)	<p>23. 2-4 2.3.1.2 Why was the “excess water” discussion removed? The redraft appears to imply two peaks. The deleted language regarding a single peak should be reinstated: “The Secretary’s exercise of the federal reserved water right for Black Canyon of the Gunnison National Park will be coordinated with the implementation of any of the Aspinall action alternatives. To the extent practicable, this water right shall be exercised to achieve a single peak flow, subject to all Aspinall Unit authorized purposes.”</p> <p>--Appears to be not applicable.</p> <p>24. 2.3.1.2 The Crystal Reservoir ramp language should be reinstated to “ramping up at a maximum of 15 percent...” and the “totaling 15 percent” should be deleted.</p> <p>--Did not accept, Section 2.3.1.2 has been written to include the correct ramping information.</p> <p>25. 2-6 2.3.2.3 Please provide additional information regarding the newly included language on FERC hydro license limitations at Redlands. What are the impacts of this restriction, and what is the effective date and term of the license?</p> <p>--Language explains Redlands water right which is included in modeling; allows additional diversions when flows below Redlands exceed 300 cfs. No change necessary.</p> <p>26. 2-7 2.3.3.1 Please explain the changes to the Preferred Alternative description, particularly regarding the inclusion of “Minimums can reach 200-250 cfs in severe droughts.” Is there a difference between <i>modeling</i> Alternative B and <i>operating under</i> Alternative B? The model should be considered a tool for Reclamation to utilize in exercising its discretion.</p> <p>--In actual operations during severe droughts flexibility to lower flows below 300 cfs in the Black Canyon and Gunnison Gorge is needed to avoid the potential for even lower flows as a drought persists. This has occurred in the past, such as in 2002. There is a difference between modeling Alternative B and operating under Alternative B as the model cannot include all operational flexibility available to operate the Aspinall Unit, nor can the model decide when Secretarial discretion will exercise the Black Canyon NP Water Right. If the Secretary does not choose to exercise the Black Canyon NP Water Right during severe droughts then it is possible that flows in the Gunnison River through the Black Canyon could fall to the 200-250 cfs range. Reclamation will operate to meet the objectives of the Preferred Alternative but sees no reason why actual operations at the Aspinall Unit should be constrained to what can be described in a model ruleset.</p> <p>27. 2-8 2.3.3.2 What is the basis for changing from May 1-June 15 to “late April to late June?”</p> <p>--This change provides more flexibility to address a wider range of runoff conditions. Peaking in May will continue to be the goal, but in some years conditions will mandate different timing.</p> <p>28. The revised language implies a mandate that the duration flows follow the Flow Recommendations, and removes the premise that the target is minimum duration and 90% of the desired peak. The previous language should be reinstated: “Releases for duration of higher flows in conjunction with the Flow Recommendations developed for use by the Recovery Program 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 and continuing to meet the congressionally 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</p>

Power and Water Interests (PWI) (cont.)	
PWI-03-24 (cont.)	<p>time (4/23/09). Desired peak at Whitewater will be made if it is possible to reach 90 percent of the desired peak. The length of duration of flows is dependent on the Year Type category in the Flow Recommendations. Minimum duration is targeted and may be exceeded at times.” Also, why was the April-July period changed in Table 2.3.1? Lastly, see comment 26 above re modeling v. operation.</p> <p>--Mention of meeting 90% of the target peak at Whitewater would have only been in the context of discussion of how the model operates to meet the Flow Recommendations. It is not relevant to how actual operations of the Aspinall Unit would occur. Figure 2.3.1 will be fixed. Also see response to #26 above.</p> <p>29. 2-9 2.3.3.3 Why has the minimum release criteria been revised to indicate that <i>at least 300 cfs will apply “except in severe drought conditions”</i>?</p> <p>--The Black Canyon NP Water Right decree reserves a year round flow of 300 cfs outside of the peak and shoulder flow periods. Flows during the non-runoff period could be higher for other operational considerations, i.e. releases to meet winter target, lower flows for brown trout spawn, etc. Flows below the 300 cfs described in the Black Canyon NP Water Right could occur if the Secretary chose not to exercise the Black Canyon NP Water Right during extreme drought conditions.</p> <p>30. 2-12 2.3.6.2 What is the science basis for removing the language regarding selenium uncertainties? Clarifying the effects of long-term selenium concentrations on endangered fish should be a requirement prior to making any operational changes.</p> <p>--The language in the EIS reflects uncertainties on how selenium may affect recovery of listed species. Reclamation disagrees that clarifying effects of long-term selenium concentrations should be a requirement for operation changes.</p> <p>31. 2-14 2.3.6.4 See attached Exhibit A. Reclamation has an obligation to balance multiple stakeholder interests in its operation of the Aspinall Unit, and one stakeholder/interest should not be afforded priority.</p> <p>--Input is requested from all stakeholders prior to final decisions on operations. No change necessary.</p> <p>32. 2-16 2.3.6.6 The following language must be reinstated: “Alternatives would continue to meet power system requirements of the North American Electrical Reliability Council and the Western Electricity Coordinating Council such as generation control, voltage regulation, black start capability, and reserves. For example, Aspinall Unit operations--such as Morrow Point Powerplant peaking--can be used in emergency situations to prevent major power problems in the West.”</p> <p>--Reclamation concurs.</p> <p>33. 2-25 2.7 Please define “historical flows” in the statement that all operations remain within that range.</p> <p>--Historical flows in this case mean river flows and reservoir operations that have occurred since the Aspinall Unit began operations.</p> <p>34. 3-6 3.3.1 Why was the scope expanded to go beyond the “downstream Gunnison River” to now include the Gunnison and Colorado Rivers? The previous language should be reinstated.</p> <p>--Scope has not changes. Flow Recommendations are for both the Gunnison and Colorado rivers; therefore the Colorado River has been included.</p>

Power and Water Interests (PWI) (cont.)	
PWI-03-24 (cont.)	<p>41. 3-51 See comment 14 above. The previous language must be reinstated. Also, CRSP rate information is out of date.</p> <p>--Language has been reinstated as suggested.</p> <p>42. 3-55 Why was reference to Blue Mesa deleted after “Morrow Point” when referring to fluctuations? Table 3.3.9 (impacts to power generation by year) is missing. 15 Case No: 3:07-CV-8164-DGC, Supplemental Reply in Support of Federal Defendants’ Cross-Motion for Summary Judgment on Claims 6-8, Feb. 20, 2009</p> <p>--The draft EIS incorrectly identified Blue Mesa peaking as being restricted during Crystal spilling. Table numbers have been corrected.</p> <p>43. 3-59 3.3.2.1D Please update the dollar amounts shown for Salinity, GCDAMP, RIP, and total power revenue expenditures for those programs.</p> <p>Updates made.</p> <p>44. The last sentence of this section should be revised to acknowledge that it is not just monthly variations in generation and seasonal variations in power prices that affect Western’s purchase power impacts. Daily and hourly fluctuations, shifting monthly volumes also have impacts. The sentence should also be modified to include “and its customers”, as CRSP customers may also have to make additional purchases to compensate for impacts to the CRSP hydropower resource.</p> <p>Paragraph has been revised.</p> <p>45. 3-91 3.3.7 See comment 14 above re Colorado River. Also, the language regarding the selenium program should state that it is “intended to assist in the recovery”, not “will benefit the recovery” of the fish. Until sufficient monitoring of the not-yet-created program is in place, that conclusion can’t be drawn.</p> <p>Change made as suggested.</p> <p>46. 3-115 3.3.7.2A See attached Exhibit A.</p> <p>Information from Exhibit A has been considered in finalizing the EIS.</p> <p>47. 3-117 What is the purpose for including so much detail on CROS in this document? Also, is appropriate to single out one specific efficiency project? Reference in the following paragraph to the Recovery Program should be sufficient. Lastly, see comment 14 above regarding Colorado River reference.</p> <p>--Flow Recommendations are designed to improve habitat for endangered fish in both the Gunnison and the Colorado River. Background information on CROS and other Colorado River activities help show cumulative effects of Recovery Program activities on the Colorado River.</p> <p>48. 3-128 3.3.8.2A Why was reference to “if beyond the capacity of the tour boat dock facilities” deleted?</p> <p>--With this deletion the sentence is clearer.</p> <p>49. 3-139 3.3.9.2C If there was no specific non-use studies undertaken, which there were not, then the language regarding non-use valuation, which includes speculative commentary and inferences should be deleted.</p>

Power and Water Interests (PWI) (cont.)	
PWI-03-24 (cont.)	<p>--The relevance of studies cited is discussed in the referenced section.</p> <p>50. 3-148 3.3.10.2B It is inappropriate to use “to a lesser extent” regarding Alternative A. The sentence should indicate that ALL Alternatives are consistent with the decreed right flows. See also our comments in Section III above.</p> <p>--The sentence refers to modeling results. With the Black Canyon NP Water Right quantified, the right is now included in all alternatives.</p> <p>51. 3-153 Does the environmental justice analysis take into consideration the 57 tribal CRSP customers? CRSP customers who are tribes will experience the same impacts as other CRSP customers in terms of financial impacts due to rate adjustments and increased purchased power requirements. These communities are likely in some of the most distressed economies in the West.</p> <p>--The Indian Trust Asset and Environmental Justice sections did consider tribal customers.</p> <p>52. 4-1 4.2.2 Delete “In most cases the total daily change will be made in two steps during the day”.</p> <p>--Thank you for the comment. This is a discretionary action which Reclamation may perform as described in this EIS.</p> <p>53. 5-4 5.4 The correct name is “Irrigation and Electrical Districts Association of Arizona”; and “AZ” should be removed after “Colorado River Energy Distributors Association”. (CREDA is a Colorado non-profit corporation with members in six Colorado River basin states).</p> <p>--Correction noted.</p>
PWI-04-01	Attachment A was developed by several cooperating agencies to better describe the Black Canyon NP Water Right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.
PWI-04-02	Reclamation concurs and has attempted to complete the final EIS in a timely manner.
PWI-04-03	Done. The Appendix C, the PBA, is a published document on which the published PBO is based. There can be no changes to Appendix C.
PWI-05-01	Reclamation concurs and language has been changed.
PWI-05-02	The final EIS includes language that discusses the Secretary’s discretionary authority to exercise or not exercise the Black Canyon NP Water Right. We have considered the “Consensus Language” referred to and changes have been made accordingly
PWI-05-03	The third bullet is in reference to spring peaks which could be provided for environmental purposes under the No Action Alternative. It is not specific to ESA purposes because it assumes there is not a specific operation for the endangered fishes. The second bullet does refer to the Black Canyon NP Water Right which will be considered in setting operations. Mention of meeting 90% of the target peak at Whitewater would have only been in the context of discussion of how the model operates to meet the Flow Recommendations. It is not relevant to how actual operations of the Aspinall Unit would occur. Potential alteration of the May 10 – June peak timeframe could occur for reasons other than endangered species, such as for flood prevention at Delta, therefore the language is not unnecessarily broad.
PWI-05-04	See SLG-04-08 21. It is not possible to describe all potential operations that would meet the Black Canyon NP Water Right under these various hydrologic conditions. Actual operations will be based on realtime information in order to make the best use of Aspinall Unit water while attempting to meet both peaks with a single operation. Historical operations have seen spills at all three Aspinall Unit reservoirs as well as total releases from Crystal Reservoir in excess of 10,000 cfs. It is expected that future operations will remain within the range of what has occurred historically. Reclamation believes that the final EIS adequately describes the impacts of the Preferred Alternative on the

Power and Water Interests (PWI) (cont.)	
PWI-05-04 (cont.)	authorized purposes of the Aspinall Unit.
PWI-05-05	The full paragraph reads that these agencies will be kept apprised of current operations including coordination with respect to the Black Canyon NP Water Right. This means these agencies will be kept apprised of formal notifications to NPS. All notifications are to be formal.
PWI-05-06	New information concerning hydropower impacts and inclusion of the Black Canyon NP Water Right in all alternatives has been included in the final EIS.
PWI-05-07	<p>As a matter of record, Western has previously asserted the concept of nonuse economic value did not apply to the Aspinall Unit EIS. In response, we clarified our narrative to more clearly explain that indeed, an existing nonuse value study of nine threatened and endangered fishes (Ekstrand and Loomis (1998), did encompass the Gunnison and Upper Colorado River Basins. This geographic region is affected by Aspinall operations and by the continued operation of various Reclamation projects, all of which are the subject of this final EIS.</p> <p>We concur there is some uncertainty regarding the magnitude of the potential effects on native fish populations. As we noted in the final EIS, the incremental effects of the action alternatives on critical habitat remain unquantified and numerical estimates of the impact of reoperation on fish populations are not currently available. If such estimates were available, we could estimate the change in nonuse economic value resulting from the proposed alternatives using the methodology described in a recent paper by Richardson and Loomis (2009).</p> <p>The Fish and Wildlife Service is one of the nation's foremost authorities on fish and wildlife biology. Service staff has stated the proposed changes in Aspinall operations will benefit the populations of native fish on which the Ekstrand and Loomis (1998) nonuse value paper is focused. Based on their professional judgments, we have qualitatively described the likely effect on nonuse economic value as an "increase." We believe our assessment of the direction of change in nonuse value to be well-considered.</p>
PWI-05-08	There are no specific hydropower mitigation measures. However Reclamation will attempt to meet targets while minimizing hydropower bypasses. This can be accomplished by utilizing Cimarron Creek flows and North Fork flows to the extent possible. Consideration is also given to hydropower flows in the high demand winter months. Peaking ability is retained at Blue Mesa and Morrow Point.
PWI-05-09	The Record of Decision will reflect conclusions reached in the final EIS.
Environmental Groups (ENV)	
ENV-01-01	Attachment A was developed by several cooperating agencies to better describe the Black Canyon NP Water Right and other aspects of the Aspinall Unit operations. While not all of the suggested language has been used, relevant portions have been and the final EIS is more accurate in describing these elements.
ENV-01-02	<p>The Black Canyon NP Water Right will be addressed as follows: Under the decree, the Black Canyon NP Water Right is subordinated to all water rights with adjudicated priorities that are senior to the Aspinall Unit water rights. The Black Canyon NP Water Right is a downstream water right senior to the Aspinall Unit, and Reclamation will meet the Black Canyon NP Water Right when it is exercised. As such, along with other senior water rights, it is a condition that is common to all alternatives. When the Secretary exercises the Black Canyon NP Water Right, Reclamation shall undertake operational actions consistent with the Black Canyon Decree and in accordance with applicable laws. If the Secretary places a water right call in the exercise of the Black Canyon NP Water Right, Reclamation shall also comply with valid administrative orders from the Colorado State Engineer or Canyon Decree, both of which are made applicable to Reclamation by section 8 of the Reclamation Act of 1902.</p> <p>The EIS provides examples of operational actions for meeting ESA needs downstream while also meeting the decreed Black Canyon NP Water Right. The discussion of how the Black Canyon NP</p>

Environmental Groups (ENV) (cont.)	
ENV-01-02 (cont.)	the Division Engineer related to the administration of the decree for the Aspinall Unit and the Black Water Right fits within the alternatives is to provide examples of the range of actions that may be necessary to satisfy the decree and how such actions are consistent with the historic range of operations for the Aspinall Unit. Thus, the finalization of the decree did not significantly change the impacts analysis as displayed in the draft EIS that was subject of public notice and comment. See sections 2.3.1.1 and 3.3.1.2C for further clarification.
ENV-01-03	Language has been replaced with more general descriptions of possible actions.
ENV-01-04	Reclamation will strive to make the most efficient use of water in our attempts to achieve all goals related to the Aspinall Unit.
ENV-01-05	Reclamation concurs. Authority for the action is discussed in Section 1.1.5.
ENV-01-06	<p>ES-1—we appreciate the revision of the stated “Purpose and Need” to include assisting in recovery of the species, not simply avoiding jeopardy.</p> <p>--This paragraph indicates that the intent of the new operations is also to assist in the recovery of the species.</p> <p>ES-1—we believe footnote #1 in the PFEIS provides an incomplete list of authorized purposes. Other federal laws, including amendments to CRSP, are applicable to Aspinall. See a partial list in the first footnote of these comments.</p> <p>--As this commenter mentions, there may be additional authorized purposes which are not listed in footnote #1. Their omission in no way diminishes their importance or relevance in this EIS or Aspinall operation.</p> <p>ES-3—the peak flow targets in Table ES-1 should indicate an instantaneous peak of at least 15,000 cfs in the “Wet” year hydrologic category.</p> <p>--Tables ES-1 through ES-3 depict the Spring Peak and Duration Targets for Forecasted Inflows for EIS Alternatives B, C, and D. They do not necessarily mimic the Flow Recommendations which includes a 1 day peak of 15,000 cfs in the Wet Year Category.</p> <p>ES-3—in Table ES-1, we continue to support the articulation of instantaneous peaks for “Moderately Dry” and “Average Wet” years as being inside a range; it is consistent with the 2003 Flow Recommendations’ aim to “ensure continued variability among years.”</p> <p>--Noted. No change in this table is anticipated.</p> <p>p. 1-22, section 1.6.1—in the listing of applicable environmental laws, we suggest the FEIS should also include: Colorado River Basin Project Act, 43 U.S.C. § 1501 Federal Water Project Recreation Act, 16 U.S.C. § 460I-12 and Fish and Wildlife Coordination Act, 16 U.S.C. § 661</p> <p>-Text revised as suggested.</p> <p>p. 2-13, section 2.3.6.3—we continue to ask whether the proposed “drought rules” are consistent with “drought recovery provisions” in the Black Canyon decree (p. 10, ¶ 32.3) and what exactly “shortage sharing” means, including what past years would have triggered these special cases. We again direct your attention to the Black Canyon decree, where parties agreed to scale back environmental flows by a small amount to assist in recovering reservoir storage after severe drought. The Black Canyon NP Water Right Decree, at paragraph 32.3.1, used a formula triggered only by the combination of extremely low end-of-year (December 31) Blue Mesa reservoir levels and current dry year conditions. In addition, the reduction in peak flows was made proportionate to the status of the</p>

Environmental Groups (ENV) (cont.)	
ENV-01-06 (cont.)	<p>reservoir. The proposed drought rule (PFEIS, page 2-13) appears to be inconsistent in approach with the Black Canyon decree. For peak flow reductions, it makes no sense to look to March 31 (or April 30) reservoir levels, as these are a product of current year operations, not prior year drought conditions. The DEIS cannot tier drought response to “artificial” drought created through reservoir management (specifically winter-time releases).</p> <p>--Drought rules described in the final EIS and drought recovery provisions described in the Black Canyon NP Water Right decree were developed independent of each other so the question of consistency between the two is not applicable. The drought rules approach post-drought reservoir storage recovery in similar fashion to what was developed for the Black Canyon NP Water Right Decree. Environmental flows are scaled back to assist in reservoir storage recovery as in the Decree. The drought rules consider end of year Blue Mesa Reservoir content and current year hydrology, as in the decree. While not intending to be “consistent”, the approach between these two sets of drought recovery provisions is similar. During drought conditions, low spring reservoir levels are a product of the dry hydrologic conditions as Reclamation would be doing its best to maintain reservoir storage in an attempt to fill Blue Mesa Reservoir by the end of the runoff season. The comment seems to assume there would be pre-runoff lowering of Blue Mesa Reservoir for flood control storage during a time of drought. This would be completely unnecessary if the reservoir was already low due to the prior year’s dry hydrology or if the current year was forecast to be moderately dry or drier. There would be no “artificial” drought created by reservoir management during drought conditions.</p> <p>p. 2-18, third-to-last paragraph in section 2.3.6.6—the PFEIS accurately reflects there are no “specific foreseeable proposals” for use of any remaining “project yield” from Aspinall. We continue to be concerned about the language that follows, which should be amended (as underlined) to read: Alternatives would recognize that consumptive use of the “remaining project yield” referenced above may be used in the future under Colorado’s compact entitlements and its use below the Aspinall Unit would not be precluded by any of the alternatives.</p> <p>--Reclamation believes the present language in this paragraph is accurate.</p> <p>p. 3-31—includes a discussion of how additional releases will be made from Aspinall “to provide 100 cfs to the Redlands Fish Ladder as needed April through September and 40 cfs for the Redlands Fish Screen from March through November, using storage water if necessary.” We support meeting these threshold requirements that enable endangered fish access to the Gunnison River.</p> <p>--Concur.</p> <p>p. 3-52—somewhere inside the two-page exposition on “Power Marketing” (section 3.3.2.1C) it is appropriate to acknowledge flexibility in meeting hydropower contracts. To be fully accurate, the sub-section should note compliance with “federal environmental laws” consistently with applicable federal register notice for the Western Area Power Administration (WAPA) from 1999, which states: Western recognizes that the Bureau of Reclamation is under a continuing obligation to ensure that the operation of the hydroelectric facilities comply with Federal environmental laws. Western may revise the amount of power marketed by the SLCA/IP as required to respond to changes in hydrology and river operations, upon 5 years’ notice to customers. Indeed, WAPA can make immediate changes to hydropower deliveries as long as it makes up the difference between actual hydropower generation and contract delivery amounts through the purchase of power on the market.</p> <p>--Comment recognized. New language inserted into text.</p>
ENV-02-01	Reclamation concurs.
ENV-02-02	Reclamation concurs.

Environmental Groups (ENV) (cont.)	
ENV-02-03	The preferred alternative includes many elements of the No-Action Alternative including consideration of the brown trout spawn. (See first paragraph of Section 2.3.3). Reclamation agrees that implementation of the preferred alternative should improve the ecological condition of the Gunnison River as a whole.
ENV-02-04	Reclamation will abide by the terms and conditions of the Black Canyon NP Water Right and the Record of Decision for this EIS.
ENV-02-05	Reclamation will continue to work with the Colorado Division of Parks and Wildlife and others on river flows downstream from the Dolores Project, including planning spring spill operations and will continue to participate in the Dolores Biology Committee and the DRD. Minimum flow commitments in the Dallas Creek Project final EIS will continue to be followed. It is recognized that these minimums do not provide optimum winter flow levels. Suggestions in this comment are beyond the scope of the Aspinall EIS but can be considered through other activities.