RECLAMATION

Managing Water in the West

Record of Decision

Windy Gap Firming Project Final Environmental Impact Statement

Approved:

Michael J. Ryan /s/ 12-19-2014

Michael J. Ryan, Regional Director Date
Great Plains Region
Bureau of Reclamation
Department of the Interior

U.S. Department of the Interior
Bureau of Reclamation

Mission Statements

U.S. Department of the Interior

Protecting America's Great Outdoors and Powering Our Future

The U.S. Department of the Interior protects America's natural resources and heritage, honors our cultures and tribal communities, and supplies the energy to power our future.

Bureau of Reclamation

To manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Table of Contents

Introduction **5**
Project Background and Brief Summary 5
NEPA Process 6
Final EIS Purpose and Need for the Windy Gap Firming Project **7**
Alternatives Considered in Detail in the Final EIS **8**
No Action Alternative 8
Alternative 2 - Chimney Hollow Reservoir (Proposed Action) 8
Alternative 3 - Chimney Hollow Reservoir and Jasper East Reservoir 9
Alternative 4 - Chimney Hollow Reservoir and Rockwell/Mueller Creek Reservoir 9
Alternative 5 - Dry Creek Reservoir and Rockwell/Mueller Creek Reservoir 9
Final EIS Environmental Consequences of the Windy Gap Firming Project **10**
Surface Water Hydrology - Colorado River Flows 10
Stream Morphology - Colorado River Flushing Flows 10
Surface Water Quality 11
Colorado River 11
Three Lakes System 11
East Slope Reservoirs 11
Aquatic Resources - Colorado River 11
Recreation – West Slope 12
Environmentally Preferable Alternative **12**
Comments Received on the Final EIS **14**
Reclamation's Decision for the Windy Gap Firming Project **18**
Decision 18
Decision Rationale 18
Meeting the Purpose and Need 19
Final EIS Issues and Environmental Consequences 19
Draft Contract Comments 19
Other Subdistrict Commitments 19
Senate Document No. 80 and Reclamation Project Act of 1939 Section 14 Consistency Determinations 20
Views of Other Agencies with Jurisdiction by Law 20
Subdistrict Preferred Alternative 21
Indian Trust Assets 21
Consistency with Reclamation Mission 21
Mitigation/Environmental Commitments **22**
Reclamation Mitigation/Environmental Commitments 22
Cultural Resources 22
Indian Trust Assets 22
Threatened and Endangered Species 23
Subdistrict Mitigation/Environmental Commitments 23
Summary **23**

Appendix

Appendix A – Grand County, Colorado River Water Conservation District, and Middle Park Water Conservancy Letters……..…... 24
Appendix B – Environmental Components Table……... 28
Appendix C – Senate Document No. 80 Determination…….. 29
Appendix D – Reclamation Project Act of 1939 Section 14 Determination…… 33
Appendix E – Subdistrict's Mitigation/Environmental Commitments…… 37

Introduction

This Record of Decision for the proposed Windy Gap Firming Project (WGFP) in north central Colorado is prepared in accordance with the procedural requirements of the Council on Environmental Quality (CEQ) regulations[1] for the National Environmental Policy Act (NEPA) of 1969 (as amended). This Record of Decision is a concise public record of the Bureau of Reclamation's (Reclamation) decision regarding the proposed project. A Record of Decision is prepared at the end of an environmental impact statement (EIS) process and applies to actions for which the EIS has been prepared. Reclamation completed the Final EIS for the WGFP (FES 11-29) in December 2011. By regulation, a Record of Decision cannot be finalized until at least 30 days after the Environmental Protection Agency publishes a notice in the *Federal Register* stating the Final EIS was filed. The Environmental Protection Agency's notice was published on December 9, 2011.

Reclamation was the lead federal agency for preparation of the Final EIS. Cooperating agencies[2] include the U.S. Army Corps of Engineers, Western Area Power Administration, and Grand County, Colorado. The Regional Director of Reclamation's Great Plains Region is the responsible federal official for the Final EIS and Record of Decision.

The proposed WGFP is a collaborative effort among multiple water providers and users (Participants) represented by the Municipal Subdistrict, Northern Colorado Water Conservancy District (Subdistrict). The proposed WGFP would entail construction of a new water storage reservoir that would provide more reliable water deliveries to Front Range and West Slope communities and industry. The project would add water storage and related facilities to the Subdistrict's existing Windy Gap Project to enable delivery of a firm annual yield of about 30,000 acre-feet to project Participants. The proposal includes construction of new reservoir facilities for storing Windy Gap water. The nature and scope of Reclamation's decisions are described in this Record of Decision.

This Record of Decision is the capstone of the decision-making process that signals completion of the contract negotiation process; extensive planning and coordination between the proponent, communities, the State of Colorado, and federal agencies; project-related determinations; and other activities that resulted in clearly described federal actions, agreements and commitments for this project.

Project Background and Brief Summary

The Windy Gap Project, owned and operated by the Subdistrict, was completed in 1985. Windy Gap Project water is conveyed through Reclamation's Colorado-Big Thompson (C-BT) Project

[1] Council on Environmental Quality Regulations For Implementing The Procedural Provisions Of The National Environmental Policy Act, 40 CFR Parts 1500-1508.
[2] 40 CFR 1501.6

facilities through an existing Windy Gap contract with the Subdistrict and the Northern Colorado Water Conservancy District (District). The Windy Gap Project was originally planned to divert an estimated long-term annual average of 56,000 acre feet (AF) of water from the Colorado River. The Windy Gap Project has not provided the expected yield due to its junior water rights, periodic lack of unused capacity (conveyance and storage) in the C-BT Project, and demands to date not requiring the full yield of the Windy Gap Project. The Subdistrict concluded that the firm yield (the amount it can guarantee annually) of the Windy Gap Project is actually zero because it is unable to deliver Windy Gap water to Colorado's Front Range community Participants, or the Middle Park Water Conservancy District, in all years. In addition, the existing Windy Gap Project is not able to provide annual carry-over water storage for the Middle Park Water Conservancy District on the West Slope.

Because of the deficiency in water deliveries and lack of storage, the Windy Gap Project Participants and Middle Park Water Conservancy District have not been able to fully rely on Windy Gap Project water for meeting a portion of their annual water demand. As a result, the Participants, working through the Subdistrict, initiated the proposed WGFP, which would firm all or a portion of their individual Windy Gap Project water allotment units to meet a portion of existing and future municipal and industrial water requirements. The Middle Park Water Conservancy District, an original Participant in the Windy Gap Firming Project, separately negotiated an agreement with the Subdistrict to assure approximately 2,300 acre feet of the Windy Gap Project water supplies provided to it by the Subdistrict will be firmed, hence improving the reliability of its Windy Gap water supply for users in Grand and Summit counties, Colorado.

NEPA Process

Several methods were used to inform the public and solicit comments, including public meetings in July 2003, publication of a Notice of Intent in the *Federal Register* on September 8, 2003, and distribution of a scoping announcement in September 2003 prior to three public scoping meetings in Granby, Loveland, and Lyons, Colorado. An agency scoping meeting was also held to gather input from federal, state, and local government agencies. Reclamation received about 160 written submissions during the scoping period on a broad range of potential issues. More information on the public involvement process is included in Final EIS Chapter 4 Consultation and Coordination.

Completion of the Draft EIS was announced in the *Federal Register* (73 FR 50999) and made available to the public for a 60-day comment period from August 29, 2008 to October 28, 2008. A compact disc of the entire Draft EIS and a hard copy of the Executive Summary were sent to more than 650 individuals, entities, and agencies. Also, the Draft EIS was posted on Reclamation's website and hard copies were made available upon request, and at identified libraries and Reclamation offices. During the comment period, Reclamation held two open house/public hearings to provide an opportunity for the public to learn more about the alternative actions and formally comment on the Draft EIS. Notice of the public hearings was included with the distribution of the Draft EIS and publication in local and regional media outlets. Public hearings were held in Loveland on October 7, 2008 and the Town of Granby on October 9, 2008.

Requests were made to extend the 60-day comment period. The comment period was extended until December 29, 2008, providing a total of 122 days. During that time, Reclamation received 1,150 letters, comment forms, and recorded oral and written statements made at two public

hearings. Written and oral comments were received from 65 government agencies and officials, 18 organizations, 44 businesses, and 1,026 individuals.

Reclamation reviewed and considered all of the comments received on the Draft EIS. Responses to substantive comments are included in Volume 2 − Appendix F of the Final EIS.

Reclamation completed the Final EIS for the WGFP (FES 11-29) in December 2011. The Environmental Protection Agency's Notice of Availability for the Final EIS was published in the *Federal Register* on December 9, 2011.

In November 2012 Reclamation issued the WGFP Final EIS Errata Sheet and a Supplemental Information Report. The Errata Sheet disclosed corrections to the Final EIS that were discovered internally or through public comments after release of the document. The majority of the corrections were minor; one correction involved new information regarding protocol to calculate the Colorado Multiple Metric Index for assessment of aquatic invertebrates. A previous version of the Multiple Metric Index protocol was used for the Final EIS analysis. The Multiple Metric Index was subsequently calculated using the most current protocol, analyzed for differences in effects, and documented in the Supplemental Information Report. The Supplemental Information Report concluded that the updated Multiple Metric Index values did not substantially change the analysis or findings in the WGFP Final EIS.

Information on the project purpose and need, alternatives, environmental consequences, and mitigation[3]/environmental commitments contained in this Record of Decision is summarized from the Final EIS and associated documents (Fish and Wildlife Mitigation Plan [incorporated into the Final EIS], Errata Sheet, and Supplemental Information Report) consistent with NEPA Regulations[4]. The Decision Rationale section of this Record of Decision considers information in the Final EIS and associated documents along with information from other relevant sources[5], such as other commitments made by the Subdistrict, determinations about the WGFP's consistency with Senate Document No. 80 and Section 14 of the 1939 Reclamation Project Act, and views of other agencies with jurisdiction.

Final EIS Purpose and Need for the Windy Gap Firming Project

The Final EIS, completed in December 2011 contained the following purpose and need for the WGFP, "The purpose of the WGFP is to deliver a firm annual yield of about 30,000 AF of water from the existing Windy Gap Project to meet a portion of the water deliveries anticipated from the original Windy Gap Project and to provide up to 3,000 AF of storage to firm water deliveries for

[3] 40 CFR 1508.20 defines mitigation as: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and; compensating for the impact by replacing or providing substitute resources or environments.

[4] 40 CFR 1505.2(b).

[5] 40 CFR 1505.2(b).

the MPWCD. Firm water deliveries from the Windy Gap Project are needed to meet a portion of the existing and future demands of the Participants" (Final EIS p 1-4).

Alternatives Considered in Detail in the Final EIS

Issues derived from scoping and public involvement and extensive screening of more than 170 different alternatives using NEPA criteria and Clean Water Act Section 404(b)(1) guidelines (in cooperation with the Corps), led to the development of four action alternatives and the No Action Alternative [6]. The alternative development process is described in detail in the Final EIS, Chapter 2. The five alternatives analyzed in detail are presented below.

No Action Alternative

A No Action Alternative is required under NEPA.[7] This alternative consists of continuation of operations under existing agreements between Reclamation and the Subdistrict for conveyance of Windy Gap Project water through C-BT Project facilities and the reasonably foreseeable enlargement of Ralph Price Reservoir by the City of Longmont. The No Action Alternative defines what Participants are expected to do if Reclamation does not approve any of the action alternatives. Under the No Action Alternative, Participants would maximize delivery of Windy Gap water according to their demand, water rights, availability of storage in Granby Reservoir, and existing Adams Tunnel conveyance constraints. The City of Longmont has preliminarily evaluated the enlargement of Ralph Price Reservoir by raising the dam and increasing storage capacity by 13,000 AF. Participants that do not have a currently defined storage option would take delivery of Windy Gap water whenever it is available within the capacity of their existing water systems and delivery points under the terms of the existing contract between Reclamation, the Subdistrict, and the District. In the future, due to increased demands, Windy Gap diversions would increase regardless of whether or not one of the action alternatives is implemented. Construction costs were estimated to be $31,000,000 (in 2005 dollars) with no change in annual operations and maintenance costs from existing conditions.

Alternative 2 - Chimney Hollow Reservoir (Proposed Action)

Alternative 2 includes construction of a 90,000 AF Chimney Hollow Reservoir on the East Slope, along with the ability to store, or preposition, C-BT Project water in Chimney Hollow Reservoir. Water would be conveyed to Chimney Hollow Reservoir via a new pipeline connection to existing East Slope C-BT Project facilities. New connections between Chimney Hollow Reservoir and C-BT Project facilities would allow delivery of water to Participants using existing C-BT Project infrastructure. No new West Slope infrastructure would be needed to divert or convey water to the

[6] 40 CFR 1502.14. In addition, this term includes alternatives that are technically and economically practical or feasible and meet the purpose and need of the proposed action (46 CFR 46.420(b)).

[7] 40 CFR 1502.14 (d). In this section agencies shall: Include the alternative of no action.

East Slope. Prepositioning is a method of water operation. It involves the use of available Adams Tunnel capacity to deliver C-BT Project water into Chimney Hollow Reservoir to occupy storage space that is not occupied by Windy Gap water. The delivery of C-BT Project water from Granby Reservoir into Chimney Hollow Reservoir would create space for Windy Gap water in Granby Reservoir. When Windy Gap water is diverted into Granby Reservoir, the C-BT Project water in Chimney Hollow Reservoir would be exchanged for a similar amount (after taking water losses into account) of Windy Gap water in Granby Reservoir. Total allowable C-BT Project storage or yield would not change. Construction costs were estimated to be $223,400,000 and annual operations and maintenance costs were expected to be $795,000 for this alternative (in 2005 dollars).

Alternative 3 - Chimney Hollow Reservoir and Jasper East Reservoir

Alternative 3 is a combination of a 70,000 AF Chimney Hollow Reservoir on the East Slope and a 20,000 AF Jasper East Reservoir on the West Slope. A new 1-mile-long pipeline would connect Jasper East Reservoir to the existing Windy Gap pipeline that delivers water to Granby Reservoir. The existing C-BT Willow Creek Pump Station, forebay, and portions of the canal and pipeline would be relocated. The availability of a new West Slope reservoir would allow water diversions from the existing Windy Gap Reservoir to be delivered to either Jasper East Reservoir or Granby Reservoir. Thus, when Granby Reservoir is full or the Adams Tunnel is at capacity, Windy Gap water would be diverted and stored in Jasper East Reservoir until there is sufficient capacity to transfer water to Chimney Hollow Reservoir. Construction costs were estimated to be $240,100,000 and annual operations and maintenance costs were expected to be $1,375,000 for this alternative (in 2005 dollars).

Alternative 4 - Chimney Hollow Reservoir and Rockwell/Mueller Creek Reservoir

Alternative 4 is a combination of a 70,000 AF Chimney Hollow Reservoir on the East Slope and a 20,000 AF Rockwell/Mueller Creek Reservoir (Rockwell Reservoir) on the West Slope. Deliveries to and from Rockwell Reservoir would require a new connection to the existing Windy Gap pump station and a new 3.3-mile-long pipeline to Rockwell Reservoir. As with Alternative 3, the availability of a new West Slope reservoir would allow water diversions from the existing Windy Gap Reservoir to be delivered to either Rockwell Reservoir or Granby Reservoir. When Granby Reservoir is full or the Adams Tunnel is at capacity, Windy Gap water would be diverted and stored in Rockwell Reservoir until there is sufficient capacity to transfer water to Chimney Hollow Reservoir. Construction costs were estimated to be $252,400,000 and annual operations and maintenance costs were expected to be $1,730,000 for this alternative (in 2005 dollars).

Alternative 5 - Dry Creek Reservoir and Rockwell/Mueller Creek Reservoir

Alternative 5 is a combination of a 60,000 AF Dry Creek Reservoir on the East Slope and a 30,000 AF Rockwell Reservoir on the West Slope. Water deliveries to and from Rockwell

Reservoir would require a new pipeline and connection to the existing Windy Gap pump station. A new 3.4-mile-long pipeline connection to C-BT facilities would convey Windy Gap water to Dry Creek Reservoir. A new 2.1-mile-long pipeline also would be needed to deliver water from Dry Creek Reservoir to Carter Lake. As with Alternatives 3 and 4, the availability of a new West Slope reservoir would allow water diversions from the existing Windy Gap Reservoir to be delivered to either Rockwell Reservoir or Granby Reservoir. When Granby Reservoir is full or the Adams Tunnel is at capacity, Windy Gap water would be diverted and stored in Rockwell Reservoir until there is sufficient capacity to transfer water to Dry Creek Reservoir. Construction costs were estimated to be $287,700,000 and annual operations and maintenance costs were expected to be $2,240,000 for this alternative (in 2005 dollars).

Final EIS Environmental Consequences of the Windy Gap Firming Project

This section summarizes impacts identified in the Final EIS on resources that were of particular concern to the public, agencies, and the Participants.

Surface Water Hydrology - Colorado River Flows

All of the alternatives, including no action, result in increased diversions from the Colorado River (Final EIS pp. 3-36 and 3-84). The No Action Alternative diverts the least amount and therefore has the least effect on river flow quantity. Alternative 2 – Chimney Hollow Reservoir diverts approximately six percent more volume in an average year than the No Action Alternative (Final EIS Table 2-6). Alternatives 3 and 4 would divert approximately 10% more than the No Action Alternative in average years, while Alternative 5 would divert approximately 11% more (Final EIS Table 2-6). In dry years, there is no difference between No Action and action alternatives in the quantity of water diverted from the Colorado River (Final EIS p. 3-32).

Stream Morphology - Colorado River Flushing Flows

All of the alternatives, including no action, result in a net reduction of channel maintenance (flushing) flows below Windy Gap Reservoir (Final EIS p. 3-101). However, Final EIS analysis determined that streamflow would remain sufficient for channel maintenance (sediment transport without channel aggradation) (Final EIS p. 3-101). Flushing flows are estimated to occur 23 days per year on average under the No Action Alternative, and 20 days for the action alternatives (Final EIS Table 2-6). The WGFP Fish and Wildlife Mitigation Plan increases the Subdistrict's previous required flushing flow commitment from 450 cubic feet per second (cfs) to 600 cfs for action alternatives (Final EIS Appendix E p. 15).

Surface Water Quality

Colorado River

Under the No Action Alternative, water quality nutrient constituents are expected to remain within standards except dissolved oxygen, however several constituents will be adversely affected (Final EIS Table 2-6). For the action alternatives, Colorado River nutrient quantities are expected to be more favorable than under the No Action Alternative as a result of mitigation measures. Nutrient mitigation aimed at "neutralizing" the effects of increased Windy Gap Project pumping from April to August on Three Lakes System (Grand Lake, Shadow Mountain Reservoir, and Granby Reservoir) nutrients, are expected to benefit Colorado River water quality year round (e.g., waste water treatment plant improvements would improve water quality year round) (Final EIS p. 3-200).

Stream temperature standards are exceeded under existing conditions during summer months (Final EIS p. 3-108), and these exceedances would increase under no action and the action alternatives (Final EIS p. 3-139). For action alternatives, mitigation of stream temperature exceedances is addressed in the Fish and Wildlife Mitigation Plan. With this mitigation, the action alternatives are anticipated to have stream temperature benefits that would not occur under the No Action Alternative (Final EIS p. 3-203).

Three Lakes System

All alternatives, without mitigation, would degrade Three Lakes System water quality compared to existing conditions (Final EIS pp. 3-192 to 3-194). Action alternative mitigation requires that the project be "nutrient neutral" (Final EIS p 3-200). Nutrient neutral means the Subdistrict will offset any nutrient increases in the Three Lakes System from the WGFP by taking measures that reduce nutrient quantity by an equal amount. Under action alternatives, the Subdistrict would also commit to participate and fund ongoing water quality studies for the Three Lakes System (Final EIS p. 3-204). With mitigation, the action alternatives are anticipated to have water quality benefits that would not occur under the No Action Alternative.

East Slope Reservoirs

Without mitigation, all alternatives including no action would be expected to degrade water quality in Front Range reservoirs (Final EIS pp. 3-198 to 3-199). "Nutrient neutral" mitigation implemented on the West Slope for action alternatives is expected to provide similar water quality benefits to water conveyed to East Slope reservoirs.

Aquatic Resources - Colorado River

The Final EIS concludes that aquatic populations will not be significantly adversely affected under any of the alternatives (Final EIS p. 3-224), and in particular the Gold Medal fishery designation on the Colorado River is not expected to be affected (Final EIS p. 3-225).

Anticipated increases in Windy Gap diversions under the No Action Alternative would be less than action alternatives. Thus, the No Action Alternative effect on Colorado River and aquatic habitat quantity would be slightly less than for the action alternatives (Final EIS Table 2-6).

Without mitigation, modeling indicated temperature standard exceedances would increase from existing conditions in 4 out of the 15 years evaluated for all alternatives (Final EIS Table 2-6). No Action Alternative exceedance of the chronic and acute temperature standards were modeled to occur at a slightly lower frequency and duration than action alternatives (Final EIS Table 2-6). Higher stream temperatures may result in less fit individuals and possible fish mortality, particularly if the acute temperature standard is exceeded frequently (Finale EIS Table 2-6). Stream temperature mitigation is expected to reduce the potential for increases in exceedances for the action alternatives (Final EIS p. 3-203).

Flushing flows and water quality mitigation measures for stream temperature and nutrients implemented under the action alternatives are expected to improve aquatic habitat quality for fish and macroinvertebrates in comparison to the No Action Alternative (Final EIS p. 3-237).

Recreation – West Slope

In key boating reaches downstream of Kremmling, there is no substantive difference in the effects of the alternatives on boating days and economic impacts (Final EIS p. 3-342 and 3-343). The action alternatives include mitigation to provide preferred flows during the Gore Race in August (Final EIS p. 3-410), which would not be provided under the No Action Alternative.

Predicted effects to aquatic habitat under all alternatives are unlikely to measurably impact sport fishing on the Colorado River or Willow Creek (Final EIS Table 2-6).

For the No Action Alternative, Granby Reservoir surface area in the summer would decrease 2% on average in the summer (Final EIS Table A-22) and boat ramps would remain accessible except in dry years when water levels could drop below the Arapaho Bay boat ramp in August. With modified prepositioning under Alternative 2 – Chimney Hollow Reservoir, Granby Reservoir surface area would decrease 4% on average in the summer (Final EIS p. 3-353 and Table A-22). Effects to boat ramps would be similar to the No Action Alternative. For the remaining action alternatives, Granby Reservoir water levels would decrease slightly less than under the Proposed Action with similar potential effects to boat ramps (Final EIS Table 2-6).

Environmentally Preferable Alternative

The Council on Environmental Quality's NEPA regulations require federal agencies to identify the alternative or alternatives they consider to be environmentally preferable in the Record of Decision[8]. The Department of the Interior's NEPA regulations clarify that it is not necessary that the environmentally preferable alternative or alternatives be selected for implementation in the Record of Decision[9].

Reclamation evaluated the impact of each alternative on natural resources to determine the environmentally preferable alternative or alternatives. This evaluation was based on the analysis

[8] 40 CFR 1505.2(b)[9] 46 CFR 46.450 and 43 CFR 43.450
[9] 46 CFR 46.450 and 43 CFR 43.450

in the Final EIS including the Fish and Wildlife Mitigation Plan, Supplemental Information Report, and Errata Sheet. The evaluation determined that the environmentally preferable alternative varies for each natural resource analyzed.

The following determinations were made regarding the identification of the environmentally preferable alternative:

- The No Action Alternative was determined to be the environmentally preferable alternative for Colorado River flows, quantity of Colorado River aquatic habitat, vegetation, and wildlife resources. The reduced quantity of water diversions and land area permanently impacted by reservoir development were the primary reasons the No Action Alternative was environmentally preferable for these resources.
- The action alternatives were determined to be environmentally preferable for lake, reservoir and Colorado River water quality, and Colorado River aquatic habitat quality downstream of the Windy Gap Project. The principal reasons for this are implementation of mitigation measures to reduce nutrient loading and mitigation to improve stream temperatures.
- Alternative 2 – Chimney Hollow Reservoir and Alternative 3 – Chimney Hollow and Jasper East Reservoirs were environmentally preferable for endangered species due to payment of depletion compensation to the Upper Colorado River Endangered Fish Recovery Program to benefit certain threatened and endangered species and absence of impacts on lynx.
- Alternative 2 – Chimney Hollow Reservoir is environmentally preferable to other action alternatives in terms of water flows due to lower diversion quantities compared to other action alternatives.
- The No Action Alternative is environmentally preferable in terms of permanent wetland impacts. Alternative 2 – Chimney Hollow Reservoir would have about one more acre of impacts compared to the No Action Alternative, while the remaining action alternatives have the potential to permanently affect several more wetland acres.
- There was no substantive difference in effects between the No Action and action alternatives for stream morphology and floodplains, groundwater, east slope aquatics, soils, geology/paleontology, air quality, and noise resources, and therefore all alternatives perform comparably in terms of environmental preference.

The Final EIS identified a number of reasonably foreseeable actions with the potential to cumulatively impact resources affected by the WGFP. In many cases, these reasonably foreseeable actions have a similar cumulative effect on both the No Action Alternative and action alternatives. One notable exception is the Windy Gap Enhancement Plan, which would only be implemented if an action alternative is selected. The Enhancement Plan comprises a Colorado River aquatic habitat project, which is expected to have a cumulative beneficial effect on Colorado River aquatic habitat.

Based on the information cited above, Reclamation considers both the No Action Alternative and Alternative 2 - Chimney Hollow Reservoir to be the environmentally preferable alternatives, because of each alternative's relative overall effect on natural resources.

Comments Received on the Final EIS

Reclamation received comment letters from eleven interested parties concerning the WGFP Final EIS. Comment letters were received from the U.S. Environmental Protection Agency, Trout Unlimited, Upper Colorado River Alliance, National Wildlife Federation, Alex Wiegers, Save the Poudre, Travis Morse (Headwaters Partners, LLC), Dorothy Dines, Greater Grand Lake Shoreline Association, Jeff Thompson, and Save the Colorado. Several of the comment letters contained comments regarding similar subjects. Reclamation developed the following responses to these recurring comment topics. These responses do not replace the specific responses developed for each individual substantive comment, which are available in the administrative record.

Comment	Reclamation Response
WATER QUALITY	
Concern that the WGFP Final EIS water quality baseline/existing condition for Granby Reservoir, Shadow Mountain, Grand Lake and Horsetooth Reservoir does not accurately represent current conditions.	Water quality conditions at any given time are extremely variable in these water bodies. In order to describe a representative "existing condition" that could be used for comparative purposes, a calibrated model was used to develop the existing condition using a 15-year period of hydrologic record (this period was defined as a representative subset of the larger 47-year hydrologic modeling period). This same 15-year period of hydrologic record was also used to simulate no action and the action alternatives. This approach allowed for assessment of a very wide range of hydrologic conditions and allowed for a direct comparison of simulated existing conditions to simulated altered conditions.
Concern that water quality data is averaged annually, which could increase the uncertainty of the results.	Water quality modeling results are presented in the Final EIS on a daily time step for Granby Reservoir, Shadow Mountain Reservoir and Grand Lake, showing all simulated short-term variations. For Horsetooth Reservoir and Carter Lake, the BATHTUB model was applied. This model generates average annual results. The BATHTUB model results have not been averaged over an entire year. The BATHTUB model is a well-established and widely applied tool for lake water quality assessment and management. Following comments on the Draft EIS, Reclamation, with EPA's acknowledgement, determined that development of a new water quality model for Horsetooth Reservoir and Carter Lake was cost and time prohibitive, and that providing development of additional information on mitigation was a more productive approach.
Concern that the "nutrient neutral" mitigation should be described in more detail.	Although all of the specific actions necessary to mitigate nutrient loading resulting from the WGFP have not been identified, the mitigation measure would require the Subdistrict to submit a nutrient reduction plan to Reclamation and the Corps of Engineers for approval, and to document 1:1 nutrient reductions prior to the completion of WGFP construction and operation (Final EIS, p. 3-413).
Concern that the Grand Lake clarity analysis did not address non-algal particulates (aka silt).	The WGFP Final EIS discussed both clarity and turbidity. Turbidity was defined within the Final EIS as "a cloudy condition in water due to suspended silt or organic matter." The Final EIS thoroughly analyzed effects on clarity and turbidity within the Surface Water Quality section of Chapter 3 (Final EIS, pp. 3-106 – 3-205).
STREAM MORPHOLOGY	
Concern about stream morphology due to the reduction in frequency of certain larger "flushing flows."	As described in the WGFP Final EIS, historic and existing condition data indicate that the morphology of the Colorado River channel below Granby Reservoir and Windy Gap Reservoir has remained stable over the past 60 years even with changes in the timing and quantity of flows with the construction of Granby Reservoir and other water projects. The Final EIS

Comment	Reclamation Response
	analysis indicates that the channel is likely to remain stable under the WGFP. These conclusions were based on collection of field data, collaboration with Colorado Parks and Wildlife, river cross-sectional analyses, and hydrologic modeling used to evaluate changes in flow duration, changes in channel maintenance flows, and sediment transport. Reclamation considered the information provided in the 2011 Nehring et al. report regarding potential adverse stream morphology impacts below Windy Gap Reservoir due to the reduction in larger flushing flows. Reclamation's review of the report did not find any mention of measurement of channel embeddedness, collection of sediment or other stream channel physical data, evaluation of sediment movement/deposition below Windy Gap or similar data to support the statements made in the report.
Concern that the 600 cfs flushing flow in the Fish and Wildlife Mitigation Plan would only be required when there is more than 60,000 acre feet of Windy Gap water in storage.	The State of Colorado's Fish and Wildlife Mitigation Plan 600 cfs flushing flow is not conditioned on the amount of Windy Gap water in storage. These are two separate mitigation measures. First, the 450 cfs requirement in the 1980 Memorandum of Understanding Between Municipal Subdistrict, Northern Colorado Water Conservancy District and Division of Wildlife, Colorado Department of Natural Resource, Relating to Minimum Stream Flow in Association with the Windy Gap Diversion Project would be increased to 600 cfs. The remainder of the first measure would remain the same – 600 cfs for 50 hours once every three years, if such flows are naturally available. The second mitigation measure – ceasing all pumping for at least 50 hours under certain conditions when Windy Gap Project water storage exceeds 60,000 acre feet – is a separate, stand-alone measure.
Concern that the proposed 600 cfs flushing flow is insufficient for channel maintenance.	The intent of the 600 cfs flushing flow is to provide a minimal amount of guaranteed flushing flows, recognizing that a larger range of channel maintenance flows are still needed to support river ecological functions. The channel maintenance flow analysis indicates that although the frequency of larger flows would decrease with the WGFP, there would still be a reasonable distribution of higher flows to maintain the condition of the channel and aquatic habitat. It should be noted that the maximum Windy Gap water right diversion is 600 cfs, so any curtailed diversion cannot increase flushing flows by more than this amount. Colorado Parks and Wildlife (CPW) had information on changes in channel maintenance flows for use in the evaluation of flushing flow during development of the Fish and Wildlife Mitigation Plan. The State's Fish and Wildlife Mitigation Plan identified what it considered to be reasonable mitigation for the direct and indirect effects of the project, including a recommendation for flushing flows of 600 cfs, which was incorporated into the Final EIS. In addition, the U.S. Fish and Wildlife Service approved of the findings in the Fish and Wildlife Coordination Act Report on March 9, 2012, which included the recommended flushing flow mitigation identified in the Fish and Wildlife Mitigation Plan, and agreed that the measures to avoid, minimize, and mitigate impacts to fish and wildlife resources from implementation of the Preferred Alternative [Alternative 2] adequately addressed identified effects.
STREAM TEMPERATURE	
Recommendations for a one degree or more buffer for the chronic temperature	The State of Colorado, as the entity with jurisdictional responsibility for managing the fish and wildlife of the state, developed and approved the mitigation measures to be implemented, including the acute and chronic

Comment	Reclamation Response
water quality standard (Maximum Weekly Average Temperature or MWAT) mitigation trigger similar to the acute temperature water quality standard mitigation trigger.	temperature mitigations, as part of the Fish and Wildlife Mitigation Plan. The Fish and Wildlife Mitigation Plan was incorporated into the Final EIS. In addition, the U.S. Fish and Wildlife Service's Fish and Wildlife Coordination Act Report included the temperature mitigations identified in the Fish and Wildlife Mitigation Plan and agreed that the measures to avoid, minimize, and mitigate impacts to fish and wildlife resources from implementation of the Preferred Alternative adequately addressed the identified effects of the WGFP.
AQUATICS	
Concern that the Final EIS fails to recognize the importance of variable flows for aquatic health.	The Final EIS includes discussion on the importance of variable flows to aquatic life (pp. 3-205 to 3-238), and includes the following summary, "Estimated changes in Colorado River streamflow under the Proposed Action are not expected to adversely impact stream channel characteristics that create and maintain aquatic habitat. Streamflows would remain sufficient to transport sediment, prevent channel aggradation, and maintain spawning habitat." (Final EIS, p. 3-226)
NEHRING REPORT	
Concern that information contained in the 2011 Nehring et al. report was not used in the Final EIS.	Data in the Nehring report (Colorado River Aquatic Resource Investigations. Federal Aid Project F-237R-18. June 2011) was reviewed by Reclamation prior to publication of the Final EIS to identify if there was any significant new data in this report relevant to the analysis that would change the effects determination. The new macroinvertebrate data presented in the report was considered in concert with the other data sources cited in the Final EIS; the new data was within the range of the data contained in the Final EIS and was considered in the evaluation of potential effects. Consequently, the Final EIS included information on the decrease in the abundance of the Pteronarcys stonefly and mottled sculpin, but Reclamation did not find the report's conclusions regarding the existing physical condition of the Colorado River below Windy Gap Reservoir useful in determining the environmental consequences in the Final EIS. The 2011 Nehring et al. report does not provide documentation to substantiate the report's position regarding the magnitude or duration of flows required to clean cobble-boulder substrates. Data was not collected on stream water temperature for the report and the report did not quantify areas of rooted aquatic vegetation or fine substrate deposition. Physical parameters were not measured, analyzed, or modeled. The study was limited to the collection of biological data.
GRANBY RESERVOIR SPILLS	
Concern that the Final EIS hydrologic modeling did not contain a "forecasting function" to predict Granby Reservoir spills.	The annual decision to pump Windy Gap water takes into consideration many factors including snowpack, Granby Reservoir C-BT and Windy Gap contents, precipitation, Big Thompson River basin forecasts, and orders for Windy Gap and C-BT water. Incorporating a forecasting function in the model would require making a number of assumptions regarding the variables listed above, in which case it may or may not improve the accuracy of model output. Forecasting does not eliminate Windy Gap spills as evidenced by historic Windy Gap spills in 1995, 1996 and 2011. For example, Windy Gap water was pumped in May and June of 1995, yet Granby Reservoir spilled in July that year. The year 1995 was one of the five wettest years in the study period, yet over 14,000 acre-feet of Windy Gap water was pumped as late as early June that year. Similarly, almost 7,000 AF was pumped in April and May 2010 and Granby Reservoir would have spilled that year had pre-emptive measures not been taken to avoid a spill. As the model is configured

Comment	Reclamation Response
	without a forecasting function, Windy Gap diversions occur as long as there is storage space available. As a result, Windy Gap diversions may be overstated in some wet years; however, historic operations show that Windy Gap water would be pumped in some wet years under existing conditions. Inclusion of a forecasting function may prohibit Windy Gap pumping in some above average and wet years that would otherwise occur as evidenced by Windy Gap diversions in 1995 and 2010. A forecasting function in those instances would decrease the accuracy of the model results. Thus, the lack of a forecasting function in the WGFP model may overstate Windy Gap diversions in some wet years under existing conditions resulting in higher flows in May, June, and July if water pumped earlier in the year is spilled. As pointed out in the WGFP Final EIS, it is difficult to ascertain in which wet years pumping should be less under existing conditions since the decision to pump depends on numerous factors and does not follow defined rules. This issue does not affect Windy Gap diversions in average and dry years when Granby Reservoir does not fill; therefore, Windy Gap pumping, net depletions to the Colorado River and associated impacts are accurately estimated in dry years, which are typically more critical for aquatics, water quality, and other flow-related resources. The lack of a forecasting function also has minimal effect on model results for the Proposed Action and Alternatives 3, 4, and 5 because Windy Gap diversions early in the season would be stored in firming reservoirs as opposed to Granby Reservoir and as a result, these diversions would not be spilled. Therefore, the lack of a forecasting function really only affects existing conditions and the No Action Alternative.
NO ACTION ALTERNATIVE	
Concern that the Final EIS No Action Alternative is speculative and inappropriate.	The No Action Alternative presents the future without the WGFP. It describes the WGFP Participants actions if Reclamation does not allow the proposed connections to C-BT facilities. This includes foreseeable actions by the Participants. For most Participants, this includes continuing to take Windy Gap deliveries and increasing those deliveries as water demand increases within the capacity of the existing Windy Gap Project facilities and available storage in Granby Reservoir. One Participant would drop out of the Windy Gap Project. The City of Longmont would pursue enlargement of Ralph Price Reservoir to store its Windy Gap water. While there is no guarantee that enlargement of Ralph Price Reservoir would acquire all of the regulatory authorizations, it is a reasonable action for the City of Longmont, and no fatal flaws were discovered in review of this alternative in the WGFP Final EIS. In the case of existing contracts, prior court decisions and CEQ guidance define no action as no change to existing contracts. For WG, this means Reclamation would continue operation under the existing contract between Reclamation and the Subdistrict for conveyance of Windy Gap water through the C-BT Project system (see CEQ 40 Questions, #3). The majority of the hydrologic impacts included under the No Action Alternative entail increased Windy Gap diversions by Participants that they can currently call for without any infrastructure changes or additional authorizations or approvals from Reclamation. It is unreasonable to assume that Windy Gap diversions would remain status quo under the No Action Alternative.

Comment	Reclamation Response
SENATE DOCUMENT No. 80	
Concern that the review for Firming Project compliance with Senate Document 80 has not been completed.	The question of compliance with Senate Document No. 80 must be answered before Reclamation takes action. In the case of the WGFP, this determination must occur before executing an amendment of the existing carriage contract or issuing a new unused capacity contract.

Reclamation's Decision for the Windy Gap Firming Project

Decision

The Regional Director, as delegated by the Secretary of the Department of the Interior, has determined that the Final EIS for the proposed Windy Gap Firming Project satisfies the requirements of NEPA. Based upon the Final EIS and other considerations, the Regional Director has decided to implement Alternative 2 – Chimney Hollow Reservoir. This alternative includes construction of the new Chimney Hollow Reservoir; pre-positioning of C-BT water in Chimney Hollow Reservoir; a new pipeline to convey water to the new reservoir from existing C-BT facilities; a pipeline to re-introduce water to C-BT facilities from Chimney Hollow Reservoir; and issuance of a new unused capacity contract. This decision includes the following specific actions by Reclamation:

1. Approval of a new contract between Reclamation, the Subdistrict, and the District that specifies the terms and conditions of an up-to-40 year contract between these entities. This contract would allow use of unused capacity in the C-BT Project on an if-and-when available basis. The contract will also include operational and water accounting changes for the C-BT Project system to allow water storage and exchange between the C-BT and Windy Gap projects.

2. Approval of a Reclamation special use permit authorizing connection of the Subdistrict's proposed Chimney Hollow Reservoir to Reclamation's C-BT Project facilities.

Decision Rationale

Reclamation considered a range of information in selecting Alternative 2 – Chimney Hollow Reservoir for implementation. Information provided in the Final EIS, supporting information, public and agency comments, and information provided by the Subdistrict during contract negotiations were all considered. Comments on the Draft EIS from government agencies, Tribes, public and private organizations, and individuals were carefully reviewed by the lead and cooperating agencies (Appendix F of the Final EIS). West Slope community support for the proposed contract also factored into Reclamation's decision (Appendix A). Details regarding key decision-making considerations are provided below. These considerations also represent Reclamation's rationale for deciding between the two environmentally preferable alternatives –

the No Action Alternative and Alternative 2 – Chimney Hollow Reservoir. The key decision-making considerations include:

- meeting the purpose and need,
- Final EIS issues and environmental consequences,
- draft contract comments
- other Subdistrict commitments,
- Senate Document No. 80 and Reclamation Project Act of 1939 Section 14 consistency determinations,
- views of other agencies with jurisdiction by law,
- Subdistrict's preferred alternative,
- Indian Trust Assets, and
- consistency with Reclamation's mission.

Meeting the Purpose and Need

Each of the action alternatives, including Alternative 2 – Chimney Hollow Reservoir, responds similarly to the purpose and need for the proposed action as described in Chapter 1 of the Final EIS (p. 1-4). They would each provide approximately 26,000 AF of firm annual yield to the Participants and 429 AF of firm annual yield to the Middle Park Water Conservancy District. The No Action Alternative is estimated to only provide 1,229 AF of annual firm yield to the Participants with no firm yield for the Middle Park Water Conservancy District.

Final EIS Issues and Environmental Consequences

Reclamation has reviewed and considered all of the issues, environmental consequences, and mitigation measures in the Final EIS. Reclamation believes Alternative 2 – Chimney Hollow Reservoir with implementation of the mitigation measures identified in the Final EIS (see Appendix E) will provide valuable environmental and socioeconomic benefits, and responds well to many of the issues identified by interested parties.

Draft Contract Comments

Reclamation solicited public comments on the draft unused capacity contract to be executed between Reclamation, the Subdistrict, and the District. Reclamation received comments from the Subdistrict, Grand County Board of Commissioners, Upper Colorado River Alliance, Trout Unlimited, McDonald Water Policy Consulting, Roger Drotar, Save the Colorado, and Save the Poudre: Poudre Waterkeeper. Reclamation considered all of the comments and made revisions to the contract as appropriate.

Other Subdistrict Commitments

The commitments identified below were made by the Subdistrict outside of the WGFP Final EIS process.

Colorado River Monitoring and Enhancements

During contract negotiations the Subdistrict committed to pay no less than $1,500,000 to be used exclusively for monitoring and enhancement of the Colorado River between Granby and Windy Gap reservoirs. The funds will be contributed to and used through the Learning by Doing Cooperative Effort. The Learning by Doing Cooperative Effort was established by the Subdistrict, District, Grand County Board of Commissioners, Middle Park Water Conservancy District, and the Colorado River Water Conservation District for the purpose of maintaining and, where

reasonably possible, restoring or enhancing the condition of the aquatic environment in Grand County, Colorado.

Subdistrict Agreements with Third Parties

The Subdistrict has entered into multiple third-party agreements to monitor or enhance Colorado and Fraser river environmental conditions. The agreements are the Intergovernmental Agreement for the Learning by Doing Cooperative Effort, WGFP Enhancement Plan, Windy Gap Bypass Funding Agreement, WGFP Intergovernmental Agreement, and Letter to the Colorado River Water Conservation District Regarding Incidental Uses of Enhancement Water. Reclamation considered these agreements and weighed the benefits the agreements would have if an action alternative is implemented. Reclamation believes the commitments in these agreements represent opportunities for gains in the aquatic and ecosystem knowledge-base of the upper Colorado River and enhancements to aquatic habitat. Reclamation also believes these agreements are a reflection of the community involvement in the Proposed Action and a mechanism to address community concerns beyond the scope of the Final EIS.

Commitments If WGFP Is Not Implemented

During contract negotiations, the Subdistrict agreed to contract terms requiring implementation of certain provisions even if the WGFP is not implemented. Appendix B lists these commitments. Reclamation believes this provides benefits in the upper Colorado River basin that may not otherwise be achieved. Any commitments in Appendix B that require Reclamation to make a decision will be reviewed, prior to implementation, to determine if site-specific NEPA analysis or a supplement to the Final EIS needs to be prepared.

Senate Document No. 80 and Reclamation Project Act of 1939 Section 14 Consistency Determinations

Prior to entering into a contract that would allow use of C-BT Project unused capacity, Reclamation must determine that the unused capacity contract is consistent with the provisions of Senate Document No. 80 and Reclamation's authority under Section 14 of the Reclamation Project Act of 1939 (43 U.S.C. § 389). The following prerequisite determinations and considerations have been completed:

1. Reclamation determined that the proposed unused capacity contract is consistent with the provisions of Senate Document No. 80 (Appendix C).

2. Reclamation determined that the proposed unused capacity contract is consistent with its authority under Section 14 of the Reclamation Project Act of 1939 (Appendix D).

Views of Other Agencies with Jurisdiction by Law

The State of Colorado developed, approved, and adopted the WGFP Fish and Wildlife Mitigation Plan. On October 6, 2011, Reclamation was notified by the State of Colorado that the Fish and Wildlife Mitigation Plan, which was incorporated into and made a part of the Final EIS as Appendix E, comprehensively addresses impacts to Colorado's fish and wildlife resources. The Fish and Wildlife Mitigation Plan is the official position of the State with regard to mitigation of impacts from the WGFP.

On March 9, 2012, the U.S. Fish and Wildlife Service approved the findings in the Fish and Wildlife Coordination Act Report and agreed that the measures to avoid, minimize, and mitigate impacts to fish and wildlife resources adequately addressed identified effects from implementation

of the Preferred Alternative (Alternative 2 – Chimney Hollow Reservoir). The WGFP Fish and Wildlife Coordination Act Report incorporated the mitigation measures included in the State's Fish and Wildlife Mitigation Plan.

On December 4, 2012, the Grand County Board of County Commissioners approved Resolution No. 2012PA-12-1, granting the Municipal Subdistrict of the Northern Colorado Water Conservancy District acting by and through the Windy Gap Firming Project Water Activity Enterprise a permit to engage in the Windy Gap Firming Project. Subsequent to this approval, the Grand County "1041 Permit"[10] was issued by the Chairman of the Permit Authority on December 4, 2012. On December 6, 2012, the Board of Directors of the Municipal Subdistrict of the Northern Colorado Water Conservancy District acting by and through the Windy Gap Firming Project Water Activity Enterprise adopted Resolution MS-319-12-12 to accept the Grand County Windy Gap Firming Project 1041 Permit. On September 22, 2014, Grand County, their Senate Document No. 80 representative, the Colorado River Water Conservation District, and the Middle Park Water Conservancy District submitted letters to Reclamation indicating agreement with the negotiated contract terms and conditions, and encouraging Reclamation to move forward with execution of the contract (Appendix A).

The Corps of Engineers does not intend to make a determination on issuance of a Clean Water Act Section 404 permit for the WGFP until Reclamation's issuance of this Record of Decision. The State of Colorado Clean Water Act Section 401 Water Quality Certification process is expected to be completed in coordination with the Section 404 permit process.

Western Area Power Administration relocation of the transmission line at the Chimney Hollow Reservoir site is evaluated in the Final EIS. The analysis includes identification of standard construction mitigation measures for transmission line construction. Western Area Power Administration can use the Final EIS in making a final determination regarding relocation of the transmission line.

Subdistrict Preferred Alternative

The Subdistrict prefers Alternative 2 – Chimney Hollow Reservoir. This alternative has the lowest construction and annual operation and maintenance costs of the suite of action alternatives considered in the Final EIS. Reclamation considered this preference in its decision-making.

Indian Trust Assets

Indian Trust Assets are legal interests in property held in trust by the United States for Indian tribes or individuals. Department of the Interior policy requires Reclamation identify any impact on Indian Trust Assets (Department Manual Part 512 Section 2). Reclamation consulted the USGS Indian Lands Areas Judicially Established maps and the Bureau of Indian Affairs Treaty and Agreement Lists to establish if treaties, agreements or assets existed in the WGFP area. No Indian Trust Assets were identified in the project area. Consequently, no impacts to Indian Trust Assets would occur from implementation of Alternative 2 – Chimney Hollow Reservoir.

Consistency with Reclamation Mission

Based on the findings in the Final EIS, Alternative 2 – Chimney Hollow Reservoir is consistent with Reclamation's mission of managing, developing, and protecting water and related resources in an environmentally and economically sound manner in the interest of the American public.

[10] Colorado Revised Statute 24-65.1-101.

Mitigation/Environmental Commitments

Reclamation is required in the Record of Decision to state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not[11]. The Final EIS describes the predicted impacts of Alternative 2 – Chimney Hollow Reservoir and identifies practicable mitigation measures/environmental commitments to avoid or minimize those impacts. As part of this decision, Reclamation is requiring the mitigation measures/environmental commitments identified in the Final EIS be implemented as part of Alternative 2 – Chimney Hollow Reservoir. It is Reclamation's express intent that mitigation measures/environmental commitments identified in this Record of Decision assigned to the Subdistrict be binding commitments.

The Corps of Engineers, Western Area Power Administration, and Grand County may require additional mitigation measures as part of their evaluation for compliance with Section 404 Clean Water Act requirements, transmission line relocation, and county 1041 permitting, respectively. The Subdistrict may be required to obtain other federal, state, and local permits, approvals, and agreements for the WGFP. Each agency will be responsible for enforcing mitigation measures included in their respective permits, agreements, or decisions for implementation of the WGFP. It is probable that these will contain some of the same mitigation measures contained herein. In that case, Reclamation, the Corps of Engineers, Western Area Power Administration, Grand County, and other entities, as appropriate, may cooperate through their respective authorities to assure that the objective of the mitigation measure is accomplished.

Reclamation Mitigation/Environmental Commitments

Cultural Resources

The following cultural resource mitigation measures must be implemented:

- Reclamation executed a Memorandum of Agreement (MOA) with the Colorado State Historic Preservation Office regarding the WGFP. Reclamation must adhere to the stipulations of that MOA. The MOA stipulates that:
  - I. Prior to any construction of the WGFP, Reclamation's Eastern Colorado Area Office will inventory the remaining 17.2 acres in the Area of Potential Effect and consult with State Historic Preservation Office on eligibility and effects of the WGFP pursuant to 36 CFR 800, including mitigation that will be set forth in an amendment to this MOA.
  - II. Regarding Historic Properties, the Eastern Colorado Area Office will consult with State Historic Preservation Office on effects after more details of the WGFP are available, including mitigation that will be set forth in an amendment to the MOA.

Indian Trust Assets

Reclamation has not identified any Indian Trust Assets that would be affected by the WGFP to date. If Reclamation is made aware of any Indian Trust Assets that will be affected by the project, Reclamation will consult with the appropriate Tribe(s) to identify and mitigate any effects.

[11] 40 CFR 1505.2(c)

Threatened and Endangered Species

Reclamation will reinitiate Section 7 Endangered Species Act consultation for this project if any of the reinitiation conditions identified in the U.S. Fish and Wildlife Service's Biological Opinion for the project dated February 12, 2010 transpire.

Subdistrict Mitigation/Environmental Commitments

The Subdistrict's construction and operation of Chimney Hollow Reservoir must be consistent with the evaluation in the WGFP Final EIS. The Subdistrict operation of the Windy Gap Project must be consistent with both the Final Environmental Statement for the Windy Gap Project (Statement No. FES 81-20) and the WGFP Final EIS. Such compliance is required except under emergency conditions, and unless additional and appropriate environmental investigations are completed by Reclamation and approval is then given to the Subdistrict to alter construction or operations.

The Alternative 2 – Chimney Hollow Reservoir mitigation measures/environmental commitments identified in the Final EIS and Fish and Wildlife Mitigation Plan are contained in Appendix E of this Record of Decision. The Subdistrict must implement the mitigation measures/environmental commitments contained in Appendix E to mitigate the adverse impacts of Alternative 2 – Chimney Hollow Reservoir identified in the Final EIS.

Summary

Alternative 2 – Chimney Hollow Reservoir represents years of work by the Participants and the Subdistrict to develop a solution to reliably meet their water needs. The Subdistrict worked extensively with communities and entities on the West Slope to reach agreement on responding to concerns with the project and providing benefits for the West Slope. This is reflected in letters from Grand County, the Colorado River Water Conservation District, and the Middle Park Water Conservancy District to Reclamation (Appendix A). Reclamation's decision to implement Alternative 2 – Chimney Hollow Reservoir with the mitigation identified in Appendix E responds to the Participant's future water needs, implements practicable measures to avoid or minimize environmental impacts from firming the Windy Gap Project yield, and provides benefits that would not be achieved under the No Action Alternative. These factors are the basis for Reclamation's decision to implement Alternative 2- Chimney Hollow Reservoir.

Appendix A

Grand County, Colorado River Water Conservation District, and Middle Park Water Conservancy Letters

BOARD OF COMMISSIONERS

JAMES L. NEWBERRY
District I, Winter Park 80482
MERRIT S. LINKE
District II, Granby 80446
GARY BUMGARNER
District III, Kremmling 80459

E-Mail: grndcty1@co.grand.co.us
PHONE: 970/725-3100
Fax: 970/725-0565
LURLINE UNDERBRINK CURRAN
County Manager
ANTHONY J. DICOLA
County Attorney

September 22, 2014

Michael J. Ryan
Regional Director
Great Plains Regional Office
Bureau of Reclamation
P.O. Box 36900
Billings, MT 59107-6900

Re: 2014 Contract for the Introduction, Storage, Carriage, Exchange, Substitution, and Delivery of Water for Municipal Subdistrict, Northern Colorado Water Conservancy District, Colorado-Big Thompson Project, Colorado ("2014 Contract")

Dear Mike,

We want to thank you for giving Grand County the opportunity to comment during the negotiation process for the 2014 Contract, and for taking our concerns into consideration. Protecting the Colorado River and Grand Lake while east slope beneficiaries use the Colorado-Big Thompson Project for water supply has been one of Grand County's most pressing concerns since before the project was constructed. We believe that consultation with Grand County during the 2014 Contract negotiations is an indication of Reclamation's commitment to open decision-making on matters involving operations of the Colorado-Big Thompson Project.

As part of the negotiation process, Grand County, the Municipal Subdistrict, Northern Water, the Colorado River Water Conservation District, and the Middle Park Water Conservancy District met last week to discuss several of the remaining key issues of concern to the west slope. At that meeting, we were able to agree on language that is reflected in the draft of the 2014 Contract dated September 17, 2014. Recognizing the progress that the parties have made to resolve many issues, Grand County requests that Reclamation move forward to approve the 2014 Contract, once the Record of Decision for the Windy Gap Firming Project ("ROD"), Reclamation's Senate Document 80 Compliance Determination, and negotiation of a "side-agreement" on no-waiver language is complete. We would also request that Grand County be consulted on drafts of these documents as well.

P.O. BOX 264 HOT SULPHUR SPRINGS CO 80451

Thank you again for accommodating Grand County's role under Senate Document 80 and as a consulting agency for the Windy Gap Firming Project. We are encouraged by the serious efforts that have been made by all the parties.

Sincerely,

Gary Bumgarner	Merrit Linke	James Newberry
Commissioner, Chairman	Commissioner	Commissioner

cc: Ann Castle
Eric Wilkinson
Eric Kuhn
Peter Fleming
Barb Green
David Taussig

Colorado River District
Protecting Western Colorado Water Since 1937

September 22, 2014

Mr. Eric Wilkinson — Via Email
Mr. Don Carlson
220 Water Avenue
Berthoud, CO 80513

Mr. Mike Ryan — Via Email
P.O. Box 36900
Billings, MT 59107-6900

Re: Windy Gap Carriage Contract

Dear Eric, Don and Mike:

I want to thank each of you for working with the River District and the other interested West Slope parties on the Windy Gap Carriage Contract. Eric recently provided me with a redline version of the proposed contract dated September 17, 2014. Although the formal negotiation process sometimes made it difficult for the West Slope entities to ensure their interests were fully addressed, we believe that the September 17th version of the proposed contract represents a reasonable compromise amongst the parties to the contract and that it adequately covers the West Slope's primary interests in the Windy Gap Project.

We understand that there are only a few more steps to complete Reclamation's approval process for the project, including (1) a Record of Decision, (2) a written determination (which may be part of the R.O.D.) by the Secretary or her designee that the Windy Gap Firming Project and the proposed carriage contract will be operated consistent with, and will not cause the Colorado-Big Thompson Project to violate, Senate Document 80, and (3) a mutual "no waiver" agreement between the River District, Grand County, the Middle Park Water Conservancy District, Northern Water, the Municipal Subdistrict, and Reclamation regarding certain factual and legal issues. Once those items have been completed, we believe that the September 17th version of the Windy Gap carriage contract should be executed promptly. We look forward to working with the parties with that goal in mind.

Sincerely,

R. Eric Kuhn

Cc: Lurline Underbrink Curran, Grand County Manager
Peter Fleming, General Counsel Colorado River District
Rodney Smith Jr., Office of the Solicitor U.S. Department of the Interior

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

MIDDLE PARK WATER CONSERVANCY DISTRICT
POST OFFICE BOX 145
GRANBY, COLORADO 80446

September 22, 2014

Mr. Michael J. Ryan
Regional Director
Great Plains Regional Office
Bureau of Reclamation
P.O. Box 36900
Billings, MT 59107-6900

RE: 2014 Contract for the Introduction, Storage, Carriage, Exchange, Substitution, and Delivery of Water for Municipal Subdistrict, Northern Colorado Water Conservancy District, Colorado-Big Thompson Project, Colorado ("2014 Contract")

Dear Mr. Ryan:

This letter is written on behalf of Middle Park Water Conservancy District. Representatives of Middle Park Water Conservancy District attended most of the negotiating sessions on the Carriage Contract and appreciated the opportunity both before and after those sessions to provide input on the Carriage Contract. Middle Park Water Conservancy District, uniquely, receives water from the Municipal Subdistrict for West Slope users in Grand and Summit Counties.

Middle Park Water Conservancy District supports the approval by the Bureau of Reclamation of the Carriage Contract, subject to any reservations stated by either the Grand County Commissioners or the Colorado River Water Conservation District, in their correspondence.

Thank you again for the opportunity to monitor the negotiations.

Very truly yours,

Duane Scholl

Duane Scholl, President
Middle Park Water Conservancy District

Appendix B

ENVIRONMENTAL COMPONENTS TABLE

Windy Gap Firming Project
Proposed Mitigation and Enhancement Measures with No Project
8/26/14

Item #	Proposed Mitigation/Enhancement Measure	Out-of Pocket Cost of Proposed Measure (Note 1)	EIS Mit.	Other
1	Increased Flushing Flows			
	a. Increase current 450 cfs requirement to 600 cfs (50 hours every 3 years)	$ -	X	
	b. New measure - 1,200 cfs for 72 hours every 6 years (if/when flows available)	$ -		1041 Permit
2	Temperature Mitigation			
	a. Two real-time temperature gages	$ 50,000	X	
	b. Pumping reductions when temperature standards are exceeded,with some limitations	$ -	X	
3	Nutrient Mitigation			
	a. C Lazy U non-point conservation measures	$ 800,000	X	
	b. E Diamond H non-point conservation measures	$ 200,000	X	
4	Participate in LBD Management Committee	$ -		LBD Agreemnt
5	Windy Gap Dam Modifications/Bypass Study	$ 250,000		Bypass Study
6	Rancher Settlement - Kremmling area stream/irrigation improvements	$4,000,000		Rancher Agreement
7	Provide funding to LBD for monitoring and improvement of aquatic habitat in the Colorado River between Granby Dam and Windy Gap	$1,500,000		Contract
8	Provide up to 3,000 af of water each year to Grand County. Water to be provided only after all pumping demands for WGFP participants has been met. Grand County will be responsible to pay energy cost to pump this water.	$ -		IGA (Similar)
9	Provide up to 4,500 af of carry-over for Grand County for end of year pumping water supply provided above.	$ -		IGA (Similar)
10	Provide fund to reimburse for water measurement structures on Colorado River between Granby Res. And Kremmling.	$ 380,000		IGA (Similar)
11	Shoshone Outage Protocol - Subdistrict agrees to operate to maintain 1250 cfs flows at Shoshone when plant is not operating, with limitations based on amount of Windy Gap water in storage	$ -		IGA
12	Subdistrict agrees, with certain limitations, to cooperate with future RICD, instream flows, Denver's west slope agreements, etc.	$ -		IGA, Decree
13	Subdistrict agrees to contribute funds to the Endowment Fund of the Upper Colorado River Wild & Scenic Stakeholder Group	$ 50,000		IGA
14	Subdistrict agrees to contribute funds to implement a bypass around or through Windy Gap Reservoir if the WG Bypass Study demonstrates benefit to Colorado River - contingent on matching funding from State	$2,000,000		Bypass Study
15	Provide payments required by the Upper Colorado River Recovery Program for water depletions	$ -	X	As Appropriate
16	Middle Park would continue to annually receive up to 3,000 acre-feet of Subdistrict water, if available, under the 1985 Agreement	$ -		1985 Agreement

Total Estimated Cost of All Mitigation + Enhancement Measures: **$9,230,000**

Note (1) Cost of water-related measures are not estimated. Water-related measures provide additional value and will reduce yield of project in most cases.

Appendix C

Senate Document No. 80 Determination

GP-1000
WTR-4.00

MEMORANDUM

To: Central Files
Attn: GP-6300 (MChastain)

From: Michael J. Ryan
Regional Director

Subject: Senate Document No. 80 Determination

Teams for the Bureau of Reclamation, the Northern Colorado Water Conservancy District (District), and the Municipal Subdistrict (Subdistrict) have been negotiating a contract that would allow the Subdistrict to use excess (defined as "Unused" in the contract) capacity in the Colorado-Big Thompson Federal Reclamation Project (Project) for the Subdistrict's existing Windy Gap Project and future Windy Gap Firming Project. The negotiating teams have proposed a draft Contract No. 15XX650003 (2014 Contract[1]) to their respective principals for approval. As part of Reclamation's approval process, Reclamation must determine whether the 2014 Contract is consistent with the "Manner of Operations of Project Facilities and Auxiliary Features" portion of Senate Document No. 80, the congressional report that is part of the Project's authorization, which is incorporated here as Attachment 1. This document provides that determination.

The 2014 Contract contains several provisions that address this portion of Senate Document No. 80. The main provisions are found in Article 3, which states the general principles and the process for use of Project Unused Capacity. Starting with the general principles, the 2014 Contract states that the availability of Unused Capacity is "subject to the need for the use of said Project Works for Project purposes and the provisions of this 2014 Contract to satisfy . . . the 'Manner of Operations of Project Facilities and Auxiliary Features' portion of Senate Document No. 80." Through this language, the 2014 Contract expressly makes operations subject to the relevant portions of Senate Document No. 80 and its requirements.

[1] Capitalized terms used in this document have the same meaning as in the 2014 Contract.

Moving next to the process provisions of Article 3, the 2014 Contract specifies a process that considers Senate Document No. 80 requirements in several places. First, the Subdistrict's proposed operation under Article 3(a)(i) considers not only water to be used on the East Slope, but it also considers "Enhancement Water," which is "Subdistrict Water[2] held in accounts maintained by the Subdistrict" for various West Slope interests.[3] This provides an opportunity for East Slope and West Slope interests to collaborate on the Subdistrict's operational proposal to meet their mutual interests and comport with their agreements. The Article 3 provisions are consistent with Senate Document No. 80 intent to preserve the rights and interests of both the West and East slopes.[4]

Second, Article 3(c) calls for the Secretary to consult with various East Slope and West Slope interests to solicit their views on the Subdistrict's operation proposal. Under Article 3(c)(iv), these consultations expressly include a consultation with Grand County's Senate Document No. 80 representative, the River District, and others that the Secretary deems appropriate "regarding potential impacts, if any, of the Subdistrict's Proposal on the operation of the Project pursuant to the "Manner of Operations of Project Facilities and Auxiliary Features" portion of Senate Document No. 80." This consultation process is consistent with Senate Document No. 80's requirement that Reclamation consider the views of West Slope interests to administer the Project as "an unprejudiced agency in a fair and efficient manner, equitable to all parties having interests therein."

Third, Article 3(d)(i)(1) expressly states that certain criteria for the Secretary's decision include a determination that "[t]he introduction, storage, conveyance, exchange, substitution, and delivery of Subdistrict Water will not cause a violation of the 'Manner of Operations of Project Facilities and Auxiliary Features' portion of Senate Document No. 80, including court decisions interpreting Senate Document No. 80." By inclusion of this determination, the 2014 Contract ensures that the Secretary will make decisions regarding the Subdistrict's Proposal that will not cause a violation of Senate Document No. 80.

In addition to Article 3, the 2014 Contract also contains provisions that recognize agreements between East Slope entities and West Slope entities. In my view, these agreements reflect a

---

[2] Article 1(u) defines "Subdistrict Water" as "the quantity of water yielded by the Windy Gap Water Rights. The water yielded from the Windy Gap Water Rights is not Project Water."

[3] Article 1(i) defines "Enhancement Water" as "Subdistrict Water held in accounts maintained by the Subdistrict for the Middle Park Water Conservancy District ("Middle Park"), and for the Board of County Commissioners of Grand County ("Grand County"), including water provided by the Subdistrict for contractual obligations, all pursuant to the Colorado Water Conservancy Act (C.R.S. 37-45-101 et. seq.), the Agreement of April 1980, and the Supplement thereto dated March 1985, between the Subdistrict, the Colorado River Water Conservation District ("River District"), Grand County, Middle Park and the Northwest Colorado Council of Governments ("NWCCOG"), and the Windy Gap Firming Project Intergovernmental Agreement ("WGFP IGA") approved by Grand County on December 4, 2012 between the Subdistrict, Grand County, the River District, Middle Park and NWCCOG.

[4] Senate Document No. 80, Colorado Big-Thompson Project, dated June 15, 1937 at 2-3.

compromise between East Slope and West Slope entities regarding their respective interests. The 2014 Contract acknowledges these agreements and the compromises they reflect, but the 2014 Contract does not attempt to substitute a federal role for the role of each respective entity. Instead, Reclamation has respected its role under Senate Document No. 80 to administer the Project as "an unprejudiced agency in a fair and efficient manner, equitable to all parties having interests therein." The 2014 Contract addresses these agreements in two ways.

First, the Subdistrict must comply with Article 14 of the 2014 Contract, which addresses "Federal, state, and local permits, approvals, and licenses ('Permits and Approvals') for the construction, implementation, and operation of the Windy Gap Firming Project." These Permits and Approvals include those issued by West Slope entities. Article 14 leaves such Permits and Approvals to their own enforcement mechanisms, but also establishes a process for Reclamation and the Subdistrict to negotiate for benefits that are "comparable, in scope and cost, but not additional level of environmental benefit" if certain circumstances arise where environmental benefits contemplated by such permits and approvals are not being provided. Second, Article 15 addresses "other identified agreements" that the District and the Subdistrict may have with third parties, many of which are with West Slope entities. Like Article 14, Article 15 leaves such agreements to their own enforcement mechanisms, but also establishes a process for Reclamation and the Subdistrict to negotiate for benefits that are "comparable, in scope and cost, but not additional level of environmental benefit" if certain circumstances arise where environmental benefits contemplated by other identified agreements are not being provided. Articles 14 and 15 in the 2014 Contract reflect Reclamation's role as the "unprejudiced agency" operating the Project in a way that does not replace East Slope or West Slope interests, but allows the agreements and compromises reached between the East Slope and the West Slope to be honored and continued.[5]

The final provision addressing Senate Document No. 80 concerns future negotiations that may occur to renew the 2014 Contract. To address Grand County's unique role under Senate Document No. 80, Article 2 states that: "[t]he Secretary will notify the Grand County Board of County Commissioners when renewal negotiations have been requested. Any such renewal negotiations will be open to the public." This provision clarifies that entities affected by Senate Document No. 80 will have an opportunity to participate in future contract renewal discussions.

In conclusion, my determination is that the 2014 Contract meets the requirements of the relevant portions of Senate Document No. 80. The 2014 Contract ensures that the primary purposes of the Project as described in Senate Document No. 80 continue to be effectuated. In the 2014 Contract, Reclamation has maintained its role as the "unprejudiced agency" operating the Project by incorporating a process to solicit views from affected West Slope interests as it makes operational decisions, and Reclamation has respected the compromises made by East Slope and West Slope interests in their agreements and regulatory activities. Finally, Senate Document No.

[5] As further indication of the 2014 Contract's intent to not to affect agreements that may exist between the East Slope and West Slope, Article 24 expressly states that the 2014 Contract "in no way modifies, or affects the enforcement of, any contracts, agreements, or any other contractual obligations of the Subdistrict or the District with entities which are not party to this 2014 Contract."

80 recognizes and underscores Grand County's interests related to the Project. The 2014 Contract attends to these interests. As a result of this, a September 22, 2014 Grand County letter to Reclamation encourages execution of the 2014 Contract.

I have reviewed this memorandum and found it legally sufficient.

Concur/Non-Concur:

_____ _____

Solicitor Date

Note: Attachment 1 (Senate Document No. 80) referenced in the above Senate Document No. 80 Determination has been omitted from Appendix C for the purpose of abridging this Appendix.

Appendix D

Reclamation Project Act of 1939 Section 14 Determination

GP-1000
WTR-4.00

MEMORANDUM

To: Central Files
Attn: GP-6300 (MChastain)

From: Michael J. Ryan
Regional Director

Subject: Section 14 Determination

Teams for the Bureau of Reclamation, the Northern Colorado Water Conservancy District ("District"), and the Municipal Subdistrict ("Subdistrict") have been negotiating a contract that would allow the Subdistrict to use excess capacity (defined as "Unused Capacity" in the 2014 Contract) in the Colorado-Big Thompson Federal Reclamation ("Project" or "Project Works") for the Subdistrict's existing Windy Gap Project and future Windy Gap Firming Project. The negotiating teams have proposed a contract, denominated Contract No. 15XX650003 ("2014 Contract"[1]) to their respective principals for approval. As part of Reclamation's approval process, Reclamation must determine whether the 2014 Contract is consistent with Section 14 of the Reclamation Project Act of 1939, 43 U.S.C. § 389, the statutory authority for the 2014 Contract. This document provides that determination.

Section 14 states that:

> The Secretary is … authorized, for the purpose of orderly and economical construction or operation and maintenance of any project, to enter into such contracts for exchange or replacement of water, water rights, or electric energy or for the adjustment of water rights, as in his judgment are necessary and in the interests of the United States and the project.

43 U.S.C. § 389. Here, the exchanges in question are temporary exchanges between Project Water and Subdistrict's Water through a method of operation and accounting referred to as Prepositioning. Prepositioning will allow the Subdistrict to fill its to-be-constructed facility on the East Slope, Chimney Hollow Reservoir, with Project Water. Placing Project Water in Chimney Hollow then creates space in Granby Reservoir, one of the Project's West Slope facilities where Subdistrict Water will be introduced. Once Subdistrict Water is pumped into

[1] Capitalized terms here have the same meaning as in the 2014 Contract.

Granby Reservoir, an instantaneous exchange will occur between Project Water and Subdistrict Water, resulting in Subdistrict Water in Chimney Hollow Reservoir and Project Water in Granby Reservoir. Prepositioning is intended to address conveyance limitations that reduced the firm yield of the Windy Gap Project.

Throughout the public negotiation process for the 2014 Contract, Reclamation indicated that 4 substantive areas—control, liability, environment, and pricing—are important to meet the requirements of Section 14 that the exchange contract be "necessary and in the interests of the United States and the project." Each substantive area is addressed below.

Control

Because the 2014 Contract entails the use of Project Works and exchanges of Project Water, it is necessary for Reclamation to maintain appropriate controls over the use of these federal resources. Control is addressed in primarily Article 3 of the 2014 Contract. Article 3(c) creates a process to consult with entities that are affected by various aspects of Project operations, such as water users on the East Slope and the West Slope and hydropower interests, to determine what Project interests may be affected by the Subdistrict's Proposals to utilize Unused Capacity at any given time. Further, Article 3(d)(i)(2)-(3) states that, among other criteria, a Subdistrict Proposal "will not adversely affect Project Water or power contractors" or "cause the Project to be operated in a manner to increase the risk to Project Works or public safety." These criteria protect the interests of the Project and the United States by protecting the beneficiaries' interests and the physical integrity of the Project.

Article 8(f) also provides Reclamation with additional operational flexibility and control by stating that "Project Water may be directly released from Chimney Hollow Reservoir to Project Works to meet Project purposes." Having this option for moving Project Water serves the interest of the Project and the United States because it will increase flexibility in the Project and allow Reclamation more options to meet Project needs.

Article 12(b) protects Reclamation's control over the Project by stating that Subdistrict Water will spill before Project Water. If physical water is spilled, the first water spilled is Subdistrict Water on the West Slope in Project Works that is not Enhancement Water. This provision serves the interest of the Project and the United States because it protects the West Slope water from spilling as much as possible without harming Project Water supplies.

Liability

Because the Project will be used to store and convey Subdistrict Water, the Project must have protections to ensure that the Project and the United States are not liable for claims that may arise from the presence of Subdistrict Water in Project facilities. Article 21(a) of the proposed 2014 Contract states that;

> "[t]he Subdistrict agrees, to the extent allowed by law, to indemnify the United States and all of its representatives from all damages resulting from suits, actions or claims of any character brought on account of any injury to any person or property arising out of any act, omission, neglect, or misconduct in the manner or method of performing any construction, care, operation, maintenance,

> supervision, examination, inspection, or other duties of the Subdistrict or the United States concerning the Chimney Hollow Reservoir, the Windy Gap Project and the Windy Gap Firming Project regardless of who performs those duties. Provided, however, that the Subdistrict does not waive its rights and protections under the Colorado Governmental Immunities Act, C.R.S. § 24-10-101, et seq., as amended, or similar or successor statutes."

Additionally, under Article 21(b), the Subdistrict has named Reclamation as a beneficiary under its liability insurance policy. Such insurance is a backstop to the indemnity provision described above that provides a source of funding to address potential damages in the future. Read together, the provisions of Article 21 provide as much protection that the Subdistrict, as a state governmental entity in Colorado, can offer regarding indemnity. These provisions provide a level of protection for the Project and the United States, and mitigate against additional risk that the Project is undertaking relative to Subdistrict Water. Accordingly, these provisions serve the interests of the Project and the United States because of the protections they provide.

Environment

Because the Windy Gap Firming Project will result in additional diversions of water from the Colorado River Basin to the East Slope, it is appropriate for Reclamation to consider the environmental effects of this use in the 2014 Contract to ensure that the Windy Gap Firming Project complies with applicable environmental protections. The 2014 Contract recognizes these environmental matters in several articles.

Article 13 of the 2014 Contract requires that the Subdistrict comply with all mitigation measures from Reclamation's records of decision for the Windy Gap Project and the Windy Gap Firming Project. In addition, the Subdistrict commits to pay no less than $1.5 million to the Learning by Doing Cooperative Effort described in the Intergovernmental Agreement for the Learning by Doing Cooperative Effort, for monitoring and enhancement of the Colorado River between Granby Reservoir and Windy Gap Reservoir.

The Subdistrict must comply with Article 14 of the 2014 Contract, which addresses "Federal, state, and local permits, approvals, and licenses ('Permits and Approvals') for the construction, implementation operation, of the Windy Gap Firming Project."

Article 15 of the 2014 Contract recognizes that the Subdistrict has executed several "Other Identified Agreements" (as set forth in Exhibit C to the contract) with entities not a party to the 2014 Contract that provide environmental benefits. The Subdistrict has committed to provide certain of these benefits even if the Subdistrict decides in the future to not construct Chimney Hollow Reservoir.

Articles 13-15 contain safeguards to ensure that environmental commitments are being met. If the Subdistrict is not fulfilling its applicable commitments, a process to notify, meet and confer, and to identify a comparable remedy, is established. Potential suspension of Prepositioning and potential contract termination is an available remedy if the disputes over environmental benefits remain unresolved. The substantive provisions of Articles 13-15, including the safeguards, recognize a level of environmental benefit that the Windy Gap Firming Project will provide.

These benefits, regardless of their origin, are in the best interest of the Project and the United States because they stand to improve environmental conditions surrounding the Project and its operation.

Pricing
The pricing structure of the 2014 Contact is in the best interests of the Project and the United States in 3 ways. First, the 2014 Contract contains a provision that the first $84,525 annually will be a general credit to the Reclamation Fund. Such funding maintains the funding levels of the 1990 Windy Gap Amendatory Contract, keeping the Reclamation Fund whole, which is in the best interest of the Project, the United States, and Reclamation generally.

Second, half of the remaining federal revenues will be used in the best interest of the Project and the United States because they will be spent on Major Rehabilitation and Replacement [MR&R] maintenance activities. Under Reclamation's contractual arrangements with the District, these additional federal expenditures to maintain the Project will be reimbursed in accordance with the District's 1938 repayment contract. MR&R expenditures not reimbursed by the District will be reimbursed by federal power contractors in accordance with their existing repayment contracts with the United States through the Western Area Power Administration.

Third, the remaining half of the federal revenues will be used in the best interests of the Project and the United States because they will provide additional funding for Reclamation expenses associated with MR&R costs across the Reclamation program. Providing additional funds to accomplish MR&R maintenance across Reclamation's portfolio of water resources facilities is in the best interest of the Project, the Reclamation program, and the United States.

Conclusion
Overall, it is my determination that the 2014 Contract is in the best interest of the Project, the Reclamation program, and the United States. The provisions described above maintain the benefits that Reclamation currently derives from the Windy Gap Project, and go further to provide additional benefits to the Project and entities that benefit from the Project, Reclamation and the United States.

I have reviewed this memorandum and found it legally sufficient.

Concur/Non-Concur:

_____ _____

Solicitor Date

Appendix E

Subdistrict's Mitigation/Environmental Commitments

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
1	**Surface Water Hydrology**		
1a (FEIS p. 3-400 and FWMP Table 1)	Reduced flows in Colorado River below Windy Gap diversion.	To assure that water diverted from the Colorado River is used as efficiently as possible; all Participants in the WGFP shall have water conservation plans in accordance with the requirements of CRS § 37-60-126 prior to the initial delivery of any water after construction of the WGFP.	Current minimum bypass flows below Windy Gap Reservoir would continue per existing agreements except as modified by the FWMP.
1b (FEIS p. 3-401 and FWMP p. 14)	Lower water levels in Granby Reservoir as a result of prepositioning.	In any year when Granby Reservoir is projected to fall below an elevation of 8,250 feet, modified prepositioning, which reduces the delivery of C-BT water from Granby Reservoir to Chimney Hollow Reservoir, would be implemented to maintain higher water levels in Granby Reservoir. Details of this measure would be developed by the Subdistrict and incorporated into a proposed agreement between Reclamation and the Subdistrict with evaluation by the Corps. The objective is to minimize the adverse effects of prepositioning on water levels in Granby Reservoir.	This measure would minimize any potential negative effects on aquatic resources and recreation in Granby Reservoir that may be caused by reduced water levels from prepositioning.
2	**Stream Morphology and Floodplains**		
2a (FWMP pp. 14-15)	A decrease in the frequency of 2-year peak discharge and in-channel maintenance flows in the Colorado River below Windy Gap Reservoir.	Flushing flows from the original Windy Gap Project (1980 MOU) would be modified to increase from 450 cfs to 600 cfs. In any year when flows below Windy Gap Reservoir have not exceeded 600 cfs for at least 50 consecutive hours in the previous two years, and total Subdistrict water supplies in Chimney Hollow and Granby Reservoirs exceed 60,000 AF on April 1, the Subdistrict would cease all Windy Gap pumping for at least 50 consecutive hours to enhance peak flows below Windy Gap Reservoir.	This measure is also expected to address project effects on quality of fish habitat.

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		The Subdistrict will coordinate with Colorado Department of Parks and Wildlife and other water suppliers, including Denver Water, to maximize benefits of the higher flows and minimize any potential negative impacts to aquatic resources.	
3	**Surface Water Quality**		
3a (FEIS pp. 3-203, 3-204, and 3-403; FWMP pp. 15 and 16)	Colorado River temperature between Windy Gap Reservoir and Williams Fork may exceed the 18.2°C chronic Maximum Weekly Average Temperature or the 23.8°C Daily Maximum state standard as a result of WGFP diversions that lower flows in the Colorado River. Impacts are most likely in the occasional years when WGFP diversions occur after July 15.	The Subdistrict will work with Denver Water to install, operate, and maintain two continuous real-time temperature monitoring stations on the Colorado River – one at the Windy Gap gage and one upstream of the confluence with the Williams Fork River. For the purposes of this mitigation, the threshold temperatures will be the following, as measured at the temperature monitoring stations identified above: 1. MWAT Chronic Threshold: 18.2º C (64.8º F), based on current Maximum Weekly Average Temperature (MWAT) Chronic Standard. 2. DM Acute Threshold: 23.8º C (74.8º F), based on current Daily Maximum (DM) Acute Standard. For the period after July 15th of each year: 1. At such times as the Weekly Average Temperature (WAT) exceeds the MWAT Chronic Threshold, the Subdistrict will reduce or curtail WGFP pumping at the Windy Gap diversion to the extent necessary to maintain temperatures within the MWAT Threshold. Reduced pumping may not be sufficient to maintain temperatures below the threshold. 2. Pumping for the original Windy Gap Project, now and after the WGFP is in operation, may occur at any time that the Windy Gap water rights are in priority and sufficient space is available in Lake Granby that such water pumped will not be reasonably expected to spill from the reservoir. Therefore, WGFP pumping will be defined as pumping that occurs at such times as the Northern Colorado Water Conservancy District determines, based on its most probable forecasts of inflows to Lake Granby, that a spill of water from Lake Granby is reasonably foreseeable. All other pumping will be considered to be for the original Windy Gap Project.	This measure is also expected to address effects on quality of fish habitat.

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		At such times as the Daily Maximum temperature is within 1º C of the DM Acute Threshold, the Subdistrict will reduce or curtail pumping for the original Windy Gap Project or the WGFP at the Windy Gap diversion to the extent necessary to maintain temperatures within the DM Threshold. Reduced pumping may not be sufficient to maintain temperatures below the threshold. In the future, the 1 degree buffer may be altered, based on experience, to maintain compliance with the DM Threshold. The temperature mitigation measures identified above will be suspended in the event that and at such times as there is no material causal relationship between Windy Gap Project or Windy Gap Firming Project operations and any exceedence of the MWAT Chronic threshold or DM Acute threshold at the monitoring stations identified above. For the purposes of this Paragraph a "material causal relationship" is defined as either an actual measureable impact on temperature using readily available monitoring technology or a modeled impact on temperature that is not *de minimus* and is based on a computer model or studies accepted by the Colorado Division of Wildlife. The Subdistrict will cooperate with future studies to determine what factors, other than flow changes, have effects on water temperatures in the Colorado River below Windy Gap. The Subdistrict will use the Windy Gap Project Bypass Valve and Auxiliary Outlet to the maximum extent practicable to release colder water without causing adverse effects to the Windy Gap Project facilities or operations for the bypass of water that is otherwise bypassed from the Windy Gap Project. This measure is intended to make releases of water from these outlets deeper in the reservoir that may be colder than water bypassed over the spillway. These requirements would be documented in the contract negotiations or in a separate operating or working agreement between Reclamation and the Subdistrict.	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
3b (FEIS pp. 3-200, 3-201, 3-202, 3-203, 3-403; FWMP p. 3-17)	Additional WGFP pumping would increase nutrient (nitrogen and phosphorus) loading in Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake, resulting in increased chlorophyll *a* and manganese (Mn) concentrations and a decrease in dissolved oxygen (DO).	The Subdistrict would be required to submit a nutrient reduction plan to Reclamation and the Corps for approval. The plan must be in place prior to the construction and operation of the WGFP. Currently, the Subdistrict's plan includes point source nutrient reductions from Fraser Sanitation District Waste Water Treatment Plant discharges in the Fraser River basin and nonpoint source nutrient reductions from agricultural land (E-Diamond H Ranch and C-Lazy-U Ranch) in the Willow Creek watershed. The incremental nutrient loadings from the Proposed Action compared to existing conditions would be an additional 6,128 kg/year of total nitrogen and 778 kg/year of total phosphorus (FEIS Table 3-115). Currently identified nutrient reduction measures (Fraser Sanitation District Waste Water Treatment Plant, E-Diamond H Ranch, and C-Lazy-U Ranch) would offset about 54 percent of the WGFP total nitrogen loadings to the Three Lakes or 3,343 kg/year. Thus, about 2,785 kg/yr of additional nitrogen reduction measures need to be identified. The Subdistrict will be responsible for developing other nonpoint source nutrient reduction measures or other actions elsewhere in the watersheds upstream of Windy Gap Reservoir to meet the total nitrogen reduction levels needed to provide at least a 1:1 reduction in TN and TP loadings to the Three Lakes. The Subdistrict will submit to Reclamation and the Corps for approval a monitoring program and annual results to ensure that proposed nutrient reduction measures and any additional unidentified point and nonpoint source mitigation measures are effective in offsetting all of the nitrogen and phosphorus loading to the Three Lakes attributable to the WGFP. Nutrient reduction measures would be implemented in an adaptive management approach with the results of monitoring used to demonstrate the effectiveness and need for additional or less mitigation. To measure the effectiveness of nonpoint source mitigation measures, a monitoring program would be developed for the E-Diamond H Ranch and C-Lazy-U Ranch. The Subdistrict initiated water quality monitoring on Willow Creek near the C-Lazy-U Ranch and on Church Creek near	Nutrient loading to the Three Lakes system from additional Windy Gap pumping would be offset by nutrient reductions that could occur in the Willow Creek, Fraser River, and Colorado River watersheds above Windy Gap. Nutrient reductions would result in a year-round improvement to water quality in streams where nutrient reduction measures are implemented. The reduced nutrient loading to the Three Lakes by upgrading the Fraser WWTP and nonpoint source BMPs would likewise reduce the nutrient load delivered to the East Slope in Carter Lake, Horsetooth Reservoir, and the C-BT system.

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		the E-Diamond H Ranch in 2010 to begin establishing a baseline for water quality prior to implementing nonpoint source mitigation measures. Similar monitoring would be established for other locations where nonpoint source nutrient reduction measures are identified.	
3c (FEIS p. 3-404)	Dissolved oxygen concentrations are predicted to remain above the 6.0 mg/L standard. DO could fall below the fish spawning standard of 7.0 mg/L between Windy Gap Reservoir and Williams Fork at low flows; however, reduced DO occurring as a result of the WGFP is most likely to occur during the summer months outside of the spring and fall spawning seasons.	Mitigation for temperature (4a) and aquatic resource effects should improve and maintain DO levels above the state standard. Any plan to monitor and mitigate DO changes would be evaluated by the Corps. If DO concentrations fall below the standards and result in water quality standards violations that are attributable to Windy Gap Project pumping, Reclamation, the Corps, and the Subdistrict will discuss the violations and, if necessary, identify and implement additional mitigation measures to address the DO violations.	
3d (FEIS p. 3-204)	Construction-related water quality impacts.	A construction Stormwater Management Plan would be developed and implemented for new facility construction to reduce erosion and sediment delivery to nearby streams and water bodies as part of a Colorado NPDES Stormwater Permit.	
3e (FEIS p. 3-204)	Continue ongoing cooperative studies to improve water quality in Three Lakes and East Slope C-BT reservoirs.	The Subdistrict would commit to continued participation and funding of the ongoing Nutrient Studies, with participation and collaboration by Reclamation, Northern Colorado Water Conservancy District, and Grand County, to better understand water quality issues in the Three Lakes system and provide guidance for future management decisions.	
4	**Vegetation**		
4a (FEIS p. 3-253 and 3-413; FWMP p. 18)	Temporary impact to 123 acres of vegetation during construction of Chimney Hollow Reservoir.	A revegetation plan for all disturbed areas, in accordance with the Stormwater Management Plan, shall be developed by the Subdistrict and approved by Reclamation and the Corps. The revegation plan will be developed in coordination with Colorado Department of Parks and Wildlife and incorporate Colorado Department of Parks and Wildlife	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		Oil & Gas Best Management Practices where appropriate. The revegation plan shall include: • Establishing well-defined construction limits to minimize vegetation disturbance. • Minimizing the length of time that soils are exposed. • Salvaging topsoil from weed free disturbed areas to aid in revegetation. • Applying soil amendments, mulches, organic matter, and other measures as needed to facilitate revegetation. • Using native seed and planting shrubs and trees according to site-specific conditions and vegetation communities. Species selection would be coordinated with local agencies such as Larimer County Open Space and the Colorado Department of Parks and Wildlife. • Monitoring revegetation until native vegetation cover is at least 70 percent of the original vegetation cover in accordance with Colorado NPDES stormwater permitting requirements. Corrective actions would be implemented as needed to ensure that adequate vegetation cover of native species is established.	
4b (FEIS pp. 3-253 and 3-254)	Introduction of noxious weeds	A weed management plan shall be prepared by the Subdistrict prior to construction disturbances and will be updated periodically in accordance with the Colorado Noxious Weed Control Act and in cooperation with Larimer County weed programs. Key components of the plan shall include: • Requiring that equipment be washed and inspected prior to entering the project area to prevent importing weeds on vehicle tires and mud. • Limiting the use of fertilizers that may favor weeds over native species. • Using periodic inspections and spot controls to prevent weed establishment. If terrestrial, semiaquatic, or aquatic weeds invade an area, an integrated weed management process to selectively combine	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		management techniques (biological, chemical, mechanical, and cultural) to control the particular weed species would be used.	
5	**Wetlands and Adjacent Riparian Habitats**		
5a (FEIS p. 3-406, FWMP Table 2)	Temporary disturbance of about 0.2 acre of wetlands during Chimney Hollow Reservoir construction.	Avoid, minimize, and mitigate wetland impacts as specified in 33 CFR Part 332 (Mitigation Rule, 10-Apr-08) and as evaluated by the Corps.	Temporarily disturbed wetlands would be restored following construction.
5b (FEIS p. 3-407, FWMP Table 2)	Permanent impact to about 2 acres of wetlands at Chimney Hollow Reservoir.	Avoid, minimize, and mitigate wetland impacts as specified in 33 CFR Part 332 (Mitigation Rule, 10-Apr-08) and as evaluated by the Corps. Wetlands would be mitigated by contribution to an approved wetland mitigation bank. Habitat enhancement at Chimney Hollow Reservoir as identified in the FWMP may include wetland and riparian habitat creation on the lake shoreline. Any wetland creation work would need to be evaluated by the Corps.	Under modified prepositioning, there would be greater water level fluctuations and lower water levels in Chimney Hollow Reservoir; thus establishment of shoreline wetlands may be difficult.
5c (FEIS p. 3-407, FWMP Table 2)	Permanent impact to about 0.5 acre of waters of the U.S. along Chimney Hollow.	Avoid, minimize, and mitigate water impacts as specified in 33 CFR Part 332 (Mitigation Rule, 10-Apr-08) and as evaluated by the Corps.	Creation of large open water reservoir.
6	**Wildlife**		
6a	Loss of 810 acres of elk winter range, mule deer winter range and concentration area, and black bear foraging area at Chimney Hollow.	See 6b.	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
6b (FEIS pp. 3-285, 3-286, 3-406 and 3-408; FWMP pp. 18 to 20)	General loss of habitat for other terrestrial species, birds, amphibians, reptiles, and butterflies at Chimney Hollow.	The Subdistrict will develop a Chimney Hollow Reservoir Site Wildlife Habitat Mitigation Plan to replace the values provided by habitat lost or altered by construction of Chimney Hollow Reservoir. Mitigation of impacts to wildlife resources will involve a combination of mitigation strategies and tools, including: • Restoring habitats temporarily disturbed during reservoir and facility construction • Working with Larimer County to restore or enhance degraded habitat surrounding Chimney Hollow Reservoir • Working with Colorado Department of Parks and Wildlife and Larimer County to establish hunting access on the Chimney Hollow property • Conducting management and education activities to minimize human wildlife conflicts • Implementing a migratory bird management plan • Implementing seasonal restrictions and buffer zones Details of this plan will include: **Restoration of Temporary Disturbances.** The temporary loss of 123 acres of wildlife habitat will be mitigated through reclamation and revegetation of all habitats disturbed during construction and relocation of the transmission line and towers. Temporary loss of vegetation communities due to construction of dams, pipelines, staging, and access roads will be restored with plantings and seed mixes that replicate the vegetation cover types. Vegetation restoration of the transmission line corridor will involve working closely with Western Area Power Administration to incorporate strategies for maintenance of stable low-growing vegetative communities that include mechanical cutting, removal of timber, on-site treatment of slash, and planting sustainable, low-growing shrubs and grasses. Plantings and seed mixes will focus on restoring diverse vegetation communities that provide wildlife forage, particularly during fall and winter. A reclamation plan will be developed as part of the construction program and the Stormwater Management Plan.	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		Habitat Enhancement. Subdistrict will work with Larimer County to develop a land management plan that will include habitat enhancement of vegetation communities surrounding Chimney Hollow Reservoir, which involves planting native species beneficial to wildlife where appropriate. The Subdistrict will provide $50,000 to Larimer County to use in their ongoing habitat management plan. A weed control plan would be developed in cooperation with Larimer County prior to implementing habitat enhancement to improve the quality of lands not specifically within the areas of vegetation enhancement. Weed management will focus on monitoring restored habitats and implementing an integrated weed management approach of mechanical, chemical, and biological control strategies. Integrated weed management strategies also will be used to control existing areas of noxious and invasive species, particularly large patches of thistle and cheatgrass. The weed management plan will be developed prior to construction disturbances and updated periodically through implementation of wildlife enhancement. **Hunting Opportunities.** Larimer County will develop a land management plan for the Chimney Hollow area. As part of this process, the Subdistrict and Larimer County will work with Colorado Department of Parks and Wildlife and Larimer County to explore opportunities to provide seasonal hunting on portions of the Chimney Hollow Reservoir site and open space to assist with game management and provide additional recreation. **Minimization of Human-Wildlife Conflicts.** The displacement of elk and bear into surrounding residential areas as they search for lost food resources will be offset by the habitat enhancement activities and hunting opportunities described above. Additionally, the Subdistrict will work with Larimer County and Colorado Department of Parks and Wildlife to reduce/eliminate wildlife attractants from recreation facilities and establish education/outreach programs and information kiosks/signs informing the public on the	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		dangers of close interactions with wildlife, and methods to avoid and minimize potentially dangerous encounters. **Implementing Migratory Bird Avoidance Plan.** The active nesting season for most migratory bird species in Colorado is between April 1 and August 15. Over the past few years, the U.S. Fish and Wildlife Service and Colorado Department of Parks and Wildlife have suggested that the best way to avoid a violation of the Migratory Bird Treaty Act is to remove vegetation outside of the active breeding season. The Subdistrict will develop Best Management Practices in accordance with Colorado Department of Parks and Wildlife guidance to avoid disturbing active bird nests at the Chimney Hollow Reservoir site. *Note: Implementing these Best Management Practices demonstrates a good faith effort to avoid incidental violation of the Migratory Bird Treaty Act, but does not guarantee that migratory birds will not still nest in some areas despite these efforts.* **Seasonal Restrictions and Buffer Zones for Raptors.** Avoidance and mitigation options for nesting raptors at the Chimney Hollow Reservoir site consists of: 1) conducting nest surveys prior to construction, 2) establishing reasonable site-specific buffers and seasonal restrictions, 3) implementing seasonal restrictions to avoid and minimize disturbance, and 4) removing inactive nests from the transmission line corridor, construction footprints, reservoir pool area, or other areas of permanent impacts. Currently, there are no expected permanent impacts to existing raptor nests; however, there is the possibility that a new active raptor nest could be established in areas slated for disturbance or inundation. The intent of any mitigation is to encourage individual raptor pairs to nest at selected and more secure locations. Best Management Practices will be developed in accordance with Colorado Department of Parks and Wildlife guidance to avoid, minimize and mitigate potential impacts.	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
6c (FEIS p. 3-285)	Temporary loss of 123 acres of wildlife habitat disturbed during construction of Chimney Hollow and relocation of the transmission line and towers.	See 6b. Vegetation would be restored with plantings and seed mixes that replicate the vegetation cover types. Vegetation restoration of the transmission line corridor will involve working closely with Western Area Power Administration to incorporate strategies for maintenance of stable lowgrowing vegetative communities that include mechanical cutting, removal of timber, on-site treatment of slash, and planting sustainable, low-growing shrubs and grasses. Plantings and seed mixes will focus on restoring diverse vegetation communities that provide wildlife forage, particularly during fall and winter. A revegetation plan will be developed as part of the construction program and the Stormwater Management Plan (3d above).	
7	**Threatened and Endangered Species**		
7a (FEIS p. 3-295)	Preble's Meadow jumping mouse at Chimney Hollow.	A Preble's Meadow jumping mouse habitat evaluation will be conducted at the Chimney Hollow Reservoir site prior to construction. If present, a mitigation plan will be developed.	
7b (FEIS pp. 3-295 and 3-409; FWMP p. 17)	Depletion to Colorado River impacts T&E fish.	The Service issued a Biological Opinion on February 12, 2010 for the Preferred Alternative indicating WGFP coverage under the Upper Colorado River Programmatic Biological Opinion with participation in the Upper Colorado River Recovery Program and payment of a depletion fee for additional depletions of 21,317 AF attributable to the WGFP. The Endangered Species Act Section 7 consultation process will be completed when the Subdistrict pays the depletion fee.	
8	**Geology**		
10a (FEIS p. 3-300; FWMP Table 2)	Potential for uncovering fossils during Chimney Hollow Reservoir construction.	Prior to construction, the Subdistrict will contract with a professional paleontologist to review the Chimney Hollow Reservoir site for potential fossils. If the likelihood for finding important fossils is high, a paleontologist would then provide orientation to Subdistrict staff and construction inspectors on where fossils might be found and in recognizing them. Prior to construction, Denver Museum of Nature and	No currently known geologic formations containing potential paleontological resources would be affected by construction of Chimney Hollow Reservoir and facilities; however, plant and invertebrate fossils

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		Science and University of Colorado Museum paleontologists would be notified that excavation work could potentially discover paleontological resources and they will be contacted to participate in an assessment of the significance of a find. In the event that construction activities uncover concentrations of fossil remains or unusually large specimens, work in the area of the discovery will be suspended until the significance of the find is evaluated. The Subdistrict/construction contractor will immediately contact a professional paleontologist, as well as Denver Museum of Nature and Science and University of Colorado Museum paleontologists to evaluate the find and make recommendations. Work would resume once significant fossils are examined and/or recovered and removed from the site.	could be present in some sandstone formations.
9	**Soils**		
9a (FEIS p. 3-308; FWMP Table 2)	Temporary and permanent loss of soil during Chimney Hollow Reservoir construction.	Prior to and during construction, the Subdistrict will: • Clearly define construction limits to minimize soil disturbance. • As identified in 4h above, develop an erosion control plan as part of the required Stormwater Management Plan under the Colorado National Pollutant Discharge Elimination System permit to reduce the potential for erosion from disturbed areas or capture sediments on-site. This will include integration with the revegetation plan. • Salvage suitable topsoil from areas of temporary disturbance, where possible, to aid in revegetation following construction. • Use soil amendments or additional site preparation techniques to revegetate disturbed areas with poor topsoil suitability.	
10	**Air Quality**		
10a (FEIS p. 3-312 and 3-409; FWMP Table 2)	Dust and vehicle emissions during Chimney Hollow Reservoir construction.	The Subdistrict will prepare a fugitive particulate emissions control plan and BMPs would be developed in order to meet requirements for Colorado Air Quality Control Standards. A copy of the plan will be provided to Reclamation.	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
		The Subdistrict will ensure construction equipment (especially diesel equipment) meets opacity standards for operating emissions. The Subdistrict will stabilize disturbed areas as soon as possible to reduce dust sources. This may include, but not limited to, watering down disturbed surfaces.	
10b (FEIS p. 3-316 and 3-409; FWMP Table 2)	Increased ambient noise and vibration from construction of Chimney Hollow Reservoir.	The Subdistrict will implement Best Management Practices to minimize noise. These will include, but not be limited to: • Ensure construction equipment functions as designed and conforms to applicable noise emission standards. • Require the contractor to adhere to project work hour restrictions. • Restrict access to construction areas so that the public will not be in close proximity to loud equipment or blasting. • Develop a blasting schedule and notification process approved by Reclamation prior to when blasting is anticipated to occur. Precede blasting with a warning alarm. Blasting plans would include the implementation of seismographs for vibration measurements and air blast recordings for noise. • Locate operating equipment (e.g., pump stations) in structures designed to minimize radiated noise outside the structure, and design structures to meet local noise ordinance requirements. • The Subdistrict will develop and submit to Reclamation, a noise monitoring and noise mitigation plan if activities are expected to exceed maximum permissible noise levels.	
11	**Land Use**		
11a (FEIS p. 3-410; FWMP Table 2)	Sandstone quarry operations could be affected by the southern access road to Chimney Hollow Reservoir.	Quarry access will be maintained.	

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
11b (FEIS pp. 3-331 and 3-410; FWMP Table 2)	Increased construction traffic on CR 18E and CR 31 and impacts to roads during reservoir construction and from recreation access to Chimney Hollow Open Space managed by Larimer County.	The Subdistrict will comply with all applicable Larimer County Road and Bridge Department regulations and work with the county to minimize impacts to roads and maintain traffic safety.	
12	**Recreation**		
12a (FEIS pp. 3-352 and 3-410; FWMP p. 17)	Preferred rafting and kayaking flows in Big Gore and Pumphouse of the Colorado River would decrease.	Subdistrict would curtail WGFP diversions during the annual Big Gore Race in August if flows at the Kremmling gage drop below the preferred range (1,250 cfs).	The WGFP would both decrease and increase by less than 3 days per year, on average, the number of days within the preferred boating flow range. Curtailment of WGFP for temperature mitigation per 4a above may periodically increase summer flows.
12b (FEIS p. 3-411; FWMP Table 1)	Effects on recreational fishing in the Colorado River downstream of the Windy Gap diversion from habitat loss and temperature impacts between Windy Gap and the Blue River.	Stream temperature mitigation measures in the FWMP developed in accordance with CRS § 37-60-122.2 would reduce impacts to fish (see 3a above).	
13	**Cultural Resources**		
13a (FEIS p. 3-367)	Twenty-four eligible or potentially eligible cultural resources could be impacted by construction of Chimney Hollow Reservoir.	The Subdistrict would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties. Contractors and subcontractors also would be instructed on procedures to follow if previously unknown archeological resources are uncovered during construction.	Reclamation is responsible for specific cultural resource environmental commitments.

FEIS and/or FWMP*	Resource Impacts	Mitigation/Environmental Commitments	Notes
14	**Visual Quality**		
14a	Temporary impacts from construction of Chimney Hollow Reservoir.	Vegetation and wildlife habitat environmental commitments will address this impact (see 4a and 6b above).	
14b (FEIS p. 3-376: FWMP Table 2)	Permanent changes in landscape.	Vegetation and wildlife habitat environmental commitments will address this impact (see 4a and 6b above). Aboveground structures would be constructed with materials that complement the adjacent existing landscape.	
14c (FEIS p. 3-376 and 3-411; FWMP Table 2)	Relocation of transmission line.	The relocated transmission line will use nonspecular, nonreflective wire and insulators, with monopoles finished to complement the sky background or forest background.	Western Area Power Administration would work with Larimer County and the Subdistrict on the final alignment to further reduce visual impacts.
15	**Socioeconomics**		
15a (FEIS p. 3-411; FWMP Table 2)	Property acquisition.	Any properties required to be purchased for the project would be purchased by the Subdistrict for just compensation following an appraisal in accordance with the Water Conservancy Act (CRS § 27-45-101 to 153) and other applicable state laws.	
15b	Lost recreational boating value in the Colorado River in some years due to lower flows.	The Subdistrict would curtail diversion during the annual Big Gore Race as needed (see 12a above) to avoid socioeconomic effects associated with this event.	Although preferred boating flows are not always met, rafting and kayaking opportunities would remain (i.e., flows would rarely drop below minimum boating flows).
15c	Reduction in aesthetic value in Grand Lake if algae concentrations increase.	Nutrient mitigation measures (see 3b above) would offset nutrient loading from increased WGFP pumping that could contribute to algae growth.	

*FEIS is the Final EIS; FWMP is the Fish and Wildlife Mitigation Plan.

Note: Any submittals required by the FEIS mitigation plan will be evaluated by the Corps for compliance with Section 404 Clean Water Act requirements. With some resource issues, the Corps may require additional mitigation measures.