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Response to Comments by Government Agencies and Elected Officials

This section provides copies of the letters received from federal, state, and local government agencies; tribal governments; and elected officials on the Draft EIS. The letters are organized alphabetically by the agency's or official's name and the letter number where comments and responses can be found (Table 1). Original comment letters have been reproduced with Reclamation's response to each of the numbered comments.

Table 1. Comments by government agency and elected officials.

Agency/Official	Commenter	Letter Number
Bureau of Land Management, Colorado State Office	Sally Wisely	1054
City and County of Broomfield	Mike Bartleson	357
City and County of Broomfield	Mike Bartleson	406
City of Fort Collins	Brian Janonis	220
City of Fort Lupton	Rick Bendel	358
City of Greeley	Ed Clark	362
City of Longmont	Ken Huson	415
City of Louisville	Chuck Sisk	1091
City of Loveland	Gene Pielin	232
Colorado District 56 Representative	Christine Scanlan	1114
Colorado Division of Wildlife	Thomas Remington	1058
Colorado House of Representatives	Al White	403
Colorado House of Representatives	Jerry Sonnenberg	1150
Colorado River Water Conservation District	Eric Kuhn	1062
Comanche Nation of Oklahoma	Jimmy Arterberry	5
Eagle County Environmental Health Department	Raymond Merry	904
Environmental Protection Agency, Region 8	Larry Svoboda	1141
Fish and Wildlife Service, Colorado Field Office	Susan Linner	57
Granby Sanitation District	Dave Johnson	1148
Grand County (see cooperating agency response)	Barbara Green	1075
Grand County	Lurline Underbrink Curran	400
Grand County Water and Sanitation	Bruce Hutchins	1073`
Grand Lake and NWCOG	Gina Hardin	411
Grand Lake Shoreline Association	Pat Raney	392
Greeley Water and Sewer Department	Jon Monson	419
Larimer County Board of County Commissioners	Glenn Gibson	46
Loveland Dept. of Water and Power	Gary Hausman	91
Loveland Utility Commission	Gary Hausman	412
Middle Park Conservation District	Board of Directors	1149
Middle Park Conservation District	Duane Scholl	1096

Agency/Official	Commenter	Letter Number
Municipal Subdistrict, NCWCD	Les Williams	426
National Wildlife Federation	Stephen Torbit	1108
Northwest Colorado Council of Governments	Lane Wyatt	404
Northwest Colorado Council of Governments	Lane Wyatt	1107
Northwest Council of Governments	Shanna Koenig	377
Office of Archaeology and Historic Preservation	Edward C. Nichols	131
Pitkin County Board of Commissioners	Rachel Richards	1111
St. Vrain & Left Hand Water Conservancy District	Vernon Peppler	1145
Sulphur Ranger District	Craig Magwire	1127
Summit County	Gary Martinez	1120
Tabernash Meadows Water and Sanitation	Lauralee Kourse	378
Town of Erie	Gary Behlen	407
Town of Erie	Gary Behlen	1142
Town of Fraser	Jeff Durbin	1069
Town of Granby	Don Baird	1072
Town of Grand Lake	Elmer Lanzi	379
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Town of Hot Sulphur Springs	Hershal Deputy	364
Town of Kremmling	Thomas A. Clark	227
Town of Minturn	Gary Suiter	1101
Town of Winter Park	Jim Myers	253
Winter Park Ranch Water and Sanitation District	Jon Westerlund	1135
Winter Park Water & Sanitation District	Jack Buchheister	1151
Winter Park Water and Sanitation District	Mike Wageck	401

Agency Letters and Responses

Com-ment	Letter #1054	Response

WGFP 1054

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7093
www.blm.gov/co

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In Reply Refer To:
7250 (CO-932)

DEC 23 2008

Tully

Official File Copy
File Code ENV-6.00 WGFP
295

Mr. Will Tully
Bureau of Reclamation
11056 W. County Road 18E
Loveland, CO 80537

Dear Mr. Tully:

Please accept the Colorado Bureau of Land Management's (BLM) enclosed comments on the proposed Windy Gap Firming Project. The BLM appreciates the Bureau of Reclamation's (BOR) recognition of the Wild and Scenic River analysis process that is currently underway as part of the revision of the Kremmling and Glenwood Springs Resource Management Plans. The BLM hopes that the enclosed comments will assist BOR and water users in clarifying potential impacts that could occur to resources managed by BLM as a result of the proposed project. We also hope that the enclosed comments provide Reclamation with workable ideas for project mitigation that could be cooperatively implemented with Northern Colorado Water Conservancy District to minimize project impacts.

If you would like to arrange further discussion of the enclosed comments, please contact Roy Smith at (303) 239-3940.

Sincerely,

for Acting

Sally Wisely
State Director

Enclosure

cc:
Dave Stout, Kremmling Field Office Manager
Jamie Connell, Glenwood Springs Field Office Manager
Roy Masinton, Royal Gorge Field Office Manage

Com-ment	Letter #1054	Response
1	**BLM Colorado Comments – Windy Gap Draft EIS** • **Affected Area for Impact Analysis** - BLM is concerned that the area analyzed for impacts differs from resource to resource. For example, the aquatic resources analysis extends downstream only to the confluence with the Blue River, while the recreation analysis extends downstream to State Bridge. Measurable impacts were noted for recreational resources in the Blue River to State Bridge reach, so it is possible that measurable impacts could occur to aquatic resources. BLM suggests incorporating an analysis of aquatic resource impacts from the Blue River to State Bridge, including a discussion of temperature impacts during low flow periods.	1. The area of potential effect may vary among the resources depending on the likely area of impact. The Aquatic Resources section includes an analysis of impacts to habitat downstream of the Blue River confluence. Those impacts are discussed in more detail in the revisions to Section 3.9.2.3 of the FEIS. Because hydrologic impacts of the WGFP on the Colorado River diminish below the Blue River confluence, measurable impacts to aquatic resources are unlikely farther downstream. Results of the analysis impacts to fish habitat from hydrologic data at the Kremmling gage below the Blue River are indicative of likely impacts for several miles downstream. Minimal changes in Colorado River stream temperature or aquatic habitat are estimated below the Blue River as discussed in the FEIS.
2	• **Stream Temperature Impacts on Fisheries** - The EIS makes it clear that the greatest temperature impacts will occur during the May through August period. However, the monthly analysis provided does not allow a more detailed analysis of the period in which the river typically experiences problems with high water temperature impacts on fish populations. Specifically, the analysis stated that stream temperatures may increase up to 4 degrees Celsius just above the confluence with the Williams Fork when the river is at the minimum flow of 90 cfs. This conclusion is based on the analysis of one day (July 25), but it is clear that stream temperatures are affected by conditions on antecedent days. If the river experiences extended length and frequency of low flow periods at 90 cfs as a result of the project, temperatures could rise significantly beyond the increase calculated in the one-day analysis. Typically, temperature impacts on fisheries are assessed for increases in both acute temperatures and average weekly temperatures. BLM suggests that the EIS include a daily flow analysis of the annual period of July 15 through August 15, so that the reader can identify how much more frequently the 90 cfs condition will occur and can identify how much more frequently temperature issues may occur. This daily analysis could be included in both the direct and cumulative impact sections. BLM also suggests including a discussion of the impact of extended low flow and high temperature periods on the recruitment success and disease resistance for trout species. If these analyses reveal fish population impacts from temperatures, we also suggest a discussion on the resulting indirect impacts to recreational fishing opportunities. Finally, Reclamation may want to consider mitigation in the form of a real-time temperature gaging staging station just above the confluence with the Williams Fork River, and posting of that data continuously on Northern's or Reclamation's website. Having temperature information constantly available would allow water managers in the basin to take preventative actions when temperatures start approaching acute levels, rather than waiting until the fish population demonstrates signs of stress. Reclamation could also consider operational restrictions that would be triggered only when temperatures reach acute levels for the trout population.	2. Additional stream temperature and climatic data became available following the initial analysis of temperature impacts for the DEIS. Subsequently, a dynamic temperature model (Hydros 2011) was developed with input and review by EPA to simulate weekly average temperatures and daily maximums for the Colorado River between Windy Gap Reservoir and the Williams Fork for existing conditions and the alternatives. The model simulations were conducted for the months of June through September using the very warm observed climatic data from 2007. Results of this analysis indicated that increased exceedance of the chronic MWAT and acute DM standards would occur in July and August of some years. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days, when simulated with the very warm 2007 meteorology. Mitigation for temperature impacts is included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict. See Section 3.8.4.2 for further discussion of temperature mitigation. Temperature mitigation measures would reduce the potential for exceedance of the temperature standards and impacts to fish associated with operation of the WGFP.
3	• **Scope of Fisheries Analysis** - BLM suggests a more complete fisheries analysis from our perspective as managers of aquatic habitat on federal lands. The current analysis focuses only on the amount of habitat available for adult and juvenile fishes, and includes no analysis of habitat available for spawning or fry life stages. The analysis also includes no discussion on impacts to 1	3. The scope of the fisheries habitat analysis was developed in consultation with CDOW at the time of site selection for the habitat analysis in 2004. The species and life stages of interest were adult and juvenile rainbow and brown trout.

Com-ment	Letter #1054	Response
3	other fish species, such as mottled sculpin. In addition, the fisheries analysis doesn't include population trend data for the existing condition, information that BLM believes is readily available from the Division of Wildlife. The report concludes that the species composition and distribution of macroinvertebrates is not expected to change. However, the EIS doesn't include an analysis of how extended low flow periods will affect the macroinvertebrate community, since a lower percentage of the stream channel will be inundated after the project is implemented.	Habitat suitability information is required for each species analyzed. These data are not available for most nongame species, as is the case for mottled sculpin. It is assumed that the range of habitat conditions analyzed would be protective of the species present in the river. Fish population data were obtained from CDOW and is included in the DEIS. The conclusion regarding macroinvertebrate populations was based on the hydrology data. There would be no change to the base flows in the project area for average and dry years. There are changes during runoff, however, research on macroinvertebrate colonization shows that full colonization requires approximately two months. This time requirement would likely preclude colonization of streambed area that is dry prior to runoff. Further, most macroinvertebrates in snowmelt rivers have evolved to avoid runoff. This is accomplished by being very small (egg or early instar), or out of the water (adult phase).
4	• **Whirling Disease Impacts on Fisheries** - In the aquatic resources section, Nehring (DOW) is quoted as saying in 2006 that the last 5-6 years has shown a decrease in the Triactinomyxon populations (stage in the life cycle of the Whirling Disease parasite) in Windy Gap reservoir. BLM suggests that Reclamation may want to consider whether there is any relationship between TAM populations and specific Windy Gap operations.	4. The change in TAM levels may be more a factor of changes to the tubifex species than operations. In a presentation on the Colorado River Fishery, Jon Ewert, CDOW biologist, stated that the tubifex species were changing in Windy Gap Reservoir, which also contributes to the lower TAM levels. The tubifex present in the reservoir now include species that are not suitable hosts for TAMs. CDOW research by Thompson (2005) shows that the presence of myxospores in trout is not reduced as a result of habitat modifications. The more successful approach for control is to manage for resistant strains of host organisms.
5	• **Channel Maintenance Flows** - While the proposed changes to the river hydrograph may not affect overall stream morphology as defined by large materials and bedrock, BLM believes there may be a potential for significant impacts related to fine sediments and algal growth. In other river systems in Colorado, BLM has experienced situations in which the stream channel becomes "cemented" when algal growth and fine sediments are not washed out by regular high flow events. This "cementing" drastically reduces the interstitial spaces available for fish spawning and drastically reduces the surfaces available for macroinvertebrate habitat. BLM suggests analysis and discussion of this potential impact, and Reclamation may want to consider mitigation measures for preventing this impact. As part of this analysis, BLM recommends specific disclosure of the reduction in the number of years in which "wet" year hydrology will occur, and conclusions about whether any reduction in "wet" years will result in impacts to fine sediments and algal growth.	
6	• **Rafting and Kayaking Impacts** – In the EIS, BLM noted a potential impact on rafting and kayaking flows between Big Gore Canyon and Pumphouse. BLM has identified recreational boating as an outstandingly remarkable value for this stream segment as part of its Wild & Scenic Rivers suitability analysis. For rafting, the proposed project would have no impact during 37 of the 47 years analyzed during the period of record, but during the other ten years it could reduce flows outside of the preferred range for rafting by an average of 2.3 days. Although this doesn't appear to be a large number of days, when the Windy Gap impact is combined with other cumulative impacts, the overall impact is to reduce flows below rates that are considered preferred for rafting during significant portions of some years. For example, the cumulative effects portrayed in Figure 22 result in flows below the preferred level for rafting during both May and August, when compared to the current condition. Reclamation may want to consider an operational stipulation, in the form of limits on diversion during certain flow conditions, to minimize impacts on the outstandingly remarkable value. As noted above, this operational restriction would have operational impacts on the project only 10 years in 47, and then only during a few days of each of those years. BLM acknowledges that the recognition of Wild & 2	5. The sediment transport rate of the Colorado River far exceeds the sediment supply even at the higher diversion rates used in the original Windy Gap EIS. This is discussed in Section 3.7 of the FEIS. The river would continue to convey fine sediment without aggradation. There would be little change in the number of "wet" years, as defined by total annual flow volumes at the gage near Granby, under any of the alternatives at both the near Granby and below Windy Gap locations. Near Granby, the number of wet years would decrease at most by 8.5%, and would become average flow years under Alternatives 2 through 5 (this would not occur under the No Action Alternative). Below the Windy Gap diversion, the number of wet years would decrease at most by 11%, becoming average flow years. The reduction in wet years would not result in impacts to fine sediment movement in the Colorado River because there would still be many days of flows of 450 cfs or more (see Tables 3-32 and 3-34 in the FEIS). In addition, a recent evaluation was completed of available streamflow versus shear stress data at the Breeze station, a riffle site located downstream of the confluence of the Williams Fork. This analysis provides a generalized relationship between sediment mobilization and streamflows in the Colorado River. The results showed that fine sediments (sand, 2 mm or finer) would be mobilized at this riffle site at flows of less than 50 cfs.

Com-ment	Letter #1054	Response
6	Scenic Rivers values occurred long after water rights were established for the Windy Gap Project, but the project proponents may be willing to alter operations and minimize project impacts.	Fine gravel (8 mm) would require a flow of 200 cfs, medium gravel (16 mm) would require a flow of about 400 cfs, and coarse gravel (32 mm) would require a flow of about 850 cfs to be mobilized. In Ward's 1981 study, his results at four locations located from below Windy Gap to above the Blue River showed that fine sediments (sand, 2 mm or finer) would be mobilized at discharges ranging from 140 to 240 cfs (depending on location, with the highest flow at the lowest site above the Blue River). The flow duration curve for Hot Sulphur Springs shows small changes in flows of 150 cfs or less, and for Kremmling shows almost no changes at flows of about 1,000 cfs or less. Additional discussion on this issue was added to the FEIS in Section 3.7.2.3.
7	• **Minimum Flows for Acceptable Rafting** - In the affected environment Recreation section, the minimum acceptable flows for rafting below Pumphouse are identified at 400 to 800 cfs, citing Sommerhoff. BLM suggests using the broader data set established by the Upper Colorado River stakeholders group to establish minimum acceptable flows for rafting. That data set suggests slightly higher flows, in the 800 to 1000 cfs range.	
8	The environmental effects section on Big Gore Canyon identifies mitigation to possible impacts to the annual Gore Canyon Race by reducing diversions if the river flow is below 2,200 cfs. The affected environment section correctly states that the preferred level for rafting in Gore Canyon is between 850 and 1,250 cfs. The race participants would prefer flows in the preferred range, rather than 2,200 cfs.	A review of the hydraulic data generated from the River2D model shows that the flows of 450 cfs and greater, which would be present with the project in place, have the ability to clean the gravels of fine sediment and move some of the small to medium-size gravels. Based on the hydraulic information and the fact that the channel geomorphology is not expected to change, an impact to the fishery is not expected. The FEIS includes mitigation measures to increase flushing flows. 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 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.
9	• **Recreation Use Numbers** - In the affected environment section, some of the numbers cited from Arkin for commercial and private fishing days appear to be erroneous by a factor of ten. BLM suggests that Reclamation revisit these numbers with the Kremmling Field Office to ensure that they are accurately stated.	
10	• **Riparian Communities** - BLM is concerned that the vegetation analysis lacks an analysis of impact of the proposed project on riparian communities along the Colorado River. Even though the draft EIS concludes that there will be no significant change to channel morphology or sediment transport, there still could be significant effects to riparian communities. Reduction in peak flows may result in significantly shorter periods of time when riparian species root zones are saturated, and may result in less recharge to alluvial aquifers that support riparian communities during low flow periods. Dramatic reductions in flow when additional project diversions occur may reduce reproductive success of cottonwood trees, which rely on slow, gradual reductions of flows after cottonwood seedlings are established on sand and gravel bars in the river channel. Finally, reduced peak flow periods could result in increased invasion of the floodplain zone by upland species, if floodplain areas are saturated for shorter periods of time.	6. The preferred flow ranges for boating in the FEIS were changed and simplified to use a preferred flow of 850 to 1,250 cfs in Gore Canyon and 1,100 to 2,200 cfs in Pumphouse. As noted in the comment, flows outside the preferred range would occur about 2.3 days per year in about 10 of 47 years. Although preferred boating days may not be met for short periods in some years, this does not mean that no boating would occur. While these changes would be more frequent as a result of cumulative effects, the WGFP mitigation commitments are limited to direct effects of the project.
11	• **Mitigation and Bypass Flow Requirements** - It is not clear in the draft document what types of mitigation requirements and bypass flow requirements are built into the analysis. For example, will diversion from the firming project be subject to the same bypass flow requirements that have previously governed all Windy Gap operations? Will the firming project diversion be junior or senior to Colorado Water Conservation Board instream flow water rights? There should be specific disclosure as to whether Reclamation believes that current Windy Gap project mitigation requirements will be sufficient to minimize and offset impacts from the additional proposed diversions.	7. After review of the Grand County Stream Management Plan and additional conversations with BLM staff, the preferred flow ranges for boating were changed and simplified to use a preferred flow of 850 to 1,250 cfs in Gore Canyon and 1,100 to 2,200 cfs in Pumphouse. Section 3.19.2 of FEIS includes these changes.
	3	8. Based on comments and input from the BLM, the preferred flow range for the Gore Race is the same as the general boating range: 850 to 1,250 cfs. Section

Com-ment	Letter #1054	Response
		3.19.2 of the FEIS has been changed to reflect this correction. The Subdistrict remains committed to the mitigation measure of reducing diversions during the race in August if flows fall below 1,250 cfs. 9. The FEIS includes corrected and updated commercial use numbers provided by BLM staff. 10. Table 3-32 in the EIS shows that peak flows ranging from bankfull flows to 25-year flows would continue to occur under the alternatives. The reductions in peak flows that would occur below the Windy Gap diversion result in short periods of time (up to 30 days, but typically less than 2 weeks) when stage reductions averaging 4 inches (and as much as 2.2 feet for a few days in 2 percent of all years) could occur in the alluvium within a few feet of the river. Floodplain areas also are recharged by the water movement, both on the surface and as ground water, from higher areas to the river. Given the predicted stage reductions and the short periods of time when they would occur, it is unlikely there would be significant effects to riparian communities. These communities already experience similar changes in surface flows and ground water levels as a result of natural climatic variability, as well as surface water use and shallow alluvial ground water pumping. Additional discussion on this issue was added to Section 3.10.3.6 in the FEIS. 11. The existing minimum flow of 90 cfs below Windy Gap Reservoir, 135 cfs below Williams Fork, and 150 cfs below Troublesome Creek would be maintained with the WGFP. These flows were established in an agreement between the Subdistrict and the Colorado Division of Wildlife signed in June 1980. If Windy Gap is not diverting, the Subdistrict has no obligation or ability to maintain flows at these levels. These flows were established for the original Windy Gap project, which anticipated diverting approximately 10,000 acre-feet per year, on an average annual basis, more than the currently proposed project. Any CWCB minimum flow rights on the Colorado River would remain in the same priority as they currently are. Temperature mitigation measures for the WGFP included in the CRS 37-60-122.2 Fish and Wildlife Mitigation Plan (FEIS Appendix E) would further reduce the potential for adverse impacts to aquatic resources during the summer months.

Com-ment	Letter #357	Response
1	WGFP 357 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Mike Bartleson MR. BARTLESON: My name is Mike Bartleson. That's B-a-r-t-l-e-s-o-n. And I represent the city and county of Broomfield. Broomfield's drinking water supply consists of a potable water contract with Denver water, and raw water from the Colorado Big Thompson Windy Gap projects. The Windy Gap water is a critical water supply in Broomfield's planning. It will represent approximately 25 percent of Broomfield's overall water supply at build-out. When the city purchased -- when the city purchased its 56 Windy Gap units, it fully understood that it would require firming to make this a reliable water supply. The project representing a collaborative regionalized approach to address the growing needs of the entities along the Front Range. When the Windy Gap project is firmed, Broomfield will have 5,600 acre-foot of firm water for potable system and approximately 3,100 acre-foot for the reuse system, which the first phase is completed in 2004. Taken together, the first and second use of the water will yield 8,700 acre-foot of water to Broomfield when it is firmed. The city currently uses its Windy Gap water when it's available, and we estimate that in 2008, 2,300 acre-foot of Windy Gap effluent will be used for irrigation purposes. The city has implemented a number of water conservation measures and is in the process of updating and strengthening its water conservation plan under the guidelines of the Colorado Water Conservation Board's Office of Water Conservation and Drought Planning. One conservation program that Broomfield has in place consists of a farm Broomfield purchased that is now producing two drought-tolerant turfs, one for high-impact areas, such as park and ball fields, and one for right-of-ways. This surf uses anywhere from three-quarters to one-half of the water requirement of traditional bluegrass. Other programs include restricting the turf allowed on new residential developments and a water line replacement program that has reduced losses upstream of the customer's meter to less than five percent.	1. Thank you for your comment.

Com-ment	Letter #357	Response
1	Broomfield recognizes that there is a significant incentive to reducing water loss and encouraging efficient use by its customers. As I said, the Windy Gap water source is a critical element to Broomfield's water supply, and the firming project is absolutely necessary for Broomfield and the other participants to fully utilize this municipal source. Thank you.	

Com-ment	Letter #406	Response
1	WGFP 406 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 Mike Bartleson MR. BARTLESON: Mike Bartleson, representing the City and County of the Broomfield. Broomfield's drinking water supply consists of a potable water contract with the Denver Water Department and raw water from the Colorado Big Thompson and the Windy Gap projects. The Windy Gap water is a critical water supply in Broomfield's plan. It will represent approximately 25 percent of Broomfield's overall water supply at build-out. When the City purchased its 56 Windy Gap units, it fully understood that it would require firming to make this a reliable water supply. The project represents a collaborative region-wide approach to address the growing needs of entities along the Front Range. When the Windy Gap project is firmed, Broomfield will have 5,600 acre-feet of firm water for its potable system and approximately 3,100 acre-feet for its reuse system when the first phase was completed in 2004. Taken together, the first and second use of this water will yield 8,700 acre-feet of water to Broomfield when it's firmed. The City currently uses it's Windy Gap water rights when it's available and we estimate that in 2008, 2300 acre-feet of the Windy Gap effluent will be reused for irrigation. The City has implemented a number of water conservation measures and is in the process of updating its water conservation plan under the guidelines of the Colorado Water Conservation Board's Office of Water Conservation and Drought Management. One conservation program that Broomfield has in place consists of a farm Broomfield purchased that is now producing two drought-tolerant turfs, one for high-impact areas such as parks and ball fields and one for right-of-ways. This turf uses anywhere from three-quarters to one-half of water requirement of a traditional bluegrass. Other programs including restricting the turf allowed in new residential developments and a water line replacement program that has reduced losses upstream to the customer's water meter to less than 5 percent system-wide. Broomfield recognizes that there is a specific incentive to reducing water losses and encouraging efficient use by its customers. As I said, the Windy Gap water source is a critical element of Broomfield's water supply and a firming project is absolutely necessary for Broomfield and the other participants to fully utilize this municipal water source.	1. Thank you for your comments.

Com-ment	Letter #220	Response

City of Fort Collins

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ENV-6.00

Tully 1300

December 4, 2008

Mr. Will Tully
Bureau of Reclamation
11056 West County Road 18E
Loveland, CO 80537

Re: Comments on the Windy Gap Firming Project Draft Environmental Impact Statement

Dear Mr. Tully:

The City of Fort Collins respectfully submits these comments on the Windy Gap Firming Project Draft Environmental Impact Statement (DEIS) issued by the Bureau of Reclamation on August 29, 2008. The Fort Collins Utilities staff reviewed the DEIS and has several concerns regarding the impact the project will have on the quality of water that is available to the City in Horsetooth Reservoir. We want to present these concerns for your consideration and we look forward to the Bureau's response.

Water delivered from the Windy Gap Project is an important water source for the City of Fort Collins. The City was one of the original participants in the project but assigned its interest in it to Platte River Power Authority (Platte River) prior to the project's construction. The City and Platte River subsequently entered into an agreement which allows the transfer of Windy Gap water to the City in exchange for other waters provided by the City to Platte River. As a co-owner of Platte River, the City receives electricity that is generated at Platte River's Rawhide Energy Station.

The City believes the proposed Windy Gap Firming Project will improve the reliability of Windy Gap deliveries to Platte River, and subsequently to the City. A storage reservoir, separate from the Colorado-Big Thompson Project reservoirs, will provide the participants in the project with the ability to even out their supplies from year to year. A reliable supply from the Windy Gap Project is very beneficial to both entities. While recognizing the importance of a firm water supply, it is also critical that the project participants support a high level of vigilance regarding water quality and take the necessary measures to identify potential impacts to and protect future water quality in the system.

Importance of Horsetooth Reservoir to the City of Fort Collins. Horsetooth Reservoir is one of two source waters for the City of Fort Collins Water Treatment Facility (FCWTF). It is essential to the City that the existing high quality of their source waters be maintained in

Com-ment	Letter #220	Response
1	WGFP DEIS Comments December 4, 2008 Page 2 order to avoid increased treatment costs, assure overall system reliability, and to provide the highest quality water to its customers. Increases in concentrations of manganese, total organic carbon (TOC), geosmin (or other taste and odor compounds), turbidity, pathogens, or algal toxins at the FCWTF Horsetooth Reservoir intake can impact treatment strategies, process performance, and treatment costs. **DEIS Water Quality Impact Analysis for Horsetooth Reservoir.** The DEIS impact analysis conducted for Horsetooth Reservoir (page 3-114) indicates that there will be a small increase in nutrients and chlorophyll-a as a result of the Proposed Action. Increases in nutrients and chlorophyll-a are significant to the FCWTF since they can be potentially related to increases in TOC, geosmin (or other taste and odor compounds), turbidity, and algal toxins. The DEIS also states that dissolved manganese concentrations may increase due to decreased hypolimnetic dissolved oxygen concentrations. The FCWTF has processes for manganese removal, but increased manganese concentrations will result in higher chemical dosages and increased chemical costs.	1. The discussion on Page 3-114 of the DEIS anticipates that effects of increased nutrients in the Three lakes system as a result of the WGFP would carry over to eastern slope reservoirs and exacerbate the current oxygen problem in Horsetooth Reservoir. Proposed water quality mitigation, as described in Section 3.8.4 of the FEIS, will reduce nutrient loading from the WGFP to the Three Lakes System so that the WGFP will not exacerbate the algae and clarity problem in Shadow Mountain Reservoir and Grand Lake and would not exacerbate the oxygen problem in Horsetooth Reservoir and possible increases in dissolved manganese as a result of decreased hypolimnetic oxygen.
2	**Total Organic Carbon (TOC).** TOC was not included in the discussion of the existing water quality (page 3-83 and Table 3-40) and was not included in the water quality impact analysis (page 3-114). Because it is a critical parameter of water quality and chemistry for municipal water supply, it must be addressed as part of the DEIS. TOC is detrimental to the FCWTF because it hinders the optimization and efficiency of water treatment unit operations, including coagulation and settling, and serves as the main building-block for the formation of disinfection by-products (DBPs). DBPs are potential carcinogens formed when TOC reacts with chlorine used for disinfection. Trihalomethanes (such as chloroform) and haloacetic acids (such as trichloroacetic acid) are two groups of DPBs that can be formed during chlorination. Treated water delivered from the FCWTF must not exceed Maximum Contaminant Levels (MCLs) for these two groups of DPBs as set forth in the US EPA Disinfectants/ Disinfection By-Products Rule (USEPA 1998, 2001). These regulations also require the removal of TOC to minimize DBP formation if raw water TOC concentrations are greater than 2.0 mg/L. TOC concentrations at the FCWTF raw water intake at Soldier Canyon Dam averaged 3.16 mg/L in 2007 based on weekly samples collected and analyzed by the City of Fort Collins Water Quality Lab. Horsetooth Reservoir has experienced a statistically significant upward trend in TOC concentrations over the period of record. This trend has been documented in the Haby and Loftis (2007) report prepared for the Big Thompson Watershed Forum. That report also documented statistically significant upward trends in TOC concentrations at the East Portal Adams Tunnel and the Hansen Feeder Canal near Horsetooth Reservoir. Although it is unknown if these trends will persist into the future, the City is paying close attention to them and has initiated a study with researchers at UCLA to better understand the nature and source	2. A discussion of TOC was added to Section 3.8.2.5 of the FEIS for Horsetooth Reservoir since it is a direct-use drinking water supply. Proposed mitigation to offset nutrient loading to the Three Lakes would also benefit Horsetooth Reservoir and thus, chlorophyll *a* concentrations, TOC, and geosim are unlikely to increase as a result of the WGFP as discussed in Section 3.8.4 of the FEIS.

Com-ment	Letter #220	Response
	WGFP DEIS Comments December 4, 2008 Page 3	
2	of TOC in Horsetooth Reservoir. The City has concerns about these trends because, if they continue, elevated concentrations of TOC in Horsetooth Reservoir will eventually have a direct adverse cumulative impact on water treatment and the attainment of existing regulated drinking water treatment standards and goals. Any increase in Horsetooth Reservoir TOC concentrations that result from the proposed project will exacerbate this situation.	
3	**Geosmin.** Geosmin was not included in the discussion of the existing water quality (page 3-83 and Table 3-40) and was not included in the water quality impact analysis (page 3-114). Increases in nutrients and chlorophyll-a in Horsetooth Reservoir (as identified in the water quality impact analysis) can be potentially related to increases in geosmin and other taste and odor compounds. Geosmin is one of the most difficult taste and odor compounds to remove during water treatment. Geosmin is a naturally occurring organic compound produced by blue-green algae (Cyanobacteria). When blue-green algae die and decompose, geosmin can be released into the water. Geosmin imparts an earthy, boiled beets odor to water and can be detected by the most sensitive noses at extremely low concentrations (about 5 nanograms per liter (ng/L) or 5 parts per trillion (ppt)). Geosmin does not pose a public health risk, but its detectible presence in treated drinking water can cause serious public concern about the safety and aesthetic quality of their drinking water. Utilities around the country receive a record number of complaints whenever a geosmin outbreak occurs in their water supply. Geosmin is of special concern to the City, because many of the industrial customers of its water, such as the Anheuser-Busch, New Belgium and Odell breweries, are especially sensitive to any unusual taste or odor properties that customers may detect in their products. Geosmin has been found in water samples from the North Fork Poudre River reservoirs at concentrations over 100 ng/L (Billica, Loftis, and Moore, 2008). The highest geosmin concentration measured to date in Horsetooth Reservoir was nearly 25 ng/L in October 2008. This high geosmin episode resulted in taste and odor complaints to the City and to the Tri-Districts Soldier Canyon Filter Plant. The City responded by increasing the powdered activated carbon dose for geosmin removal and ensuring that the amount of Horsetooth Reservoir water treated at the plant was minimized. The City is concerned that any increase in nutrients in Horsetooth Reservoir may increase blue-green algal production and result in waters with more frequent episodes of high geosmin concentrations, or with higher geosmin concentrations than have been observed to date. This concern relates not only to potential taste and odor issues for our community and major industries, but also to the significantly higher treatment costs required to remove geosmin back to "non-detect" odor threshold levels (i.e. less than 5 ppt).	3. See response to Comment No. 2. A discussion of geosmin has been added to Section 3.8.2.5 of the FEIS for Horsetooth Reservoir, since it is a direct-use drinking water supply.
4	**Invasive Mussels**: A September 26, 2008 press release from the Colorado Division of Wildlife states:	4. Quagga and zebra mussel veligers were detected in the Three Lakes in 2008. Established populations of quagga and zebra mussels can have significant impacts in the areas of water supply and delivery, power generation, recreation, and reservoir water quality and ecology. Additional text has been added to Section 3.8.1.3 of the FEIS discussing the anticipated effect of the WGFP on the spread of quagga and zebra mussel. Briefly, Reclamation does not believe that the WGFP will affect the spread of quagga and zebra mussels because C-BT Project water will continue to be distributed to areas mentioned in the comment.

Com-ment	Letter #220	Response
4	WGFP DEIS Comments December 4, 2008 Page 4 "A Federal and State initiative to gather more information on the presence of aquatic invasive species in Colorado confirmed the presence of invasive mussel larvae in Grand Lake, Shadow Mountain and Willow Creek Reservoirs in Grand County. These waters are physically connected to Lake Granby. Quagga mussel larvae were discovered in Lake Granby earlier this summer." "Veligers, the larval stage of quagga and zebra mussels, were initially identified by a microscopic analysis of water samples and subsequently confirmed as invasive mussels by DNA testing. Results from an independent laboratory confirm that both zebra and quagga mussels are present in Grand Lake, while only quagga mussels have been found at Willow Creek, Shadow Mountain and Lake Granby." Waters in these lakes and reservoirs are interconnected through the Colorado-Big Thompson (C-BT) Project. Through growth and reproduction, both zebra and quagga mussels have the potential to drastically alter water quality, out-compete native species for food and habitat and to plug pipes, pumps, and concrete structures throughout the C-BT system including Carter Lake and Horsetooth Reservoir and the proposed Windy Gap Firming Project (WGFP). Damage from these organisms in other parts of the country is well documented. In addition to water quality and environmental impacts, these invasive mussels have the potential to obstruct and interfere with water delivery, drinking water treatment and electric power generation in the communities served by the C-BT system. Hence, quagga and zebra mussels are a particular concern to both the City and Platte River. Platte River pumps Horsetooth water through approximately 20 miles of pipeline to its Rawhide Energy Station. This water is subsequently treated for potable use as well as for steam generation. Should invasive mussels interfere with normal pumping operations through the pipeline, or subsequent water treatment or power generation systems at Rawhide, there could be significant adverse environmental, public health and socio-economic impacts to both Platte River and the region. Horsetooth Reservoir also serves as the sole drinking water supply for the Rawhide Energy Station and the Spring Canyon Water District and a primary water supply for both the Tri-District Water Treatment Facility and the Cities of Greeley and Fort Collins. In parallel with the Platte River pipeline concerns, should invasive mussels interfere with water conveyance or treatment of Horsetooth water, there could be significant adverse environmental, public health and socio-economic impacts to the City and the region. Neither the Windy Gap Firming DIES or Lake and Reservoir Water Quality Technical Report mention either the discovery or potential adverse impacts of these invasive species in the C-BT system. There is no analysis or discussion of whether or not the WGFP will make the	

Com-ment	Letter #220	Response
4	WGFP DEIS Comments December 4, 2008 Page 5 invasive mussel problem worse in the C-BT system. The Bureau cannot defer analysis of the invasive mussel issue on electric power generation or municipal water supplies or consideration of effective steps that will need to be taken to avoid, minimize the harm, or otherwise effectively mitigate the potential health risks, socio-economic or environmental damage from these invasive mussels.	
5	**Mitigation.** The proposed mitigation measures for water quality effects (as presented on page 3-129 of the DEIS) do not include any specific measures to address the potential water quality concerns related to the use of Horsetooth Reservoir as a municipal water supply. Existing TOC, geosmin, manganese and other pollutant levels in Horsetooth Reservoir serve as the current standard and bellwethers of future degradation. The Municipal Subdistrict of the Northern Colorado Water Conservancy District (NCWCD) must commit to future funding of the ongoing Horsetooth Reservoir monitoring program currently being conducted by the NCWCD. In addition, Subdistrict-funded monitoring must be expanded to included quagga and zebra veliger monitoring using methods and test frequencies sufficient to protect downstream water uses. Since neither the NCWCD nor the Bureau has any experience in providing municipal water treatment services or complying with safe drinking water regulations, the City must be an active participant in the development, design, review, and approval of any monitoring or mitigation plans. The City requests that the Bureau address these concerns to insure that the City's drinking water supplies are not impacted or appropriate mitigation is provided. If you have any questions, please contact me or Kevin Gertig with the Utilities at (970) 221-6637. Sincerely, Brian Janonis, P.E. Utilities Executive Director CC: Mr. Chandler J. Peter Denver Regulatory Office 9307 South Wadsworth Blvd. Littleton, CO 80128-6901	5. Proposed water quality mitigation, as described in Section 3.8.4 of the FEIS, would reduce nutrient loading from the WGFP to the Three Lakes System so that the WGFP would not exacerbate the algae and clarity problem in Shadow Mountain reservoir and Grand Lake. This mitigation is expected to result in no increase in nutrients and corresponding levels of algae that contribute to TOC in the C-BT system, including Horsetooth Reservoir. Thus, there would be negligible change in the quality of water delivered to Horsetooth Reservoir with implementation of West Slope mitigation measures.

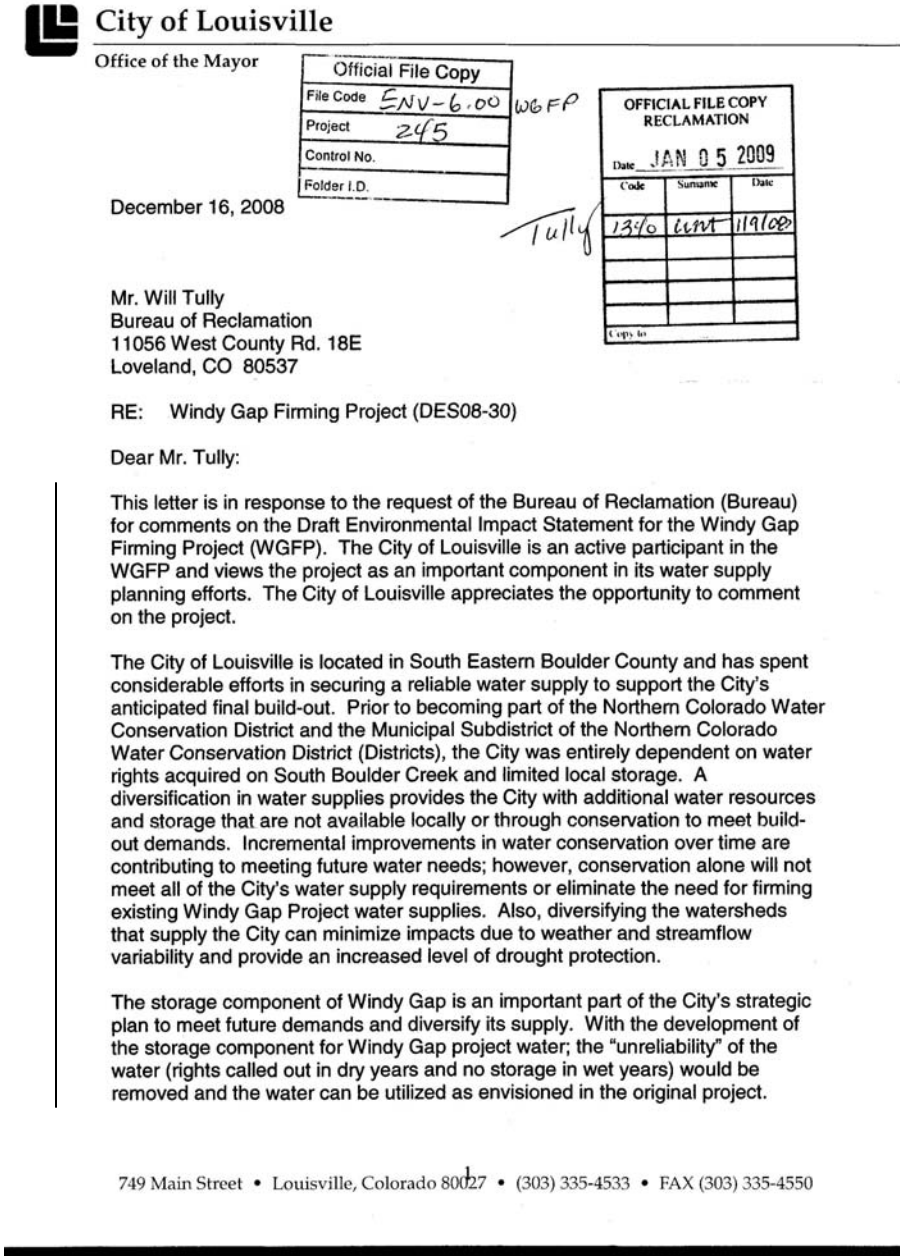
Com-ment	Letter #358	Response
1	WGFP 358 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Rick Bendel MR. BENDEL (PH): My name is Rick Bendel (ph). I'm here on behalf of the City of Fort Lupton tonight. The City of Fort Lupton is a participant in the Windy Gap Firming Project. It's a small community of about 7500 people in southwest Weld County. It's a pretty small player in the water-rights business. And as a small player, it's very difficult for small players to develop their own storage. That's the kind of thing that works better in a regional project. It's very important to Fort Lupton to be involved as a team player in a regional project that's benefitting a lot of water users. It's the kind of thing that most of our water-supply planning in Colorado tries to encourage coordination of water projects rather than a fragmentation. The Windy Gap Firming Project does that for these 13 water providers and does a pretty good job of that. The City of Fort Lupton's water supply consists of rights including local agricultural rights, groundwater, CBT project water, and Windy Gap. Windy Gap water is a key component to the City of Fort Lupton, and, therefore, firming the yield of the Windy Gap project is a key to Fort Lupton's future water supply or present water supply. It's a key because, in addition to providing clean, high-quality water for our citizens to drink, it unlocks the use of groundwater for Fort Lupton. Fort Lupton uses groundwater and ditch water, raw water, for irrigation of its parks, public open spaces, schools, also on a golf course. We also use groundwater to serve the largest water user in the City of Fort Lupton, an electrical power generating plant. But in order to use groundwater, you need to have something called a "plan for augmentation" so it uses other water rights to compensate for the use of groundwater. And Windy Gap water, after it is first used by all of the citizens of Fort Lupton, is reused by taking the wastewater and using it to augment groundwater use. So Windy Gap water is used very efficiently in the City of Fort Lupton, as are our other supplies.	1. Thank you for your comment.

Com-ment	Letter #358	Response
1	And that reuse for augmentation is a key component of all of our future water-supply planning in the City of Fort Lupton. And that is why Windy Gap is one of the keys to Fort Lupton's future water supply. Fort Lupton has, as documented in the draft EIS, shows Fort Lupton with very-low-water-per-capita water use; it reuses Windy Gap water and uses it efficiently and properly; uses groundwater and ditch rights for its non-potable irrigation needs; saves its high-quality, expensive CBT and Windy Gap first-use water for the potable water needs of the system -- all the things you would want a city to do before reaching out to another basin to import more water to help support its growth. We're faced with a demographic tidal wave in southwestern Weld County. We're growing very rapidly down there. Like a lot of other places in Colorado, we in Fort Lupton are looking at potential doubling of population in the next 25 or 30 years. And we have to reach out to a lot of sources in order to provide a water supply for that growing population. It's a small component, but, as I mentioned, a key one in Fort Lupton planning. The Windy Gap project is an existing project that doesn't involve new facilities here in Grand County. It's another plus for the times when you consider some of the alternative projects that are out there and other ways to get additional water. The Windy Gap project actually is not -- does not have conditional water rights. It has absolute water rights, final water rights. But Fort Lupton is using its water efficiently. It is acquiring water rights locally. It needs the Windy Gap Firming Project to firm up a key linchpin of the city system, and that is why it is essential to the future of the City of Fort Lupton, and we urge you to approve the project. Thank you very much.	

Com-ment	Letter #362	Response
1	WGFP 362 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Ed Clark MR. CLARK: My name is Ed Clark, C-l-a-r-k, and I'm the mayor of the City of Greeley. And I would just request that all my supporters hold their applause. I have enjoyed my drive up here today. I want you to know that people along the Front Range respect and appreciate natural resources and the conservation of natural resources, but we also are a growing state along the Front Range. Greeley just celebrated, last year, 100 years of bringing high-quality water to the residents of Greeley. And one of our first ordinances with regards to water was actually to have even-and-odd irrigation, crop irrigation, days way back when. And in 2003, we looked at a water master plan. And part of that master plan -- can everybody hear me? Part of that master plan was to go with what we have now and maximize its benefits. I only have a few quick talking points, and they will go fast. As the birthplace for the CBT, Greeley has always had a complex relationship with our Western Slope neighbors. Greeley can appreciate West Slope's passion of such an important resource as water. As such, Greeley supports the negotiating package offered to Middle Park Water Conservancy District in Grand County last month that would help firm their water supplies and make additional water available for flow enhancement of the Colorado River. Greeley is progressive, with strong agrarian roots that understands the delicate balance of managing the land and our water. That doesn't mean, however, that Greeley can't do more to be wise stewards of our precious natural resources. The city council, led by the mayor, is challenging staff to evaluate and recommend growth policies that will balance the use of that natural resources, such as water, and still provide a healthy economy and a quality of life. As such, Greeley is currently updating its comprehensive plan. Greeley's historic growth rates could very easily become the size of Aurora. They are projecting 250,000 people by 2050. The new comprehensive plan will provide guidance on new ways for Greeley to manage its growth. Furthermore, the Greeley Water and Sewer Board will be given an opportunity in	1. Thank you for your comment.

Com-ment	Letter #362	Response
1	November to adopt an aggressive new water conservation plan to reduce the need for new water beyond 2050. Even with additional conservation savings and the new growth policies, Greeley clearly has a need for the Windy Gap Firming Project, and it's only six percent -- it's only six percent of our water portfolio come 2050. But it's very, very important, because water clearly is a finite resource. Knowing Windy Gap Firming is only a small piece of Greeley's overall water needs, Greeley is actively building low-impact gravel pits, aggressively conserving water, continuing to build non-potable infrastructure, and reusing nearly all of the available water. These projects are just a few examples of Greeley's long history of maximizing its precious resources. Greeley is great from the ground up. The Windy Gap Firming Project is just one piece of the overall strategy to keep Greeley a great place to live, work and do business. I am here today because I represent the 94,300 people that call Greeley home, and it's important because we all know water is clearly important to us. We're going to be smart. We're going to be fiscally and environmentally responsible with our supplies. It is for these reasons that I urge the Bureau of Reclamation and the Corps of Engineers to issue a record of decision approving Windy Gap Firming Project. Thank you.	

Com-ment	Letter #415	Response
1	WGFP 415 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 Ken Huson MR. HUSON: Good evening, gentlemen. My name is Ken Huson. I'm the Water Resources Administrator for the City of Longmont, and I'd like to thank you for the opportunity to appear before you tonight and talk a little bit about the Windy Gap Firming Project. As you're aware, the City of Longmont is a participant in the Windy Gap Firming Project. And has utilized the Windy Gap project for a number of years now, both as its current direct flow and applications as well as planning for the eventual construction of a firming project for our proportionate share in that project. Just a little bit of history. Longmont has been in the Windy Gap project since its first formulation. In fact, our former mayor, Ralph Price, went over to Hot Springs and filed the original Windy Gap application in water court for the project. We've been a strong proponent of that project since then, and have integrated it into our system and continue to utilize that as an integral part of our system. One of the things I'd like to kind of highlight tonight is the fact that Longmont has done a couple of things in the area of both conservation and reuse of water that we feel is fairly unique and probably one of the front-runners in that area. In our Longmont -- about every 10 years, we complete all of our master plan to look at what we need to do to both project our future demand and our future supplies, outline our projects, and try to plan for those. In our last roll-out master plan, one of the things Longmont did was consciously put in this water conservation as a water supply strategy. So not only has Longmont for years practiced water conservation but we're actually planning on that as part of our water supply. And it is one of the largest aspects of our future water supply. So we certainly -- I personally, as well as the City of Longmont, am committed to water conservation, because the importance that it plays in our plan and, quite honestly, without it, you know, we would have to amend our planning for the future. The other area is the reuse of water. Longmont is very proactive in utilizing the water that it has reuse rights on. We have reached in some of the more recent years over 90 percent reuse of our reusable effluent water. We feel that's -- probably not a lot of areas can point that out as not only a goal that they have, but also an accomplishment that they have done. So we don't take lightly either the conservation or the reuse areas and work very hard to see that those are happening. That being said, Longmont does have firm plans for its growth area. We have good estimates on the water we will need. And Windy Gap Firming Project fits in very, very closely with what one of the projects we need. There are other projects we'll need if -- if we can't do the Windy Gap Firming Project, it won't mean we'll use less Windy Gap water. In fact, Longmont -- ever since the project was originally conceived and built, Longmont has always known that we've needed to build storage for this project. Everybody was aware of the time it takes to build projects and to build storage, so we've been looking at what it would take to do this project and a number of other projects. We have other concurrent projects going on at the same time. So were it not to happen, we've identified in the EIS other projects we would do. So from Longmont's standpoint, we really -- there won't be additional West Slope impacts because we're going to need the water and we're going to need the storage and we'll go forward with that. So I appreciate your time tonight and I would urge continuation of this project, and thank you.	1. Thank you for your comment.

Comment	Letter #1091	Response
1		1. Thank you for your comment.

City of Louisville

Office of the Mayor

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RECLAMATION
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Code	Surname	Date
1340	Tully	1/9/09

December 16, 2008

Mr. Will Tully
Bureau of Reclamation
11056 West County Rd. 18E
Loveland, CO 80537

RE: Windy Gap Firming Project (DES08-30)

Dear Mr. Tully:

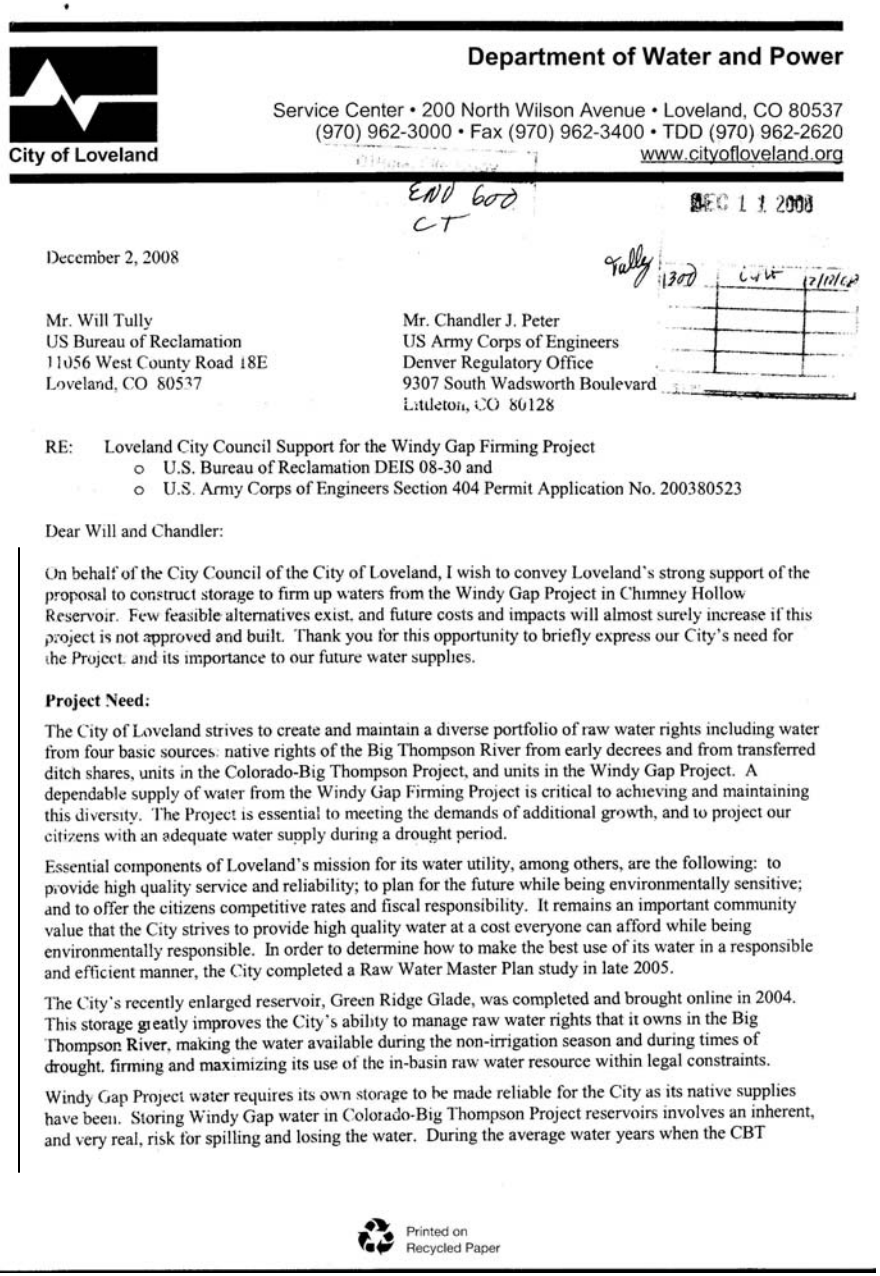
This letter is in response to the request of the Bureau of Reclamation (Bureau) for comments on the Draft Environmental Impact Statement for the Windy Gap Firming Project (WGFP). The City of Louisville is an active participant in the WGFP and views the project as an important component in its water supply planning efforts. The City of Louisville appreciates the opportunity to comment on the project.

The City of Louisville is located in South Eastern Boulder County and has spent considerable efforts in securing a reliable water supply to support the City's anticipated final build-out. Prior to becoming part of the Northern Colorado Water Conservation District and the Municipal Subdistrict of the Northern Colorado Water Conservation District (Districts), the City was entirely dependent on water rights acquired on South Boulder Creek and limited local storage. A diversification in water supplies provides the City with additional water resources and storage that are not available locally or through conservation to meet build-out demands. Incremental improvements in water conservation over time are contributing to meeting future water needs; however, conservation alone will not meet all of the City's water supply requirements or eliminate the need for firming existing Windy Gap Project water supplies. Also, diversifying the watersheds that supply the City can minimize impacts due to weather and streamflow variability and provide an increased level of drought protection.

The storage component of Windy Gap is an important part of the City's strategic plan to meet future demands and diversify its supply. With the development of the storage component for Windy Gap project water; the "unreliability" of the water (rights called out in dry years and no storage in wet years) would be removed and the water can be utilized as envisioned in the original project.

749 Main Street • Louisville, Colorado 80027 • (303) 335-4533 • FAX (303) 335-4550

Com-ment	Letter #1091	Response
1	Without storage the firm yield of the project, for planning purposes, is zero. While the project water will continue to be used without firming, it will become necessary for Louisville to find the lost firm yield elsewhere. The additional yield would likely come at the expense of agriculture and the environment. The Windy Gap Firming Project will efficiently utilize a limited resource, whereas the No Action Alternative would result in the valuable resource being used less productively. The No Action Alternative, while having a slightly smaller impact on the West Slope, does not leave more water in the streams it just results in participants acquiring addition firm yield to protect against years that Windy Gap firming water is unavailable. The project's Proposed Action, Chimney Hollow with prepositioning, allows the participants to fully utilize the Windy Gap Project in a cooperative, environmentally sound, and efficient manner. The proximity to existing facilities of this alternative will minimize new infrastructure that would be needed for some of the other alternatives. The Chimney Hollow site also provides additional recreational opportunities for citizens from participating entities and others. The City of Louisville believes that the Proposed Action would best meet the needs of the participants while minimizing any environmental impacts. The City of Louisville is a strong supporter of the Windy Gap Firming Project. The reliability (firm yield) that the project would provide by storage is an important component of the City's water supply planning. The regional, cooperative nature of the project makes it an efficient, cost-effective and environmentally sensitive project. The project allows participants, including entities from both the West Slope and the Front Range, to fully utilize an existing water project to meet current and future demands. Sincerely, Chuck Sisk, Mayor City of Louisville 2	

Com-ment	Letter #232	Response
1		1. Thank you for your comment.

Department of Water and Power

City of Loveland

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December 2, 2008

Tally 1300 CWH 12/11/08

Mr. Will Tully
US Bureau of Reclamation
11056 West County Road 18E
Loveland, CO 80537

Mr. Chandler J. Peter
US Army Corps of Engineers
Denver Regulatory Office
9307 South Wadsworth Boulevard
Littleton, CO 80128

RE: Loveland City Council Support for the Windy Gap Firming Project
- U.S. Bureau of Reclamation DEIS 08-30 and
- U.S. Army Corps of Engineers Section 404 Permit Application No. 200380523

Dear Will and Chandler:

On behalf of the City Council of the City of Loveland, I wish to convey Loveland's strong support of the proposal to construct storage to firm up waters from the Windy Gap Project in Chimney Hollow Reservoir. Few feasible alternatives exist, and future costs and impacts will almost surely increase if this project is not approved and built. Thank you for this opportunity to briefly express our City's need for the Project, and its importance to our future water supplies.

Project Need:

The City of Loveland strives to create and maintain a diverse portfolio of raw water rights including water from four basic sources: native rights of the Big Thompson River from early decrees and from transferred ditch shares, units in the Colorado-Big Thompson Project, and units in the Windy Gap Project. A dependable supply of water from the Windy Gap Firming Project is critical to achieving and maintaining this diversity. The Project is essential to meeting the demands of additional growth, and to protect our citizens with an adequate water supply during a drought period.

Essential components of Loveland's mission for its water utility, among others, are the following: to provide high quality service and reliability; to plan for the future while being environmentally sensitive; and to offer the citizens competitive rates and fiscal responsibility. It remains an important community value that the City strives to provide high quality water at a cost everyone can afford while being environmentally responsible. In order to determine how to make the best use of its water in a responsible and efficient manner, the City completed a Raw Water Master Plan study in late 2005.

The City's recently enlarged reservoir, Green Ridge Glade, was completed and brought online in 2004. This storage greatly improves the City's ability to manage raw water rights that it owns in the Big Thompson River, making the water available during the non-irrigation season and during times of drought, firming and maximizing its use of the in-basin raw water resource within legal constraints.

Windy Gap Project water requires its own storage to be made reliable for the City as its native supplies have been. Storing Windy Gap water in Colorado-Big Thompson Project reservoirs involves an inherent, and very real, risk for spilling and losing the water. During the average water years when the CBT

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Com-ment	Letter #232	Response
1	system fills, stored Windy Gap water is the first to spill from storage and be lost. A regional firming project, such as is proposed at Chimney Hollow in the Draft Environmental Impact Statement (DEIS), will allow the Windy Gap water to be made firm so that it is available during drought or whenever it is needed by its owners. **Conservation:** Loveland implemented conservation measures almost from the founding of its water utility in 1887. Records show watering restrictions were implemented in 1893. One of the most effective water conservation measures was its City-initiated, utility-wide metering program in 1979. Water service meters were installed on all services by 1981, years earlier than most other municipalities in the state, and the City moved from a flat monthly billing rate to a uniform rate per thousand gallons. This resulted in a permanent 20% reduction in consumption and 25% reduction in maximum day use on a per capita basis. The City of Loveland's per capita water use remains low. Customers demonstrated their commitment to conserving water by reducing gallons per capita day (gpcd) consumption by 16% between 2000 and 2006. The City's residential gpcd value in 2006 was actually lower than comparable values for Aurora, Boulder, and Denver Water according to staff analysis and information from other entities. Loveland prefers an effective educational approach for implementing and requesting conservation measures over imposing an increasing block rate structure as some interests around the state have advocated. Education was and remains a key component of the City's water conservation measures. Loveland widely promotes the importance of water conservation with information to its customers to enhance efficient water use patterns. This is done on a regular basis, primarily with inserts in utility bills, broadcasts through the local community access cable channel, the City's website, and the local newspaper. The City also participates with community outreach efforts such as speaking to various civic groups, making presentations at local schools, participating in Loveland's annual Children's Water Festival, and educating teachers through Project WET (Water Education for Teachers.) Loveland encourages developers to plant low-water use plants and has recently created a voluntary xeriscape program. The incentives include a reduced water rights requirement and reduced system impact fees. To participate in the program, a landscape plan with hydrozones and estimated water requirements must be submitted for approval. The landscape must reduce water use by twenty-five percent or more to qualify for the incentives. Another successful outreach has been the City's "Garden in a Box" program. This is a convenient, non-intimidating way for customers to purchase xeric plants complete with a landscape plan of where to place the plants for visual effectiveness. Customers can choose from one of three options for the "Garden in a Box" then pay online and pick up the plants at the water utility office. The pick-up is timed early in the spring to customers have ample time to plant prior to the heat of the summer. The City has two dedicated xeriscape demonstration gardens, one located at City Hall and another located at the Loveland Water and Power offices. Public parks have areas of xeric plantings. The public parks and right-of-way areas are examined to determine the most appropriate type of planting or surface with an eye toward conserving water. Awareness of the value of proper soil amendment has been heightened. Soil amendment requirements, as well as a plant list of desired xeric plants, are now an important part of the City's site development performance standards and guidelines. **Mitigation:** At the public hearing on October 7, 2008, some comments were directed to the need for project participants to mitigate effects of the project by doing something for the Western Slope. In response, please allow me to reiterate the following known facts:	

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1	• The Municipal Subdistrict legally holds ownership of the water rights and is "playing by the rules" within Colorado's prior appropriation system. • In the 1980's, the Municipal Subdistrict paid $11.5 million in compensatory mitigation to develop West Slope water storage, to fund diversion and water quality improvements, and to support endangered species recovery. Of that amount, payment of $10.2 million went to the Colorado River Water Conservation District and was used to help construct Wolford Mountain Reservoir. • Other non-monetary compensation included minimum streamflow commitments on the Colorado River and 3,000 acre-feet of water made available from the Windy Gap Project each year pumping occurs, available to the Middle Park Water Conservancy District. • Outstanding mitigation considerations remain for the impacts caused by actual reservoir construction. The impacts of the dam and reservoir footprint on the selected site should appropriately be considered. Significant West Slope mitigation has been provided in anticipation of the project. **Importance:** What happens if a Windy Gap Firming Project is not approved and built? Alternatives are discussed in the DEIS, but the specific implications for Loveland are serious: • The City's future firm yield would be reduced by over 2,500 acre-feet. Meeting the demands of additional growth, and protecting our citizens with an adequate water supply during a drought period are tasks that would still have to be accomplished. • Loveland would very likely have to search for individual storage to make firm the Windy Gap water it already owns. However, a search is currently underway by the City for a site to store native waters from the Big Thompson River, and few feasible alternatives exist. Future costs would be driven up dramatically. • Loveland would necessarily consider the use of water from other sources, which could include additional water from the CBT system, additional transfers of water from surrounding agricultural uses, and additional individual storage capacity for native water. Such storage would be required to make agricultural supplies available to meet year around demands and during drought. We heartily encourage those weighing this permit proposal to allow the Windy Gap Firming Project to move forward as proposed. We believe the Chimney Hollow alternative represents a reasonable, environmentally responsible, and economically feasible solution that works well for all parties. We have successfully implemented water conservation strategies, and our City's gallons per capita per day (gpcd) rates are low. A storage project for Windy Gap Project water has been anticipated for many years, and the proposed project is best for the future well-being not only of Loveland, but of the Northern Colorado Region and our state. Thank you for your consideration. Sincerely, Gene Pielin, Mayor City of Loveland cc: Ralph Mullinix, Director, Loveland Water and Power Eric Wilkinson, General Manager, Municipal Subdistrict/NCWCD	

Com-ment	Letter #1114	Response
1	WGFP 1114 COLORADO HOUSE OF REPRESENTATIVES STATE CAPITOL DENVER 80203 Tully OFFICIAL FILE CO RECLAMATION Date DEC 2 2 200 Code Surname 1340 Nish Copy to 1004, 1000 1002, 1005, 13 December 19, 2008 Mr. Will Tully Bureau of Reclamation Eastern Colorado Area 11056 West County Road 18E Loveland, CO 80537-9711 Official File Copy File Code ENV-6.00 Contact 245 Control No. Folder I.D Dear Mr. Tully, I am writing to express my concerns with the Windy Gap Firming Project ("WGFP") Draft Environmental Impact Statement ("DEIS"). My district includes Summit County, Eagle County and Lake County. Members of my district have expressed to me some of their concerns with the DEIS. I share their concerns and I appreciate the opportunity to point out a few of those here. We all acknowledge that water is our most precious resource, and that the majority of the State's water supply is on the west slope, while the majority of the population is on the east slope. When transmountain diversions first began they seemed a logical solution to water supply shortages on the east slope. There was more than enough water on the west slope to meet the needs of its population and continue to comply with the Colorado River Compact. However, this is no longer the case. West slope streams have become increasing stressed by transmountain diversions causing significant harm to aquatic life and damaging the overall health of our mountain streams. Additionally, populations on the west slope continue to grow at a rapid rate due mostly to the success of the tourism industry, and it is important to ensure those communities have an adequate water supply as well. As has been said many times over, we need to find ways to meet the water supply needs on the east slope while protecting the quality of life our mountain communities provide. We have a rare opportunity to do just that with the WGFP. Eagle County is currently in the process of developing a stream management plan with a similar goal in mind as Grand County's Stream Management Plan. These communities are taking it upon themselves to assess the current status of their streams (which are impacted already by various transbasin diversions) and to evaluate the flows needed to ensure they can meet the needs of their growing populations while protecting the health of the stream. Grand County in particular is finding ways to protect their streams while still providing the water needed for the WGFP and 1	1. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. While WGFP mitigation measures may contribute to meeting some of the goals of Grand County's SMP, the WGFP and SMP have different objectives. However, mitigation measures included in the FEIS may help meet some of the goals of the SMP.

Com-ment	Letter #1114	Response
1	the Moffat Expansion Project. They should be commended for their diligence in protecting our mountain streams, and the final EIS should include their Stream Management Plan as mitigation for the impacts of WGFP.	
2	Additionally, I feel the Bureau could take a closer look at the cumulative impacts of the WGFP and the Moffat Expansion Project. These projects could lead to a significant amount of water being taken out of the headwaters of the Colorado River. We need to have a clear understanding of how the two projects would affect the headwaters if they were brought online, and how they would compound the impacts caused by current transmountain diversions in the area.	2. The WGFP FEIS fully considered the cumulative impacts of the Moffat Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP.
3	The DEIS also needs to provide a more detailed description of the impacts from past and current projects already impacting the Upper Colorado River basin. There was an attempt to do this in the DEIS, but it did not go far enough. The DEIS needs to provide detailed information on the effects of reduced streamflows – on aquatic life, on the environment, on recreation, on agriculture and on the ability for Grand County to provide water to its residents and visitors.	3. The Affected Environment section of Surface Water Hydrology describes historical hydrologic conditions and the various actions and projects that have contributed to existing conditions. Other sections in the EIS provide discussions on the existing condition and status of the various resources. The existing hydrologic conditions presented in the EIS provide an accurate baseline from which to make a reasonable comparison of the impacts of each of the alternatives. The same is true for other resources. Both the DEIS and FEIS provide extensive discussion of the effects of the proposed action on aquatic life, recreation, and agriculture. The proposed WGFP will not affect the ability of Grand County to provide water to its residents and visitors as discussed in Section 1.4.2.3 of the DEIS and FEIS.
4	I would also like to see the Study Area in the DEIS be extended at the very least to Dotsero. Stream depletions will occur below the Kremmling gauge, compounding current diversions in that stretch of the Colorado River. My district and I understand that most of the impacts will occur above Kremmling, however, we fail when we don't start to look at how projects affect the bigger picture. When it comes to water, we can no longer ignore the way in which impacts to one community leads to impacts in another. Eagle County is faced with their growth and water supply issues, along with the potential of the development of a large reservoir that could completely change the way water is moved in the Upper Colorado River. The DEIS needs to evaluate Upper Colorado River basin as a whole and identify those impacts that could occur if the project goes online.	4. The CDSS model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line. Therefore, the active model area extends downstream of the Dotsero gage. However, the area considered for the analysis of hydrologic effects extends downstream to the USGS gage near Kremmling. The downstream extent of the study area was initially based on the location where average monthly flow changes would be less than 10% under direct effects. Resource evaluations were conducted to determine impacts at that location and assess the validity of the downstream study area extent. Results of the resource evaluations indicate direct effects from the WGFP would be negligible to minor along the Colorado River near the Kremmling gage. Therefore, extension of the study area further downstream is not warranted based on the results of the resource evaluations. Regarding future potential projects downstream of Kremmling, see Section 2.8.2 of the FEIS and Section 8.1 of the Water Resources Technical Report (ERO and Boyle 2007) for a discussion of the criteria for identifying reasonably foreseeable actions.
5	It's my understanding that every WGFP participant has a water conservation plan in place. I'm curious if the Bureau measured the effectiveness of their water conservation plans. Being a State Legislator, I've seen communities with extensive water conservation plans that truly are doing all they can do to conserve water, while others do the minimal amount necessary to claim they have a conservation plan. We should ensure that any Front Range water provider seeking to use west slope water to meet their water supply needs has the most stringent and measureable water conservation plan in place. Additionally, participants should be required, to the maximum extent feasible, to implement reuse programs and make successive use of the foreign water.	
	I realize the National Environmental Policy Act process is daunting, and I want to commend the Bureau of Reclamation for their time and efforts in putting together the WGFP DEIS. I feel the allowance for public input is an important component of the overall process and hope you find these comments useful. Please feel free to contact me if you have any questions regarding my comments.	
	Sincerely, Representative Christine Scanlan	
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Com-ment	Letter #1114	Response
		5. Reclamation did not review the effectiveness of each plan. We believe that is more properly the role of the Colorado Water Conservation Board as required by the Water Conservation Act of 2004. In the EIS, water use rates (measured in gallons per capita per day) are evaluated and compared to regional values. Section 1.6.2.3 and Section 1.7 of the FEIS contain updated information on the status of Participant conservation measures. The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Maintaining a state-approved water conservation plan would be a condition of any contract agreement with the Subdistrict.

Com-ment	Letter #1058	Response
	OFFICIAL FILE COPY RECLAMATION Date DEC 3 0 2008 Code: 1340 — Surname: WM — Date: 1/6/09 Copy to: 1004 Tully STATE OF COLORADO Bill Ritter, Jr., Governor DEPARTMENT OF NATURAL RESOURCES **DIVISION OF WILDLIFE** AN EQUAL OPPORTUNITY EMPLOYER Thomas E. Remington, Director 6060 Broadway Denver, Colorado 80216 Telephone: (303) 297-1192 wildlife.state.co.us COLORADO DIVISION OF WILDLIFE *For Wildlife- For People* December 29, 2008 Official File Copy File Code ENV-6.00 WGFP Project 245 Control No. Folder I.D. Will Tully Bureau of Reclamation 11056 West County Rd. 18E Loveland, CO 80537 Mr. Tully, Thank you for the opportunity to evaluate the proposed Windy Gap Firming Project. We have reviewed the Windy Gap Firming Project (WGFP) Draft Environmental Impact Statement (DEIS) and have the following comments. Alternative 1 (No Action) has the least negative impacts on wildlife. We have also provided other mitigation recommendations in the event the Bureau selects a different alternative. The impacts of the WGFP must be considered in the context of current conditions on impacted streams which have resulted from the larger CB-T project. The Colorado River through Grand County offers a highly valuable public fishery resource. It is nationally known as a quality trout stream and provides significant economic value to a rural area. We believe the CB-T Project has had dramatic impacts on the Colorado River since being built. In 1981, the trout population in the Kemp-Breeze State Wildlife area near Parshall included 89 trout per acre longer than 14 inches. In 2007, the estimate for the same reach of river was 21 trout per acre longer than 14 inches. This data supports the popular notion among the angling public that the quality of fishing on this reach of river has steadily declined since the construction of the Windy Gap project. We understand that Senate Document 80 originally enabled the development of the project. However, that document also stated that the project was "to preserve the fishing and recreational facilities and the scenic attractions of Grand Lake, the Colorado River, and Rocky Mountain National Park." We feel that the existing project has decreased the recreational fishery value of the Colorado River by limiting fish population biomass and numbers principally through: reduced aquatic insect production; exacerbating whirling disease and diatom blooms; and reduced flows inadequate for channel maintenance and sediment transport which result in elevated water temperatures in portions of the Colorado River.	
1	In 1987 whirling disease was detected in the river. The density of the whirling disease pathogen in the Colorado River immediately below Windy Gap has been among the highest ever observed in the state. CDOW aquatic researchers found that the proliferation of the disease, which eliminated natural recruitment and thus decimated the rainbow trout population, was greatly exacerbated by the presence of Windy Gap Reservoir.	1. We are aware of the whirling disease studies that were conducted in Windy Gap Reservoir and downstream of Windy Gap Reservoir in the Colorado River. Mr. Barry Nehring, CDPW researcher, was contacted and asked if the whirling disease pathogens were still at a problematic level as they had been in the past. The quote from Mr. Nehring is presented in the FEIS. In addition, Mr. Jon Ewert presented information regarding the current status of the fishery in the Colorado River to Denver Water and Northern on July 14, 2009. During that presentation, questions were raised again about the presence of whirling disease in Windy Gap Reservoir. Mr. Ewert reiterated that whirling disease is still present, but there appears to be a shift in the species of tubifex worms present in the reservoir. The current species are not the carriers of whirling disease in the same number as previously sampled in Windy Gap Reservoir.
2	Based on multiple studies discussed below, we now know that the minimum flows that were established by the Azure Settlement Agreement of June 23, 1980, are inappropriate for maintaining aquatic resource integrity and are often not even met. Minimum flows in place for the section of the river between Granby reservoir and Windy Gap are even more inappropriate. These statements are supported by multiple documents and studies, dating as far back as 1951 with the report entitled "Recreational Use and Water DEPARTMENT OF NATURAL RESOURCES, Harris D. Sherman, Executive Director WILDLIFE COMMISSION, Robert Bray, Chair • Brad Coors, Vice Chair • Tim Glenn, Secretary Members, Dennis Buechler • Jeffrey Crawford • Dorothea Farris • Roy McAnally • Richard Ray • Robert Streeter Ex Officio Members, Harris Sherman and John Stulp	

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Requirements of the Colorado River Fishery Below Granby Dam," sponsored by the U.S. Bureau of Reclamation and prepared by the U.S. Fish and Wildlife Service. We have conducted electrofishing surveys in various parts of the river during periods of minimum flow and observed significant sections with extremely high width-to-depth ratios, which are devoid of adult fish. At minimum flows these specific river reaches become unusable to adult fish. The same 1951 report also prescribes appropriate flows to maintain the aquatic resources below Granby Dam. The flows delineated in the 1951 report correspond with the flows recommended in the Grand County Stream Management plan. After more than 50 years and many advances in the science of river geomorphology and hydrology, the conclusions are still the same: there is not enough water in the main stem of the Colorado River to maintain aquatic resources over the long term.

The minimum flows currently in place on the river were determined from limited data which was collected when the original Windy Gap project was imminent. Grand County has invested significant resources in recent years to study appropriate flows in the river with the most current available science. This is the most thorough study of stream morphology that has been conducted in this area to date. CDOW expects to be party to renegotiation of those minimum flows as a condition of the mitigation plan which will be developed pursuant to 37-60-122.2, Colorado Revised Statutes. We view the Grand County Stream Management Plan as a critical document in determining the future condition of the upper Colorado River. Its conclusions regarding appropriate flows support our observations of the fish population. We recommend that this document be taken into consideration when assessing the impacts of the WGFP, the Moffat firming project, and the cumulative effects of both projects.

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Among the many insights contained in the 1951 report referenced above, is a description of food organisms available to trout in the section of the Colorado River between Granby Reservoir and the Fraser River confluence. There is an observation that large stoneflies, locally known as "willow flies," belonging to the genus *Pteronarcys*, "emerged in tremendous numbers during the last week in June and the first week in July." Currently, the willow fly hatch is not reliable at all anywhere upstream from Kremmling. It does appear sporadically, but not reliably, in some years as far upstream as Hot Sulphur Springs. For the hatch to appear above Windy Gap Reservoir is virtually unheard of since the closure of the Granby dam. We believe that the reduction in this important trout food and famous insect hatch is directly related to the unnaturally low flows now occurring in the system.

4

Under current conditions, the Colorado River between Windy Gap and the Williams Fork confluence frequently fails to meet state temperature standards established by the Colorado Water Quality Control Commission. These high temperatures usually occur in August when flows have dropped to near base level and nighttime air temperatures remain high. In 2008, which was not a particularly hot summer and when the river enjoyed relatively good flows, there were four days (August 6-9) in which temperatures in the river (measured at the County Road 3 bridge) failed to meet the chronic temperature standards contained in state regulations. In 2007, a more typical year, water temperatures failed to meet this standard for 32 consecutive days (July 25 – August 25). We suspect that certain population parameters such as the declining number of quality-size trout may be tied to these high temperature/low-flow occasions. There is no question that these events do increase the level of stress that the fish populations must endure.

5

The proliferation of the diatom *Didymosphenia geminata* ("Didymo") has been observed throughout this same river reach. This nonnative organism has the potential to permanently alter processes such as nutrient cycling, food web dynamics and invertebrate production in waters where it is established. It often forms "nuisance blooms" which consist of dense benthic mats which can entirely cover the substrate of a river channel. Didymo appears to thrive in streams with regulated flow regimes and an inverse relationship has been observed between the proliferation of the diatom and the frequency of channel maintenance flows. A further reduction in the frequency of channel maintenance flows which accomplish

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A report by Thompson (2005) indicates the percent myxospore in brown trout for several rivers in Colorado (Thompson 2005, *Whirling Disease/Habitat Interactions, Federal Aid Project F-427-R2, Federal Aid in Fish and Wildlife Restoration Job Progress Report*, CDOW, Fish Research Section, Fort Collins, Colorado, May 2005). Thompson reported that the percent prevalence of myxospores in brown trout in the Fryingpan River, and Spring Creek in the Taylor River drainage were as high or higher than downstream from Windy Gap Reservoir. The objective of the study was to determine the response of whirling disease to habitat modification. At the time of that research, it did not appear that habitat modification resulted in a marked reduction in the prevalence of whirling disease myxospores.

2. There are no documented instances of the Windy Gap Project not meeting the bypass requirements of the Azure Agreement and the agreement between the Subdistrict and the Colorado Division of Wildlife dated June 23, 1980. The purpose of the WGFP EIS is to disclose the anticipated effects of the proposed WGFP, not evaluate the effects of the C-BT Project. The WGFP primarily would impact flows below the Windy Gap Reservoir diversion. The WGFP would only affect flows immediately below Granby Reservoir as a result of reduced spills in wet years. Below Windy Gap Reservoir, flushing flows would remain adequate to transport fine sediment in the Colorado River study area under the alternatives, as shown in Table 3-32 of the FEIS and as indicated in response to Comment No. 1.

The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop recommendations of preferred streamflow regimes to support stream health for aquatic habitat and other nonconsumptive water uses, as well as the flow regimes necessary to support water use requirements for irrigators, municipalities, industry, and recreation. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. However, mitigation measures included in the FEIS such as reductions in nutrient loadings to the Colorado River and Three Lakes and measures developed in the Fish and Wildlife Mitigation Plan would help meet some of the goals of the SMP.

The SMP was not a study of stream morphology, but rather, as stated in the first sentence of the SMP, a presentation of "the analyses and recommendations of preferred flow regimes for streams and rivers in Grand County, Colorado, to support stream health for aquatic habitat and other non-consumptive uses." The SMP states that "the magnitude of each flushing flow is based upon bedload transport modeling to identify the threshold flow at which spawning gravel mobilization is initiated." However, the modeling used particle sizes much larger

		than fine sediment. It is the finer particles, 2 mm or less, that may fill between the larger gravels and bury fish habitat. The SMP also states that "the recommended flushing flows are based on [modeling] and are not yet supported by empirical evidence of gravel mobilization." Considerable empirical data collected by Ward for his 1981 study and in 2008 by Miller Ecological have resulted in the conclusion that 450 cfs would be sufficient to transport fine sediments and prevent aggradation. The Fish and Wildlife Mitigation Plan (FEIS Appendix E) includes an increase in flushing flows. 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 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. The instream flow study conducted for the SMP by consultants to Grand County used a standard one-dimensional model that was state-of-the-art in the 1980s and 1990s. The current preferred approach is a two-dimensional hydrodynamic model, which was used for the WGFP EIS. Further, the flows recommended in the Grand County SMP were based only on the Weighted Usable Area curve without consideration of whether those flows would be available in either natural or regulated conditions. A habitat time series is the recommended technique to determine appropriate flows or to compare changes in habitat from changes in flow regimes (Bovee 1982). A habitat time series was conducted for the WGFP EIS. 3. The WGFP has limited impact and no control on flows above Windy Gap Reservoir. Under the WGFP, the potential for spill from Granby Reservoir would decrease. The EIS evaluated the projected change from the existing conditions, if the WGFP is implemented, and current infrastructure, including Windy Gap Reservoir and Granby Reservoir. A wide variety of changes have occurred in the upper Colorado River since the 1950s. These changes are the result of a number of factors, including land use changes from increased human development in the basin, agricultural and municipal diversions, increased wastewater discharge, and nonpoint source contributions. Benthic macroinvertebrate data were collected for the EIS. Those data are presented in the FEIS and the Aquatic Resource Technical Report (Miller Ecological 2007). 4. Additional mitigation measures were defined and developed to reduce the potential impacts from implementation of the Proposed Action from those present in the DEIS. Mitigation measures and the effectiveness of those measures are described in the FEIS. An updated summary of mitigation measures also is included in Section 3.25. These measures, along with others included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict in concert with the CDPW will address project impacts, including mitigation of temperature effects in

		the Colorado River. 5. Didymo naturally occurs in northern or mountainous regions of Europe, Asia, and North America (Kilroy et al. 2008), but even within its native range, there have been reports of excessive growth in areas where previously it existed only at low concentrations. Unfortunately, there is a lack of basic biological and ecological knowledge for this organism (Spaulding and Elwell 2007). It thrives under a wide range of freshwater conditions – both hydrological and chemical (Spaulding and Elwell 2007), although it is commonly reported that Didymo prefers streams with low phosphorus and low mean discharge (Miller et al. 2009; Kirkwood et al. 2007). Spaulding and Elwell (2007) found no relation between water velocity and visual biovolume indices. In a recent study, Miller et al. (2009), reported a decrease in abundance in Boulder Creek, Colorado after a 3-day rain event, which suggested that larger flows could reduce its growth. However, the level of abundance was restored within a week and, therefore, the impact was not long lasting. Given the lack of understanding regarding the factors that influence Didymo, it is very difficult to predict how the WGFP might impact its growth. It may be true that a decline in the frequency of channel maintenance flows may cause an increase in abundance, but the evidence that the magnitude of flow reductions associated with the alternatives would cause a significant lasting impact is lacking. It could be that currently the flows are below the threshold required to dislodge the algae. If this is the case, less flow would not result in more Didymo. Unfortunately, the required flows have not been quantified for practical use. As discussed in Section 3.7 of the FEIS, sediment transport capacity would remain adequate under all the alternatives. In addition, a slight increase in phosphorus might provide less desirable conditions for growth.

5 sediment transport in the upper Colorado River due to project operation will likely exacerbate this situation and lead to further negative fish and aquatic invertebrate population impacts.

6 The DEIS recommended alternatives are likely to cause further decline in the number of quality size trout and threaten the Gold Medal status (at least 12 fish longer than 14 inches per acre) of this reach of the Colorado River.

Flow Related Issues – West Slope

7 We know that the Moffat Firming Project includes plans to increase water diversions from the Fraser River during runoff flows, which will coincide with plans to increase water diversions by the WGFP. The flow projections and analysis contained in the DEIS for the Colorado River below Windy Gap do not account for the implementation of the Moffat Firming Project, for which a DEIS is expected to be released in the near future. As a result, the analysis of impacts to the aquatic environment contained in the WGFP DEIS for that portion of the Colorado River are minimal since the two projects together present a major cumulative impact.

8 We are concerned that the descriptions of the WGFP DEIS existing conditions overstate the water diversions. On table ES-2 and table 2-6, existing average annual Windy Gap diversions are stated as 36,532 acre-feet of water. The average annual diversion through Windy Gap Reservoir from the inception of the project has been 13,829 AF. In the 23 years that Windy Gap has operated, the volume of diversions has met or exceeded the figure of 36,532 AF in only three of those years. To use this figure as an Existing Condition in the document seems misleading, and it minimizes the potential impacts of additional diversions by excessively lowering the baseline. In addition to the concerns stated above, this also calls into question all the stated impacts analyzed in this document.

9 Figure 3-13 in the DEIS depicts average daily flows in the Colorado River below Windy Gap under each alternative. The drop in peak flow from current conditions to the proposed alternative is significant. Through the work reported in the Grand County Stream Management Plan, we know that the annual high flow required for channel maintenance and sediment transport is at least 750 cubic feet per second (CFS) and possibly as high as 1,200 CFS. Recent, but as yet unpublished, work conducted on this section of river will refine these maintenance and sediment transport flow calculations. The drop in peak flows depicted in Figure 3-13 could very well represent a large reduction in the frequency of channel maintenance flows. The situation becomes more serious when considering that this flow information does not take into account Moffat Firming Project diversions.

10 Under all the alternatives (including No Action), the river will see slight decreases in average flow during August, and because of the close relationship between flow and water temperatures, we anticipate an exacerbation of high temperatures in this reach. Increasing the frequency and duration of these high water temperature occurrences will only increase the likelihood of negative population-level impacts. Figure 3-38 in the DEIS illustrates the large contribution to high temperatures that Windy Gap Reservoir makes during a period of diversion. Further increases in stream temperatures caused by the WGFP will increase the likelihood of this reach of the Colorado being listed as impaired by the Colorado Water Quality Control Commission.

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6. Comment noted. Mitigation measures in the Fish and Wildlife Mitigation Plan developed in accordance with the requirements of CRS 37-60-122.2 should address this issue. An updated summary of mitigation measures also is included in Section 3.25.

7. The DEIS and FEIS both include the hydrologic impacts of the Moffat Project and other reasonably foreseeable actions. See Surface Water Hydrology—Section 3.5.3 for cumulative effects and Aquatic Resources—Section 3.9.3 for cumulative effects. The methods used to assess direct effects were the same for cumulative effects.

8. Windy Gap diversions for the last 10 years (1999 through 2008) averaged 22,158 AF/yr, which is significantly higher than the average diversion of 11,080 AF/yr for the period from 1985 through 2005, as presented in Table 3 of the Water Resources Technical Report. Windy Gap diversions were estimated based on the project's existing water rights, which are the same water rights that would be used to effect diversions after the WGFP is constructed. Recent diversions represent the Participants' need for water to meet water demands, which is supported by information presented in Chapter 1 on the Participants' water demands and needs. Estimated Windy Gap diversions used in the model reflect recent Windy Gap Participant demands. Windy Gap pumping for the 8-year period from 2001 through 2008 (since Granby Reservoir last filled) averaged 27,450 AF/yr. That average includes 2002 and 2004 when almost no Windy Gap water was pumped. Therefore, Reclamation believes that estimated pumping under existing conditions is accurate.

The comment indicates that potential impacts of additional Windy Gap diversions under the Proposed Action are minimized or underestimated based on a comparison against existing conditions. The average decrease in Colorado River flows below Windy Gap between the Proposed Action and existing conditions is 21,283 AF/yr, which is the estimated increase in net depletions to the Colorado River. This reflects the net effect of additional Windy Gap diversions from the Colorado River and the difference in spills from Granby Reservoir. A considerable portion of Windy Gap water diverted from the Colorado River is delivered back to the river via a spill under the existing conditions scenario. Windy Gap operations were simulated in this manner to present the amount of water than could be diverted with the project's current water rights to meet demands even if a portion of the water is subsequently spilled from Granby Reservoir back to the Colorado River. Table 3-9 was added to the FEIS to better illustrate the water balance associated with the Proposed Action.

		In summary, the effects assessments based on net depletions to the Colorado River below Windy Gap, as presented in the FEIS, are appropriate. Windy Gap diversions under existing conditions reasonably reflect recent operations and diversions, which are much higher than the 20-year average from 1985 through 2005. In addition, this issue does not affect Windy Gap diversions in dry years; therefore, Windy Gap pumping, net depletions to the Colorado River, and associated impacts are appropriately estimated in dry years, which are typically more critical for aquatics, water quality, and other flow-related resources. 9. Colorado River peak flows are estimated to decrease about 200 cfs on average from 1,050 cfs to 850 cfs from existing conditions to the Proposed Action. Peak flows under the Proposed Action would still be within the range of flushing flows reported in the Grand County Stream Management Plan (SMP). The Grand County SMP did not define channel maintenance flows, rather the environmental flows or flushing flows presented in the SMP were defined as flows that are determined to best maintain the ecological needs of the stream in relation to its fisheries. The previous study completed for the original Windy Gap Project of bed materials and movement for this reach of the Colorado River concluded that a flushing flow of 450 cfs below the Windy Gap Reservoir for 50 hours during the period from April 1 through June 30 every 3 years should be sufficient to transport fine sediments and prevent aggradation (Ward 1981). See also the result of the recent shear stress analysis described in response to Comment No. 2. The reduction in the frequency of channel maintenance flows was analyzed for the WGFP EIS. Both the WGFP and Moffat Project would divert additional water primarily in wet years; therefore, there would be little effect on the frequency that channel maintenance flows occur. Figure 3-27 in the FEIS provides average daily flows in the Colorado River below Windy Gap for each alternative with reasonably foreseeable actions, which includes the Moffat Project. Section 3.7 of the FEIS provides several analyses of effects to stream morphology and sediment transport. The conclusion is that sufficient high flows would still occur under the alternatives to maintain channel capacity, provide periodic scouring, and transport sediment. See also response to Comment No. 2, which describes the increased flushing flows included in the Fish and Wildlife Mitigation Plan.

Flow Related Issues – East Slope

11 East Slope impacts to fisheries are not as detrimental. Impacts of water delivery downstream of Chimney Hollow are still being studied; our understanding is there would be moderate changes in flow regime in some Front Range creeks in order to deliver this water. Alternative 1 identifies increasing the size of Ralph Price Reservoir (Buttonrock). This would have limited impact on the North Saint Vrain River as the increased water would only be in the river channel for 2 miles below the dam and not impact the sensitive native species area downstream of Lyons. The lake currently is and would continue to be most suitable for rainbow trout, brown trout and splake, though a reservoir enlargement may allow the addition of kokanee salmon.

12 The DEIS states that "The Subdistrict would coordinate with the CDOW to establish a sport fishery in Chimney Hollow Reservoir. CDOW would be responsible for the establishment and management of the fishery." The CDOW welcomes the opportunity to establish a new public access fishery which would use similar species as in Ralph Price Reservoir, but with that comes some concerns. Our hatchery system cannot currently support increased production for an additional reservoir on the Front Range. We will address this more specifically in the mitigation section.

13 We recommend consultation with Larimer County Parks regarding boating recreation on Chimney Hollow Reservoir. A wakeless speed rule rather than a restriction on size or motor type will increase safety and allow boaters to exit the water efficiently if emergency conditions arise.

Terrestrial Resources

14 The Chimney Hollow and Dry Creek Valleys, located in the hogback west of Carter Lake are similar in topography, hydrology, vegetation, and land use. Both sites are relatively undisturbed and are therefore increasingly important for wildlife in light of the intense development on surrounding lands. Interspersion of escarpments, ponderosa pine woodlands, native grasslands, foothills shrub lands and riparian habitat on these parcels creates ideal habitat for many species. Of the two sites Chimney Hollow offers the best overall habitat and interspersion for wildlife. Both sites are listed in the report as overall and summer range for mule deer with winter concentration areas in near proximity. Both sites are also listed as winter range for elk. However with shifting patterns in land use in surrounding areas coupled with impacts due to several years of drought at the turn of the century, these valleys have assumed increasing importance for deer and especially elk during the last several years. Elk herds that once wintered in the Mariano Buttes area to the northeast of Carter Lake and from sites west of Chimney Hollow now tend to winter out in these hogback valleys, as their former wintering sites have dwindled due to development or change in plant stands and quality caused by drought. During our last winter aerial count CDOW biologists counted approximately 200 elk in the Chimney Hollow Valley. Chimney Hollow and Dry Creek now provide one of the last places in this area where elk and deer can forage without being disturbed by human activity and threats by automobiles year around. Because of relatively intense use by ungulates these valleys in all likelihood provide high quality habitat for mountain lions. Both sites are also designated in the technical report as being located within black bear fall concentration areas. With increasing conflict between bears and humans caused by development pressure in southern Larimer County it is essential to maintain intact, high quality bear habitat. These valleys offer the best of the best for black bears bulking up for winter hibernation. Both valleys also provide potential habitat for northern leopard frogs, and common garter snakes, both of which are designated as species of concern. Inundation of one or both of these valleys would result in loss of habitat and would likely force elk, deer, lions and bears to adjacent areas with lower forage value, higher opportunity for conflict with humans and increased chance of becoming victims to road strikes feral dogs and other calamities that occur when wildlife are forced into compromised habitat. Alternative 1 would have the least impact on high quality habitat for terrestrial species in the Chimney Hollow, Dry Creek, Jasper East and Rockwell Mueller sites.

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10. Typically Windy Gap diversions late in the runoff season would only occur in wet years when there is no Shoshone call and flows exceed minimum streamflow requirements below Windy Gap. Higher flows during those months typically occur due to rain events, in which case water temperatures would likely be lower than average. The Fish and Wildlife Mitigation Plan required by CRS 37-60-122.2 addresses adverse temperature effects downstream of the Windy Gap diversion.

11. Delivery of WGFP water on the East Slope under the action alternatives would use existing C-BT canals and the Southern Water Supply Pipeline. Changes in East Slope streamflow for several streams would be the result of increases in effluent discharges below Participant wastewater treatment plants as water use increases over time. The discussion of potential fish species in Ralph Price Reservoir was added to the FEIS in Section 3.9.2.

12. Additional coordination between the CDPW, Subdistrict, and Larimer County, who would be managing Chimney Hollow Reservoir, is needed prior to reservoir construction to discuss establishment of a fishery. This may be a component of the Recreation Management Plan that Larimer County would prepare during reservoir construction. Mitigation for any adverse effects on terrestrial species is included in the Fish and Wildlife Mitigation Plan developed in accordance with CRS 37-60-122.2.

13. This is also a management measure that will be discussed with Larimer County and CDPW as part of the Recreation Management Plan.

14. Many of the issues identified in this comment are addressed in the DEIS. New and updated information has been added to Section 3.12.1.7 of the FEIS. Because of the importance of the Chimney Hollow area as wildlife habitat, the Subdistrict, in concert with CDPW, developed a Fish and Wildlife Mitigation Plan in accordance with the requirements of CRS 37-60-122.2.

14 Expansion of Ralph Price Reservoir, a steep banked mountain reservoir surrounded predominantly by coniferous woodlands, would have a less significant impact on terrestrial wildlife habitat than creation of new reservoirs at the alternative sites.

15 The DEIS states that development near the proposed Jasper East reservoir site is around 3005 acres; it is inconclusive if this includes the Orvis-Shorefox property which is 1500 acres. Combining this with the development of the reservoir would affect 1.5% of the elk winter range in Game Management Unit (GMU) 18 and 1.2% of the moose winter range in GMU 18. The creation of Rockwell/Mueller would be even greater. Rockwell/Mueller has approximately 4770 acres of future development combined with the creation of the reservoir would impact approximately 5105 acres of wildlife habitat. Approximately 3173 acres would be elk winter range. The effects to elk winter range would be approximately 4.1% of the elk winter range in GMU 18. These are large landscape impacts that are within the foreseeable future. While the DEIS quantifies the acreage lost per alternative based on species activity maps, it does not mention cumulative effects of what losing 24 acres of elk winter range if Jasper East was constructed except for "elk movement could shift." Jasper East construction will likely impact elk movement from Rocky Mountain National Park and Grand Lake to the riparian areas around the Colorado River/Fraser River junction. What the scope of this impact or shift in movement patterns will be is hard to say. Elk could move west to cross 125 to get to Dexter Ridge or they could cross highway 34 to get to the Bussey Hill area. Either way, the general shift in movement will most likely cause increased vehicular problems along highway 34, which the DEIS largely ignores. Likewise, construction of Rockwell/Mueller could displace elk from that property onto Grand Elk Golf Course or onto adjoining private property in the area increasing game damage conflicts.

16 Management of the proposed Jasper East and Rockwell/Mueller reservoirs is not addressed. If built, public access should be allowed to provide recreational opportunities (hunting, fishing, and watchable wildlife). Currently, Windy Gap Reservoir provides watchable wildlife opportunities without traditional hunting and fishing access. Fencing as is present at Windy Gap limits free movement of many species of wildlife.

17 There are a number of potential impacts from the proposed West Slope reservoirs to Greater Sage-Grouse (GrSG). As a point of clarification this species was removed as a candidate for federal listing in January 2005. However, since that time a ruling found the 2005, 12-month finding to be arbitrary and capricious under the Administrative Procedures Act. The GrSG is undergoing another 12-month status review that should be completed by early 2009. To also clarify another statement in the DEIS regarding the abundance of GrSG in Grand County we recommend using the following statement; "Sage grouse are uncommon in east Grand and common in west Grand." The Executive summary states that about 300 acres of GrSG habitat will be lost if Rockwell/Mueller reservoir is built. This accounts for 5% of GrSG habitat in the area and surrounding the Linke Lek. The accumulative loss of 740 acres of GrSG habitat accounts for over 12% of the GrSG habitat surrounding the Linke Lek. As stated in Table 2-7 on page 2-72, this loss of habitat could result in the complete loss of GrSG from the area. We also add that in 2008 the CDOW counted no sage grouse on the Linke Lek and a total of 9 grouse (3 males and 6 females) in an area we are calling the Horn West Lek.

18 Decrease in water flow will directly impact terrestrial species such as beaver, mink and river otter in the area. River otter is a Colorado state Threatened Species and a species of concern because of its relationship to healthy aquatic environments. Reduced flows and fish abundance will have a negative impact on otters. It has been documented that river otters are sensitive to water quality and that poor water quality and habitat can inhibit otter movement through a particular stretch of river and thereby affect the gene flow by isolating a group of animals. River otters currently inhabit all areas of river habitat surveyed in Grand County. Diminished flows below Windy Gap could preclude movement of river otters through that stretch of the river. Boreal toad is a state endangered species. There is suitable

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15. The cumulative impacts assessment includes the C-Lazy-U Preserve and Orvis-Shorefox property highlighted in Figure 2.15 of the FEIS. New and updated information provided in this comment about wildlife-vehicle collisions and game damage conflicts has been added to Section 3.12.2.6 and 3.12.2.7 of the FEIS.

16. As provided in the description of this alternative, there is currently no defined recreation plans for the Jasper East and Rockwell/Mueller reservoirs. They are not part of the proposed action.

17. Reclamation will comply fully with the requirements of the Endangered Species Act as necessary. New and updated information pertaining to the federal status of the greater sage grouse has been added to Section 3.12.1.4 of the FEIS. Updated information pertaining to the cumulative effects to greater sage grouse has been added to Section 3.12.3 of the FEIS.

18. Several mitigation measures to offset water quality impacts are identified in the FEIS to minimize the adverse effects of the WGFP on water quality in the Three lakes system. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River. The FEIS includes information on potential impacts to otters. Preconstruction surveys for boreal toads in suitable habitat that would be affected by construction of a new West Slope reservoir would be conducted.

18 habitat for boreal toads near Granby, but they have not been documented to occur there. Extensive surveys should occur before any new reservoir construction occurs.

Mitigation

19 We understand the Bureau will be developing mitigation strategies as part of the EIS process, and the Division looks forward to working cooperatively on a mitigation plan pursuant to 37-60-122.2, Colorado Revised Statutes. We offer general guidance on mitigation strategies that may be employed to mitigate impacts that we have identified. We believe that highest priority for any mitigation must be placed on improving flows below Windy Gap, and secondarily improving flows below Granby Reservoir. We are aware of ongoing discussions regarding water rights in the Red Top Ditch above Shadow Mountain Reservoir. If the WGFP is implemented, this water could be stored in Granby Reservoir and used to increase Colorado River flows.

20 To adequately protect aquatic resources, flows should be maintained that sustain minimum temperature standards. This may require installation of one or an array of real-time temperature gauges on the Colorado River. Data collection to date has been informative but delayed in nature due to the fact that the data must be retrieved in the field from electronic logging devices after it has been collected. Because of this, it is not immediately apparent when the river has exceeded chronic temperature standards. Real-time temperature sensors would enable managers to know immediately when temperature standards are exceeded, and arrange for releases of flow mitigation water from Granby dam.

21 There are locations in the Colorado River within the project area where width-depth ratios are extremely high at low flows. Some of these sites appear to have potential for large-scale in-stream habitat projects to reduce the width-depth ratio. These potential projects could also increase habitat availability for larger trout and enhance the carrying capacity of the river for quality-sized fish.

22 The idea of a complete bypass of Windy Gap Reservoir while pumping is not occurring has been discussed in the past and should continue to be considered, as this would remove many possible deleterious effects of Windy Gap Reservoir such as increases in temperature and nutrient loading.

23 Mitigation offered for numerous proposed water projects on the Front Range include fishing recreation days. Conceptually, this is beneficial and we support it as a mitigation option. However, because these types of reservoirs do not sustain significant fish reproduction, there is a significant underlying need which must be addressed - the source and cost of the fish which will need to be stocked to provide this mitigating fishing recreation. The Division's hatcheries, even as currently supplemented by some federally stocked fish, are not always capable of meeting the numbers of fish needed to stock waters currently open for fishing.

There are a number of proposed water projects currently under consideration in Colorado including Windy Gap, Glade Reservoir, the enlargement of Chatfield, Halligan and Seaman Reservoirs in the South Platte Basin and the Southern Delivery System in the Arkansas River Basin. If these water projects are added to the acres of water the Division currently stocks to support public fisheries, our current hatchery infrastructure cannot produce enough fish to meet the required stocking necessary to create or maintain sport fishing opportunities. This is probably not a traditional view of cumulative effects, but if fishing recreation benefit is going to be proposed as mitigation for water development, mitigation needs to provide for the production of the necessary fish. These costs can be broken down into two categories: production facilities and ongoing production. The recognition that this is a cost of the project and the mitigation plan is not new to Colorado. The Division's Pueblo hatchery was constructed as partial mitigation for the Fryingpan-Arkansas project. In addition, long term operation of hatcheries to produce fish required is a much larger cost, and this requires funding the Division cannot provide alone. We

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19. As mentioned previously the purpose of the WGFP EIS is to disclose the effects of the WGFP and identify appropriate mitigation measure to avoid or minimize adverse effects. The Subdistrict with assistance from the CDPW prepared a Fish and Wildlife Mitigation Plan in accordance with the requirements of CRS 37-60-122.2.

20. Real time temperature monitoring stations would be installed in the Colorado River below Windy Gap Reservoir and above the confluence with Williams Fork as discussed in the Fish and Wildlife Mitigation Plan and FEIS Section 3.8.4 Water Quality mitigation.

21. The Fish and Wildlife Enhancement Plans developed by the Subdistrict and Denver Water include provisions for habitat enhancement below Windy Gap Reservoir.

22. CDPW has previously determined that a bypass flow channel is not needed. CDPW research (Thompson 2005) also indicates a separate channel may not reduce the presence of whirling disease. Habitat modification has not resulted in the reduction of the prevalence of the myxospores as hypothesized. Proposed nutrient and temperature mitigation measures previously described are expected to provide a greater benefit to reducing temperature and nutrient concentrations than a bypass channel. However, the Subdistrict's Fish and Wildlife Enhancement Plan includes funding for studies to evaluate constructing a bypass channel at Windy Gap Reservoir.

23. See response to Comment No. 13.

23 propose that all water projects provide capital construction and operation funds either for current state hatcheries capable of expanding or for the purchase, construction and operation of new hatchery space to meet these fish production needs.

24 Public fishing access on rivers is limited in the area of eastern Grand County. Any increase in stream mileage that is open to public fishing would have great benefits. We recommend that acquisition of new public fishing access on rivers in Grand County be considered as part of project mitigation.

25 There is no mention of any sort of mitigation action for loss of big game habitat. If one of alternatives 2-5 is selected for development, CDOW would recommend significant mitigation measures be incorporated in the development plan and construction of this project in an effort to reduce negative impacts to essential wildlife habitat inundated by the WGFP. The only mention of habitat is the bullet point "a variety of BMPs will be implemented…and protect or avoid important wildlife habitat". Cumulatively there is approximately 3000 acres of foreseeable development on winter range with the Jasper East alternative and well over 5000 acres of foreseeable development with the Rockwell/Mueller alternative.

During the critical fall and winter the Chimney Hollow and Dry Creek valleys should have restricted human use. Creation of reservoirs and year around recreation at these sites would make this crucial area for wildlife less attractive for deer, elk and bears, and force them into alternative sites that are already developed. Recreation tends to slow in fall and winter and there are currently alternative sites for hikers, bikers and anglers to use nearby. Fishery management for the reservoir/s created by this project could emphasize species maximally available in spring and summer. Development of reservoirs in these valleys with subsequent recreational development should be accomplished in a manner that provides adequate protection for golden eagle nest sites and other raptor use areas. CDOW suggests you refer to our recommended guidelines for setback and seasonal disturbance for raptors at this web site: ftp://wildnet/documents/WL%20Conservation/Raptors/CDOW%20Raptor%20Buffer%20Guidelines%2002_2008.pdf

Sites in and around any of the newly created reservoirs should remain open for hunting. Harvest of deer, elk, bear and lion is an integral component in successful management of those species. If necessary CDOW could assist in developing mechanisms for limited hunting that could successfully achieve harvest goals while protecting public safety.

In closing we would like to thank you for the opportunity to comment on your project proposal and represent wildlife in your evaluation. We look forward to hearing from you as you prepare for the next step in this process.

Sincerely,

Thomas E. Remington

Thomas E. Remington
Director

Cc: Konishi, Ver Steeg, Velarde, Yamashita, Gerlich, Kahn

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24. One purpose of the WGFP EIS is to identify appropriate mitigation for the adverse effects of the WGFP. Mitigation for the fish and wildlife effects of the proposed project are included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict with assistance from the CDPW in accordance with the requirements of CRS 37-60-122.2.

25. The Fish and Wildlife Mitigation Plan prepared by the Subdistrict in accordance with the requirements of CRS 37-60-122.2 includes appropriate mitigation for the effects of the WGFP on fish and wildlife resources.

Com-ment	Letter #403	Response
1	WGFP 403 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Al White MR. WHITE: I'm Al White. I'm the state representative from House District 57. W-h-i-t-e. I represent the 60,000 citizens of northwest Colorado in Grand, Jackson, Moffat, Rio Blanco and Garfield Counties. For 36 years, I have been a resident of northwestern Colorado. For eight years, I sat on the Grand County Water and Sanitation District before I ran for office. And you know what? I'm mad as hell, and I'm not going to take it anymore. I mean, you know what? We have been pushed around by the federal government, we have been pushed around by Northern, we have been pushed around by Denver Water for as long as I've been here. And now we have a proposal from Northern -- and I'm not going to be critical of you guys, of your entities. I'm not trying to be critical of Northern. But how ludicrous is it to suggest that we are going to firm up this conditional right and that there will be no additional damage to any water users in northwest Colorado? It's just unimaginable to me. And, beyond that, we have Denver Water, who is going to stand in line behind it. And, by the way, none of you can vote for me in the next election, so I'm not pandering to any of you. I'm a private citizen here, and I'm upset, as I know all of you are. Yeah, we've got a lot of problems with EIS. We've got cumulative impacts that we've heard about, and we've got water quality impacts. We got clarity impacts to Grand Lake. We got socioeconomic impacts that we haven't discussed that aren't even brought up here. But the reality is, we are faced with a decision of: Do we cut off our nose, or do we cut off our ear? No action hurts us; action hurts us. What do we do? Where do we go? I think, obviously, we need to extend the comment period. But in the state legislature -- I serve on the Water Resources Review Committee -- we consider legislation. We always talk statewide water policy. Well, any statewide water policy has got to offer a win-win situation. Where is the win for Grand County in	1. Windy Gap water rights were made absolute in Case No. 89CW298, which awarded absolute water rights to pump 600 cfs from the Windy Gap Pump Canal and also confirmed the volumetric diversion limits as an integral part of the decree. The FEIS discloses a number of impacts from the proposed WGFP and identifies mitigation measures to avoid or minimize adverse effects. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25 of the FEIS. The comment period was extended until December 28, 2008.

Com-ment	Letter #403	Response
1	this, Northern? I don't get it. And you talk about a project that's going to pump 200,000 acre-feet from northwestern Colorado, and you suggest to us that that will reduce your need for additional diversions in western Colorado. Well, let's start here. Let's look down the road and do that other diversion and give up on this firming project. Honestly, I don't know how we in Grand County or western Colorado come out ahead on this situation. Until the rest of the state understands how they need to benefit us before they can ask us to share our additional water, we'll never have a statewide water policy.	

Comment	Letter #1150	Response

ite Representative
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WGFP 1150

Member:
Agriculture, Livestock, & Natural Resources Comm
Capital Development Committee
Appropriations Committee

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HOUSE OF REPRESENTATIVES
STATE CAPITOL
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File Code ENV 5 (WGP) (Tully)
Project 245
Contract No.
Folder I.D.

January 14, 2009

Will Tully
Bureau of Reclamation
11056 West County Rd. 18E
Loveland, CO 80537

Dear Mr. Tully,

Water storage is so important in our semi-arid state.

1 But no regional water projects have been built to hold water for northeastern Colorado's use since the 1980s. That's a bit disconcerting when you look at all the growth we have experienced during the past two decades and especially worrisome when you consider all the predicted growth that is yet to come.

We have so many needs for water in our growing state: municipal, agricultural, recreational, environmental. Developing new water projects is crucial to helping us meet those needs.

Fortunately, there are a couple proposed projects right now that will provide storage for the region. One of those projects is the Windy Gap Firming Project.

The Windy Gap Firming Project will help complete an existing project called the Windy Gap Project, which was constructed in the 1980s. The proposal for the Windy Gap Firming Project includes a new reservoir in Larimer County, which will provide a lot of great recreational opportunities.

It seems to me that the Windy Gap Firming Project is the right kind of water project for Colorado. It takes a regional, collaborative approach to securing the water supplies our region desperately needs. The dozen water providers proposing to build the Windy Gap

1. Thank you for your comment.

Com-ment	Letter #1150	Response
1	Firming Project could have each decided to build their own water storage. Instead, they came together to make this project a reality, and that means fewer environmental impacts and a smaller overall price tag. Water from Windy Gap, and the Windy Gap Firming Project when built, can be recycled and reused by water providers. Reuse is really important as Colorado tries to maximize use of our limited water supplies. As our state's population has increased, we've built new schools and new roads and new hospitals. It's time we realize that new water projects are just as important and support efforts like the Windy Gap Firming Project. Sincerely, Jerry A. Sonnenberg State Representative	

Com-ment	Letter #1062	Response
1	WGFP 1062 **Colorado River District** *Protecting Western Colorado Water Since 1937* December 29, 2008 *VIA E-MAIL and U.S. Mail* Mr. Will Tully United States Bureau of Reclamation, Eastern Colorado Area Office 11056 West County Road 18E Loveland, CO 80537-9711 wtully@gp.usbr.gov Mr. Chandler J. Peter U.S. Army Corps of Engineers Denver Regulatory Office 9307 South Wadsworth Blvd. Littleton, CO 80128-6901 chandler.j.peter@usace.army.mil Re: Windy Gap Firming Project Draft Environmental Impact Statement and Associated Application for a Clean Water Act Section 404 Permit Dear Mr. Tully and Mr. Peter: This letter contains the comments of the Colorado River District on the Windy Gap Firming Project (WGFP) Draft Environmental Impact Statement (DEIS) and the related Clean Water Act Section 404 permit application. The River District's primary comments are summarized below: 1. The DEIS is fundamentally flawed because (a) the Purpose and Need Statement is too narrow, (b) the No Action Alternative is speculative, and (c) the DEIS understates the actual difference between existing conditions and the Proposed Action ("PA"). The DEIS therefore does not accurately portray the impacts of the PA or other alternatives. 2. The DEIS does not adequately analyze the cumulative impacts on stream flows, aquatic resources and water quality caused by the PA and Denver Water's proposed Moffat System Project. 201 Centennial Street / PO Box 1120 * Glenwood Springs, CO 81602 (970) 945-8522 *(970) 945-8799 Fax www.ColoradoRiverDistrict.org	1. These comments are addressed in detail below.

Com-ment	Letter #1062	Response
1	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 2 3. Even though the DEIS understates the adverse impacts of the PA (and all action alternatives), the DEIS fails to adequately identify and analyze reasonable mitigation measures for the adverse impacts that are identified in the DEIS. 4. The PA conflicts with Senate Document 80. 5. The DEIS fails to reconcile conflicts between the PA and the C-BT Project authorization, C-BT Project water rights, and other federal law. 6. The DEIS fails to reconcile conflicts between the PA and the existing permits, water rights, and agreements related to the Windy Gap Project. 7. No Section 404 Permit should be issued for the PA because the DEIS fails to demonstrate that the PA is the least damaging practicable alternative. **I. Background** A. Colorado River Water Conservation District. The Colorado River Water Conservation District (River District) is a political subdivision of the state of Colorado, created pursuant to C.R.S. § 37-46-101, *et seq.* The River District is comprised of all or parts of 15 western Colorado counties within the drainage basin of the Colorado River and its principal tributaries, including the Yampa, White and Gunnison Rivers. The River District was formed for the purpose of the conservation, use and development of the water resources of the Colorado River Basin for the benefit of all of the inhabitants of the district. The River District also is charged with safeguarding Colorado's entitlement to water under the Colorado River Compact. B. History of the C-BT Project and Windy Gap Project. The C-BT Project was authorized by Congress in 1937.[1] The authorizing legislation requires that the C-BT Project be constructed and operated in conformance with the feasibility report submitted to Congress – commonly referred to as Senate Document 80.[2] Senate Document 80 also [1] *See* Act of August 9, 1937, 50 Stat 564, 595 (1937). [2] *Id.* (Senate Document 80 is formally entitled *Synopsis of Report on Colorado-Big Thompson Project, Plan of Development and Cost Estimate prepared by the Bureau of Reclamation, Department of the Interior, 75th Congress, First Session, June 15, 1937.* Copy attached to these comments as Exhibit A.	

Com-ment	Letter #1062	Response

operates as a contract between the United States, acting through the Bureau of Reclamation ("USBR" or "Reclamation"), and the West Slope and Front Range parties affected by the C-BT Project. Senate Document 80 has the force and effect of a federal statute.[3]

Operation of the C-BT Project is also governed by the Blue River Decree.[4] Senate Document 80 requires that the C-BT Project be operated "in a fair and efficient manner equitable to all parties having interests therein."[5] The USBR is required to operate the C-BT Project in accordance with the terms of Senate Document 80, and in accordance with the USBR's role as "a trustee responsible for protection of the West Slope interests" in the C-BT Project.[6] The River District is an expressly recognized beneficiary of the C-BT Project and is a party to the Blue River Decree.

The Windy Gap Project is a non-federal project sponsored by the Municipal Subdistrict of the Northern Colorado Water Conservancy District that relies on the C-BT Project for storage, conveyance and delivery of West Slope water to Colorado's northern Front Range. The project is comprised of a small reservoir with a large pumping plant and pipeline, located on the Colorado River (downstream of the C-BT Project collection facilities) in Grand County. Windy Gap pumps water only when: 1) its relatively junior water right is in priority; and 2) excess storage space is available in the C-BT Project's Granby Reservoir, also located in Grand County. The Municipal Subdistrict's desire to firm the yield of Windy Gap is based in large part on the fact that Windy Gap normally diverts only in average water years. In very dry years, the Windy Gap Project's junior water right is not in priority to divert. In wet years, there is little or no excess capacity available in the C-BT Project facilities to store and convey Windy Gap water.

In 1979, the Colorado Supreme Court ruled that the Municipal Subdistrict had failed to comply with the compensatory mitigation provisions of Colorado's Water Conservancy District Act in its plan to develop the Windy Gap Project because the proposed project failed to adequately protect current and prospective water users in the Colorado River Basin.[7] Following the court's decision, the Municipal Subdistrict entered into the so-called Azure Agreement with the River

[3] *See* Colorado River Storage Projects Act, 43 U.S.C. § 620j; *Public Service Company v. Federal Energy Regulatory Commission,* 754 P.2d 1555 (10th Cir. 1985).

[4] *See* Supplemental Judgment and Decree, dated February 9, 1978, in Consolidated Case Nos. 2782, 5016 and 5017, Federal District Court, District of Colorado. (The original October 12, 1955, Findings of Fact and Conclusions of Law and Final Judgment and Final Decree in Consolidated Case Nos. 2782, 5016, 5017, and all subsequent rulings are referred to herein as the Consolidated Cases or the Blue River Decree). Copy attached to these comments as Exhibit B.

[5] *See* Senate Document 80 at Page 3.

[6] *See* Supplemental Judgment and Decree, dated February 9, 1978, at pg. 2, Consolidated Cases.

[7] *See Colorado River Water Conservation District v. Municipal Subdistrict, Northern Colorado Water Conservancy District,* 198 Colo. 352, 610 P.2d 81 (1979).

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2	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 4 District, Grand County, NWCCOG, and other parties that allowed the Windy Gap Project to move forward.[8] Only after the Azure Agreement was executed did Reclamation approve the Final Environmental Statement ("FES") and issue a Record of Decision ("ROD") for the Windy Gap Project. In fact, the terms and conditions of, and the mitigation called for by, the Azure Agreement were expressly recognized and effectively incorporated into both the FES and the ROD.[9] By its own terms, the carriage contract for Windy Gap was conditioned on completion of the FES and execution of the ROD.[10] The Municipal Subdistrict has proposed a variety of means to improve the yield of the Windy Gap Project, including the pre-positioning concept contained in the PA of moving federal C-BT Project water to the proposed new, non-federal Chimney Hollow Reservoir located on the Front Range. Pre-positioning would significantly increase the volume and frequency of Windy Gap's transmountain diversions from the headwaters of the Colorado River in Grand County and would change the operation of the C-BT and Windy Gap Projects in ways not contemplated by the original agreements, authorizing documents and water right decrees for either project. **II. The DEIS is fundamentally flawed because it fails to accurately portray the impacts of the Proposed Action and the other NEPA alternatives.** A. The scope of the Purpose and Need Statement of the DEIS is so narrow that it precludes reasonable alternatives and skews the comparative impacts analysis. The Purpose and Need Statement (DEIS, Sec. 1.3) states that the overall purpose and need is to firm 30,000 acre-feet of yield of the original Windy Gap Project. This narrow statement prevents a NEPA review of other less environmentally damaging alternatives. The underlying purpose and need for the proponents of the WGFP is to enhance their overall water supply in more general terms. The additional yield required to meet the subject portion of their future water demands could be met from many different sources other than additional diversions by the Windy Gap Project, such as additional conservation, reuse, and rotational fallowing of agricultural land on the Front Range. *See* DEIS Sections 1-6, 1-7 and 1-8. [8] *See* The Azure Agreement was supplemented by the March 29, 1985 *Supplement to Agreement of April 30, 1980.* The original agreement is refereed to as the Azure Agreement; the supplemental agreement is referred to as the Supplemental Azure Agreement. Copies are attached to these comments as Exhibits C and D, respectively. [9] *See* Windy Gap Project, USBR Final Environmental Statement (FEIS 81-20), and Record of Decision, June 18, 1981. [10] *See* Article 12, Carriage Contract No. 14-06-700-7497, October 3, 1973. The original carriage contract has been amended by an Amendatory Contract, Contract No. 4-07-70-W10707, dated March 1, 1990.	2. The WGFP was initiated by the Participants because the original Windy Gap Project failed to deliver the yields anticipated in the 1981 EIS for the reasons discussed in more detail in Section 1.5 of the WGFP FEIS, including insufficient storage. To address the shortcomings of the Windy Gap Project, Participants determined that a cooperative project with shared storage in a new reservoir(s) would be the most efficient way to collectively firm their Windy Gap water supply. Existing absolute Windy Gap water rights represent an existing source of water available to the Participants. However, additional infrastructure is necessary to provide reliable deliveries. Thus, the purpose of the WGFP is to fix a broken project, not to develop new sources of water. Many of the WGFP Participants have additional future water needs beyond what the WGFP would supply, and will be investigating other sources of water to meet those needs. The WGFP is only functional as a collaborative effort on the part of Windy Gap Project unit holders.

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2	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 5 The narrow purpose and need statement means that all of the six alternatives considered in the DEIS (even the no action alternative) result in the diversion of additional water from the Colorado River Basin. The comparative differences of each alternatives' impact on the critical headwaters reach of the Colorado River is therefore relatively understated. Thus, the DEIS fails to adequately analyze the impacts of less environmentally damaging alternatives that would help to meet the stated demand for water.	The impact on Colorado River under the action alternatives is similar because each of the alternative results in an increase in stream diversions. The No Action Alternative also increases diversions, as described in response to Comment No. 3. The EIS evaluates the impact of all of the action alternatives that would meet the project purpose and need and the No Action Alternative.
3	B. The No Action Alternative is speculative. To be reasonable, an alternative must be non-speculative. *See Utahans for Better Transportation v. U.S. Department of Transportation*, 305 F.3d 1152, 1172 (10th Cir. 2002). The "no action" alternative defined in the DEIS is speculative. The "no action" alternative assumes the enlargement of Longmont's Ralph-Price reservoir based merely on a statement by the City of Longmont that it might pursue such enlargement if the WGFP is not approved. *See* DEIS, Section 2.2.2. However, the DEIS fails to address the real potential that enlargement of Longmont's reservoir may be restricted or precluded by environmental requirements or economic infeasibility. In addition, the DEIS assumes that Windy Gap demands will be much higher under the no action alternative as the demand under the action alternatives because it assumes that all Windy Gap participants, not just participants in the WGFP, will seek to maximize their Windy Gap water supply. *See e.g.*, DEIS Water Resources Technical Report at 81. The result is that the DEIS artificially inflates diversions and the resulting impacts under the no action alternative while at the same time understating the difference between the impacts of a non-speculative no action alternative and the impacts of the action alternatives.	3. The No Action Alternative presents what WGFP Participants would do if Reclamation does not allow the proposed connection to C-BT facilities. Consistent with CEQ guidance on what should be considered in a No Action alternative, it does not mean that agencies stop what they are doing. In the case of existing agreements, prior court decisions and CEQ guidance would define No Action as no change to existing agreements. For WG and the WGFP this means that Reclamation would continue operation under the existing agreement between Reclamation and the Subdistrict for conveyance of WG water through the C-BT Project system. (See CEQ 40 Questions, No. 3) This also 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 WGFP. 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 EIS. The majority of the hydrologic impacts included under the No Action alternative entail increased Windy Gap deliveries to Participants, which can currently be done without any infrastructure changes, additional authorizations, or approvals from Reclamation. It is not speculative to assume that Windy Gap diversions will increase in the future as a function of increased demand or that the No Action alternative should be no diversions.
4	C. The DEIS dramatically understates the actual difference between existing conditions and the alternatives reviewed, including the PA. The DEIS is based in part on a comparison of existing conditions, as modeled over a 1950 to 1996 study period, with the action alternatives as modeled over the same period. The existing conditions as modeled in the DEIS show an average annual diversion by the Windy Gap Project of 36,532 acre feet. *See* DEIS, Tables 3.2. However, the actual average annual Windy Gap diversions from 1985 to 2005 have been only 11,080 acre feet. The DEIS therefore overstates the actual existing conditions by more than 300% and understates the increase in future depletions by 25,452 acre feet per year. *See* Exhibit E, BBA Letter Report from Jeff Clark, dated December 23, 2008. The BBA Letter Report is incorporated into the River District's comments by this reference.	4. Windy Gap diversions for the last 10 years (1999 through 2008) averaged 22,158 AF/yr, which is significantly higher than the average diversion of 11,080 AF/yr for the period from 1985 through 2005, as presented in Table 3 of the Water Resources Technical Report. Windy Gap diversions were made in accordance with the project's water rights, the same water rights that would be used to effect diversions with a WGFP. The increase in recent diversions represents the

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		Participants' need for additional water to meet increasing water demands, which is supported by information presented in Chapter 1 on the Participants' water demands and needs. Modeled Windy Gap diversions under existing conditions reflect the recent increases in Windy Gap Participant demands. Windy Gap pumping for the 8-year period from 2001 through 2008, since Granby Reservoir last filled, averaged 27,450 AF/yr. That average includes 2002 and 2004 when almost no Windy Gap water was pumped. Therefore, estimated pumping under existing conditions is much closer to recent operations than suggested in the comment. The comment indicates that potential impacts of additional Windy Gap diversions under the Proposed Action are minimized or underestimated based on a comparison against existing conditions. The average decrease in Colorado River flows below Windy Gap between the Proposed Action and existing conditions is 21,283 AF/yr, which is the estimated increase in net depletions to the Colorado River. This reflects the net effect of additional Windy Gap diversions from the Colorado River and the difference in spills from Granby Reservoir. A considerable portion of Windy Gap water diverted from the Colorado River is delivered back to the river via a spill under the existing conditions scenario. Windy Gap operations were simulated in this manner to present the amount of water than could be diverted with the project's current water rights to meet demands even if a portion of the water is subsequently spilled from Granby Reservoir back to the Colorado River. Table 3-9 was added to the FEIS to better illustrate the water balance associated with the Proposed Action. In summary, the effects assessments based on net depletions to the Colorado River below Windy Gap, as presented in the FEIS, are appropriate. Windy Gap diversions under existing conditions reasonably reflect recent operations and diversions, which are much higher than the 20-year average from 1985 through 2005. In addition, this issue does not affect Windy Gap diversions in dry years; therefore, Windy Gap pumping, net depletions to the Colorado River and associated impacts are appropriately estimated in dry years, which are typically more critical for aquatics, water quality, and other flow-related resources. In response to the portion of the comment that the DEIS assumes streamflows in the Upper Colorado River are significantly lower than actual stream gage measurements, it is not valid to compare modeled existing conditions at the Hot Sulphur Springs gage with historical USGS gage data at that location. That

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4	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 6 The error produced by the modeled existing conditions is compounded throughout the DEIS. *See e.g.*, DEIS, Tables 3.3. and 3.4. In addition, the DEIS assumes that stream flows in the upper Colorado River are significantly lower than the actual gaged stream flow measurements. *See* BBA Letter Report, pg. 3. The result is that the DEIS understates the difference between the actual existing conditions and the impacts of all alternatives, including the PA.	comparison is flawed for the following reasons: • Demands have changed considerably over the course of the study period, • Certain facilities and reservoir were not in operation for the entire study period, and • River administration and project operations have changed over the study period. The Windy Gap Project did not come online until 1985. Therefore, it is inaccurate to evaluate the effects of Windy Gap diversions under the alternatives based on a comparison with historical flows at Hot Sulphur Springs because they do not include the effects of the Windy Gap Project prior to 1985.
5	**III. The DEIS does not adequately analyze the cumulative impacts on stream flows, aquatic resources and water quality caused by the PA and Denver Water's proposed Moffat System Project.** CEQ regulations provide that a single EIS should be prepared for two or more projects that involve "cumulative" or "similar" actions. *40 C.F.R. § 1508.25(a)(2) and (3)*; *Klamath-Siskiyou v. BLM*, 387 F.3d 989 (9th Cir. 2004). Cumulative actions are actions that "when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." *40 C.F.R. § 1508.25(a)(2).* Similar actions are actions which "when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." *40 C.F.R. § 1508.25(a)(2).* Sometimes these actions must be considered together to prevent an agency from "dividing a project into multiple 'actions,' each of which individually has an insignificant environmental impact, but which collectively have a substantial impact. *See Thomas v. Peterson,* 753 F.2d 754, 758 (9th Cir. 1985). The anticipated Moffat Tunnel Extension Project and WGFP are both "common" and "similar" actions which should be evaluated in a single EIS, particularly, in light of the fact that they affect the same aquatic resources in the same geographic region. As explained at pages 4 to 5 of the BBA Letter Report, a single EIS, using a daily time-step model is required to properly analyze the cumulative impacts of the two proposed projects.	5. The WGFP FEIS fully considered the cumulative impacts of the Moffat Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project, including changes in Fraser River, Williams Fork, and Blue River flows. Hydrologic impacts of the Moffat Project are actually overstated in the WGFP analysis because Denver's Blue River demands are 30,000 AF less than used in the hydrologic modeling for the WGFP. Denver changed their demand estimate after the hydrologic model for the WGFP was completed. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects. Daily hydrologic data were used in the assessment of resource impacts for the WGFP.
6	**IV. Even though the DEIS understates the adverse impacts of the PA (and all action alternatives), the DEIS fails to adequately identify and analyze reasonable mitigation measures for the adverse impacts that are identified**. The DEIS Water Resources Technical Report Appendix (Table I-14) demonstrates that, even using the understated impacts inherent in the flawed DEIS, the PA would decrease flow in the Colorado River under average conditions below Windy Gap by approximately 23-27% from existing conditions. In addition, flows below Granby Reservoir will be reduced by 30% in June and 19% in July. *See* DEIS, WRTR, Table I-12. The WGFP can only legally divert water at the site of the Windy Gap pumping plant, which is located about 20 miles downstream of Granby Dam. The fact that the PA reduces flows in the Colorado River between Granby Dam and the Windy Gap pumping plant can only be attributed to changes in operation of the C-BT Project. This clearly demonstrates the impact of the PA and prepositioning on C-BT operations. The DEIS fails to address appropriate mitigation measures to offset these and other significant impacts.	6. Additional mitigation measures were defined and developed to avoid or minimize adverse effects from implementation of the Proposed Action from those presented in the DEIS. Mitigation measures were developed to correspond with projected impacts. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25. The mitigation measures in the FEIS are commitments that would be included as part of the Record of Decision.

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6	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 7 NEPA requires that mitigation measures be fully reviewed in the NEPA process. "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the action-forcing function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989). CEQ regulations require that the agencies include in the EIS a discussion of appropriate measures to mitigate adverse environmental impacts. *See 40 CFR §1502.14(f) and 40 CFR § 1502.16(h).* Agencies must also 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. *See 40 CFR §1505.2(c).* Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated. *See Carmel-By-The-Sea v. Dept. of Transportation*, 123 F.3d 1142, 1154 (9th Cir. 1997). A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA. *See Northwest Indian Cemetery Protective Association v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986). Broad generalizations and vague references to mitigation, which fails to specify whether any mitigation measures would in fact be adopted or to provide an estimate of their effectiveness or why such estimate is not possible, do not meet NEPA requirements. *See Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380-81 (9th Cir. 1998). The brief discussion of mitigation measures (*See* DEIS, Section 3.25.1) is vague, and consists of a general intent to conduct further studies of impacts to water quality and to explore limited opportunities to re-time the identified draw down of Granby Reservoir levels. The DEIS completely fails to explain how these to-be-studied suggestions for mitigation will address impacts to streamflow, aquatic, scenic and recreational resources, or how effective they will be in addressing such impacts. There is no binding commitment on Reclamation or the Municipal Subdistrict to actually implement any mitigation measure. For these reasons, the DEIS does not satisfy the applicable CEQ standards for identification and analysis of mitigation measures. The River District is committed to working with Reclamation, the Municipal Subdistrict, the Middle Park Water Conservancy District, Grand County, Northwest Colorado Council of Governments, and other entities to negotiate appropriate mitigation for any action alternative that may be adopted for the Windy Gap Firming Project.	
7	**V. The PA conflicts with Senate Document 80.** The DEIS contains only a very minimal discussion of whether the PA conflicts with the purpose of the C-BT Project and of the relationship between the proposed action and C-BT Project operations "in conformance with Senate Document 80." *See* DEIS, § 1.9.2.7. Although Reclamation briefly discusses these issues, the DEIS fails to examine whether the PA would violate Senate Document 80 and the Blue River Decree. Instead, the DEIS simply states that this determination will be made at a later time: "Prior to entering into a contract that would allow use of C-BT excess capacity, Reclamation must determine that the excess capacity contract is consistent with the provisions of Senate Document 80." *See* DEIS, § 1.10.2.	7. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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7	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 8 The primary purposes of Senate Document 80 have the force and effect of federal statute by virtue of their inclusion in the Blue River Decree, which, in turn, was incorporated into the Colorado River Storage Project Act (43 U.S.C. Sec. 620j). Senate Document 80 requires that the C-BT Project be operated: 1. To preserve the vested and future rights in irrigation. 2. To preserve the fishing and recreational facilities and the scenic attractions of Grand Lake, the Colorado River, and the Rocky Mountain National Park. 3. To preserve the present surface elevations of the water in Grand Lake and to prevent a variation in these elevations greater than their normal fluctuations. 4. To so conserve and make use of these waters for irrigation, power, industrial development, and other purposes, as to create the greatest benefits. 5. To maintain conditions of river flow for the benefit of domestic and sanitary uses of this water.[11] Even though the DEIS understates the impacts of the PA, it does demonstrate that the impacts of the PA would be inconsistent with the Senate Document 80 primary purposes. Pumping from the Windy Gap Project into Granby Reservoir and the subsequent conveyance of that water through the C-BT Project facilities has increased sediment and nutrient loading in Grand Lake, thus exacerbating the existing water quality problems at Grand Lake (nutrient loading, sediment, and impaired clarity). *See* WQCC Clarity Standard at Grand Lake, 5 CCR 1002-33, 33.44(Q), pg. 106; DEIS Section 3.8.2.4. The PA also would decrease water quality and increase water temperatures in the Colorado River below Windy Gap. *See* DEIS Section 3.8.2.4. The DEIS states the PA will reduce the frequency, duration, flow rate, and volume of spills from Granby Reservoir. This will result in less frequent flushing flows below Granby, which are necessary to maintain the stream channel and fishery in the Colorado River.[12] Even though the DEIS understates the adverse impacts of the PA, the impacts attributable to the PA and the cumulative actions are inconsistent with Reclamation's obligation to operate the C-BT Project in accordance with Senate Document 80.	
8	**VI. The DEIS fails to reconcile conflicts between the PA and the C-BT Project authorization, C-BT Project water rights, and other federal law.** NEPA regulations require federal agencies to identify and evaluate possible conflicts between the proposed action and federal, regional, State and local laws. *See 40 CFR §§ 1502.16(c)* [11] *See* Senate Document 80 at pg. 2. [12] *See* Table D-4, pg. 24, Modeled Colorado River below Lake Granby Flows during Spill Events, Water Resources Technical Report Appendices, Windy Gap Firming Project.	8. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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8	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 9 *and 1506.2(d)*. Where an inconsistency between the proposed action and State and local laws exists, the regulations require the agencies to describe "the extent to which the agency would reconcile its proposed action with the plan or law." *See 40 CFR § 1506.2(d)*.	
9	A. Storage of C-BT Water on the Front Range is Limited to Horsetooth and Carter Lake Reservoirs. Senate Document 80 and the Blue River Decree specify Horsetooth and Carter Lake Reservoirs as the C-BT Project's primary Front Range water supply storage facilities.[13] The proposed action would allow C-BT water to be stored in Chimney Hollow, a non-federal reservoir that is not authorized by Senate Document 80 or the Blue River Decree. The only reservoirs that are authorized for storage of C-BT water on the Front Range are Mary's Lake Reservoir, Lake Estes, Horsetooth Reservoir and Carter Lake Reservoir. *See* Senate Document 80 at 18-21; Blue River Decree, Findings of Fact and Conclusions of Law at ¶ 14; Blue River Decree, Final Decree at p. 2. The Blue River Decree also specifies Horsethooth and Carter Lake Reservoirs as the United States' point of delivery of C-BT water to the Northern Colorado Water Conservancy District. *See* Blue River Decree, Findings of Fact and Conclusions of Law at ¶ 14; Final Decree at p. 2. Storage of Project water in, and the delivery of that water by the United States at, an entirely new Front Range reservoir simply was not considered in Senate Document 80 or the Blue River Decree. The plan under the PA to pre-position C-BT Project water in a new reservoir would violate Senate Document 80 and the Blue River Decree because as the DEIS demonstrates, the PA would require fundamental changes in the manner and timing in which C-BT Project water is stored in Granby Reservoir, carried under the Continental Divide, stored on the Front Range, and delivered by the United States. Furthermore, Reclamation has a trustee obligation, created by Senate Document 80, to deliver C-BT Project water for *irrigation* purposes in northeastern Colorado.[14] Reclamation does not have a similar trustee obligation for the delivery of *municipal* Windy Gap Project water. Pre-positioning would put Reclamation's trustee obligation at substantial risk because Reclamation's control over the delivery of the irrigation water would be relinquished to a non-federal project and reservoir. Likewise, Reclamation's trustee obligation to the West Slope beneficiaries of Senate Document 80 would be breached because Reclamation could not guarantee that C-BT Project water would be delivered and used in compliance with Senate Document 80. [13] *See* Senate Document 80 at pgs. 18-21; Blue River Decree, Findings of Fact and Conclusions of Law and Final Judgment at ¶ 14, pgs. 27-28. Senate Document 80 also refers to Arkins Reservoir, which was not constructed. The storage capacity of Arkins Reservoir was essentially transferred to the enlarged Horsetooth Reservoir. Smaller Front Range reservoirs were also integrated into the Project as power generation facilities. [14] *See* Order of November 2, 1977, Consolidated Cases.	9. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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9	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 10 Because C-BT water is not decreed for storage in Chimney Hollow, *see Id.*, C-BT water may only be lawfully stored in Chimney Hollow if the United States first obtains a change of water right to add Chimney Hollow as a decreed storage facility for the C-BT Project. *See* C.R.S. § 37-92-103(5) (2008) (stating that a change of water right by definition includes "a change in the place of storage, . . . [and] a change from a fixed place of storage to alternate places of storage)." The proposed action would create an additional 90,000 acre feet of storage capacity for C-BT water on the Front Range, and would therefore allow the C-BT Project to yield more water than has historically been produced through the facilities authorized by Senate Document 80 and the Blue River Decree. The DEIS apparently relies on a personal communication between the Colorado State Engineer and Reclamation's previous Area Manager to support the PA concept of pre-positioning C-BT Project water in Chimney Hollow Reservoir. *See DEIS at 3-7 (citing January 17, 2007 personal communication between then State Engineer Simpson, H.D. and Fred Ore, DEIS at 5-12).* This reliance is simply wrong. Colorado water law clearly provides that the Colorado State Engineer does not have the authority to make this type of determination. Only the water court has such authority (or, in the case of the Blue River Decree, the federal District Court). *See e.g., Empire Lodge Homeowners' Ass'n,* 39 P.3d 1139, 1147 (Colo. 2001); *Simpson v. Bijou Irrigation Co.*, 69 P.3d 50 (Colo. 2003).[15] The DEIS further complicates matters by stating that to "prevent the C-BT Project from storing more water in Granby Reservoir than it could without prepositioning," C-BT would stop storing water at Granby Reservoir when "the total C-BT contents in Granby and Chimney Hollow combined reaches 539,568 AF, which is the physical capacity of Granby Reservoir." *See* DEIS at 3-24. This limitation presumably is intended to prevent an expansion of the C-BT Project water rights that would injure other water users. However, Colorado law requires such a term and condition to be contained within a change of water right decree. Far from a mere formality, the requirement of court approval for changes of water rights "provides and important protection for potentially affected decreed water rights holders." *Trail's End Ranch, LLC v. Colo. Div. of Water Resources*, 91 P.3d 1058, 1063 (Colo. 2002). "They are designed to provide notice and the opportunity for potentially affected decreed water rights holders to participate in proceedings in order to protect their rights." *Empire Lodge Homeowners' Ass'n,* 39 P.3d at 1158. For example, the DEIS states that flows below Granby Reservoir will be reduced under the PA by as much as 30%. This shows the significant changes caused by the PA in stream flows and C-BT Project operations that must be addressed in a formal change of water right. [15] Nor does the fact that C-BT Project water would be stored in a reservoir located in a different basin from where the water is diverted change the strict, mandatory requirement to obtain a change decree imposed by Colorado water law. *See e.g., Twin Lakes Reservoir and Canal Co. v. Aspen,* 596 P.2d 45 (Colo. 1977); *Cities of Aurora and Colorado Springs v. Division 5 Engineer*, 799 P. 2d 33 (Colo. 1990).	

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9	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 11 Reclamation may not substitute its authority or the administrative authority of the Colorado State Engineer for the authority of the appropriate court. Even if the proposed storage limitation is contained in a proper change of water right decree, Reclamation must ensure that it can be implemented from a practical standpoint. Reclamation must demonstrate that it can bypass the physical inflow to the C-BT Project at times when Granby Reservoir has achieved a "paper fill" (Granby Reservoir content, plus Chimney Hollow Reservoir content).	
10	In addition, the DEIS states that average annual C-BT Project diversions from East Slope sources would be reduced by 3,000 acre feet under the PA. *See* DEIS, Section 7.5.1. The reduction in the C-BT Project's East Slope diversions is inconsistent with the operation of the Project contemplated by Senate Document 80. It is also inconsistent with Reclamation's pledged intent to maximize the C-BT Project's East Slope diversions as outlined in Reclamation's 2001 letter to the River District regarding C-BT Project operations. *See* Letter from Maryanne C. Bach, Regional Director, Bureau of Reclamation, to R. Eric Kuhn, General Manager, Colorado River Water Conservation District, October 12, 2001, attached as Exhibit F hereto and incorporated into these comments by this reference.	10. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS
11	B. <u>The PA would illegally benefit the Windy Gap Project by releases of water from the Green Mountain Reservoir replacement pool</u>. Senate Document 80 specifies that the 52,000 acre-foot "replacement pool" in Green Mountain Reservoir shall be available to replace water in western Colorado "which would be usable there if not withheld or diverted by said project."[16] The C-BT Project is the only transmountain diversion project that the replacement pool is intended to benefit. The Project benefits by storing or diverting water that the Project would otherwise not be entitled to divert, in exchange for water released for the Green Mountain Reservoir replacement pool. The C-BT Project's exchange of water from Green Mountain Reservoir was confirmed in the Consolidated Cases in 1992 (and contemporaneously by Colorado's Division 5 Water Court).[17] The amount of C-BT Project water stored in Granby Reservoir by virtue of the exchange with releases from the replacement pool varies from year to year but, in almost all years, the C-BT Project diverts a substantial percentage of the Project yield pursuant to the Green Mountain Reservoir replacement functions. Under the PA, federal C-BT Project water stored in Granby Reservoir would be pre-positioned in a new non-federal reservoir on Colorado's Front Range for the sole purpose of enhancing the yield of the non-federal Windy Gap Project. The Windy Gap Project would therefore [16] *See* Senate Document 80, pg. 3, para. 5(a). [17] *See* Findings of Fact, Conclusions of Law and Judgment and Decree, Consolidated Cases, dated November 10, 1992; and Case No. 88CW382, Water Division 5, State of Colorado.	11. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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11	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 12 benefit from the release of water from Green Mountain Reservoir's replacement pool. The sequence by which the Windy Gap Project would benefit from the replacement pool may appear indirect; however, the result is clear: Pre-positioning would improve the Windy Gap Project yield by a trade of C-BT Project water that was previously stored in Granby Reservoir by virtue of releases from the Green Mountain Reservoir replacement pool. Senate Document 80, and, as described below, the Azure Agreement, both prohibit this result. The DEIS fails to identify or explain this significant conflict between the PA and applicable legal requirements.	
12	C. Pre-positioning violates the federal Reservoir Projects Act. The Reservoir Projects Act requires express Congressional approval for any modification of a Reclamation reservoir project that seriously affects the purposes for which the project was authorized, planned or constructed, or which involves a major operational change in the project.[18] It would be difficult to conjure a more clear-cut example of a "major operational change" than the proposal to move C-BT Project water from storage in the federally-owned Granby Reservoir, located in Grand County on the west-side of the Continental Divide, into a new non-federal reservoir located on Colorado's Front Range, particularly a reservoir that did not exist and was not even contemplated at the time the C-BT Project was authorized. When a proposed method of operating a Reclamation project is not clearly authorized by the project's authorizing legislation, the proper course is for Reclamation to allow Congress to address the issue. Under no circumstances does Reclamation have the discretion to make operating changes that are inconsistent with federal law. *See Southeastern Federal Power Customers v. Geren*, 514 F.3d 1316 (D.C. Cir. 2008); *See also* Order and Memorandum of Decision, dated September 25, 2008; *Lower Arkansas Valley Water Conservancy Dist. v. U.S., et al.*, F. Supp. 2d 1315, 1335 (D.Colo. 2008); "*Re Application of City and County of Denver*, 1989 WL 128576, at *5 (D. Colo. Oct 23, 1989) (noting that an application to change a 'water right to a different point of diversion, use and place of use' is '[b]y definition . . . a major operational change that may only be made upon congressional approval'"); and Opinion by Interior Solicitor Krulitz, re: Authority to Divert Flows from Hunter Creek Tributaries, Fryingpan-Arkansas Project, Colorado, 85 I.D. 326, 334-335 (June 28, 1978). The C-BT project was approved by Congress to bring water from the western slope to lands on the eastern slope greatly in need of "supplemental irrigation" using the facilities contemplated in Senate Document 80. The use of C-BT Project facilities for the delivery and storage of Windy Gap municipal supplies and C-BT water rights in a new 90,000 acre foot non-federal Chimney Hollow Reservoir constitutes a "major structural and operational change." Thus, congressional approval must be obtained for the PA. This is particularly true when, as is the case here, the PA [18] *See* 43 U.S.C.§ 390b(d).	12. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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12	would result in impacts to the C-BT Project that are inconsistent with Reclamation's obligations under Senate Document 80. *See* DEIS, Section 3.5.2.6 and discussion in ¶ V., above.	
13	D. The DEIS fails to adequately consider the impacts of the PA on segments of the Colorado River that are eligible for designation under the Wild and Scenic Rivers Act. The United States Bureau of Land Management has identified the reach of the Colorado River from Kremmling to No Name as eligible for designation and protection under the Wild and Scenic Rivers Act. These stream segments will be affected by the PA, so the DEIS must evaluate all actions within their control through the filter of the river's potential for designation. *See* Interagency Wild and Scenic Coordinating Council's technical report on "*The Wild and Scenic River Study Process*," pg. 29-30.	13. Evaluation and potential designation of portions of the Colorado River as Wild and Scenic is a separate and ongoing process being pursued by the BLM. Recreational values are among the outstanding remarkable values identified for segments of the river. This process is described in the Recreation section of the FEIS. While the effects to river recreation described in the FEIS could relate to the recreational values along the Colorado River, Wild and Scenic River status is a determination made by the BLM as part of the planning process, and is not part of the evaluation for the WGFP EIS. None of the WGFP alternatives would affect BLM recreation facilities within the upper Colorado River Special Recreation Management Area.
14	**VII. The DEIS fails to reconcile conflicts between the PA and the existing permits, water rights, and agreements related to the Windy Gap Project.** A. Absent a change of water rights decree or storage of Windy Gap water in Chimney Hollow would violate Colorado water law. Diversion of Windy Gap Project water rights is authorized pursuant to decrees issued by Colorado water court (Windy Gap decrees).[19] Storage clearly was contemplated (and decreed) as an integral component of the Windy Gap Project. The Windy Gap decrees authorize storage only in Windy Gap reservoir (in the amount of 1546.14 acre-feet) and in Jasper Reservoir (in the amount 11,292.58 acre feet). The use of any reservoir to enhance the yield of the Windy Gap Project, other than the decreed 11,000 acre-foot Jasper Reservoir, would involve a change in the place of storage of Windy Gap Project water. All WGFP action alternatives provide for storage of up to 93,000 acre-feet in reservoirs that are neither identified nor decreed in the Windy Gap decrees. The Windy Gap decrees authorize large direct flow rights; however, under Colorado water law, a direct flow water right cannot be stored, absent a decree authorizing such storage. *See e.g., New Loveland & Greeley Irr. & Land Co. v. Consolidated Home-Supply Ditch & Res. Co.*, 62 P. 366 (Colo. 1900); *Board of Arapahoe County Comm'rs v. Upper Gunnison River Water Conservancy Dist.*, 838 P. 2d 840, 852 (Colo. 1992). This is the case even if the same structure diverting the direct flow rights is used to fill the reservoir. *See New Loveland & Greeley Irr. & Land Co.* at 368. Moreover, the fact that water is diverted from the basin of origin for storage in a different basin does not change the need to obtain a decree authorizing such storage and including terms and conditions to prevent injury to the water rights in [19] *See* Civil Action No. 1768, Grand County District Court; W-4001, District Court, Water Division 5, and 80CW108, District Court, Water Division 5.	14. The Subdistrict is not proposing an expansion of the Windy Gap water rights. All diversions after the WGFP is constructed would be in accordance with the current water rights for the Windy Gap Project. Whether or not prepositioning requires a change of the Windy Gap water rights will be part of the evaluation discussed in the response to comment No.1. This evaluation will also include an analysis of the effects on C-BT Project water rights to assure that they are not adversely affected.

Com-ment	Letter #1062	Response
14	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 14 the basin of origin. *See e.g., Twin Lakes Reservoir and Canal Co. v. Aspen,* 596 P.2d 45 (Colo. 1977); *Cities of Aurora and Colorado Springs v. Division 5 Engineer*, 799 P. 2d 33 (Colo. 1990). The River District's detailed letter to then State Engineer Hal Simpson, dated October 27, 2006, regarding the requirement for a change of water right is attached as Exhibit G hereto and incorporated into these comments by this reference.	
15	B. The PA would violate the Azure Settlement Agreement, the original Windy Gap Record of Decision, and the Windy Gap Carriage Contract. The signatories to the Azure Agreement did not want to allow the Windy Gap Project to change the operation of the C-BT Project in any way, so paragraph 14 of the Azure Agreement requires that the Municipal Subdistrict "comply with all terms and provisions of Senate Document 80 in the design, construction, and operation of the Windy Gap Project." In other words, the Windy Gap Project was approved only on the assurance that Windy Gap operations would be "invisible" to the C-BT Project, and that Windy Gap would always take a back-seat to the operation of the C-BT Project. The PA would result in just the opposite. The pre-positioning proposal would require that C-BT Project operations be manipulated for the sole purpose of benefitting the Windy Gap Project. As discussed above, pre-positioning would violate the specific operational criteria set forth in Senate Document 80. It naturally follows that pre-positioning would violate a fundamental tenet of the Azure Agreement – the operation of Windy Gap in a manner consistent with Senate 80. For this reason, pre-positioning likewise runs afoul of the Final Environmental Statement and Record of Decision for the Windy Gap Project, and is inconsistent with the Windy Gap carriage contract. By its own terms, the carriage contract for Windy Gap was conditioned on completion of the Final Environmental Statement and execution of the Record of Decision.[20] The carriage contract, as amended, must therefore be construed in a manner consistent with the Azure Agreement and the Supplemental Azure Agreement. The Azure Agreement expressly provides that the "Subdistrict will not claim the use of Green Mountain Reservoir for replacement purposes for the Windy Gap Project operation."[21] As discussed above, pre-positioning would allow the Windy Gap Project to benefit from the release of water from Green Mountain Reservoir's "replacement" pool in direct contradiction of the Azure Agreement. The Municipal Subdistrict may argue that the PA is not inconsistent with the Azure Agreement because the proponents do not plan to divert more than the negotiated volumetric limits for the Windy Gap Project that are set forth in the Azure Agreement. However, the Azure [20] *See Supra*, Fn. 10. [21] *See* Azure Agreement at para. 18.	15. We are aware of no basis for the assertion that the Azure Agreement signatories intended that the Windy Gap Project should not "change the operation of the C-BT Project in any way." This is not mentioned in the Azure Agreement in Part IV, Purpose of Agreement, or in any other part of the agreement. Further, the DEIS, which is referred to in the 1980 Azure Agreement, states on page 1-1 that one of the purposes of the EIS is to address the fact that "Operation of the C-BT Project will be modified if water developed by the second project, Windy Gap, is transported through the C-BT system." The operation of the proposed WGFP, which has been evaluated in the EIS, was reviewed in detail by Reclamation to ensure that there would be no negative impacts on operation of the C-BT Project and does not appreciably change the volume of water diverted or delivered by the C-BT Project – and in this way, operation of the project is "invisible" to the C-BT Project. The proposed project operations were designed to make the most efficient use of facilities without expanding the yield of the C-BT project or allowing Windy Gap deliveries through the Adams Tunnel to violate the volumetric limits in the Azure Agreement. The proposed project is consistent with the Windy Gap Carriage Contract, in particular with paragraph 4(a) which states that "the introduction, storage, carriage and delivery of Subdistrict Water shall be subject to the need for the use of said [C-BT] Project Works for [C-BT] Project purposes…" Reclamation has proposed that modifications to the Carriage Contract will be made to allow for prepositioning. Reclamation's standard contracting process will be used to make any necessary modifications to the Windy Gap Carriage Contract. The Subdistrict is not claiming use of the Green Mountain Reservoir pool for replacement purposes for Windy Gap operation. Green Mountain will be used as authorized in SD80 for replacement of out-of-priority C-BT diversions. All Windy Gap diversions, including exchanges, will be in accordance with state water law and "strictly under the priority system" as agreed in Paragraph 13 of the 1980 Azure Agreement.

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15	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 15 Agreement and the Supplemental Azure Agreement were intended to cover the impacts of the defined project as a whole - not just the desired yield of the Project. The Azure Agreement provides that the Municipal Subdistrict may build and operate facilities necessary to accomplish the purposes of the agreement, within the conditions and limitations of the agreement.[22] This provision of the Azure Agreement was intended to clear the path toward construction of the identified project as defined in the agreement; it was not intended to give the Municipal Subdistrict free reign to implement an entirely new project that was not envisioned when the Azure Agreement was executed. The Windy Gap Project always has been considered to consist only of specific identified components. For example, each of the three water court decrees for the Windy Gap Project state that "Windy Gap is an integrated project consisting of Jasper Pump and Pipeline, Jasper Reservoir, Windy Gap Pump, Pipeline and Canal, and Windy Gap Reservoir."[23] In addition, the amended carriage contract states that "it is the purpose of this amendatory contract to: (1) recognize that the Windy Gap Project has been completed and that the Project Works have been utilized to introduce, store, carry, and deliver Subdistrict Water, as contemplated by the [original carriage contract]."[24] Construction of a new Front Range reservoir as a means to increase the project yield cannot reasonably be considered to be within the limitations and conditions of the Azure Agreement, the original or amended carriage contract, or the original Windy Gap Record of Decision, particularly when the operation of the new reservoir would require a change in the operation of the C-BT Project. The Water Conservancy Act, C.R.S. § 37-45-101, et seq. § 37-45-118(1)(b)(II) requires that any project that exports water from the natural basin of the Colorado River include mitigation to water users within the Colorado River basin to assure that present and prospective uses of water will not be impaired nor increased in costs to the West Slope water users. The Municipal Subdistrict, the River District and other West Slope parties entered into the Azure Agreement and Azure Supplement to provide the requisite compensation to the West Slope for the original Windy Gap Project. To the extent the impacts of the WGFP as analyzed in the DEIS are different than the impacts of the original Windy Gap Project, then the PA requires that appropriate mitigation measures be adopted in order to comply with the Water Conservancy Act. [22] *See* Azure Agreement at para. 37. [23] *See* Decrees, Civil Action No. 1768, District Court, Grand County, Colorado; Case Nos. W-4001, and 80CW108, Water Division 5, State of Colorado. [24] *See* Amendatory Contract No. 4-04-70-W0107, March 1, 1990, at Recital (c).	Operation of the proposed project is within the limitations of the 1980 Azure Agreement, the 1985 Supplement to the 1980 Agreement, and the Record of Decision. These agreements rely on the DEIS and FEIS to describe the project that is approved. Both the DEIS and FEIS discuss the use of approximately 90,000 acre-feet of storage on the East Slope, either as unused or leased storage (see DEIS, pg. IV-10) or "participant storage capabilities other than the C-BT Project (see FEIS, pg. IV-68). It has always been intended that storage on the East Slope would be a necessary part of the Windy Gap Project and the WGFP was proposed as a joint, regional project by the Participants to minimize the cost and environmental impacts of storage to realize the yield contemplated in the original Windy Gap Project. The proposed Project is consistent with the original agreements and underlying environmental reports including the 1980 Azure Agreement, 1985 Supplement to the 1980 Agreement, the Windy Gap Carriage Contract, and the original Windy Gap Record of Decision.

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16	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 16 **VIII. No Section 404 Permit should be issued for the PA because the DEIS fails to demonstrate that the PA is the least damaging practicable alternative.** As discussed in the DEIS, a Clean Water Act Section 404 discharge permit is required for the PA. The Clean Water Act provides that, except as provided under section 404(b)(2) of the federal Clean Water Act, no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. The Section 404(b) Guidelines establish standards in the determination of whether a proposed action is the least damaging practicable alternative. *See* 40 C.F.R. § 230.10. Section 230.12(3)(iv) of the 404(b) Guidelines provides that the proposed discharge fails to comply with the requirements of the Guidelines when there is insufficient information to make a reasonable judgment as to whether the proposed discharge will comply with the Guidelines. For the reasons set forth in these comments, the DEIS fails to provide sufficient information for the Corps of Engineers to make a reasonable judgment as to whether the PA complies with the Section 404(b) Guidelines. Therefore, a Section 404 Permit cannot be issued for the PA.	16. Although the Corps will extensively use the EIS to evaluate the PA compliance with the Guidelines, the determination to issue a 404 Permit is a decision made by the Corps independently of conclusions in the EIS.
17	**IX. Specific Comments.** A. DEIS, Sections 1.4.1 and 1.6.1: Please note that the Blue River Decree does not authorize storage of C-BT Project water in Boulder Reservoir prior to distribution to Project beneficiaries.	17. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
18	B. DEIS Sections 1.6.2.1, and 1.6.3: The demand for water from the WGFP is based on population projects that are outdated in light of the current recession and housing market collapse. Front Range water demands should be based on more updated population projections.	18. The WGFP is intended to meet the long-term water need of Project Participants to the year 2050, or build-out for some Participants. The recession has had an impact on growth in the past 2 years in many previously fast-growing areas, and the Participant service areas are no exception. However, recessions are short-term economic phenomena, similar to economic boom growth. Long-term growth projections are normalized to "smooth out" cyclical high and low-growth periods. The overall long-term need for additional water supply is not affected by short-term fluctuations in population, although the timing for needing the water may shift.
19	C. DEIS Section 1.10.1: Please explain what accounting changes for the C-BT Project are necessary to account for the proposed changes in storage and exchanges between the C-BT and Windy Gap Projects. Please also note that a change of the C-BT Project water rights is necessary to implement the PA.	19. See response to Comment No. 9. The required accounting would be based on requirements of the State Engineer, but would include, at a minimum, detailed accounting of the total amount of C-BT water contained in Granby and Chimney Hollow reservoirs to ensure the total does not exceed 539,758 acre-feet, which is the physical capacity of Granby Reservoir.
20	D. DEIS, Section 1.10.2.1: Please explain in detail the decision process that Reclamation will undertake to determine if the PA is consistent with Senate Document 80, including public involvement in that process.	20. See response to Comment No. 9.
21	E. DEIS, pg. 1-43, Left column box: Please note that a change of water right decree is necessary to authorize storage of C-BT Project water in a new non-federal reservoir prior to distribution of project water to its end-users.	21. See response to Comment No. 9.

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22	F. DEIS, Section 2.2.1: Please explain in detail how Reclamation will guarantee that C-BT Project storage and diversions will not be increased by implementation of the PA.	22. The exact nature of the working arrangement between the Subdistrict and Reclamation to implement the proposed project would be the subject of contract negotiations including conditions necessary to protect the C-BT Project and its commitments under its various authorities and water rights. These contract discussions will be open to public participation.
23	G. DEIS, Section 2.2.1: Please note that Windy Gap water is not decreed for long-term storage in Granby Reservoir.	23. See response to Comment No. 14.
24	H. DEIS, Section 2.4.2: Please note that storage of C-BT and Windy Gap water in Chimney Hollow Reservoir would require a decreed change of the C-BT and Windy Gap water rights.	24. See response to Comment Nos. 9 and 14.
25	I. DEIS, Section 3.5.1: The River District believes that the cumulative impacts on the environment extends downstream of Kremmling on the Colorado River. Please explain in more detail why the DEIS limits the stream reach analyzed.	25. The CDSS Model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line. However, the area considered for the analysis of hydrologic effects extends downstream of Kremmling to the gage below the confluence with the Blue River. The downstream extent of the study area was initially based on the location where average monthly flow changes would be less than 10% under direct effects. Average monthly Colorado River flow decreases less than 7 percent from existing conditions compared to the Proposed Action, and less than 3 percent annually. Resource impacts for hydrology, water quality, aquatics, boating, and other resources were evaluated below Kremmling to assess the validity of the downstream study area extent. Results of the resource evaluations indicate direct effects from the WGFP diminish substantially below Kremmling and would generally be minor. Therefore, extension of the study area further downstream is not warranted based on the results of the resource evaluations.
26	J. DEIS, Section 3.5.1: The fact that the stream reach affected by the PA includes the reach downstream of Granby Reservoir, but upstream of Windy Gap Reservoir, demonstrates that the PA will result in an unlawful change in the operations of the C-BT Project.	26. See response to Comment No. 9.
27	K. DEIS, Section 3.5.1.4: Please note that the Azure Agreement expressly defines the Windy Gap Project as "[a] water diversion storage and conveyance system commencing at a point on the Colorado River just below its confluence with the Fraser River and terminating at Lake Granby, which lake is part of the C-BT Project." Please note that the Colorado State Engineer has no legal authority to determine whether C-BT or Windy Gap water rights can be legally stored in Chimney Hollow Reservoir.	27. See response to Comment Nos. 9 and 14.
28	L. DEIS, pg. 3.16: The PA includes the storage of more C-BT water at a lower elevation and increases the total surface area of C-BT storage. Please explain in detail why C-BT Project evaporative losses will not be increased by the proposed storage of C-BT water in Chimney Hollow Reservoir.	28. See response to Comment No. 22.
29	M. DEIS, pg. 3.24: Please explain in more detail how the proposed storage limitation will guarantee no expansion of the C-BT Project diversions, including the appropriate numeric volumetric storage limit, whether Reclamation intends to adjudicate a change of the C-BT Project water rights to authorize storage in Chimney Hollow Reservoir, and how Reclamation will ensure that Granby Reservoir has the physical capability to measure and bypass to the Colorado River inflow to the C-BT Project that exceeds the proposed storage limitation.	29. See response to Comment No. 22.

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30	Mr. Will Tully Mr. Chandler J. Peter December 29, 2008 Page 18 N. DEIS, Section 3.25.1: The summary of proposed mitigation incorrectly assumes that the purpose and need of the WGFP overrides the operation and primary purposes of the C-BT Project as defined in Senate Document 80. Although the River District obviously has serious concerns with the DEIS, we remain committed to working with Reclamation, the Municipal Subdistrict, Grand County, the Middle Park Water Conservancy District and other interested entities on ways to improve the DEIS and discuss appropriate mitigation measures for the Windy Gap Firming Project. Sincerely, Eric Kuhn, General Manager Colorado River District Exhibits: A. Senate Document 80, dated 6/15/1937 B. Blue River Decrees C. Azure Agreement, dated 4/30/1980 D. Supplemental Azure Agreement, dated 3/29/1985 E. BBA Report, dated 12/23/2008 F. M. Bach letter to R. Kuhn dated 10/12/2001 G. P. Fleming letter to H. Simpson, dated 10/27/2006 cc: CRWCD Board of Directors Eric Wilkinson, General Manager, Northern Colorado Water Conservancy District Lurline Curran Underbrink, Grand County Manager Amelia S. Whiting, Trout Unlimited Lane Wyatt, NWCCOG	30. See responses to Comment Nos. 9 and 22.

Com-ment	Letter #5	Response
1 2	WGFP 5 **From:** Jimmy Arterberry [jimmya@cne-mail.com] **Sent:** Monday, September 22, 2008 1:53 PM **To:** wtully@gp.usbr.gov **Subject:** Windy Gap project Greetings Will: Per our telephone conversation a moment ago; under **3.20.4 Proposed Mitigation** in the DEIS, the Comanche Nation wishes to be advised in advance of any exhumations. In addition, we feel that it would be most appropriate for your office to contact our office immediately, upon the discovery of any remains. I would also like to request a more thorough document, regarding ***site #5LR435*** for our review and a follow up document, per our discussion on ***site #5LR42***. Thank you, Jimmy Arterberry, THPO Comanche Nation 584 Bingo Road Lawton, Oklahoma 73507 (580) 353-0404 (580) 353-0407 fax	1. Reclamation will notify the Comanche Nation if any human remains are found during excavations for construction of any of the reservoir facilities. 2. Reclamation will properly inform the Comanche Nation if there are any human discoveries during construction. Notifications will be in accordance with the Programmatic Agreement or MOU, whichever is appropriate.

Com-ment	Letter #904	Response
1	DEPARTMENT OF ENVIRONMENTAL HEALTH (970) 328-8755 FAX: (970) 328-8788 TOLL FREE: 800-225-6136 www.eagle-county.com  RAYMOND P. MERRY, REHS Director December 24, 2008 Will Tully, Bureau of Reclamation 11056 West County Rd. 18E Loveland, CO 80537 Re: Windy Gap Firming Project Draft Environmental Impact Statement (DEIS) Dear Mr. Tully: This letter provides Eagle County's comments on the Windy Gap Firming Project (WGFP) DEIS. The WGFP is a new water diversion project from the headwaters of the Colorado River. As you know, the Colorado River traverses Eagle County from Red Gorge (south and downstream of Kremmling) to the mouth of Glenwood Canyon (just west of Dotsero). The Colorado River main stem through Eagle County is a very important recreational resource used by local as well as visiting anglers, boaters and sight-seers. Because we value the recreational assets that our rivers offer, Eagle County hired a consultant to recommend an appropriate minimum in-stream flow for the reach of the Colorado River above Dotsero. We have filed an Instream Flow application with the Colorado Water Conservation Board in 2007 in an effort to protect flows in that area. Since the WGFP will impact river flows in Eagle County, we're concerned with the potential socioeconomic and environmental impacts realized in Eagle County. The socioeconomic evaluation that was presented in the DEIS is too narrow to accurately understand the economic and recreational impacts that the WGFP could cause in Grand County, so obviously there is no consideration given for socioeconomic impacts further down the Colorado River. The DEIS should also evaluate the cumulative effects and impacts of varying Colorado River flows further downstream, past Gore Canyon. By extending the modeling area to at least the Dotsero stream gage, cumulative effects of the operation of WGFP alternatives may take into consideration their effect on other factors including; continued Eagle County growth; Homestake diversions; a potential reservoir in the Wolcott area; depletions in the Eagle River; and how the Shoshone call comes in to play. OLD COURTHOUSE BUILDING, 551 Broadway, P.O. Box 179, Eagle, Colorado 81631-0179	1. The CDSS Model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line. Therefore, the active model area extends downstream of the Dotsero gage. However, the area considered for the analysis of hydrologic effects extends downstream to the USGS gage near Kremmling. The downstream extent of the study area was initially based on the location where direct effects on average monthly flow would be less than 10 percent . Hydrologic and other impacts diminish below the Blue River confluence because the preferred alternative would have less than a 7 percent impact on average monthly flows and less than a 3 percent impact on annual flows. The percent of flow reduction continues to diminish downstream with input from other tributaries. Resource evaluations were conducted to determine impacts at that location and assess the validity of the downstream study area extent. Results of the resource evaluations indicate direct effects due to the WGFP would be negligible to minor along the Colorado River near the Kremmling gage. Therefore, extension of the study area further downstream is not warranted. Regarding future potential projects downstream of Kremmling, see Section 2.8.2 of the FEIS and Section 8.1 of the Water Resources Technical Report (ERO and Boyle 2007) for a discussion of the criteria for identifying reasonably foreseeable actions. No measurable socioeconomic impacts are anticipated in Eagle County from anticipated increased WGFP diversions.

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2	December 24, 2008 Mr. Will Tully Re: WGFP DEIS Page 2 Furthermore, the methodologies used for flow modeling (and resulting impacts) may not be representative of what actually occurs and may be misleading due to the considerable variation in daily flows caused by reservoir operations. Because the appropriate modeling was not used in the DEIS, it's challenging to draw accurate conclusions and understand how the alternatives would impact water quality and aquatic life. We have concerns with how the WGFP would effect fisheries (especially due to low flows causing elevated temperatures), groundwater as well as riparian and wetland ecosystems.	2. Daily data were developed from monthly model output by disaggregating monthly values using historical gage records. Two sets of daily data were developed. Daily data were developed for the entire study period for the USGS gages on the Colorado River below Lake Granby, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and the gage on Willow Creek below Willow Creek Reservoir. See Section 4.2.4 in the Water Resources Technical Report for a detailed discussion of the process used to disaggregate monthly model output. A combination of daily and monthly hydrologic data was used for evaluations of resources dependent on flows or reservoir storage contents and levels. Daily data was used for evaluating effects to aquatics, water quality, stream morphology, recreation, and other resources. Table 3-4 of the FEIS indicates how hydrologic data was used in the evaluation of different resources..
3	The DEIS should take into consideration Grand County's Stream Management Plan. Eagle County is involved in a similar process of evaluating the flows needed to protect aquatic life, the environment, recreational values and water supply. Such a plan should not only be evaluated as part of the DEIS, it should be considered a component of the mitigation offered in the DEIS.	Because of its relatively junior water rights, the Windy Gap Project is not in priority and is precluded from diverting water from the Colorado River during droughts and low-flow periods with or without the alternatives assessed to provide firming storage. During low-flow periods, the Windy Gap Project would operate the same whether there is a firming project online or not. In these low-flow conditions, downstream Colorado River flows, whether they are viewed on a monthly or on a daily basis, are the same for existing conditions, for the No Action Alternative, and for each of the EIS alternatives. Because there are no hydrologic impacts due to the WGFP during low-flow and drought periods, a daily model is not needed to assess effects for these low-flow periods, and the disaggregation of monthly data to daily data is sufficient for the assessment of effects for non-drought conditions.
4	Lastly, other current information, such as the Colorado River Wild & Scenic studies being conducted by the Bureau of Land Management; climate change; and mountain pine beetle should be included in the DEIS.	3. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS is to evaluate and disclose the anticipated environmental effects of the proposed action and alternatives. Where adverse effects were identified, mitigation measures were identified to avoid or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target flow recommendations included in the SMP. However, mitigation measures included in the FEIS could help meet some of the goals of the SMP.
5	Eagle County echoes the concerns of Grand County; the Colorado River Water Conservation District; and the Northwest Colorado Council of Governments, Water Quality and Quantity Committee in that we believe the Windy Gap Firming Project is a new water diversion project requiring water rights, a Grand County 1041 permit, and mitigation. The impact analysis must develop information that is sufficient to determine the expected range of potential impacts including cumulative impacts. Inasmuch as we understand this is outside the scope of this DEIS, Eagle County entered into an Intergovernmental Agreement with Grand County and other headwater counties to comment on 1041 Permit applications as we would expect to see for this new municipal and industrial water project. Thank you for your consideration on behalf of Eagle County. Raymond P. Merry, REHS cc: Peter Runyon, Chair, Eagle County Board of County Commissioners Bryan Treu, Eagle County Attorney Keith Montag, Acting Eagle County Manager Grand County NWCCOG CRWCD	4. Evaluation and potential designation of portions of the Colorado River as Wild and Scenic is a separate and ongoing process being pursued by the BLM. Recreational values are among the outstanding remarkable values identified for segments of the river. This process is described in the Recreation section of the FEIS. While the effects to river recreation described in the FEIS could relate to

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		the recreational values along the Colorado River, the decision on Wild and Scenic River status is made by the BLM as part of their planning process and is not part of the evaluation for the WGFP EIS. The discussion of climate change in Section 2.8.2—Reasonably Foreseeable Actions was revised in the FEIS. This section includes updated information from recent publications on climatic change trends in the upper Colorado River basin and possible future changes. Potential environmental impacts from climate change are qualitatively evaluated as part of the cumulative effects evaluation discussed for applicable resources in Chapter 3 of the FEIS. Quantitative effects of pine bark beetle infestation on water resources are difficult to accurately predict because of the numerous variables involved and the assumptions that would be necessary. While the potential types of effects are acknowledged in Section 2.8.2.1 on Reasonably Foreseeable Action, no attempt was made to quantitatively evaluate the effects. Any pine beetle-related impacts would be similar for all alternatives. 5. Conditional Windy Gap water rights were established by decrees in 1980 and 1985 when the original Windy Gap Project was approved and made absolute in 1990, as described in Section 3.5.1.3 of the FEIS. There are ongoing discussions between Grand County and the Subdistrict on the need for a new or modification of the existing Windy Gap 1041 permit The EIS provides an estimation of the anticipated direct and cumulative effects of the proposed action based on available information. Addition discussion on this issue was added to Section 1.10.4 of the FEIS.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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Michael Ryan
Regional Director
Great Plains Director
Bureau of Reclamation
P.O. Box 36900
Billings, Montana 59107-6900

RE: Windy Gap Firming Project, Northern Colorado, Draft Environmental Impact Statement, CEQ #20080333

Dear Mr. Ryan:

The United States Environmental Protection Agency, Region 8 (EPA) has reviewed the U.S. Bureau of Reclamation's (BOR) Draft Environmental Impact Statement (DEIS) for the Windy Gap Firming Project. EPA offers these comments in accordance with the Agency's responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

The Windy Gap Firming Project (WGFP) is a proposed water supply project that is intended to provide more reliable water deliveries to Front Range and West Slope communities and industries. Due to physical limitations and constraints within the existing system, the current Windy Gap facilities have been and are currently unable to deliver the anticipated firm yield of water. Firm yield is typically defined as the amount of water that can be delivered on a reliable basis in all years and is typically determined by yield in dry years. The WGFP would add water storage and related facilities to the existing Windy Gap operations capable of delivering a firm yield of about 30,000 acre feet to Project Participants. Project Participants are all in the State of Colorado and include the City and County of Broomfield, Central Weld County Water District, the Town of Erie, City of Evans, City of Fort Lupton, City of Greeley, City of Lafayette, Little Thompson Water District, City of Longmont, City of Louisville, City of Loveland, Platte River Power Authority, and the Town Of Superior. In addition, the WGFP seeks to firm the water supply for the Middle Park Conservancy District which is a wholesale water supplier that allocates Windy Gap water to about 67 water providers in Grand and Summit Counties.

The DEIS analyzes five alternatives. Alternative 1, the no action alternative, assumes the continuation of existing operations and the enlargement of Ralph Price Reservoir by the City of Longmont. Alternative 2, development of a 90,000 acre –foot (AF) Chimney Hollow Reservoir on the East Slope of the Continental Divide (East Slope) along with the ability to store or

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1	preposition Colorado-Big Thompson (C-BT) water in the new reservoir, is the proposed action Alternative 3 is a combination of a 70,000 AF Chimney Hollow reservoir on the East Slope and Jasper East Reservoir (20,000 AF) on the West Slope of the Continental Divide (West Slope). Alternative 4 is a combination of a 70,000 AF Chimney Hollow Reservoir on the East Slope and a 20,000 AF Rockwell Reservoir on the West Slope. 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. All build alternatives include various pipeline and connection infrastructure as well. All build alternatives would require a similar amount of water diverted from the Colorado River. Windy Gap firm yield would increase from zero under existing conditions to about 30,000AF under the Action alternatives. EPA believes that this DEIS provides significant complex information. However, EPA has concerns with several aspects of the analysis, identified herein. In addition, based on EPA's review of the DEIS, EPA has significant objections to the WGFP's impacts to the Colorado River and to impaired water bodies. EPA also has concerns with the lack of analysis of conservation alternatives, the impacts to stream morphology of the Colorado River, and the water quality analysis in all of the water bodies potentially affected by this project. EPA's major comments on the DEIS are highlighted below, with attached detailed comments on these and additional concerns. In a separate letter to the United States Army Corps of Engineers (Corps), EPA is commenting on the Clean Water Act (CWA) 404 permit application, notice of which the Corps issued at the same time as the BOR issued the WGFP DEIS. EPA understands the Corps intends to rely on the BOR DEIS to ensure compliance with the CWA Section 404(b)(1) Guidelines requirements. A summary of EPA's CWA Section 404 permit application comments to the Corps is provided in this letter. ***Water Quality Standards Violations and Degradation*** EPA objects to the high potential for the WGFP to exacerbate existing water quality impairments in East Slope and West Slope water bodies. The DEIS predicts increased nutrient loading and consequent dissolved oxygen (D.O.) reductions to both East and West Slope rivers and reservoirs, several of which are already impaired. Carter Lake and Horsetooth Reservoir are on the State of Colorado's 2008 Clean Water Act Section 303(d) List of Water-Quality-Limited Segments as impaired for their Aquatic Life Use due to mercury (associated with nutrient enrichment and reduced oxygen environments). In addition, Horsetooth Reservoir is listed for D.O. impairment. Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake are all acknowledged as exceeding applicable water quality standards (WQS). Projected instream temperature increases are also a significant stressor to aquatic life, and a significant impact of the project. High temperature and nutrient levels (and consequent low D.O. levels) may lead to additional, more severe, or further impairments throughout these watersheds, which will be difficult to remedy through point source controls alone. Further, any worsening of these conditions increases the future required efforts and costs associated with remediation and restoration. The proposed action appears to have the potential to directly impact the assimilative capacity for high temperatures and nutrients in all of the downstream reservoirs and streams, 2	1. See responses to Comment Nos. 15, 16, and 18 – 32.

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1	exacerbating the difficult cleanup plans and wasteload allocations required in any forthcoming "Total Maximum Daily Loads" (TMDLs). The DEIS does not provide adequate mitigation measures for these water quality impacts. The EIS should identify appropriate measures to address these impacts. EPA strongly suggests that BOR include enforceable mitigation measures in its Record of Decision (ROD) to minimize pollutant loading in the basin, and maintain healthy aquatic ecosystems in these waterbodies. Suggested mitigation measures are included in the enclosed detailed comments.	2. The effect of a reduction in streamflow on the aquatic ecosystem was evaluated using several methods including analysis of changes to peak flows, changes to sediment transport, and impacts on physical habitat using River2D. As discussed in Section 3.7.2.3 on Stream Morphology, channel maintenance flows would remain sufficient to prevent aggradation or degradation of the channel. The projected flow regime with the WGFP would maintain the ecological functions of high flows for stream morphology and riparian conditions. Further, the sediment transport associated with these flows would be sufficient to transport sediment size classes important to benthic health and spawning habitat (see response to Comment Nos. 32 – 34).
2	***Impacts to the Colorado River*** According to the DEIS, the WGFP will result in flow reductions to the Colorado River. The DEIS predicts the majority of the reductions to occur between May and August. From WGFP alone, the Colorado River average annual flow below Granby Reservoir is estimated to decrease by 15% (9,000 AF) under the proposed action, and 12-13% for the other action alternatives (see DEIS p. ES-8). Below the Windy Gap diversion, the decrease to the Colorado River is 14% for the action alternatives. The WGFP with other projects analyzed in the cumulative effects portion of the DEIS are estimated to reduce the Colorado River annual flow, below the Windy Gap diversion, by 21% in a wet year (1% in a dry year) (see DEIS p. ES-8). EPA has significant concerns with the reduction in flows to the Colorado River below Windy Gap (as well as at other points on the Colorado River, listed on Table 3-16, DEIS p. 3-45) associated with the action alternatives and cumulative impacts. This significant reduction in flow would impact aquatic ecosystem functioning and could result in unforeseen and irreversible ecological impacts. Further, EPA is concerned that mitigation for adverse or unavoidable impacts associated with an altered flow regime is extremely difficult and perhaps infeasible to offset losses.	Impacts to physical habitat were evaluated using River2D and habitat suitability data from CDOW. Physical habitat is not predicted to change during most of the year, in particular in winter when habitat can be most limited. For this analysis, a threshold of a 15% change in habitat was used as the level above which impacts to aquatic habitat were considered to have effects (FEIS Section 3.9.2.2). This threshold level has been used by other investigators in Oregon and Washington (Instream Flow Council 2008 Short Course - What About Those High Flows? Environmental Flow Requirements for High Flows on Streams and Rivers, Moderator: Alan Wald, Washington Department of Fish & Wildlife, October 6, 2008). The rationale for selecting a threshold level is based on the error associated with field measurements and the error within the habitat models. Additional analysis was completed after the DEIS to provide information on the seasonal distribution of habitat effects associated with changes in Colorado River streamflow. This information is included in the Aquatic Resources section of the FEIS and a revised Aquatic Resource Technical Report (Miller Ecological 2010). The seasonal analysis shows that most of the time, the percent change to habitat is less than the 15% threshold level. Habitat changes greater than 15% occur primarily from June through August and vary by species and life stage. The largest change to habitat occurs between Windy Gap Reservoir and the Williams Fork for adult rainbow trout for periods of 2 to 4 weeks during the summer. A major assumption for application of PHABSIM is that habitat quantity controls or limits populations. Therefore the time of the year when the lowest amount of habitat is available is likely to be the limiting time period for the species being studied. In the Colorado River, winter is the time when the least amount of habitat is available to the fish species and likely controls the populations. WGFP does not divert in the winter and therefore does not change the habitat availability during the limiting time period. The changes to habitat during summer are substantial but still provide considerably more habitat than during winter. Also, the duration of the decrease is usually on the order of several weeks rather the months of low habitat as in fall and winter and therefore less likely to effect fish at the population level.
3	The climate change discussion contends that modeling the future impacts of climate change relating to the Colorado River is not a useful exercise since existing reports on the impacts of climate change on the Colorado River are uncertain and predict a variety of outcomes (see DEIS p. 2-44). EPA believes BOR should model the impacts of a scenario where flows are reduced substantially because of climate change. It is reasonably foreseeable that minimal stream flows will occur much more often. That, coupled with the 21% flow reduction discussed above, suggests severe impacts to portions of the Colorado River affected by this project.	
4	***Sustainability and Conservation*** The growth in the number of water projects in Colorado raises concerns over the sustainability of the current approach to water supply in the western United States. EPA believes that a higher priority should be placed on conservation, efficiency, and reuse, which could result in significant cost efficiencies and result in reduced environmental impacts and energy conservation. EPA believes that all of the communities taking part in the WGFP should be required, before any action alternative is considered, to take part in a number of conservation efforts that would boost the use of existing water supplies before building new infrastructure, 3	

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4	dams, and reservoirs. Most water providers appear to have implemented some water conservation measures, but many water saving measures appear underutilized and undeveloped or voluntary. ***Alternatives Evaluated*** The alternatives evaluated in the DEIS are limited to providing storage or firming for all or a portion of the existing junior water rights of the Windy Gap Firming Project for current and future municipal and industrial supply. EPA believes other alternatives may exist that are within a reasonable range of alternatives required by NEPA as well as less damaging practicable alternatives required by the CWA Section 404(b)(1) Guidelines to meet current or future water supply demand. These alternatives include, but are not limited to: 1) water conservation including active municipal, industrial (M&I) and agricultural efficiency measures; 2) acquisition of more senior water rights including water rights that have been available to the project proponent since the original Windy Gap Project; 3) agricultural transfers including permanent, interruptible, and rotating/fallowing transfers; 4) use of short-term agricultural leases for immediate temporary water supplies; 5) conjunctive use of surface water and ground water; and 6) M&I reuse, including water rights exchanges, non-potable reuse, and indirect potable reuse. EPA believes a conservation alternative, potentially in combination with other alternatives, would be in the best interests of the communities involved, from both a cost perspective and an environmental perspective.	The Subdistrict developed a Fish and Wildlife Mitigation Plan (FWMP) in accordance with the requirements of CRS 37-60-122.2 (FEIS Appendix E). The Colorado Wildlife Commission adopted the FWMP on June 9, 2011 and the Colorado Water Conservation Board (CWCB) adopted it on July 13, 2011. The FWMP is a component of the mitigation and environmental commitments described in the FEIS (Section 3.25).
5		3. See response to Comment No. 14. 4. See response to Comment No. 9. 5. See response to Comment No. 10.
6	***Compliance with the CWA Section 404(b)(1) Guidelines*** As noted above, EPA is providing comments on the CWA Section 404 permit application for the project in a separate letter to the Corps. EPA understands the Corps intends to use the BOR EIS to satisfy the requirements of the CWA Section 404(b)(1) Guidelines (Guidelines). The Corps must ensure compliance with the Guidelines prior to issuance of a CWA Section 404 permit for the discharge of dredged or fill material into waters of the United States. EPA disagrees with the narrow scope of the purpose and need statement in the DEIS for the issuance of a CWA Section 404 permit. EPA believes the basic (overall) project purpose is to provide a portion of the existing and future water supply demands of project participants. EPA believes the DEIS analysis is not in compliance with the Guidelines in accordance with 40 CFR 230.12 due to: 1) an improperly truncated review of alternatives (40 CFR 230.10(a)); 2) a lack of meaningful analysis of regarding potential violations of State water quality standards (40 CFR 230.10(b)); 3) a lack of meaningful analysis regarding the potential for the proposed action to cause or contribute to significant degradation of waters of the U.S, specifically in light of secondary and cumulative effects of this and other reasonably foreseeable water projects within the Upper Colorado River Basin (40 CFR 230.10(c)); and 4) insufficient mitigation (40 CFR 230.10(d)). In addition, based on the information currently available in the DEIS, EPA believes the proposed action will result in substantial and unacceptable impacts to the Upper Colorado River 4	6. See response to Comment No. 38.

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6	Basin, which EPA has determined is an aquatic resource of national importance (ARNI) in accordance with the CWA Section 404(q) and Part IV(3)(b) of the 1992 Memorandum of Agreement between EPA and the Department of the Army. In its letter to the Corps regarding the WGFP CWA Section 404 permit application, EPA is requesting the Corps reconsider the availability of potentially less environmentally damaging practicable alternatives. ***Mitigation*** The mitigation measures for water quality and stream morphology impacts are not sufficiently definitive and give no assurance that they will be required or will mitigate for the impacts expected (see DEIS p.3-292). EPA strongly suggests that enforceable mitigation measures for the water quality and stream morphology impacts of this project be included in the ROD. We have included examples of mitigation measures in our enclosed detailed comments. ***Rating*** Based on EPA's review as summarized in the above comments, and in accordance with our policies and procedures for reviews under NEPA and Section 309 of the Clean Air Act, EPA has rated the DEIS as "Environmental Objections - Insufficient Information" ("EO-2") (Because the DEIS does not identify a preferred alternative, EPA is rating all of the action alternatives EO-2). The "EO" rating signifies that EPA's review has identified significant environmental impacts that should be avoided in order to adequately protect the environment. The basis for the EO rating is EPA's belief that the action might violate or be inconsistent with achievement or maintenance of the Clean Water Act, e.g., impairment of already impaired waters without assurance of adequate mitigation of these impacts. The "2" rating signifies that the DEIS does not contain sufficient information for the EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. The water quality and stream morphology sections of the enclosed detailed comments discuss the information EPA believes is insufficient. EPA's comments, and this rating, apply to all the action alternatives carried through the analysis. A description of EPA's EIS rating system is enclosed. EPA remains committed to working with the BOR and the Corps on the issues described in this letter. We are committed to providing information in areas where we have requested additional information or additional mitigation, if you request. Please contact me at 303 312-6004, or Melanie Wasco of my staff, at 303 312-6540. Sincerely, Larry Svoboda Director, NEPA Program 5	
7		7. See response to Comment Nos. 32 and 39.

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	cc: Will Tully, U.S. Bureau of Reclamation Chandler Peter, U.S. Corps of Engineers 6 Printed on Recycled Paper	

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8	***EPA's Detailed Comments*** ***Windy Gap Firming Project (WGFP) DEIS*** **PURPOSE AND NEED** The DEIS states that the purpose and need of the proposed project is, in part, "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" (see DEIS p. 1-1). The Purpose and Need stated in the DEIS artificially constrains alternatives to those directly associated with the existing Windy Gap Project. EPA believes the project purpose is to meet a portion of the existing and future water supply demands of project participants and thus additional alternatives that address this purpose should be analyzed and included. In addition, detailed information on the demand shortfall that occurred after the original Windy Gap project was built is not included in the DEIS. The historical perspective of the potential cause of the demand reductions during the post project time period may be pertinent to present day circumstances. Because demand projections are difficult to estimate, EPA recommends that the Bureau of Reclamation (BOR) and the Army Corps of Engineers (Corps) request an independent review of the Participants' estimated and future water requirements and supply studies (i.e., alternatives) by the Corps' Institute for Water Resources, and utilize the most current economic and population growth indicators for future water demand and supply information in subsequent NEPA documentation. EPA notes that the recent downturn in the real estate market could slow growth significantly in all of the communities served by this water.	8. The DEIS acknowledges (DEIS p. 1-4, Section 1.3.1) that the Windy Gap Firming Project meets a portion of the participants' existing and future needs. The intent of the project is only to improve the yield from an existing project with existing water rights (DEIS p. 1-1). As the lead agency Reclamation retains the responsibility to ensure the relevancy and legitimacy of the purpose and need. Reclamation believes that the purpose and need satisfies both conditions. The original Windy Gap Project EIS (1981) estimated that about 56,000 AF of water could be diverted annually from the Colorado River and that about 48,000 AF could be delivered to the Participants after losses and delivery of 3,000 AF to the Middle Park Water Conservancy District. The current WGFP was initiated by some of the current Windy Gap owners because the original Windy Gap Project failed to deliver the anticipated yield from their water rights for the reasons discussed in more detail in Section 1.5 of the WGFP FEIS, including insufficient storage. To address the shortcomings of the Windy Gap Project, Participants determined that a cooperative project with shared storage in a new reservoir(s) would be the most efficient way to collectively firm about 30,000 AF of its Windy Gap water supply. Not all of the Windy Gap unit holders or all of the Windy Gap units owned by WGFP Participants are included in the proposed project, thus the WGFP is only seeking to firm about 30,000 AF of the 48,000 AF of the original expected yield. Windy Gap water represented a source of existing water available to the Participants, but requires additional infrastructure to provide reliable deliveries. Thus, the purpose of the WGFP was to fix a broken project, not to search for other sources of water. Many of the WGFP Participants have additional future water needs beyond what the WGFP would supply and will be individually investigating other sources of water to meet those needs. The WGFP is only functional as a collaborative effort on the part of Windy Gap Project unit holders.
9	**SUSTAINABILITY AND CONSERVATION** The growth in the number of water projects in Colorado raises concerns over the sustainability of the current approach to water supply in the western United States. EPA believes that a higher priority should be placed on conservation, efficiency, and reuse, which could result in significant cost efficiencies, reduced environmental impacts, and increased energy conservation. EPA believes all of the communities taking part in the WGFP should be required, before any action alternative is considered, to take part in a number of conservation efforts that would boost the use of existing water supplies before building new infrastructure, dams, and reservoirs. Most water providers appear to have implemented some water conservation measures, but many water saving measures appear underutilized and undeveloped, or voluntary. The BOR should evaluate different levels of conservation practices available to the Participants and require the communities participating in this project demonstrate that they have implemented a variety of sustainable water conservation measures, including but not limited to: water metering, water leak detection, conservation pricing, landscape requirements, water reuse, consumer education, golf course water conservation, emergency water use restrictions. 7	Future water demands were addressed in the EIS (DEIS p. 1-18, 1-19, Table 1-4 and Figure 1-9) as a means for Reclamation to confirm the need for the project (DEIS p. 1-10). However, the project is designed to improve an existing water supply, rather than develop other water sources. In order to assess the ability of the WGFP to provide water on a consistent basis (firm yield), an analysis was needed to estimate the amount of water that could be reliably delivered (DEIS p. 3-51, Tables 3-20 and 3-21). The yield estimate for Windy Gap water provides Front Range communities more specific information that may be useful in their planning. Comprehensive plans prepared by the project participants are not the focus of this EIS. The original Windy Gap Project was built to meet a portion of the then-current water demand and projected future water needs for the participants at that time. Windy Gap water deliveries have varied over the years due to available supplies, changes in Windy Gap unit ownership, and varying

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		demand. The DEIS and the WGFP Purpose and Need Report (ERO and Harvey Economics 2005) evaluated the projected long-term water needs for the Participants. The results of that analysis indicated all of the Participants have a need for additional water to meet future demands. While the timing of Participant future water needs may vary from projections because of changing economic conditions or other variables, all available evidence, including recent reports from the State Water Supply Initiative, indicates that water demand for the WGFP Participants, as well other water users along the Colorado Front Range, will continue to increase in the future as the population grows. Reclamation collaborated with the Corps of Engineers (Corps) in the development and review of the WGFP analysis of purpose and need. Neither Reclamation nor the Corps believes additional reviews or studies are necessary to evaluate future water requirements or supplies. 9. The WGFP Participants have committed to maintaining a state-approved water conservation plan in accordance with the Water Conservation Act of 2004 (Colorado House Bill 04-1365). Seven of the WGFP Participants have CWCB-approved plans, and other municipal water providers and water districts have committed to acquiring a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with Subdistrict WGFP Participants for use of C-BT facilities.

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9	The BOR could suggest a per capita use percentage reduction for each community as a goal, and that number could depend on the water use percentage of industry in the community, and the current status of the community's per capita usage. While EPA recognizes that the water use per capita for Windy Gap participants dropped 37% between 1988 and 2003, EPA believes the participants can go further in cutting the water demand (see DEIS p. 1-15).	
10	**ALTERNATIVES** NEPA regulations require an evaluation of a reasonable range of alternatives in a manner that provides a clear and consistent comparison (40 CFR 1502.1, 40 CFR 1502.14(b)). The CWA Section 404(b)(1) Guidelines require the Corps to issue a CWA Section 404 permit for the discharge of dredged or fill material into waters of the United States only for the least environmentally damaging practicable alternative (LEDPA) (40 CFR Part 230). Alternatives that are reasonable and practicable may include alternatives that are outside the capability of the applicant and are feasible from a technical and economic standpoint. EPA does not believe the DEIS provides an alternatives analysis that complies with either the Council on Environmental Quality (CEQ) regulations at 40 CFR 1502.14 or the CWA Section 404(b)(1) Guidelines. The alternatives evaluated in the DEIS are limited to providing storage or firming for all or a portion of the existing junior water rights of the Windy Gap Firming Project for current and future municipal and industrial supply. The DEIS described the process of evaluating a broad range of alternatives including structural and nonstructural water supply alternatives. However, according to the DEIS, the screening process resulted in the elimination of the majority of alternatives in order to comply with the Guidelines. Despite the screening criteria used in the DEIS, EPA continues to believe other reasonable and less damaging practicable alternatives may be available to meet current or future demand. Such alternatives include, but are not limited to: 1) water conservation including active municipal, industrial (M&I) and agricultural efficiency measures; 2) acquisition of more senior water rights including water rights that have been available to the project proponent since the original Windy Gap project; 3) agricultural transfers including permanent, interruptible, and rotating/fallowing transfers; 4) use of short-term agricultural leases for immediate temporary water supplies; 5) conjunctive use of surface water and ground water; and 6) M&I reuse, including water rights exchanges, non-potable reuse, and indirect potable reuse. These water supply alternatives are detailed in the State of Colorado Statewide Water Supply Initiative, Phase II Report (SWSI) CDM 2004; http://cwcb.state.co.us/IWMD/AlternativeAgriculturalWaterTransfersGrantProgram/). EPA understands the State of Colorado considers these alternatives viable to address Colorado's water supply needs. The DEIS states that each participant has developed a unique portfolio of water supply sources to meet existing and anticipated water needs and that a diversity of water supply sources is generally preferred to ensure reliable deliveries (see DEIS p. 1-11). EPA believes the alternatives identified above may provide comparably diverse water supply opportunities, or potentially more reliable and efficient options for water supply for the Participants than the 8	10. WGFP alternatives were developed to meet the project purpose and need, as described in the response to Comment No. 8. Reclamation considered 170 different alternatives using NEPA and Section 404(b)(1) guidelines in cooperation with the Corps, to narrow down the range of reasonable alternatives for meeting the project purpose and need (WGFP Alternative Analysis, ERO 2005). Screening criteria based on 404(b)(1) guidelines were established to help select the least environmentally damaging practicable alternatives (LEDPA) for consideration in the DEIS. As indicated in the response to Comment No. 9, all of the WGFP Participants have or will be implementing state-approved water conservation plans prior to the delivery of any WGFP water. While conservation is a key component of meeting existing and future water needs for all of the Participants, firming delivery from existing sources of water supply, such as the WGFP also is needed to meet projected demands. Other EPA-suggested alternatives may provide alternate sources of water, but would not meet the project purpose and need. WGFP Participants could individually consider other sources of water supply to meet water needs not satisfied by the WGFP and planned conservation measures.

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10	proposed project and should be critically explored. An alternative that is aggressive on conservation (alone or in combination with other alternatives identified above) will not only disclose valuable information for the decisionmakers and the public to compare the magnitude of environmental effects of the alternatives, but will also reduce costs and dramatically reduce environmental impacts and energy use.	11. The FEIS provides a comparison of the alternatives in relation to existing conditions. Information on the No Action alternative and comparisons with the No Action alternative also are given for some resources according to Bureau of Reclamation NEPA Handbook guidance. The mitigation measures included in the FEIS were developed based on a comparison of the Preferred Alternative with existing conditions.
11	**USE OF NO ACTION ALTERNATIVE FOR BASELINE CONDITIONS:** The BOR compares impacts of the action alternatives to the no action alternative, rather than to existing baseline conditions. The DEIS, in most cases, contains sufficient information to enable the reader to compare action alternatives to existing conditions, which EPA believes is more consistent with the intent of NEPA. In the case of stream temperature impacts, the DEIS does not indicate whether the projected percent temperature increase is related to the no action or existing conditions. We believe, when specifying mitigation measures, the BOR should be comparing impacts to existing conditions.	The text in the water quality section was revised to more clearly indicate that the increase in stream temperature is a change from existing conditions.
12	**INDIRECT IMPACTS** The DEIS fails to evaluate "indirect" impacts (caused by the action and later in time or farther removed in distance) to wetlands and other waters resulting from reasonably foreseeable growth inducing effects from the proposed action. Firming of Windy Gap water will likely provide more reliable water supply to both the Front Range communities and the West Slope Participants. This proposed water supply will affect future development growth rates, population density and changes in land use patterns. These potentially significant indirect effects from land development and construction should be evaluated and disclosed to determine the potential adverse impacts to wetlands and other waters. An analysis similar to the one used in the Northern Integrated Supply Project DEIS, which identified the wetland losses as cumulative effects but that EPA believes is a combination of indirect and cumulative impacts, should be used to calculate indirect impacts to wetland acreages resulting from construction and development in the broader study area (and not just related to development near the proposed reservoirs). In addition, it should not be assumed that Clean Water Act Section 404 permits including mitigation will be required for reasonably foreseeable development impacts because certain wetlands and other waterbodies in Colorado do not require permits due to their locations on the landscape.	12. As discussed in Section 2.8.3, Actions Not Considered Reasonably Foreseeable, growth-related impacts were not evaluated in the FEIS because population growth in the communities served by the WGFP is expected to occur regardless of the decision on whether to implement the project. While regional growth and development may affect wetland resources in the future, much as it has in the past, approval of the WGFP would not result in more wetland impacts than are likely to occur without the project. Any growth related impacts to wetlands would be similar for all alternatives. The only incremental difference in cumulative effects to wetlands between the alternatives would be the direct effects related to project facilities.
13	**CUMULATIVE IMPACTS** According to the DEIS, the WGFP will result in flow reductions to the Colorado River, the majority of which are projected to occur between May and August. From this project alone, the Colorado River average annual flow below Granby Reservoir is estimated to decrease by 15% (9,000 AF) from existing conditions under the proposed action, and 12-13% for the other action alternatives. Below the Windy Gap diversion, the decrease to the Colorado River is 14% for the action alternatives. Other projects analyzed in the cumulative effects portion of the DEIS, in combination with Windy Gap, are estimated, as an annual average, to reduce the Colorado 9	13. The cumulative effects analyses for aquatic resources, water quality, and stream morphology considered the accumulated change to the Colorado River. At EPA's request Table 3-20 was added to the FEIS to better illustrate the cumulative effect to flows in the Colorado River from past, present and reasonably foreseeable actions. As discussed in more detail in the response to Comment Nos. 32 to 35, hydrologic processes that maintain the channel and that provide flushing flows for sediment transport would remain intact under the proposed action. A recent evaluation was completed of available streamflow versus shear stress data at the Colorado River Breeze station, a riffle site located downstream of the confluence with the Williams Fork (ERC 2009). This analysis provides a generalized relationship between sediment mobilization and streamflows in the Colorado River. The results showed that fine sediments (sand and silt, 2 mm or finer) would be mobilized at this riffle site at flows of less than 50 cfs. Fine gravel (8 mm) would require a flow of 200 cfs, medium gravel (16 mm) would require a flow of about 400 cfs, and coarse gravel (32 mm) would require a flow of about 850 cfs to be mobilized. In Ward's 1981 study, his results at four locations from below Windy Gap to above the Blue River showed that fine sediments (sand and silt, 2 mm or finer) would be mobilized at discharges ranging from 140 to 240 cfs (depending on location, with the highest flow at the lowest site above the Blue River). Sediment transport up to small gravels is important for scouring accumulated fines and algae from the stream bed. Sediment up through very

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		coarse gravel, which includes spawning substrates for trout and interstitial spaces for macroinvertebrates. Flows within the range of 510 to 1,240 cfs, more than adequate to mobilize up to coarse gravel, would continue to occur during nearly 50 percent of all years under the proposed action with cumulative effects. Under No Action and cumulative effects, flows of 510 to 1,240 cfs would occur during about one third of all years. While Colorado River streamflows have changed substantially since the first half of the 20th century, sufficient channel maintenance flows and peak flows would occur under the WGFP to maintain aquatic habitat. Current healthy fish populations ranging from about 4,000 to 11,000 fish per mile attest to the existing quality of the Colorado River. The majority of the impacts to aquatic habitat are of a magnitude that is not a limiting factor for fish survival. Mitigation measures in the Fish and Wildlife Mitigation Plan developed by the Subdistrict (FEIS Appendix E) would reduce potential impacts to trout from elevated stream temperatures in the summer. See response to Comment No. 15. The FWMP also includes an increase in flushing flows to 600 cfs under certain conditions. Nutrient mitigation measures (FEIS Section 3.8.4) would offset the nutrient loadings from Fraser River WWTPs and nonpoint agricultural sources in the Willow Creek basin, a tributary to the Colorado River and improve water quality in these streams year-round. Results of the detailed modeling of hydrologic conditions, water quality, and aquatic habitat in the Colorado River indicate that the WGFP (along with existing bypass flows and flushing requirements and new mitigation measures developed to address stream temperature, nutrients) would not lead to threshold level impacts that threaten the ecology of the river. Existing minimum flow requirements that maintain base flows during summer would not change and would protect primary and secondary productivity. These flows support the trout and other fish populations below Windy Gap Reservoir, and are expected to continue with the proposed action. The cumulative impact analysis shows that projects other than the proposed action would cause changes greater than the 15% threshold in dry water years during the summer. Windy Gap does not divert in dry years so the changes in these years are due to projects other than WGFP. The lowest flows and the lowest habitat still occur during late fall and winter for several months in all flow years. Therefore, the reduction in habitat during summer, while it is substantial, is likely not the limiting habitat factor for trout. In addition, the sediment transport analysis demonstrates that the channel would be maintained with the flows that occur for cumulative impacts. The cumulative impacts from those other reasonably foreseeable projects exceed the threshold of significance at times when WGFP has no change on habitat or river flow. Also note that the hydrologic impacts of the Moffat Project in the WGFP analysis of cumulative effects are overstated because Denver's Blue River demands would be 30,000 AF less than used in the hydrologic modeling for the WGFP. Denver Water changed their Blue River demands after the hydrologic modeling for the WGFP was completed.

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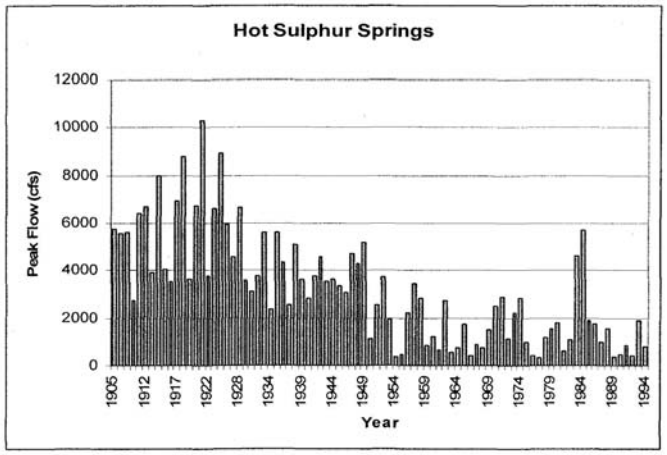
13	River flow below the Windy Gap diversion by 21% in a wet year (1% in a dry year). EPA has significant concerns with the reduction in flows to the Colorado River below Windy Gap (as well as at other points on the Colorado River, listed on Table 3-16, DEIS p. 3-45) associated with the action alternatives and cumulative impacts. It is important to note that the DEIS states that average annual stream flow in the Colorado River at Hot Sulphur Springs declined from 486,209 AF in 1905-1949 to 175,264 AF in 1950-1994 (see DEIS p. 3-7), a decline in average annual stream flow of 64% due, in part, to diversions from Moffat, Colorado Big Thompson and Windy Gap diversions. Thus, this project, in combination with other reasonably foreseeable actions, will remove an additional 21% of the remaining 36% of the annual flow hydrograph, leading to further impacts to the river from manmade diversions. This project's impacts to the Colorado River, coupled with other reasonably foreseeable actions, could be severe, with irreparable harm done. EPA has objections to the cumulative impacts to the Colorado River. We believe much more attention should be given to what these projects are doing in total to the Colorado River. EPA recognizes that the existing peak flow conditions on the Colorado River are very different than historical conditions (Figure 1, Table 1), and is concerned that further reductions to the existing hydrograph will reduce the resiliency of the system and place the system at much higher risk of threshold (non-linear) changes to the aquatic community.  Figure 1: Instantaneous peak flows from the USGS gage at Hot Sulphur Springs from 1904-1994. The study period for WGFP hydrologic analyses began in 1950. 10	The decreases that are shown for dissolved oxygen are small and the total concentration remains above the state standard of 6.0 mg/l. The change in thermal regime should not impact the macroinvertebrate community since the tolerance of many of the macroinvertebrates is similar to the temperature tolerance of trout. Seasonal water temperature variations that follow air temperature would remain similar with the WGFP, which would allow macroinvertebrates that rely on water temperature cues to complete their life cycles. The non-game fish species would also remain protected by the Fish and Wildlife Mitigation Plan. In total, there is no indication that the river is at a critical threshold based on the data gathered for the existing conditions and the analysis of projected changes.

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13	Table 1: Instantaneous peak flow return intervals from USGS gage at Hot Sulphur Springs for 1904-1949 and 1950-1994 calculated by EPA using a Log-Pearson Type III Distribution. Flow is displayed in cubic feet per second (cfs). Return Interval (years) | 1905-1949 Flow (cfs[1]) | 1950-1994 Flow (cfs) 2 | 4,629 | 1,232 5 | 6,302 | 2,297 10 | 7,440 | 3,176 25 | 8,909 | 4,483 50 | 10,026 | 5,598 100 | 11,166 | 6,831 200 | 12,334 | 8,199 Throughout the DEIS there are references to the project's direct and indirect impacts to stream morphology, water quality and aquatic life as minor, and that cumulative effects are similar to the direct effects. EPA believes that when the impacts of this project are analyzed in combination with past and reasonably foreseeable actions, the impacts reach a level of significance that is objectionable. EPA believes that it is likely that the proposed project will have serious adverse effects on aquatic ecosystem diversity, productivity and stability not analyzed sufficiently in the DEIS. EPA is concerned that the cumulative effects analysis did not consider the potential for threshold (non-linear) responses within the Colorado River. The impacts of the project are exacerbating current hydrologic conditions associated with the operation of diversion within the Upper Colorado Basin. Incremental or piecemeal movement towards a reduced hydrograph with altered temporal variation increases the likelihood for the system to approach a threshold point beyond which the system may exhibit dramatic changes, potentially including loss of native fish species. The EIS should assess the long-term cumulative impacts and uncertainty in their predicted responses. An additional component of a cumulative impacts analysis should address the potential for threshold responses. The DEIS acknowledges the importance of bankfull and channel maintenance flows in the DEIS. EPA suggests that BOR address a minimum mitigation that is equivalent to that flow volume (e.g., 1,240 cfs for bankfull discharge) instead of the 450 cfs of the existing mitigation.	
14	The climate change discussion contends that modeling the future impacts of climate change relating to the Colorado River is not a useful exercise since existing reports on the impacts of climate change on the Colorado River are uncertain and predict a variety of outcomes. (see DEIS p. 2-44) However, EPA believes BOR should model the impacts of a scenario where flows are reduced substantially because of climate change. It is reasonably foreseeable that minimal stream flows will occur much more often than occurs now. That, coupled with the 21% 11	14. The discussion of climate change in Section 2.8.2, Reasonably Foreseeable Actions was revised in the FEIS. This section includes updated information from recent publications on climatic change trends in the upper Colorado River basin and possible future changes. Potential environmental impacts from climate change are qualitatively evaluated as part of the cumulative effects evaluation discussed for applicable resources in Chapter 3 of the FEIS.

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14	reduction discussed above, suggest severe impacts to the portions of the Colorado River impacted by this project.	15. The Subdistrict would develop a proposed nutrient reduction mitigation plan for Reclamation and Corps approval, as described in Section 3.8.4 of the FEIS.. The plan includes point source nutrient reductions from WWTP discharges in the Fraser River and nonpoint source nutrient reductions from agricultural land in the Willow Creek watershed. Other nutrient reduction measures would be implemented as necessary to meet the requirement to provide a documented nutrient reduction credit factor of 1:1 to satisfy Reclamation and Corps mitigation requirements. These measures would improve the quality of the Fraser River, Willow Creek, and the Colorado River year-round and also would benefit the Three Lakes, Horsetooth Reservoir, and Carter Lake by reducing nutrient loading from WGFP pumping.
15	**WATER QUALITY** In general, increased nutrient loading and consequent dissolved oxygen (D.O.) reductions to both East and West Slope rivers and reservoirs are the most significant water quality impacts of the proposed project. Projected instream temperature increases are also a significant stressor to aquatic life, and a significant impact of the project. High temperature and nutrient levels, and consequent low D.O. levels, are impacts disclosed in the DEIS. These water quality impacts may lead to additional or further impairments in these watersheds, which could be difficult and costly to remedy, and probably not practical to remediate through point source controls alone. The mitigation measures for temperature and nutrient reductions and controls are not specific and must be designed to minimize pollutant loading in the basin commensurate with the projected increases. Specific nonpoint source mitigation agreements should be included in the Record of Decision along with quantifiable reduction targets. The following comments contain specific water quality impacts for individual water bodies affected by the WGFP. In addition, specific impacts to waste water treatment plants and other point sources affected by this project are included, as well as suggestions for mitigation.	Additional stream temperature and climatic data became available following the initial analysis of temperature impacts for the DEIS. Subsequently, a dynamic temperature model (Hydros 2011) was developed with input and review by EPA to simulate weekly average temperatures and daily maximums for the Colorado River between Windy Gap Reservoir and the Williams Fork for existing conditions and the alternatives. The model simulations were conducted for the months of June through September using the very warm observed climatic data from 2007. Results of this analysis indicated that increased exceedance of the chronic MWAT and acute DM standards would occur in July and August of some years. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days, when simulated with the very warm 2007 meteorology. Mitigation for temperature impacts is included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict as described in response to Comment No. 13. See Section 3.8.4.2 for further discussion of temperature mitigation. Temperature mitigation measures would reduce the potential for exceedance of the temperature standards and impacts to fish associated with operation of the WGFP. Other factors including low precipitation, diversions by others, and WWTP discharges also contribute to elevated stream temperatures, whether the WGFP is pumping or not.
16	Impaired Waterbodies Potentially Impacted by the WGFP The action alternatives would impact multiple waterbodies in both East and West Slope watersheds. Many of these waterbodies are recognized as impaired and are on the State of Colorado's 2008 Clean Water Act Section 303(d) List of Water-Quality-Limited Segments Requiring TMDLs (the 303(d) List). Although Table 3-41 shows the 303(d) listing status for major lakes and reservoirs potentially impacted by the project, the DEIS does not summarize the projected impacts from this project on those impaired waters. Carter Lake and Horsetooth Reservoir are listed as impaired for their Aquatic Life Use due to mercury (associated with nutrient enrichment and reduced oxygen environments). In addition, Horsetooth Reservoir is impaired for D.O.. Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake are all acknowledged as exceeding applicable water quality standards (WQS). EPA objects to the high potential for the WGFP to exacerbate existing water quality impairments in these basins. High temperature and nutrient levels (and consequent low D.O. levels) may lead to additional, more severe, or further impairments potentially widespread throughout these watersheds, which could be difficult to remedy through point source controls alone. Further, any worsening of these conditions increases the future required efforts and costs associated with remediation and restoration. The proposed action appears to have the potential to directly impact the assimilative capacity for high temperatures and nutrients in all of the downstream reservoirs and streams, exacerbating the difficult cleanup plans and wasteload allocations required in any forthcoming "Total Maximum Daily Loads" (TMDLs). 12	16. It is true that the action alternatives would impact multiple water bodies in both East and West Slope watersheds. Of the five reservoirs and one lake analyzed in the DEIS, two are currently recognized as impaired and are on the State's 2008 303(d) List – Horsetooth Reservoir (dissolved oxygen (DO) and mercury – fish consumption advisory) and Carter Lake (mercury – fish consumption advisory). A summary of the 303(d) status of reservoirs is noted in Table 3-50. With respect to DO concentrations in Horsetooth Reservoir, it is difficult to directly determine the impacts from the action alternatives due to the model used

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17	EPA strongly suggests that BOR include in its ROD enforceable mitigation measures for temperature and nutrient reductions and controls designed to minimize pollutant loading in the basin, as well as controls to decrease chlorophyll a and undesirable algal growth, and maintain requisite D.O. for healthy aquatic ecosystems in these waterbodies. Specific enforceable nonpoint source mitigation agreements should be included in the ROD along with quantifiable reduction targets for each mitigation activity. EPA suggests that an initial 2 to 1 ratio of expected reductions to projected impacts be committed to, along with specified monitoring requirements to verify actual reductions. This allows the proponents to try multiple cost-effective remediation practices simultaneously, while monitoring the success of each activity. Ultimately, the proponents may choose whatever cost-effective remediation means provide mitigation commensurate with the projected impacts. Beginning with a 2:1 ratio of estimated reduction to credit for mitigation ensures that water quality standards violations will be minimized as the mitigation selection process is finalized. Monitoring of the mitigation measures success may be used to select the most preferable methods; to verify actual reductions occur; and to establish when sufficient mitigation has occurred. Below are specific comments for some of the individual water bodies affected by this project, and examples of mitigation measures EPA believes should be implemented.	for this reservoir. As described in the DEIS, the BATHTUB model does not provide a direct prediction of DO concentration. However, the relative magnitudes of hypolimnetic oxygen demand (HOD) and metalimnetic oxygen demand (MOD) predictions were used to compare existing conditions and the alternatives to provide insight on the relative potential impact on the DO concentration in the metalimnion or hypolimnion. Larger HOD or MOD values, as compared to existing conditions, indicate a potential for lower DO in the reservoir. Quantification of the likelihood of the DO concentration to be below the current water quality standards for an alternative is not possible based on the BATHTUB model predictions. It was determined that all alternatives (including the No Action alternative) may slightly reduce DO concentrations in both the metalimnion and hypolimnion over existing conditions. As described in the response to Comment No. 15, proposed mitigation measures to offset nutrient loadings in the Three Lakes system from WGFP pumping would benefit Horsetooth Reservoir and Carter Lake on the East Slope. As a result of these measures, impacts to water quality, including DO in water bodies on the East Slope should be negligible. The discussion on the limitations of the BATHTUB model was expanded in the FEIS and Tables 3-86 and 3-88 were updated to include additional information on the range of MOD and HOD values for Carter Lake and Horsetooth Reservoir.
18	***Colorado River***: The DEIS clearly acknowledges that Colorado River flows could regularly (and more frequently than under existing conditions) diminish to the required minimum 90 cfs flows during summer, and that those decreased flows could precipitate increased Colorado River instream temperatures. Decreased flows (see, e.g., DEIS Table ES-2) and subsequent increased summer temperatures could lead to exceedences of the applicable WQS for instream temperature (see DEIS p.3-96, and Figure 3-38). The DEIS modeling analysis is calibrated utilizing median USGS July water temperatures. To better estimate the more realistic impact(s) of the proposed alternative on instream temperatures, EPA suggests an additional analysis, relating daily discharge values to the 85th percentile daily water-temperature values. Since reduction in flow (discharge) will likely reduce the water depth of the river, in-stream temperatures are likely to increase, as is the frequency of days with elevated temperatures (and lower dissolved oxygen values). Modeling with median temperature data is insufficient to assess the more realistic effects of proposed water withdrawals EPA suggests that the EIS include these model calibration changes, and disclose the estimated effects, which we believe will be greater than disclosed. EPA further notes that exceeding the applicable temperature criteria could significantly and adversely affect aquatic life. Further, additional nutrient loading and decreased D.O. could contribute to future needs for nutrient reductions, and additional stresses on aquatic life (see DEIS pp. 3-97 through 3-100, and Figure 3-46). Temperature mitigation activities could include planting trees or other riparian vegetation to provide shading; providing increased flows during periods of high temperatures; and construction of instream refuge habitat such as pools and undercut banks. 13	With respect to the fish consumption advisories, it is difficult to predict the impacts to mercury concentrations in fish tissue for either Horsetooth Reservoir or Carter Lake due to decreases in DO and increases in nutrients. Please refer to the response to Comment No. 20. Also, as indicated above, the nutrient mitigation measures described in Section 3.8.4 of the FEIS would substantially reduce the potential for nutrient import and DO impacts in Horsetooth Reservoir and Carter Lake.. 17. Section 3.8.4 of the FEIS includes a detailed discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping and the effectiveness of those measures. These measures include upgrades to the Fraser WWTP and implementation of best management practices and other erosion control measures to reduce nonpoint agricultural sources of nutrient discharges in the Willow Creek drainage and elsewhere. These measures would offset the total nitrogen and total phosphorus loadings to the Three Lakes projected from the WGFP compared to existing conditions. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and Colorado River. Reclamation would require a monitoring plan to ensure that nutrient loadings to the Three Lakes are completely offset. See also response to Comment No. 15.

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19	***Three Lakes System: Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake***: The DEIS estimates that the proposed project could significantly increase the loading of both phosphorus and nitrogen into the Three Lakes System by as much as 12.7% (see Table 3-51), and chlorophyll a levels by as much as 6.8% (see DEIS Table 3-53). This system is already experiencing nutrient imbalance issues as evidenced by recent Colorado State Water Quality Control Commission (WQCC) actions; ongoing workgroup meetings to address nutrient loading; and monitoring and data sharing activities. Existing Windy Gap pumping is identified as the largest contributor of phosphorus, and the second largest contributor of nitrogen loading to the Three Lakes system (see DEIS Table 3-47). The proposed action would significantly increase phosphorus loading, decrease D.O., and decrease clarity (see Tables 3-48 through 3-55) to these waterbodies already recognized by the WQCC as receiving an abundance of nutrients (WQCC Grand Lake clarity WQS action, 2008). Mitigation measures in enforceable agreements can include: best management practices for agricultural and livestock production near the riparian corridor (e.g., buffer zones, nutrient minimization, livestock fencing and contour cropping); stormwater runoff control and retention for all nearby communities; incentive-based inspections and servicing of nearby septic systems; and operational changes in the Colorado Big Thompson system where practical.	18. The frequency at which 90 cfs flows are predicted to occur for existing conditions and the alternatives is described in Section 3.5.2.6 of the FEIS and quantified in Table 3-13. To evaluate potential mitigation for increased Colorado River stream temperatures during Windy Gap pumping, a multiday dynamic temperature model was developed. This approach allows for the direct computation of the metrics required for assessing predicted conditions as compared to temperature standards (MWAT and DM). Results of this analysis using a range of hydrologic conditions subjected to the very warm 2007 air temperatures indicate that increased exceedance of the chronic MWAT and DM standards are predicted to occur primarily in July and August. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days. Although in the past, the Windy Gap Project has only diverted water once in July, the WGFP would allow more water to be pumped in July and occasionally in August. As described in response to Comment No. 15, the Subdistrict developed a Fish and Wildlife Mitigation Plant to address temperature and other impacts to aquatic resources in compliance with CRS 37-60-122.2.
20	***Carter Lake and Horsetooth Reservoir***: Carter Lake and Horsetooth Reservoir are impaired for their Aquatic Life Use due to high mercury levels in fish tissue samples taken from their resident fish populations. Elemental mercury may be atmospherically deposited and reach aquatic systems through natural processes such as during sheet flow or snowmelt events. The methylation of mercury in Colorado reservoirs has been associated with nutrient enrichment and reduced oxygen environments, where low oxygen or anoxic conditions foster the methylation of mercury, which is subsequently biomagnified in the food web. Larger, longer-living, higher trophic level fish species (e.g., walleye, smallmouth bass, wiper) may have significant levels of toxic methyl mercury accumulate in their organs and flesh. Some of these species are important sport fish prone to high levels of consumption by certain segments of the population. This is a serious human health concern being actively studied by the CDPHE for future management decisions and remediation actions (www.cdphe.state.co.us/wq/FishCon/Analysis/).	19. The predicted increases in nutrient loading into the Three Lakes system are shown in Tables 3-69 and 3-70 of the FEIS, and predicted chlorophyll *a* concentrations and Secchi disk depths are shown in Table 3-71 to 3-76. After the DEIS was issued, it was discovered that historic water quality data from an incorrect location on Willow Creek were used for the analysis upstream of Windy Gap Reservoir. Since loading computations were affected, the loading analysis needed to be redone. In order to best reflect current conditions, data from 2005–2010 were used. The frequency of data collection was also greater during this period. Although the loading computations were corrected (results presented later in this section), the Three Lakes Model was not rerun because the change would have minimal effect on displayed impacts or differences between alternatives. See response to Comment No. 17 on proposed nutrient mitigation.
21	Additionally, Horsetooth Reservoir is impaired for D.O., with seasonal low oxygen levels associated with eutrophication in the reservoir. The action alternatives are predicted to be a major contributor of phosphorus and nitrogen loading, and subsequent decreased D.O. to Carter Lake and Horsetooth Reservoir (see DEIS pp. 3-113 through 114). The proposed action would significantly increase phosphorus loading (up to 11%), increase nitrogen loading (up to 5.8%), and increase chlorophyll a (>11% in both waterbodies). Further, the proposed action is predicted to decrease D.O. in both waterbodies (See Tables 3-65 thru 68). EPA strongly suggests mitigation to minimize pollutant loading which can include measures such as those described in the above comment on the Three Lakes System. 14	20. Conventional thinking, based on literature from eastern (Northeast U.S., Midwest, and Canada) systems, supports the idea that low oxygen levels (especially in the hypolimnion) are associated with high methylation rates and contaminated water, invertebrates, and fish. According to recent research conducted in Colorado, however, measures of oxygen in the water column are not necessarily indicative of the amount of mercury contamination in a given system or sport fish within that system.

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		In a study by Colorado State University and the Colorado Division of Wildlife, researchers are studying four reservoirs with and without fish consumption advisories in the state. The two reservoirs without fish consumption advisories had low (<1 mg/l) DO concentrations. The two reservoirs with fish consumption advisories did not. This goes against the conventional wisdom from the East Slope and shows that DO profiles may not be the most useful indicator of mercury methylation, and certainly not of mercury contamination in fish. According to the researchers (Lepak 2009): "Systems in which anoxic conditions were observed are relatively productive, which likely produced decaying material, contributing to hypoxia. However, while biomass decay can cause hypoxia, elevated nutrients can have the effect of reducing mercury concentrations in biota. When high nutrient availability stimulates population growth of algae and subsequently zooplankton, the result can be a higher amount of in-lake biomass available to accumulate a given amount of mercury. This process has the potential to reduce mercury concentrations in sport fish in relatively productive systems by limiting trophic transfer of mercury due to lower concentrations in prey regardless of oxygen levels. Thus, productivity may be working in two ways; one that reduces mercury concentrations in fish and another that increases them." For the WGFP alternatives, increases in nutrients and DO are predicted for both Carter Lake and Horsetooth Reservoir. According to the local research, it remains unclear what the net effect of lower DO (which could increase methylation) and higher nutrients (which could reduce mercury in sport fish) would have on mercury concentrations in fish tissue. In addition, nutrient mitigation measures described in the response to Comment Nos. 16 and 17 and discussed in Section 3.8.4 of the FEIS would offset nutrient loading to Horsetooth Reservoir and Carter Lake. Thus, impact to DO in these reservoirs is expected to be negligible. 21. Please refer to Comment Nos. 16 and 17 and the discussion of nutrient mitigation in Section 3.8.4 of the FEIS.

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22 23 24	Appropriate Use of Water Quality Standards and Exceedence EPA objects to the way in which the DEIS and Water Quality Technical Reports utilize WQS for D.O. in lakes and reservoirs, and then interpret those standards against existing lake and reservoir data profiles to determine WQS exceedence. Specifically, it appears that the DEIS is utilizing the "15th percentile of daily average epilimnion profiles," presented as "In-Lake Values" (e.g., see DEIS Table 3-26) for D.O. Issues regarding use of WQS include: 1) Hypolimnion exclusions and interpretation of stratification – It appears the DEIS and technical reports only analyze and present epilimnion (surface layer) data for some of the analyses, ignoring the readily available thermocline and bottom layer data. Further, it is unclear how the analyses establish thermal stratification; what data is used and what is excluded; and how the presented results are calculated. Under most circumstances lake data are treated as discrete samples, and directly compared to water quality criteria, one measurement at a time, for the entire water column. EPA notes that under certain circumstances, State assessment determinations evaluate data from the epilimnion and metalimnion (surface layer and thermocline) of a lake or reservoir, and do not evaluate data from the hypolimnion (bottom layer) – see below. Otherwise, all lake and reservoir data are compared directly to all applicable WQS, which would be the logical protocol to ascertain impacts in any EIS. It appears that for some parameters the DEIS and supporting documents are examining only epilimnion data (e.g. see Lake and Reservoir Water Quality Technical Report, Table 16) ignoring the important water quality measurements throughout the rest of the water column (i.e. metalimnion, or thermocline, and hypolimnion). Further, it is unclear what methodology is utilized to establish the epilimnion depth during dynamic stratification cycles and individual sampling events, and what data is used for the presented results. EPA is concerned that this is a misapplication of applicable water quality standards; ignores the existing impaired conditions and potential impacts that may occur in the thermocline and bottom waters (as well as their influence on surface layers); and that this may distort water quality analyses and presentations of projected impacts. A disclosure of existing conditions and potential impacts should include all available data to inform the potential effects of the proposed project. EPA is unable to evaluate the full impacts of the proposed project under this type of deficient analysis. The DEIS should examine and present the data for all depths of lakes and reservoirs – not just the epilimnion. The water quality technical reports should disclose the specific methodology and data establishing any thermal stratification for all lakes and reservoirs examined, discussing what data are utilized and excluded and how the presented results are calculated. This should be at a level of detail sufficient to allow for independent confirmation of conclusions. 2) Averaging Profile Data – Neither the DEIS nor the Lake and Reservoir Water Quality Technical Report provide sufficient detailed methodology to understand the analysis that is presented for water quality data in lakes and reservoirs. Nevertheless, it appears that the analysis averages D.O. profile data (and possibly other parameters), which may lead to masking the disclosure of existing conditions and projected impacts. (See the WQCC's stated protocol in Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle, for D.O. data: http://www.cdphe.state.co.us/op/wqcc/SpecialTopics/303(d)/303dLM2008.pdf) 15	22. to 27. **1) Description of our DO Analysis:** This analysis was originally completed in late 2007 to early 2008 and updated in October 2011. The DEIS standards assessment analyses were based on numerous conversations with WQCD staff (e.g., Nuttle, May, Konowal, and Hegeman); state guidance documents (e.g., 2008 Listing Methodology and 2005 Guidance on Data Requirements and Data Interpretation Methods); State Regulations (Reg. 31); and spreadsheets describing how some Colorado reservoirs were assessed (provided by WQCD). During this process, we noted a number of inconsistencies between different documents, different staff, and even within the same document. Note that at one point, we were told by the State that our standards questions were "quite complex and broad ranging" and "an adequate response would take more time and resources that we (the State) have available." So we did the best we could with the information available to us. Based on the information we gathered, our DO analysis was thus: The DO standard was compared to the 15th percentile results, as well as to the entire epilimnion and metalimnion profile for each day. Note that in the 2008 Listing Methodology, it is stated under chronic standards – "Dissolved oxygen ("DO") is evaluated at the 15th percentile." Using epilimnion and metalimnion profile DO results, daily average DO values were calculated. The 15th percentile values of daily average values for each site (so one reservoir may have had more than one site being evaluated separately) were compared to the DO standard. Also, after a conversation regarding why the State was proposing to list Shadow Mountain on the 303(d) list when our analysis did not find it to be out of attainment, we added a secondary method of DO evaluation. Per WQCD staff, if all discrete profile samples in the epilimnion and metalimnion were out of attainment on any day, then the reservoir was found not to meet standards.

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24	*"Dissolved Oxygen: Each measurement within the mixed layer of an unstratified lake, or within the epilimnion and the metalimnion of a stratified lake, is subject to comparison with the standard, which is a 1-day minimum."* The State Listing Methodology explains that averaging D.O. is an "acceptable metric for assessment," but this is not the preferred option for handling such data where direct comparison is possible. Individual profile data points should be compared to the WQS, and a synopsis of that comparison should be presented in the EIS and technical reports. Further, the methodology used should be detailed to a level sufficient to allow for independent corroboration of results and conclusions. The existing D.O. data should be analyzed and presented (at least in the technical reports) as discrete samples, without averaging, allowing insight into the potential impacts of the proposed project. Averaging such data risks masking over important D.O. dynamics in lakes and reservoirs. This is inconsistent with the WQCC's stated intentions for implementing water quality standards for a broad range of parameters (especially D.O.) that are to be utilized as instantaneous maxima or minima to protect aquatic life and human health at all times (not just on average). Profile data for D.O. should be presented and evaluated as individual points, and the methodology used should be documented at a level of detail sufficient to allow for independent confirmation of conclusions.	For our work, we had close to 300 DO profiles for the 5-year period being considered. Rather than going through the temperature data for each event, we plotted all events by reservoir and selected depths, which seemed to identify the epilimnion, metalimnion, and hypolimnion in the majority of cases. Therefore, the vertical profile data were inspected and the vertical extent of the layers was determined. The selected depths were then applied to all events for that particular reservoir. As a result, there are times when these depths did not correspond precisely to a corresponding temperature profile. The depths assumed by water body were: Water Body | Epilimnion Depth (m) | Metalimnion Depth (m) Carter Lake | 0-5 | 5-14 Horsetooth Reservoir | 0-6 | 6-21 Grand Lake | 0-6 | 6-17 Granby Reservoir | 0-7 | 7-17 Shadow Mountain Lake | 0-4 | 4-5 Although we initially considered the spawning standard, we removed it based on conversations with WQCD staff.
25	3) 15th Percentile and "In-Lake Values" for D.O. Data – It is inappropriate to utilize a percentile ranking statistic in presenting D.O. measurements, as is done throughout the DEIS and supporting technical reports (e.g. Lake and Reservoir Water Quality Technical Report, Table 24, D.O. footnote). Use of the 15th or 85th percentile of data, or as a screening tool, for some criteria is outlined in State WQS and methods documents. However, presentation of the 15th percentile of D.O. data is inconsistent with applicable WQS. Utilizing a 15th percentile of this criterion would afford little to no protection of aquatic life propagation and growth in the lower ranked 14% of reported profiles, and could lead to extensive and frequent under-reporting of low D.O. conditions. Further, such presentation is misleading in the DEIS and probably masks the actual existing conditions and projections of potential impacts. Additionally, EPA finds the presented "In-Lake Value" for D.O., and subsequent comparison to applicable criteria particularly problematic. Creating a novel "In-Lake Value" for the DEIS, and disclosing the use of this characterization only in footnotes, may further limit the public's ability to assess and understand actual existing conditions and projected impacts from the proposed project. This practice does not foster open disclosure of existing observations and projected impacts. D.O. criteria are established as 1-day minima in Colorado WQS, designed to protect the growth and propagation of aquatic life at all times. The DEIS and supporting technical reports should present the full range of data values (without any percentile ranking or creative classification) for all D.O. profiles, analyses, presentations, and conclusions.	**2) Recent Activities:** Recently a significant amount of activity has occurred in Colorado regarding assessment of DO standards in lakes and clarifications on the listing methodology. These activities include the development of the 2010 Listing Methodology, a standards framework workgroup meeting on March 16, 2009, an issuance of EPA concerns on July 14, 2009, and a recent standards framework workgroup meeting on September 21, 2009. The items discussed include: • Making clarifications to DO assessment methodologies in the 2010 Listing Methodology. • A recent proposal by WQCD to change the assessment to only focus on the top 0.5 to 2 meters of reservoirs/lakes greater than 5 meters deep. This includes using the average concentration for that depth.
26	4) Spawning Season D.O. Criteria – Both the DEIS and the Lake and Reservoir Water Quality Technical Report appear to consider spawning seasons and early life stages of aquatic life, but do not appear to use the spawning season D.O. criterion (e.g,. Lake and Reservoir Water Quality Technical Report, Table 16, D.O. footnote, elsp). A spawning season D.O. criterion (typically 7.0 mg/L) is assigned to many of the assessed lakes and reservoirs by the WQCC, and applied 16	

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26	with seasonality dependent upon the species present (see e.g. Regulation 31- The Basic Standards and Methodologies for Surface Water - Spawning, or Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle, Spawning Season DO Criteria). The DEIS and supporting documents should utilize the 7.0mg/L criterion wherever, and whenever, applicable for all D.O. profiles, analyses, presentations, and conclusions.	• Questions from EPA regarding (July 14, 2009): o The TVS – Is it a minimum 1-day average or a 15th percentile? o How to more consistently define layers? o How should the refuge concept be implemented? o What to do about seasonal/spatial variability? Note the reference by EPA to a 15th percentile as recently as July 2009. Obviously, the assessment of DO in lakes and reservoirs was in a state of flux. Since then, the WQCC adopted a method to focus predominantly on the upper two meters (0.5 to 2m) for reservoirs greater than 5 meters deep. This is very different from the methodology used in the DEIS and would lead to different results. Additionally, Horsetooth Reservoir has been classified as a warm lake since the original analysis, changing its DO standard to 5 mg/L.
27	5) WQS Exceedence and Impairment Projection – The use of the above data exclusions, averaging, presented statistics, and applicable criteria raise questions wherever the DEIS discloses if WQS are currently being exceeded (e.g. see DEIS Table 3-40, far right column). The DEIS and supporting documents should be amended to address the issues above, and the impairment status for individual waterbodies should be redone implementing these changes. Because impairment determinations allow for the exclusion of hypolimnion data only under specific, limited circumstances, the analyses should include all data wherever possible. In any instances where hypolimnion data is not used, the analyses should specify those circumstances. Specifically, the hypolimnion exclusion is utilized only where a waterbody is strongly thermally-stratified with colder, denser bottom waters becoming isolated from warmer, less-dense surface waters, sequestering the hypolimnion from mixing and other processes. In order to utilize this hypolimnion assessment exclusion, one would first establish that strong thermal stratification exists (showing individual temperature profiles), and then determine to what depth (where the base of the thermocline exists) impairment determinations are still applicable for individual profiles. Otherwise, all lake and reservoir data are generally compared directly to all applicable WQS as outlined in CDPHE protocol for impairment determinations (see WQCC Colorado Section 303(d) Listing Methodology – 2008 Listing Cycle: http://www.cdphe.state.co.us/op/wqcc/SpecialTopics/303(d)/303dLM2008.pdf	To update the analysis to the current standards, data were reviewed for the lakes which showed no DO standards exceedances under the previous analysis (Grand Lake, Shadow Mountain Reservoir, and Carter Lake). Current standards were also met for these water bodies, so no changes were made to the tables or text for these lakes in the FEIS. For the two lakes which did not meet the pre-2010 DO standards in the DEIS analysis (Granby and Horsetooth), data were reassessed against the current DO standards. That assessment showed that current DO standards are met in both Granby and Horsetooth. Because this was a change in findings from the DEIS, the FEIS was updated to present the findings for Granby and Horsetooth.
	Impacts to Wastewater Treatment Plants	
28	The potential impacts to wastewater treatment plants (WWTPs) depends on whether the plants are located on the West Slope or East Slope of the Continental Divide. On the West Slope (Hot Sulphur Springs and Three Lakes WWTPs), where water is being taken out of the system, the potential impacts of this project are decreased upstream flows which will reduce available pollutant assimilative capacity in the receiving waters (Colorado River and Willow Creek). This will likely result in more stringent National Pollutant Discharge Elimination System (NPDES) permit limits for, e.g., ammonia, which may require additional treatment facilities or processes. Any additional treatment will require additional capital and/or operational expenditures and could be expensive particularly for lagoon treatment systems like the Hot Sulphur Springs facility. If required, treatment methods or other controls for other pollutants like metals, e.g., selenium, can also be costly to the facility. The reduced low flow impacts appear to be greatest for the proposed action (see DEIS p. 3-92, 3-101). This impact should be better addressed in the EIS.	**3) EPA's WGFP Comments:** EPA takes issue with how the DO standards assessment was completed in the DEIS. Specifically, using the 15th percentile, not using the spawning standard, and not evaluating every data point are called out. We hope that the description above in 2) above, sheds some light on what was done and why. The EPA requests that "the existing DO data should be analyzed and presented as discrete samples, without averaging, allowing insight into the potential impacts of the proposed project." We see two problems with this request. First, the method requested by the EPA is not consistent with the State's methodology. We think it is important to be consistent with State practices and the conclusions reached in the DEIS are the same conclusions reached by the WQCD. Second, the modeling approaches used for predicting results for Grand Lake and the reservoirs do not result in DO profiles. For the Three Lakes, an average DO concentration is predicted for each layer over time. Therefore, it is not possible to conduct an analysis directly comparing predicted DO profiles to standards. Predicted conditions for the alternatives are compared to existing conditions and the No Action alternative for each reservoir and Grand Lake in the DEIS.
29	On the East Slope, increased pollutant loadings from project participant WWTPs would be required to meet Colorado's WQS including antidegradation provisions for the receiving	
	17	

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		28. The Three Lakes WWTP discharges into an unnamed tributary to Willow Creek, the flows of which would not be changed by the WGFP; therefore, the WWTP would not be affected by the WGFP. Willow Creek flows could decrease under certain conditions with the WGFP. An analysis of potential effects to the water quality of Willow Creek was included in the DEIS and was revised for the FEIS in Section 3.8.2.4. The analysis showed that for the largest potential changes in flows that would occur in June, July, and August, using the maximum allowable discharge from the Three Lakes WWTP and assuming no reductions in concentrations within the unnamed tributary down to Willow Creek, acute and chronic ammonia, dissolved iron, and dissolved copper standards would not be exceeded under any of the alternatives. The Hot Sulphur Springs WWTP's effluent limits were calculated based on design acute and chronic low flows of 38 and 59 cfs, respectively (see Hot Sulphur Springs WWTP certification). These flows are lower than would be experienced in the Colorado River at Hot Sulphur Springs under any of the WGFP alternatives because no Windy Gap diversions would occur when the flow of the Colorado River below Windy Gap reaches 90 cfs. Because there would be no reductions in river flows during dry years due to the WGFP, and because WGFP diversions would not occur when the flow of the river is at or below 90 cfs, the anticipated change in the dilution flows upon which future conditions would be based would be small, if any. Using DFLOW, the program used by the Colorado WQCD to compute monthly low flows for WWTP discharge permits, the calculated monthly low flows for existing conditions and the Preferred Alternative were the same. Additional information on this issue was added to Section 3.8.2.4 of the FEIS. As previously discussed in the response to Comment No. 17, the Subdistrict would provide mitigation for increased nutrient loadings to the Three Lakes from WGFP diversions. These measures would improve the existing water quality in the Fraser River, Willow Creek, and the Colorado River.

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29	waters. Where there is no additional pollutant assimilative capacity available, additional treatment will be required which is a potentially expensive impact. The DEIS does not discuss potential impacts to the Estes Park water and sewage facility from the additional nutrient loading which will occur in the Big Thompson River due to this project. The DEIS indicates that a flow increase in the Upper Big Thompson River below Lake Estes from additional Windy Gap deliveries (9 percent for the proposed action) will bring additional nitrogen and phosphorous load (see DEIS p. 3-109). The impacts to the Estes Park facility should be added to the discussion in the EIS. Increased flows (and pollutant loadings) at a point source may 1) trigger antidegradation review on reviewable segments and result in more stringent NPDES permit limits at the time of permit reissuance (every 5 years), and 2) decrease available pollutant assimilative capacity available for downstream point sources. In addition, on CWA Section 303(d) listed waters, pollutants driving the listing have no available assimilative capacity and increased loadings are not allowed from point sources. For waters having a completed TMDL for a pollutant, point source loadings are limited by the approved wasteload allocation in the TMDL, and no additional loading of the pollutant from a point source is allowed to be permitted without a change in the EPA-approved TMDL. When water deliveries from the proposed alternative and other alternatives (including the no action alternative) result in an increased point source discharge flow, pollutant loads are increased and additional costs to treat increased pollutant loads are likely to occur for the affected point source. **STREAM MORPHOLOGY** The DEIS states that flushing flows in the Colorado River equal to or greater than 450 cfs occur about 45 days in an average year and 103 days in a wet year per year under existing conditions (see DEIS p. ES-11). Under the proposed action, the flushing flows would occur 36 days in an average year (35 days for the other action alternatives) and 93 days in a wet year for all action alternatives (see DEIS Table 3-22). In addition, stream morphology impacts were assessed by comparing the frequency of bankfull discharge (equal to or greater than 1,240 cfs at Hot Sulphur Springs) under existing and proposed conditions and by comparing changes in the range of channel maintenance flows. The DEIS states that the frequency of flushing flows and bankfull discharge would remain adequate to transport sediment and prevent deposition, and therefore no mitigation for stream morphology impacts is proposed. Furthermore, the DEIS states that the differences in channel maintenance flows would be small and unlikely to measurably alter channel morphology or sediment movement. EPA is concerned that these analyses do not adequately characterize potential impacts to the stream morphology and associated ecological communities of the Colorado River. The DEIS states that channel maintenance flows are the flows considered necessary to maintain the physical characteristics of a stream channel and provide benefits to the stream ecosystem by conveying water and eroded materials, preventing vegetation establishment in the channel, sustaining aquatic ecosystems, temporarily storing flood flows on the floodplain, and 18	29. The East Slope Participants' WWTPs will experience increased discharges due to future growth that would occur with or without the WGFP. In addition, the WWTPs will likely need additional treatment due to future changes in nutrient and other water quality standards, and implementation of Total Maximum Daily Loads (TMDLs) on some of the streams. WWTP operators must regularly renew their CDPS permits with the Colorado Department of Public Health and Environment to be up to date on current in-stream conditions and any upgrades to their WWTPs.
30		30. The Subdistrict's proposed nutrient mitigation measures (FEIS Section 3.8.4) would provide mitigation for increased nutrient loadings to the Three Lakes and subsequent deliveries to the East Slope; thus, impacts to the Estes Park water and sewage facility should be minimal.
31		31. Additional wastewater treatment is likely needed in the future with or without the WGFP due to growth and increased water use on the Front Range. See also response to Comment No. 29.
32		32. As stated in Section 3.7 of the FEIS and Section 6.2 of the Water Resources Technical Report (ERO and Boyle 2007), despite changes that have occurred in the Upper Colorado River Basin since 1938 (especially flow changes due to C-BT diversions and the construction of Granby Reservoir), the form and structure of the Colorado River channel, banks, floodplain, and watershed within the study area has changed very little. The upper Colorado River is a morphologically stable stream. Because regulation of the river, which began in 1949 when water began to be stored in Lake Granby, has not substantially altered the morphology of the Colorado River channel and banks below the dam during the past 60 years, the use of Schmidt and Potyondy's methodology for analyzing channel maintenance flows is considered appropriate for the study area. While instantaneous peak flows were higher during the first half of the 20th century, the decrease in peak flows that occurred during the second half of the 20th century did not alter stream morphology or sediment transport in the Colorado River. Although the Colorado River flow has been quite variable, in part due to diversions and storage, only minor changes in river morphology have been detected in aerial photos taken between 1938 and 2005 below Granby Reservoir and below Windy Gap Reservoir (Ward and Eckhardt 1981; ERO and Boyle 2007). In addition, recent cross-sectional analyses completed for aquatic resources, located 8 to 10 miles downstream of Windy Gap Reservoir, showed no

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32	maintaining healthy streambank and floodplain vegetation (see DEIS 3-60). The DEIS presents an analysis of channel maintenance flows consistent with the Schmidt and Potyondy (2004) methodology. EPA is concerned that this methodology has been inappropriately applied to assess changes in channel maintenance flows from the proposed project. According to Schmidt and Potyondy (2004), "(t)he approach is appropriate for quantifying channel maintenance flows on perennial, ***unregulated***, snowmelt-dominated, gravel-bed streams with alluvial reaches" (emphasis added). As stated in the DEIS and illustrated in Figure 1 and Table 1 of this letter, the flow regime under existing conditions is substantially altered through regulated water diversions in the basin. For example, the 25-year instantaneous peak flow in the period of record from 1904 to 1949 has, under existing conditions, a return interval of 200 years not 25 years (see Table 1 above). Both the magnitude and frequency of flow events are substantially altered compared with unregulated conditions on the Colorado River, and as such, applying this methodology likely significantly understates the potential impacts to stream morphology from this proposed project. As stated in the Water Resources Technical Report, the frequency, magnitude and duration of flow events affects channel dynamics. In snowmelt dominated systems like the Colorado River, much of the work on the channel is done by the spring snowmelt peak flows, and channel geometry and complexity respond to these dominant, or bankfull, discharges of water and sediment. The river stage associated with bankfull discharge is considered to be the point at which the river begins geomorphic "work" on the entire channel system, and higher flows extend the duration and magnitude of this work. Thus, river stage may be a better indicator of the effectiveness of flows on channel geometry and the physical habitat template for aquatic communities than bankfull discharge. The additional withdrawal of flow from the Colorado River due to the proposed project will probably cause bankfull stage to be reached less frequently, resulting in less capacity within the river system to maintain adequate conditions for aquatic ecosystem integrity (e.g., temperature, D.O., channel habitat, back-water areas for juvenile amphibians, fish, endangered species, etc).	evidence of recent changes to stream morphology or sediment deposition in the Colorado River near Parshall (Miller 2008). Sediment discharges to the Colorado River are derived from upstream sources, tributary inflows, overland flow, channel bed, and banks (Ward and Eckhardt 1981). The igneous and metamorphic rocks of the Colorado River headwaters are fairly resistant to weathering and, therefore, contribute little sediment to the river. A previous study showed that the Colorado River channel bed and banks are well armored (Ward and Eckhardt 1981). This study determined that the largest tributary source of sediment in the study area is Troublesome Creek; other tributaries are minor sources. The sediment supply was found to be low, and the transport capacity of the river greatly exceeded supply (Ward and Eckhardt 1981). A recent evaluation was completed of streamflow versus shear stress data at the Breeze station, a riffle site located downstream of the confluence of the Williams Fork. This analysis provides a generalized relationship between sediment mobilization and streamflows in the Colorado River. The results showed that fine sediments (sand, 2 mm, or finer) would be mobilized at this riffle site at flows of less than 50 cfs. Fine gravel (8 mm) would require a flow of 200 cfs, medium gravel (16 mm) would require a flow of about 400 cfs, and coarse gravel (32 mm) would require a flow of about 850 cfs to be mobilized. In Ward's 1981 study, his results at four locations located from below Windy Gap to above the Blue River showed that fine sediments (sand, 2 mm, or finer) would be mobilized at discharges ranging from 140 to 240 cfs (depending on location, with the highest flow at the lowest site above the Blue River). The flow duration curve for Hot Sulphur Springs shows an increase in flows of 150 cfs or less, decrease in flows of 200 cfs from 14 percent to 10.5 percent of the time, decrease in flows of 500 cfs from 7 percent to 5 percent of the time, and decrease in flows of 1,000 cfs from 4 percent to 3 percent of the time. At the gage near Kremmling, the flow duration curve shows an increase in flows of 1,200 cfs or less, and a 1 percent or less decrease in higher flows. Additional discussion was added to the FEIS in Section 3.7.2.3.
33	The diversion of water from the Colorado River to meet water supply needs will alter the natural hydrology downstream of the diversion point, thus affecting the aquatic ecosystem downstream. Diversion of the snowmelt peak flows in wet and average years will reduce the frequency of medium and high flow events, which will likely, in turn, affect stream morphology, instream water quality, the physical habitat template of downstream aquatic communities, food web structure, spawning, egg hatching, and migration cues for fish, and the ability for riparian species recruitment and inundation of backwater and floodplain habitats. To truly understand what the diversion will mean for the aquatic ecosystem and hydrology downstream of the diversion point, EPA suggests that the following analyses be performed: • Establish/characterize the relationship between bankfull discharge and river stage at monitored points, e.g., at two gauged points downstream from the withdrawal point on the Colorado River; • Model the stage of the river and projected effects of the project alternatives on stage at these gage locations; 19	See also response to Comment No. 2. For evaluating changes to stream morphology, analyzing changes in streamflows is a standard method of analysis. Where stage/flow relationships have been developed, the analysis could be translated to stage change effects to stream morphology; however, it would not add substantially to the flow analysis. The IFIM model of aquatic habitat accounts for depth in determining available fish habitat. In addition, the discussion above shows that sediment transport in the river would be maintained. Additional discussion was added to Section 3.7.2.3 of the FEIS on the channel maintenance flows needed to maintain ecological functions. The Fish and Wildlife Mitigation Plan (FEIS Appendix E) address Colorado River temperature concerns with the proposed project and includes increased flushing flows to assist with channel maintenance.

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33	• Document the current pattern of river stages and consequent (existing) habitat availability, temperature and D.O. levels. Then model, with the expected decreases in flow and resultant decreases in river stage, the change in frequency that stream temperature and D.O. meet (or conversely exceed) water quality criteria and that physical habitat parameters are maintained; • Assess the potential for threshold responses of the aquatic community. These analyses should be done both within the context of the direct and indirect impacts of this project as well as cumulative impacts of this and other reasonably foreseeable actions (e.g., Moffat Collection System and climate change).	33. An analysis of stream morphology was completed for the projected changes in hydrologic conditions, including an assessment of sediment transport at an IFIM study site used in the aquatic habitat modeling. As described in the response to Comment No. 32, further discussion on sediment transport from the 2D modeling was added to Section 3.7.2 of the FEIS. Water quality was modeled as a function of existing and predicted future conditions. Results indicate that DO concentrations in the Colorado River would decrease slightly (approximately 0.1 mg/L), but DO concentrations would remain above the current water quality standard and are not expected to impact aquatic life. Dynamic temperature modeling simulated potential increases in Colorado River temperatures above the chronic MWAT and acute DM standards. Temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. The Fish and Wildlife Mitigation Plan (FEIS Appendix E) would reduce the potential for temperature exceedances. The river stage changes are part of the habitat modeling. Habitat change was modeled throughout the range of expected flows. The combined results of the water quality modeling, hydrology analysis, and sediment transport analysis all indicate that the ecological function of the river would be maintained at most times without mitigation. Physical habitat for fish was simulated using daily flow data. There are short (2- to 4-week) periods when reductions in physical habitat occur for some life stages of some aquatic species (FEIS Section 3.9.2.3). The proposed project would adhere to the minimum streamflow requirements below Windy Gap Reservoir and would maintain the habitat needed for primary and secondary aquatic life productivity. No impact to existing trophic levels in the lakes and reservoirs are expected. Sections 3.8.4 and 3.9.4 of the FEIS includes mitigation measures designed to address the impacts to aquatic habitat. Also see response to Comment No. 13. The cumulative effects analysis of stream morphology and aquatic life were conducted using the same methods as direct effects based on reasonably foreseeable actions including the Moffat Project.
34	The DEIS states that changes in streamflow associated with the alternatives are not expected to significantly impact stream morphology or change sediment transport or deposition. In part, the Stream Morphology conclusions were made based upon a comparison of frequency of exceedence of the 2-year peak discharge (estimated to be 1,240 cfs at Hot Sulphur Springs) under existing and proposed conditions. EPA believes the conclusions of this analysis are misleading. For example, in Section 3.7.3 Cumulative Effects (see DEIS p. 3-65), the DEIS states that under current conditions, the 2-year peak discharge was exceeded 4% of the days within the study period and that under the proposed action, this discharge would be exceeded 2.5% of the days. The DEIS conclusion, that the 2-year peak discharge would occur 1.5% less frequently is somewhat misleading. For example, if the frequencies were examined on a yearly basis, there would be a reduction in peak discharge occurrence from 15 days to 9 days. This mischaracterization was also made in Section 3.7.2.3 (see DEIS p. 3-63). EPA requests that the applicant modify these descriptions and consider changes in the conclusions to reflect the potential reduction in frequency of peak flows.	34. The part of Sections 3.7.2.3 of the EIS that discusses the flow duration curves for Hot and would become nearly the same as existing conditions for the highest flows. Table 3-32 in the FEIS provides the changes in magnitude, frequency, and timing of channel maintenance flows in the Colorado River at Hot Sulphur Springs. The information in this table helps explain the types of Sulphur Springs and Kremmling was modified to clarify the discussion. For example, at Hot Sulphur Springs, flows of 1,000 cfs would decrease by 25% from about 4 to 3% of the time, but for flows exceeding 1,000 cfs, the decrease in frequency would be less. According to the channel maintenance flow analysis, the range of channel
35	In the Water Resources Technical Report, Table 3 shows the average total historical monthly Windy Gap diversions at Windy Gap reservoir for April through July as 11,080 AF. However, Table 3-2 of the Draft EIS shows the average annual flow under existing conditions for the Windy Gap diversions used for the model as 36,532 AF. It is not clear why this diversion flow used for the model is so much higher than the average historical diversion. Use of the higher flow in the model can result in significant underestimation of the hydrological impacts associated with the project.	
36	**AQUATIC LIFE IMPACTS** Project-induced changes in flow characteristics will likely impact aquatic life in the upper Colorado River Basin ecosystems due to changes in aquatic habitat, including changes in stream morphology and water quality. In the DEIS, impacts to aquatic life were concluded to be minor, or in some cases beneficial, however EPA believes the analysis did not adequately consider potential impacts to aquatic communities due to changes in water quality or physical habitat. Increased nutrient loading, reductions in D.O. and instream temperature increases are all impacts disclosed in the DEIS, and may result in an inability to support aquatic life use standards due to expected changes in ambient environmental conditions. Changes in these conditions can 20	

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		maintenance flows at Hot Sulphur Springs (510 to 6,520 cfs) would occur during 2 to 13% less years under all of the alternatives than under existing conditions, and the duration of such flows in years when channel maintenance flows occur range from 4 days less to 2 days longer. Also, a recent analysis of the Breeze station, a riffle site located downstream of the Williams Fork, showed that fine sediments (2 mm) were mobilized at flows of about 50 cfs, and fine gravel (8 mm) was mobilized at flows of 200 cfs. The flow duration curve for Hot Sulphur Springs shows an increase in the frequency of flows of less than 150 cfs, and a decrease in flows of 200 cfs from 14 percent to 10.5 percent of the time. 35. Windy Gap diversions for the last 10 years (1999 through 2008) averaged 22,158 acre-feet per year (AF/yr), which is significantly higher than the average diversion of 11,080 AF/yr for the period from 1985 through 2005 (presented in Table 3 of the Water Resources Technical Report). Windy Gap diversions were made in accordance with the project's water rights, the same water rights that would be used to effect diversions if the WGFP is constructed. The increase in recent diversions represents the Participants' need for additional water to meet increasing water demands, which is supported by information presented in Chapter 1 of the FEIS on the Participants' water demands and needs. Modeled Windy Gap diversions under existing conditions reflect the recent increases in Windy Gap Participant demands. Windy Gap pumping for the 8-year period from 2001 through 2008 (since Granby Reservoir last filled) averaged about 27,450 AF/yr. That average includes 2002 and 2004, when almost no Windy Gap water was pumped. Therefore, estimated pumping under existing conditions is much closer to recent operations than suggested in the comment. The comment indicates that the percent increase in diversions compared to existing conditions is underreported; therefore, future depletions under the Proposed Action are underreported. That is incorrect for the following reasons. Impacts would be understated if the difference in Colorado River flows below Windy Gap was 9,552 AF/yr on average, which is the difference in Windy Gap pumping under the Proposed Action (46,084 AF/yr) and existing conditions (36,532 AF). However, the average difference in flows below Windy Gap between the Proposed Action and existing conditions is 21,283 AF/yr, which is the increase in net depletion to the Colorado River. This reflects the net effect of additional Windy Gap diversions from the Colorado River and the difference in spills from Granby Reservoir. The increased net depletion to the Colorado River is much greater than the increase in Windy Gap diversions under the Proposed Action; therefore, potential impacts are not minimized. Pumping Windy Gap water that is later spilled is a re-timing of flows; not a depletion to the river. In other words, a considerable portion of Windy Gap water diverted from the Colorado River is delivered back to the river via a spill under the existing conditions scenario. Windy Gap operations were simulated in this manner to present the amount of water that could be diverted with the project's current water rights to meet demands even if a portion of the water is subsequently spilled from

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		Granby Reservoir back to the Colorado River. For example, the net depletion to the Colorado River for the existing conditions scenario is about 17,750 AF (36,530 AF of Windy Gap diversions (Table 3-6) less 18,780 AF of Windy Gap spills (Table 3-5). The net effects of Windy Gap operations also can be summarized by reviewing estimated Windy Gap deliveries through the Adams Tunnel. Average annual Windy Gap pumping under existing conditions is estimated to be 36,532 AF/yr; however, after spills, diversion shrink, carryover shrink, and allocations to Middle Park Water Conservancy District (Middle Park), only 11,500 AF/yr of Windy Gap water is delivered through the Adams Tunnel, as shown in Table 3-6 of the FEIS. Table 3-9 was added to the FEIS to better illustrate the water balance associated with the Proposed Action. In summary, Reclamation believes that the effects assessments based on net depletions to the Colorado River below Windy Gap, as presented in the FEIS, are appropriate. Windy Gap diversions under existing conditions reasonably reflect recent operations and diversions, which are much higher than the 20-year average from 1985 through 2005. In addition, this issue does not affect Windy Gap diversions in dry years; therefore, Windy Gap pumping, net depletions to the Colorado River, and associated impacts are appropriately estimated in dry years, which are typically more critical for aquatics, water quality, and other flow-related resources.

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36	influence the abundance and distribution of native and sport fish, macroinvertebrate and algal communities, and may lead to a community dominated by species tolerant to degraded water conditions.	36. See response to Comments No. 13 and 33. Stream morphology is not expected to change with the proposed action. Flushing flows would be maintained with the proposed action to scour fines and maintain spawning conditions and macroinvertebrate habitat. The decrease in DO is small and the total DO would remain above the state standard. As such, there is no indication that the water conditions would be "degraded". There is no change to the aquatic community structure or function with the proposed action.
37	The DEIS states that project-induced changes to channel morphology and sediment movement are minor, however EPA believes that these analyses do not adequately characterize potential impacts to the stream morphology and associated ecological communities of the Colorado River. Spawning site availability for fish, habitat heterogeneity (e.g., riffle and pool complexes) and refugia for aquatic macroinvertebrates is largely influenced by changes in substrate characteristics and channel complexity associated with the timing, frequency and magnitude of flow events. Furthermore, peak flows that mobilize and transport medium sized sediments (sands and gravels) abrade periphyton assemblages from larger substrates, and loss of this abrasive ability with reduced flows will facilitate periphyton growth and survival and alter the algal and macroinvertebrate assemblages. It is important to note that project-induced reductions in habitat availability are based upon existing conditions, which represent a substantially altered and regulated flow regime. Further, piecemeal impacts due to this project and other reasonably foreseeable actions have the potential to significantly and permanently reduce the quality of habitat for aquatic communities. EPA suggests that a more complete analysis of impacts to aquatic resources be conducted, including a meaningful integration of water quality and stream morphology impacts. Ecological modeling and analyses should be conducted using a daily time-step, instead of a montly time-step that may mask discharge values that occur for only a few days within any given month.	37. All evidence suggests that the Upper Colorado River is a morphologically stable stream and that flows have and would continue to be adequate to prevent sediment aggradation and degradation in the study area. The required periodic flushing flow of 450 cfs should be sufficient to transport fine sediments (2 mm or finer), preventing the deposition of fine sediments in the stream bottom. Flows greater than 450 cfs would continue to occur with a frequency similar to existing conditions, as evidenced by flow duration curves and Table 3-32 in the FEIS. The FEIS includes mitigation measures to increase flushing flows. 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 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. See response to Comment No. 32 above for more information on the analysis of stream morphology. Previous responses to Comment Nos. 2, 13, and 33 address aquatic resource comments. The 2D study of aquatic habitat on the Colorado River was conducted using daily hydrologic data for a range of dry, wet, and average flow conditions, and is the best available method for evaluating the frequency and magnitude of changes in habitat. The time series analysis shows the seasonal change in habitat for the entire year, even during months when Windy Gap Firming Project does not operate.
	COMPLIANCE WITH THE CWA SECTION 404(b)(1) GUIDELINES	
38	EPA is providing comments on the CWA Section 404 permit application for the WGFP in a separate letter to the Corps. EPA understands the Corps intends to use the BOR EIS to satisfy the requirements of the CWA Section 404(b)(1) Guidelines (Guidelines). The Corps must ensure compliance with the Guidelines prior to issuance of a CWA Section 404 permit for the discharge of dredged or fill material into waters of the United States. EPA disagrees with the narrow scope of the purpose and need statement in the DEIS for the issuance of a CWA Section 404 permit. EPA believes the basic (overall) project purpose is to provide a portion of the existing and future water supply demands of project participants. EPA believes the DEIS analysis is not in compliance with the Guidelines due to: 1) an improperly truncated review of alternatives (40 CFR 230.10(a)); 2) a lack of meaningful analysis regarding potential violations of State water quality standards (40 CFR 230.10(b)); 3) a lack of meaningful analysis regarding the potential for the proposed action to cause or contribute to significant degradation of waters of the U.S, specifically in light of secondary and cumulative effects of this and other reasonably foreseeable water projects within the Upper Colorado River Basin (40 CFR 230.10(c)); and 4) insufficient mitigation (40 CFR 230.10(d)). In addition, based on the information currently available in the DEIS, EPA believes the proposed action will result in substantial and unacceptable impacts to the Upper Colorado River 21	38. The Guidelines (40 CFR 230.10 (a)(4)) indicate that, for actions subject to NEPA, where the Corps is the permitting agency, the analysis of alternatives required for the EIS will in most cases provide information for the evaluation of alternatives under the guidelines. The Corps believes the EIS provides adequate information for the evaluation of alternatives under the guidelines. Appendix B of the FEIS discusses appropriate compliance with the guidelines. The Corps will issue a 404 Permit for the LEDPA and will ensure compliance with the guidelines.

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		The Corps believes the purpose and need statement in the WGFP DEIS adequately represents the applicant's intentions and needs to deliver water as anticipated from the original Windy Gap Project, appropriately represents the basis against which the types and number of alternatives are evaluated, and meets the requirements and spirit of the guidelines in the public interest. Simply asserting disagreement regarding scope of the purpose and need statement without providing substantive justification for such an assertion, does not obligate the Corps to respond with a lengthy reiteration or explanation of its methodology (NEPA's Forty Most Asked Questions, Question 29a). The Corps defines the basic project purpose to determine if the activity is water dependent (i.e., requires access or proximity to, or siting within, a special aquatic site in order to fulfill its basic purpose, 40 CFR 230.10(a)(3)). The basic project purpose is water supply. Since water supply facilities do not necessarily require access or proximity to, or siting within, a special aquatic site, the project is not water dependent. The Corps defines the overall project purpose to identify and evaluate practicable and less environmentally damaging alternatives (see 40 CFR 230.10(a)(2)). The overall project purpose of the WGFP is to deliver a firm annual yield of approximately 30,000 AF of water from the existing Windy Gap Project to provide 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 the Middle Park Water Conservancy District.

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38	Basin, which EPA has determined is an aquatic resource of national importance (ARNI) in accordance with the CWA Section 404(q) and Part IV(3)(b) of the 1992 Memorandum of Agreement between EPA and the Department of the Army. In its letter to the Corps regarding the WGFP CWA Section 404 permit application, EPA is requesting the Corps reconsider the availability of potentially less environmentally damaging practicable alternatives.	With regard to the comment that the DEIS is not compliant with the guidelines: 1) It is the Corps' belief that the range of alternatives evaluated in the WGFP DEIS provides an appropriate scope for the evaluation of alternatives under the guidelines and, therefore, adopts the DEIS range of alternatives as adequate for review under the 404 Permit Application. As discussed in the WGFP Alternative Plan Formulation Report (February 2003) and Alternatives Report (September 2005), approximately 170 alternatives were evaluated, including nonstructural and institutional opportunities, new reservoir sites, existing reservoirs with enlargement potential, and ground water aquifer storage. The DEIS rigorously explored and objectively evaluated all reasonable alternatives to meet the project purpose and need. A decision maker need not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents (NEPA's Forty Most Asked Questions, Question 1a).
39	**MITIGATION** EPA believes the mitigation proposed for water quality impacts is not sufficient to address the impacts disclosed in the DEIS (see DEIS p. 3-292). Impaired waters are projected to be further impaired due to this project, therefore the mitigation measures should be much more definitive than currently proposed in the DEIS. EPA has provided suggested water quality mitigation measures in the water quality section above. In addition, the DEIS does not contain proposed mitigation for the stream morphology impacts. EPA strongly recommends identifying appropriate mitigation measures in the EIS and including such mitigation as enforceable measures in the ROD.	2) As discussed in Section 3.8.2 of the DEIS, it is the Corps' belief that meaningful and adequate water quality analyses were made on the Colorado River below Granby Reservoir, in Willow Creek below Willow Creek Reservoir, and in several East Slope streams (including the Big Thompson River, St. Vrain Creek, North St. Vrain Creek, Coal Creek, Big Dry Creek, and the Cache la Poudre River). Potential effects to water quality also were evaluated in the Three Lakes system (Granby Reservoir, Shadow Mountain Reservoir, and Grand Lake), Carter Lake, and Horsetooth Reservoir, as well as the predicted water quality for new reservoirs. In addition, simply asserting a lack of meaningful analysis, without providing substantive justification for such an assertion, does not obligate the Corps to respond with a lengthy reiteration or explanation of its methodology (NEPA's Forty Most Asked Questions, Question 29a). Provided the applicant meets all conditions of the Section 401 Certificate issued for the project by the Colorado Water Quality Control Division, a required condition of a 404 Permit, the WGFP should not violate state water quality standards. 3) Impacts from WGFP would result from two general actions: first from the diversion and storage of water from the Colorado River; and second, from the surface disturbance required for construction of reservoirs and associated facilities. Impact assessment of waters of the U.S. is discussed significantly and adequately in Chapter 3, Affected Environment and Environmental Consequences, along with multiple discussions of secondary and cumulative effects analyses. 4) In compliance with the EPA and Corps 1990 MOA on sequencing, avoidance and minimization of actions affecting wetlands and perennial streams are discussed in Section 8.1.4 of the Alternatives Report (September 2005). Mitigation is discussed in the FEIS and, if a Section 404 Permit is issued, evaluated and presented in the Section 404 Permit decision documents. The EPA makes a statement that the proposed action will result in substantial and
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		unacceptable impacts to the Upper Colorado River basin and, therefore, is an ARNI, but does not provide any evidence for this designation other than citing CWA general references. It is the Corps' position that, in light of the adequate and appropriate resource evaluation and impact assessment in the FEIS, reconsideration of the availability of potentially less environmentally damaging practicable alternatives, without substantive basis for the reconsideration, is not necessary. 39. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Chapter 3, Environmental Consequences. An updated summary of mitigation measures also is included in Section 3.25 of the FEIS. No specific mitigation measures were identified for stream morphology impacts because the analysis of flushing flows, frequency and magnitude of stream channel maintenance flows, and previous and recent assessment of sediment transport capacity indicate that substantial adverse effects are unlikely. However, the Fish and Wildlife Mitigation Plan (FEIS Appendix E) includes increasing flushing flows to 600 cfs under certain conditions. See response to Comment No. 37.

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1	United States Department of the Interior FISH AND WILDLIFE SERVICE Ecological Services Colorado Field Office P.O. Box 25486, DFC (65412) Denver, Colorado 80225-0486 OCT 27 2008 IN REPLY REFER TO: ES/CO: T&E/Windy Gap TAILS 65412-2008-FA-0132 Tully 1340 cust OCT 24 2008 1000, 1002, 1004, 1300 1005 MEMORANDUM To: Will Tully Environmental Specialist From: Susan C. Linner, Colorado Field Supervisor Subject: Windy Gap Firming Project Draft Environmental Impact Statement This responds to your announcement of August 26, 2008 requesting comments on the Windy Gap DEIS. These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.). The Fish and Wildlife Service disagrees with Reclamation's conclusion that the proposed project would have no effect on the Colorado River endangered fishes. Water diversions from the Colorado River basin to the Front Range always adversely affect the Colorado River endangered fishes. The proposed project does fit under the umbrella of the Colorado River Programmatic Biological Opinion, but this does not remove the adverse effect associated with the water depletion, it simply streamlines the consultation process. It doesn't make sense that Reclamation concludes that the proposed project will have no affect on the Colorado River endangered fishes, but then states that they will reinitiate consultation on the proposed action. Reclamation should provide the increased amount of water depletion from the upper Colorado River basin (in average annual acre-feet) from the amount originally consulted on for Windy Gap Reservoir and include this information in their reinitiation request. The project proponent has already signed a recovery agreement. The project proponent will be responsible for payment of a depletion fee of $18.29 per acre-foot (for Fiscal Year 2009). The following comments were made by us on the Preliminary DEIS but were not addressed in the DEIS: Page 1-2 **CANNOT FIND IN DEIS ENV-6.00 245	1. Section 3.13.2.3 of the FEIS was revised to explain the adverse effects to Colorado River endangered fish from WGFP depletions to the Colorado River, and the Municipal Subdistrict's participation in the Recovery Agreement and payment of the depletion fee. Section 7 consultation for the proposed project was completed on February 12, 2010 with issuance of a biological opinion from the Fish and Wildlife Service on the proposed project (FEIS Appendix D).

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2	Page 2 The first full paragraph states **"The WGFP includes additional storage that could only be accomplished through one or more conveyance connections to the C-BT Project. Such connections would require a contract from Reclamation"**. Therefore, the WGFP is interrelated to and interdependent with the C-BT Project. On June 16, 2006, the Service issued a programmatic biological opinion (PBO) for the Platte River Recovery Implementation Program (PRRIP) and water-related activities affecting flow volume and timing in the central and lower reaches of the Platte River in Nebraska. The effects of the continued operation of existing and certain new water-related activities on the remaining species and critical habitats listed in Table II-1 of the PBO were beyond the scope of the PBO and were not considered; Reclamation is currently undergoing separate consultation with the Service for potential impacts of Reclamation's C-BT Project on the remaining species and habitats potentially affected in Colorado. **The current status of this ongoing consultation should be provided in the WGFP BA/DEIS**. For example, in 2007, Reclamation provided the following information for the *Northern Integrated Supply Project* (NISP) to explain the status of their ongoing section 7 consultation with the Service for potential impacts of Reclamation's C-BT Project, which is an associated federal action of NISP, on species and habitats potentially affected in Colorado that were not covered in the PBO:	2. Information on the status of the separate consultation on C-BT facilities was added to Section 3.13.1.4 of the FEIS.
3	"The Eastern Colorado Area Office (ECAO) of Reclamation is currently undergoing separate consultation with the Service for potential impacts of Reclamation's C-BT Project, which includes the continued operation of the existing Horsetooth Reservoir and is an associated federal action of the proposed Project, on the remaining species and habitats potentially affected in Colorado. In 2006, the ECAO contracted to survey all C-BT Project lands below elevation 7,000 feet msl; this was approximately the elevation of the Pole Hill Power Plant west of Loveland. All fee owned lands were evaluated as to whether or not they provided potential habitat for Preble's, Colorado butterfly plant, or Ute ladies'-tresses. All lands associated with the following C-BT features were evaluated: Pole Hill Reservoir and adjacent lands; Pinewood Reservoir and adjacent fee owned lands; Flatiron Reservoir and adjacent fee owned lands; Carter Lake and adjacent fee owned lands; Horsetooth Reservoir and adjacent fee owned lands; Charles Hansen Feeder Canal - all fee owned lands adjacent to the canal between Flatiron Reservoir and Horsetooth Reservoir; and St. Vrain and Boulder Creek Supply Canals - all fee owned lands adjacent to the canals from Carter Lake to Boulder Reservoir. The survey identified 9 areas with potential habitat for one or more of the above listed species. Seven areas were identified as potential habitat for Preble's, two areas for Ute ladies'-tresses, and one site for Colorado butterfly plant. The ECAO is in the process of arranging for surveys of the 9 potential habitats to determine the presence or absence of the species. These surveys will be conducted during the summer of 2007. The ECAO plans on discussing the results of the 2007 surveys with the Service to determine the necessity for additional surveys in 2008". Page 3-33, Table 3-10; Page 3-6 ****CANNOT FIND IN DEIS**	3. See response to Comment No. 2.

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4	Page 3 Please state what estimated accretions (if any) are anticipated for the USGS Kersey gage (06754000; noted on page 43 of WGFP Draft Water Resources Technical Report), given that the PDEIS provided a thorough analysis for the gages upstream of Kersey. Referring to Figure 3-2; Table 3-10 provided accretion estimates for several illlustrated gage locations above the Poudre/South Platte confluence. But **text on page 3-6** ("Streams not expected to see a change in flow are ...") seemed to suggest there will be no net change at Kersey, which is below this confluence. This seems somewhat contradictory or ambiguous, so we suggest that it be clarified.	4. The potential increase in flow at the USGS Kersey gage (06754000) was added to Tables 3-16 and 3-17 in the FEIS. The maximum potential increase in flow at the USGS Kersey gage is the summation of the potential increases in flow anticipated along Big Dry Creek, Coal Creek, St. Vrain Creek, and the Big Thompson River. Consistent with the many comments suggesting that participants should use water imported from the western slope more efficiently, participants intend to reuse their Windy Gap effluent and return flows more fully as their demands grow either through nonpotable reuse, as an exchange supply, as return flow credit, or augmentation water. Therefore, increases in flow at the Kersey gage attributable to Windy Gap water should decrease as Participants more fully reuse their Windy Gap return flows in the future. Sections 3.5.1.1 and 3.5.2.8 of the FEIS were revised to clarify flow changes along the South Platte River.
5	Page 3-193 ****PALLID STURGEON MISSING FROM PAGES 3-191, 3-194, AND 3-195 IN DEIS** The second column, first paragraph states "The interior least tern, piping plover, and whooping crane seasonally use habitat along the Platte River in Nebraska. These species are potentially affected by water depletions in the South Platte River basin. All of the WGFP alternatives import water from the West Slope to the East Slope, which may increase flows in the South Platte River; thus, there would be no **adverse effect** to these species". The pallid sturgeon was omitted and needs to be added here. Also, this contradicts the "no effect" determinations given on Page 3-197, Table 3-106 for the same species, where pallid sturgeon was again omitted.	5. Pallid sturgeon was added to the discussion of other Platte River threatened and endangered species potentially affected by streamflow changes and were included in Tables 3-135 and 3-136 in the FEIS. The rationale on why no impact to Platte River species would occur also was expanded.
6	Page 3-197, Table 3-106 ****MISSING FROM PAGE 3-195 IN DEIS** The table concludes "no effect" for all Colorado River endangered fishes. All water depletions from the Colorado River basin should be a "likely to adversely affect" determination.	6. Table 3-136 was revised to indicate an adverse effect to Colorado River endangered fish.
7	Page 3-198 par. 1. ****MISSING FROM PAGES 3-195 AND 3-196 IN DEIS** Water depletions are not incorporated into the "Recovery Plan". Water depletions are addressed in the Colorado River PBO. If the steps outlined in the Recovery Plan and PBO are followed, it results in a streamlined consultation; but it is still an adverse effect requiring consultation.	7. The FEIS was revised to better describe the Programmatic Biological Opinion and compliance with the Recovery Plan.
8	Criterion 3: new depletions should be identified here and in the project description. Also the new depletion fee for FY2008 is $17.79. cc: Patty Schrader Gelatt Sandy L. Vana-Miller	8. The net annual average depletion to the Colorado River due to the Proposed Action would be 42,066 AF (46,084 AF of Windy Gap pumping minus 4,018 AF of Windy Gap spills). However, C-BT spills and Willow Creek Feeder Canal diversions under the Proposed Action would decrease, which would return 1,970 AF of water back to the Colorado River. Thus, the total Windy Gap average annual depletion to the Colorado River would be 40,096 AF. The Municipal Subdistrict has previously consulted on 18,779 AF of Windy Gap depletions as part of the 1999 Programmatic Biological Opinion. Thus, the **increase** in the average annual depletion to the Colorado River under the Proposed Action is estimated to be 20,317 AF/yr. The Subdistrict would pay a depletion fee based on the 21,317 AF of diversion and the depletion fee rate at the time of payment. Additional discussion on the depletion and payment was added to Section 3.13.2.3 in the FEIS. As mentioned above Section 7 consultation for the proposed project was completed on February 12, 2010 with issuance of a biological opinion from the Fish and Wildlife Service. The depletion fee remains to be paid but will be paid in accordance with the requirements of the Fish and Wildlife Service's February 12, 2010 biological opinion.

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	12-11-2008 4:55PM FROM GRANBY SANITATION 9708879574 P.2 WGFP 1148 **GRANBY SANITATION DISTRICT** Official File Copy ENV 600 CT OFFICIAL FILE COPY RECLAMATION DEC 1 1 2008 Tully wm 12/11/08 1075 P.O. Box 560 3493 Grand County Road 57 Granby, CO 80446-0560 Phone (970) 887-2052 Fax (970) 887-9574 December 11, 2008 Mr. Will Tully Bureau of Reclamation 11056 W. County Road 18E Loveland, CO 80537-9711 **SENT BY FACSIMILE TO (970)663-3212** RE: Comments to the Windy Gap Firming Project Draft Environmental Impact Statement (DEIS) Dear Mr. Tully: These comments are submitted on behalf of Granby Sanitation District (the "District"). The District provides wastewater treatment for the areas in and surrounding the Town of Granby, Colorado. The District's wastewater treatment facility is located on the Fraser River, approximately one mile upstream of the confluence of the Fraser River and the Colorado River. We have several concerns with the proposed Windy Gap Firming Project. While not an all-inclusive listing, the following list of comments/concerns is relevant to the proposed Project:	
1	1. We are the last wastewater treatment facility on the Fraser River, and we are concerned that the impacts to the Colorado River from the Project may affect the standards (both treatment and water temperature standards) required under a discharge permit. Small communities will have extreme difficulty with increased treatment costs potentially caused from the Project's impacts to the Colorado River.	1. The WGFP will not reduce or affect flows in the lower Fraser River. If Rockwell/Mueller Creek Reservoir is constructed, native flows would be bypassed in accordance with State Engineer requirements. Seepage from the dam might slightly increase flows in the lower Fraser River. The WGFP would not impact standards. Standards are set by the Water Quality Control Commission to protect beneficial uses. It is possible that future discharge permits could be affected by nutrient limitation in either the Fraser or Colorado Rivers. This may or may not result in increased treatment costs, depending on the current level of treatment. Proposed water quality mitigation includes reducing nutrient loading to the Three Lakes by funding upgrades to the Fraser WWTP and reducing nonpoint nutrient discharges from agricultural lands, as described in Section 3.8.4 of the FEIS. Upgrades to the Fraser WWTP would provide a year-round improvement in Fraser River water quality including the reach of the river where Granby Sanitation District discharges occur.
2	2. The Project and the DEIS do not sufficiently take into account the water quality impacts of lower flows in the Colorado River and how those impacts may cumulatively affect the aquatic environment (i.e., warmer water and less flushing flows) and the fresh water supply for those individuals below Windy Gap. The Project proponent must mitigate these impacts.	2. Potential impacts to aquatic resources were based on changes in habitat, including water quality parameters such as temperature. As noted in response to Comment No. 1, mitigation in the FEIS includes a reduction in nutrient loadings to the Fraser River, Willow Creek, and Colorado River. Additional stream temperature and climatic data became available following the initial analysis of temperature impacts for the DEIS. Subsequently, a dynamic temperature model (Hydros 2011) was developed with input and review by EPA to simulate weekly average temperatures and daily maximums for the Colorado River between Windy Gap Reservoir and the Williams Fork for existing conditions and the alternatives. The model simulations were conducted for the months of June through September using the very warm observed climatic data from 2007. Results of this analysis indicated that increased exceedance of the chronic MWAT and acute DM
3	3. The DEIS does not consider the combined cumulative impacts of both the Windy Gap Firming Project and Denver Water Board's proposed Moffat Tunnel Expansion Project. Since both projects will directly impact the Colorado River system, the combined cumulative impact should be addressed and mitigated in order to receive any required federal permitting. Narrowly reviewing each project separately will result in a more positive, albeit incorrect, conclusion of how the respective projects will affect water quality, water quantity, and the environment in general.	

Com-ment	Letter #1148	Response
	12-11-2008 4:56PM FROM GRANBY SANITATION 9708879574 P. 3 We appreciate the opportunity to comment on the Windy Gap Firming Project. Should you have any questions regarding our comments, please contact our District Administrator at the telephone number provided above. Very Truly Yours, Dave Johnson President	standards would occur in July and August of some years. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days, when simulated with the very warm 2007 meteorology. Mitigation for temperature impacts is included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict (FEIS Appendix E). See Section 3.8.4.2 for further discussion of temperature mitigation. Temperature mitigation measures would reduce the potential for exceedance of the temperature standards and impacts to fish associated with operation of the WGFP. Other factors including low precipitation, diversions by others, and WWTP discharges also contribute to elevated stream temperatures, whether the WGFP is pumping or not. Sediment transport analysis shows that flushing flows would be maintained with the Proposed Action and no impact is expected to aquatic resources from changes in peak flows (FEIS Section 3.9.2.3). 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 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. Mitigation measures for aquatic resources are discussed in Sections 3.8.4 and 3.9.4 of the FEIS and are included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict with the Colorado Division of Parks Wildlife in accordance with the requirements of CRS 37-60-122.2. 3. The WGFP FEIS fully considered the cumulative impacts of the Moffat Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impacts of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.

Com-ment	Letter #400	Response
1	WGFP 400 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Lurline Underbrink Curran MS. CURRAN: My name is Lurline Underbrink Curran, C-u-r-r-a-n. I'm the county manager for Grand County, and I'm also the designated representative for the county under Senate Document 80. The Windy Gap Firming Project is being reviewed in a vacuum. Denver's Moffat Firming Project, coupled with the Windy Gap Firming Project, if approved, we will see almost 80 percent of the water originating above the confluence of the Fraser and Colorado River leaving the county via trans mountain diversion. Grand County has requested several times that these two projects be reviewed together so that the cumulative impact can be studied appropriately. It is impossible to make informed comments on the cumulative impact of these two projects when taken one at a time and when each project impact has been assessed under different modeling projects. For the record, Grand County, under its 1041 regulations, holds local permitting authority over the Windy Gap Firming Project and will exercise those powers. Windy Gap Firming Project utilizes the CBT facilities to transport water to the Front Range. The transportation route takes water from Windy Gap through the pipeline to Granby Reservoir, Shadow Mountain, and finally Grand Lake, the largest natural lake in Colorado.	1. The WGFP FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects. Although the WGFP and Moffat Project used different hydrologic models, the results of both models were compared and differences are minor.
2	The CBT project is governed by federal legislation, referred to as Senate Document 80. Under the governing document, there are several protections given to Grand County, which are referred to as "primary purposes." I won't go into those. Those have been articulated this evening and are of record, and we will make them of record again in our technical comments. In order to accomplish those purposes, the project should be operated by an unprejudiced agency in a fair and efficient manner equitable to all parties having interest therein, and in conformity with particular stipulations. These include: Protection of the irrigation rights near Kremmling; preservation of a live stream in that section of the Colorado River between the new reservoir, which would have been Granby, and the mouth	2. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

Com-ment	Letter #400	Response
2	of the Fraser River; and to ensure an adequate supply for irrigation, sanitary purposes, and the preservation of scenic attractions and fish life. The current water quality issues in Grand Lake are not in compliance with Senate Document 80. The clarity of Grand Lake, algae issues -- which, in 2007, reached toxic levels -- and the transportation of nutrients are all associated with pumping of water from both the CBT project as well as the Windy Gap. There are ongoing studies to determine the specific causes of these problems, but those studies are not yet complete. However, the EIS has stated several impacts from nutrients which have been described here this evening, chlorophyll-A, dissolved oxygen, all things that increase the degradation of Grand Lake. Temperature and dissolved oxygen will continue to exceed state standards in Granby Reservoir, and magnesium will increase in the overall entire Three Lakes area -- Three Lakes system due to this lower dissolved oxygen. All of these nutrient issues are thought to contribute to clarity, algae, weed and temperature issues.	3. Reclamation and the Northern District are currently evaluating how modifications in the operation of the C-BT Project could improve water quality in Grand Lake. These ongoing efforts, plus water quality studies of C-BT Project operations, will continue to evaluate opportunities to improve the Three Lakes' water quality. Section 3.8.4 of the FEIS includes a detailed discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would fully mitigate expected nutrient increases in the Three Lakes system as a result of additional pumping from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River.
3	Prepositioning, which is the linchpin of the Windy Gap Firming Project, would allow more pumping of water to the CBT system, which will only exacerbate the present water quality issues. While Grand County is working closely with the Bureau of Reclamation to formulate a plan to protect Grand Lake and reestablish this condition, this plan has not been formulated, agreed upon and implemented. While there has been much cooperation in the last couple of years with Northern and other participants, these have to be formulated and put into place before this project can go forward.	
4	The water quality below Windy Gap also must be addressed, and the DEIS has to address these issues. I see my time is up, but I'm not going to stop.	4. See response to Comment No. 3 on nutrient mitigation that would also benefit Colorado River water quality year-round. Other mitigation measures would be implemented to avoid or minimize adverse water quality effects of the WGFP. These measures will be implemented prior to delivery of water.
5	The hand of the corporation has been extended from the project proponents, which is encouraging. There are several proposals under review that could help address these issues discussed, one of which is the Grand County Stream Management Plan, which could ensure water is available for environmental, domestic, agricultural, and recreation purposes. The Bureau of Reclamation, in its position as a lead agency for the Windy Gap Firming Project, as	5. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the Stream

Com-ment	Letter #400	Response
5	well as the unprejudiced agency under Senate Document 80, has an obligation to protect Grand County and the citizens of the state from the impacts from the Windy Gap Firming Project that cannot fully be assessed until past environmental and operating problems have been resolved and a full understanding of the cumulative impact of both firming projects have been presented. Grand County is asking for the additional time to assess these impacts. This document is large, and we ask that we be given time to assess it properly. Thank you for the additional time.	SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS is to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. However, mitigation measures included in the FEIS may help meet some of the goals of the SMP. See response to Comment No. 1 regarding cumulative effects and Comment No. 2 regarding Senate Document 80.

Comment	Letter #1073	Response

WGFP 1073

Grand County Water & Sanitation District #1

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Mr. Will Tully
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Eastern Colorado Area Office
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Mr. Chandler J. Peter
U.S. Army Corps of Engineers
Denver Regulatory Office
9307 South Wadsworth Blvd.
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RE: Windy Gap Firming Project

Dear Mr. Tully and Mr. Peter,

The following letter is submitted on behalf of Grand County Water and Sanitation District #1. Grand County Water and Sanitation District (the District) is located near the top of the Fraser River Valley and provides water and sanitary sewer service to the majority of the Town of Winter Park and some of the surrounding area.

The District's water supplies are located on Vasquez and Little Vasquez Creeks, tributaries to the Fraser River. Directly above the District water supplies are diversion belonging to the Denver Water Department. The District's wastewater discharges to the Fraser River above Windy Gap.

1 The District has been made aware of the Environmental Impact Statement that is being prepared for the Denver Water Department's Moffat Collection System project. Because of the close proximity and the effects that they may have, the District feels that the Windy Gap and Moffat projects should be reviewed together and the cumulative impacts considered.

2 Grand County Water and Sanitation District owns Windy Gap water through Middle Park Water Conservancy District. The District needs this water for existing customers and future development. Without Middle Park's 3,000 acre feet of water being firmed up and available in a reliable manner, the District's ability to continue to divert water may be in jeopardy.

3 Removal of water from the headwaters of the western slope and the overall impact on water quantity and quality along the Fraser River and Colorado River Basins needs to be addressed within this process. Continued degradation of the water quality is affecting the ability of municipal wastewater treatment plants to meet discharge permits without huge expenditures of monies on up-grades to these treatment systems. Lower water quality and quantity also has

1. The WGFP FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.

Com-ment	Letter #1073	Response
3	impacts on municipalities in the cost for providing drinking water treatment. Additional expenses caused from trans-mountain diversion will place undue hardships on headwater municipalities. Grand County Water and Sanitation District #1 appreciates the opportunity to submit these comments. If you have any questions please feel free to contact me. Thank You, Bruce Hutchins Manager	2. One of the purposes of the WGFP is to, "…provide up to 3,000 AF of storage to firm water deliveries for the Middle Park Water Conservancy District." There are ongoing discussions between Middle Park and the Subdistrict on how best to use this 3,000 acre-feet of storage. 3. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would offset the total nitrogen and total phosphorus loadings to the Three Lakes projected from the WGFP compared to existing conditions. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River.

Com-ment	Letter #411	Response
1 2	WGFP 411 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 Gina Hardin MS. HARDIN: So I am Gina Hardin, an attorney in Denver, and I've been asked to present these comments on behalf of Grand County and Northwest Council of Governments who are unable to attend tonight. They will provide more detailed comments on Thursday night as well as written comments. First, Grand County and Northwest Colorado are concerned that the description of the existing conditions in the DEIS does not adequately explain the degree to which existing water diversion projects already have affected the upper Colorado River. Estimates vary, but as much as 65 percent of the water is currently diverted from the upper Colorado River each year. These existing diversions have reduced stream flows, causing a great deal of environmental and socio-economic impact, such as reductions in water quality. Impacts to agriculture irrigators. Impacts to water. And waste water treatment plants. And lots of boating opportunities. Recreation and tourism are the backbone of Grand County's economy, and water is the backbone of recreation and tourism. Every single drop matters. In some sections of the stream, the difference of 1 or 2 cubic feet per second can be critical. It is not possible to understand the impact of the WGFP unless we understand the condition. The Federal agencies charged with permitting this project need that information to make an informed decision. Second, the mitigation proposed in the DEIS is not specific. Grand County and Northwest Council of Governments have been working on a stream management plan that will identify the streams -- the flow patterns and stream improvements that are needed to protect the health of the river system. Recently, both municipal subdistrict and the Denver Water Board have agreed to participate in phase 3 of the plan. Mitigation imposed in the -- in the Windy Gap Firming Project should follow the findings and recommendations of the stream management plan to ensure that no more harm is done to the upper Colorado River. One area of the state should not grow at the expense of another. The stream management plan is a way to ensure that this does not happen. Third, Grand County has been asked by many, many constituents, to seek an extension of time to respond in detail to the DEIS. This document is very complicated and requires hours and hours of study to understand. We have requested an additional 45 days from the October 28th deadline. Others have asked for more. Please give this request your serious consideration. The project is far too important and complex for the public to limit the time for public comment. And finally, we are hopeful that Grand County and other West Slope interests will be able to find a way that the East Slope can get the water it needs without harming the West Slope. The Bureau of Reclamation's decision documents should form a basis for this outcome. Northwest Council of Governments and Grand County will provide various detailed comments in writing. Thank you.	1. The Affected Environment section of Surface Water Hydrology describes historical hydrologic conditions and the various actions and projects that have contributed to existing conditions. Other sections in the EIS provide discussions of existing condition and status of the various resources. The existing hydrologic conditions presented in the EIS provide an accurate baseline from which to make a reasonable comparison of the impacts of each of the alternatives. The same is true for other resources. The cumulative effects assessment in the EIS for hydrology and other resources considers the impacts of all past, present, and reasonably foreseeable actions in combination with the alternatives. 2. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. However, mitigation measures included in the FEIS may help meet some of the goals of the SMP. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25 of the FEIS.

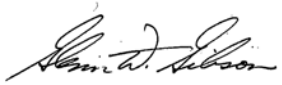
Com-ment	Letter #392	Response
1	WGFP 392 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Pat Raney MS. RANEY: Good evening. My name is Pat Raney, R-a-n-e-y. I live in Grand Lake, and I'm a member of the Grand Lake Shoreline Association. I've been in Grand Lake since 1996. And since that time, I have been doing volunteer water sampling every week in the summer for the last 12 years. And since I have lived in Grand Lake, the water quality has been degrading. I think it's important to understand that Grand Lake is Colorado's largest natural lake. It is not a reservoir. It should not be treated as a reservoir. And it should not be part of a study where sometimes it's even referred to as Grand Lake Reservoir. That is incorrect, and it is a very unfortunate mistake on the part of the researchers. The environmental impact study is to investigate the impact of this project. Every impact on Grand Lake is negative. There is not one good reason that this project should be approved. The water -- the impact includes increase in phosphorus, increase in nitrogen, increase in chlorophyll A, according to your own study. It also shows a decrease in depth reading. That means a decrease in the clarity of Colorado's largest natural lake. This is completely unacceptable, to have an EIS with negative impacts and not consider those very, very carefully. Colorado's largest natural lake should not be degraded by this project. We need to protect the lake. We need absolutely more conservation on the Front Range. You have already heard that. Colorado -- Grand Lake, as Colorado's largest natural lake, is the most important resource in the state, except for the Colorado River itself. And the negative impacts of this project should be seriously considered and the project not continue until you have mitigated all of these potential impacts. Thank you.	1. Proposed water quality mitigation, as described in Section 3.8.4 of the FEIS, would reduce nutrient loading from the WGFP to the Three Lakes System so that the WGFP would not exacerbate the algae and clarity problem in Shadow Mountain Reservoir and Grand Lake. These measures would improve the quality of Fraser River, Willow Creek, and the Colorado River water downstream of these improvements. The WGFP Participants have committed and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation will require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25 of the FEIS.

Comment	Letter #419	Response
1	WGFP 419 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 John Monson MR. MONSON: Good evening. My name is John Monson. I'm the Water and Sewer Director for the City of Greeley. We celebrated in Greeley Water our hundredth anniversary last year. I got to ride on the float in the Greeley Stampede parade for the first time ever, and by the way, one of the first water ordinances that Greeley passed a hundred years ago was for even-odd irrigation. We've had water conservation in Greeley for over a hundred years now. The Windy Gap Firming Project, of which we're a participant, is part of our next hundred years in Greeley. And I'd like to talk to you a little bit about why this Windy Gap Firming Project is important to us and it is really well described in our 2003 Water Master Plan. We -- in that master plan, started talking about the near term method to meet our demands and the long term. In the near term, there are probably about four major parts to that. One was to use gravel pits. Another was to provide a lot of nonpotable water. Conservation was a third issue. And maximizing existing supplies was our fourth component of that master plan. The existing supplies, I say, because Greeley is one of the original six cities that founded the Windy Gap project, and we still have one of the largest blocks of water in that project. After implementation or -- while implementing that master plan, we are now using lined gravel pits for storage. We have an extensive ditch system going through the city. About 20 percent of all of our irrigation in the city is done with nonpotable water these days. And conservation. The City of Greeley's budget for water conservation is about a half a million dollars a year now. We've got four full-time employees and lots and lots of seasonal people. We do all the usual things, rebates for toilets and front-load washers. We also do audits of residential irrigation systems, commercial developments. I even hired a contractor to go into the Swift meat packing plant and look for everything that leaked in that plant. They use an enormous amount of water and we thought we'd get the biggest bang for the buck by looking at conservation in their system. We also do things like grants for lower water use	1. Thank you for your comment.

Com-ment	Letter #419	Response
1	landscape. Elaine Lai of the USEPA, a couple of years ago, looked at water conservation methods up and down the Front Range and came up with a list of about 50 that are in general use. Greeley has adopted over 80 percent of these water conservation programs that were in that list. One of the best water conservation methods we've come up with is universal metering and a rate structure that encourages water conservation. We have been fully metered since 1996. And at that time, we moved from a flat rate to a uniform rate. The more water you use, the more you pay for. That has shown a dramatic water conservation of about 20 percent less demand than premetering days. So water conservation is a third aspect. The fourth is to maximize the existing supplies we've got. Windy Gap, it is one of those supplies. And we urge you to approve this project as one of the components of our master plan for securing water supply for Greeley's future. Thank you.	

Com-ment	Letter #46	Response
1	LARIMER COUNTY COMMITTED TO EXCELLENCE BOARD OF COUNTY COMMISSIONERS 200 W. Oak Street Post Office Box 1190 Fort Collins, Colorado 80522-1190 (970) 498-7010 Fax (970) 498-7006 E-mail: bocc@larimer.org Mr. Chandler J Peter U.S. Army Corps of Engineers Denver Regulatory Office 9307 South Wadsworth Blvd Littleton CO 80128-6901 **Regarding: Windy Gap Firming Project Draft Environmental Impact Statement** Dear Mr. Peter: The Larimer County Board of Commissioners has reviewed the draft Environmental Impact Statement (EIS) for the Windy Gap Firming Project, and offers the following comments. The preferred alternative analyzed in the draft EIS is the Chimney Hollow Reservoir, located just west of Carter Lake Reservoir in Larimer County. The purpose of the reservoir would be to store Windy Gap water originating on the west slope. Chimney Hollow would allow storage of 90,000 acre-feet, and is similar in size to Carter Lake Reservoir. Water would be delivered through the existing facilities of the Colorado Big Thompson Project. Larimer County worked cooperatively with the Municipal Subdistrict of the Northern Colorado Water Conservancy District, and adopted an agreement for joint purchase of property in 2005. The purpose was to coordinate on the County's Blue Mountain Open Space Project and the District's firming project. The EIS appears to be consistent with the June 2004 Intergovernmental Agreement between the County and the Conservancy District and with the discussions held prior to acquisition of the property. The alternatives involving Chimney Hollow Reservoir accurately depict our agreements regarding temporary and permanent access, relocation of the power line, and the use and management of the District property and reservoir. Not withstanding the above, we do have concerns about how the operation of the Windy Gap Firming Project will result in lower water levels in Horsetooth Reservoir. The projected lower water levels will likely take the County's Inlet Bay Marina and primary boat ramps out of operation weeks earlier than current operations. The result will be a loss in recreational opportunities and decreased revenues for Larimer County which manages recreation at the reservoir. The proponents should further examine this issue and provide for appropriate avoidance or mitigation. It is our view that the construction of Chimney Hollow Reservoir as a component of Alternatives 2, 3 or 4 is preferable to Dry Creek Reservoir in Alternative 5. The reason for this view relate to the ability to provide shorter pipelines and access roads, reduced wetland impacts, reduced PRINTED ON RECYCLED PAPER	1. In average years, the Proposed Action would reduce surface water elevations to the bottom of the South Bay-South boat ramp in September. While the potential loss of use of this boat ramp would reduce the number of accessible boat ramps from five to four, it is not anticipated to adversely affect overall boating opportunities. During dry years, impacts to the South Bay-South boat ramp are the same under the Proposed Action and Existing Conditions. In addition, the Santaka Cove boat ramp could be impacted by the Proposed Action, which would impact overall boating opportunities and carrying capacity, particularly at the northern end of the reservoir. Modified prepositioning efforts would eliminate boat ramp impacts from the Proposed Action during average years during the summer recreation season. In dry years, the impacts would remain and would be similar to existing conditions. Section 3.19.4 of the Recreation section has been modified in the FEIS to describe the benefits of modified prepositioning efforts on boating access at Horsetooth Reservoir.

Com-ment	Letter #46	Response
	Mr. Chandler J Peter October 21, 2008 Page 2 construction noise, and reduced impacts to private property and existing homes with the Chimney Hollow option. The use of Jasper East or Rockwell reservoirs on the west slope in conjunction with Chimney Hollow Reservoir in Alternatives 3 and 4 does have the potential to mitigate some of the water quantity and quality impacts estimated for Carter Lake and Horsetooth reservoirs. We did note, however, that there are significant wetland losses associated with each of the potential west slope reservoirs. While we are interested in reasonable ways to protect water quantity and quality in the Carter Lake and Horsetooth reservoirs, we concur that the impacts to west slope wetlands is sufficient to justify the preferred alternative over those projects.	
2	The preferred alternative would require the relocation of about 3.8 miles of electric transmission line that runs through the Chimney Hollow site. Larimer County has recently adopted regulations for power lines under what is known in State statutes as 1041 Powers. Those regulations will require a formal review and permitting process for the transmission line relocation.	2. The Western Area Power Administration (Western) would be responsible for relocation of a portion of the existing transmission line that crosses through the Chimney Hollow Reservoir site. Western would comply with the substantive requirements of a county permit.
3	As part of the preliminary planning process for the Windy Gap Firming Project, the Conservancy District worked with County staff regarding options for the power line route. A considerable amount of supporting information about potential route alternatives was prepared as part of that process. It would be helpful for completing the public record for the EIS if those results were referenced and described in the final EIS.	3. Additional description on the visual simulation and other measures used to minimize the impact of the relocated transmission line were added to Section 3.21.2.4 of the FEIS.
4	The draft EIS indicates that the south access road to the "saddle dam" would be closed to the public. The County would like to engage the Conservancy District in discussions about the possibility of a trail to allow non-motorized public access to the south end of the reservoir.	4. The Subdistrict would work with Larimer County in the development of a recreation plan for Chimney Hollow Reservoir to determine if a nonmotorized access point at the south end would be feasible.
5	Table 3-111 and the discussion concerning transportation impacts makes reference to existing traffic volumes and capacities of the County roadways that may serve as access and haul routes to the reservoir sites for either Chimney Hollow or Dry Creek. These "capacities" are theoretical values based on road geometry. They do not consider the structural capacity of the existing road system to handle heavy and sustained construction traffic. The EIS needs to more thoroughly determine the adequacy of and potential impacts to the County road system resulting from the construction activities and define appropriate mitigation measures and costs. This assessment should look at road conditions now and consider the potential for direct damage to the road system and reductions in remaining service life to the roadways resulting from the heavy and sustained construction traffic.	5. The Subdistrict will be required to acquire necessary County permits for construction. It is anticipated that these permits will address potential impacts to the County road system as a result of construction activities.
6	It is anticipated that construction phase of Chimney Hollow Reservoir would impact access to the developed recreation facilities at Flatiron Reservoir and the south end of Carter Lake Reservoir. We would request that the draft EIS address the impact of these disruptions and consider potential mitigation strategies.	6. No impact on access to Flatiron Reservoir is anticipated at this time. A construction access road to the Chimney Hollow dam site would be built west of Flatiron Reservoir access. Additional construction traffic along County Road 28 could inconvenience visitors to Flatiron Reservoir. If a potential impact to recreation access at Flatiron Reservoir is identified during construction planning, appropriate mitigation measures to minimize impacts on use of Flatiron Reservoir would be developed.

Com-ment	Letter #46	Response
7	Mr. Chandler J Peter October 21, 2008 Page 3 The participants should be required to develop and implement reasonable conservation measures for Windy Gap Firming deliveries in order to account for the value and importance of the water supply project. Incorporating effective conservation practices can lower the per capita demand and enhance the efficiency and sustainability of the project. Water conservation measures can help to assure that adequate clean water supplies remain available and reliable in the course of growing populations, periodic drought, and climate change. The Board appreciates the opportunity to comment on the draft EIS. We are available to further discuss any of these issues if that would assist in the preparation of the final EIS. Sincerely, FOR THE BOARD OF COUNTY COMMISSIONERS  Glenn Gibson Chair	7. The WGFP Participants have committed and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation will require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict.

Com-ment	Letter #91	Response
1	DEPARTMENT OF WATER AND POWER City of Loveland 200 North Wilson Avenue • Loveland, CO 80537 (970) 962-3000 • Fax (970) 962-3400 • TDD (970) 962-2620 www.cityofloveland.org ENV-6.00 245 OCT 28 2008 Tully 1340 cwt October 24, 2008 Mr. Will Tully US Bureau of Reclamation 11056 West County Road 18E Loveland, CO 80537 Mr. Chandler J. Peter US Army Corps of Engineers Denver Regulatory Office 9307 South Wadsworth Blvd. Littleton, CO 80128 RE: City of Loveland Participation and Support of the Windy Gap Firming Project U.S. Bureau of Reclamation DEIS 08-30 and U.S. Army Corps of Engineers Section 404 Permit Application No. 200380523 Dear Will and Chandler: I am writing as the Chair of the Loveland Utilities Commission. The Commission consists of nine Loveland citizens who consider issues and make recommendations to the Loveland City Council on topics of water and power. We wish to convey to you our strong support of the proposal to construct storage to firm up waters from the Windy Gap Project in Chimney Hollow Reservoir. Few feasible alternatives exist, and future costs and impacts will almost surely increase if this project is not approved and built. Although I presented briefly at the public hearing on October 7, 2008, enclosed are more extensive comments that were endorsed by official action of the Commission on October 15, 2008. *Project Need:* The City of Loveland strives to create and maintain a diverse portfolio of raw water rights including water from four basic sources: native rights of the Big Thompson River from early decrees and from transferred ditch shares, units in the Colorado-Big Thompson Project, and units in the Windy Gap Project. A dependable supply of water from the Windy Gap Firming Project is critical to achieving and maintaining this diversity. The Project is essential to meeting the demands of additional growth, and to protect our citizens with an adequate water supply during a drought period. Essential components of Loveland's mission for its Water Utility, among others, are the following: to provide high quality service and reliability; to plan for the future while being environmentally sensitive; and to offer the citizens competitive rates and fiscal responsibility. It remains an important community value that the City strives to provide high quality water at a cost everyone can afford while being environmentally responsible. In order to determine how to make the best use of its water in a responsible and efficient manner, the City completed a Raw Water Master Plan study in late 2005. The City's recently enlarged reservoir, Green Ridge Glade, was completed and brought online in 2004. This storage greatly improves the City's ability to manage raw water rights that it owns in the Big Thompson River, making the water available during the non-irrigation season and during times of drought, firming and maximizing its use of the in-basin raw water resource within legal constraints. Windy Gap Project water requires its own storage to be made reliable for the City as its native supplies have been. Storing Windy Gap water in Colorado-Big Thompson Project reservoirs involves an inherent, and very real, risk for spilling and losing the water. During above average water years when Printed on Recycled Paper	1. Thank you for your comment.

Com-ment	Letter #91	Response
1	the CBT system fills, stored Windy Gap water is the first to spill from storage and is lost. A regional firming project, such as is proposed at Chimney Hollow in the Draft Environmental Impact Statement (DEIS), will allow the Windy Gap water to be made firm so that it is available during drought or whenever it is needed by its owners. *Conservation:* Loveland implemented conservation measures almost from the founding of its water utility in 1887. Records show watering restrictions were implemented by 1893. One of the most effective water conservation measures was its City-initiated, utility-wide metering program in 1979. Water service meters were installed on all services by 1981, years earlier than most other municipalities in the state, and the City moved from a flat monthly billing rate to a uniform rate per thousand gallons. This resulted in a permanent 20% reduction in consumption and 25% reduction in maximum day use on a per capita basis. The City of Loveland's per capita water use remains low. Customers demonstrated their commitment to conserving water by reducing residential *gallons per capita day (gpcd)* consumption by 16% between 2000 and 2006. The City's residential *gpcd* value in 2006 was actually lower than comparable values for Aurora, Boulder and Denver Water, according to staff analysis and information from other entities. Loveland prefers an effective educational approach for implementing and requesting conservation measures over imposing an increasing block rate structure as some interests around the state have proposed. Education was and remains a key component of the City's water conservation measures. Loveland widely promotes the importance of water conservation with information to its customers to enhance efficient water use patterns. This is done on a regular basis, primarily with inserts in utility bills, broadcasts through the local community access cable channel, the City's website, and the local newspaper. The City also participates with community outreach efforts such as speaking to various civic groups, making presentations at local schools, participating in Loveland's annual Children's Water Festival, and educating teachers through Project WET (Water Education for Teachers). Loveland encourages developers to plant low-water use plants and has recently created a voluntary Xeriscape program. The incentives include a reduced water rights requirement and reduced system impact fees. To participate in the program, a landscape plan with hydrozones and estimated water requirements must be submitted for approval. The landscape must reduce water use by twenty five percent or more to qualify for the incentives. Another successful outreach has been the City's "Garden in a Box" program. This is a convenient, non-intimidating way for customers to purchase xeric plants complete with a landscape plan of where to place the plants for visual effectiveness. Customers can choose from one of three options for the "Garden in a Box", pay online, and pick up the plants at the Water utility office. The pick-up is timed early in the spring so customers have ample time to plant prior to the heat of the summer. The City has two dedicated xeriscape demonstration gardens, one located at City Hall and another located at the Loveland Water & Power office. Public parks have areas of xeric plantings. The public parks and right-of-way areas are examined to determine the most appropriate type of planting or surface, with an eye toward conserving water. Awareness of the value of proper soil amendment has been heightened. Soil amendment requirements, as well as a plant list of desired xeric plants, are now an important part of the City's site development performance standards and guidelines. *Mitigation:* At the public hearing on October 7, 2008, some comments were directed to the need for Project participants to mitigate effects of the project by doing something for the Western Slope. In response, please allow me to reiterate the following known facts:	

Com-ment	Letter #91	Response
1	• The Municipal Subdistrict legally holds ownership of the water rights and is "playing by the rules" within Colorado's prior appropriation system. • In the 1980's the Municipal Subdistrict paid $11.5 million in compensatory mitigation to develop West Slope water storage, to fund diversion and water quality improvements, and to support endangered species recovery. Of that amount, payment of $10.2 million went to the Colorado River Water Conservation District and was used to help construct Wolford Mountain Reservoir. • Other non-monetary compensation included minimum streamflow commitments on the Colorado River and 3,000 acre-feet of water made available from the Windy Gap Project each year pumping occurs, available to the Middle Park Water Conservancy District. • Outstanding mitigation considerations remain for the impacts caused by actual reservoir construction. The impacts of the dam and reservoir footprint on the selected site should appropriately be considered. Significant West Slope mitigation has been provided in anticipation of the Project. *Importance:* What happens if a Windy Gap Firming Project is not approved and built? Alternatives are discussed in the DEIS, but the specific implications for Loveland are serious: • The City's future firm yield would be reduced by over 2,500 acre-feet. Meeting the demands of additional growth, and to protect our citizens with an adequate water supply during a drought period would still have to be accomplished. • Loveland would search for individual storage to make firm the Windy Gap water it already owns. However, a search is currently underway by the City for a site to store native waters from the Big Thompson River, and few feasible alternatives exist. Future costs would be driven up dramatically. • Loveland would necessarily consider the use of water from other sources, which could include additional water from the CBT system, additional transfers of water from surrounding agricultural uses, and additional individual storage capacity for native water. Such storage would be required to make agricultural supplies available to meet year around demands and during drought. We heartily encourage those weighing this permit proposal to allow the Windy Gap Firming Project to move forward as proposed. We believe the Chimney Hollow alternative represents a reasonable, environmentally responsible, and economically feasible solution that works well for all parties. A storage project for Windy Gap Project water has been anticipated for many years, and the proposed project is best for the future well-being not only of Loveland, but of the Northern Colorado Region and our State. Thank you for your consideration. Sincerely, Gary L. Hausman Chairman, Loveland Utilities Commission cc: Ralph Mullinix, Director, Loveland Water & Power Erick Wilkinson, General Manager, Municipal Subdistrict/NCWCD	

Com-ment	Letter #412	Response
1	WGFP 412 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 Gary Hausman MR. HAUSMAN: My name is Gary Hausman, and I'm the Chairman of the Loveland Utility Commission. The Commission consists of nine Loveland citizens that make recommendations to the Loveland City Council on topics of water and power. We strongly support the proposal to approve the construction of the Chimney Hollow reservoir. Few feasible alternatives exist and the future costs and impacts will almost surely increase if the project is not approved and built. The City of Loveland is striving to have a diverse portfolio of raw water routes, including native rights on the Big Thompson River from early decrees and transfer ditch shares; units in the Colorado Big Thompson project; and units in the Windy Gap project. The Windy Gap project, Firming Project, is critical to achieving and maintaining this diversity. The project is essential to meeting the demands of additional growth and to protect our citizens with an adequate water supply during a drought period. Loveland participating level of 7,000 acre-feet of storage would occupy 7.7 percent of the proposed Chimney Hollow reservoir. Essential components of the Loveland emission for its water utility are to provide high-quality service and reliability, to plan the future while being environmentally sensitive, and to offer citizens a competitive rate and fiscal responsibility. It is the important community value that the City strives to provide high-quality water at a cost that everyone can afford while being environmentally responsible. Loveland uses the educational approach to implement and to request conservation measures, and the citizens demonstrated their commitment by reducing residential gallon per capita day, GPCD, consumption by 16 percent between 2000 and 2006. The city's residential GPCD value in 2006 was actually lower than the compared values of Aurora, Boulder, Denver water, according to the staff analysis and information from other entities. The City actually participates in community outreach efforts, such as making presentations at various civic groups and schools, participating in the annual children's water festival, and educating teachers through the project water -- or WET, Water Education for Teachers program, sponsored by the Colorado Watershed Network. Loveland encourages participation in a voluntary xeriscape program that includes fiscal incentives for developers and a garden in the box program providing reduced price planting and instructions for customers. We wholeheartedly encourage those considering this permit proposal to allow the Windy Gap Firming Project to move forward as proposed. We believe that it's a reasonable, environmentally responsible solution that is best for the future and well-being, not only of Loveland but the Northern Colorado region and our state. Thank you.	1. Thank you for your comment.

Com-ment	Letter #1149	Response
1 2 3	WGFP 1149 Middle Park Conservation District PO Box 265 Kremmling, CO 80459 Will Trully US Bureau of Reclamation 11056 W. CR 18E Loveland, CO 80537 December 29, 2008 Dear Mr. Will Trully: The Middle Park Conservation District works to conserve soil, water, and other natural resources on public and private land in Grand and Summit Counties. The Draft Environmental Impact Statement (DEIS) for the Windy Gap Firming Project predicts that increased water diversions and reduced flows could alter water quality, decrease the availability critical riparian habitat for aquatic and terrestrial wildlife, temporarily and permanently affect aquatic vegetation and wetlands, and have negative socioeconomic implications for local economies along the upper Colorado River. For these reasons, the Middle Park Conservation District DOES NOT endorse the Windy Gap Firming Project (WGFP). We believe the WGFP is more of a detriment to our community than a benefit. As stewards of the land, it is our job to project the wise use of our natural resources. The WGFP could potentially destroy the integrity of many ecosystem services we gain from the land and water of the upper Colorado River ecosystem. Though the DEIS discusses, in detail, the impacts of the WGFP on habitat and land use on the Front Range, it only briefly discusses the repercussions felt on the Western Slope. Reduced water flows could dry up many wetlands in the area, thus reducing the capacity of the land to recycle nutrients, provide habitat for migratory birds and other wildlife, neutralize toxins, store water, and prevent erosion along river banks. Additionally, many ranchers rely on peak summer flows to irrigate their hay fields; reduced flows could decrease crop production and hinder the ranching industry in Middle Park. The DEIS states that the WGFP will "only supply 10% of the projected 2050 East Slope Participant water supply demands", leaving 34% of water demands yet to be accounted for. The Middle Park Conservation District would like to see communities along the Colorado Front Range take a more proactive stance in conserving their water resources. If after implementing all possible conservation practices water demands are not being met, then, and only then, may we look to other alternatives, such as the WGFP, to supply the water needs of the Colorado Front Range and Northern Colorado Water Conservancy District. Sincerely, *Board of Supervisors* Middle Park Conservation District	1. The DEIS provided an analysis of the environmental effects to a wide range of resources for the proposed WGFP in accordance National Environmental Policy and Council of Environmental Quality Guidelines. We appreciate your concern about the project. The FEIS includes additional information to clarify potential impacts and mitigation measures to reduce those impacts. 2. The Subdistrict would comply with state water law. Windy Gap cannot divert when downstream senior water rights are calling for water and the Windy Gap project is not in priority. The Windy Gap Project would divert water from the Colorado River in accordance with the Municipal Subdistrict's water rights. These rights are administered by the Colorado State Engineers Office. Windy Gap water rights are junior to most downstream irrigation rights, and Windy Gap diversions would only occur when those rights are in priority. After the WGFP is in place, the Windy Gap Project would continue to comply with Colorado River bypass flow requirements established by the Agreement Concerning the Windy Gap Project and the Azure Reservoir and Power Project (Azure Agreement) completed April 30, 1980 as part of the original Windy Gap Project. This agreement requires the Windy Gap Project to curtail diversions if streamflow drops below 90 cfs below Windy Gap Reservoir, 135 cfs below the Williams Fork, or 150 cfs below Troublesome Creek. The Windy Gap Project cannot divert if the agreed minimum flows are not met, even if Windy Gap water rights are in priority. Colorado River flows may fall below the minimum streamflow volumes when the Windy Gap Project is not pumping, particularly in late summer. The Subdistrict has no control over Colorado River flow when the Windy Gap Project is not pumping. 3. The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict.

Com-ment	Letter #1096	Response

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

December 22, 2008

Mr. Will Tully
Bureau of Reclamation, Eastern Colorado Area Office
11056 W. County Road 18 E
Loveland, CO 80537-9711

RE: Windy Gap Firming Project, Draft Environmental Impact Statement, Comments of Middle Park Water Conservancy District

Dear Mr. Tully:

The purpose of this correspondence is to comment on the Windy Gap draft EIS for the Middle Park Water Conservancy District. As noted many times throughout the draft EIS, Middle Park Water Conservancy District by virtue of contractual arrangements has an interest in 3,000 acre foot under the Windy Gap Agreement. As of the time of writing this correspondence, Middle Park Water Conservancy District has not executed an agreement with the participants regarding its participation in the Windy Gap Firming Project. However, negotiations have been occurring over the last several years involving Middle Park's participation in this project and Middle Park is hopeful that they will conclude successfully.

Our engineers have been reviewing the Hydrology Impact as summarized in the draft EIS and have concluded that based upon the no action alternative versus the proposed action alternative the following hydrological impacts will occur:

- Increased diversions and reduced flows in the Colorado River below Windy Gap Reservoir in some (wetter) years
- Average Windy Gap diversions would increase about 2,500 ac-ft/year
- Colorado River average annual flow below Lake Granby would decrease about 5,000 ac-ft/yr as a result of the availability of additional Windy Gap storage and fewer reservoir spills

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	Mr. Will Tully December 18, 2008 Page 2 • Colorado River average annual flow below the Windy Gap diversion would decrease by about 9,000 ac-ft/yr, mostly occurring between May and August, in average and wet years (no changes in flow in dry years) • Colorado River average annual streamflow would be reduced about 9,000 ac-ft/yr below Kremmling and the confluence with the Blue River • Average annual Willow Creek streamflow below Willow Creek Reservoir would decrease about 1,200 ac-ft/yr due to changes in Willow Creek Feeder Canal deliveries to Lake Granby • Lake Granby average monthly water levels would decrease from historic conditions about 5 to 8 feet, and could decline as much as 23 feet during a series of dry years. • Windy Gap firm yield (to all participants) would increase from about 1,200 ac-ft/yr to about 26,600 ac-ft/yr • The average annual deliveries of Windy Gap water thru the Adams Tunnel to the east slope would increase from about 22,000 ac-ft/yr to about 31,000 ac-ft/yr.	
1	Middle Park's first comment is that references to Middle Park's water interest is slightly different than stated in the draft EIS. The actual clause regarding the use of Middle Park's water states as follows: "Subdistrict will release this 3,000 acre feet of water for all beneficial uses, except for instream uses and industrial uses (unless the industrial use is with a municipality and through its municipal system)." The exception on the industrial uses probably should be included in those references.	1. Section 1.2 of the FEIS was revised to indicate MPWCD water can be used for industrial uses in a municipality and through a municipal system.
	Issues that Middle Park feels that are not fully analyzed and/or addressed include:	
2	1. Pre-positioning. It seems to Middle Park that that issue needs to be fully addressed since it is vital to this particular project.	2. The hydrologic and resource effects of prepositioning as a component of Alternative 2 were evaluated in the EIS. It is not clear from the comment what additional analysis is recommended. Also mitigation includes modification of prepositioning to minimize the adverse effects on water levels in Granby Reservoir under the Proposed Action. These are discussed in Section 3.5.4 of the FEIS.
3	2. The draft EIS does not include the most recent drought under the study conditions which could impact the water available for Windy Gap diversions.	3. The modeling effort for the WGFP began in 2000. At that time, the decision was made to end the study period in 1996 because data required for the model (flow, diversion, evaporation, and precipitation) was readily available through that year, and the State's CDSS model study period also ended in 1996. The need to extend the WGFP model study period was evaluated to determine whether a study period that includes recent hydrology, and in particular 2002, would change conclusions regarding WGFP yields and associated hydrologic

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		changes. The period from 1997 through 2003 was analyzed in a spreadsheet exercise using Excel. A copy of the technical memorandum, *Significance of 2002 Hydrology to WGFP Modeling (Meg Frantz September 27, 2004)*, which summarizes that analysis, was provided to Grand County at a meeting on March 4, 2005. At Grand County's request, the analysis was subsequently updated to take into account the "relaxation" of the Shoshone call. Key conclusions of that analysis are: o The addition of a WGFP reservoir would not change Colorado River flows in a year like 2002. Windy Gap water rights did not come into priority in 2002 and the addition of a WGFP reservoir would not change that condition. Therefore, Windy Gap would not divert in a dry year like 2002, with or without a WGFP reservoir, because Windy Gap diversions would be limited by the amount physically and legally available, as opposed to available storage capacity. o The WGFP firm yield would not change if the model period was extended through 2002. A comparison of model output for the 1950–1996 study period with the period from 1997–2003 shows there are other sequences of years within the 1950–1996 study period that are more critical than 2002 with respect to Windy Gap yield. The current model study period also addressed the carry-over or recovery effects of additional Windy Gap diversions in wet years following dry years like 2002 and 2003. The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years.

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	Mr. Will Tully December 18, 2008 Page 3	The model study period is suitable for estimating hydrologic effects associated with the EIS alternatives because it includes a broad range of average, wet, and dry years, and sequences of years that include dry years followed by wet years.
4	3. The model used may have some flaws that may understate impacts and overstate water availability and needs to be carefully reviewed.	4. It was assumed that the comment is referring to the level of Windy Gap diversions under the existing conditions model scenario.
5	4. There may be a need to modify Lake Granby Outlet works under the proposed alternative.	Windy Gap diversions for the last 10 years (1999 through 2008) averaged 22,158 AF/yr, which is significantly higher than the average diversion of 11,080 AF/yr for the period from 1985 through 2005, as presented in Table 3 of the Water Resources Technical Report. Windy Gap diversions were made in accordance with the Project's water rights, the same water rights that would be used to effect diversions with a WGFP. The increase in recent diversions represents the Participants' need for additional water to meet increasing water demands, which is supported by information presented in Chapter 1 on the Participants' water demands and needs. Modeled Windy Gap diversions under existing conditions reflect the recent increases in Windy Gap Participant demands. Windy Gap pumping for the 8-year period from 2001 through 2008, since Granby Reservoir last filled, averaged 27,450 AF/yr. That average includes 2002 and 2004 when almost no Windy Gap water was pumped. Therefore, estimated pumping under existing conditions is much closer to recent operations than suggested in the comment.
6	5. Overall impacts on Lake Granby water levels needs to be carefully examined in light of reductions that may occur because of the mandatory inter-relationship between CBT storage and Lake Granby and Chimney Hollow Reservoir that would result in lower lake levels. As an adjunct to this, it is possible that allowing West Slope storage in Granby Reservoir could actually raise levels in Lake Granby and mitigate adverse impacts on recreation that could occur.	
7	6. It is assumed that Ralph Price Reservoir would be constructed however there is no basis in the draft EIS adequate to form that conclusion.	
8	7. The draft EIS assumes that Shoshone subordination by Denver will in fact occur when it may not actually be operated and certainly not with the proposed West Slope benefits. There is no requirement that the Agreement cannot be modified without West Slope consent and accordingly any beneficial impacts could be completely stripped from the Agreement.	The comment asserts that potential impacts of additional Windy Gap diversions under the Proposed Action are minimized or underestimated based on a comparison against existing conditions. Reclamation does not believe that to be the case. The average decrease in Colorado River flows below Windy Gap between the Proposed Action and existing conditions is 21,283 AF/yr, which is the estimated increase in net depletions to the Colorado River. This reflects the net effect of additional Windy Gap diversions from the Colorado River and the difference in spills from Granby Reservoir. A considerable portion of Windy Gap water diverted from the Colorado River is delivered back to the river via a spill under the existing conditions scenario. Windy Gap operations were simulated in this manner to present the amount of water than could be diverted with the project's current water rights to meet demands even if a portion of the water is subsequently spilled from Granby Reservoir back to the Colorado River. Table 3-9 was added to the FEIS to better illustrate the water balance associated with the Proposed Action.
9	8. The issue of de-watering part of the Colorado River and the impact on water availability to senior water rights that pump from the Colorado River between Granby and Kremmling is not addressed.	
10	9. There appear to be issues regarding rafting and impacts that are not adequately addressed.	
11	10. Overall there is an issue regarding not fully analyzing cumulative impacts of future projects including particularly Moffat Tunnel expansion that will have a significant impact on future water flows in the Colorado River.	

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		In summary, Reclamation believes the effects assessments based on net depletions to the Colorado River below Windy Gap, as presented in the FEIS, are appropriate. Windy Gap diversions under existing conditions reasonably reflect recent operations and diversions, which are much higher than the 20-year average from 1985 through 2005. In addition, this issue does not affect Windy Gap diversions in dry years; therefore, Windy Gap pumping, net depletions to the Colorado River, and associated impacts are appropriately estimated in dry years, which typically are more critical for aquatics, water quality, and other flow-related resources. 5. Reclamation does not believe that implementation of the proposed action would require any change in the outlet works at Granby Reservoir. The spillway at Granby Reservoir consists of an ogee crest at an elevation of 8,260 feet, which is approximately 130,000 AF below the full level; and two radial gates that are used to regulate spillway flows. The combined capacity of the spillway gates and outlet is about 2,600 cfs at an elevation of about 8,265, and increases to more than 12,000 cfs with a full reservoir. In a paper spill condition, the spillway gates could be operated to attenuate flood flows below Granby Dam. The Subdistrict has proposed a modified operation of prepositioning to mitigate effects on water levels in Granby Reservoir. See revised text in Section 3.5.4 of the FEIS for discussion of proposed mitigation 6. Mitigation is being proposed that would minimize the adverse effects of prepositioning on Granby Reservoir water levels. See response to Comment No. 2 and Section 3.5.4 of the FEIS for a discussion of modified prepositioning. 7. The City of Longmont indicated they would consider enlargement of Ralph Price Reservoir to store its Windy Gap water under the No Action Alternative if the WGFP is not built. While there is no guarantee that enlargement of Ralph Price Reservoir would acquire all of the regulatory authorizations, it is reasonable to assume that the City of Longmont would evaluate this course of action if the proposed project is not implemented.

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		8. The Shoshone call reduction is analyzed as a reasonably foreseeable action in Section 3.5.3.2 under the subsection Colorado River and in Section 8.4.2.6 of the Water Resources Technical Report. The analysis of the Shoshone call reduction describes the potential frequency and magnitude of hydrologic effects when the call reduction is in place. The analysis is based on the terms and conditions of the current agreement, which is the best available information. The Subdistrict will continue to operate the project in accordance with the Windy Gap water rights decrees and state water law to protect senior water rights. The Subdistrict will comply with all applicable provisions of existing permits and the 1980 Agreement Concerning the Windy Gap Project and the Azure Reservoir and Power Project and the 1985 Supplement to the Agreement of April 30, 1980 regarding rancher diversions and bypassing water at Windy Gap to maintain specified minimum flows in the Colorado River below Windy Gap. 9. Impacts on senior water rights that pump from the Colorado River, like those that occurred in 2002 due to low water levels in the Colorado River, are not caused by the Windy Gap Project. Windy Gap did not pump in 2002 because it did not come into priority. Windy Gap is junior to the water rights that pump from the Colorado River between Granby and Kremmling and, therefore, would not impact their ability to pump. 10. Substantive issues related to rafting impacts, including changes in flows and potential impact to visitor user days were discussed in the Recreation section of the DEIS. The FEIS includes some revision in the assessment of rafting impacts to clarify the assessment. 11. The WGFP FEIS fully considered the cumulative impacts of the Moffat Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project, including changes in Fraser River, Williams Fork, and Blue River flows. Hydrologic impacts of the Moffat Project are actually overstated in the WGFP analysis because Denver's Blue River demands are 30,000 AF less than the amount used in the hydrologic modeling for the WGFP. Denver Water changed their demand estimate after the WGFP hydrologic analysis was completed. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impacts of the WGFP.

Com-ment	Letter #1096	Response
12	Mr. Will Tully December 18, 2008 Page 4 11. The overall problem of Grand Lake water quality needs to be mitigated and addressed adequately.	12. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. Mitigation measures would offset the total nitrogen and total phosphorus loadings to the Three Lakes projected from the WGFP compared to existing conditions. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River.
13	12. One of the primary purposes of the project, as stated in the draft EIS, is to firm up Middle Park's water which has not occurred. The Middle Park Water Conservancy District has briefly stated its issues of concern. As indicated, it is hopeful that these issues can be resolved in this process as well as an acceptable agreement arrived at that will address, jointly with other entities such as Grand County and the River District, the overall impacts of this particular project. Very truly yours, Duane Scholl Duane Scholl, President DS:cm	13. The WGFP purpose and need statement indicates the need to provide up to 3,000 AF of storage to better firm MPWCD water deliveries. Additional storage would provide a firm yield of about 429 AF to the MPWCD, but would not firm the entire 3,000 AF. Paragraph 2 of the "1985 Supplement" to the "1980 Agreement Concerning the Windy Gap Project and the Azure Reservoir and Power Project" states that "The Subdistrict will dedicate and set aside annually, but noncumulatively, at no cost to Middle Park, 3,000 acre feet of water in Granby Reservoir that is produced each water year from Subdistrict water supplies, for beneficial use without waste, either directly or by exchange or substitution in Middle Park." The Subdistrict has no obligation to provide water to Middle Park in any year when such water cannot be produced from Subdistrict supplies. Middle Park has been offered the opportunity to participate in the WGFP and improve their yield with storage in much the same manner as other WGFP Participants.

Com-ment	Letter #426	Response
1	WGFP 426 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 **Les Williams** MR. WILLIAMS: My name is Les Williams. I'm the President of the Board of Directors of Municipal Subdistrict of Northern Colorado Water Conservancy District. I've served on the Board of Directors of the Northern Water and its subdistrict for nearly 20 years. During that time, I've watched this region change and grow. I've seen rows of houses sprout up where there used to be rows of corn. The secret is out. This is a great place to live, and a whole lot of people are going to continue to move here. As our population has grown, and then grown some more during the past two decades, I've seen new hospitals built, I've seen new schools constructed, I've seen roads paved. But there hasn't been a major water project constructed to serve this region since the mid-1980s, when the original Windy Gap project was built. We need more water. And we need the infrastructure to make it happen. I'm proud to stand here and speak to you tonight in support of the Windy Gap Firming Project. It's environmentally sensitive and economically sound. And it'll help Northern Colorado get some of the water it desperately needs. Windy Gap Firming Project will help complete an existing project, which is the Windy Gap Firming -- the Windy Gap project, which finished construction in 1985. The Environmental Impact Statement for the original project envisioned more storage would be added to the project in the future. That's what the Windy Gap Firming Project is. That extra storage that was part of the plan all along. Also, it's important to understand that when this project was built, it's always been the plan that the cities who own Windy Gap water would grow in their demand for it. This has always been intended as a future supply, and the future is now. The Windy Gap Firming Project will use the same Colorado River water rights which the subdistrict filed on in the 1960s and 1970s. It's not going to divert more water from the Colorado River than the amount allowed under those original water rights. The subdistrict spent more than $10 million dollars to mitigate the impacts from the expected diversions. That money helped build or forward mountain reservoir which provides water to a lot of people on the West Slope. Windy Gap Firming Project is a great example of how to build a much-needed water project in a way that makes sense economically and environmentally. And that's through regional collaboration. Instead of each of the participating water providers going out and pursuing their own projects, they have come together to cooperate and build one reservoir. A reservoir that has the potential to offer wonderful recreational opportunities. During the past five	1. Thank you for your comment

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1	years, the subdistrict and the participants explored more than 200 options for making the Windy Gap Firming Project a reality. We chose Chimney Hollow reservoir because we believe it's the most economically and environmentally responsible. The subdistrict board isn't naive. We know that a water project like Windy Gap Firming Project has impacts on the environment. As a board member and a life long resident of Colorado who cares deeply about our rivers and the natural resources that make our state the tremendous place it is, I want you to know that we're committed to addressing the environmental concerns on the West Slope. We have presented an offer to Middle Park Water Conservancy District and Grand County to provide water for West Slope residents and help address the low flow concerns on the Colorado River. Everyone who is here tonight to make comment is an important part of the process, because it's only when we understand what concerns there are that we can work to address them. There's no such thing as a perfect project. But there are darn good projects, and this is one of them. It'll help provide water that we really need, and I firmly believe it can do so in a way that respects the needs of our neighbors on the other side of the mountains as well. Let's communicate and collaborate to get this built and make this the best project it can be. Thank you.	

Com-ment	Letter #1108	Response
1	**NATIONAL WILDLIFE FEDERATION®** 2260 Baseline Road, Suite 100 Boulder, CO 80302 www.nwf.org December 28, 2008 Mr. Will Tully Bureau of Reclamation Eastern Colorado Area 11056 West County Road 18E Loveland, CO 80537-9711 Mr. Chandler Peter, P.E. Project Manager Denver Regulatory Office U.S. Army Corps of Engineers 9307 South Wadsworth Blvd. Littleton, CO 80128-6901 *Via email to WTULLY@gp.usbr.gov and chandler.j.peter@usace.army.mil* Re: Windy Gap Firming Project Draft Environmental Impact Statement Dear Mr. Tully and Mr. Peter, On behalf of the National Wildlife Federation (NWF), I'm writing to submit our comments on the Windy Gap Firming Project Draft Environmental Impact Statement (WGFP DEIS). NWF is a not-for-profit conservation, education and advocacy organization with the mission to inspire Americans to protect wildlife for our children's future. Since 1936, NWF has been working to protect America's wildlife. NWF represents members and supporters joined by affiliated wildlife organizations in 47 states and territories. We would like to draw your attention to several concerns regarding the potential effects of the WGFP. In addition to these comments, NWF joins in the separate comments provided by Trout Unlimited, Western Resource Advocates, and Grand County. **Impacts to Big Game** We are concerned about the level of detail that was used to study migration corridors, summer concentration areas, and winter ranges for the large mammals in the area of WGFP. The WGFP DEIS states, "No major large game migration routes exist within the East and West Slope study areas (CNDIS 2006 and SREP 2005) … The CDOW has further identified seasonally important *NWF – Protecting wildlife for our children's future*	1. According to standards for the National Environmental Policy Act (NEPA) established by the Council on Environmental Quality, the information presented in a NEPA document should be based on the best available existing information. The CNDIS is updated regularly by CDPW and is generally considered the best available information for most large mammal species. This information was further supplemented with site-specific and local information provided by wildlife experts from the CDPW, U.S. Forest Service, and property owners. Where additional information was needed, field surveys were conducted by a qualified wildlife biologist.

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1	areas, including winter range, winter concentration areas, and severe winter range for several large game species within the study areas (CNDIS 2006)" (p. 3-177). The Colorado Natural Diversity Information Source (NDIS or CNDIS) is cited as the source for this data. However, the disclaimer on the Colorado NDIS website states, "The information portrayed on these maps should not replace field studies necessary for more localized planning efforts" (http://ndis.nrel.colostate.edu/ftp/index.html). Based on the Colorado NDIS's statement, more extensive field studies are necessary to determine whether any large mammal migration routes, winter range, winter concentration areas, and/or severe winter range will be affected by the proposed project.	
2	There would be a loss of 810 acres of large mammal habitat under the Proposed Alternative, which provides winter range for elk and winter range, winter concentration areas, and summer range for mule deer. The DEIS doesn't address how this loss of habitat would be mitigated and to where the wildlife would be displaced. There is the potential for conflict if large mammals are displaced onto private lands where they have fewer protections or if they are displaced in such a way that more vehicle collisions result. The DEIS should address how large mammal habitat loss will be mitigated.	2. Many of the issues identified in this comment are addressed in the DEIS. New and updated information provided by CDPW has been added to Sections 3.12.1.7 and 3.12.2.6 of the FEIS. Because of the importance of the Chimney Hollow area as wildlife habitat, loss of the 810 acres of large mammal habitat will be addressed in the Fish and Wildlife Mitigation Plan that was developed by the Subdistrict in accordance with the requirements of CRS 37-60-122.2 (FEIS Appendix E). The Colorado Wildlife Commission adopted the FWMP on June 9, 2011 and the Colorado Water Conservation Board (CWCB) adopted it on July 13, 2011. The FWMP is a component of the mitigation and environmental commitments described in the FEIS (Section 3.25).
	Impacts to Recreation and Socioeconomics	
3	We are generally concerned about the potential impacts of the WGFP on recreation activities such as rafting and kayaking. As the DEIS notes, boating on the Upper Colorado River generated a direct economic impact of approximately $3.4 million and a total economic impact of $8.7 million in 2007 (DEIS at 3-275). The DEIS indicates that the "worse-case individual year" economic impact to recreational boating from decline in water flows due to the WGFP's proposed action would be a loss of approximately $556,000, or roughly one-sixth of the yearly direct economic impact occurring in 2007 (DEIS at ES-19). This loss of revenue could substantially impact the recreational boating industry, reducing the number of jobs and other economic benefits of the industry.	3. The analysis of boating on the Colorado River is based on changes to preferred boating flows using daily flows for the 47-year study period. Based on comments received on the DEIS, revisions were made to simplify the potential impacts to boating as a result WGFP operation. Substantive issues related to rafting impacts, including preferred flows and potential changes in user days, are discussed in Section 3.19.2 of the FEIS. Revised economic effects to boating are discussed in Section 3.22.2 of the FEIS.
4	We are also concerned about some conflicting data in the DEIS on economic impacts to recreational boating. Table ES-9 indicates a potential annual economic decline in recreational boating revenue due to the proposed action of $10,195 (DEIS at ES-19), while Table 3-142 indicates a potential annual economic decline of $142,547 (DEIS at 3-289). The discrepancies between the data in these two tables should be explained and corrected.	4. The difference between the two boating impact estimates in the DEIS is because the potential average annual decline in boating revenue of $10,195 on page ES-19 is for the Proposed Action only and the higher number of $142,547 in Table 3-142 is for the Proposed Action plus cumulative effects of other reasonably foreseeable actions. These values have been revised in the FEIS as noted in response to Comment No. 3.
5	We are also troubled by the relative lack of analysis of the impacts of the proposed action to recreational angling. The DEIS concludes, "Projected effects to fish habitat are not predicted to translate to a loss in angling opportunities or fishing success…. No measurable effect to angler use days on the Colorado River or associated economic effects were identified for any of the alternatives" (DEIS at 3-289). Nevertheless, the DEIS states that the proposed action would result in a decrease of up to 11% in monthly flow between May and September in the reach	5. The EIS states that hydrological changes are unlikely to adversely impact sport fishing under any of the alternatives. This is based on both the timing of flow changes and the results of the aquatic resources analysis. Additional analysis to better illustrate potential impacts to aquatic resources was added to Section 3.9.2 of the FEIS. The FEIS includes additional mitigation measures for aquatic resources, as described in Sections 3.8.4 and 3.9.4. These measures include
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5	between Windy Gap Reservoir and the Williams Fork, an area designated as a "Gold Medal stream for outstanding fishing opportunities" (DEIS at 3-231 and 3-238). In the Aquatic Resource section, the DEIS concludes, "The greatest decrease in existing habitat would occur from Windy Gap Reservoir downstream to the Williams Forks [sic], where adult rainbow trout habitat would decrease up to 24 percent in 4 out of 10 years for the action alternatives" (DEIS at 3-147). Despite the flow reduction and the potential impacts to fish habitat, and thus to fish populations, the DEIS provides no analysis of the potential effect on recreational angling.	6. See response to Comment No. 5. The assessment of impacts to aquatic resources, and hence the recreational fishery, was conducted using a River2D IFIM model that simulates fish habitat changes under alternative flow conditions. A decrease in streamflow alone does not always reflect a negative impact to aquatic habitat because a reduction in high flows can increase aquatic habitat depending on the species and life stage. The aquatic analysis also considered changes in water quality, temperature, and channel morphology. The greatest flow reductions cited in the comment are during peak flow periods, which are well above what is necessary to maintain a recreational fishery under any alternative.
6	Next, the DEIS states that the proposed action would result in a maximum streamflow reduction of 15% in June and 18% in July in the reach between the Williams Fork and Kremmling, which includes Gold Medal waters in the section between the lower boundary of Byers Canyon and Troublesome Creek (DEIS at 3-238 – 239 and 3-231). According to Table 3-90, this section of the river could experience as much as a 9% decrease in flow in average years and as much as a 12% decrease in wet years (DEIS at 3-139). Yet the Environmental Effects section (3.19.2) provides no analysis of the potential effect of these flow reductions on recreational angling.	
7	The Colorado River reach between the Pumphouse and State Bridge contains designated Wild Trout water. The DEIS states there were "about 30,000 to 40,000 annual user days for fishermen in 2004" (DEIS at 3-233). According to Table 3-90, this section of the river could experience as much as a 4% decrease in flow in average years and as much as a 6% decrease in wet years (DEIS at3-139). Nonetheless, the Environmental Effects section (3.19.2) provides no analysis of the potential effect of these flow reductions on recreational angling.	7. See response to Comment Nos. 5 and 6.
8	We are most concerned that the DEIS potentially underestimates the impact of the proposed action on recreational boating and angling. The DEIS evaluates potential recreation effects of the proposed WGFP "based primarily on changes in hydrologic conditions…. Hydrologic data for average, wet, and dry years was used in the evaluation" (DEIS at 3-235). As Trout Unlimited (TU) points out in its comments about the WGFP DEIS, the "DEIS analysis relies on a hydrological model," the Boyle Model, "that is inadequate as a tool to predict and assess impacts on aquatic resources." The problems with the hydrologic model's ability to predict and assess impacts to aquatic resources similarly apply to assessing impacts to recreational activities. As TU's comments indicate, the model yields average flow values; overestimates anticipated flows; and yields isolated dry, average, and wet years data (see full related comments and explanations by TU). As a result, use of an inadequate hydrological model yields inaccurate representations of the potential economic effects to, and user-day ramifications for, recreational boating and angling.	8. Revisions and additional discussion was added to Section 3.5.2.2 of the FEIS to better explain the use of hydrologic data. See also responses to Trout Unlimited's Comments Nos. 4, 5, and 6 (Letter #1126) regarding the adequacy of the model to predict and assess flow-related impacts. The comment refers to use of average flow values, overestimation of anticipated flows, and the model yields isolated average, wet, and dry year data. The response addresses these three issues.
	Impacts to flow rates and stream ecosystems	a. Use of average flow values. A combination of daily and monthly hydrologic data were used for evaluations of impacts to aquatic resources. Average monthly summaries of flows, diversions, reservoir outflow, end-of-month reservoir contents, surface elevations, and surface areas for average, wet, and dry conditions were used to support general characterizations of hydrologic changes associated with the alternatives. In addition to monthly data, two sets of daily data were developed from monthly model output by disaggregating monthly values using historical gage records. Daily data were developed for the entire study period for the USGS gages on the Colorado River below Lake Granby, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and the gage on Willow Creek below Willow Creek Reservoir. In addition to the daily data developed for the entire study period at the locations listed above, average, wet, and dry monthly flows were disaggregated to daily values to develop average, wet, and dry daily hydrographs. Daily data were used to generate flow duration curves and daily hydrographs, and to determine the frequency and magnitude of daily flow changes. Hydrologic analyses based on daily variations were used in resource assessments
9	Each alternative, including Alternative 2 (Proposed Alternative), would result in increased stream diversions from the Colorado River and changes in releases from Granby Reservoir. We	
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		where the magnitude or value of the resources are especially sensitive to daily hydrologic changes and where the use of average, wet, and dry monthly values would mask the severity of the effects on those resources. Daily hydrologic data were used as an input parameter for the River2D model to evaluate the effects on aquatic resources. Use of daily data for the entire hydrologic study period supported an assessment of the overall range and frequency of aquatic habitat changes. Section 3.5.2.2 of the FEIS was revised to include information related to the use of daily data for aquatic resource evaluations. Because of its relatively junior water rights, the Windy Gap Project is not in priority and is precluded from diverting water from the Colorado River during droughts and low-flow periods, with or without the alternatives assessed, to provide firming storage. During low-flow periods, the Windy Gap Project would operate the same whether there is a firming project online or not. In these low-flow conditions, downstream Colorado River flows, whether they are viewed on a monthly or daily basis, are the same for existing conditions, for the No Action Alternative, and for each of the EIS alternatives. Because there are no hydrologic impacts during low-flow and drought periods, a daily model is not needed to assess effects for these low-flow periods, and the disaggregation of monthly data to daily data is sufficient for the assessment of effects on aquatic resources for nondrought conditions. b. Overestimation of anticipated flows. The model does not overestimate anticipated flows. The WGFP model was simulated using a monthly time-step for the study period from 1950 through 1996. Hydrologic output was generated for each month of the study period. This monthly output was summarized (monthly averages) for all 47 years to characterize hydrologic changes over the entire modeled period. Because averages can be skewed by extreme events, the monthly model output for the five driest and five wettest years were averaged separately from the average of the entire study period to characterize hydrologic changes associated with the alternatives in dry and wet conditions, respectively. Use of mean values is a reasonable and often applied approach for evaluating hydrologic results and for making relative comparisons of changes in flow, and was approved by the USACOE and Reclamation for purposes of this EIS. In addition, the resource evaluations did not rely solely on these average monthly values. A combination of daily and monthly hydrologic data were used for evaluations of impacts to aquatic resources. See response to part a. of this comment. c. The model yields isolated average, wet, and dry year data. The model does not estimate flows during average, wet, and dry years in isolation. The model is simulated using a monthly time-step for the entire 47-year study period from 1950 through 1996; therefore, model output reflects the carry-over or recovery effects of

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		additional Windy Gap diversions in wet years following dry years. Although the wet and dry year averages are averages of five individual years within the study period, the flows in those years reflect the effects of operations in preceding years (i.e., reservoir releases and spills). The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years. Use of data for the entire study period provided an indication of the overall range and frequency of resource impacts. The Aquatic Resource analysis uses daily streamflow data to determine impacts. These flow data included natural flows, existing conditions, and the alternatives for average, wet, and dry hydrologic conditions. See also response to Comment Nos. 5 and 6.

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9	January 14, 2009 Page 4 are concerned about the effects of flow changes and increased stream diversions to the food webs that support Colorado River fisheries. In April 2008, Grand County published Phase 2 of their Stream Management Plan (SMP), which presents scientifically-based recommendations for optimal environmental stream flows along the Upper Colorado River. The goal of the ongoing development of a SMP is to protect aquatic habitat and recommend a flow regime that will, "best maintain the ecological needs of the stream in relation to its fisheries" (Grand County SMP, p. ES-3). The report recommends increasing winter flow rates from 20 cfs (cubic feet per second), the current flow rate advocated by the Colorado Water Conservation Board, to 100 cfs (Grand County SMP, Table ES-1). The report further recommends summer flow rate increases from 40 cfs to 200 cfs (Grand County SMP, Table ES-1). A flow rate of 200 cfs is also consistent with improving angling opportunities in this section of the river, which represents the major recreational use of the section between Windy Gap and Williams Fork and the start of the Gold Medal Fishery on this portion of the Upper Colorado River (Grand County SMP, Table ES-1). The Grand County SMP recommendations are surprisingly consistent with the U.S. Fish and Wildlife Service's recommendations from the 1951 report on water flow requirements for fisheries below the Granby dam (USFWS 1951). Most important to maintaining the food web of macroinvertebrates to support fisheries in the Upper Colorado River is the presence of periodic flushing (Wootton et al. 1996 "…in the absence of scouring floods, the food web beneath the fish collapses" p. 1560)[1]. The current policy is for a flush of 450 cfs below Windy Gap (3 days, once every 2 years); the Grand County SMP recommends that the flow rate during the flushing period be increased to 750-1200 cfs to best maintain trout fisheries. Other negative impacts associated with the absence of periodic flushing include: "a reduction in diversity and/or abundance of benthic invertebrates and simplification of the stream ecosystem;" "increased infilling of fine sediment, leading to a decreased habitat (and flood refuge) area for benthics and an altered channel bed composition;" "reduced intragravel flow resulting in depleted oxygen and less-fresh particulate organic matter available to fish eggs and stream insects;" "a change in the timing of invertebrate emergence;" "an altered benthic community composition in favour of chironomids;" and "increased invertebrate body size and resistance to predation by trout" (Clayton & Westbrook 2008, p. 975-976)[2]. [1] Wootton, J.T., M.S. Parker & M.E. Power (1996). "Effects of Disturbance on River Food Webs." Science 273 (5281): 1558-1561. [2] Clayton, J.A. & C. J. Westbrook (2008). "The effect of the Grand Ditch on the abundance of benthic invertebrates in the Colorado River, Rocky Mountain National Park." River Research and Applications 24: 975-987. *NWF – Protecting wildlife for our children's future*	9. See response to Comment No. 8. The aquatic resource analysis uses daily streamflow data to determine impacts. These flow data included natural flows, existing conditions, and the alternatives for average, wet, and dry hydrologic conditions. In contrast, the SMP used only the weighted usable area graphs to determine the preferred flow range (optimum to critical minimum) without regard to whether that flow was available or could be maintained under either natural or regulated conditions. Optimal flow, as defined by weighted usable area, rarely exist, even under natural conditions. We feel that the more appropriate approach, and the approach that is consistent with guidelines for application of the instream flow methodology, is to use a hydrologic and habitat time series as applied in the Aquatic Resources Technical Report (Miller Ecological 2010). The Gold Medal designation requires that waters with this designation meet criteria for the number of trout greater than 14 inches long/per acre and number of pounds per acre. Many factors can impact fish density and size. Habitat and food resources are included in those factors. Based on the results of the aquatic analysis, food resources are not expected to change, and habitat would decrease in some years. Another factor that can impact fish populations more rapidly is fishery management, in particular harvest regulations. CDOW studies during the mid- to late-1970s showed that restricting harvest limits or terminal tackle could result in large increases to fish populations in Colorado rivers. The Project proponent or Reclamation do not specify fishery management for the Colorado River or the reservoirs. We have assumed that management of those waters would be consistent with management in the recent past. Therefore, we do not expect that WGFP would alter the Gold Medal designation. Flushing flows were evaluated using the data from the hydraulic model. The sediment transport analysis showed that fine sediment up through medium gravel would be moved by flows of 450 cfs. Very coarse gravels are moved by flows of about 1200 cfs. The range of size classes moved by the 450 cfs flow would clean spawning gravels and maintain habitat for aquatic invertebrates. These conditions would maintain macroinvertebrate diversity and aquatic habitat for spawning and incubation. Fine sediment is not expected to accumulate in any greater amount than is currently present. The Fish and Wildlife Mitigation Plan includes an increase in flushing flows. 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 have not exceeded 600 cfs for at least 50 consecutive hours in the

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9	Given that flow rates are already so far below optimal environmental flows, we are concerned that additional stream diversions will further degrade fisheries and recreational angling opportunities in Grand County and the Upper Colorado River ecosystem.	
10	**Lack of Analysis of Climate Change Impacts** We are troubled by the fact that there is no assessment of the impact of climate change in the DEIS. The DEIS uses a 47-year hydrological model that does not seem to address the role of global warming in changing the water forecast for the Upper Colorado River, and the resulting impacts on fisheries, habitat, and related issues. Climate models and hydrological studies project a 4°F temperature rise in Colorado by 2050; a 6-20% runoff decline in the Upper Colorado River Basin by 2050; "a precipitous decline in lower-elevation (below 8200 ft) snowpack across the West by the mid-21st century" and a 10-20% decline in "Colorado's high-elevation snowpack (above 8200 ft) within the same timeframe"; that the onset of spring runoff shifted two weeks earlier between 1978 and 2004, and that the "timing of runoff is projected to shift [even] earlier in the spring, and late-summer flows may be reduced."[3] The overwhelming amount of evidence of these changes demands that the impacts of climate change be assessed in the DEIS.	10. The discussion of climate change in Section 2.8.2—Reasonably Foreseeable Actions was revised in the FEIS. This section includes updated information from recent publications on climatic change trends in the upper Colorado River basin and possible future changes. Potential environmental impacts from climate change are qualitatively evaluated as part of the cumulative effects evaluation discussed for applicable resources in Chapter 3 of the FEIS.
11	**Incorporation by Reference of the "Healthy Rivers, Healthy Communities" Proposal from the Save the Poudre Coalition** Attached to these comments is a copy of a document prepared by the Save the Poudre Coalition entitled "Healthy Rivers, Healthy Communities: A Balanced Proposal for the Cache la Poudre River in Colorado" This Healthy Rivers proposal was prepared to address another water project, the proposed Northern Integrated Supply Project (NISP), but much of the information in the proposal is also very relevant and applicable to the proposed Windy Gap Firming Project. (As noted elsewhere in these comments, NISP is designed to serve many of the same water needs as the WGFP, and ought to be analyzed together with the WGFP, as well as other projects, in a single EIS.) Therefore, NWF hereby incorporates the Healthy Rivers proposal by reference in these comments, and requests that the Bureau consider it as comments on the WGFP DEIS. Among the information in the Healthy Rivers proposal that is relevant and applicable to the WGFP is the following: 1. A demonstration that population growth projections for many northern Front Range communities are unrealistically high, especially when current economic conditions are considered. (Pages 6 – 8.) [3] Andrea J. Ray, et al., "Climate Change in Colorado: A Synthesis to Support Water Resources Management and Adaptation," A Report by the Western Water Assessment for the Colorado Water Conservation Board" (Boulder: University of Colorado, 2008): 1-2. *NWF – Protecting wildlife for our children's future*	11. Thank you for the information. A response to the specific issues you raised follows. 1). The recession has indeed had an impact on growth in the past several years in many previously fast-growing areas, and the Participant service areas are no exception. However, recessions are short-term economic phenomena, similar to economic boom growth. Long-term growth projections are normalized to "smooth out" cyclical high- and low-growth periods. Projections used in the WGFP EIS are consistent with projections used by the other statewide planning efforts. 2). The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict. These measures would not offset the overall need for additional water supplies in the future, but could change or delay the timing of the need. 3). The WGFP was initiated by the Participants because the original Windy Gap Project failed to deliver the yields anticipated in the 1981 EIS for the reasons discussed in more detail in Section 1.5 of the WGFP FEIS, including insufficient storage. To address the shortcomings of the Windy Gap Project, Participants determined that a cooperative project with shared storage in a new reservoir(s)

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	January 14, 2009 Page 6	would be the most efficient way to collectively firm their Windy Gap water supply. Existing absolute Windy Gap water rights represent an existing source of water available to the Participants. However, additional infrastructure is necessary to provide reliable deliveries. Thus, the purpose of the WGFP is to fix a broken project, not to develop new sources of water.
11	2. A demonstration that reasonable and likely demand management measures will result in significant reductions in per capita water demand on the northern Front Range. 3. A demonstration that transfer of agricultural water rights from (a) agricultural lands that are displaced by development (pages 12 - 13), and (b) rotating fallowing agreements (pages 13 – 14) can meet the future water needs of expanding Front Range communities. 4. A demonstration that transferring water from agricultural to municipal use is substantially less expensive than was assumed in the NISP DEIS. (Pages 15 – 17.) 5. A demonstration that, because of increases in the cost of energy and raw materials, construction of a new reservoir is likely to be substantially more expensive than was assumed in the NISP DEIS. All of the above information is highly relevant to the analysis of the Purpose and Need for, and alternatives to, the Windy Gap Firming Project and therefore should be considered by the Bureau in the preparation of the Final EIS for the Project.	4). See response to 3) above. 5). Actual construction costs would likely be higher than the $223 million estimate in the FEIS; however, infrastructure construction costs for many large projects has decreased substantially in the last year. Updated costs would be developed as part of the final design for the proposed Project.
12	**The Purpose and Need Statement, and the Range of Alternatives, in the DEIS Are Too Narrow** The DEIS presents the following as the Purpose and Need for the Windy Gap Firming Project: > The purpose of the Windy Gap Firming Project 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 the MPWCD. Firm water deliveries from the Windy Gap Project are needed to meet a portion of the existing and future demands of the Project Participants. By defining the Purpose and Need so narrowly, the DEIS implicitly rules out all other alternatives for meeting the water supply needs of the participants. Such alternatives include, for example, water conservation, transfer of water from agricultural to municipal use, and alternative sources of supply, but no such alternatives are analyzed in the DEIS because they do not fit within the artificially narrow Purpose and Need. The true purpose of the project is to contribute to meeting the water needs of the participants, which purpose can be met by many means other than firming deliveries from the Windy Gap Project. The Purpose and Need statement should be revised to reflect that broader purpose, and a broader range of alternatives for meeting that broader purpose should be analyzed. *NWF – Protecting wildlife for our children's future*	12. See response to Comment No. 11(3) above. In addition, many of the WGFP Participants have additional future water needs beyond what the WGFP would supply and will be investigating other sources of water to meet those needs. The WGFP is only functional as a collaborative effort on the part of Windy Gap Project unit holders.

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12	January 14, 2009 Page 7 It is unlawful for an agency to arbitrarily restrict its purpose so as to exclude otherwise viable alternatives. See Simmons v. Corps of Engineers, 120 F.3d 664, 666 (7th Cir. 1997) ("If the agency constricts the definition of the project's purpose and thereby excludes what are truly reasonable alternatives, the EIS cannot fulfill its role. Nor can the agency satisfy the Act."). See also City of New York v. U.S. Dep't of Transportation, 715 F.2d 732, 743 (2d Cir. 1983) ("an agency will not be permitted to narrow the objective of its action artificially and thereby circumvent the requirement that relevant alternatives be considered"). In Simmons, the Corps of Engineers defined its purpose to be to build a reservoir that would supply the water needs of two cities. Because the Corps had defined its purpose so narrowly, it did not analyze alternatives that would supply the cities' needs in other ways. The court held that, by so narrowly constricting its range of alternatives, the Corps had violated NEPA: "We conclude that the U.S. Army Corps of Engineers defined an impermissibly narrow purpose for the contemplated project. The Corps therefore failed to examine the full range of reasonable alternatives and vitiated the EIS." 120 F.3d at 667. Similarly, the Bureau has violated NEPA by narrowly defining the purpose of the Windy Gap Firming Project so as to exclude other reasonable alternatives for meeting the water needs of the participants.	
13	**The Windy Gap Firming Project and Other Water Projects Should Be Considered Together in a Single Environmental Impact Statement** Neither the need for, not the environmental impacts of, nor alternatives to, the Windy Gap Firming Project (WGFP) can rationally be considered in isolation. The WGFP is one of many existing and proposed projects that divert or will divert water from the Upper Colorado River and its tributaries, and it is one of many existing and proposed projects that supply or will supply water to the front range of northern Colorado. The operations of the existing projects and the construction of the proposed projects should be considered together in a single EIS. *The cumulative impacts of multiple diversions should be evaluated in a single EIS.* The regulations implementing NEPA require that "cumulative actions" be considered together in a single EIS. 40 C.F.R. § 1508.25(a)(2). "Cumulative actions" are defined as actions "which when viewed with other proposed actions have cumulatively significant impacts." *Id. See, e.g.,* Thomas v.Peterson, 753 F.2d 754, 759 (9th Cir. 1985). The Windy Gap Firming Project is but one of several federal, federally-funded, or federally permitted projects that already divert or will divert water away from the Upper Colorado River and its tributaries. Such projects include, but are not limited to, • the existing Windy Gap Project, • the proposed Windy Gap Firming Project, • the Colorado-Big Thompson Project, • the Moffat Tunnel, • the proposed Moffat Tunnel Expansion, • the Roberts Tunnel, and *NWF – Protecting wildlife for our children's future*	13. The WGFP FEIS fully considered the cumulative impacts of all identified reasonably foreseeable future actions, as well as past and present actions where overlapping effects would occur. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. Hydrologic impacts of the Moffat Project are actually overstated in the WGFP analysis because Denver's Blue River demands are 30,000 AF less than used in the hydrologic modeling for the WGFP. Denver reduced their Blue River demand following completion of the WGFP hydrologic modeling. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impacts of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.

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13	January 14, 2009 Page 8 • the FryingPan/Arkansas Project. These multiple projects unquestionably have a significant cumulative impact on the fish, wildlife, recreational opportunities, and other resources of the Upper Colorado River. Moreover, the cumulative impact of the projects is much greater than the sum of the individual impacts. While the diversions by each project individually may have only an incremental impact on streamflow, water temperature, and other factors affecting fish and wildlife, the cumulative effect, at some times and places along the river, may be catastrophic: the nearly complete drying of the river and resultant severe increase in water temperature and loss of fish habitat. For example, as explained in detail in the comments being submitted by Colorado Trout Unlimited and others, the simultaneous operation of just two of these projects – Windy Gap and Colorado-Big Thompson – may result in severe reductions in streamflow in the Upper Colorado during the summer in dry years. The only way to accurately assess the cumulative impacts of these multiple projects, and to develop alternative strategies for reducing and mitigating those impacts, is to develop a single EIS that considers the joint and cumulative impacts of the operations of all of these projects. Such an EIS would be required even if it were not for the proposed Windy Gap Firming Project. The Colorado-Big Thompson (C-BT) project alone is long overdue for an environmental impact statement assessing the impacts of its operations. It is now beyond argument that NEPA applies to the ongoing operations of water projects that were initially constructed before NEPA's passage. The operations of Glen Canyon Dam, for example, have already been analyzed in two different EIS's, the Bureau has prepared an EIS for operations of the Aspinall Unit on the Gunnison River, and the Bureau has prepared an EIS for the coordinated operations of Lake Powell and Lake Mead. Yet the operations of the C-BT Project have never been analyzed in an EIS. The proposed WGFP, which would exacerbate the impacts of the C-BT Project on Colorado River flows, water temperature, and other resources, increases the need for an EIS that examines the joint and cumulative impacts of both of these projects along with all of the other projects that divert water from the Upper Colorado River and its tributaries. *Multiple projects serving the same purpose and need, and alternatives to them, should be considered together in a single EIS.* The Windy Gap Firming Project is one of several federal, federally-funded, or federally permitted projects that supply or will supply water to the front range of northern Colorado. These projects include, but are not limited to: • the existing Windy Gap Project, • the proposed Windy Gap Firming Project, • the Colorado-Big Thompson Project, • the Moffat Tunnel, • the proposed Moffat Tunnel Expansion, • the Roberts Tunnel, • the proposed Northern Integrated Supply Project (NISP) *NWF – Protecting wildlife for our children's future*	CEQ regulations and case law provide clear guidance on the scope of a particular NEPA analysis with respect to possibly related actions. See 40CFR 1508.25. Courts have provided guidance on whether proposed projects are sufficiently interrelated to qualify as "connected actions," which should be considered together in a single NEPA analysis. The courts have generally applied an "independent utility" test to determine if two activities are closely connected, evaluating whether each of the activities could be undertaken on their own (even if they would benefit each other), or whether they are inextricably linked to each other or if they are similar projects being pursued by the same agency. The WGFP clearly has utility independent of the other water projects mentioned in the comment or considered part of the cumulative impacts in the FEIS; therefore, a single NEPA analysis of all of the projects is not required.

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13	January 14, 2009 Page 9 • the proposed Halligan-Seaman Project. These projects largely address the same overall purpose and need. Not only do they serve the water needs of same general geographic area, they are designed to serve many of the same specific participants. For example, six of the participants in the proposed Windy Gap Firming Project (Central Weld County Water District, Erie, Evans, Fort Lupton, Lafayette, and Loveland) are also participants in the proposed NISP, and three of the participants in the WGFP (Evans, Greeley, and Loveland) are also participants in the proposed Halligan-Seaman Project. Because these projects all supply water to the same geographic area, they are all, in effect, at least partial alternatives to each other. For example, as discussed below, re-allocation of C-BT water from agricultural to municipal use could provide much, if not all, of the water that is needed by WGFP participants. Furthermore, other options, such as water conservation, are common alternatives to all of these projects. For these reasons, the operations of all of the existing projects listed above, as well as the construction of the proposed projects, are "connected actions" within the meaning of 40 C.F.R. § 1508.25(a)(1) and "similar actions" within the meaning of 43 C.F.R. § 1508.25(a)(3) and therefore should be considered together in a single EIS.	
14	**The DEIS Should Analyze and Consider the Alternative of Meeting Expanding Municipal Water Needs Through the Transfer of Water Rights from Agricultural to Municipal Use** Once the Purpose and Need of the Windy Gap Firming Project are properly defined – namely, to help meet the water needs of the participants – many alternatives emerge beyond those analyzed in the DEIS. One obvious alternative is to meet growing municipal water needs through the transfers of water rights, including shares in the Colorado-Big Thompson Project, from agricultural to municipal use. Transfers of agricultural water are such an obvious alternative for meeting municipal needs that they were considered to be part of the "No Action" alternative in the Army Corps of Engineers' DEIS for the Northern Integrated Supply Project (NISP). That is, the Corps assumed that, if NISP were not built, the participants would meet a substantial part of their water needs through acquisition and transfer of agricultural water rights.[4] In contrast, the DEIS for the Windy Gap Firming Project simply ignores the possibility of meeting municipal water needs through transfers of agricultural water (or, for that matter, through any other means besides firming the yield from the Windy Gap Project). The failure to consider such an obvious alternative is a violation of NEPA. In the case of the Windy Gap Firming Project, the alternative of transferring agricultural water to municipal water use is particularly compelling because, according to information in the DEIS [4] Although NWF believes that the Corps properly chose to consider the alternative of meeting municipal needs through transfers of agricultural water, NWF does not concur with the Corps' analysis of the cost and other impacts of that alternative. As explained in the attached "Healthy Rivers, Healthy Communities" report from the Save the Poudre Coalition, the Corps may have seriously overestimated the cost of such transfers and ignored alternatives, such as rotating fallow agreements, that could lessen the impacts of such transfers on the agricultural economy and on the environment. *NWF – Protecting wildlife for our children's future*	14. See response to Comment No. 11(3). In addition, water levels in Granby Reservoir are a result of annual runoff and water demand. A high water level in Granby Reservoir is generally reflective of a wet water year when runoff is high. C-BT delivery quotas are set annually, depending on available water and projected demand. As a water storage reservoir, Granby stores water in wet years so it would be available in dry years. Demand for C-BT water increases in dry years; therefore, there is not necessarily a surplus of C-BT water just because the reservoir fills. There is already an active leasing program for C-BT Project water among allottees.

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14	January 14, 2009 Page 10 itself, there is apparently more water available through the C-BT project than was expected at the time the original Windy Gap Project was designed. Specifically, according to the DEIS, one reason that the Windy Gap Project has not produced its expected firm yield is that, in many years, Granby Reservoir has been full: > No Windy Gap water was diverted in the 7 years between 1985 and 2006 because of either *a lack of available storage space in Granby Reservoir*, or Windy Gap water rights were not in priority during dry years. During this period, no Windy Gap pumping occurred in 1986, 1996 through 2000, and in 2002; only 300 AF were pumped in 2004. The lack of pumping in all years but 2002 and 2004 was due to *a lack of available storage space in Granby Reservoir* and/or limited demand for Windy Gap water. DEIS at 1-9 (emphasis added). If Granby Reservoir has been full more often than was expected when the Windy Gap Project was designed, it must mean that the C-BT Project has had more water on its hands than was expected, either because inflows into Granby Reservoir have exceeded expectation or because demand for C-BT water has been less than expected. Either way, the frequency with which Granby Reservoir has been full suggests that there is an abundance of C-BT water which is potentially available, through transfers, to meet the needs of the participants in the proposed Windy Gap Firming Project. The DEIS for the Firming Project must be revised to consider this alternative. Thank you for the opportunity to comment. We look forward to continued participation in this process. Sincerely,  Stephen C. Torbit, Director, Rocky Mountain Natural Resource Center *NWF – Protecting wildlife for our children's future*	

Com-ment	Letter #404	Response
1	WGFP 404 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Lane Wyatt MR. WYATT: I'm Lane Wyatt with Northwest Colorado Council of Governments. W-y-a-t-t for the last name. Northwest COG is the designated water quality management agency under the Clean Water Act for this region, originally including Grand County and the upper headwaters of the Colorado. Northwest COG has adopted what's called a "water quality management plan," a 208 plan. The plan has been approved by the EPA, the Water Quality Control Commissioner, the governor. Grand County uses it in their -- recognizes it in their land-use code. In that plan, it specifically identifies transmountain diversions as one of the largest pollution sources in the Upper Colorado. And in the Clean Water Act, hydrologic modifications are recognized as the source of the pollution. In your draft EIS, you sort of tacitly recognize the situation as far as the hydrologic modifications. There is a policy in the Northwest COG plan which states, "Project developers shall mitigate the impact of water quality in the aquatic environment caused by water projects." So, in order to be in compliance with the plan, the water quality impacts need to be mitigated. The purpose for the NEPA project is basically to disclose water quality impacts and other impacts. So it really becomes a question of, what are those impacts?	1. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would totally offset the anticipated nitrogen and phosphorus loadings to the Three Lakes projected from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River.
2	So that brings me to my first point, recognizing the need to extend the review period. Because there is -- if you look at the technical documents as well, there is a couple thousand pages to get through, and that's a lot to ask, for people working during the day and to review it at night and to get through that much paperwork, to identify even what the impacts. But once you get through there a little bit, the EIS concludes, really, that, at least from a water quality standpoint, the impacts, on average, really aren't that dramatic. But if you dig a little bit further, however, you will see that those are really based on averages, averages that are included in modeling projections, averages like an average change in	2. The analysis of water quality impacts for the Three Lakes was conducted using daily data. The DEIS presented monthly average data and the range of daily values. Figures displaying daily values for total phosphorus, total nitrogen, chlorophyll *a* concentrations, Secchi-disk depths, and dissolved oxygen were added to Section 3.8.2.4 of the FEIS. Additional stream temperature and climatic data became available following the initial analysis of temperature impacts for the DEIS. Subsequently, a dynamic temperature model (Hydros 2011) was developed with input and review by EPA to simulate weekly average temperatures and daily maximums for the Colorado River between Windy Gap Reservoir and the Williams Fork for existing conditions and the alternatives. The model simulations were conducted for the months of June through September using the very warm observed climatic data from 2007. Results of this analysis indicated that increased exceedance of the

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2	Grand Lake clarity, as Dr. Stahl talked about, predictions based on average flows and average pumping rates. Even where the draft EIS evaluates a worst-case condition for temperature, the inputs in the model are based on median temperature conditions, median data temperature conditions. So a conclusion based on averages is a little bit like trying to explain to a cop who just pulled you over for going 80 in a 45: On average, I really don't speed. It just doesn't fit into context very well. It's really too important of a situation to base decisions based on experts' guesses, potentially.	chronic MWAT and acute DM standards would occur in July and August of some years. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days, when simulated with the very warm 2007 meteorology. Mitigation for temperature impacts is included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict. See Section 3.8.4.2 for further discussion of temperature mitigation. Temperature mitigation measures would reduce the potential for exceedance of the temperature standards and impacts to fish associated with operation of the WGFP.
3	So that brings me to the second point. Mitigation should really be based on actual circumstances. And we would recommend that there be a monitoring mitigation link as part of a condition if you decide to approve this project. The link would be to appropriate action. For example, if temperature is increased beyond projections below Windy Gap, then bypasses would be increased. Or if clarity is degraded in Grand Lake, then some of the measures that the Bureau and the Northern are looking at, operational optimization or piping be implemented. If there is a trigger system in place, to address those real impacts from the project itself.	3. The FWMP includes installation of Colorado River real-time stream temperature sensors below Windy Gap Reservoir and above the Williams Fork River to monitor violations in the state temperature standard. Other monitoring, as described in Section 3.8.4 of the FEIS, would be used to evaluate the effectiveness of nutrient mitigation measures. See response to Comment Nos. 1 and 2 on water quality mitigation.
4	The third point is we would like to -- also to delay the decision that you make to include some of the information that's being developed through the Grand County Stream Management Plan, but also some of the work that's being done by the Bureau and Northern in trying to figure out how to optimize operations. And there is other kinds of new information that could be very useful in developing mitigation. Thank you.	4. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS is to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to avoid or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. Reclamation and Northern will continue to work with Grand County and others to evaluate C-BT Project operational changes that will improve water quality in the Three Lakes system regardless of implementation of the WGFP.

Comment	Letter #1107	Response

Northwest Colorado Council of Governments
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December 28, 2008

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Re: Windy Gap Firming Project Draft Environmental Impact Statement

Dear Mr. Tully, Mr. Peter and Mr. Gunderson,

Northwest Colorado Council of Governments ("NWCCOG") is the designated water quality management agency for the region of the state that includes the portions of the Upper Colorado River that will be impacted by the Windy Gap Firming Project. On behalf of NWCCOG) I have reviewed the Windy Gap Firming Project Draft EIS ("DEIS"). My review focused on whether the proposed project complies with the Areawide Water Quality Management Plan (208 Plan) for the NWCCOG region and provides for adequate water quality protection. My review is based on the DEIS and the pertinent Technical Reports referenced in the DEIS.

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1	Based on my understanding of the proposed project, it would not be in compliance with the policies and recommendations of the 208 Plan without additional mitigation and more detailed analysis. I have summarized my findings under the six 208 Plan Policies below. 208 Plan Policy 1. Protect and Enhance Water Quality **The surface and ground waters of the region shall be protected to minimize degradation of existing water quality and maintain existing and designated uses of those waters; waters not currently supporting designated uses shall be restored as soon as is financially and technically feasible.** *Findings:* The DEIS states that water quality in the Colorado River is good (DEIS page 3-66) and leaves one with the impression that water quality conditions in the lakes and reservoirs in Region 12 affected by the proposed project are generally in good condition (DEIS pages 3-68 to 3-77). The DEIS mentions aquatic weeds and algae in Shadow Mountain Reservoir, the presence of cyanobacteria and potential for microcystin toxicity in the Three Lakes system, and clarity concerns in Grand Lake but does not really acknowledge the severity of these problems and their association with current C-BT and Windy Gap pumping. The significant impact of Whirling Disease and its relationship to Windy Gap pumping is generally dismissed (DEIS page 3-133). The DEIS does identify existing exceedances of temperature standards in the Colorado River; temperature, pH, ammonia, total iron and copper standards in Willow Creek (DEIS page 3-67); dissolved manganese, temperature, and dissolved oxygen standards in Granby Reservoir (DEIS. Table 3-26); manganese in Shadow Mountain Reservoir (DEIS Table 3-28); and pH in Grand Lake (DEIS Table 3-30). The DEIS projects that the preferred alternative will contribute to additional exceedances of temperature standards (DEIS page 3-96), will slightly increase ammonia concentrations (DEIS, page 3-99) in the Colorado River; will increase concentrations of ammonia, dissolved iron and copper in Willow Creek (DEIS page 3-101); and will slightly aggravate existing average water quality and trophic status conditions in the Three Lakes system. The DEIS also identifies other stream conditions that are projected to worsen as a result of the proposed project but are not directly tied to protection of classified uses by adopted water quality standards. These include increased didymo algae concentrations in the Colorado River (DEIS page 3-101) and increased phosphorus loading to the Three Lakes system (DEIS page 3-104 to 3-107). Overall it is difficult to evaluate potential degradation of water quality associated with the proposed project because of the DEIS's predominant use of a steady state modeling approach, average flow and median water quality conditions. Conclusions about impacts in the DEIS are based on those methods and assumptions. This approach does not track with how compliance water quality standards are evaluated (e.g. 85th percentile of water quality data and low flow conditions). The DEIS only mentions that the WQCD may "determine the need for and antidegradation review" (DEIS page 3-86) but does not provide adequate	1. The current water quality of the lakes and reservoirs are quantified and compared to standards in the DEIS. Additional information was added to the FEIS to summarize water quality concerns. Current conditions include C-BT pumping and Windy Gap pumping. It is difficult to describe conditions without C-BT or Windy Gap pumping – Granby Reservoir and Shadow Mountain Reservoir did not exist before the C-BT Project construction. For Grand Lake, water quality conditions were reported in 1953 shortly after the start-up of the C-BT Project, where Secchi-disk depth readings ranged from 1.2 to 4.6 meters (May to October). Data do not exist to describe pre-C-BT conditions in Grand Lake other than the one data point for clarity in September 1941 (9.2 meters). The focus of the EIS is on the anticipated changes in water quality for the alternatives compared to existing conditions and the No Action Alternative. With respect to the DEIS's "predominant use of a steady state modeling approach, average flow, and median water quality conditions," it is true that a steady-state modeling approach was used for Colorado River water quality, using average flow and minimum flow conditions. See response to Comment No. 2 for why this approach was taken. Additional stream temperature and climatic data became available following the initial analysis of temperature impacts for the DEIS. Subsequently, a dynamic temperature model (Hydros 2011) was developed with input and review by EPA to simulate weekly average temperatures and daily maximums for the Colorado River between Windy Gap Reservoir and the Williams Fork for existing conditions and the alternatives. The model simulations were conducted for the months of June through September using the very warm observed climatic data from 2007. Results of this analysis indicated that increased exceedance of the chronic MWAT and acute DM standards would occur in July and August of some years. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days, when simulated with the very warm 2007 meteorology. Mitigation for temperature impacts is included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict. Temperature mitigation measures would reduce the potential for exceedance of the temperature standards and impacts to fish associated with operation of the WGFP. See Section 3.8.4.2 of the FEIS for more information on temperature mitigation. There are not enough data to support a dynamic approach for other constituents, and the steady-state approach is adequate, especially the simulations for minimum flow conditions. It does not, however, allow for the computation of the predicted 85th percentile.

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1	information in a form that this review can be carried out. In order to comply with Policy 1 the project would, at minimum, need to provide 10 adequate monitoring tied to a response condition to insure that existing water quality is maintained; and 20 actually address rather than merely fund continued study of existing problems associated with CB-T and Windy Gap pumping into the Three Lakes system (DEIS Page 3-292) prior to compounding these problems with additional pumping from WGFP. As presented, the project would violate Policy 1.	2. A dynamic approach was used to model water quality for the Three Lakes system. The results are reported in the EIS in terms of annual averages, maximum chlorophyll *a* concentrations by year, and minimum Secchi-disk depths by year. Daily results were added to the FEIS (Section 3.8.2.4) and are also shown in the Lake and Reservoir Water Quality Technical Report (AMEC 2008).
2	208 Plan Policy 2. Water Use and Development **The impacts to water quality and the aquatic environment caused by water projects shall be mitigated by the project developer.** *Findings:* The DEIS raises concerns about infrequent reductions in fish habitat (DEIS page 3-137) and degraded conditions to stream conditions due to aquatic weeds (DEIS page 3-101). Water quality degradation is difficult to assess because the approach to analysis focuses on average conditions rather than compliance with standards which is more of a worst case analysis. There is no analysis of on going water quality concerns associated with C-BT pumping into the Three Lakes system and how the proposed project may affect that situation. The DEIS does not adequately disclose the extent and duration of the impacts to water quality and aquatic environment because of limitations in the steady state modeling and assumptions used. As a result, the proposed mitigation (DEIS page ES-21) is inadequate. Therefore, the project would violate Policy 2.	Current water quality issues, many of which are associated with C-BT pumping, are not the subject of this EIS but are described in the Affected Environment section to help understand existing conditions. The EIS describes the direct, indirect, and cumulative effects of the WGFP and proposes mitigation for the direct and indirect effects of the proposed project. C-BT pumping is accounted for in the model. The DEIS describes the predicted differences between existing conditions and the alternatives and, therefore, how the proposed project may affect the water quality concerns is addressed.
3	208 Plan Policy 3. Land Use and Disturbance **Land uses and disturbance shall not result in significant degradation of water quality nor impair the natural protection and/or treatment processes provided by wetlands, floodplains, shorelines, and riparian areas.** *Findings:* The project proponent identifies the need to provide erosion control during construction of facilities (DEIS page 3-292). For any construction in Grand County, the County is the designated Management Agency for implementation of these kinds of measures and would require a local permit to insure construction is done in a manner to minimize impacts. Further CDPHE will require a Storm Water Management Plan as part of their NPDES permit for construction activities. Permanent wetland impacts are proposed to be compensated by with on-site wetlands creation (DEIS page ES-21). With the assumption that these detailed site-specific mitigation plans will be adequate to address any impacts associated with land use and disturbance in Region 12 the proposed project could comply with this Policy 3.	With respect to the Colorado River, a steady-state modeling approach was used. QUAL2K is a steady-state model and uses a multitude of inputs and assumptions under steady-state conditions. This model is actively being supported by the EPA and steady-state water quality models have been used for decades by regulatory agencies and consultants (Birgand 2004). QUAL2E, the model on which QUAL2K is based, is considered a standard for water quality models (Chapra 1997; Shanahan et al. 1998). A dynamic water quality model relies on a much greater number of inputs and assumptions, many of which vary over time. Time series of inflowing water quality from tributaries, point, and nonpoint sources (at a fine time-step) are required. These data do not exist for the Colorado River, making it difficult to even consider a dynamic approach for the DEIS. QUAL2K was utilized on a date that was determined to be representative of low conditions when Windy Gap diversions could occur. In addition to considering average flows, the model was run assuming the minimum instream flow conditions (90 cfs) below Windy Gap Reservoir. This was done to overcome the limitation of using a steady-state model.
4	208 Plan Policy 4. Domestic, Municipal, and Industrial Water and Wastewater Treatment Facilities	Subsequent to development of the QUAL2K model, numerous temperature sensors were placed throughout the modeling domain during the summer months. With the addition of subhourly temperature data, a dynamic modeling approach for water temperature became feasible. As described in response to Comment No. 1, the dynamic temperature model was used to better assess violation of the chronic temperature standard for the Colorado River and develop mitigation measures. This approach allows for the more direct comparison with standards.

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4	**Decisions to locate water supplies, wastewater treatment systems, and other water and wastewater facilities shall be made in a manner which protects water quality and the aquatic environment. Where growth and development requires the need for additional facility capacity, existing facilities should be expanded in lieu of developing new facilities, unless expansion is not feasible because of technical, legal or political reasons.** *Findings:* The proposed project does not involve siting of new wastewater systems and the water supply facilities for the preferred alternative located in Region 12 are already in place. However, there is a significant concern related to existing wastewater treatment facilities and the affect of the proposed project on water quality. Water quality impacts identified in the DEIS assume unrealistic discharge effluent quantities and qualities for Three Lakes Water and Sanitation District (page 116, DEIS Stream Water Quality Technical Report) and the WWTP in the Fraser River watershed (page 30, DEIS Stream Water Quality Modeling and Methods Report). Mitigation for the proposed project should include paying to upgrade WWTPs to the level of treatment assumed in the DEIS. Otherwise, the proposed project violates Policy 2. 208 Plan Policy 5. Chemical Management **The uses of pesticides, fertilizers, algaecides, road deicing and friction materials, and other chemicals which would temporarily or permanently cause a significant degradation of water quality or impair the current or designated uses of these waters should be regulated to the extent allowed by law.** *Findings:* This policy does not appear to apply to the aspects of the proposed project in Region 12. 208 Plan Policy 6. Management System **The waters of the region shall be protected by a management agency structure within the existing governmental and regulatory framework that allows decisions to be made at the most appropriate level of control. For nonpoint source pollution control *the recommended level of management* is at the watershed level.** *Findings:* The DEIS identifies the proposed project as a nonpoint source pollution issue associated with hydrologic modifications (DEIS page 3-87) and recognizes local government authority to address impacts through special use permit reviews and 1041 permitting (DEIS page 3-294). Grand County will have permitting authority over all alternatives. The existing Windy Gap Project was permitted by Grand County. The proposed WGFP is a change in operations and facilities for that project and will therefore require a new or amended 1041 Permit. Grand County is the 208 Management Agency with appropriate jurisdiction over the proposed project under the 208 Plan and has indicated its intent to require a permit for the proposed project. This approach will comply with Policy 6.	3. A Stormwater Management Plan would be prepared as part of the NPDES permit for any of the ground-disturbing activities associated with the Project. All wetlands would be mitigated per 404 Permit requirements. 4. The analysis for the Three Lakes Wastewater Treatment Facility was revised in the FEIS (Section 3.8.2.4) using the WWTP's maximum allowable effluent discharge rate of 3.1 cfs. During development of the DEIS, a certain level of treatment needed to be assumed for future conditions for WWTPs in the Fraser basin. We assumed a level currently being successfully achieved elsewhere in the state at WWTPs that impact another critical water body (Dillon Reservoir). Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures include upgrades to the Fraser WWTP and implementation of best management practices and other erosion-control measures to reduce nonpoint agricultural sources of nutrient discharges in the Willow Creek drainage and elsewhere. These measures would offset the total nitrogen and phosphorus loadings to the Three Lakes projected from the WGFP compared to existing conditions. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River. 5. There are ongoing discussions between Grand County and the Subdistrict on the need for a new 1041 Permit or modification of the existing Windy Gap 1041 Permit The EIS provides an estimation of the anticipated direct, indirect, and cumulative effects of the proposed action based on available information and can be used in the 1041 process as necessary. However, resolution of this issue is not required for completion of the NEPA process or issuance of a Record of Decision. Additional discussion on this issue was added to Section 1.10.3 of the FEIS. As stated in response to Comment No. 3, the Subdistrict would comply with NPDES Stormwater Permit regulations for land-disturbing activities. The Proposed Action would not result in any land disturbances on the West Slope. Mitigation for nutrient loading would reduce nonpoint source nutrient loadings to the Three Lakes system form the WGFP and other watersheds in the area including portions of the Willow Creek and Colorado River watersheds. The DEIS, on page 3-294, recognizes that such requirements may exist and, if so, they will be followed. Reclamation takes no position on what, if any, local government authorities apply to the WGFP.
5		

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	I hope this review is useful. If my interpretation of the 208 Plan is disputed then these comments and recommendations can be appealed to the NWCCOG Board of Directors for review. Sincerely, Lane Wyatt, PE CC: Gary Severson, NWCCOG Barbara Green, SullivanGreenSeavy James Newberry, Grand County	

Com-ment	Letter #377	Response
1	WGFP 377 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Shanna Koenig MS. KOENIG: Hi, my name is Shanna Koenig, and the last name is spelled K-o-e-n-i-g. And I am here on behalf of Northwest Colorado Council of Governments Water Quality and Quantity Committee. And a lot of what I was going to speak to tonight has already been said, so I'll just reiterate a few points. I think we all have heard tonight and understand that Grand County is in a critical situation. We have already heard about the amount of water being diverted to the East Slope, and we have heard about insufficient flows for agricultural irrigators to pump water from the Colorado River. We have also heard about insufficient flows for Hot Sulphur Springs for public water use and insufficient flows to protect fishing in the Colorado River. Additional diversions will only exacerbate the problem. We have concerns, the Northwest COG, that the description of the existing conditions outlined in the draft EIS does not adequately explain the degree to which existing water diversion projects already have affected the upper Colorado River.	1. The Affected Environment section of Surface Water Hydrology describes historical hydrologic conditions and the various actions and projects that have contributed to existing conditions. Other sections in the EIS provide discussions on the existing condition and status of the various resources as a basis for comparing resource impacts. The existing hydrologic conditions presented in the EIS provide an accurate baseline from which to make a reasonable comparison of the impacts of each of the alternatives. The WGFP Water Resource Technical Report (ERO and Boyle 2007) has additional information.
2	The Applicant alleges that there will not -- that there not be any significant new impacts. If that is the case, then the Bureau of Reclamation and Army Corp of Engineers should be sure to condition their approvals on that basis so, if there really are new impacts, they will be addressed.	2. The FEIS identified a number of impacts associated with the proposed action. Mitigation measures were developed to avoid or minimize impacts (See Section 3.25 of FEIS). The purpose of the EIS process is to evaluate and disclose potential impacts. This does not mean there will be no impacts or that all impacts can or will be mitigated.
3	And just really quickly, we have already touched a lot on socioeconomic impacts, but I just want to throw some additional numbers out there. In 2003, the direct economic impact of spending by tourists -- including travel, lodging, food and beverage, recreation and other visitor-related commodities -- equalled nearly $170 million. This directly accounted for 39 percent of employment in Grand County and contributed $7.1 million in local government taxes. However, the EIS only measures the impacts of the Windy Gap Firming Project related to the value of fishing, camping and boating, without including additional revenues generated by the activities. Even in the three limited activities the DEIS does measure -- boating, fishing and camping -- the analysis is limited	3. As explained in the Socioeconomics section, not all of the direct recreational value (expenditures) occur in Grand County (i.e., some of the supplies are purchased outside of the County). However, the full estimate of direct impacts of camping along the Colorado River and boating were used, which overestimates the impact. The socioeconomics section explains that this was done in order to account for the secondary impacts of direct expenditures in the County because estimates of the direct and secondary impacts to the County were not available. The Recreation and Socioeconomic analyses focus on boating opportunities on the Colorado River and at existing reservoirs. Those uses were identified as issues during the scoping process and are the most likely to be affected by hydrological

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3	to a very narrow segment of activities and grossly underestimates the potential economic impacts that could -- that could be caused by Windy Gap Firming Project. And I think Becky Long did an excellent job of explaining that through her testimony as well. We would also ask that this comment period be extended so that we may have the time we need to thoroughly review the vast amount of information in the draft EIS. Thank you.	changes resulting from the alternatives. Potential impacts to land-based recreational activities, including camping, hiking, scenic driving, and sightseeing, are described in the Recreation Resources Technical Report in the Effects Common to All Alternatives section. Several mitigation measures, as summarized in Section 3.25 of the FEIS, contribute to mitigation of potential socioeconomic impacts including nutrient reductions in the watershed upstream of Windy Gap Reservoir; modifications in prepositioning to maintain higher water levels in Granby Reservoir; fish and wildlife mitigation measures described in the Fish and Wildlife Mitigation Plan (FEIS Appendix E) that was adopted by the Colorado Wildlife Commission and Colorado Water Conservation Board; and curtailed WGFP diversions as needed to protect flows for the annual Gore Race.

Com-ment	Letter #131	Response
	OFFICE *of* ARCHAEOLOGY *and* HISTORIC PRESERVATION Official File Copy ENV-6.00 245 OCT 2 1 2008 Tully 1340 UMT 11/12/08 1000 Collins 1005 McHerel 1340 Boston 1300 Goodenow October 15, 2008 Will Tully U.S. Bureau of Reclamation 11056 West County Road 18ER Loveland, CO 80537 Re: Comments on the Windy Gap Firming Project Draft Environmental Impact Statement (CHS# 48893) Dear Mr. Tully: Thank you for providing a copy of the Windy Gap Firming Project Draft Environmental Impact Statement (DEIS) for our review and comment. We have reviewed the DEIS and offer the following comments: <u>General Comments:</u>	
1	1. It appears that several acronyms have not been included in the Acronyms and Abbreviations list. We recommend a review of the document to ensure that all acronyms and abbreviations are included in this list as it facilitates reader comprehension of unfamiliar technical language. Missing acronyms that we identified include the following: Advisory Council on Historic Preservation (ACHP), American Indian Religious Freedom Act (AIRFA), Code of Federal Regulations (CFR), Denver and Rio Grande (D&RG), Historic American Engineering Record (HAER), Memorandum of Agreement (MOA), National Historic Preservation Act (NHPA), Native American Graves Protection and Repatriation Act (NAGPRA), Office of Archaeology and Historic Preservation (OAHP), Programmatic Agreement (PA), TAP, and Western Cultural Resource Management (WCRM).	1. Acronyms and abbreviations were updated in the FEIS.
2	2. It is unclear whether the project area of potential effects (APE) has been adequately surveyed for paleontological resources. The document states, "Information on potential paleontological resources was based on literature review and geology" and that "Paleontological resources are unlikely in this area because the geology is composed primarily of igneous rock" (p. 3-197). Has any survey for the presence of paleontological resources been conducted by a professional paleontologist in the project APE? Has a professional paleontologist been consulted regarding the presence of paleontological resources within the project APE? If so, it would be helpful for readers concerned about paleontological resources if this were more clearly stated within the DEIS. If not, our office recommends that a professional paleontologist be consulted regarding the presence of paleontological resources within the project APE and the results of their findings be clearly stated and cited within the DEIS.	2. The potential effects to paleontological resources were based on local geology and the potential for the presence of fossil-bearing material. Available published literature for the impact area and geologic formations present also was used in the assessment. A field survey by a paleontologist of the alternative areas of disturbance was not conducted.
3	3. The document states, "If significant fossils are found during construction of any reservoir site COLORADO HISTORICAL SOCIE 1300 BROADWAY DENVER COLORADO 80203 TEL 303/866-3395 FAX 303/866-2711 *www.coloradohistory-oahp.*	3. Reference to the Denver Museum of Science and History was changed to the Museum of Nature and Science in the FEIS. Prior to construction of the Preferred Alternative, a professional paleontologist would be contracted to review the site for the potential of discovering fossils. If the likelihood for finding important fossils is high, a paleontologist would then provide orientation to construction personnel on where fossils might be found and how to recognize them. Denver Museum paleontologists would be notified prior to construction and should fossils be discovered, they would be contacted to assess the significance of the find. This mitigation was added to Geology, Section 3.14.4 of the FEIS.

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3	or facilities, paleontologists with the Denver Museum of Science and History would be notified." First, this reference should be globally changed to the Denver Museum of Nature and Science. Second, what type of training has or will be provided to construction personnel regarding the identification of "significant fossils" or any paleontological resources, if encountered during construction? Will any portions of the proposed construction be monitored by a professional paleontologist? Finally, have paleontologists at the Denver Museum of Nature and Science been contacted regarding participation in this project and their presumed role if paleontological resources are discovered during construction activities?	4. The first paragraph under Section 3.20.2.3 and the paragraph under Section 3.20.3 of the FEIS were rewritten to be more specific as to the types of anticipated direct, indirect, and cumulative effects on cultural resources. In the paragraph under Section 3.20.3, the reader is referred to Section 2.8.2 of the FEIS for a description of reasonably foreseeable actions.
4	4. In general, our office finds the discussions of indirect and cumulative effects to cultural resources to be vague with little detail. What types of effects have the potential to cumulatively add to the loss of cultural resource values over time? What types of measures can be taken to mitigate both short- and long-term indirect effects, as well as long-term (reasonably foreseeable) cumulative effects to cultural resources?	5. In a meeting with the SHPO on January 24, 2007, Reclamation reviewed the level of effort employed in the identification of historic properties for the WGFP EIS alternatives. The SHPO did not object to these procedures. In addition, Reclamation states in the EIS in Section 3.20.4 that an MOA or PA, as appropriate, would be drafted that stipulates compliance under Section 106 for the selected alternative.
5	5. Based on our review of the documentation provided, it appears that the alternative with the least impact on known cultural resources is the Proposed Action and the alternative with the greatest impact on known cultural resources is Alternative 3. However, as much of the project area remains unsurveyed for cultural resources, an important step in the process is identifying the presence and nature of currently unknown cultural resources within the project's APE. At present, the full extent and nature of cultural resources located within the WGFP APE and the effect the proposed alternatives on them remains unknown. In order to fully evaluate the potential impact that each alternative may have on cultural resources, our office recommends that additional survey be conducted.	
6	6. Our office recommends that special attention be paid to the project's potential impacts on the Colorado-Big Thompson Historic District and any properties considered to be contributing thereto.	6. The following sentence was added after sentence two of paragraph one under Section 3.20.4.1: "Special attention would be paid to the project's potential impacts on the C-BT Project Historic District (5BL7953, 5GA2409, and 5LR9611) and any properties considered to be contributing thereto."
	Specific Comments:	
7	1. Page 3-201, Section 3.14.4, 1st paragraph (left column), last sentence: The "Denver Museum of Science and History" should be "The Denver Museum of Nature and Science."	7. The museum name was corrected in Section 3.14.4 of the FEIS.
8	2. Page 3-293, Section 3.25.8, 1st paragraph (right column), last sentence: The "Denver Museum of Science and History" should be "The Denver Museum of Nature and Science."	8. The museum name was corrected in Section 3.25.8 of the FEIS.
9	3. Page 3-254, Section 3.20.1.3, 1st paragraph (right column), last sentence: "In addition to this file search data, Reclamation provided information on two additional studies that are not officially on file with the OAHP." Our office would greatly appreciate having copies of these two referenced studies.	9. Since there was no report for a site reported by Joe Ben Wheat (5LR57) and the report by Jonathan Kent (Metropolitan State College n.d.) has not been completed, they cannot be provided to the OAHP by Reclamation. In addition to these two studies, Reclamation is currently reviewing the report by Kester-Tallman and Brant (2008) and will be in consultation with the SHPO regarding this report and its findings within the near future. The first paragraph under Section 3.20.1.3 of the FEIS was revised to indicate that in addition to the file search data, Reclamation provided information on three studies that are not officially on file with the OAHP. The first study included a prehistoric lithic scatter (5LR57) recorded by Joe Ben Wheat in 1953. The second study was conducted by Jonathan Kent of Metropolitan State College and covered four years of field school in the Carter Lake and Chimney Hollow locales. A report on the fieldwork conducted in 1993 (Kent 1994) details findings to the east at the Carter
10	4. Page 3-255, Section 3.20.1.3, 1st full paragraph on the page (left column), 2nd sentence: The sentence may be better stated as follows: The Chimney Hollow Reservoir footprint (i.e., study area) was surveyed at the Class III level and resources were fully documented and evaluated for NRHP significance. Survey has not yet been conducted for the entire Chimney Hollow Reservoir APE, or for any associated facilities.	
11	5. Page 3-255, Section 3.20.1.3, 7th paragraph (first paragraph of right column), 1st sentence: Remove "Regardless of their level of significance," and begin sentence, "Properties listed in or eligible for…"	
12	6. Page 3-256, Section 3.20.1.5, 1st paragraph (right column): Before discussing known cultural resources under each reservoir component, it may facilitate reader comprehension if a	

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		Lake Reservoir; these resources are within the Chimney Hollow APE but outside of the reservoir footprint. The final report titled the "Carter Lake Archaeological Project Final Report" will include Kent's work in the Carter Lake and Chimney Hollow areas conducted during 1994, 1995, and 1996 field seasons; it is in progress. Kent located 23 sites and 43 isolates within the Chimney Hollow APE. Cultural Resource Analysts, Inc. completed a third study in 2007 (Kester-Tallman and Brant 2008) when Carter Lake and Flatiron Reservoirs were drained. Eight sites and six isolates were recorded within the Chimney Hollow APE, while two sites were reevaluated. 10. The discussion in Section 3.20.1.3 of the FEIS was revised to indicate the Chimney Hollow Reservoir footprint, and all but 17.2 acres within the associated facilities (i.e., study area) were surveyed at a Class III level and resources were fully documented and evaluated for NRHP significance (WCRM 2004a, 2004b, 2010). Access to 17.2 acres located on two private parcels was denied within the Chimney Hollow Reservoir facilities, and it is known that at least one resource, a segment of the Estes to Lyons Tap Transmission Line (5LR9454), crosses one of these parcels and will need to be recorded, evaluated, and possibly treated in the future. 11. Text in FEIS was edited to remove "Regardless of their level of significance," and the sentence now begins with, "Properties listed in or eligible for…"

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12	distinction is made between the "study area," which appears to be the project footprint or area of direct effect, and the APE, which includes a buffer around the areas proposed for direct disturbance. A definition of each of these terms here may be useful.	12. Although both of the terms "APE" and "study area" have previously been defined in Section 3.20.1.2, a text box has been placed in Section 3.20.1.3 immediately following the paragraph where these terms are defined.
13	7. Page 3-256, Section 3.20.1.5, 1st paragraph (right column), 3rd sentence: Sentence should read, "There are no known sites within the reservoir study area, but three cultural resources…"	13. The sentence in Section 3.20.1.5 of the FEIS was changed to read as follows: "There are no known sites within the reservoir study area, but three cultural resources…"
14	8. Page 3.257, Section 3.20.1.6, 2nd paragraph (right column), 1st sentence: Has "C-BT" been previously defined (acronym written out)? If not, please define here. All subsequent occurrences should use "C-BT."	14. "C-BT" is previously defined under Section 3.20.1.3. No further action is required.
15	9. Page 3-262, Section 3.20.2.6, 1st paragraph (left column): Although it is stated that, "The effects associated with construction of a 70,000 AF Chimney Hollow would be the same as described for the proposed action," it is unclear why the effects would not be reduced since Alternative 3 consists of a 70,000 AF Chimney Hollow reservoir, and the Proposed Action (Alternative 2) consists of a 90,000 AF Chimney Hollow reservoir.	15. The sentence in Section 3.20.2.6 of the FEIS was replaced to indicate that there are two unevaluated cultural resources (5LR10397 and 5LR10420) between the 70,000 AF Chimney Hollow Reservoir boundary of Alternative 3 and the 90,000 AF Chimney Hollow Reservoir boundary of the Proposed Action (Alternative 2). Therefore, the effects associated with the construction of a 70,000 AF Chimney Hollow Reservoir would affect 14 eligible or unevaluated sites rather than 16 as described for the Proposed Action.
16	10. Page 3-262, Section 3.20.2.7, 1st paragraph (right column): Although it is stated that, "The effects associated with construction of a 70,000 AF Chimney Hollow would be the same as described for the proposed action," it is unclear why the effects would not be reduced since Alternative 4 consists of a 70,000 AF Chimney Hollow reservoir, and the Proposed Action (Alternative 2) consists of a 90,000 AF Chimney Hollow reservoir.	16. The sentence in Section 3.20.2.7 of the FEIS was replaced to indicate that there are two unevaluated cultural resources (5LR10397 and 5LR10420) located between the 70,000 AF Chimney Hollow Reservoir boundary of Alternative 4 and the 90,000 AF Chimney Hollow Reservoir boundary of the Proposed Action (Alternative 2). Therefore, the effects associated with the construction of a 70,000 AF Chimney Hollow Reservoir would affect 14 eligible or unevaluated sites rather than 16 as described for the Proposed Action.
17	11. Page 3-263, Section 3.20.2.8, 2nd full paragraph (left column): Although it is stated that, "The effects associated with a 30,000 AF Rockwell Reservoir would be the same as Alternative 4," it is unclear why the effects would not be increased since Alternative 5 consists of a 30,000 AF Rockwell Reservoir, and Alternative 4 consists of a 20,000 AF Rockwell Reservoir.	17. The sentence in Section 3.20.2.8 of the FEIS was replaced to indicate that there are no known eligible or unevaluated cultural resources located between the 20,000 AF Rockwell Reservoir boundary of Alternative 4 and the 30,000 AF Rockwell Reservoir boundary of Alternative 5. Therefore, the effects associated with the construction of a 20,000 AF Rockwell Reservoir would be the same as described for the 30,000 AF Rockwell Reservoir with regard to known eligible or unevaluated cultural resources.
18	12. Page 3-263, Section 3.20.3, 1st paragraph (left column): The discussion on cumulative effects to cultural resources is vague and insufficient. What types of effects have the potential to cumulatively add to the loss of cultural resource values over time? What types of measures can be taken to mitigate long-term (reasonably foreseeable) cumulative effects to cultural resources?	18. Section 3.20.3 of the FEIS was revised to indicate that both water-based and land-based actions could result in cumulative effects; a description of reasonably foreseeable actions considered in this FEIS is presented in Section 2.8.2.
19	13. Page 3-263, Section 3.20.4 (All): It is unclear why proposed mitigation only addresses mitigation for sites located within the project study area (i.e., footprint of direct impact) and not for those located within the APE (i.e., beyond the footprint of direct impact). Possible mitigation of direct, indirect, and cumulative impacts to cultural resources within the project APE should be addressed in this section.	
20	14. Page 3-263, Section 3.20.4, 2nd paragraph (right column), 1st sentence: Our office recommends that a timeframe be provided for when the county sheriff and/or coroner will be contacted (e.g., 24 hours, 48 hours, etc.).	
21	15. Page 3-263, Section 3.20.4, 2nd paragraph (right column): Our office recommends that Tribes be contacted and consulted prior to exhuming any human remains, and not afterward as is presently stated.	
22	16. Page 3-264, Section 3.20.4, 1st full paragraph (left column), 1st sentence: This should read "The Carter Lake Historic Area (5LR1363)…" not "District."	
23	17. Page 3-264, Section 3.20.4, 3rd full paragraph (left column): This paragraph suggests that site 5LR10410 will be determined officially not eligible, and as such, no further work would be required. However, what if the site is determined officially eligible?	
24	18. Page 3-264, Section 3.20.4, 4th full paragraph (left column): As a Discovery Plan has already been discussed at the beginning of this section, it is possible that this paragraph is not necessary as it repeats what has already been stated.	

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		19. The first four paragraphs under Section 3.20.4 have been revised and replaced with the following: Specific mitigation measures for the direct, indirect, and cumulative impacts of the Preferred Alternative would be developed by means of a Memorandum of Agreement (MOA) or Programmatic Agreement (PA), as appropriate, in compliance with Section 106 of the NHPA. The agreement would be developed between Reclamation, the ACHP, the Colorado SHPO, and, if necessary, Larimer County to specify: • the measures to be taken with regard to identification and evaluation of historic properties; • the components of a treatment plan and subsequent treatment report to resolve adverse effects; • any modifications to the project design; • pre-construction meeting(s) between Reclamation and the construction contractor with a cultural resource contractor present; • the measures to be taken in the event that there are unanticipated discoveries of historic properties; • the measures to be taken in the event that there are unanticipated discoveries of human remains; • a curation facility; and • any other terms and conditions. Special attention would be paid to the project's potential impacts on sites within the C-BT Project Historic District (5BL7953, 5GA2409, and 5LR9611) and any properties considered to be contributing thereto. All alternatives would require ongoing consultation with Native American Tribes and the public. Mitigation measures for known historic properties within the APE are discussed below by alternative.

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25	19. Page 3-264, Section 3.20.4, 6th full paragraph (right column), 1st sentence: This sentence cites 10 previously recorded cultural resources. However, in previous discussions of the study area and APE for the Jasper East reservoir, 45 known cultural resources are located within the APE, and eight known cultural resources are located within the study area. It is unclear what the "10 previously recorded cultural resources" is referencing. Our office looks forward to continued consultation regarding "measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties," as stipulated in 36 CFR 800.8(c)(1)(v) and to the possible development of a Memorandum of Agreement (MOA) that stipulates compliance under Section 106 for the selected alternative and for the mitigation of adversely affected cultural resources. Thank you for the opportunity to comment on this project. If we may be of further assistance please contact Shina duVall, Section 106 Compliance Manager for Archaeology, at (303) 866-4674 or shina.duvall@chs.state.co.us and/or Amy Pallante, Section 106 Compliance Manager for Architecture, at (303) 866-4678. Sincerely, for Edward C. Nichols State Historic Preservation Officer ECN/SAD	Reasonably foreseeable land-based actions have not been identified within the APE for expansion of Ralph Price Reservoir under the No Action Alternative; however, a variety of new land developments near the Jasper East, Rockwell, Chimney Hollow, and Dry Creek reservoir sites could result in cumulative effects to eligible or potentially eligible cultural resources within the reservoir APEs. In addition, Larimer County Parks and Open Lands have acquired acreage adjacent to the Chimney Hollow and Dry Creek Reservoir APEs for future recreation use. Any future impacts anticipated from trail development, facility construction, or other ground-disturbing activities related to the WGFP would be addressed by Reclamation in a MOA/PA." 20. Section 3.20.4 of the FEIS was rewritten; see response to Comment No. 19. These procedures would be addressed in a MOA/PA when it is developed. 21. Section 3.20.4 of the FEIS was rewritten; see response to Comment No. 19. These procedures would be addressed in a MOA/PA when it is developed. 22. This sentence is now in Section 3.20.1.7 of the FEIS was changed to read: "Carter Lake Historic Area (5LR1363)…" 23. Since the initial review of the DEIS by the SHPO, site 5LR10410 has been officially determined not eligible. Therefore, discussion of this site has been removed since it is no longer eligible or potentially eligible. 24. This paragraph in Section 3.20.4 of the FEIS was deleted. 25. In Section 3.20.4.5 of the FEIS , the three paragraphs under the "Jasper East" heading have been condensed and revised to indicate Reclamation, in consultation with the SHPO, would determine the level of survey needed for areas that would be affected (directly, indirectly, or cumulatively) by project construction; it is likely that six previously recorded sites within the reservoir study area would need to be reevaluated, and in some cases, rerecorded before NRHP assessments could be determined. A seventh site (5GA151), a prehistoric quarry, was officially determined eligible on November 8, 1981. After NRHP determinations for the six sites lacking official evaluations have been made by Reclamation in consultation with the SHPO and, if necessary, the ACHP, appropriate mitigation measures would be developed for 5GA151 and any other eligible sites. Sites officially determined not eligible would require no further work.

Comment	Letter #1111	Response
1	Pitkin County 530 E. Main Street • Aspen, Colorado 8 OFFICIAL FILE COPY RECLAMATION Date DEC 29 2008 Code 1340 Surname Tully Date 12/29/08 Copy to 1000, 1005, 1004 December 23, 2008 Will Tully Bureau of Reclamation 11056 West County Road 18 E Loveland, CO 80537 RE: Windy Gap Firming Project Draft Environmental Impact Statement Public Comment Dear Mr. Tully: This letter is being submitted as part of the Bureau's request for public comment to the draft Environmental Impact Statement for the Windy Gap Firming Project. This letter reflects the position of the Board of County Commissioners of Pitkin County, Colorado. It is the position of the Pitkin County Board of County Commissioners that the draft Environmental Impact Statement ("DEIS") is an incomplete and therefore, inconclusive analysis and review of the effects of the proposed diversion, particularly for the basin of origin but also for the entire west slope of Colorado as well. Failure to completely analyze the impacts of this diversion result in a study which inadequately explores alternatives to the stated problem, particularly alternatives that do not precipitate the harm to west slope communities the proposed diversion project would inflict.	1. The DEIS was prepared in accordance with the requirements of the Council of Environmental Quality regulations implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended, and the Bureau of Reclamation NEPA Handbook.
2	Of particular concern to Pitkin County is the obligation of west slope communities to fill the commitment for 10825 water. Currently, releases from Ruedi Reservoir are considered by some to be the best method to satisfy this demand. However, if the Windy Gap Firming Project proceeds, the potential contribution of Granby to this 10825 solution may be lessened causing greater demand on Ruedi Reservoir and consequently importing to Pitkin County many of the negative environmental, economic and recreational impacts felt in Grand County. Reliance on stream modeling which does not include the effect of a Shoshone call or its curtailment or actual river conditions against which to measure the full effect of a Windy Gap diversion, may very well seriously undermine the west slope's 10825 obligation.	2. Reclamation released the *Colorado Water Users' Commitment to Provide 10,825 acre-feet to the 15-Mile Reach of the Upper Colorado River Environmental Assessment* on September 23, 2011. This EA addresses the 10825 AF flow releases for Colorado River endangered fish species. The proposed action is to split releases between Granby Reservoir and Ruedi Reservoir. The WGFP would not impact the flows available for the 10825 project. The Shoshone call reduction is analyzed as a reasonably foreseeable action in Section 3.5.3.2 of the DEIS under the subsection Colorado River, and in Section 8.4.2.6 of the WGFP Water Resources Technical Report. The analysis of the Shoshone call reduction describes the potential frequency and magnitude of hydrologic effects when the call reduction is in place. In 2003, Windy Gap diverted approximately 7,850 AF out of a total diversion of 64,200 AF due to the Shoshone call reduction. Windy Gap diversions were high in 2003, primarily because conditions in the Upper Colorado River were not dry as they were initially forecasted to be when the relaxation of the Shoshone call was invoked. A significant snow storm in March and late spring rainfall resulted in higher flows than forecasted. As a result, Windy Gap benefitted more from the high flow conditions as opposed to the relaxation of the call. Windy Gap did not benefit from the Shoshone call reduction in 2004 because other factors, including instream flow requirements below Windy Gap, constrained diversions. While Windy Gap diversions may increase under a Shoshone call reduction, diversions with or without the WGFP would be the same since available storage capacity in Granby Reservoir would not be a limiting factor in dry years when the call reduction would be invoked. Additional discussion of the Shoshone call reduction was added to Section 3.5.3.2 of the FEIS under the subsection Colorado River.
3	As is too often the case in diversion projects, water conservation as an alternative or at least a mitigation to dampen future demand is dismissed. The Windy Gap Firming Project DEIS is no exception. This represents an outdated approach which encourages a pattern of water consumption that cannot be sustained without catastrophic effects in basins of origin. ENV-6.00 WGFP 245 Administration Suite 301 (970) 920-5200 fax 920-5198 County Commissioners Suite 301 (970) 920-5150 County Attorney Suite 302 (970) 920-5190 Finance and Use Tax Suite 201 (970) 920-5220 fax 920-5230	

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4	The economic health of west slope communities is dependent upon healthy river flows. Kayaking and rafting, as the only highlighted recreational activities in and on the Colorado River recognized in the DEIS, is not an accurate portrayal of the west slope economic dependency on viable river flows. Not only are all recreational activities affected by the Windy Gap Firming Project, but more fundamentally as the overall tourist economy becomes impacted, sales tax revenues and property values will decline. These potential impacts are not addressed in the DEIS.	3. The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Six of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Appropriate mitigation measures have been incorporated into the FEIS to assure that the participants conserve water made available to them as a result of the WGFP.
5	The DEIS should not be accepted without a requirement to implement conservation and re-use measures to the maximum extent possible by the front range recipients of the diverted water.	4. The recreation and socioeconomic analyses focus on boating opportunities on the Colorado River and at existing reservoirs. Those uses were identified as issues during the scoping process and are the most likely to be affected by hydrological changes resulting from the alternatives. Potential impacts to land-based recreational activities, including camping, hiking, scenic driving, and sightseeing, are described in the Recreation Resources Technical Report, and in the Recreation section of the FEIS under Effects Common to All Alternatives.
6	The ultimate EIS should at a minimum address all recreational activities associated with the Colorado River, including particular attention to the existing gold medal fishery and the potential designation of the Colorado River as a wild and scenic river.	Potential effects of hydrological changes on commercial and private fishing opportunities are further described in the FEIS. However, the Aquatic Resources analysis determined that the projected effects to fish habitat would not result in a loss of angling opportunities or success.
7	The EIS must completely discuss the recreational, scenic and ecological importance of the Colorado River to the overall tourist and recreational economies with attention to the impact of the economic sectors on the overall economic health and sustained property values of the west slope communities. This discussion to be meaningful, must relate these economic conditions to not only minimum river flows, but such flows needed to sustain a vital west slope economy.	The direct and secondary economic impacts of boating and camping activities are described in detail in the Socioeconomics section. Property values are not expected to be affected. Impacts on property tax revenues from land acquisitions for reservoirs have been added to the FEIS.
8	Relating river flows to west slope community health needs to be conducted with improved stream modeling and past stream flow data. The modeling system should relate to daily flows not monthly flows and include our most recent drought experiences of 2002 and 2003. Further, any modeling should relate to past actual Windy Gap diversions comparing these to the proposed annual yield of 30,000 acre feet.	Mitigation measures described in the FEIS, as summarized in Section 3.25, include modified prepositioning that maintains higher water levels in Granby Reservoir; nutrient reduction measures; and curtailed WGFP diversions when Colorado River temperatures exceed standards and for the annual Gore Race, if flows are below 1,250 cfs. These, and other mitigation measures, would help minimize socioeconomic impacts.
9	Finally, the omission of a full discussion of the implications of Senate Document 80 should be remedied. Senate Document 80 is the organic law for the C-BT Project and must be reconciled with any deleterious effects to the Colorado River fisheries caused by the Windy Gap diversion. The DEIS must discuss the compliance or absence of compliance with Senate Document 80 or alternatively discuss the breadth of change needed to the legislation and the presence or absence of support for such amendments. Pitkin County representatives are available to discuss these issues further if it would be helpful. BOARD OF COUNTY COMMISSIONERS OF PITKIN COUNTY Sincerely, Rachel Richards cc: NWCCOG 12/23/03	5. See response to Comment No. 3. Maintenance of a state-approved conservation plan would be condition of approval in any contract or agreement with Reclamation. 6. See response to Comment No. 4 discussing mitigation that benefits recreation. Evaluation and potential designation of portions of the Colorado River as Wild and Scenic is a separate and ongoing process being pursued by the BLM. Recreational values are among the outstanding remarkable values identified for each river segment. This process is described in the Recreation section. While the effects to river recreation described in the FEIS could relate to the recreational values along the Colorado River, no determination of effects on the suitability of these reaches for Wild and Scenic designation can be made until the BLM's evaluation is complete.

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		7. See response to Comment No. 4. 8. The comment has three parts and the response is organized accordingly. a. The modeling should be conducted on a daily basis. Daily data were developed from monthly model output by disaggregating monthly values using historical gage records. Two sets of daily data were developed. Daily data were developed for the entire study period for the USGS gages on the Colorado River below Lake Granby, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and the gage on Willow Creek below Willow Creek Reservoir. In addition to the daily data that were developed for the entire study period at the locations listed above, average, wet, and dry monthly flows were disaggregated to daily values to develop average, wet, and dry daily hydrographs. A combination of daily and monthly hydrologic data were used for evaluations of resources dependent on flows or reservoir storage contents and levels. Average monthly summaries of flows, diversions, reservoir outflow, end-of-month reservoir contents, surface elevations, and surface areas for average, wet, and dry conditions were used to support general characterizations of hydrologic changes associated with the alternatives. Daily data were used to generate flow duration curves and daily hydrographs, and to determine the frequency and magnitude of daily flow changes. These types of hydrologic analyses, based on daily variations, were used in resource assessments where the magnitude or value of the resources are especially sensitive to daily hydrologic changes and where the use of average, wet, and dry monthly values would mask the severity of the effects on those resources. For example, daily hydrologic data were used as an input parameter for the River2D Model to evaluate the effects on aquatic resources. Use of daily data for the entire hydrologic study period supported an assessment of the overall range and frequency of aquatic habitat changes. Section 3.5.2.2 of the FEIS was revised to include information related to the use of daily data for resource evaluations, including fisheries and water quality that are sensitive to daily flow variations. Because of its relatively junior water rights, the Windy Gap Project is not in priority and is precluded from diverting water from the Colorado River during droughts and low-flow periods, with or without the alternatives assessed, to provide firming storage. During low-flow periods, the Windy Gap Project would operate the same whether there is a firming project online or not. In these low-flow conditions, downstream Colorado River flows, whether they are viewed on a monthly or on a daily basis, are the same for existing conditions, for the No Action Alternative, and for each of the EIS alternatives. Because there are no hydrologic impacts from the WGFP during low-flow and drought periods, a daily model is not needed to assess effects for these low-flow periods, and the disaggregation of monthly data to daily data is sufficient for the assessment of effects for nondrought conditions.

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		b. The model should be extended to include the more recent drought of 2002 and 2003. The need to extend the WGFP model study period was evaluated to determine whether a study period that includes recent hydrology, and in particular 2002, would change conclusions regarding WGFP yields and associated hydrologic changes. The period from 1997 through 2003 was analyzed in a spreadsheet exercise using Excel. A copy of the technical memorandum, *Significance of 2002 Hydrology to WGFP Modeling (Meg Frantz September 27, 2004)*, which summarizes that analysis, was provided to Grand County at a meeting on March 4, 2005. At Grand County's request, the analysis was subsequently updated to take into account the "relaxation" of the Shoshone call. Key conclusions of that analysis are: o The addition of a WGFP reservoir would not change Colorado River flows in a year like 2002. Windy Gap water rights did not come into priority in 2002, and the addition of a WGFP reservoir would not change that condition. Therefore, Windy Gap would not divert in a dry year like 2002, with or without a WGFP reservoir, because Windy Gap diversions would be limited by the amount physically and legally available, as opposed to available storage capacity. o The WGFP firm yield would not change if the model period was extended through 2002. A comparison of model output for the 1950–1996 study period with the period from 1997–2003 shows there are other sequences of years within the 1950–1996 study period that are more critical than 2002 with respect to Windy Gap yield. The current model study period also addressed the carry-over or recovery effects of additional Windy Gap diversions in wet years following dry years like 2002 and 2003. The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years. The model study period is suitable for estimating hydrologic effects associated with the EIS alternatives because it includes a broad range of average, wet, and dry years, and sequences of years that include dry years followed by wet years.

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		c. The modeling should relate to past Windy Gap diversions and use those values for comparison purposes. It is appropriate to assess effects due to the EIS alternatives based on a comparison against modeled existing conditions as opposed to historical conditions since the hydrology associated with existing conditions reflects the current administration of the river, demands, infrastructure, and operations, as discussed in Section 7.1 of the WGFP Water Resources Technical Report (December 2007). Hydrologic output associated with the Preferred Alternative is not compared with historical hydrology for the following reasons: • Demands have changed considerably over the course of the study period, • Certain facilities and reservoir were not in operation for the entire study period, and • River administration and project operations have changed over the study period. 9. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

Comment	Letter #1145	Response
1	WGFP 1145 ST VRAIN & LEFT HAND WATER CONSERVANCY DISTRICT OFFICIAL FILE COPY RECLAMATION SEP 18 2008 September 16, 2008 Mr. Will Tully Bureau of Reclamation 11056 West County Road 18E Loveland, CO 80537 Dear Mr. Tully: At its September meeting, the Board of Directors of the St. Vrain & Left Hand Water Conservancy District (the "St. Vrain District") voted to support Alternative 2 (the "Proposed Action") for the Windy Gap Firming Project. The Proposed Action includes the construction of the 90,000 acre-foot Chimney Hollow Reservoir, which offers the ability to store Windy Gap water or preposition C-BT water in the new reservoir. See ES-6. The St. Vrain District's support of the Proposed Action is based, in part, on the projected increase in Windy Gap firm yield from zero under existing conditions to about 26,000 acre-feet per year. See ES-10. The additional firm yield would collectively contribute about ten percent of the projected 2050 demand for the East Slope project participants and significantly lessen the projected 2050 supply deficit for those participants. See ES-3. The Proposed Action, in contrast to Alternatives 3, 4 and 5, requires a single new structure which would reduce the complexity of the project. Chimney Hollow Reservoir's proximity to the existing East Slope C-BT facilities makes the Proposed Alternative very appealing. The St. Vrain District expressed particular concern with the "no action" alternative, which it believes would require the thirteen East Slope project participants to each seek individual and more expensive options to firm up their water supplies. Such solutions would likely include the continued dry-up of a significant portion of the remaining agricultural lands within the boundaries of the St. Vrain District. The St. Vrain District also notes that, under the "no action" alternative, Windy Gap diversions will continue to increase because of the projected increased demand even though the firm yield available for the East Slope project participants will not. See ES-5. For these reasons, the St. Vrain District supports the Windy Gap Firming Project. Official File Copy File Code ENV-6.00 WGFP Project 245 Folder I.D. Control No. PRESIDENT Vernon E. Peppler Director at Large VICE PRESIDENT David Macy Director at Large SECRETARY Patricia Jones District 4 TREASURER Harold Nelson District 1 Dennis Yanchunas District 7 Ronald Sutherland District 5 Gordon Kennedy District 3 Robert Brand District 2 Glenn Patterson District 6 EXECUTIVE DIRECTOR Les Williams ADMINISTRATIVE ASSISTANT Cynthia Einspahr SECRETARY Lee Bauer LEGAL COUNSEL Bernard Lyons Gaddis & Kahn CONSULTING ENGINEER Deere & Ault Consultants, Inc. Mark McLean 9595 Nelson Road, Suite 203 Longmont, Colorado 80501 (303) 772-406	1. Thank you for your comment.

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	Page 2 Mr. Will Tully Bureau of Reclamation Sincerely, Vernon Peppler Vernon Peppler, President St. Vrain & Left Hand Water Conservancy District cc: Board of Directors, St. Vrain & Left Hand Water Conservancy District Eric Wilkinson, Northern Colorado Water Conservancy District	

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United States Department of Agriculture
Forest Service
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File Code: 1950-4
Date: DEC 29 2008

Mr. Will Tully
United States Bureau of Reclamation, Eastern Colorado
Area Office
11056 W. County Road 18E
Loveland, CO 80537-9711

Dear Mr. Tully,

The Sulphur Ranger District of the Arapaho-Roosevelt National Forest has reviewed the Draft Environmental Impact (DEIS) for the Windy Gap Firming project and provides comments that are attached. If you have any questions regarding the comments, please contact Kevin Bayer of my staff at (970) 887-4141. Thank you for the opportunity to review the DEIS regarding this significant project.

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RECLAMATION
DEC 30 2008
Date

Code	Surname	Date
1340	Tully	1/7/09

Copy to 1004

Sincerely,

CRAIG A. MAGWIRE
District Ranger

Official File Copy
File Code ENV-6.00 WGFP
Project 245
Contract No.

Caring for the Land and Serving People

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	Sulphur Ranger District's Detailed Comments for the Windy Gap Firming project DEIS Introduction Arapaho National Forest (Forest Service) comments on the Windy Gap Firming project (WGFP) Draft Environmental Impact Statement (DEIS) will focus on the analysis of impacts related to recreation and hydrology in the Arapaho National Recreation Area (ANRA). The 1997 revision of the Land and Resource Management Plan for the Arapaho–Roosevelt National Forests (Forest Plan) and Public Law 95-450, the "Indian Peaks Wilderness Area, the Arapaho National Recreation Area and the Oregon Islands Wilderness Area act" are key documents forming the basis for Forest Service comments. Forest Service comments are organized following the DEIS structure. In 1978, Public Law 95-450 created the ANRA within the Arapaho National Forest and Colorado-Big Thompson project (C-BT) specifically to "preserve and protect the natural, scenic, pastoral and wildlife resources of the area and the recreational opportunities provided". The ANRA is administered by the Secretary of Agriculture in accordance with laws and regulations applicable to national forests which includes the Clean Water Act and therefore State of Colorado water quality standards. The ANRA is to be administered in a manner "as will best provide for…….the management of water quality in the recreation area consistent with needed water supply…". National Recreation Areas are intended to be showcases for excellence in outdoor recreation and enjoyment as well as an environmental and economic asset to the state and local communities where they are located. The ANRA was created specifically to provide outdoor recreation opportunities around the five reservoirs within its boundaries for public enjoyment. Comments on DEIS 1.10 The Decision Process 1 To inform the BOR decision making, explain how the WGFP proposal supports the 5 primary purposes in the "manner of operations" of the C-BT advanced in US Senate Document 80. 2 In section 1.10.1 "Reclamation Decisions", please discuss how the WGFP proposal addresses the congressional intent regarding the purposes and administration of the ANRA in Public Law 95-450. As described in the DEIS, this project could lead to listing either Shadow Mountain or Granby Reservoirs on the States list of impaired waters (303(d) list). The BOR should have mitigations identified that would prevent more existing and future violations of State water quality standards in the reservoirs and associated streams. 2.2 Alternatives 3 There does not appear to be a true "no action" alternative identified in the DEIS The "no action" alternative should be synonymous with existing conditions and represent the baseline for the	1. The proposed project is not required to support the purposes for which the C-BT was constructed but it must not impair the project from being operated to meet those purposes. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS. 2. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would offset the nitrogen and phosphorus loadings to the Three Lakes projected from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River. 3. The No Action Alternative presents what WGFP Participants would do if Reclamation does not allow the proposed connections to C-BT facilities. Consistent with CEQ guidance on what should be considered in a No Action alternative, it does not mean that agencies stop what they are doing. In the case of existing agreements, prior court decisions and CEQ guidance would define No Action as no change to existing agreements. For WG and the WGFP this means that Reclamation would continue operation under the existing agreement between Reclamation and the Subdistrict for conveyance of WG water through the C-BT Project system. (See CEQ 40 Questions, #3) This also includes foreseeable actions by the participants. For most Participants, this includes continuing to take Windy Gap deliveries and increasing those deliveries as water demands increase within the capacity of the existing Windy Gap Project facilities and available storage in Granby Reservoir. One Participant would drop out of the WGFP.

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3	remainder of the analysis of action alternatives. No action means either: 1) continue present management but do not do the proposed project or 2) do not do anything at all. As it is written, the "no action" alternative is an activity (diverting and storing more water on average in an enlarged reservoir) that is a result of not building any new storage reservoirs. So, this alternative is neither the continuation of present management nor a complete lack of action. Perhaps NCWCD should develop another action alternative such as "divert an additional 9000 acre-feet without building new storage" and replace the existing alternative 1 with a true no action alternative.	The City of Longmont would consider 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 EIS. The majority of the hydrologic impacts included under the No Action alternative entail increased Windy Gap deliveries to participants, which can currently be done 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 or that the No Action alternative should be no diversions.
4	3.19 Recreation 3.19.2.4 West Slope Reservoir Recreation Willow Creek Reservoir public access- County Road 40 relocation If Jasper East Reservoir is constructed, retain adequate public access to Willow Creek Reservoir for recreation such as boating and camping. Access must be suitable for recreational vehicles and vehicles towing trailers. The DEIS should adequately describe the alternate transportation system for accessing Willow Creek Reservoir during and after Jasper East Reservoir construction.	4. If Jasper Creek Reservoir is built, access to Willow Creek Reservoir for recreation vehicles would be maintained. Specific details on how that would be accomplished would be developed during final design and would likely depend on construction staging and sequencing.
5	3.5 Surface Water Hydrology 3.5.1 Affected Environment The "Affected environment" section should include the reach of the Colorado River between Shadow Mountain Reservoir and Granby Reservoir as well as the Fraser River since the Fraser River is the primary source of water for Windy Gap diversions and the Fraser River is included in cumulative effects. For example, the WGFP could affect residents of the Fraser Valley by compelling wastewater dischargers to upgrade facilities at residents expense. Actions affecting water quality in the Fraser Valley will be translated into the ANRA reservoirs through Windy Gap pumping.	5. The study area includes the reach of the Colorado River between Shadow Mountain Reservoir and Granby Reservoir. Daily flow data were generated for this reach for each of the alternatives and was used in the water quality analysis for the Three Lakes system. The CDSS model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line and, therefore, includes the Fraser River. There would be no change in Fraser River flow due to the WGFP alternatives. Changes in streamflows in the Fraser River due to municipal growth in that basin and Denver Water's Moffat Project were considered in the cumulative effects analysis.
6	The environmental analysis should describe and explain how the "holes", or highly depleted reaches of the Fraser and Colorado Rivers developed. Mitigation was mentioned for the Colorado River diversions (increasing bypass flow from Windy Gap) but the analysis should explore options for repairing the Fraser River. For example, there is no means to replace water diverted to the Front Range from the Fraser River (other than Denver Water Department Williams Fork diversions) since the Ranch Creek and Idlewild reservoir sites proved infeasible and no other reservoir was constructed. The hole in the Fraser River may exacerbate water quality impacts from Windy Gap diversions to reservoirs within the ANRA.	Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would offset nitrogen and phosphorus loadings to the Three Lakes projected from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and Colorado River.
7	3.5.2 Environmental Effects Direct/Indirect The "Environmental effects" discussion should include the reach of the Colorado River between Shadow Mountain Reservoir and Granby Reservoir. Since water quality and quantity in ANRA reservoirs would be affected, it follows that this reach of the Colorado may experience changes in flow and water quality. The analysis should also include a discussion of how *Didymosphenia*	6. Highly depleted reaches of the Fraser River are not a result of the existing Windy Gap Project nor would they be affected by the WGFP alternatives. Under the "Agreement Concerning the Windy Gap Project and the Azure Reservoir and Power Project" (Azure Agreement) dated April 30, 1980 and the supplement to that agreement dated March 25, 1985, the Windy Gap Project must subordinate its water rights to all Colorado River and Fraser River basin irrigation, domestic, and municipal uses upstream of the Windy Gap reservoir site. Therefore, there would be no change in streamflows in the Fraser River due to the WGFP alternatives. The WG project may not call out more junior water rights in the Fraser River basin.

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7	*geminata* (didymo) in this reach would be affected by increased nutrient loading to ANRA reservoirs.	Changes in streamflows in the Fraser River due to municipal growth in that basin and Denver Water's Moffat Project were considered in the cumulative effects analysis. Anticipated water quality effects are the result of nutrient transfers into the Three Lakes system by water pumped at the Windy gap diversion. Proposed nutrient mitigation is discussed in responses to other comments.
8	The west slope effects analysis period of record should be extended to include the year 2002. Since 2002 was a year with lower streamflows than any year during the 1950-1996 period of record used in the analysis, 2002 could be used as an analog for climate change or Moffat Firming. While including 2002 may not change conclusions regarding streamflow below Windy Gap, it may produce more accurate or realistic conclusions regarding water quality in the Colorado River and ANRA reservoirs.	7. The study area does include the reach of the Colorado River between Shadow Mountain Reservoir and Granby Reservoir. Daily flow data were generated for this reach for each of the alternatives and was used in the water quality analysis for the Three Lakes system.
9	3.5.3 Cumulative Effects Pg 3-115: The assumption that the Fraser Valley wastewater treatment plants (WWTP's) would upgrade their existing facilities (implement advanced WWT) may lead to false conclusions regarding water quality impacts, especially for phosphorus. This assumption results in analysis of the best case scenario in terms of Fraser River water quality. If assumptions regarding Fraser water quality are flawed (assume higher water quality than would exist in the future), then the effects analysis for water quality impacts to the ANRA reservoirs and the Colorado River is too optimistic. The analysis should include other scenarios such as water quality impacts under the existing level of WW treatment with Moffat Firming and increased Grand County demand on the Fraser River. For example, the Fraser Valley Combined WWTP just came online in December 2005. It is unlikely that the Combined WWTP would upgrade again in the near future. No mitigation for providing advanced WWTP in the Fraser Valley is included in the proposal. An explanation of how advanced WWT would be achieved for the six existing WWTP's in the Fraser Valley should be mentioned.	As noted in response to Comment No. 2, proposed nutrient mitigation measures would offset additional WGFP pumping. As a result of this mitigation, there would be no increased nutrient loading to the Three Lakes as a result of the WGFP.
10	The executive summary states that climate change and pine beetle effects are considered in the cumulative effects section but it appears that these issues were dropped (cannot locate a discussion of either). The cumulative effects section for "Surface Water Hydrology" would be a logical section to discuss these issues. The text should discuss climate change and pine beetle effects to water supply in the upper Colorado River basin. As both of these issues are relevant to water supply, the effects should be quantified where possible. One means of quantifying climate change effects is to use the Colorado Water Conservation Board (CWCB) report entitled "Climate Change in Colorado: A Synthesis to Support Water Resources Management and Adaptation".	8. The need to extend the WGFP model study period was evaluated to determine whether a study period that includes recent hydrology, and in particular 2002, would change conclusions regarding WGFP yields and associated hydrologic changes. The period from 1997 through 2003 was analyzed in a spreadsheet exercise using Excel. A copy of the technical memorandum, *Significance of 2002 Hydrology to WGFP Modeling (Meg Frantz September 27, 2004)*, which summarizes that analysis, was provided to Grand County at a meeting on March 4, 2005. At Grand County's request, the analysis was subsequently updated to take into account the "relaxation" of the Shoshone call. Key conclusions of that analysis are as follows: o The addition of a WGFP reservoir would not change Colorado River flows in a year like 2002. Windy Gap water rights did not come into priority in 2002 and the addition of a WGFP reservoir would not change that condition. Therefore, Windy Gap would not divert in a dry year like 2002 with or without a WGFP reservoir because Windy Gap diversions would be limited by the amount physically and legally available, as opposed to available storage capacity. o The WGFP firm yield would not change if the model period was extended through 2002. A comparison of model output for the 1950–1996 study period with the period from 1997–2003 shows there are other sequences of years within the 1950–1996 study period that are more critical with respect to Windy Gap yield than 2002.
	Comments on Recreation Resources Technical report	
11	7.2 West Slope reservoirs Section 7.2.3.1 of the Windy Gap Technical Report on Recreation states that "All of the alternatives including No Action would result in lower lake levels in Granby Reservoir then under existing conditions." Section 7.2.3.1 also states that "Under the Proposed Action, water level decreases of up to 22 feet could occur during consecutive dry years in the peak recreation season compared to existing conditions." Reducing the amount of water in Granby Reservoir will greatly impact the quality and quantity of recreation likely to occur in the area. For example,	The current model study period also addressed the carry-over or recovery effects of additional Windy Gap diversions in wet years following dry years like 2002 and 2003. The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased

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11	lower water levels would result in less reservoir surface area for the public to engage in fishing and boating activities. Lower water levels would affect the three marinas on Granby Reservoir that operate under a Forest Service permit in a variety of ways. Lower water would force the marinas to keep their docks and mooring buoys further out into the lakebed from the high water line. Usually this would expose marina facilities, and the attached boats, to increased wind and wave action which could result in property damage. The public would have to drive further out onto the lakebed to access the docks, increasing impacts to the lakebed. As the reservoir surface area shrinks, the area required for marina operations accounts for a relatively higher percentage of reservoir surface area, leaving even less surface area for boating and fishing activities. The recreation report should mention the effects to the private boat docks on Granby Reservoir. The Forest Service has approximately 20 dock permits on Granby that allow approximately 54 boats. Lower water levels would force private docks further out onto the lakebed and make these docks more visible from highway 34 . Private boat dock owners would need to travel further across the lakebed to use and maintain their docks. The biggest impacts may be to the owners that have docks in bays. Forest Service regulations state that these docks must be in front of the owners' properties. If the water is lowered enough to make those bays dry then those owners will lose the ability to use their docks.	diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years. 9. Please refer to response to Comment No. 2 on proposed mitigation to reduce nutrient loading that would result from additional WGFP pumping into the Three Lakes system.
12	7.2.3.2. Boating The Proposed Action would have serious impacts on the availability of fully functioning boat ramps for the public on Granby reservoir. The report states that in dry years the Proposed Action would lower Granby Reservoir to below the bottom of the Arapaho ramp in May and August. It also estimates that in June and July, the water levels would be at 8,250 feet which is at the bottom of the Arapaho ramp (thus making the ramp ineffective for launching boats). The result is that in dry years, the Arapaho ramp would probably be closed for the entire year. The report also states that "The Proposed Action Alternative could decrease water levels below the Sunset boat ramp in consecutive dry years, which would eliminate boat access from all three boat ramps." Section 7.2.3.3 states that "... in dry years when reservoirs are low, mud flats in portions of the shoreline might affect access." It is clear that the proposed action could seriously compromise fishing access in Granby Reservoir by boat and shore. Since boating and fishing in this reservoir is a major attraction for tourism in this area, the proposed action poses a major economic impact to the local economy in drier years.	10. The discussion of climate change in Section 2.8.2—Reasonably Foreseeable Actions, was revised in the FEIS. This section includes updated information from recent publications on climatic change trends in the upper Colorado River basin and possible future changes. Potential environmental impacts from climate change are qualitatively evaluated as part of the cumulative effects evaluation discussed for applicable resources in Chapter 3 of the FEIS. A discussion of pine beetles also is included in Section 2.8.2 of the FEIS. The implications of pine beetle-killed trees would be similar for all alternatives, and because evaluating the effects would require a substantial number of assumptions on likely conditions in the watershed, a detailed analysis of the range of potential effects of this reasonably foreseeable action was not conducted in the EIS. 11. As a mitigation measure, the Subdistrict has proposed to modify prepositioning operations to reduce Granby Reservoir water level fluctuations. 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. Additional discussions of the effects of modified prepositioning are found in Section 3.5.4 of the FEIS. Additional descriptions of private marinas and boat docks at Granby Reservoir, as well as potential impacts to those facilities, has been added to the FEIS. Additional information has been added to the FEIS to better correlate severe drawdowns during consecutive dry years with reservoir surface area. Dry years and low water levels have occurred in the past and will continue to occur in the future. 12. In average years, all boat ramps would remain accessible in the summer under the action alternatives, except for Arapaho Bay in May. In dry years, the Arapaho Bay boat ramp would be affected in August. None of the other boat ramps would be affected during the summer recreation season. It is reasonable to assume that the loss of one boat ramp during 1 month of the 5-month recreation season would

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		not affect recreation use or experiences. The loss of one out of five boat ramps for the entire season would have impacts, but would not eliminate recreation opportunities. To reduce the frequency and amount of fluctuations in Granby Reservoir, as described in the response to Comment No. 11, the Subdistrict proposes modification of prepositioning to maintain higher water levels. As discussed in Section 3.19.4 of the FEIS, modified prepositioning would maintain water levels for access to the Arapahoe Bay boat ramp under most conditions. Drought conditions and delivery of C-BT water could still result in water levels below the 8,250 elevation of the Arapaho Bay boat ramp. The Recreation section in the FEIS has been changed to acknowledge potential impacts on private marinas and boat docks at Granby Reservoir. The FEIS has been revised to clarify boat ramp access during dry years, and to better describe the frequency and impacts of consecutive dry years on boating opportunities for both existing conditions and the Proposed Action.

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	WGFP 1120 **OFFICE OF THE COUNTY MANAGER** 970-453-2561 fax 970-453-3535 Post Office Box 68 208 East Lincoln Avenue Breckenridge, Colorado 80424 December 29, 2008 Mr. Will Tully Bureau of Reclamation Eastern Colorado Area 11056 West County Road 18E Loveland, CO 80537-9711 Mr. Tully: Summit County Government, the Town of Frisco, the Town of Breckenridge, and the Town of Dillon, collectively submit following comments in response to the Windy Gap Firming Project (WGFP) Draft Environmental Impact Statement (DEIS) released on August 29, 2008. Projects such as the Windy Gap Firming Project and the Moffat Expansion Project impact the entire Upper Colorado River watershed. Large transmountain diversion projects such as these need to be evaluated more holistically taking into account the intricate water systems that link our watersheds together in the Upper Colorado. Summit County historically has worked with Eagle, Grand County, and Pitkin County, as well as, municipalities and water and sanitation districts in the headwaters of the Colorado River, to address impacts of water projects that occur across county lines.	
1	Specific concerns Summit County and the Towns of Frisco, Breckenridge and Dillon have with the WGFP DEIS are 1.) mitigation outlined in the DEIS is inadequate and vague at best, 2.) an attempt to assess cumulative impacts merely outlines reduced flows from past and present projects, but fails to really recognize effects of those reduced flows on aquatic life and stream health, 3.) the modeling is flawed; specifically it was not extended to include potential areas of impacts further down below the Kremmling gage, and water quality impacts are inaccurate, and 4.) socioeconomic and recreational impacts are severely understated for a community that relies on water to maintain their quality of life.	1. The response to these questions are provided below.
2	**Mitigation** First and foremost, we would like to acknowledge that we have been kept appraised of Grand County's (County) efforts to develop a Stream Management Plan (Plan). The County has expended a significant amount of time and money to prepare a scientific study that evaluates	2. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop recommendations of preferred streamflow regimes to support stream health for aquatic habitat and other nonconsumptive water uses, as well as the flow regimes necessary to support water use requirements for irrigators, municipalities, industry, and recreation. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included

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		in the SMP. However, mitigation measures included in the FEIS, may help meet some of the goals of the SMP. Additional discussion of the Grand County SMP was added to Section 3.9.1.4 of the FEIS.
2	how water diversion such as WGFP and Moffat Expansion could occur while having very little adverse affect on the water supply, environment and recreation in the Colorado River in Grand County. Such a plan has the potential to create a model that can be used for other transmountain diversions. The Plan needs to be recognized in the DEIS and it needs to be considered as a means of mitigation.	3. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed Project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures also is included in Section 3.25 of the FEIS.
3	Additionally, the west slope mitigation proposed is vague and uncertain. The DEIS describes mitigation for the original Windy Gap Project (WG), but fails to analyze additional mitigation needed to address further impacts caused by the WGFP. The DEIS first needs to clearly identify and define the impacts caused by the WGFP [which the analysis and modeling has failed to do], and then require appropriate mitigation measures.	
4	**Cumulative Impacts** While there is an attempt in the DEIS to address impacts from past projects, most of the information addresses streamflows before and after certain projects went online; but the DEIS fails to adequately evaluate the effects of reduced streamflows on such things as aquatic life and the overall health of the streams. The DEIS should provide a clear understanding of all cumulative impacts, not just reduced streamflows.	4. The WGFP FEIS fully considered the cumulative impacts of past, present, and reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of past, present, and future actions in addition to the incremental effect of the alternative actions. Results of the hydrologic analysis were then used to assess water quality, aquatics, and other resources in the same level of detail as the direct impacts of the WGFP. The aquatic resource analysis used the cumulative impacts hydrology as the basis for assessing impacts. Those cumulative impacts are displayed in the cumulative impacts tables in Chapter 3 of the FEIS.
5	The DEIS needs to provide more detailed information on cumulative impacts of all projects effecting Grand County and the Upper Colorado River system. The DEIS fails to provide a full understanding of the history of streamflows and depletions caused by past water diversion projects. The DEIS should include a better understanding particularly of the Colorado Big Thompson (CBT) and WG operations on the west slope. There needs to be a more thorough description of how water is being exchanged, how reservoir evaporation is being accounted and how the system is managed as a whole.	5. The Affected Environment section of Surface Water Hydrology describes historical hydrologic conditions and the various actions and projects that have contributed to existing conditions. Table 3-20 was added to the FEIS to better illustrate the hydrologic effect of past, present, and reasonably foreseeable actions. Other sections in the EIS provide discussions on existing conditions and status of the various resources. The existing hydrologic conditions presented in the EIS provide an accurate baseline from which to make a reasonable comparison of the impacts of each of the alternatives.
6	Of particular concern is that the DEIS fails to evaluate impacts further downstream on the Colorado River. From our review, it appears the modeling stops at the Kremmling gage, meaning the DEIS lacks a complete analysis of cumulative impacts affecting the WGFP area. Additional depletions from the Colorado River below the Kremmling gage need to be discussed. One reality is the construction of Wolcott Reservoir and the potential of the endangered species 10,825 water being release from there, rather than reservoirs in Grand County. Has growth in Eagle County been considered or changes to flows in the Eagle River, or the potential of a reduction in Shoshone calls? Again, the river system needs to be evaluated holistically. CBT and other large water projects don't merely impact their immediately surrounding areas.	The discussion of C-BT and Windy Gap operations on the West Slope is sufficiently detailed in the DEIS. In the FEIS, Section 3.5.2.3 provides a discussion of Windy Gap operations and how those operations affect the C-BT Project. Section 3.5.2.5 addresses C-BT and Windy Gap Project operations at major West Slope facilities including the Adams Tunnel, Windy Gap, Granby Reservoir, and the Willow Creek Feeder Canal. A discussion of Windy Gap and C-BT exchanges under the Proposed Action was added to Section 3.5.2.5 of the FEIS under the subsection Windy Gap Diversions. Evaporative losses in Granby Reservoir, Shadow Mountain Lake, and Grand Lake are discussed in Section 3.5.2.3 of the DEIS in the subsection Loss of C-BT Water from Reservoir Evaporation. Evaporative losses in all C-BT reservoirs are charged to the C-BT Project regardless of the Windy Gap contents in that facility. More discussion of the calculation of evaporative losses was added to Section 3.5.2.3 of the FEIS under the subsection Loss of C-BT Water from Reservoir Evaporation.
7	Additionally, while the DEIS attempts to analyze collectively WGFP and Denver Water's Moffat Collection System, the Moffat Expansion Project, it does not provide a thorough analysis. We agree with others who have stated that a single EIS evaluating the impacts of both projects is the only way to guarantee a complete understanding the current and future potential impacts.	

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		Additional information was added to Section 3.5.1.4 of the FEIS to describe the effects of past diversion projects. Table 3-1, which was added to the FEIS, summarizes the effects of historical upstream depletions at the Colorado River at Windy Gap gage (09034250) for the 20-year period from 1985 through 2004. This period was selected because the Windy Gap Project came online in 1985; therefore, it includes the effects of all major upstream transbasin diversions (Grand River Ditch, C-BT Project, Moffat Project, and Windy Gap Project). On average, the Moffat, C-BT, and Windy Gap projects diverted approximately 62% of the average annual native flow at the Windy Gap gage for the period from 1985 through 2004. Additional information on C-BT operations can be found in the WGFP Water Resource Technical Report (ERO and Boyle 2007). The discussion of changes in releases from Williams Fork and Wolford Mountain reservoirs to meet flow recommendations for endangered fish was revised in Section 2.8.2.1. This includes information from the *Colorado Water Users' Commitment to Provide 10,825 acre-feet to the 15-Mile Reach of the Upper Colorado River* Environmental Assessment. This project includes release of 5,412.5 AF annually from Granby Reservoir that would benefit aquatic life in the upper Colorado River. 6. The CDSS model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line. Therefore, the active model area extends downstream of the Dotsero gage. However, the area considered for the analysis of hydrologic effects extends downstream to the USGS gage near Kremmling. The downstream extent of the study area was initially based on the location where average monthly flow changes would be less than 10% under direct effects. Resource evaluations were conducted to determine impacts at that location and assess the validity of the downstream study area extent. Results of the resource evaluations indicate direct effects due to the WGFP would be negligible to minor along the Colorado River near the Kremmling gage. Therefore, extension of the study area further downstream is not warranted based on the results of the resource evaluations. Regarding future potential projects in Eagle County, such as Eagle County growth and the Wolcott Reservoir, see Section 8.1 of the WGFP Water Resources Technical Report for a discussion of the criteria for identifying reasonably foreseeable actions. Wolcott Reservoir was not considered reasonably foreseeable and is currently not a component of the selected alternatives to supply 10,825 acre-feet of water. 7. The FEIS considered the cumulative impacts of the Moffat Project. The cumulative effects analysis included hydrologic modeling of the Moffat Project,

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8	**Modeling** WGFP would not divert during low flow years like 2002, which is why they didn't consider it. We have significant concerns with the modeling used in the DEIS to evaluate impacts the west slope. We question why the DEIS does not include streamflow modeling from 2002 and 2003. These are the most recent driest years on record. Looking at current average year flows allow for the ability to analyze drought years from the perspective of river flows and associated resource impacts.	including changes in Fraser River, Williams Fork, and Blue River flows. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects. 8. The need to extend the WGFP model study period was evaluated to determine whether a study period that includes recent hydrology, and in particular 2002, would change conclusions regarding WGFP yields and associated hydrologic changes. The period from 1997 through 2003 was analyzed in a spreadsheet exercise using Excel. A copy of the technical memorandum, *Significance of 2002 Hydrology to WGFP Modeling (Meg Frantz September 27, 2004)*, which summarizes that analysis, was provided to Grand County at a meeting on March 4, 2005. At Grand County's request, the analysis was subsequently updated to take into account the "relaxation" of the Shoshone call. Key conclusions of that analysis are as follows: o The addition of a WGFP reservoir would not change Colorado River flows in a year like 2002. Windy Gap water rights did not come into priority in 2002, and the addition of a WGFP reservoir would not change that condition. Therefore, Windy Gap would not divert in a dry year like 2002, with or without a WGFP reservoir, because Windy Gap diversions would be limited by the amount physically and legally available, as opposed to available storage capacity. o The WGFP firm yield would not change if the model period was extended through 2002. A comparison of model output for the 1950–1996 study period with the period from 1997–2003 shows there are other sequences of years within the 1950–1996 study period that are more critical than 2002 with respect to Windy Gap yield. The current model study period also addressed the carry-over or recovery effects of additional Windy Gap diversions in wet years following dry years like 2002 and 2003. The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years.
9	Additionally, we have a concern with the use of monthly modeling and average daily flows. Monthly modeling does not accurately address the daily needs and impacts to aquatic life, and long-term average daily flows does not accurately represent daily flows in all years. The daily pattern of streamflows within a given month is not the same from year to year. We also feel that the water quality impacts were severely underestimated due to the modeling. Lastly, modeling needs to be extended to the Dotsero gage.	
10	Because of the insufficient modeling used, it's impossible to obtain an accurate and clear understanding of the impacts to the streams in Grand County, to the Colorado River and to the entire Upper Colorado River watershed. If we don't have that, we have no baseline to provide meaningful input on the WGFP.	
	Socioeconomic and Recreational Impacts It's well documented that tourism and recreation sustains our mountain communities. While some choose to live and work in the mountains, others living on the Front Range enjoy easy access to the vast amount of outdoor activities our mountain communities have to offer. The economic stability that tourism brings to our communities is real, and the vast majority of visitors come here to enjoy water related activities – such as skiing, fishing, rafting/kayaking, sailing/boating. The ascetic beauty our streams and rivers provide draws hikers, mountain bikers, backpackers and campers.	
11	It's troubling that the DEIS only considers commercial boating and commercial fishing on one reach of the Colorado River, excluding all other recreational activities. The DEIS excludes economic impacts to things such as lodging, drinking and dining sales, as well as, retail and equipment rental sales. It also does not appear that a potential decrease in home values was assessed. For instance, if Grand Lake continues to be degraded from the pristine lake it once was, what impact will that have on home sales? If assessed values fall on homes, then the amount of property taxes the surrounding communities bring in will be less. As a community that functions economically similar to Grand County, we consider it a huge oversight that a more thorough socioeconomic analysis was not provided in the DEIS.	
12	**Additional Comments** 1.) The statement of purpose and need is too narrow. It doesn't allow for many less environmentally damaging alternatives to be evaluated.	

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		9. Daily data were developed from monthly model output by disaggregating monthly values using historical gage records. Two sets of daily data were developed. Daily data were developed for the entire study period for the USGS gages on the Colorado River below Lake Granby, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and the gage on Willow Creek below Willow Creek Reservoir. In addition to the daily data developed for the entire study period at the locations listed above, average, wet, and dry monthly flows were disaggregated to daily values to develop average, wet, and dry daily hydrographs. A combination of daily and monthly hydrologic data were used for evaluations of resources dependent on flows or reservoir storage contents and levels. Average monthly summaries of flows, diversions, reservoir outflow, end-of-month reservoir contents, surface elevations, and surface areas for average, wet, and dry conditions were used to support general characterizations of hydrologic changes associated with the alternatives. Daily data were used to generate flow duration curves and daily hydrographs, and to determine the frequency and magnitude of daily flow changes. These types of hydrologic analyses, based on daily variations, were used in resource assessments where the magnitude or value of the resources are especially sensitive to daily hydrologic changes and where the use of average, wet, and dry monthly values would mask the severity of the effects on those resources. For example, daily hydrologic data were used as an input parameter for the River2D model to evaluate the effects on aquatic resources. Use of daily data for the entire hydrologic study period supported an assessment of the overall range and frequency of aquatic habitat changes. Section 3.5.2.2 of the FEIS was revised to include information related to the use of daily data for resource evaluations, including fisheries and water quality that are sensitive to daily flow variations. Because of its relatively junior water rights, the Windy Gap Project is not in priority and is precluded from diverting water from the Colorado River during droughts and low-flow periods, with or without the alternatives assessed, to provide firming storage. During low-flow periods, the Windy Gap Project would operate the same whether there is a firming project online or not. In these low-flow conditions, downstream Colorado River flows, whether they are viewed on a monthly or daily basis, are the same for existing conditions, for the No Action Alternative, and for each of the EIS alternatives. Because there are no hydrologic impacts from the WGFP during low-flow and drought periods, a daily model is not needed to assess effects for these low-flow periods, and the disaggregation of monthly data to daily data is sufficient for the assessment of effects for nondrought conditions. Regarding extension of the model study area to the Dotsero gage, see response to Comment No. 7.

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		10. See response to Comment Nos. 6, 8, and 9 regarding the adequacy of the model used to evaluate hydrologic effects to the Upper Colorado River watershed. 11. The recreation analysis focuses on boating opportunities on the Colorado River and at existing reservoirs. Those uses were identified as issues during the scoping process and are the most likely to be affected by hydrological changes resulting from the alternatives. Potential impacts to land-based recreational activities, including camping, hiking, scenic driving, and sightseeing, are described in the Recreation Resources Technical Report, and in the Effects Common to All Alternatives section. Potential effects of hydrological changes on commercial and private fishing opportunities are further described in the FEIS. However, the Aquatic Resources analysis determined that the projected effects to fish habitat are unlikely to result in a loss of angling opportunities or success. The direct and secondary economic impacts of boating and camping activities are described in detail in the Socioeconomics section. Property values are not expected to be affected. Impacts on property tax revenues from land acquisitions for reservoirs have been added to the FEIS. A number of proposed mitigation measures summarized in Section 3.25 of the FEIS would have direct or indirect benefits to tourism-related values and land use, including modified prepositioning to maintain higher water levels in Lake Granby; nutrient reduction measures to offset nutrient loading to the Three Lakes and improve water quality year-round in the Fraser and Colorado rivers; curtailed WGFP diversions to reduce stream temperature; increased flushing flows and other measures. 12. The WGFP was initiated by the Participants because the original Windy Gap Project failed to deliver the yields and Participant water rights anticipated in the 1981 EIS for the reasons discussed in more detail in Section 1.5 of the FEIS, including insufficient storage. To address the shortcomings of the Windy Gap Project, Participants determined that a cooperative project with shared storage in a new reservoir(s) would be the most efficient way to collectively firm their Windy Gap water supply. Windy Gap represented a source of existing water available to the Participants, but required additional infrastructure to provide reliable deliveries. Thus, the purpose of the WGFP was to fix a broken project, not to search for

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		other sources of water. Many of the WGFP Participants have additional future water needs beyond what the WGFP would supply, and will be investigating other sources of water to meet those needs. The WGFP is only functional as a collaborative effort on the part of Windy Gap Project unit holders.
13	2.) Summit County has adopted 1041 land use regulations. From our review of the DEIS, WGFP will cause a change in operation to the original WG Project triggering the need for a 1041 permit by Grand County.	13. There are ongoing discussions between Grand County and the Subdistrict on the need for a new or modification of the existing Windy Gap 1041 Permit. The EIS provides an estimation of the anticipated direct and cumulative effects of the proposed action based on available information. However, resolution of this issue is not required for completion of the NEPA process or issuance of a Record of Decision. Additional discussion on this issue was added to Section 1.10.3 of the FEIS.
14	3.) Senate Document 80 requires that the CBT project is operated in a manor that is protective to the west slope. We have concerns whether such protection are currently in place with present operations, and would like to see assurances of such with the WGFP.	The DEIS on page 3-294 recognizes that such requirements may exist and, if so, they will be followed. Reclamation takes no position on what, if any, local government authorities apply to the WGFP.
15	4.) We have participated in ongoing efforts with both west slope entities and east slope water providers to come up with win-win solution to the Bureau of Land Management's (BLM) Wild and Scenic River Designation process affecting reaches of streams in Grand, Summit and Eagle Counties. The DEIS specifically states that it excludes consideration of whether WGFP would have an impact on BLM's potential Wild and Scenic designation. We feel some sort of analysis should be done to compare eligibility requirements against anticipated effects of the WGFP and the cumulative effects.	
16	5.) It's stated in the DEIS that all WGFP participants have water conservation programs in place. Their programs should measureable and there should be some sort of baseline requiring participants to prove a certain level of conservation. There are a vast amount of tools and resources offered by the state to help assist communities with their water conservation efforts. There's little excuse for not having a solid plan in place. Merely stating that an entity has a water conservation plan is not enough. Those plans need to be scrutinized and proven effective, and that information needs to be included in the DEIS.	14. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
	We appreciate the opportunity to comment. If you should have any questions regarding our comments, please contact Gary Martinez, County Manager at 970-453-3401. Otherwise, we look forward to seeing our issues addressed in the final EIS. Sincerely, Gary Martinez County Manager Kate Boniface Assistant Town Mgr Tim Gagen, Town Manager Town of Breckenridge Devin Granbery, Town Manager Town of Dillon Michael Penny Town of Frisco	15. Evaluation and potential designation of portions of the Colorado River as Wild and Scenic is a separate and ongoing process being pursued by the BLM. Recreational values are among the outstanding remarkable values identified for segments of the river. The Wild and Scenic designation process is described in the Recreation section of the FEIS. While the effects to river recreation described in the FEIS could relate to the recreational values along the Colorado River, the decision on Wild and Scenic River status is made by the BLM as part of the planning process, and is not part of the evaluation for the WGFP EIS. 16. The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict.

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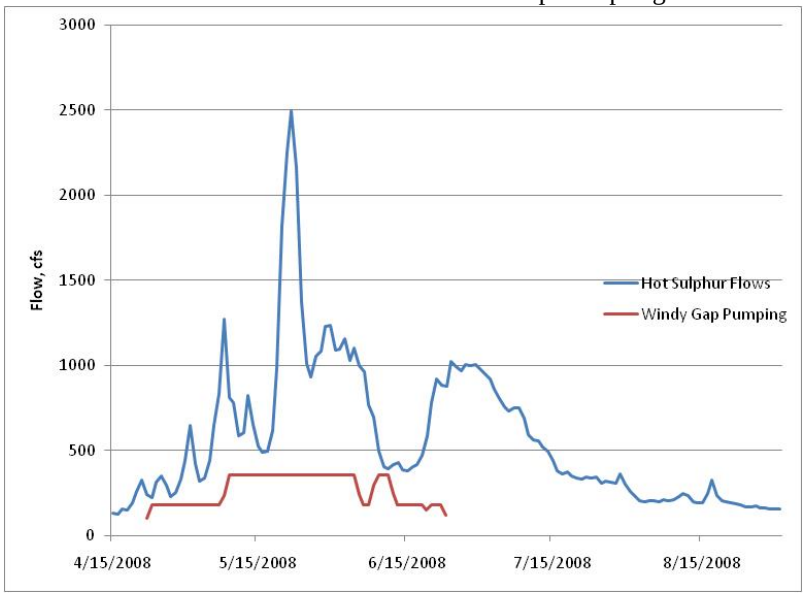
1 2	WGFP 378 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 L.L. Kourse MS. KOURSE: L.L. Kourse, two "Ls", K-o-u-r-s-e. And I manage and operate Tabernash Meadows Water and Sanitation District. I recently spent about six months in Hot Sulphur Springs, helping them with water issues that is directly related to the water quality. What I found in the spring was that the flows coming down the Windy Gap were very erratic. You couldn't predict the best time to run the plant. And nobody at the Windy Gap pumping station would address the situation and give us any input. I was also really surprised to find out that the gauge to Hot Sulphur Springs, the USGS gauge, it was taken off-line in the 1990s. And if you get on the site and you look at gauges, basically every time there has been a great project, you know, public-works project, to benefit everybody by the people that live here, it's just declining. So with that said, I really don't think you have all the data that you need to really review the situation. I think the environmental impact statement doesn't come close to really looking at the issues. And everybody in this rooms knows this. I appreciate how well everybody articulated in great detail what the situation really is here. One of the other things that I found is that -- in government regulatory situations is, people don't do what you expect; they do what you inspect. But I really question whether or not you guys even have the staff and the time to really appropriately review this particular request. And I urge you to, number one, review it carefully; number two, take no action on it at this point, and extend the comment time. Thank you.	1. Windy Gap pumping during 2008 was very consistent, beginning at 184 cfs from April 22 to May 7, increasing to 357 cfs from May 8 to June 11 (with a short reduction to 184 cfs from June 5 to June 7 to enhance peak flows for endangered fish), and dropping again to 184 cfs from June 12 to the end of pumping on June 23 as shown below in the hydrograph for the Colorado River at Hot Sulphur Springs. The variability of flows at the Hot Sulphur Springs gage is due primarily to natural variations in runoff from snowmelt and weather changes. The second hydrograph for the Fraser River near Granby between 4-15-08 and 8-30-08 follows the same curve as the Colorado at Hot Sulphur Springs. 

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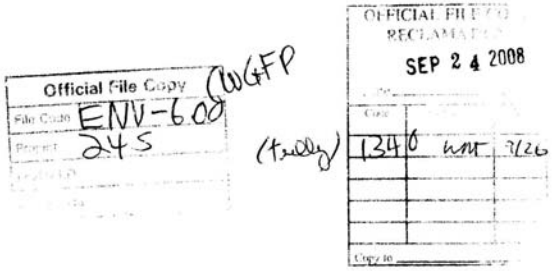
		2. Through the EIS process and supporting technical reports, resource impacts were evaluated in detail using the best available information.

Com-ment	Letter #407	Response
1	WGFP 407 Loveland Public Hearing Transcript for Windy Gap Firming Project October 7, 2008 Gary Behlen MR. BEHLEN: Thank you, Mr. Tully and Mr. Peter. My name is Gary Behlen. I'm the Director of Public Works for the Town of Erie, Colorado. The Town of Erie is a town of over 16,000 in population. The Town is very pleased that the draft EIS impact statement has been published for the Windy Gap Firming Project. We have been an active participant in the project with our neighboring municipalities and districts since its inception. It is a vital to the Town to assure that our citizens will have water supplies needed for a sustainable future. Like others, the Town of Erie actively conserves water and has recently had its conservation plan approved by the Colorado Water Conservation Board. It also has a reuse water program for nonpotable irrigation of its parks and open space. It also -- the Town has acquired 14 Windy Gap units to-date to generate its reuse of water. The project is an integral component of its program because it will firmly yield those Windy Gap units to provide a reliable amount of reuse water on an annual basis. Erie has investigated numerous alternatives to the Windy Gap Firming Project. And it is the firming project that is a cooperative effort which is both environmentally responsible and affordable. It is located off-stream and will firm the yield of an existing water right. It has always been contemplated as a necessity -- as a necessary component of the Windy Gap project. Erie's portion of the project will be funded through the water dedication fees payable to the Town for development under its comprehensive plan. Erie encourages the issuance of a final Environmental Impact Statement and the record of decision authorizing the Windy Gap Firming Project. Thank you.	1. Thank you for your comment.

Comment	Letter #1142	Response
1	WGFP 1142  TOWN OF ERIE 1874  Official File Copy (WGFP) File Code ENV-6.00 Project 245 (Tully) OFFICIAL FILE COPY RECLAMATION SEP 24 2008 Code 1340 WNT 9/26 Copy to September 15, 2008 Will Tully Bureau of Reclamation 11056 West County Road. 18E Loveland, CO 80537 Re: Windy Gap Firming Project Dear Mr. Tully: I am the Director of Public Works for the Town of Erie, Colorado. The Town is very pleased that the Draft Environmental Impact Statement has been published for the Windy Gap Firming Project ("Project"). We have been an active participant in the Project with our neighboring municipalities and districts since its inception. It is vital to the Town to assure that our citizens will have the water supplies needed for a sustainable future. The Town of Erie actively conserves water and recently had its conservation plan approved by the Colorado Water Conservation Board. It also has a water reuse program for non-potable irrigation of parks and open space. The Town has acquired 14 Windy Gap Units to date to generate its reuse water. The Project is an integral component of its program because it will firm the yield of those Windy Gap Units to provide a reliable amount of reuse water on an annual basis. Erie has investigated numerous alternatives and the Windy Gap Firming Project is a cooperative effort which is both environmentally responsible and affordable. It is located offstream and will firm the yield of an existing water right. It has always been contemplated as a necessary component of the Windy Gap Project. Erie's portion of the Project will be funded through water dedication fees payable to the Town for development under its Comprehensive Plan. 645 Holbrook • P.O. Box 750 • Erie, Colorado, 80516 • Phone (303) 926-2700 • Fax (303) 926-2705	1. Thank you for your comment.

Com-ment	Letter #1142	Response
1	Erie encourages the issuance of the Final Environmental Impact Statement and the Record of Decision authorizing the Windy Gap Firming Project. Sincerely, TOWN OF ERIE Gary W. Bohlen, P.E. Director of Public Works Cc: Mike Acimovic- Town of Erie Paul Zilis- Vranesh & Raisch Eric Wilkinson- NCWCD	

Com-ment	Letter #1069	Response
1 2	WGFP 1069 FRASER COLORADO Official File Copy File Code ENV-6.00 WGFP Project 245 Control No. Folder I.D. Tully OFFICIAL FILE COPY RECLAMATION Date DEC 30 2008 Code / Surname / Date 1340 ww 12/9/08 Copy to December 29, 2008 Will Tully, Bureau of Reclamation 11056 W. County Road 18E Loveland, CO 80537 (970) 663-3212 (fax) SUBJECT: Windy Gap Firming Project Comments Dear Mr. Tully: I am writing on behalf of the Town of Fraser regarding the Windy Gap Firming Project and would like to offer the following comments: **Purpose and Need Statement** 1. The Purpose and Need Statement is too narrow, thereby improperly limiting the range of alternatives analyzed. 2. It is so narrow that many less environmentally damaging alternatives that do not involve more diversions from the Colorado River are not brought forward. **Senate Document 80** Senate Document 80 is the legal foundation of the Colorado Big Thompson (C-BT) Project. Senate Document 80 describes C-BT facilities and conditions to protect the beneficiaries of those facilities, including Grand County and the west slope. Senate Document 80 contains requirements for use of C-BT water by the Northern Colorado Water Conservancy District as a supplemental supply on the east slope, use of Green Mountain Reservoir for west slope beneficiaries, and provisions that specifically protect the headwaters of the Colorado River system in Grand County. 1. The DEIS excludes consideration of Senate Document 80 requirements which protect Grand Lake and the Colorado River, including specific considerations about recreation, aesthetics and fish. 2. It should be noted that connection of WGFP facilities to C-BT facilities and storage of C-BT water in non-project facilities would require Congress to amend Senate Document 80. Town of Fraser PO Box 370, Fraser, CO 80442 office 970-726-5491 fax 970-726-5518 www.frasercolorado.com	1. The WGFP was initiated by the Participants because the original Windy Gap Project failed to deliver the yield from Participant water rights that was anticipated in the 1981 EIS for the reasons discussed in more detail in Section 1.5 of the WGFP FEIS, including insufficient storage. To address the shortcomings of the Windy Gap Project, Participants determined that a cooperative project with shared storage in a new reservoir(s) would be the most efficient way to collectively firm their Windy Gap water supply. Windy Gap water represented a source of existing water available to the Participants, but required additional infrastructure to provide reliable deliveries. Thus, the purpose of the WGFP was to fix a broken project, not to search for other sources of water. 2. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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2	3. Senate Document 80 imposes upon Reclamation an affirmative duty to operate the C-BT Project and its facilities in a manner that is protective of the Colorado River fisheries. Not only does the DEIS fail to provide the necessary analysis of impacts to aquatic resources within the reach of the Colorado River evaluated, it entirely fails to analyze the impacts of WGFP on the aquatic resources below Gore Canyon.	
3	**Permitting Authority** 1. It should be recognized that Grand County will have 1041 permitting authority over all of the alternatives, not just those where there will be construction in Grand County. The Bureau has stated in the past that a new or amended 1041 permit may not be required for the WGFP. However, a new or amended 1041 permit is required for new facilities and operational changes. 2. Changes to C-BT operations demonstrate that this is a different project. Grand County issued permits for the original Windy Gap Project. Each of the proposed alternatives will result in a change in the operation of the permitted Windy Gap Project thereby triggering either amendments to the existing permits or new permits.	3. There are ongoing discussions between Grand County and the Subdistrict on the need for a new or modification of the existing Windy Gap 1041 permit. The EIS provides an estimation of the anticipated direct and cumulative effects of the proposed action based on available information. However, resolution of this issue is not required for completion of the NEPA process or issuance of a Record of Decision. Addition discussion on this issue was added to Section 1.10.3 of the FEIS.
4	**Cumulative Impacts** 1. The DEIS should present a significant discussion of cumulative impacts and show much more detailed information regarding the full history of streamflows and stream depletions to this region, not just the flows averages before and after C-BT. The	4. The Affected Environment section of Surface Water Hydrology describes historical hydrologic conditions and the various actions and projects that have contributed to existing conditions. The existing hydrologic conditions presented in the EIS are based on the available information as required by CEQ regulations implementing the NEPA and provide a baseline from which to make comparison of the impacts of each of the alternatives. The WGFP FEIS considered past, present, and reasonably foreseeable future actions, and provides a detailed discussion of those effects in the Cumulative Effects section for each resource.
5	2. The DEIS should include a more thorough discussion of C-BT and Windy Gap operations on the West Slope, particularly in terms of when water is being exchanged from where to where and how reservoir evaporation is being accounted for and managed.	5. The discussion of C-BT and Windy Gap operations on the West Slope is discussed in detail in the DEIS, and additional information was added in the FEIS as noted below. Section 3.5.2.3 provides a discussion of Windy Gap operations and how those operations affect the C-BT Project. Section 3.5.2.5 addresses C-BT and Windy Gap Project operations at major West Slope facilities including the Adams Tunnel, Windy Gap, Granby Reservoir, and the Willow Creek Feeder Canal. A discussion of Windy Gap and C-BT exchanges under the Proposed Action was added to Section 3.5.2.5 of the FEIS under the subsection Windy Gap Diversions. Evaporative losses in Granby Reservoir, Shadow Mountain Lake, and Grand Lake are discussed in Section 3.5.2.3 of the FEIS in the subsection Loss of C-BT Water from Reservoir Evaporation. Evaporative losses in all C-BT reservoirs are charged to the C-BT Project regardless of the Windy Gap contents in that facility. More discussion of the calculation of evaporative losses was added to Section 3.5.2.3 of the FEIS under the subsection Loss of C-BT Water from Reservoir Evaporation.
6	3. A more detailed description of past water diversion projects and their resulting impacts (e.g., conditions before and after the C-BT, the Windy Gap Project, and Denver Water's Moffat Collection System project) is necessary to understand how these conditions came about.	More information was added to Section 3.5.1.4 of the FEIS to describe the effects of past diversion projects. Table 3-1, which was added to the FEIS, summarizes the effects of historical upstream depletions at the Colorado River at the Windy Gap gage (09034250) for the 20-year period from 1985 through 2004. This period was selected because the Windy Gap Project came online in 1985; therefore, it includes the effects of all major upstream transbasin diversions (Grand River Ditch, C-BT
7	4. Instead of using actual existing conditions as a baseline against which to measure impacts of the WGFP alternatives, the DEIS used a modeled stream flow regime. The modeled conditions show existing diversions from the original Windy Gap at an annual average of 36,000 a.f. on the average per year when in reality the diversions were only 11,000 per year. Consequently, the significance of the impacts of the additional diversions associated with the WGFP were greatly understated. Since all the impacts of concern in Grand County are caused by stream depletions (aquatics, boating, etc) the relative significance of all of those impacts are also under-stated.	
8	5. The WGFP and Denver Water's Moffat Collection System project are cumulative actions. A single EIS analyzing the impacts of both projects is not a mere formality. Without such EIS, there can be no assurance that the Bureau of Reclamation and Corps of Engineers have, collectively, taken a hard look at alternatives to the simultaneous operation of the WGFP and Moffat Collection	

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		Project, Moffat Project, and Windy Gap Project). On average, the Moffat, C-BT, and Windy Gap projects diverted approximately 62% of the average annual native flow at the Windy Gap gage for the period from 1985 through 2004. Additional information on C-BT operations can be found in the WGFP Water Resource Technical Report (ERO and Boyle Engineering 2008). 6. The purpose of the EIS is not to provide an exhaustive accounting and analysis of all previous actions that have affected the environment, but to identify and evaluate the impact of alternative actions and the incremental effect of those actions. The cumulative effects assessment, as described in response to Comment No. 4 above, included a detailed analysis of the effects of past, present, and reasonably foreseeable future actions. The Water Resource Technical Report referenced in the FEIS also contains additional detail on background hydrology. 7. Windy Gap diversions for the last 10 years (1999 through 2008) averaged 22,158 AF/yr, which is significantly higher than the average diversion of 11,080 AF/yr for the period from 1985 through 2005 presented in Table 3 of the Water Resources Technical Report. Windy Gap diversions were made in accordance with the Project's water rights, the same water rights that would be used to effect diversions with a WGFP. The increase in recent diversions represents the Participants' need for additional water to meet increasing water demands, which is supported by information presented in Chapter 1 on the Participants' water demands and needs. Modeled Windy Gap diversions under existing conditions reflect the recent increases in Windy Gap Participant demands. Windy Gap pumping for the 8-year period from 2001 through 2008, since Granby Reservoir last filled, averaged 27,450 AF/yr. That average includes 2002 and 2004 when almost no Windy Gap water was pumped. Therefore, estimated pumping under existing conditions is much closer to recent operations than suggested in the comment. The comment asserts that potential impacts of additional Windy Gap diversions under the Proposed Action are minimized or underestimated based on a comparison against existing conditions. Reclamation does not believe that to be the case. The average decrease in Colorado River flows below Windy Gap between the Proposed Action and existing conditions is 21,283 AF/yr, which is the estimated increase in net depletions to the Colorado River. This reflects the net effect of additional Windy Gap diversions from the Colorado River and the difference in spills from Granby Reservoir. A considerable portion of Windy Gap water diverted from the Colorado River is delivered back to the river via a spill under the existing conditions scenario. Windy Gap operations were simulated in this manner to present the amount of water than could be diverted with the project's current water rights to meet demands even if a portion of the water is subsequently spilled from Granby Reservoir back to the Colorado River. Table 3-9 was added to the FEIS to better illustrate the water balance associated with the Proposed Action.

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		In summary, Reclamation believes the effects assessments based on net depletions to the Colorado River below Windy Gap, as presented in the FEIS, are appropriate. Windy Gap diversions under existing conditions reasonably reflect recent operations and diversions, which are much higher than the 20-year average from 1985 through 2005. In addition, this issue does not affect Windy Gap diversions in dry years; therefore, Windy Gap pumping, and net depletions to the Colorado River and associated impacts are appropriately estimated in dry years, which are typically more critical for aquatics, water quality, and other flow-related resources. 8. The WGFP FEIS fully considered the cumulative impacts of the Moffat Project, as well as other reasonably foreseeable future actions. Hydrologic data was shared so that the model simulations of the WGFP and Moffat Project were consistent and in appropriate detail for each EIS. Section 3.5.2.2 of the FEIS includes information on model simulations for the WGFP and Moffat Project and the coordination of those modeling efforts. The cumulative effects analysis included hydrologic modeling of the Moffat Project, including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impacts of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate either the direct, indirect, or cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.

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8	System Project, the cumulative environmental impacts of those two projects (with emphasis on the hydrology, water quality, and aquatic resources of the Colorado River), and measures to mitigate those impacts.	9. The Shoshone call reduction is analyzed as a reasonably foreseeable action in Section 3.5.3.2 of the DEIS under the subsection Colorado River, and in Section 8.4.2.6 of the Water Resources Technical Report. In 2003, the gain to Windy Gap from the Shoshone call relaxation was 7,850 AF, or approximately 10% of the Windy Gap supply that year, as shown in Table 29 of the Water Resources Technical Report. While Windy Gap diversions may increase under a Shoshone call reduction, diversions with or without the WGFP would be the same since available storage capacity in Granby Reservoir would not be a limiting factor in dry years when the call reduction would be invoked.
9	6. The Shoshone call reduction needs to be examined more closely. When the agreement with Denver Water went into effect in 2003, that was also the greatest year of diversion by Windy Gap of 64,200 af. The DEIS is full of statements that Windy Gap will not divert during a dry year, but there is no analysis of the effects from the Shoshone call reduction.	
	Mitigation/Grand County Stream Management Plan	
10	1. Although the DEIS describes mitigation for the original Windy Gap Project, it does not analyze what additional mitigation would be required due to operational and other changes resulting from the WGFP.	10. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the Proposed Action. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures also is included in Section 3.25 of the FEIS.
11	2. Many of the proposed west slope mitigation measures for the Proposed Action are too vague and uncertain to enable the Bureau, Grand County, or other interested groups and individuals to evaluate "the severity of the adverse effects."	11. See response to Comment No. 10.
12	3. The DEIS fails to consider or discuss Grand County's Stream Management Plan (GCSMP). Grand County has been involved in an ongoing effort to provide a scientific study for the analysis and recommendation for preferred flow regimen for streams and rivers in Grand County. The GCSMP takes into consideration the concerns with cumulative impact and looks at the river system and various project operations as a whole. The DEIS needs to include information from the GCSMP and mitigation needs to be based on the findings in the Plan.	12. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop recommendations of preferred streamflow regimes to support stream health for aquatic habitat and other nonconsumptive water uses, as well as the flow regimes necessary to support water use requirements for irrigators, municipalities, industry, and recreation. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. However, mitigation measures included in the FEIS, may help meet some of the goals of the SMP.
	Modeling	
13	1. There are significant concerns regarding the modeling used to evaluate West Slope impacts. • Because fish need water on a daily basis rather than a monthly average basis, the use of a monthly model may mask great fluctuations in water levels. A detailed daily model should be used to evaluate the projected new water yield from additional facilities and additional diversions, and then a separate monthly model should be used to evaluate the effects to the source area of the water supplies. The upper Colorado River basin can experience dramatic flow changes due to daily changes in water administration and the operations of several large-scale water facilities within the modeling reach.	
14	• The DEIS says the model ends in 1996, and ignores the recent dry years like 2002 and following. This is a flaw in being able to determine the impacts, because the year of highest diversions by Windy Gap was in 2003, which followed the 2002 dry year.	
15	• The use of the long-term average daily flows to generate the factors to represent daily flows in all years, wet, average or dry, is inappropriate and may be highly inaccurate. The daily pattern of streamflows within a given month is not the same from year to year.	13. Daily data were developed from monthly model output by disaggregating monthly values based on daily historical gage records. Two sets of daily data were developed. Daily data were developed for the entire study period for the USGS gages on the Colorado River below Lake Granby, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and the gage on Willow Creek below Willow Creek Reservoir. In addition to the daily data developed for the entire study period at the locations listed above, average, wet, and dry monthly flows were disaggregated to daily values to develop average, wet, and dry daily hydrographs. A combination of daily and monthly hydrologic data was used for evaluations of resources dependent on flows or reservoir storage contents and levels. Average monthly summaries of
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		flows, diversions, reservoir outflow, end-of-month reservoir contents, surface elevations, and surface areas for average, wet, and dry conditions were used to support general characterizations of hydrologic changes associated with the alternatives. Daily data were used to generate flow duration curves and daily hydrographs, and to determine the frequency and magnitude of daily flow changes. These types of hydrologic analyses, based on daily variations, were used in resource assessments where the magnitude or value of the resources are especially sensitive to daily hydrologic changes and where the use of average, wet, and dry monthly values would mask the severity of the effects on those resources. For example, daily hydrologic data were used as an input parameter for the River2D Model to evaluate the effects on aquatic resources. Use of daily data for the entire hydrologic study period supported an assessment of the overall range and frequency of aquatic habitat changes. Section 3.5.2.2 of the FEIS was revised to include information related to the use of daily data for resource evaluations, including fisheries and water quality that are sensitive to daily flow variations. Because of its relatively junior water rights, the Windy Gap Project is not in priority and is precluded from diverting water from the Colorado River during droughts and low-flow periods, with or without the alternatives assessed to provide firming storage. During low-flow periods, the Windy Gap Project would operate the same whether there is a firming project online or not. In these low-flow conditions, downstream Colorado River flows, whether they are viewed on a monthly or daily basis, are the same for existing conditions, for the No Action Alternative, and for each of the EIS alternatives. Because there are no hydrologic impacts due to the WGFP during low-flow and drought periods, a daily model is not needed to assess effects for these low-flow periods, and the disaggregation of monthly data to daily data is sufficient for the assessment of effects for nondrought conditions. 14. The modeling effort for the WGFP began in 2000. At that time, the decision was made to end the study period in 1996 because data required for the model (flow, diversion, evaporation, and precipitation) were readily available through that year, and the State's CDSS model study period also ended in 1996. The need to extend the WGFP model study period was evaluated to determine whether a study period that includes recent hydrology, and in particular 2002, would change conclusions regarding WGFP yields and associated hydrologic changes. The period from 1997 through 2003 was analyzed in a spreadsheet exercise using Excel. A copy of the technical memorandum, *Significance of 2002 Hydrology to WGFP Modeling (Meg Frantz September 27, 2004)*, which summarizes that analysis, was provided to Grand County at a meeting on March 4, 2005. At Grand County's request, the analysis was subsequently updated to take into account the "relaxation" of the Shoshone call. Key conclusions of that analysis are: o The addition of a WGFP reservoir would not change Colorado River flows

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		in a year like 2002. Windy Gap water rights did not come into priority in 2002, and the addition of a WGFP reservoir would not change that condition. Therefore, Windy Gap would not divert in a dry year like 2002, with or without a WGFP reservoir, because Windy Gap diversions would be limited by the amount physically and legally available as opposed to available storage capacity. o The WGFP firm yield would not change if the model period was extended through 2002. A comparison of model output for the 1950–1996 study period with the period from 1997–2003 shows there are other sequences of years within the 1950–1996 study period that are more critical than 2002 with respect to Windy Gap yield. The current model study period also addressed the carry-over or recovery effects of additional Windy Gap diversions in wet years following dry years like 2002 and 2003. The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years. The model study period is suitable for estimating hydrologic effects associated with the EIS alternatives because it includes a broad range of average, wet, and dry years, and sequences of years that include dry years followed by wet years. 15. In addition to the long-term average daily flows, daily data for the entire 47-year study period for the USGS gages on the Colorado River below Granby Reservoir, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and for the gage on Willow Creek below Willow Creek Reservoir were generated using historical daily data for nearby USGS gages. See Section 4.2.4 in the Water Resources Technical Report for a detailed discussion of the process used to disaggregate monthly model output. Daily disaggregation factors were developed as follows: for each day that data were available within the 1947 through 1996 study period, the percentage of flow that occurred on that day was calculated as the daily flow divided by the total flow that occurred in the corresponding month. The daily disaggregation factors were applied to the monthly flow data at the corresponding gage to develop daily flows for the entire study period.

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16	2. The Kremmling gage was chosen as the downstream end of the Study Area because the majority of the effects to the Colorado River are expected upstream. While this is largely true for the WGFP, it is not true for some of the cumulative effects, such as Eagle County growth, Homestake diversions and the potential construction of Wolcott Reservoir. These would affect the WGFP area due to changes to the Eagle River flows and Shoshone calls. The active modeling area should be extended downstream to the Dotsero stream gage. This would incorporate the anticipated depletions upstream of Shoshone from projected growth in the Eagle River basin, and would allow for an evaluation of the effects from the construction of Wolcott Reservoir as a source for the 10,825 water.	16. The CDSS model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line. Therefore, the active model area extends downstream of the Dotsero gage. However, the area considered for the analysis of hydrologic effects extends downstream to the USGS gage near Kremmling. The downstream extent of the study area was initially based on the location where average monthly flow changes would be less than 10% under direct effects. Resource evaluations were conducted to determine impacts at that location and assess the validity of the downstream study area extent. Results of the resource evaluations indicate direct effects due to the WGFP would be negligible to minor along the Colorado River near the Kremmling gage. Therefore, extension of the study area further downstream is not warranted based on the results of the resource evaluations. Regarding future potential projects downstream of Kremmling, see Section 8.1 of the Water Resources Technical Report for a discussion of the criteria for identifying reasonably foreseeable actions. Wolcott Reservoir was not considered reasonably foreseeable and currently is not a component of the selected alternative to supply 10,825 water.
	Water Quality	
17	1. In most instances, inappropriate modeling was used when evaluating WGFP impacts on water quality, leading to seemingly minor adverse impacts.	17. Reclamation believes that the modeling techniques used for the EIS are appropriate given the available data and the level of understanding of complex, interacting water-quality processes, and how to represent them in a model. If the comment included what specifically makes the modeling "inappropriate," this response could be more specific. A dynamic temperature model was used in the FEIS to better evaluate Colorado River stream temperature as described in Section 3.8.
18	2. Extremes, not averages are the concern for water quality, which is why the State uses 85%-percentile statistical value of the available relevant data to define existing water quality, not the average, as was used in the DEIS.	18. To describe the affected environment and for ease of understanding by the reviewing public, mean, median, minimum, and maximum values for a wide variety of water quality constituents are reported in the Lake and Reservoir Water Quality Technical Report (AMEC 2008). These values include statistics describing a central tendency as well as extremes. This particular description was not performed from a regulatory standpoint – only to show statistical summaries of the data. Additional analysis was performed to look at whether standards were being met. With respect to model results, average annual conditions, as well as peak chlorophyll *a* and minimum dissolved oxygen concentrations, were reported in the DEIS. In addition, figures displaying daily values for total phosphorus, total nitrogen, chlorophyll a concentrations, Secchi-disk depths, and dissolved oxygen in each of the Three Lakes were added to Section 3.8.2.4 of the FEIS.
19	3. Pine-bark beetle infestation and climate change should also be considered as part of the cumulative impacts for lake and reservoir water quality report and for stream water quality.	
20	4. The report provides absolutely no evidence of any ground water investigations, but states "no substantial effects to ground water quality." Is statement founded and true?	
	Hydrologic Impacts	
21	1. Some of the most significant impacts to Grand County result from hydrologic changes associated with flow depletions. The analysis of hydrologic conditions in the DEIS must document changes in magnitude, frequency, duration, timing, and rate of change before the impacts of flow depletions on the aquatic environment can be adequately understood.	
22	2. Actual changes in daily flows and daily water quality, including temperature need to be evaluated, versus changes in annual or monthly flows or water quality. Reporting average annual or monthly flows and ignoring other flow factors can mask significant impacts that may occur on a given day or series of days, thereby creating the false impression that environmental impacts are insignificant.	
	Aquatic Life	
23	1. There is an inadequate discussion of mitigation for the aquatic environment. 2. Not only does the DEIS fail to provide the necessary analysis of impacts to aquatic resources within the reach of the Colorado River evaluated, it entirely fails to analyze the impacts of WGFP on the aquatic resources below Gore Canyon. This is particularly disturbing in light of the ongoing stakeholder effort to develop a stream management plan to protect the fishing values of the river down to State Bridge, as an alternative to Wild & Scenic Rivers Act designation by Congress.	
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		19. The discussion of climate change in Section 2.8.2—Reasonably Foreseeable Actions was revised in the FEIS. This section includes updated information from recent publications on climatic change trends in the upper Colorado River basin and possible future changes. Potential environmental impacts from climate change are qualitatively evaluated as part of the cumulative effects evaluation for applicable resources in Chapter 3 of the FEIS. Quantitative effects of pine bark beetle infestation on hydrology and water quality are difficult to accurately predict because of the numerous assumptions that would be necessary. The FEIS indicates the types of effects that could occur as a result of pine bark beetle-killed trees. These impacts are possible with or without the WGFP, and would be similar for all of the alternatives. Additional discussion was added in Section 2.8.2.1 on the potential impact of pine bark beetle-killed trees. 20. Because the Colorado River is regionally the lowest topographic feature in this part of Colorado, by standard hydrologic principles, bedrock ground water discharges to the Colorado River. There may be localized areas where the river may lose water for short distances to the alluvium, but ultimately, this ground water will discharge back to the Colorado River some distance downstream from the point of loss. Bedrock ground water of varying water quality currently discharges to the river alluvium and eventually the river and the current water quality reflects this combination of surface water and bedrock ground water. Windy Gap diversions would not affect ground water discharge to the river and, therefore, would not change the current input of dissolved material to the river. Water quality in alluvium adjacent to the Colorado is currently dependent on many processes, including the rate and location of discharge from bedrock aquifers, water quality of bedrock ground water, and recharge from the Colorado River. Relatively small predicted stage changes in the Colorado River due to Windy Gap diversions are not anticipated to measurably impact bedrock ground water quantity and quality, or its influence on alluvial water quality. The predicted changes in river water quality due to Windy Gap diversions would influence alluvial water quality where river water recharges the alluvium. However, because the Colorado River is a gaining river, all bedrock and alluvial ground water would eventually discharge to the river. All alluvial ground water returns to the river where the thickness of the alluvium essentially reduces to zero, such as at the mouths of various canyons along the river. Refer to technical memos regarding the recharge relationship between predicted stage changes in the river and alluvial ground water (Hydros Consulting 2011a, 2011b, and 2011c). The ground water section of the FEIS was revised to include more information on ground water quality.

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		21. Daily data were used to generate flow duration curves and daily hydrographs, and determine the frequency and magnitude of daily flow changes. This data were used to address daily hydrologic changes that may be more critical than average, wet, and dry monthly changes. Daily data were used for the evaluation of effects on aquatic resources. Section 3.5.2.2 of the FEIS was revised to discuss the use of daily data for resource evaluations. See response to Comment No. 13. 22. See response to Comment Nos. 13 and 21 regarding the development and use of daily data. Monthly averages were relied on to generally characterize hydrologic changes associated with the alternatives. However, daily data were used to generate flow duration curves and daily hydrographs, and determine the frequency and magnitude of daily flow changes. Daily data were used to address daily hydrologic changes that may be more critical than average, wet, and dry monthly changes. Section 3.5.2.2 of the FEIS was revised to discuss the use of daily data for resource evaluations. 23. The aquatic resource section of the FEIS includes an analysis of impacts to aquatic habitat downstream of the Blue River confluence, based on hydrologic changes at the Kremmling gage. Those impacts are displayed in Tables 3-116 to 3-119 in the FEIS. Additional analysis and narrative was added to Section 3.9.2.3. Results of the analysis impacts to fish habitat for below the Blue River are indicative of likely impacts for several miles below the Colorado River. Average monthly Colorado River flow decreases less than 7% from existing conditions compared to the Proposed Action, and less than 3% annually. Because hydrologic and water quality impacts of the WGFP on the Colorado River diminish below the Blue River confluence, measurable impacts to aquatic resources are unlikely farther downstream. To address aquatic mitigation, the Subdistrict developed a Fish and Wildlife Mitigation Plan (FWMP) in accordance with the requirements of CRS 37-60-122.2 (FEIS Appendix E). The Colorado Wildlife Commission adopted the FWMP on June 9, 2011 and the Colorado Water Conservation Board (CWCB) approved it on July 13, 2011. The FWMP is a component of the mitigation and environmental commitments described in the FEIS (Section 3.25).

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24	3. Elevated stream temperatures are a significant concern in the upper Colorado River. As the DEIS indicates, stream temperature at various locations periodically exceed levels deemed to be safe for the fisheries. The DEIS fails to evaluate: • How incremental increases in stream temperatures caused by operation of the WGFP and other reasonably foreseeable projects will impact aquatic life; • How stream temperatures will increase over a series of days • The potential for stream temperature conditions that have chronic impacts on aquatic resources	24. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
25	4. The water quality model on which the DEIS relies generates predictions based on conditions for the single modeled day. It does not predict what conditions will be at other times. As a result, the DEIS fails to take a hard look at the potential impacts of WGFP and reasonably foreseeable projects on the aquatic resources of the Colorado River.	25. See response to Comment No. 24.
26	5. The DEIS's surface water quality analysis attempts to compare modeled stream temperature increases due to operation of WGFP and other reasonably foreseeable projects to the State Standards. Unfortunately, it uses the interim standards of 2006, not the final standards adopted in 2007 by the Water Quality Control Commission. As a result, the DEIS entirely fails to evaluate the extent and frequency with which operation of WGFP and other projects will increase temperature levels beyond the acute, lethal tolerance levels reflected in the Commission's regulation adopted in 2007.	26. The interim standards for the Colorado River were noted in the DEIS. Those were the standards in place when the document was written. The FEIS was revised using the currently adopted temperature standards when discussing the impacts of the project.
27	6. The DEIS fails to evaluate aquatic life impacts below the confluence of the Blue River.	27. See response to Comment No. 23.
28	**Socioeconomic** 1. Water resources and the local Grand County economy are inextricably linked. The WGFP directly impacts the environmental quality of the Colorado River, Lake Granby, Shadow Mountain Reservoir, and Grand Lake, thus it will also impact the tourist and recreation industry, the lifeblood of Grand County's economy. However, very few of these impacts are measured in the DEIS – and those that are measured are underestimated. Impacts need to be further evaluate and addressed in the DEIS.	28. Reclamation believes that the socioeconomic effects related to water changes were appropriately quantified where data on use and impacts are available. Impacts of the alternatives on recreation and tourism are qualitatively described wherever possible, recognizing that these effects vary widely by individual user. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed Project. Many of those measures including modified prepositioning to maintain higher water levels in Granby Reservoir; nutrient reductions to the Fraser River, Colorado River, and Three Lakes; potential for socioeconomic impacts in Grand County. An updated summary of mitigation measures also is included in Section 3.25 of the FEIS.
29	2. There is no acknowledgement in the DEIS of the relationship between water and land use. There are potential negative relationships between WGFP water impacts and land use including impacts to agriculture through irrigation ditch failures and impacts to development directly dependent on river and reservoir views and usage. The Land Use Section of the DEIS does not acknowledge a relationship between Colorado River hydrology and agricultural land use.	29. The Subdistrict would comply with state water law for all diversions. Windy Gap cannot divert when downstream senior water rights are calling for water. In addition, the WGFP would comply with Colorado River bypass flow requirements established by the *Agreement Concerning the Windy Gap Project and the Azure Reservoir and Power Project* (Azure Agreement) completed April 30, 1980 as part of the original Windy Gap Project. This agreement requires the Windy Gap Project to curtail diversions if streamflow drops below 90 cfs below Windy Gap Reservoir, 135 cfs below the Williams Fork, or 150 cfs below Troublesome Creek. The EIS points out that water rights for existing agriculture, municipal, and other uses would be protected under Colorado water law, and any municipal or agricultural diversions downstream from Windy Gap Reservoir, per Colorado water law (C.R.S. § 37-92-102(2)(b)), would remain responsible for developing a reasonable means of
30	3. In the visual, land use, recreation and socioeconomic impacts, the DEIS provides very few mitigation solutions because it quantifies very few impacts.	
31	4. The Economic Impact of Travel on Colorado report estimates that in Grand County, the direct impact of spending by visitors equaled $169.7 million in 2003. Local businesses as well as municipal governments are highly dependent on retail Town of Fraser PO Box 370, Fraser, CO 80442 office 970-726-5491 fax 970-726-5518 www.frasercolorado.com	

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31	sales (see adjacent graph). Recreation and tourism is the lifeblood of Grand County and many of our mountain communities. Water and simultaneous scenic beauty is the lifeblood of its recreation and tourist industry. **Recreational Impacts** 1. The only recreation activities quantified in the DEIS are commercial kayaking and commercial rafting on selected portions of the Colorado River and related camping. This is narrow and inadequate. There are other recreational activities that occur in other areas that need to be evaluated as well that bolster the Grand County economy. Additionally it should be noted that recreational activities have related impacts on lodging, restaurant sales, recreation equipment rental providers and guides or outfitters, and other incidental purchases. Gradually, tourism has grown to become the primary economic driver in Grand County, like most of our mountain communities. Unlike other more urban environments, tourist activities in mountain communities rely directly on the natural flow of water.	diversion for their water. Per the Azure Agreement, the Subdistrict funded $500,000 in improvements for ranches downstream from Windy Gap Reservoir to maintain their diversion structures on the Colorado River. The original Windy Gap Project included diversions greater than those in the WGFP. The 1980 Azure Agreement was developed to mitigate and address all objections to the Windy Gap Project. The Azure Agreement was signed by 30 ranchers. Mitigation measures described in response to Comment No. 28 address some of the concerns related to land uses adjacent to streams and reservoirs. 30. The EIS provides a reasonable and accurate description of the impacts of the alternatives, based on accepted data sources and analysis methods. The Subdistrict has identified and proposed several voluntary mitigation measures to reduce impacts. See response to Comment No. 28. 31. Your comment is acknowledged. 32. The Recreation analysis focuses on boating opportunities on the Colorado River and at existing reservoirs. Those uses were identified as issues during the scoping process, and are the most likely to be affected by hydrological changes resulting from the alternatives. Potential impacts to land-based recreational activities, including camping, hiking, scenic driving, and sightseeing, are described in the Recreation Resources Technical Report and in the Effects Common to All Alternatives section. Impacts to recreation were quantified where data on use and impacts are available. Effects of the alternatives on recreation experiences and aesthetics are qualitatively described wherever possible, recognizing that these effects vary widely by individual user. The direct and secondary economic impacts of boating and camping activities are described in detail in the Socioeconomics section.
32		
33	2. The DEIS acknowledges a 20 mile segment of the Colorado River as having Gold Medal designation, but does not discuss whether WGFP or the cumulative effects would threaten this designation. This designation is made by the Colorado Wildlife Commission for it's outstanding trout fisheries. The reputation of Gold Medal draws fisherman nationally and internally, providing a huge boost in tourism dollars. Overall, there is little discussion of the impacts to fishing. Most of the discussion relates to float boating.	
34	**Wild and Scenic** All reaches of the Colorado River in Grand County are under consideration by the Bureau of Land Management (BLM) for "Wild and Scenic River Designation." For a segment that has been identified as "eligible" for inclusion in the Wild and Scenic River System, federal policy requires agencies to "evaluate all actions within their control through the filter of the river's potential for designation. Some specific authorities for protecting river-related values include the Clean Water Act for free flow and water quality, the Endangered Species Act for plant and animal species within a river corridor, the Archaeologic Resources Protection Act for cultural resources, the National Environmental Policy Act, and the Federal Lands Policy and Management Act." 1. The DEIS specifically states that it excludes consideration of whether the WGFP would impact BLM's determination of Wild and Scenic Designation. This is a potentially significant designation that could generate substantial visitor revenues for Grand County. While not usurping BLM's analysis, the DEIS should compare eligibility requirements against anticipated effects of the WGFP and the cumulative effects.	33. The Gold Medal designation requires that waters with this designation meet criteria for the number of trout greater than 14 inches long/per acre and number of pounds per acre. Many factors can impact fish density and size. Habitat and food resources are included in those factors. Based on the results of the aquatic analysis, food resources are not expected to change and habitat would decrease in some years. Another factor that can impact fish populations more rapidly is fishery management, in particular, harvest regulations. CDOW studies during the mid- to late-1970s showed that restricting harvest limits or terminal tackle could result in large increases in fish populations in Colorado rivers. The project proponent or Reclamation does not specify fishery management for the Colorado River or the reservoirs. We have assumed that management of those waters would be consistent with management in the recent past. Therefore, we do not expect that WGFP would alter the Gold Medal designation. The DEIS correctly states that hydrological changes are unlikely to adversely impact
35	**Water Conservation** 1. Although the DEIS rejects water conservation as an alternative, it does not explain why water conservation should not be proposed as an additional mitigation measure. The DEIS does, after all, recognize that "[t]o meet future water requirements will require continued improvements in water conservation in addition to the proposed WGFP."	

Town of Fraser
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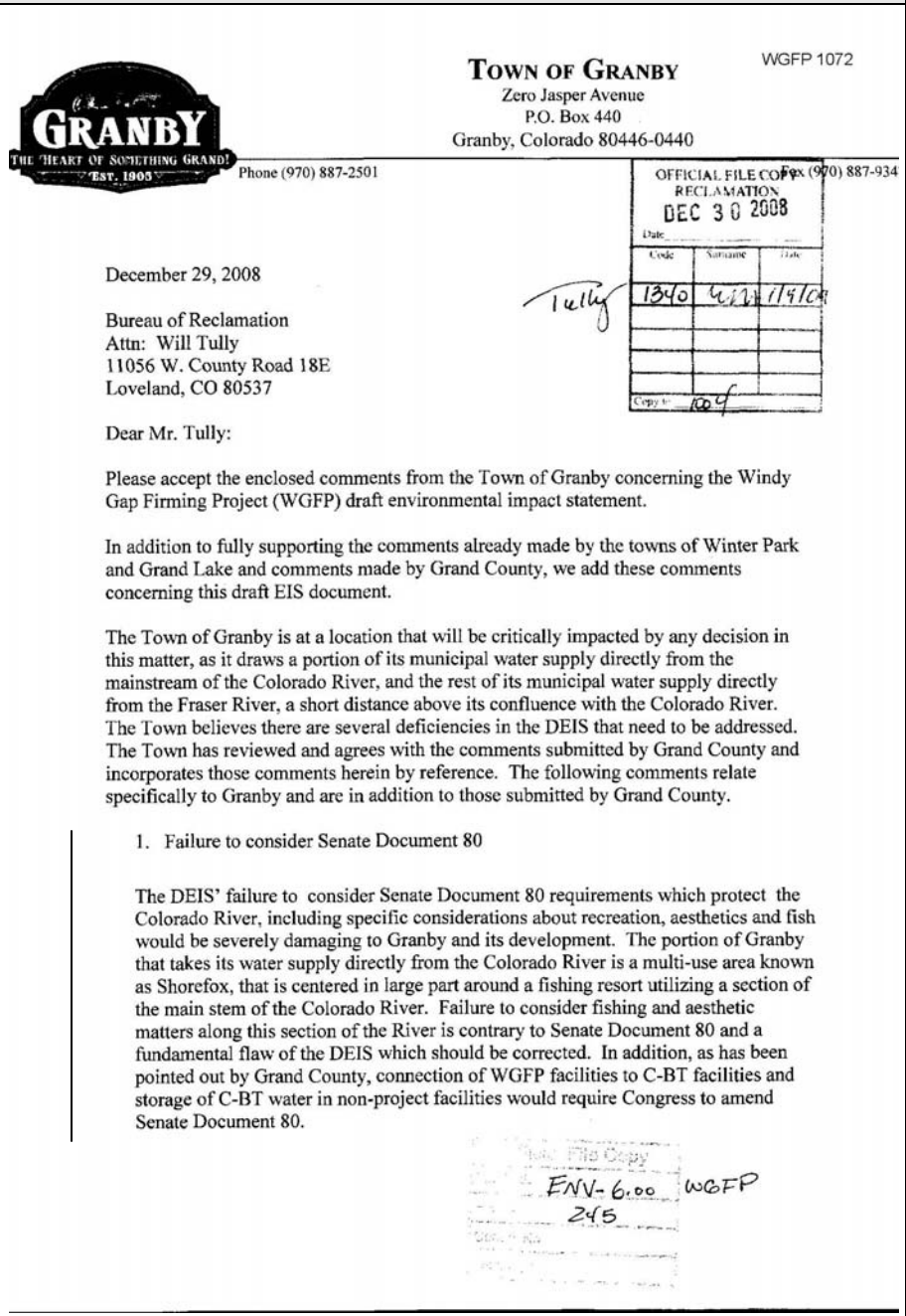
35	2. In order to minimize the amount of water removed from the Colorado River at the Windy Gap Pumping Plant and Reservoir, each of the eastern slope participants should be required, to the maximum extent feasible, to implement reuse programs and make successive use of the foreign water. 3. WGFP participants should also be required to have "measurable" water conservation plans in place. We appreciate the opportunity to comment. Sincerely, Jeffrey L. Durbin Town Manager Town of Fraser PO Box 370, Fraser, CO 80442 office 970-726-5491 fax 970-726-5518 www.frasercolorado.com	sport fishing under any alternative. This is based on both the timing of flow changes and the results of the Aquatic Resources analysis, which describes that the projected effects to fish habitat would not result in a loss of angling opportunities or success. The FEIS includes additional mitigation measures for aquatic resources, as developed in the Fish and Wildlife Mitigation Plant (FEIS Appendix E) and described in Sections 3.8.4 and 3.9.4. 34. Evaluation and potential designation of portions of the Colorado River as Wild and Scenic is a separate and ongoing process being pursued by the BLM. Recreational values are among the outstanding remarkable values identified for segments of the river. This process is described in the Recreation section of the FEIS. While the effects to river recreation described in the FEIS could relate to the recreational values along the Colorado River, Wild and Scenic River status is a determination made by the BLM as part of the planning process and is not part of the evaluation for the WGFP EIS. 35. The WGFP Participants have committed and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict.

Comment	Letter #1072	Response
1		1. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

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2	2. Recreational impacts Granby has been and increasingly will be a mecca for outdoor recreational activities. Within Town boundaries, residents and visitors can hike, camp, canoe, kayak, golf, raft, fish, and ski. Recreation accounts for an increasing portion of the life blood of the Town, as well as the rest of Grand County. All of these activities are dependent in large part on the maintenance of adequate stream flows in the Colorado River and its tributaries as they course through the Town. The DEIS is seriously flawed in that it considers only the impacts on kayaking and commercial rafting, but fails to consider any of these other recreational activities, as well as the general need for water for aesthetics in connection with all of these activities. The Town has undertaken the expenditure of hundreds of thousands of dollars during the past few years in an effort to ensure adequate stream flows and the maintenance of water quality in the Colorado River and its tributaries. Those efforts include, but are by no means limited to the Town's participation in the acquisition of the Clinton Reservoir. This was a multi-public entity effort involving Grand and Summit Counties, as well as several municipalities within those counties, including the Town of Granby. The purpose is, in large part, to maintain adequate stream flow in the upper portions of the Fraser River a short distance before its confluence with the Colorado River. More recently, the Town has participated financially with Grand County and other municipal entities and water districts within Grand County to acquire an interest in the Vail Ditch, again for the primary purpose of maintaining and improving stream flow in the Colorado and Fraser Rivers. If the Colorado and/or Fraser River stream flow levels are again reduced due to the WGFP, the efforts of all of these public entities and their citizens will have been for naught. These efforts also emphasize the need for further analysis of the inter-relationship between the WGFP and the operation of Denver's Moffat Tunnel diversions, as noted by the County.	2. Potential impacts to land-based recreational activities, including camping, hiking, and sightseeing, are described in the Recreation Resources Technical Report and in the Effects Common to All Alternatives section. No data currently exist regarding the relationship between water-based activities and land-based recreation. By their very nature, most recreation uses are widely dispersed, are not quantified, and the quality of recreation experiences vary widely by individual user. For this reason, no attempt was made to quantify effects on recreation if there is not sufficient data to support that analysis. Instead, potential impacts were described wherever possible in a qualitative manner based on sound logic and professional experience using the best available information. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Those measures are discussed for each resource and summarized in Section 3.25 of the FEIS. The FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.
3	3. Impacts on water diversion and growth within the Town Over the past decade the Town of Granby has evolved from a town approximately 1,000 acres in size, to its present limits which encompass more than 7,000 acres. Much of the newly annexed area has been platted and many new homes built. To ensure the proper planning for such growth, along the way Granby has required the provision of adequate water rights to the Town to service the needs of its citizens and visitors at full build out. Such growth and increased use of future water rights is permitted and even contemplated under the great and growing cities doctrine. However, the Town does not believe that adequate consideration was given to this doctrine or the demands on the Colorado and Fraser Rivers at the Town's full build out level in the modeling performed as part of the DEIS. This deficiency needs to be fully addressed before further consideration is given to the WGFP. We genuinely appreciate the opportunity the Town of Granby has been given to review and comment on the draft EIS. The Town is concerned about the potential impacts this project could have on the Town of Granby and its future as well as on the surrounding area and the continued economic viability and sustainability of the entire County. Your	3. The estimates of build-out growth for Grand and Summit counties were provided by the individual water providers/users in conjunction with the UPCO Study, Upper Colorado River Basin Study Phase II Final Report (Hydrosphere, May 2003). After the 2003 UPCO Report was published, the UPCO participants in Summit and Grand counties provided revisions to several existing and build-out demands. Revisions to these build-out demands were provided to Denver Water primarily via Lane Wyatt with the Northwest Colorado Council of Governments. Participants in the UPCO study were given the opportunity to review and comment on the assumptions used in Denver Water's Platte and Colorado Simulation Model (PACSM) related to their demands to confirm their accuracy. The build-out demands and assumptions related to water use for the Town of Granby were obtained from Denver Water and incorporated in the WGFP model for the cumulative effects analysis.

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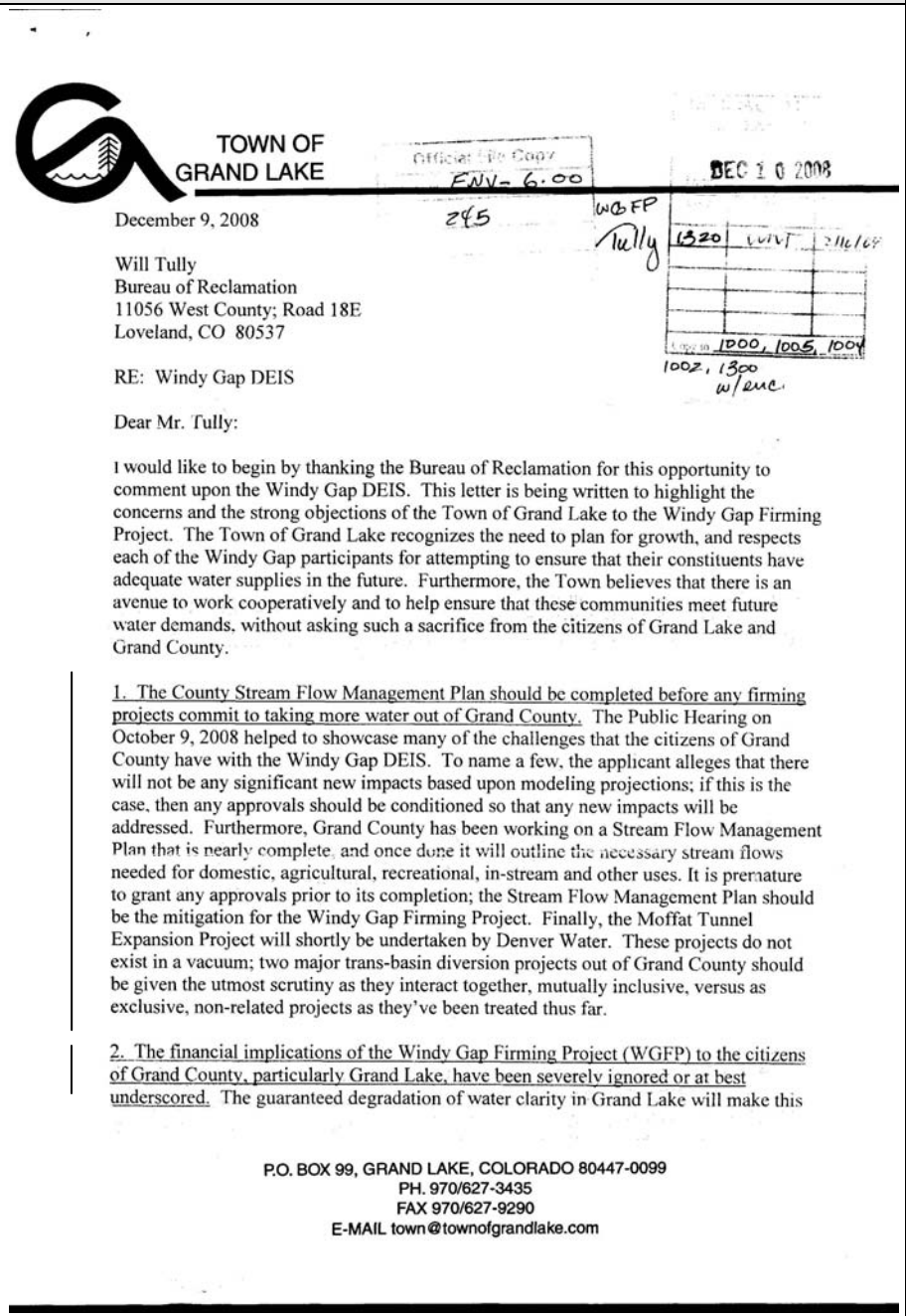
	consideration of our comments and concerns will be greatly appreciated. Thank you for your efforts and time in this matter. Sincerely, Don W. Baird Town Manger On behalf of Jynnifer Pierro, Mayor Cc: Grand County Board of Commissioners Town of Fraser Town of Grand Lake Town of Hot Sulphur Springs Town of Kremmling Town of Winter Park Granby Sanitation District Silver Creek Water and Sanitation District	An agreement (*Agreement Concerning the Windy Gap Project and the Azure Reservoir and Power Project* dated April 30, 1980) between the Municipal Subdistrict, Grand County, and other parties to the original Windy Gap Project included a provision that the Subdistrict would subordinate its Windy Gap decrees to all present and future in-basin irrigation, and domestic and municipal uses (excluding industrial uses) on the Colorado and Fraser rivers and their tributaries above the Windy Gap Reservoir site. This agreement would not change with the WGFP. Middle Park Water Conservancy District's participation in the WGFP also would improve the amount and reliability of water supplies for use in Grand County.

Comment	Letter #379	Response
	WGFP 379 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Elmer Lanzi	
1	MR. LANZI: My name is Elmer, E-l-m-e-r, Lanzi, L-a-n-z-i. I'm a town trustee. I'm the most junior trustee of the Town of Grand Lake. We have a quorum here tonight. A public speaker, I'm not. But I would at this time, after listening and learning, I would like to declare the 1937 Big Thompson project a complete and utter failure, ecologically. It should be shut down. I would like to also be brief.	1. Thank you for your comment. The focus of the WGFP EIS is to disclose the anticipated effects of the proposed WGFP and identify appropriate mitigation measures that will avoid or minimize adverse effects of the project. Issues related to operation of the C-BT Project are being evaluated and addressed though other programs and cooperative activities with Grand County and others.
2	The conspicuous consumption of the Eastern Slope is a thing of the past. The thing of the future is the Western Slope. This is the front yard for the Eastern Slope. You need to preserve it. I have to say no, no to this project. Clean up what you already have. Thanks very much.	2. Thank you for your comment.

Comment	Letter #222	Response



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December 9, 2008

Will Tully
Bureau of Reclamation
11056 West County; Road 18E
Loveland, CO 80537

RE: Windy Gap DEIS

Dear Mr. Tully:

I would like to begin by thanking the Bureau of Reclamation for this opportunity to comment upon the Windy Gap DEIS. This letter is being written to highlight the concerns and the strong objections of the Town of Grand Lake to the Windy Gap Firming Project. The Town of Grand Lake recognizes the need to plan for growth, and respects each of the Windy Gap participants for attempting to ensure that their constituents have adequate water supplies in the future. Furthermore, the Town believes that there is an avenue to work cooperatively and to help ensure that these communities meet future water demands, without asking such a sacrifice from the citizens of Grand Lake and Grand County.

1 1. The County Stream Flow Management Plan should be completed before any firming projects commit to taking more water out of Grand County. The Public Hearing on October 9, 2008 helped to showcase many of the challenges that the citizens of Grand County have with the Windy Gap DEIS. To name a few, the applicant alleges that there will not be any significant new impacts based upon modeling projections; if this is the case, then any approvals should be conditioned so that any new impacts will be addressed. Furthermore, Grand County has been working on a Stream Flow Management Plan that is nearly complete, and once done it will outline the necessary stream flows needed for domestic, agricultural, recreational, in-stream and other uses. It is premature to grant any approvals prior to its completion; the Stream Flow Management Plan should be the mitigation for the Windy Gap Firming Project. Finally, the Moffat Tunnel Expansion Project will shortly be undertaken by Denver Water. These projects do not exist in a vacuum; two major trans-basin diversion projects out of Grand County should be given the utmost scrutiny as they interact together, mutually inclusive, versus as exclusive, non-related projects as they've been treated thus far.

2 2. The financial implications of the Windy Gap Firming Project (WGFP) to the citizens of Grand County, particularly Grand Lake, have been severely ignored or at best underscored. The guaranteed degradation of water clarity in Grand Lake will make this

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1. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the WGFP alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. The WGFP FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP. The WGFP and C-BT Project will continue to be operated in accordance with existing agreements and commitments.

2. Effects to water quality in Grand Lake would range from no change to about 6% for the various chemical and physical parameters evaluated for the action alternatives compared to No Action. No applicable information was found that would allow quantification of the incremental impacts on recreation, tourism, or the housing industry from changes in water surface area, clarity, and water quality

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2	area less attractive as a recreation destination. No consideration is given to tourists that come to Grand County to hike, ice-fish, site-see, bike, kayak or to private anglers. Furthermore, there is no attempt to measure tourist spending on lodging, restaurants, entertainment, shopping or fuel. Finally, there is no measurement attempt for the possible impacts to the housing industry, even though 2/3 of the homes in Grand County are second homes. Grand County is a tourist-driven economy, with water related activities being the main driver, followed in short order by the housing industry, so the true financial impacts of the WGFP should include these two major economic drivers.	for high elevation western lakes and reservoirs, especially for a water storage reservoir where water levels already fluctuate widely such as Granby Reservoir. Proposed nutrient mitigation measures, as described in Section 3.8.4 of the FEIS, would offset nutrient loadings to the Three Lakes. As a result, there would be a negligible impact to Grand Lake water quality and any potential impacts to lake recreation, tourism, and the local economy.
3	3. The increase in flow will cause a reduction in water clarity as stated under all option of the DEIS. With respect to the above considerations, no issue is more important to the citizens of Grand Lake than the health of the lake itself. From the inception of the Colorado Big-Thompson Project, Grand Lake has gone from a pristine natural lake with water clarity of 9.2 meters to an average of 2.7 meters of clarity in 2006. In 2007, concerns about blue green algae and more specifically microcystin toxin, caused the Public Health Nurse and the Town of Grand Lake to post the public beach and boat launches with warnings about drinking and swimming in Grand Lake. Just this summer, the DOW positively tested for Zebra and Quagga Mussels in Grand Lake. Contrast all of these indications of continued degradation and negative impacts of the CB-T project with the actions of Grand Lake and Grand County. Beginning nearly 30 years ago, concerned with the effluent from the Town's sewer system, the community organized and established the 3 Lakes Water and Sanitation District to eliminate waste water effluent from the lake. Throughout the years, concerned citizens have volunteered to collect secchi depth readings and have helped to monitor the continued degradation of Grand Lake. In 2003, the community helped establish the Grand County Water Information Network to better understand the limnology of the 3-lakes area; the Town has been one of the many funding partners from the inception of this group. The Town has also participated in funding for toxin monitoring, purchased a street sweeper in 2008 and most notably, is working to address a major overhaul of the Town's storm sewer with a filtration system (not required by any state or federal agency).	To minimize the adverse effects on Granby Reservoir water levels as a result of prepositioning, the Subdistrict has proposed to modify prepositioning operations under the Preferred Alternative. To maintain greater storage in Granby Reservoir, the Subdistrict would reduce, and in some instances curtail, C-BT deliveries to Chimney Hollow Reservoir when water levels in Granby Reservoir are projected to fall below an elevation of 8,250 feet (about 340,000 AF of storage). If projections indicate Granby Reservoir would fill, C-BT water would be delivered to Chimney Hollow Reservoir to maintain that reservoir full to the extent possible. C-BT water in Chimney Hollow Reservoir would then be exchanged with Windy Gap water diverted to Granby Reservoir. Additional discussion of the effects of modified prepositioning is found in Section 3.5.4 in the FEIS. 3. See response to Comment No. 2 on nutrient mitigation to offset nutrient loading from additional Windy Gap pumping, as discussed in Section 3.8.4 of the FEIS.
4	4. The Town and Citizens of Grand Lake are spending a disproportionate amount of money compared to the East Slope citizens to protect our water quality. The Town of Grand Lake has also made headway in policy formation as it relates to water quality in Grand Lake. In 2004, the Town adopted a wellhead protection plan. The Town has also adopted a 30' stream and lake setback requirement on all construction, has worked with the Army Corps of Engineers on many projects affecting Grand Lake, including a drainage improvement project at the Town beach in 2008. The Town is also currently drafting new Best Management Practice guidelines for storm drainage, which will apply to all land use procedures as well as to building permits, and should help to prevent any new storm water inputs into Grand Lake. At a population of only 469 residents, the abovementioned projects are gigantic from a per capita perspective. In 2008, between the street sweeper ($18,000) and the drainage improvement project at the beach ($15,000), combined with the storm drain filtration	4. See response to Comment No. 2 regarding mitigation measures to reduce nutrient loading from the WGFP. Modification in the operation of the C-BT is beyond the scope of the WGFP EIS. Reclamation and the Northern District are currently evaluating how modifications in the operation of the C-BT project could improve water quality in Grand Lake. These ongoing efforts, plus water quality studies of C-BT operations, would continue to evaluate opportunities to improve Three Lakes water quality.

Com-ment	Letter #222	Response
4	project slated for spring 2009 ($260,000), each citizen will pay $625 of their taxes towards Grand Lake water quality in a matter of two years. While the burden is enormous, water quality is and will continue to be the largest priority for the community. What is disheartening though is that all of these efforts are unlikely to make a significant improvement to the water quality of Grand Lake if the operations of the CB-T project continue to go unabated, much less if there is expanded pumping from WGFP. Fortunately though, there are avenues to lessen the impacts of the CB-T and WGFP on Grand Lake and to help share the burden of the project with the WGFP participants.	
5	5. The DEIS should contain more requirements for any East Slope municipality receiving water in the area of water conservation. Each participant should be required to implement water conservation measures in their own communities that meet certain performance standards. At a minimum, water metering with stratified rates for higher users should be a standard practice in each community. Furthermore, any aged infrastructure should be replaced as water losses due to even minor water line leaks can be substantial. Finally, there is almost an endless array of practices that can be implemented to preserve water, such as grey water reuse, xeriscaping, regulating against Kentucky Bluegrass and other thirsty non-native vegetations, and encouraging other conservation measures at home. Taking more water out of the Colorado River basin prior to exhausting these types of measures is unfair to Grand County.	5. The WGFP Participants have committed and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict .
6	6. Re-routing the CB-T water around Grand Lake should be considered as a mitigation to prevent further degradation. The Scoping Study for the 3-Lakes Water Quality conducted by McLaughlin Rincon in 2006 considered alternatives to pumping water from Shadow Mountain Lake through Grand Lake, with the overreaching goal of bypassing Grand Lake and eventually restoring Grand Lake to its original grandeur and water quality. The three Grand Lake by-pass options ranged from an estimated cost of $14 Million (bypassing Grand Lake only) to $60 Million (bypassing Shadow Mountain and Grand Lake)—a 2006 budget estimate. With approximately 750,000 users of CBT water, implementing either alternative would result in a per capita cost for all CBT users of $19-$80; compared to the $625 that each Grand Lake resident will pay in the years of 2008-2009, it seems like a very fair compromise to make since it would address both past transgressions and the proposal at hand.	6. Modifications in C-BT facilities, such as rerouting C-BT water around Grand Lake, are beyond the scope of the proposed WGFP. Modifications to C-BT facilities would require Congressional authorization, funding, and review under the National Environmental Policy Act.
7	In conclusion, the Windy Gap DEIS is insufficient in its scope; the Bureau should hold the applicant to a very high standard since the ramifications of implementation of this project are far reaching and could be extremely detrimental to a premier watershed and the community that hosts it. Grand County and Grand Lake have been negatively impacted by the CB-T project from its inception, and this project as proposed promises more of the same. There are many mitigation measures that can and should be considered prior to any approvals, and the participants in this project should be required to make some sacrifices as all sacrifice thus far has been borne solely by the citizens of Grand County.	7. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. A summary of mitigation measures is also included in Section 3.25 of the FEIS

Com-ment	Letter #222	Response
	I appreciate the possibility to comment on this project, and look forward to working with the Bureau of Reclamation, Corps of Engineers, Northern Water and Project Participants in the future towards a result that benefits everyone. On behalf of the Town and its Lake, Judy M. Burke Mayor cc: The Honorable Ken Salazar, U.S. Senator The Honorable Mark Udall, U.S. Congressman (Senator-Elect) The Honorable Jared Polis, U.S. Congressman-Elect The Honorable Bill Ritter, Governor The Honorable Dan Gibbs, Senator The Honorable Al White, Representative (Senator-Elect) The Honorable Randy Baumgardner, Representative-Elect The Honorable Gary Bumgarner, Chair The Town of Winter Park The Town of Fraser The Town of Granby The Town of Kremmling Vaughn Baker, Superintendent RMNP NWCCOG-QQ	

Com-ment	Letter #361	Response
1	WGFP 361 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Judy Burke MS. BURKE: Good evening. My name is Judy Burke -- that's B-u-r-k-e -- and I am the mayor-elect of the town of Grand Lake. I think you can tell from those who have already spoken this evening that the town of Grand Lake, the people around the lake of Grand Lake, and the people of Grand County are passionate about their water. And I think that you will see that most of the comments this evening point out that we are passionate about that water and how it's used. Grand Lake is a very small community. I represent 469 people, as well as many of the other residents of the county of Grand. Grand Lake was established back when the Indian tribes camped around the crystal-clear waters of what they called then "Spirit Lake," which is now called Grand Lake. From those early days, the residents of Grand County knew and appreciated the value of clear, deep mountain waters of Colorado's largest natural lake. You know, things really haven't changed much from those days, except that our lodge pole forests have been decimated by the mountain pine beetle, our lakes are now home to invasive mussels, and our climate is now as windy as is the Kansas prairie. Each of these things have affected our tourist industry, our economy, and our quality of life. The death of our forests have created the threat of catastrophic wildfires, which in turn will leach soils into our watershed and destroy our quality of life, while our lakes are turned into green sludge by algae created by water being pumped through our lakes. Now the Windy Gap Firming Project promises to pump more of our water through Grand Lake, further reducing its clarity. Many have mentioned this evening the 1937 Senate Document 80, which actually set forth the regulations for the CBT project. And since the Windy Gap Firming Project proposes to utilize the CBT facility, and, therefore, it too should comply with the terms of Senate bill -- or Senate Document 80, including the preservation of the scenic attractions of Grand Lake. The draft EIS that we have heard about this	1. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

Comment	Letter #361	Response
2	evening uses a so-called Three Lakes Water Quality Model to evaluate the project's impact on Grand Lake water quality, including its clarity. The model concludes that there will be mostly minor negative changes in Grand Lake quality. In other words, less than a four percent reduction in the secdid (ph) depth. How can this be a logical conclusion, when already we see significant reductions in clarity when pumping takes place and this project would increase pumping? We see -- not by models, what it does to our lakes, but by walking out to our lake's edge and looking into the clear waters -- that the models are wrong, asking wrong questions that lead to wrong conclusions. The Town of Grand Lake asks the 60-day extension be granted. Thank you.	2. Yes, the WGFP alternatives would increase the amount of water pumped through the Farr pumping plant and there is estimated to be a small reduction in Grand Lake clarity due to increased nutrients as a result of the WGFP. Differences reported in the EIS are due only to the changes associated with the Windy Gap Firming Project. To reduce its contribution to nutrient loading and clarity concerns in the Three Lakes, the Subdistrict would be required to implement a nutrient reduction program to offset the anticipated nutrient loading to the Three Lakes system as a result of the WGFP. The proposed nutrient mitigation measures are described in Section 3.8.4 of the FEIS. Therefore, there should be a negligible impact to Three Lakes clarity as a result of the WGFP. Point and nonpoint source nutrient mitigation measures also would provide a year-round improvement in water quality in portions of the Fraser River, Willow Creek, and the Colorado River.

Com-ment	Letter #369	Response
1 2	WGFP 369 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Shane Hale MR. HALE: Hello, I'm Shane Hale, H-a-l-e. I'm the town manager of Grand Lake, and I stand here tonight, not only in that official capacity, but also, like most people here, as a citizen in this county. In addition to thanking you for this opportunity, I would like to start out by asking you for the 60-day extension to the comment period. The document is 572 pages long; it is very complicated; and, given the fact that this project began in 2003, I don't see what harm 60 more days will do. Grand Lake does want to work with our East Slope neighbors, Broomfield and Fort Lupton. We certainly understand their need to provide water for their constituents, but we also believe that common ground can be found in achieving these goals without negatively impacting Grand Lake and Grand County. With that as a background, I believe this draft EIS seems woefully incomplete in addressing the negative impacts that this firming project will cause. Specifically, there are four areas that I want to touch upon, one of which have already been touched upon: Grand Lake water quality, the socioeconomic impact, recreational impacts, and impacts to the fisheries. For the water quality impact, the DEIS used a model called the Three Lakes Water Quality Model, which we have already talked about. It did conclude that that it will have a four percent reduction in seddid (ph) depth. That does defy common sense. We know that, in 1941, Grand Lake had 9.2 meters of clarity. In 2006, we had 2.7 meters of clarity, 85th percentile. And even more recently, as Mr. Stahl alluded to, we saw no noticeable difference immediately when the Bureau pumped and when the the Bureau stopped pumping. So to say that there is only a four percent reduction just defies common sense. Next, this only measures impact of fishing, camping and boating when it talks about the socioeconomic impacts. And all three of these even seem downplayed. For fishing, it only looked at the pump house reaches, and it only applied to commercial uses. I can tell you that I have fished many times this year -- and if my mayor is here, I'm not going to say tons of times -- but I have fished this year.	1. In 1941, the C-BT Project did not exist and there was no pumping from the Colorado River into the Three Lakes system. In addition, there has been substantial development, roads, and building in the Three Lakes watershed that contribute erosion and nutrient loading to the lakes. The WGFP EIS is focused on the incremental impacts of anticipated changes to the Three Lakes' water quality as a result of implementing the WGFP, not impacts due to C-BT operations and other sources. The WGFP impacts are compared to existing conditions, which can be described by recent data (including the Secchi-disk depths referred to by the commenter 2. Analysis of data collected for the WGFP EIS indicates that hydrological changes are unlikely to adversely impact sport fishing under any alternative. This is based on both the timing of flow changes and the results of the aquatic resources analysis, which determined that the projected effects to fish habitat would not result in a loss of angling opportunities or success. The recreation analysis only presents commercial boating and fishing data for the Gore Canyon/Pumphouse reach of the Colorado River because that is the reach from which there is available data from the BLM. The economic effects of flow changes on commercial boating uses are described and quantified in the Socioeconomics section. Potential impacts to land-based recreational activities, including camping, hiking, scenic driving, and sightseeing, are described in Section 3.19.2.3 of the FEIS.

Com-ment	Letter #369	Response
2 3	Not once have I fished in the pump house reach, not once with a commercial outfitter, and, yet -- let's see. I'm fairly sure that I bought these glasses, I think I bought this hat, and I'm pretty sure I bought these Band-Aids that you still see up here, so I have spent some money there this year. And, yet, none of those impacts are captured in this. It only talks about outfitters and a region of the river that I don't think I have ever fished. Next, for boating, the EIS concedes the impact of Grand Lake and Shadow Mountain may create diminished recreation experience, but has no data as to $169,700,000 in Grand County. It was $23 million in Grand Lake, and $900,000 in sales taxes in that amount of time. So our entire economy is contingent upon Grand Lake being clear. And since I'm out of time -- I'm sorry about that. In conclusion, I would ask that you grant 60 more days. I would ask that you address issues that have been brought up, all these issues. And finally that the Windy Gap Firming Project comply with Grand County Stream Management Plan. Thank you.	3. Assuming that the comment means the economic impact on the Town of Grand Lake from impacts on water clarity were not quantified, we were unable to find any information to quantify the incremental impacts on recreation and visitation from changes in water clarity for a high elevation western water body such as Grand Lake. However, it is not anticipated that there would be a measurable economic impact from the small change in water clarity that would occur under any of the alternatives (-3.8% Secchi-disk depth, see Water Quality section of FEIS). However, proposed nutrient mitigation measures (see Section 3.8.4 of the FEIS) would offset potential loadings from the WGFP into the Three Lakes. As a result of these measures, there would be a negligible, if any, effect on Grand Lake, Shadow Mountain, and Granby Reservoir water quality or clarity as a result of the WGFP. Proposed modifications to prepositioning (see Section 3.5.4 of the FEIS) also would maintain higher water levels in Granby Reservoir than originally proposed in the DEIS, which would reduce the potential for recreation impacts.

Com-ment	Letter #402	Response
1 2	WGFP 402 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Tom Weydert MR. WEYDERT: My name is Tom Weydert. That's W-e-y-d-e-r-t. I am a trustee for the Town of Grand Lake. And I don't want to go through a lot of information that's already been covered this evening. One example that I do want to emphasize is that, in California, there are two wonderful examples of what we're dealing with here in Colorado. One is called Owens Lake, and the other one is called Lake Tahoe. Owens Lake is now a dry desert bed because all the water was taken by the city of Los Angeles. Lake Tahoe, in the 1960s and 1970s, had many of the same water clarity issues that Grand Lake is facing. If you take a look at that now, because of the interstate between California and Nevada and the federal government, it is one of the clearest, most pristine lakes that you will find, and which Grand Lake used to be, and we can get it back. I do want to emphasize that I believe that we should extend for 60 days for all written comments. I think that we need to make it imperative that conservation by East Slope recipients be mandated and that we wait until we find out the final information on the Moffat Firming Project and the Grand County Stream Management Plan. And at this time, in all fairness, I will yield the rest of my time for any overages that Ms. Curran might have had.	1. The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict. 2. The WGFP FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommend streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. However, mitigation measures included in the FEIS to address other adverse water quality effects of the WGFP may help meet some of the goals of the SMP.

Com-ment	Letter #364	Response
1	WGFP 364 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Hershel Deputy MR. DEPUTY: My name is Hershel Deputy, D-e-p-u-t-y. I'm the mayor of Hot Sulphur Springs. I would like to start by saying that in 2008 our town has endured a spring and a summer of no water, bottled water, boiled water, and no outdoor water use. And I can tell you that we understand what life without water is, and it's not very pretty. I left a meeting earlier this evening where we are trying to explain to our residents of our town why we need to raise the sewer and water rate 47 percent. It's so that we can continue to meet the state safe-drinking regulations and the discharge regulations. And this is increasingly difficult to do given the additional diversions and the subsequent reductions in flow of the Colorado River. It is also increasingly difficult to treat our drinking water given the sporadic fluctuations of the water quality in the Colorado River. In addition to recreation and wildlife needs, our town relies solely on the Colorado River for our drinking water. We live and work in Grand County, and we take the stewardship of the Colorado River very seriously. And the continued reductions in flow of the river and the reduced quality threaten our town's ability to provide safe drinking water for our community. We would respectfully ask for an extension for the review period so that we can comment on this further. Thank you.	1. Hot Sulphur Springs' water right to divert water from the Colorado River is senior to the Windy Gap water right to divert. Junior water rights cannot legally impair senior water users. In 1980 as part of the original Windy Gap Project, the NCWCD compensated the Town of Hot Sulphur Springs with $150,000 to improve their WTP and $270,000 to improve their wastewater treatment plant (WWTP). According to Internet sources, the Hot Sulphur WTP is having difficulty meeting its effluent limitation for turbidity and is currently seeking stimulus money for improvements to meet current requirements of its NPDES permit. The high turbidity levels observed near the WTP intake in 2008 were not related to 2008 Windy Gap diversions, but were due to point and/or nonpoint discharges to the river upstream of Hot Sulphur Springs. The WGFP would not increase turbidity levels in the Colorado River. Windy Gap Reservoir provides some settling of coarser sediments, which would reduce turbidity. The WGFP would result in a small increase in specific conductivity in the river, but this should not impair Hot Sulphur Springs' drinking water treatment facility's ability to meet drinking water standards or increase its cost for treatment. In 2008, the lowest flow of the Colorado River at Windy Gap during the spring and summer months was about 75 cfs, which occurred in March. For the Hot Sulphur Springs WWTP, the calculated acute and chronic low flows for the plant are 38 cfs and 59 cfs. The Windy Gap Project currently curtails Colorado River diversions when flows reach 90 cfs below Windy Gap Reservoir and would continue to do so under the WGFP; therefore, the WGFP does not and would not impact Hot Sulphur Springs' WWTP CDPS permit conditions. Streamflow reductions to below 90 cfs in the Colorado River are unrelated to the Windy Gap Project. To mitigate WGFP nutrient loadings to the Three Lakes, the Subdistrict is proposing mitigation measures that would reduce nutrient discharges from the Fraser WWTP and several nonpoint sources. These measures would provide year-round improvements to Colorado River water quality at Hot Sulphur Springs.

Comment	Letter #227	Response

Town of Kremmling

P.O. Box 538
Kremmling, CO 80459-0538

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Tully

11/19/2008
Windy Gap Firming Project
Town of Kremmling Comments

Thank you for this opportunity to comment on the Windy Gap Firming Project. The following are the concerns and recommendations from the Mayor, Trustees and staff of the Town of Kremmling.

1 The "no action" alternative is not acceptable, as the Town believes the current system is broken.

2 Reduction of flows below Windy Gap in July, August and September are not acceptable as flows are already too low.

3 Low flows and higher temperatures affect fish habitat and fishing is an important economic generator for our community.

4 The negotiations taking place now for the endangered fish water may help some of these issues of low flows during the summer months and should be incorporated.

5 Grand County's Stream Management Plan will help identify needs for healthy fish habitats and should be incorporated into the environmental impact statement.

6 Recreational tourism is Grand County's main economic generator. The County and Municipalities can not afford even a marginal decrease in these dollars.

7 July, August and September water temperatures below Windy Gap are already too high. There are blue-green algae and aquatic plants growing and an increase in temperature may boost their growth. Algal toxins may in turn become a problem and need to be monitored. Reduced flushing flows can also exacerbate the problem.

8 Water quality degradation could lead to treatment issues for communities. Small communities can not afford increased water treatment costs. The Town has an infiltration gallery just above the "USGS site near Kremmling" in the Colorado River. Water quality needs to be monitored and if, "high values" are detected the pumping may need to stop and/or water released from Windy Gap.

Again, thank you for this opportunity to comment. We look forward to working with all parties to find solutions to these concerns.

Thomas A. Clark, Mayor

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1. Thank you for your comment.

2. Thank you for your comment.

3. The Subdistrict developed a Fish and Wildlife Mitigation Plan (FWMP) in accordance with the requirements of CRS 37-60-122.2 (FEIS Appendix E). The Colorado Wildlife Commission adopted the FWMP on June 9, 2011 and the Colorado Water Conservation Board (CWCB) adopted it on July 13, 2011. The FWMP includes mitigation of temperature effects in the Colorado River and is a component of the mitigation and environmental commitments described in the FEIS (Section 3.25).. The aquatic resource section was revised in the FEIS to include additional discussion of impacts to fish from the alternative actions. Aquatic resource mitigation is discussed in Section 3.9.4 and temperature mitigation in 3.8.4.2 of the FEIS.

4. A separate Environmental Assessment (Colorado Water Users' Commitment to Provide 10,825 acre-feet to the 15-Mile Reach of the Upper Colorado River) evaluating releasing 5,412 AF from Granby Reservoir for Colorado River endangered species was released by Reclamation in September 2011. As proposed, the releases for endangered fish in the late summer/fall flow would improve flows and temperature during the time of the year when Colorado River flows are typically low. The "10825 Project" was added to the reasonably foreseeable actions in the WGFP FEIS and was used in the cumulative effects evaluation on stream temperature in Section 3.8.3.

5. The Grand County Stream Management Plan (SMP) was reviewed during preparation of the EIS. Our understanding is that the objective of the SMP was to develop preferred and recommended streamflows, water quality, and available water supplies for water users in the basin. The focus of the EIS was to evaluate and disclose the anticipated environmental effects of the alternatives. Where adverse effects were identified, mitigation measures were identified to offset or

		minimize those impacts. The mitigation measures developed for the WGFP are linked to identified project impacts and may not necessarily meet the target recommendations included in the SMP. However, mitigation measures included in the FEIS such as bypasses to improve Colorado stream temperature, reductions in nutrient loadings to the Colorado River and Three lakes, and stream channel habitat enhancement would help meet some of the goals of the SMP. 6. Thank you for your comment. 7. Proposed mitigation measures to offset nutrient loading to the Three Lakes, as described in Section 3.8.4 of the FEIS, also would improve water quality in the Colorado River from existing conditions. Existing bypass commitments and flushing flow requirements would be maintained and additional analysis indicates that flows would be adequate to maintain to aquatic habitat. In addition, the FEIS includes mitigation measures to increase flushing flows. 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 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. See response to Comment No. 3 on temperature mitigation. 8. According to the Colorado Water Quality Control Division, Kremmling's WWTP discharges to ground water in the Muddy Creek drainage. Minor changes in the stage of the Colorado River, which is about 3,000 feet from the nearest infiltration gallery, would not affect ground water levels or the treatment of wastewater or discharge of wastewater at the infiltration galleries.

Com-ment	Letter #1101	Response

Gary Suiter
Interim Town Administrator
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WGFP 1101

TOWN COUNCIL
Mayor – Gordon "Hawkeye" Flaherty
Mayor Pro Tem – George Brodin
Councilwoman – Shelley Bellm
Councilman – Jerry Bumgarner
Councilwoman – Lorraine Haslee
Councilman – Aggie Martinez
Councilman – Matt Scherr

December 29, 2008
Via Email and U.S. Mail

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Will Tully, Bureau of Reclamation
11056 W. County Road 18E
Loveland, CO 80537
(970) 663-3212 (fax)
wtully@gp.usbr.gov

Re: Windy Gap Firming Project DEIS

Dear Mr. Tully:

On behalf of the Town of Minturn, I am providing comments on the Windy Gap Firming Project ("WGFP") Draft Environmental Impact Statement dated August 2008 ("DEIS") prepared by the U.S. Department of the Interior, Bureau of Reclamation ("Reclamation"). Minturn's comments are set forth on Attachment 1 hereto. In addition, Minturn endorses the comments of Grand County as set forth in the letter dated December 29, 2008 from Barbara J.B. Green.

Sincerely,

Gary Suiter
Interim Town Administrator
Town of Minturn

cc: Hawkeye Flaherty, Mayor
Minturn Town Council
Allen C. Christensen
Anne J. Castle
Arthur B. Ferguson

Com-ment	Letter #1101	Response
1	Will Tully, Bureau of Reclamation Page 2 **ATTACHMENT 1** **Comments of Town of Minturn on WGFP DEIS** **1. The Proposed Action Would Violate Senate Document 80 And The Blue River Decree.** Pursuant to the regulatory requirements set forth in the Council of Environmental Quality regulations for implementing the National Environmental Policy Act, the DEIS must discuss federal and state law constraints on operation of the WGFP. The environmental consequences section of a DEIS shall include a discussion of "possible conflicts between the proposed action and the objectives of Federal, regional, State, and local . . . land use plans, policies and controls for the area concerned." 40 C.F.R. § 1502.16 (2008). The DEIS must also "discuss any inconsistency of a proposed action with any approved State or local plan and laws. . . . Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law." *Id.* at § 1506.2(d). Thus, Reclamation must address any conflicts and inconsistencies between the proposed action and federal and Colorado law in the DEIS. Minturn believes that the DEIS does not sufficiently consider such conflicts and inconsistencies. Senate Document 80 is the legal foundation of the Colorado Big Thompson ("CBT") Project. Senate Document 80 describes the CBT facilities and provides conditions to protect the beneficiaries of those facilities, including west slope water users. Senate Document 80 contains requirements for use of CBT water by the Northern Colorado Water Conservancy District as a supplemental supply on the east slope, use of Green Mountain Reservoir for west slope beneficiaries, and provisions that specifically protect the headwaters of the Colorado River system in Grand County. The DEIS fails to examine whether the proposed action would violate Senate Document 80 or the decree for the CBT Project facilities dated October 12, 1955 of the U.S. District Court for the District of Colorado in Consolidated Case Nos. 2782, 5016, and 5017 ("Blue River Decree"). Instead, the DEIS expressly states that this determination will be made at a later time: "Prior to entering into a contract that would allow use of CBT excess capacity, Reclamation must determine that the excess capacity contract is consistent with the provisions of Senate Document 80." DEIS, § 1.10.2.	1. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
2	The DEIS does not examine the following conflicts and inconsistencies between the proposed action and Senate Document 80 and the Blue River Decree: a. The proposed action would allow CBT water to be stored in Chimney Hollow Reservoir, a non-federal reservoir that is not authorized by Senate Document 80 or the Blue River Decree. The only reservoirs that are authorized for storage of CBT water on the Front Range are Mary's Lake Reservoir, Lake Estes, Horsetooth Reservoir and Carter Lake. *See* Senate Document 80 at 18-21; Blue River Decree, Findings of Fact and Conclusions of Law at ¶ 14; Blue River Decree, Final Decree at p. 2. Connection of	2. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.

Com-ment	Letter #1101	Response
	Will Tully, Bureau of Reclamation Page 3	3. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
2	the WGFP facilities to CBT facilities and storage of CBT water in non-project facilities would require Congress to amend Senate Document 80.	
3	b. Because CBT water is not decreed for storage in Chimney Hollow, *see id.*, CBT water may only be lawfully stored in Chimney Hollow if the United States first obtains a change of water right to add Chimney Hollow as a decreed storage facility for the CBT Project. *See* C.R.S. § 37-92-103(5) (2008) (stating that change of water right by definition includes "a change in the place of storage, . . . [and] a change from a fixed place of storage to alternate places of storage)."	
4	c. The proposed action would create an additional 90,000 acre feet of storage capacity for CBT water on the Front Range, and would therefore allow the CBT Project to yield more water than has historically been produced through the facilities authorized by Senate Document 80 and the Blue River Decree.	4. As explained in Section 3.5.2.3 under the subsection C-BT Deliveries, C-BT Project demands and deliveries would not change as a result of implementation of any of the WGFP alternatives. Under the Proposed Action, the additional 90,000 AF of storage capacity on the East Slope would be used to firm Windy Gap supplies and would not result in an expansion of C-BT diversions. Under prepositioning, when total C-BT contents in Granby and Chimney Hollow reservoirs reach the volumetric limit of 539,758 AF, which is the physical capacity of Granby Reservoir, the C-BT Project would stop diverting water from the Colorado River for storage in Granby Reservoir. This would prevent expansion of C-BT Project diversions, because it imposes the same constraint as if C-BT water was stored in Granby Reservoir, as opposed to a portion being stored in Chimney Hollow Reservoir.
5	d. The proposed action must comply with the Water Supply Act, 43 U.S.C. 390b(d), which requires Congressional approval of any modification to a federal reservoir project that "would involve major structural or operational changes." *Id.* Storage of CBT water in a new, non-federal reservoir on the East Slope clearly constitutes a major operational change to the CBT Project, and could only be accomplished if Congress approves of such storage. Thus, Congressional approval should be a precondition to implementation of the proposed action.	
6	e. Senate Document 80 imposes upon Reclamation an affirmative duty to operate the CBT Project and its facilities in a manner that is protective of the Colorado River fisheries. Not only does the DEIS fail to provide the necessary analysis of impacts to aquatic resources within the reach of the Colorado River evaluated, it entirely fails to analyze the impacts of WGFP on aquatic resources below Gore Canyon.	5. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
	2. The Proposed Action Would Violate Colorado Water Law.	
7	The DEIS acknowledges that Windy Gap diversions would be constrained by "decree limitations," but does not describe these limitations in any detail. DEIS § 3.5.2.5. No other provisions of Colorado law are mentioned. The DEIS does not address the following conflicts and inconsistencies between the proposed action and Colorado water law:	
8	a. The proposed action must comply with the Water Conservancy Act, C.R.S. § 37-45-101, *et seq*. § 37-45-118(1)(b)(II) requires that any project that exports water from the natural basin of the Colorado River include mitigation to water users within the Colorado River basin to assure that present and prospective uses of water will not be impaired nor increased in costs to the west slope water users. The Subdistrict, the River District and other West Slope parties entered into the "Agreement Concerning the Windy Gap Project and Azure Reservoir and Power Project," dated April 30, 1980, as amended March 29, 1985 ("Azure/Windy Gap Agreement"), to provide the requisite compensation to the West Slope for the original Windy Gap Project. The Azure/Windy Gap Agreement does not contemplate the construction of a new facility on the Front	6. The aquatic resource section of the FEIS includes an analysis of impacts to aquatic habitat downstream of the Blue River confluence, based on hydrologic changes at the Kremmling gage. Section 3.9.3 of the FEIS contains additional discussion on the impacts to aquatic habitat. Results of the analysis impacts to fish habitat for the below the Blue River location are indicative of likely impacts for several miles below the Colorado River. Average monthly Colorado River flow decreases less than 7 percent from existing conditions compared to the Proposed Action, and less than 3 percent annually. Because hydrologic and water quality impacts of the WGFP on the Colorado River diminish below the Blue River confluence, measurable impacts to aquatic resources are unlikely farther downstream.

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8	Will Tully, Bureau of Reclamation Page 4 Range for storage of Windy Gap water rights. Because the proposed action would allow an expansion of the yield from the Windy Gap Project, the mitigation requirements contained in the Water Conservancy Act have not been satisfied with respect to the expanded yield. *See* C.R.S. § 37-45-118(1)(b)(II). The Subdistrict should be required to comply with these mitigation requirements as a precondition to implementation of the proposed action.	The FEIS includes additional mitigation measures for aquatic resources. , The Subdistrict developed a Fish and Wildlife Mitigation Plan (FWMP) in accordance with the requirements of CRS 37-60-122.2 (FEIS Appendix E). The Colorado Wildlife Commission adopted the FWMP on June 9, 2011 and the Colorado Water Conservation Board (CWCB) approved it on July 13, 2011. The FWMP is a component of the mitigation and environmental commitments described in the FEIS (Section 3.25). Sections 3.8.4 and 3.9.4 of the FEIS include a description of mitigation measures for aquatic resources.
9	b. The proposed action would result in the undecreed storage of Windy Gap water rights in Chimney Hollow. The Windy Gap water rights are decreed for storage in two reservoirs on the West Slope – Windy Gap Reservoir and Jasper Reservoir. Storage of Windy Gap water rights in a new facility on the Front Range would violate the Windy Gap water rights decrees. Such storage would only be lawful if the Water Court approves a request to change the existing Windy Gap water rights to allow for storage in Chimney Hollow. *See* C.R.S. § 37-92-103(5). The Subdistrict cannot avoid this requirement by filling a new reservoir under the direct flow water rights decreed as part of the Windy Gap Project. *See City & County of Denver v. NCWCD*, 276 P.2d 992, 999 (Colo. 1955); *City of Thornton v. Bijou Irrigation Co.*, 926 P.2d 1, 26 n.12 (Colo. 1996).	7. Windy Gap water rights, agreements and contracts that constrain Windy Gap diversions and operations are discussed in Section 3.5.1.3 of the FEIS, and are described in detail in Section 5.0 of the WGFP Water Resources Technical Report (ERO and Boyle 2007). The hydrologic model was developed in strict compliance with the existing water rights, agreement, and contracts that control the diversion and storage of Windy Gap water.
10	c. The proposed action would result in an unlawful expansion of the Windy Gap water rights. The Windy Gap Project includes conditional and absolute storage water rights for 1546.14 acre feet in Windy Gap Reservoir (445 acre feet of which has been made absolute) and 11,292 acre feet conditional in the Jasper Reservoir. Storage of water in the 90,000 acre foot Chimney Hollow Reservoir would exceed the amounts decreed to Windy Gap and Jasper Reservoirs, and would constitute an unlawful expansion of the Windy Gap water rights above the amount contemplated when the water rights were appropriated. Approval of a change of water right for the Windy Gap water rights is required.	8. Operation of the proposed project is within the limitations of the 1980 Azure Agreement and the 1985 Supplement to the 1980 Azure Agreement. These agreements rely on the Windy Gap DEIS and FEIS to describe the Project that is approved. Both the DEIS and FEIS discuss the use of approximately 90,000 acre-feet of storage on the East Slope, either as unused or leased storage (see DEIS, pg. IV-10) or "participant storage capabilities other than the C-BT Project (see FEIS, pg. IV-68). It has always been intended that storage on the East Slope would be a necessary part of the Windy Gap Project and the WGFP was proposed as a joint, regional project by the Participants to minimize the cost and environmental impacts of storage to realize the yield contemplated in the original Windy Gap Project. The proposed Project is consistent with the original agreements and underlying environmental reports including the 1980 Azure Agreement, 1985 Supplement to the 1980 Azure Agreement, the Windy Gap Carriage Contract, and the 1981 Windy Gap EIS and Record of Decision. In addition, the 1980 Azure Agreement and the 1985 Supplement to the 1980 Azure Agreement satisfy the Water Conservancy Act requirement by imposing limits on the diversion of water through the Adams Tunnel for the Windy Gap Project of up to 90,000 acre-feet of water in any one year, and an average of 65,000 acre-feet of water in any 10-year period. So long as these limits are respected, the West Slope is fully protected. The Subdistrict will limit diversions for the WGFP to comply with these limits.
	3. The DEIS Contains Insufficient Discussion of Cumulative Impacts.	9. See response to Comment No. 3.
11	a. The DEIS should present a significant discussion of cumulative impacts and show much more detailed information regarding the full history of streamflows and stream depletions to this region, not just the flows averages before and after CBT.	10. See response to Comment No. 3.
12	b. The DEIS should include a more thorough discussion of CBT and Windy Gap operations on the West Slope, particularly existing and proposed exchanges, and how reservoir evaporation is being accounted for and managed.	11. The affected environment discussion in the Surface Water Hydrology section of the EIS defines the condition of resources based on past and present actions and activities in the Colorado River basin, including the C-BT Project and other water diversions and uses. The cumulative effects analysis then adds the incremental effects of the Proposed Action with other reasonably foreseeable future actions,
13	c. A more detailed description of past water diversion projects and their resulting impacts (e.g., conditions before and after the CBT, the Windy Gap Project, and Denver Water's Moffat Collection System project) is necessary to understand how these conditions came about.	
14	d. Instead of using actual existing conditions as a baseline against which to measure impacts of the WGFP alternatives, the DEIS used a modeled stream flow regime. The modeled conditions show existing diversions from the original Windy Gap at an annual average of 36,000 a.f. on the average per year when in reality the diversions	

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		such as the Moffat Project, to assess likely effects. The same level of analysis was conducted for cumulative effects as for direct project effects. 12. The discussion of C-BT and Windy Gap operations on the West Slope is discussed in detail in the DEIS, and additional information was added in the FEIS as noted below. Section 3.5.2.3 provides a discussion of Windy Gap operations and how those operations affect the C-BT Project. Section 3.5.2.5 specifically addresses C-BT and Windy Gap Project operations at each major West Slope facility including the Adams Tunnel, Windy Gap, Granby Reservoir, and the Willow Creek Feeder Canal. A discussion of Windy Gap and C-BT exchanges under the Proposed Action was added in Section 3.5.2.5 of the FEIS under the subsection Windy Gap Diversions. Evaporative losses in Granby Reservoir, Shadow Mountain Lake, and Grand Lake are discussed in Section 3.5.2.3 under the subsection Loss of C-BT Water from Reservoir Evaporation. Evaporative losses in all C-BT reservoirs are charged to the C-BT Project regardless of the Windy Gap contents in that facility. However, Windy Gap is assessed a depletion fee of 10% of the Windy Gap water introduced into the Project Works as defined in the agreement between Reclamation and the Subdistrict for the introduction, storage, carriage, and delivery of Windy Gap water in the C-BT Project system. Reclamation believes this assessment compensates the United States for any increased evaporative loses in the C-BT Project system as a result of the storage of Windy gap water. Additional text has been added to Section 3.5.2.3 of the FEIS explaining evaporative losses at Granby Reservoir and accounting. 13. Additional information on past diversion projects were added to Section 3.5.1.4 of the FEIS. Table 3-1, which was added to the FEIS, summarizes the effects of historical upstream depletions at the Colorado River at the Windy Gap gage (09034250) for the 20-year period from 1985 through 2004. This period was selected because the Windy Gap Project came online in 1985; therefore, it includes the effects of all major upstream transbasin diversions (Grand River Ditch, C-BT Project, Moffat Project, and Windy Gap Project). 14. It is appropriate to assess effects due to the EIS alternatives based on a comparison against modeled existing conditions as opposed to historical conditions since the hydrology associated with existing conditions reflects the current administration of the river, demands, infrastructure, and operations. As discussed in Section 7.1 of the WGFP Water Resources Technical Report (ERO and Boyle 2007), hydrologic output associated with the action alternatives is not compared with historical hydrology for the following reasons:

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14	Will Tully, Bureau of Reclamation Page 5 were only 11,000 per year. Consequently, the significance of the impacts of the additional diversions associated with the WGFP are materially understated.	• Demands have changed considerably over the course of the study period, • Certain facilities and reservoirs were not in operation for the entire study period, and • River administration and project operations have changed over the study period. Windy Gap diversions for the last 10 years (1999 through 2008) averaged 22,158 AF/yr, which is significantly higher than the average diversion of 11,080 AF/yr for the period from 1985 through 2005, as presented in Table 3 of the Water Resources Technical Report. Windy Gap diversions were made in accordance with the Project's water rights, the same water rights that would be used to effect diversions with a WGFP. The increase in recent diversions represents the Participants' need for additional water to meet increasing water demands, which is supported by information presented in Chapter 1 on the Participants' water demands and needs. Modeled Windy Gap diversions under existing conditions reflect the recent increases in Windy Gap Participant demands. Windy Gap pumping for the 8-year period from 2001 through 2008, since Granby Reservoir last filled, averaged 27,450 AF/yr. That average includes 2002 and 2004 when almost no Windy Gap water was pumped. Therefore, estimated pumping under existing conditions is much closer to recent operations than suggested in the comment.
15	e. The WGFP and Denver Water's Moffat Collection System project are cumulative actions. A single EIS analyzing the impacts of both projects is not a mere formality. Without such an EIS, there can be no assurance that Reclamation and the Army Corps of Engineers have, collectively, taken a hard look at alternatives to the simultaneous operation of the WGFP and Moffat Collection System Project, the cumulative environmental impacts of those two projects (with emphasis on the hydrology, water quality, and aquatic resources of the Colorado River), and measures to mitigate those impacts.	
16	f. The Shoshone call reduction needs to be examined more closely. The year the agreement with Denver Water concerning the Shoshone call went into effect (2003) was also the year of greatest diversion by the Windy Gap Project, at 64,200 af. The DEIS contains statements that Windy Gap will not divert during a dry year, but there is no analysis of the effects from the Shoshone call reduction. **4. The Modeling Used in the DEIS is Flawed.** a. There are significant concerns regarding the modeling used to evaluate West Slope impacts.	
17	i. The use of a monthly model may mask great fluctuations in water levels. A detailed daily model should be used to evaluate the projected new water yield from additional facilities and additional diversions, and then a separate monthly model should be used to evaluate the effects to the source area of the water supplies. The upper Colorado River basin can experience dramatic flow changes due to daily changes in water administration and the operations of several large-scale water facilities within the modeling reach.	The comment asserts that potential impacts of additional Windy Gap diversions under the Proposed Action are minimized or underestimated based on a comparison against existing conditions. Reclamation does not believe that to be the case. The average decrease in Colorado River flows below Windy Gap between the Proposed Action and existing conditions is 21,283 AF/yr, which is the estimated increase in net depletions to the Colorado River. This reflects the net effect of additional Windy Gap diversions from the Colorado River and the difference in spills from Granby Reservoir. A considerable portion of Windy Gap water diverted from the Colorado River is delivered back to the river via a spill under the existing conditions scenario. Windy Gap operations were simulated in this manner to present the amount of water than could be diverted with the project's current water rights to meet demands even if a portion of the water is subsequently spilled from Granby Reservoir back to the Colorado River. Table 3-9 was added to the FEIS to better illustrate the water balance associated with the Proposed Action.
18	ii. The DEIS says the model ends in 1996, and ignores the recent dry years like 2002 and following. This is a serious flaw in the determination of likely impacts, because the year of highest diversions by Windy Gap was in 2003, which followed the 2002 dry year.	
19	iii. The use of the long-term average daily flows to generate the factors to represent daily flows in all years, wet, average or dry, is inappropriate and may be highly inaccurate. The daily pattern of streamflows within a given month is not the same from year to year.	
20	b. The Kremmling gage was chosen as the downstream end of the Study Area because the majority of the effects to the Colorado River are expected upstream. While this is largely true for the WGFP, it is not true for some of the cumulative effects, such as Eagle County growth, Homestake diversions and the potential construction of Wolcott Reservoir. These would affect the WGFP area due to changes to the Eagle River	In summary, Reclamation believes the effects assessments based on net depletions to the Colorado River below Windy Gap, as presented in the FEIS, are appropriate. Windy Gap diversions under existing conditions reasonably reflect recent operations and diversions, which are much higher than the 20-year average from 1985 through 2005. In addition, this issue does not affect Windy Gap

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		diversions in dry years; therefore, Windy Gap pumping, net depletions to the Colorado River, and associated impacts are appropriately estimated in dry years, which are typically more critical for aquatics, water quality, and other flow-related resources. 15. The WGFP FEIS fully considered the cumulative impacts of the Moffat Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project, including changes in Fraser River, Williams Fork, and Blue River flows. Hydrologic impacts of the Moffat Project are actually overstated in the WGFP analysis because Denver's Blue River demands are 30,000 AF less than used in the hydrologic modeling for the WGFP. Denver reduced their demands after the WGFP hydrologic modeling was completed. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impacts of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects. 16. The Shoshone call reduction is sufficiently analyzed as a reasonably foreseeable action in Section 3.5.3.2 of the FEIS under the subsection Colorado River, and in Section 8.4.2.6 of the Water Resources Technical Report. The analysis of the Shoshone call reduction describes the potential frequency and magnitude of hydrologic effects when the call reduction is in place. The analysis is based on the terms and conditions of the current agreement, which is the best available information. While Windy Gap diversions may increase under a Shoshone call reduction, diversions with or without the WGFP would be the same since available storage capacity in Granby Reservoir would not be a limiting factor in dry years when the call reduction would be invoked. 17. While a daily time-step was not used, daily data were developed from monthly model output by disaggregating monthly values using historical gage records. Two sets of daily data were developed. Daily data were developed for the entire study period for the USGS gages on the Colorado River below Lake Granby, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and the gage on Willow Creek below Willow Creek Reservoir. In addition to the daily data developed for the entire study period at the locations listed above, average, wet, and dry monthly flows were disaggregated to daily values to develop average, wet, and dry daily hydrographs. A combination of daily and monthly hydrologic data was used for evaluations of resources dependent on flows or reservoir storage contents and levels. Average monthly summaries of flows, diversions, reservoir

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		outflow, end-of-month reservoir contents, surface elevations, and surface areas for average, wet, and dry conditions were used to support general characterizations of hydrologic changes associated with the alternatives. Daily data were used to generate flow duration curves and daily hydrographs, and to determine the frequency and magnitude of daily flow changes. These types of hydrologic analyses, based on daily variations, were used in resource assessments where the magnitude or value of the resources is especially sensitive to daily hydrologic changes and where the use of average, wet, and dry monthly values would mask the severity of the effects on those resources. For example, daily hydrologic data were used as an input parameter for the River2D Model to evaluate the effects on aquatic resources. Use of daily data for the entire hydrologic study period supported an assessment of the overall range and frequency of aquatic habitat changes. Section 3.5.2.2 of the FEIS was revised to include information related to the use of daily data for resource evaluations, including fisheries and water quality that are sensitive to daily flow variations. Because of its relatively junior water rights, the Windy Gap Project is not in priority and is precluded from diverting water from the Colorado River during droughts and low-flow periods, with or without the alternatives assessed, to provide firming storage. During low-flow periods, the Windy Gap Project would operate the same whether there is a firming project online or not. In these low-flow conditions, downstream Colorado River flows, whether they are viewed on a monthly or on a daily basis, are the same for existing conditions, for the No Action Alternative, and for each of the EIS alternatives. Because there are no hydrologic impacts from the WGFP during low-flow and drought periods, a daily model is not needed to assess effects for these low-flow periods, and the disaggregation of monthly data to daily data is sufficient for the assessment of effects for nondrought conditions. Use of a single monthly model to evaluate both new water yield and the effects to the source area of the water supplies is reasonable and appropriate. 18. The need to extend the WGFP model study period was evaluated to determine whether a study period that includes recent hydrology, and in particular 2002, would change conclusions regarding WGFP yields and associated hydrologic changes. The period from 1997 through 2003 was analyzed in a spreadsheet exercise using Excel. A copy of the technical memorandum, *Significance of 2002 Hydrology to WGFP Modeling (Meg Frantz September 27, 2004)*, which summarizes that analysis, was provided to Grand County at a meeting on March 4, 2005. At Grand County's request, the analysis was subsequently updated to take into account the "relaxation" of the Shoshone call. Key conclusions of that analysis are: o The addition of a WGFP reservoir would not change Colorado River flows in a year like 2002. Windy Gap water rights did not come into priority in 2002 and the addition of a WGFP reservoir would not change that

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		condition. Therefore, Windy Gap would not divert in a dry year like 2002, with or without a WGFP reservoir, because Windy Gap diversions would be limited by the amount physically and legally available, as opposed to available storage capacity. o The WGFP firm yield would not change if the model period was extended through 2002. A comparison of model output for the 1950–1996 study period with the period from 1997–2003 shows there are other sequences of years within the 1950–1996 study period that are more critical with respect to Windy Gap yield than 2002. The current model study period also addressed the carry-over or recovery effects of additional Windy Gap diversions in wet years following dry years like 2002 and 2003. The current model study period from 1950 through 1996 includes several series of dry years followed by wet years, which illustrate the effects of increased diversions to refill Windy Gap firming storage. For example, the existing study period includes the mid-1950's drought followed by 1957 (a wet year), 1963 and 1964 (dry years) followed by 1965 (wet year), 1977 (dry year) followed by 1978 (wet year), and 1981 (dry year) followed by several wet years in the mid-1980s. These sequences of years allow for an evaluation of impacts associated with diverting additional water in wet years following dry years. The model study period is suitable for estimating hydrologic effects associated with the EIS alternatives because it includes a broad range of average, wet, and dry years, and sequences of years that include dry years followed by wet years. 19. See response to Comment No. 17. In addition to the long-term average daily flows; daily data for the entire 47-year study period for the USGS gages on the Colorado River below Granby Reservoir, below Windy Gap, at Hot Sulphur Springs, near Kremmling, and for the gage on Willow Creek below Willow Creek Reservoir was generated using historical daily data for nearby USGS gages. See Section 4.2.4 in the Water Resources Technical Report for a detailed discussion of the process used to disaggregate monthly model output. The daily disaggregation factors were applied to the monthly flow data at the corresponding gage to develop daily flows.

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20	flows and Shoshone calls. The active modeling area should be extended downstream to the Dotsero stream gage. This would incorporate the anticipated depletions upstream of Shoshone from projected growth in the Eagle River basin, and would allow for an evaluation of the effects from the construction of Wolcott Reservoir as a source for the 10,825 water dedicated to the Colorado River endangered fish species.	20. The CDSS model, which was used to evaluate hydrologic effects on the West Slope, covers the Colorado River drainage from the headwaters to the Colorado-Utah state line. Therefore, the active model area extends downstream of the Dotsero gage. However, the area considered for the analysis of hydrologic effects extends downstream to the USGS gage near Kremmling. The downstream extent of the study area was initially based on the location where average monthly flow changes would be less than 10% under direct effects. Resource evaluations were conducted to determine impacts at that location and assess the validity of the downstream study area extent. Results of the resource evaluations indicate direct effects due to the WGFP would be negligible to minor along the Colorado River near the Kremmling gage. Therefore, extension of the study area further downstream is not warranted based on the results of the resource evaluations. Regarding future potential projects downstream of Kremmling, see Section 8.1 of the Water Resources Technical Report for a discussion of the criteria for identifying reasonably foreseeable actions. Wolcott Reservoir was not considered reasonably foreseeable and is currently not a component of the selected alternative to supply 10,825 water.
	5. The DEIS Contains Inadequate Discussion of Mitigation for the Aquatic Environment.	
21	a. The DEIS fails to provide the necessary analysis of impacts by the WGFP to aquatic resources within the reach of the Colorado River evaluated, and the analysis of impacts on the aquatic resources below Gore Canyon is entirely missing. This is particularly disturbing in light of the ongoing stakeholder effort to develop a stream management plan to protect the fishing values of the river down to State Bridge, as an alternative to Wild & Scenic Rivers Act designation by Congress.	21. See response to Comment No. 6.
22	b. Elevated stream temperatures are a significant concern in the upper Colorado River. As the DEIS indicates, stream temperature at various locations periodically exceed levels deemed to be safe for the fisheries. The DEIS fails to evaluate: i. How incremental increases in stream temperatures caused by operation of the WGFP and other reasonably foreseeable projects will impact aquatic life; ii. How stream temperatures will increase over a series of days iii. The potential for stream temperature conditions that have chronic impacts on aquatic resources	22. Additional stream temperature and climatic data became available following the initial analysis of temperature impacts for the DEIS. Subsequently, a dynamic temperature model (Hydros 2011) was developed with input and review by EPA to simulate weekly average temperatures and daily maximums for the Colorado River between Windy Gap Reservoir and the Williams Fork for existing conditions and the alternatives. The model simulations were conducted for the months of June through September using the very warm observed climatic data from 2007. Results of this analysis indicated that increased exceedance of the chronic MWAT and acute DM standards would occur in July and August of some years. Specifically, temperature standard exceedances were simulated to increase from existing conditions in 4 out of the 15 years evaluated with additional WGFP diversions. For these years, the dynamic modeling indicated that the MWAT standard would be exceeded for several consecutive days or weeks and the DM would be exceeded up to several additional days, when simulated with the very warm 2007 meteorology. Mitigation for temperature impacts is included in the Fish and Wildlife Mitigation Plan developed by the Subdistrict. See Section 3.8.4.2 for further discussion of temperature mitigation. Temperature mitigation measures would reduce the potential for exceedance of the temperature standards and impacts to fish associated with operation of the WGFP. Other factors including low precipitation, diversions by others, and WWTP discharges also contribute to elevated stream temperatures, whether the WGFP is pumping or not.
23	c. The water quality model on which the DEIS relies generates predictions based on conditions for the single modeled day. It does not predict what conditions will be at other times. As a result, the DEIS fails to take a hard look at the potential impacts of WGFP and reasonably foreseeable projects on the aquatic resources of the Colorado River.	
24	d. The DEIS's surface water quality analysis attempts to compare modeled stream temperature increases due to operation of WGFP and other reasonably foreseeable projects to the State Standards. Unfortunately, it uses the interim standards of 2006, not the final standards adopted in 2007 by the Water Quality Control Commission. As a result, the DEIS entirely fails to evaluate the extent and frequency with which operation of WGFP and other projects will increase temperature levels beyond the acute, lethal tolerance levels reflected in the Commission's regulation adopted in 2007.	
25	e. The DEIS fails to evaluate aquatic life impacts below the confluence of the Blue River.	
	6. The DEIS Fails To Properly Incorporate Water Conservation.	
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26	Will Tully, Bureau of Reclamation Page 7 a. Although the DEIS rejects water conservation as an alternative, it does not explain why water conservation should not be proposed as an additional mitigation measure. The DEIS does, after all, recognize that "[t]o meet future water requirements will require continued improvements in water conservation in addition to the proposed WGFP." b. In order to minimize the amount of water removed from the Colorado River at the Windy Gap Pumping Plant and Reservoir, each of the eastern slope participants should be required, to the maximum extent feasible, to implement reuse programs and make successive use of the foreign water. c. WGFP participants should also be required to have "measurable" water conservation plans in place. 4413915_1.DOC	23. See response to Comment No. 22. 24. The interim standards were incorrectly noted in the DEIS. The standards apply to the Colorado River between Granby Reservoir and the confluence with the Roaring Fork, as opposed to between the Fraser River confluence and the Troublesome Creek confluence. The chronic interim standard was an MWAT of 18.2°C. In 2008, after the DEIS was distributed, the final standards were adopted for the basin, setting the chronic MWAT at 18.2°C. The discussion in the DEIS (p. 3-96) compares modeled results to an 18.2°C MWAT above Troublesome Creek and a 20°C MWAT below Troublesome Creek. Although the comparison was incorrect below the Troublesome Creek confluence, the conclusion is the same. There would not be chronic temperature exceedances below Troublesome Creek. The discussion in this section of the FEIS has been adjusted to be consistent with the current standards. See response to Comment No. 22. See response to Comment No. 22 for additional temperature modeling and mitigation. 25. See response to Comment No. 6. 26. The WGFP Participants have committed to and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and other participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict.

Comment	Letter #253	Response
1	December 2, 2008 ENV 600 CT Bureau of Reclamation Attn: Will Tully 11056 W. County Road 18E Loveland, CO 80537 Tully RE: Windy Gap Firming Project Draft Environmental Impact Statement To Whom It May Concern: Please accept this letter as public comment from the Winter Park Town Council regarding the Windy Gap Firming Project (WGFP) Draft EIS. The following is a list of concerns that we would like entered into the record regarding the impact of the WGFP: • First and foremost, we would request that an extension for the public comment period be granted to allow for citizens to absorb the significant amount of information regarding the WGFP EIS and provide comments to the Bureau. While the Town of Winter Park is not a municipal water provider, we are affected economically and ecologically by diversions on the Fraser and Upper Colorado Rivers. • We firmly believe that the projected impacts of the WGFP and the forthcoming Moffat Expansion Project should be reviewed cumulatively. These two projects will create significant impacts to the Fraser and Upper Colorado Rivers in Grand County, and their total effect should be calculated in sum.	1. The WGFP FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impact of the WGFP. The WGFP and Moffat Project have different objectives, different project proponents, and no shared facilities. Combining the two projects in one EIS is not needed to adequately evaluate the cumulative effects of the projects. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.
2	• Existing conditions in Grand County's creeks and rivers need to be evaluated and resolved prior to new diversions of water to the Front Range. A variety of users are already impacted, including agricultural irrigators not being able to divert water in late summer, municipalities having to pump water to meet surface diversion needs, and warmer water temperatures that endanger fish populations and affect the local recreation-based economy. It is our belief that the Draft EIS does not adequately explain the current impacts that diversions create on our creeks and rivers. Additional diversions will only exacerbate problems created by reduced flows, and the Draft EIS does not accurately combine all conditions. **Town of Winter Park** p.o. box 3327 winter park, colorado 80482 phone (970) 726-8081 fax (970) 726-8084 www.winterparkgov.com	2. The FEIS includes an assessment of the potential effects to a wide range of environmental and socioeconomic resources using the best information available. Where substantial adverse effects were identified, mitigation measures have been identified that will avoid and/or minimize adverse impacts. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25 of the FEIS. Mitigation measures include the Fish and Wildlife Mitigation Plan developed by the Subdistrict in accordance with the requirements of CRS 37-60-122.2 (FEIS Appendix E). The Colorado Wildlife Commission adopted the FWMP on June 9, 2011 and the Colorado Water Conservation Board (CWCB) adopted it on July 13, 2011.

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3	• The federal legislation creating the Colorado-Big Thompson Project – Senate Document 80 – identified the need to preserve the fishing and recreational facilities and the scenic attractions of Grand Lake, the Colorado River, and Rocky Mountain National Park. It is our belief that additional diversions will be in direct conflict with the provisions of Senate Document 80 by removing flows from the Colorado River as well as additional water quality degradation to Grand Lake (as has been seen with the current operations of the C-BT).	3. Reclamation expects to complete the NEPA process with a Record of Decision (ROD) no sooner than 30 days after the Final EIS is made available to the public. The ROD will document Reclamation's selection of an alternative for the WGFP and discuss the factors, including C-BT Project water rights that were considered in making that decision. If the selected alternative includes issuing a water contract, Reclamation intends to determine whether the proposed contract complies with Senate Document 80, and other applicable authorities, prior to execution of the proposed contract. See the discussion of text added at the beginning of Section 1.10.2 of the FEIS.
4	• A key point in the WGFP EIS is the notion of prepositioning, which does not take into account the actual conditions of the snowpack, anticipated spring run-off quality, evaporation, or a host of other issues that affect the availability of water. Prepositioning assumes that supply is constantly available, and does not apply real-world reasoning to the amount of water available.	4. As currently configured in the Proposed Action, C-BT water is typically delivered to Chimney Hollow Reservoir during the fall and winter months when space is available in the Adams Tunnel. Chimney Hollow Reservoir is maintained full with C-BT and Windy Gap water so that when Windy Gap water is pumped, there is sufficient C-BT water in Chimney Hollow Reservoir to exchange. Operating in this manner maximizes the firm yield of Windy Gap water. Prepositioning does not assume that Windy Gap supplies are constantly available; if Windy Gap water is not available to pump in a dry year, C-BT water would build up in Chimney Hollow Reservoir.
5	• Many of the residents of Grand County and the Western Slope have learned to deal with cyclical increases and decreases in the amount of water available in the Colorado River basin, which demands conservation on our part in years where water resources are lean. Unfortunately, the ethos of conservation has not been requested of the municipal water providers along the northern Front Range. The WGFP perpetuates poor water usage habits on the part of many residents who do not know what the impact of their water usage does to our local communities. The northern Front Range has not been asked to conserve water in the same way that Grand County and Western Slope communities have. Conservation should be an integral priority for any water provider in Colorado due to the finite nature of water resources; unfortunately, this is not a component of the WGFP EIS.	The Subdistrict has proposed a modified version of prepositioning be included in the Proposed Action as mitigation for potentially lower water levels in Granby Reservoir as a result of the WGFP. This would reduce water level fluctuations in Granby Reservoir, particularly in dry years. Granby Reservoir would remain higher in dry years and Chimney Hollow Reservoir would remain lower. See Section 3.5.4 in the FEIS for a discussion of this mitigation measure.
6	• As our local communities transition from resource-extraction economies to recreation-based economies, water becomes more integral to our local businesses. Local economies in fishing, rafting, kayaking, and alpine skiing (snow-making) will all be significantly impacted by reductions in flows in the Colorado River. For industries that are as low-impact as these, every drop of water in the river is a significant financial benefit.	
7	• Coloradoans living on the Western Slope choose to live here for the enhanced quality of life that the Rocky Mountains provide. Water is a common thread between all of us who choose to live, work, and play here. Reductions in water mean a direct reduction in quality of life.	
8	• For municipal water providers on the Western Slope, the impacts of increased diversions is two-fold: less water for municipal purposes and less water for treatment of wastewater. Ongoing changes to state and federal requirements for treatment of water have been exclusively borne by local communities in the form of enhanced treatment facilities, and reduced flows will surely mean additional treatment requirements in the future. At this time, the WGFP EIS does not contemplate any compensation to local communities that are forced to upgrade wastewater treatment facilities, which significantly increases the burdens to communities affected the most.	5. The WGFP Participants have committed and will be required to maintain a state-approved water conservation plan in accordance with the Water Conservation Act of 2004, as amended (Colorado House Bill 04-1365). Seven of the WGFP Participants have Colorado Water Conservation Board (CWCB)-approved plans, and participants will be required to have a CWCB-approved plan prior to delivery of WGFP water. Reclamation would require maintenance of a state-approved water conservation plan as a condition to a contract with the Subdistrict.
9	• The WGFP EIS does not contemplate any mitigation for additional diversions in the Colorado River. The lack of mitigation proves further that municipal providers of water on the northern Front Range have little regard for all of the above-mentioned issues. As communities that rely on strong, healthy streams for many of the aspects that keep us here, mitigation to improve our rivers and streams is critical. Any diversion should be offset by fair mitigation provided by those performing the impact.	6. The recreation analysis focuses on boating opportunities on the Colorado River and at existing reservoirs. Those uses were identified as issues during the scoping process and are the most likely to be affected by hydrological changes resulting from the alternatives. Potential impacts to land-based recreational activities, including camping, hiking, scenic driving, and sightseeing, are described in the Recreation Resources Technical Report and in the Effects Common to All Alternatives section.

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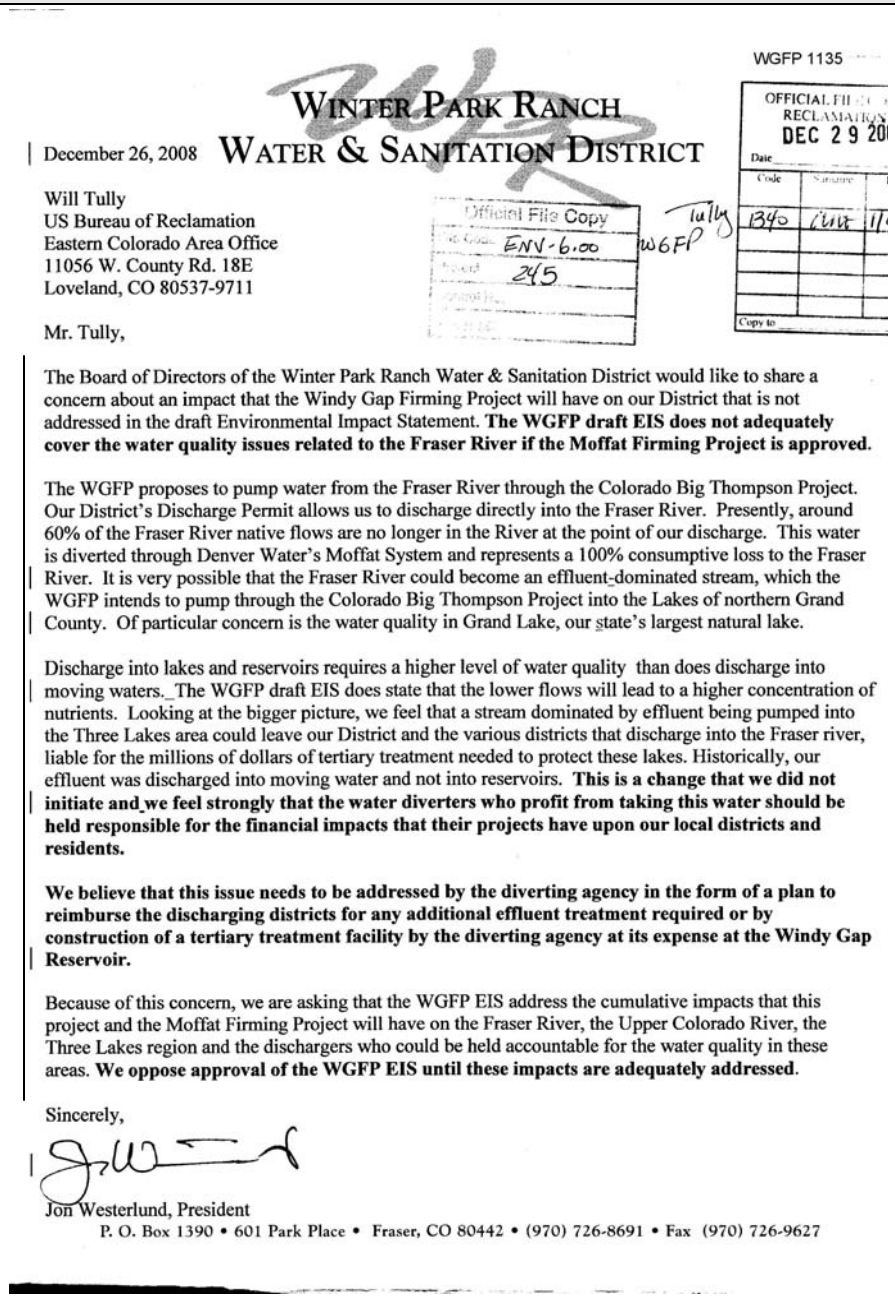
	Thank you for this opportunity to comment on the Windy Gap Firming Project Environmental Impact Statement. Our community is concerned about the significant potential impacts of this project, and would appreciate your consideration of this letter. Thank you for your time in this matter. Sincerely, James F. Myers Mayor CC: Grand County Board of County Commissioners Town of Fraser Board of Trustees Town of Grand Lake Board of Trustees Town of Granby Board of Trustees Town of Kremmling Town Council Town of Hot Sulphur Springs Board of Trustees Grand County Water and Sanitation District No. 1 Winter Park Water and Sanitation District Winter Park Ranch Water and Sanitation District Fraser Sanitation District Mr. Chandler Peter, United States Army Corps of Engineers	Potential effects of hydrological changes on commercial and private fishing opportunities are further described in the FEIS. However, the aquatic resources analysis determined that the projected effects to fish habitat would not result in a loss of angling opportunities or success. The direct and secondary economic impacts of boating and camping activities are described in detail in the Socioeconomics section. Property values are not expected to be affected. Impacts on property tax revenues from land acquisitions for reservoirs have been added to the FEIS. 7. See response to Comment No. 6. 8. WGFP water rights are relatively junior to other senior water rights in the upper Colorado River basin. Additionally, in 1980, as part of the original Windy Gap project, the Subdistrict agreed to subordinate its Windy Gap decrees to all present and future in-basin irrigation, and domestic and municipal uses (excluding industrial uses) on the Colorado and Fraser rivers and their tributaries above Windy Gap Reservoir as part of the original Windy Gap Project. Proposed mitigation to avoid increased nutrients in the Three lakes system as a result of the WGFP are discussed in Section 3.8.4 of the FEIS. These mitigation measures would improve the quality of the Fraser River, Willow Creek, and Colorado River regardless of WGFP diversions. 9. Additional mitigation measures were defined and developed to avoid or minimize the potential adverse impacts of implementing the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25 of the FEIS.

Com-ment	Letter #1135	Response
1		1. The proposed WGFP would not impact flows in the Fraser River basin. The WGFP will not affect flows at the wastewater treatment plant's (WWTP) discharge point. The cumulative effects of the Moffat Project were evaluated as part of the WGFP, but these cumulative effects occur downstream of the confluence of the Fraser and Colorado rivers. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would offset the nitrogen and phosphorus loadings to the Three Lakes projected from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River.

Comment	Letter #1151	Response

WGFP 1151

Winter Park Water & Sanitation District
P.O. Box 7, Winter Park, CO 80482

Administration 970.887.2970
Water Plant 970.726.9221
Wastewater Plant 970.726.5041

November 21, 2008

12-12-08

Mr. Will Tully
Bureau of Reclamation
Eastern Colorado Area Office
11056 W. County Road 18E
Loveland, CO 80537

Mr. Chandler J. Peter
U. S. Army Corps of Engineers
Denver Regulatory Office
9307 South Wadsworth Blvd.
Littleton, CO 80128-6901

ENV 600
CT

Re: Windy Gap Firming Project

Dear Mr. Tully and Mr. Peter:

Winter Park Water and Sanitation District (District) is located high up in the Fraser River Valley at the Winter Park Ski Area. The District serves the ski area and the Town of Winter Park. The District takes its water directly from the Fraser River not far below the Denver Water Department's Fraser River diversion. Trans-basin diversions have had a tremendous impact on the District. Accordingly, the District is qualified to comment on this project.

The District would like to acknowledge that the Municipal Subdistrict of the Northern Colorado Water Conservancy District, together with the Denver Water Department, Colorado River Water Conservation District, Middle Park Water Conservancy District, and Grand County, sponsored the Upper Colorado River Basin Study (UPCO) to define the issues regarding water availability in the basin. The Fraser River Basin was identified as being critically impacted by trans-basin diversions. The District is a contractee of the Middle Park Water Conservancy District and as such is an owner of a portion of the approximately 3,000 acre-feet provided to Middle Park by the Windy Gap Agreement. The UPCO Study indicates that shortages of water at the Winter Park Water and Sanitation District would be greatly reduced by the firming-up of Middle Park water. The District's interests are vitally affected by this project and we hope that the end result would be the firming-up of its Windy Gap water.

1 The District has been notified by the Army Corp of Engineers that it is preparing an Environmental Impact Statement for a project by the Denver Water Department which would increase its diversions through its Moffat Collection System and add new east slope storage. This new project by Denver Water will have a direct impact on flows in the Fraser River. Since the Windy Gap Project operations pump both Fraser River water and Colorado River water, the Bureau should consider the cumulative impacts of both projects on the Fraser River.

2 The UPCO Study management committee entered into a contract with an engineering firm, GEI, to study the possible ways of mitigating adverse impacts of Denver's and Northern's projects in Grand County, Colorado. One of the alternatives is to provide additional water to the Fraser Valley

1. The WGFP FEIS fully considered the cumulative impacts of the Moffat Collection System Project, as well as other reasonably foreseeable future actions. The cumulative effects analysis included hydrologic modeling of the Moffat Project including changes in Fraser River, Williams Fork, and Blue River flows. The cumulative effects analysis for water quality, aquatics, and other resources were analyzed in the same level of detail as the direct impacts of the WGFP. The Corps is a cooperating agency for the WGFP, and Reclamation and the Corps have coordinated on the assessment of cumulative effects and mitigation for the two projects.

2. We believe this alternative included bypassing the City of Broomfield's Windy Gap water for delivery via the C-BT Project. Broomfield currently receives treated water from Denver Water. However, there is no delivery mechanism for Broomfield to receive deliveries of water from Denver Water if it is transported through C-BT facilities. The entire capacity of the Southern Water Supply Pipeline is committed and there is no additional capacity to deliver more water from Carter Lake to Broomfield.

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2	by utilizing both Denver's and Northern's systems in such a fashion that water could be bypassed by Denver, pumped by Northern and traded or exchanged back to Denver such that there is minimal loss by either Denver or Northern. This proposed alternative would seek to utilize the Colorado Big Thompson Project to convey water from the West Slope to the East Slope, provided there is carrying capacity remaining in the C-BT system.	
3	There are numerous documents that need to be reviewed to insure that the new project is in compliance with those original agreements. Those agreements provided for numerous mitigation measures and it is necessary to insure that those measures adequately address mitigation that is necessary for the Windy Gap Firming Project.	3. Reclamation's decision on the WGFP would require compliance with all applicable regulatory requirements, agreements, and mitigation measures.
	The Winter Park Water and Sanitation District, as an owner of Windy Gap water, is in vital need of this water for future development and without this water being available in a permanent fashion, our District will be adversely affected.	
4	Other issues that need to be addressed in this process include: 1. Overall impact on the endangered species in the Colorado River Basin. The Colorado River Basin Biological Opinion requires additional storage for East Slope Diverters. A reservoir in the headwaters would be most beneficial because it would serve many purposes in Grand County and provide the quantity of water necessary for the endangered fish in the vicinity of Grand Junction, Colorado.	4. The Subdistrict is a participant in the Recovery Program for Colorado River endangered fish species and signed a Recovery Agreement with the U.S. Fish and Wildlife Service (FWS) in March 2000. Section 7 consultation with the FWS on the WGFP was completed on February 12, 2010 when the FWS issued their biological opinion on the WGFP. A separate NEPA action is currently under consideration by Reclamation for providing 10,825 AF of water releases for endangered fish species. Current proposals include storage and release of half of the 10,825 AF of water from Granby Reservoir.
5	2. Additional exportation of water from the headwaters and its overall impact on water quality along the Fraser River Basin and the Colorado River Basin needs to be addressed by this process. Degradation of the water quality could affect municipal wastewater treatment plant discharge permits, requiring tremendously expensive up-grades to the treatment systems in these areas. Several of these systems are new or currently under construction, and additional expense at this point would be an undue hardship for these small municipalities.	5. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures include upgrades to the Fraser WWTP and implementation of best management practices and other erosion-control measures to reduce nonpoint agricultural sources of nutrient discharges in the Willow Creek drainage and elsewhere. These measures would offset nitrogen and phosphorus loadings to the Three Lakes projected from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and Colorado River.
	The Winter Park Water and Sanitation District appreciates the opportunity to submit these comments. Very truly ~~yours~~, Jack W. Buchheister President	

Com-ment	Letter #401	Response
	WGFP 401 Granby Public Hearing Transcript for Windy Gap Firming Project October 9, 2008 Mike Wageck MR. WAGECK: Good evening. My name is Mike Wageck. It's W-a-g-e-c-k, just like it sounds. I'm the district manager for Winter Park Water and Sanitation District, and we serve the Winter Park ski area. We serve the Winter Park ski area and residential community right near the base. It's a pretty small district. We divert water from Fraser River, and we operate a wastewater treatment plant that discharges the water back from the Fraser River. I've been hearing through the process, through the years when we have been coming to these meetings, that those discharges from the wastewater treatment plants on the Fraser River are part of the problem for the water quality up in the Three Lakes area. My friend's, Bruce's, reaction to that is: If you don't like the water, don't pump it. Don't take it. Leave it in the river. It's not a problem for the river. My reaction to that is: If they don't like the water, maybe they should fix the problem. You know,	
1	if there is an issue over there with the wastewater treatment plants, they should pay to improve the treatment to whatever quality of water they feel comfortable with leaving the river. Now, we have spent enough money up there lately. The last eight years, we spent like $15 million in the community improving the wastewater treatment plant. If you include Granby's latest expansion, we're over $20 million that we have spent in the last eight to ten years to improve the wastewater treatment plants in the Fraser River. So we have spent enough.	1. Section 3.8.4 of the FEIS includes a discussion of the nutrient mitigation measures designed to offset nutrient loading to the Three Lakes from additional WGFP pumping. These measures would offset the total nitrogen and total phosphorus loadings to the Three Lakes anticipated from the WGFP. These measures would not only benefit the Three Lakes and deliveries to the East Slope during pumping, but would provide a year-round benefit to water quality in the lower Fraser River, Willow Creek, and the Colorado River.
2	Now, looking at this draft EIS, I see there is a lot of impacts across the board, but not very much in the way of mitigation. There is no mitigation -- very little mitigation measures in place. Now, I understand that the mitigation measures for the Windy Gap project were put in place with the original project. I think we have a unique opportunity right now to look back at those mitigation measures and see if they are working; you know, see if we have missed anything. Based on the comments I am hearing tonight, we have missed water quality. You know, maybe back when	2. Additional mitigation measures were defined and developed to reduce or offset the potential impacts from implementation of the proposed project. Mitigation measures and the effectiveness of those measures are described for each resource in Environmental Consequences—Chapter 3. An updated summary of mitigation measures is also included in Section 3.25 of the FEIS. In addition to the mitigation measures used to reduce nutrient loading into the Colorado River and Three Lakes as described in response to Comment No. 1, additional mitigation measures will be implemented to avoid or minimize other adverse water quality effects of the WGFP. These are described in Section 3.8.4 of the FEIS.

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2	the original permit was put in place, water quality wasn't an issue, but it certainly is an issue now. And I think that we need to put some real strong measures in place to protect the water quality, improve the water quality, and protect the water quality in the Three Lakes area, before any more additional water is pumped from the Windy Gap project. And that's all I have, thanks.	