

December 29, 2008



VIA EMAIL: WTULLY@gp.usbr.gov

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

VIA EMAIL: chandler.j.peter@usace.army.mil

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

Re: Windy Gap Firing Project - Draft Environmental Impact Statement

Dear Mr. Tully and Mr. Peters,

Trout Unlimited, Colorado Trout Unlimited, and the Colorado Headwaters Chapter of Trout Unlimited (jointly referred to as "Trout Unlimited") offer the attached comments on the draft Environmental Statement (DEIS) for the Windy Gap Firing Project (WGFP) for your consideration. Trout Unlimited is a non-profit conservation organization with approximately 150,000 members nationally, approximately 10,000 in Colorado. Our Headwaters Chapter, based in Grand County, counts with 100 very active members. Our mission is to conserve, protect and restore coldwater fisheries and their habitat.

In addition to these comments, Trout Unlimited joins in the separate comments provided by Western Resource Advocates, the National Wildlife Federation, Grand County, and the Colorado River Water Conservation District, to the extent not inconsistent with these comments.

Thank you for the opportunity to comment. Do not hesitate to contact me at 720.470.4758 if you have any question or would like to further discuss the project.

Sincerely,

/s Amelia S. Whiting

Amelia S. Whiting, Legal Counsel
Trout Unlimited, Colorado Water Project
P.O. Box 1544
Pagosa Springs, CO 81147
720.470.4758
mwhiting@tu.org

/s David Nickum

David Nickum, Executive Director
Colorado Trout Unlimited
1320 Pearl Street, Suite 320
Boulder, CO 80302
303.440.2937
dnickum@tu.org

cc: U.S. EPA
U.S. Fish and Wildlife Services
Colorado Division of Wildlife
Colorado Water Conservation Board
Colorado Water Quality Control Division
NCWCD

SCOPE OF COMMENTS

It is our understanding that the DEIS has been prepared to fulfill the requirements of the National Environmental Policy Act (NEPA) to inform two primary distinct and separate federal decisions:

(1) A decision by the Bureau of Reclamation (Reclamation) on whether to enter into a carriage contract agreement with Northern Colorado Water Conservancy District (Northern) and its Municipal Subdistrict (Subdistrict) allowing the use of Colorado-Big Thompson (C-BT) facilities and C-BT water as part of the WGFP and, if so, under what conditions.

(2) A decision by the U.S. Army Corps of Engineers (Corps) on whether to grant a Clean Water Act, § 404 permit for the WGFP and, if so, under what conditions.

It is further our understanding that, depending on the outcome of the NEPA process, Reclamation may enter into negotiations with Northern and the Subdistrict over the terms of an excess capacity, carriage contract, and that such process will be subject to additional public notice and comment.

The DEIS includes an Appendix entitled “Section 404(b)(1) Analysis, Windy Gap Firming Project” (Appendix B). It is our understanding that this constitutes the Corps’ analysis of the project’s compliance with CWA § 404(b)(1) guidelines.

These comments address the analysis and findings of the DEIS in light of NEPA requirements. Separate comments are being submitted to the Corps with respect to the CWA § 404(b)(1) guidelines analysis in Appendix B. Trout Unlimited expects to provide comments on Reclamation’s contractual activities, if any, associated with the WGFP upon notice. **Trout Unlimited requests to be directly notified of any such contractual activity.**

SUMMARY OF COMMENTS

Over the last few years, Trout Unlimited has increased its focus on the upper Colorado River - in particular, the reaches of the river between Granby Reservoir and the Blue River. A designated Gold Medal trout fishery and eligible Wild & Scenic Rivers Act segment for most of its length, this reach of the river is showing signs of degradation due largely to the cumulative impacts of transmountain diversions - including C-BT Project diversions - that take over 50% of the native river flows to the Front Range and Northern Colorado. Oxygen-robbing algae and high stream temperatures are a source of concern. In late summer of 2006, local irrigators with senior water rights warned that

sections of the Colorado River were going dry. This triggered a flurry of communications between Trout Unlimited, Grand County, fly fishing outfits, irrigators and others, on the one hand, and Reclamation and the Secretary of the Interior's office on the other. Some of the main sources of the problem, including current operation of the C-BT Project, are yet to be addressed.

The Proposed Action alternative for the WGFP would use C-BT Project facilities and C-BT Project water to increase depletions that could further impact these valuable fisheries. Operation of WGFP and other projects could significantly alter the River's hydrograph, reducing high peak flows, extending periods of low flows, and increasing dry-year conditions in the river. While, the DEIS states that WGFP would operate mostly during late spring and early summer months, the information presented shows that the most significant percentage increase in diversions would occur in July and August – months when flows are lower and high stream temperatures are of concern. These diversions would occur immediately before C-BT Project operations cause Colorado River flows below Granby Dam to drop to a mere 20cfs. At some point, the combination of stressors could cause a significant decline and even the demise of these valuable fisheries. Before any decisions are made that will further aggravate the conditions of the river, a thorough analysis of the direct, indirect and cumulative impacts of the WGFP on these aquatic resources and their habitat is imperative. Measures designed to prevent such impacts must be adopted. Unfortunately, as described in detail in our comments, the DEIS fails to do so.

Reclamation's first duty is to operate the C-BT Project in a manner that furthers the primary purposes of the project. Preservation of the Colorado River's fisheries is identified in SD 80 as a primary purpose of the C-BT Project. Facilitating projects such as WGFP is not. Accordingly, unless the evidence clearly shows that WGFP will not harm the Colorado River's fisheries, or strict conditions are imposed that will ensure that no such harm will result, Reclamation must deny the Subdistrict's request. As discussed in detail in our comments, the DEIS fails to provide the information and analysis needed to enable Reclamation's decision, other than denial, in this regard.

Aside from deficiencies in the DEIS' analysis, Trout Unlimited has serious questions about the legality of the Proposed Action. As further discussed in Section III of our comments, below, implementation of this alternative, as currently proposed, could significantly and illegally expand the C-BT project. Serious legal questions remain about the proposed use of C-B-T Project facilities and water absent Congressional approval. Moreover, Reclamation's storage of C-B-T water in Chimney Hollow, as currently proposed, would violate Colorado water law. Finally, the Proposed Action alternative is illegal unless it is proven to be consistent with Senate Document 80. Instead of evaluating the legality of the Proposed Action Alternative, the DEIS simply assumes it.

These are fundamental flaws which render the DEIS unfit to satisfy NEPA's dual goals to (1) insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) that the public has sufficient information to challenge the agency. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The information provided makes it impossible for the federal agencies to take "a hard look" at the environmental consequences of their actions. *Robertson*, 490 U.S. at 350-51. The information fails to provide information needed to evaluate the legality of the Proposed Action, compliance with Senate Document 80, and compliance with the requirements of the Clean Water Act. The information also fails to explain how acknowledged violations of State law will be addressed. Therefore, any further agency action with respect to WGFP must be postponed pending preparation of a supplemental environmental impact statement that addresses the DEIS's shortcomings and an opportunity for additional public review.

NEPA

NEPA represents the Nation's sweeping commitment to "prevent or eliminate damage to the environment and biosphere." *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). The statute accomplishes this goal by focusing government and public attention on the environmental effects of proposed agency action." *Id.* By doing so, NEPA "ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast." *Id.*

Accordingly, NEPA requires all federal agencies to prepare an environmental impact statement (EIS) prior to major federal action significantly affecting the quality of the environment. *42 U.S.C. § 4331; Robertson*, 490 U.S. at 348. An EIS must include a detailed statement of (1) the environmental impact of the proposed action; (2) any adverse environmental effects which cannot be avoided should the proposal be implemented; (3) alternatives to the proposed action; (4) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and (5) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented. *Id.* at 348-9; *citing 42 U.S.C. § 4332.*

"The sweeping policy goals announced in § 101 of NEPA are thus realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences" before resources are committed. *Id.* at 350-51.

Information provided in an EIS must be of high quality and must include accurate scientific analysis. *40 C.F.R. § 1500.1(b)*. "The NEPA process is intended to help public officials make decisions that are based on understanding environmental consequences, and take actions that protect, restore and enhance the environment." *40 C.F.R. § 1500.1(c)*. "When an agency is evaluating reasonably foreseeable significant adverse

effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.” *40 C.F.R. § 1502.22*. If the information cannot be obtained because the overall costs would be exorbitant or the means to obtain the information unknown, the agencies must explain the relevance of the incomplete or unavailable information, provide a summary of existing credible evidence, and evaluate the impacts based on theoretical approaches or research methods generally accepted in the scientific community. *40 C.F.R. § 1502.22(b)*.

To fulfill the essential purposes of NEPA, federal agencies are required, to the fullest extent possible, to “use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.” *40 CFR § 1500.2*. These means include (1) avoiding the impact altogether by not taking the action; (2) minimizing the impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; (5) compensating for the impact by replacing or providing substitute resources or environments. *40 C.F.R. § 1508.20*. Mitigation measures must be fully discussed in the EIS. *40 CFR §1502.14(f) and 40 CFR § 1502.16(h)*.

COMMENTS

I. THE DEIS FAILS TO TAKE A HARD LOOK AT THE DIRECT, INDIRECT, AND CUMULATIVE IMPACTS OF WGFP ON THE COLORADO RIVER AQUATIC RESOURCES AND TO OTHERWISE MEET NEPA REQUIREMENTS.¹

The DEIS evaluates impacts to the Colorado River’s aquatic resources by attempting to predict changes in available juvenile and adult trout habitat and in stream water quality due to increased Windy Gap project pumping under the various alternatives. *DEIS at p. ES-14*. The DEIS also looks at the potential reduction in peak flows and effects on macroinvertebrates in a cursory manner. Habitat availability, water quality, and maintenance of peak flows are critical factors in assessing potential impacts on aquatic resources. Yet, the analysis of these factors in the DEIS is fundamentally flawed, the information provided inadequate for meaningful analysis, and impacts

¹ While the majority of these comments directly refer to the DEIS analysis of impacts to the aquatic resources of the Colorado River, these comments pertain to aquatic resource impacts in Willow Creek and elsewhere to the extent the DEIS analysis of those impacts relies on similarly flawed assumptions and incomplete information.

revealed are arbitrarily dismissed. Other factors, such as exacerbation of whirling disease problems, are not analyzed at all. These deficiencies, discussed in detail in what follows, are fundamental deficiencies that preclude a meaningful review, much less the required “hard look” at the impacts of the WGFP alternatives on the aquatic resources of the Colorado River.

A. WGFP has the potential to dramatically change the hydrology of the Colorado River.

Appendix A of the DEIS includes a series of tables that reflect modeled projections of additional diversions, and concomitant Colorado River flow reductions, that would result from operation of the WGFP. Inadequate as these figures are to evaluate some of the most damaging potential impacts on the river’s aquatic resources, they forecast dramatic changes in the Colorado River’s hydrology. According to the DEIS, operation of the Proposed WGFP alternative would increase Colorado River diversions by 109% in July and by 144% in August. *DEIS, Appendix A, Table A-6 at p. A-11.* July diversions in a wet year would increase by 1,639%. Under current conditions, the river has experienced no Windy Gap diversions in August of wet years. The Proposed WGFP would increase those diversions from zero to an average of 3,636 acre-feet per year. *Id.*

Flows below Windy Gap reservoir, expected to be the most severely impacted reach of the river, are projected to decrease by 23% in July and by 16% in August of an average year. *DEIS, Appendix A, Table A-10, at p. A-17.* Under the cumulative impacts scenario, flows are expected to drop by 24% in July and by 20% in August in an average year. *DEIS, Appendix A, Table A-33, at p. A-40.*

As discussed in what follows, these modeled, anticipated changes are significantly understated and fail to capture some of the most damaging hydrological changes likely to occur as a result of operation of WGFP and other reasonably foreseeable projects. Nevertheless, as flawed as they are, these figures provide a glimpse at the magnitude of changes the Colorado River will experience and, therefore, at the project’s potential to significantly impact the aquatic resources of the river. These figures, which indicate that the greatest percentage increases in river depletions caused by operation of WGFP will occur in July and August, also belie the DEIS’s repeated assertion that impacts to aquatic resources will not be significant because the project would seldom operate during these critical months. *See e.g. DEIS at ES-14.*

B. The DEIS fails to take a “hard look” at how operation of the WGFP and other foreseeable projects will change the Colorado River’s hydrograph and how those changes will impact the river’s aquatic resources.

As recognized in the DEIS, hydrological changes can have significant impacts on the river's aquatic resources. Flows affect the availability of habitat, water quality, and water temperature of the stream. They also affect the stream's ability to serve functions that play a critical role in supporting a healthy aquatic ecosystem, such as channel creation and maintenance and cleansing of sediments lodged in spawning beds. While recognizing the importance of adequately predicting expected flow conditions to properly assess the project's impacts on aquatic resources, the DEIS in fact fails to do so.

1. The DEIS analysis relies on a hydrological model that is inadequate as a tool to predict and assess impacts on aquatic resources.

The DEIS estimates predicted changes in available juvenile and adult rainbow and brown trout habitat within the stream using estimated flow scenarios supplied by a model prepared by Boyle Engineering (Boyle Model). *Aquatics Technical Report at 36; DEIS at 3-134*. The Boyle Model estimates flow changes at particular locations in the Colorado River based on pre-defined average dry, average, and wet year conditions. Dry and wet year conditions are defined by averaging the five driest and the five wettest years of the study period, respectively. Average year conditions are defined based on the averaging of all years within the study period. While perhaps adequate for municipal water development and planning purposes, the model is inadequate to estimate impacts to aquatic resources.

The Model Yields Average Flow Values. The model reports flow estimates in terms of monthly and annual averages. These values are, in turn, used in the DEIS to report how much habitat will be lost and water quality impacts. While average values may work well for water supply development and planning purposes, they do not work to assess impacts to aquatic resources.

Monthly averages can mask important stream flow changes that may have significant impacts on river ecosystems, generally, and fish species in particular. For example, flows throughout August may be very low, but a single, large flood event may elevate the month's average. Accordingly, while looking at the average flow values may not reveal a potential problem, the average may be masking harmful flow conditions that occur for most of the averaged period. As the National Academy of Sciences so aptly noted in a recent report, "planners operate on a monthly basis, but fish live on a daily basis". (*National Academy Science Report, 2007*). Indeed, the Academy considered Reclamation's use of monthly average flows to be a fatal flaw in its *Natural Flow of the Upper Klamath River* study. Given that fish and other aquatic organisms respond to changes in flow that occur on much shorter time scales, it is inappropriate to evaluate changes in habitat availability using monthly averages.²

² The DEIS appears to attempt to deal with this problem by trying to estimate daily flows by using a mathematical process referred to as "disaggregation" to convert monthly values into daily values. This method of analysis uses gages that are, sometimes, far removed from the affected river reaches. In addition

The Model Understates Anticipated Changes. As discussed in detail in Grand County's comments, the DEIS's overestimates existing Windy Gap pumping. Modeled diversions for Windy Gap under existing conditions are over three times the amount of actual diversions as reflected in the Colorado State Engineer's records. This discrepancy taints most aspects of modeling including, but not limited to, the predicted percentage increases in diversions and reduction in flows due to WGFP. By overestimating existing conditions, the DEIS understates the anticipated changes in the river's hydrograph due to WGFP and their impacts on aquatic and other resources.

The Model Overestimates Anticipated Flows. The Model's use of averages is likely artificially inflating predictions of flows that will be available to the fisheries and other aquatic resources in a dry, average and wet year. Because stream flow time-series tend to be positively skewed (i.e., high flows tend to be much larger than low flows) the average, mean annual runoff tends to be higher than the median annual runoff (Smakhtin 2001). By using average annual discharge values in its impacts analysis, the DEIS overestimates the amount of water flowing through the river in a typical year. Median discharge values should have been used.

This problem is compounded by the fact that the data used to estimate average annual flows in wet and dry years were also included in estimates of discharge in the average year. Estimates of the average flow based on the entire 46-year record are higher than they would have been if only the 36 years that were not included in the wettest five

to its reliance on data from removed gages, the use of disaggregated monthly flows to evaluate daily impacts of the various WGFP alternatives is flawed for at least two reasons. First, the use of long-term averages to represent daily flow conditions in a highly variable river like the upper Colorado is inappropriate and leads to highly inaccurate results. Figure 1 (attached) illustrates this problem. In this example, "disaggregating" the mean monthly flow of 74 cfs based on an average daily flow distribution is unlikely to capture the true extreme high (123 cfs) and extreme low (29 cfs) flows that were actually experienced on the Colorado River in August 2002. Flows within this section of the Colorado River vary widely, even when comparing average years to average years or wet years to wet years. Because the daily pattern of flows within a given month is unlikely to be the same from year to year, long-term averages are not representative of true daily flow conditions. Second, the approach fails to model the temporal sequencing of annual flow events (wet/average/dry years). For example, the DEIS states that WGFP diversions would not increase in dry years. However, dry years create deficits in reservoir storage and diversions to fill these deficits are likely to increase in average or wet years following dry years. The right approach would be to evaluate impacts of the various project alternatives in a series of average or wet years that occur in the period following a dry year. In addition, the output from the habitat analysis is summarized in numerous exceedence charts, but these charts cannot be used to evaluate seasonal impacts of the various project alternatives. For example, what are the impacts of back-to-back dry years followed by an average to wet year on habitat availability during the most critical days in August? Relatively small impacts during the most critical times of the year can have devastating implications for aquatic species that are already at risk from low stream flows and elevated water temperatures. Consequently, the hydrologic model is inadequate as a tool to predict and assess impacts on aquatic resources.

or driest five were used. In other words, by double counting the extreme years, the DEIS further overestimates the discharge of an average year. This may not have been a problem if the DEIS had focused on median discharge values.

The Model Yields Isolated Dry, Average and Wet Years Data. One of the most critical deficiencies rendering the Boyle Model incapable of producing data necessary to assess the impacts of the WGFP alternatives on aquatic resources, is the fact that the model estimates flows during each dry, average and wet year in isolation. It does not look at how often operation of the WGFP alternatives will turn what have historically been average years into dry years or wet years into average years. Nor does it look at the distribution of expected dry, average and wet years over time. Because the model does not provide the required information, the DEIS cannot and does not evaluate the most probable and potentially devastating impacts operation of the WGFP will have on the river's aquatic resources: the creation of dry year conditions, extension of low flow conditions during average and wet years, and prolongation of drought (back-to-back dry year) conditions across the years. As further discussed in what follows, failure to evaluate this critical information renders the aquatic resources impacts analysis fatally flawed.

2. The DEIS fails to evaluate the most probable and potentially harmful hydrological changes operation of WGFP and other reasonably foreseeable projects would cause.

The DEIS aquatic impacts analysis focuses on average and wet year conditions as those conditions are defined in the Boyle Model. Dry year impacts are glossed over because Windy Gap is not expected to divert during dry year conditions. *See e.g., DEIS at 3-23, 3-27, 3-92 and 3-3-137.* Dry-year conditions can have significant impacts on aquatic resources, particularly when they occur in consecutive years. As discussed in what follows, operation of the project alternatives is likely to increase the incidence of dry-year conditions and prolong drought conditions in the river. The DEIS does not ask whether or how often these dry-year and extended drought conditions will occur as a result of operation of the WGFP alternatives, or what impacts such conditions will have on aquatic resources. Rather, the DEIS looks at historical average and wet year depletions in general and anticipates water and aquatic resource impacts in isolation. In so doing, the DEIS fails to evaluate some of the most probably and potentially damaging effects of the project.

Low flows and dry year conditions are particularly harmful to aquatic life. Dry year conditions can create particularly harmful bottle-necks for aquatic life; especially in late summer and early fall as stream flows decline to critical levels. Low stream flows cause reductions in available aquatic habitat as more of the stream channel becomes desiccated and the remaining aquatic habitat becomes marginal as velocities and depths are reduced. In addition, stream temperatures fluctuate more rapidly at low flows thereby

increasing the probability of exceeding both daily maximum and weekly average temperature standards. The Colorado River below Windy Gap already experiences low stream flows and high water temperatures during most dry and some average water years. WGFP could significantly exacerbate these existing problems by prolonging low flow periods in average years, increasing the frequency of dry year conditions and effectively creating prolonged drought conditions.

The DEIS fails to evaluate the frequency with which WGFP would increase the incidence of dry year conditions and resulting impacts to aquatic resources. While it is perhaps accurate to say that Windy Gap would not likely be pumping in dry years, as defined in the Boyle Model, the project would be pumping during average years. Diversions during average years, particularly in those years at the lower end of the Boyle Model average year range or following a dry year, could cause Colorado River stream flows to dip into a dry year condition, resulting in a reduction of habitat which would have been available in the absence of the project. The DEIS does not evaluate these potential impacts.

The DEIS fails to evaluate the frequency with which WGFP would prolong periods of drought and resulting impacts on aquatic resources. The likelihood that operation of the WGFP alternatives will change the river hydrograph by increasing the incidence of low flow, dry year conditions is particularly high following a very dry year or series of moderately dry years. Because Windy Gap cannot divert during dry years, the need to maximize diversions in the year immediately following a dry year would be high. Other reservoirs in the area would also be maximizing their diversions at the time. From the stream's standpoint, operation of WGFP and other projects under these conditions could significantly prolong drought conditions. The drought of 2002 provides a telling example of these circumstances. WGFP could not pump during the 2002 drought. However, in 2003, the year after the drought, Windy Gap recorded its largest diversions since the project was built. *Water Resources Technical Report, Table 3 at p. 22.*

The DEIS does not ask how often these conditions will re-occur as a result of WGFP, nor does it evaluate what impacts the conditions will have on the river's aquatic resources. The DEIS ignores these conditions altogether. Telling is the DEIS's decision to exclude the drought of 2002 and subsequent years from its study period and the explanation given for the exclusion. The explanation given is that the data is not relevant because WGFP would not be diverting during 2002 conditions. This conclusion entirely misses the point. Windy Gap pumping did not impact the river in 2002, it did so in 2003 and subsequent years. The impacts in 2003 and subsequent years was greater both because of the 2002 reservoir draw-downs and because the fish had already been stressed by the drought. Had the Proposed WGFP, with its additional 93,000 acre-foot reservoir, been on line, the impacts in years following the 2002 drought would have increased dramatically. By failing to include post-2002 conditions in the analysis, the DEIS not

only ignores one of the most severe droughts on record, it completely disregards the role of WGFP and other reasonably foreseeable projects in extending the duration of drought conditions and the impacts this would have on the Colorado River's aquatic resources.

The DEIS recognizes the impacts of multiple years of exposure on trout populations but ignores impacts due to increased drought conditions. The DEIS's failure to evaluate the potential for extended drought conditions due to the operation of the project is particularly troublesome given the agency consultants' recognition that multiple-year exposures can impact the fish population. The Aquatics Resources Technical Report notes: "Trout in the study area have a maximum age of approximately 6 or 7 years. Impacts that happen to trout often during their life span (e.g. 4 out of 10 years) may affect populations." *Aquatic Resources Technical Report at p. 46.* Clearly extending droughts across multiple years is analogous to increasing the frequency of droughts. In fact, it may be worse as trout that are impacted in one year will not have a chance to recover in subsequent years. By failing to evaluate WGFP's potential to increase drought conditions, the DEIS severely underestimates its impacts on aquatic resources.

3. Review of the Moffat Tunnel Extension Project and WGFP in a single DEIS would have avoided many of these problems.

Several of the problems identified thus far would have been avoided by the use of a daily time-step model. There are at least two projects currently being evaluated by the Corps which use such models: Moffat Tunnel Extension and Halligan-Seaman. The Moffat Project will deplete the same critical reach of the Colorado River impacted by the proposed WGFP.

CEQ regulations provide that a single EIS should be prepared for two or more projects that involve "cumulative" or "similar" actions. *40 CFR § 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." *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.

Scoping comments from the public and not one but two letters from the U.S. Environmental Protection Agency strongly recommended review of both projects under a single EIS. *See letters from Larry Svoboda, U.S. EPA to Will Tully, Bureau of Reclamation, dated November 4, 2003 and January 6, 2006 (copy to Chandler Peters, U.S. Army Corps of Engineer).* Had the agencies followed the urged course of action, the daily time-step PACSM model could have been used to evaluate the impacts of both projects. The agencies' failure to do so results in a fatally flawed DEIS.

C. The DEIS fails to take a “hard look” at the impacts of habitat availability reduction on the Colorado River’s aquatic resources.

As described in Part B, above, the DEIS underestimates expected hydrological changes and altogether fails to evaluate the most likely and critical hydrological changes caused by operation of WGFP and other foreseeable projects: an increase in the extent and frequency of low flow periods, dry year, and drought conditions. This failure translates into fatal flaws in the DEIS’s habitat availability analysis. Simply put, evaluating available habitat losses or gains is not possible absent an adequate assessment of current conditions and expected flow changes, and an understanding of the extent and frequency of expected low flow, dry year conditions created by the project. The DEIS’s habitat availability analysis is deficient in other ways.

The analysis fails to evaluate the seasonality of habitat loss. Neither the proffered 380 graphs representing expected habitat availability changes, nor any other information presented in the DEIS can be used to answer the critical question: will fish habitat be available during times when fish need it? In some instances, large amounts of habitat may be available during a time of year when it is not being used by fish. Conversely, there may be other times of the year when habitat is critical but not available, thereby creating a bottleneck to fish populations. A small loss in habitat during these critical times can be immensely more significant than larger losses at other times. The DEIS provides no information from which the project’s seasonal effects on fish habitat can be evaluated.

This is particularly troubling because, while admitting that the most severe percentage increases in diversions from operation of WGFP would occur in July and August, when Colorado River low flows are known to be a problem, the DEIS provides no analysis or quantification of habitat reduction or impacts during these shoulder, low flow periods. Simply stating that the largest reductions in habitat are expected to occur during high flows when habitat is plentiful and, therefore, less harmful, does not amount to taking a “hard look” at the aquatic habitat availability impacts of WGFP.

The analysis reaches a number of unexplained, unsupported, and arbitrary conclusions. The DEIS concludes that “[t]he predicted maximum periodic decreases in fish habitat are unlikely to substantially impact fish populations at most locations.” *DEIS*

at p. 3-140. The DEIS does not provide the basis for this conclusion, nor does it provide a criteria defining what constitutes “substantial impact” to fish populations. In fact, the conclusion appears to be directly contrary to information indicating that a large portion of the studied river reach will experience 24 to 30% decreases in fish habitat in 4 out of 10 years. It would be very hard to believe that such large habitat decreases, even in wet and average years, would not have a significant impact on trout populations.

The DEIS also concludes that “[t]he more frequent habitat reductions above the Williams Fork confluence could result in a *slight* decrease in rainbow trout population.” *Id.* (*emphasis added*). The DEIS fails to quantify such decrease, explain the basis for such conclusion, or define what is meant by “slight.”³ Finally, the DEIS concludes that “[r]eductions in brown trout habitat and the frequency of those changes are unlikely to impact current populations.” *Id.* No rationale or explanation for the conclusion is provided. Does this mean that no habitat reduction is expected? Clearly, this is not the case. Does it mean that habitat will be reduced but such reductions will not affect populations? If so, how was this conclusion reached? What criteria were used to decide at which point habitat reduction affects populations and at what point it does not? Were expected flow reductions in late July and August evaluated? Neither the DEIS nor the attached reports provide information to support such conclusions.

The DEIS improperly concludes that large flows are harmful to fish. Because the DEIS’s estimates of changes in weighted usable area (WUA) are limited to the stream channel, the report does not account for the large increases in habitat that are produced when large flows overtop the banks and inundate the floodplain. By creating new habitat, large flows provide fish with refugia during peak discharge that allows them to survive periods of high flows. Because the report does not evaluate these habitats, it concludes that habitat declines as flows increase beyond a local maximum. For example at Breeze, brown and rainbow trout adult habitat is maximized at approximately 500 cfs. However, it is likely that habitat increases again once flows over-top the banks. Because this increase in habitat was not evaluated, the DEIS incorrectly concludes that very large flows are universally bad for fish. *DEIS at p. 3-140.*

The DEIS’s conclusion that large flows are harmful to fish, and implication that WGFP’s flow reduction may actually improve fish habitat, is particularly troublesome because over-the bank, habitat-producing flows were historically available to the river but were dramatically reduced by operation of transmountain diversions, including C-BT. Indeed, native peak flows were reduced from an average of around 3500 cfs to less than 1000 cfs by 1950. *Water Resources Technical Report, Figure 3 at p.17.* Peak flows were further reduced when Windy Gap came on line. Yet, the DEIS arbitrarily begins the study period in 1950, in essence ignoring the impacts this huge reduction in peak flows

³ The comment is also meaningless, as rainbow trout populations were decimated by operation of the original Windy Gap project. It is assumed that this statement refers to the impacts of habitat reduction on potentially restored rainbow trout populations.

has had on the river and its aquatic resources. The DEIS's conclusion is particularly problematic because it uses the void in analysis created by the agencies' arbitrary decision to disregard the impacts of C-BT and other projects on current conditions to argue that WGFP may cause an improvement in fish habitat.

D. The DEIS fails to take a hard look at the impacts of reduced peak flows on aquatic resources.

Peak flows are critical for maintaining healthy aquatic ecosystems. Floods of varying magnitude, duration and frequency perform different ecosystem functions such as building floodplains, forming and maintaining the active channel and scouring sediments from gravels to enhance trout spawning and macroinvertebrate habitat. The DEIS acknowledges that “[p]eak flows are an important component for creating and maintaining stream habitat for aquatic life,” *DEIS at p. 3-140*. Yet, it fails to adequately evaluate how these flows and stream processes will change as a result of operation of WGFP and other reasonably foreseeable projects, or how these changes will impact the river's resources.

The DEIS does not adequately account for the benefits of large flows. As described in Part C, above, the report does not account for or quantify the large increases in habitat that are produced when large flows overtop the banks and inundate the floodplain.

The DEIS improperly defines channel maintaining flows on the basis of current hydrology. The DEIS defines channel maintaining flows on the basis of the current hydrology. This is inappropriate as the channel was created by flows significantly greater than those currently observed. Moreover, large rivers are formed by rare events. The DEIS improperly assumes that the Colorado River is a “morphologically stable stream” that is not subject to these changes, based on the fact that aerial photos taken between 1972 and 1974 and again in the 1990's and in 2005 show few changes in its morphology. *DEIS at 3-60*. Yet, failure to evaluate historical information about river changes does not justify a conclusion that the river is morphologically stable. It is likely that flow reductions have altered the fluvial dynamics so significantly that fluvial processes like channel migration have been severely curtailed. However, from the river's perspective, even a 60-year period of stability is not an indication that the river is no longer geomorphically active. An analysis of the flows that produced the river and which are needed to maintain both channel form and habitat diversity is needed.

The DEIS incorrectly assumes that currently measured 2-year peak flows are channel-maintaining flows. The DEIS incorrectly assumes that the 1,240 cfs flow which currently occurs at Hot Sulphur Springs every 2 years is a channel maintaining flow. *DEIS at p. 3-62*. Whether or not a 1,240 cfs is actually a bank-full discharge is uncertain from the data presented. In any event, current conditions did not create the channel so it

is highly unlikely that today's 2-year peak discharge will maintain a channel formed under a significantly higher channel-forming flow.

The DEIS arbitrarily concludes that WGFP will result in “little change in peak flow magnitude and recurrence intervals.” First, the DEIS's conclusion is the result of the agencies' arbitrary decision to ignore pre-1950 conditions as part of the analysis.⁴ Second, the conclusion relies on an analysis that, as described in Grand County's comment letter, significantly overestimates current Windy Gap diversions and, therefore, underestimates hydrological changes due to WGFP. Third, even when compared to modeled, existing conditions, a decrease in the frequency of occurrence from 4 to 3% is not a 1% decrease in the frequency of peak flows, as the DEIS indicates. It is a 25% decrease in frequency of peak flows. This is by no means a “little” or “insignificant” change in expected peak flows.

The DEIS fails to evaluate impacts on other stream functions. Not only does the DEIS fail to properly characterize the anticipated reduction in large, channel forming flows due to operation of WGFP, the DEIS entirely fails to evaluate the impacts of reducing the amount and frequency of smaller but more frequent high flows that serve other stream functions, such as cleansing sediments from spawning beds.

E. The DEIS fails to take a hard look at the water quality impacts of WGFP and at how those impacts will affect the aquatic resources of the Colorado River.

Elevated stream temperatures are a significant concern in the upper Colorado River. As the DEIS indicates, stream temperature at various locations periodically exceeds levels deemed to be safe for the fisheries.⁵ As discussed in these comments, operation of WGFP has the potential to significantly change the Colorado River's current hydrograph by prolonging periods of low flows in average and wet years, by creating more frequent dry-year river conditions, and by extending drought conditions across the years. These changes could not only reduce fish habitat, they could significantly aggravate existing stream temperature conditions, increasing the length of time and frequency with which fisheries and other aquatic resources are exposed to the stress of high stream temperatures. Accordingly, a thorough evaluation of the impacts of the project on stream temperatures and of the impacts such increases will have on the river's aquatic resources is critical. Unfortunately the DEIS fails to do so.

⁴ This is part and parcel of the DEIS's failure to evaluate the impacts C-BT and other pre-1950 projects have had on the river as part of its cumulative impacts analysis, as further discussed in Part G, below. The DEIS's failure to look at available, pre-1950 hydrological information also indicates a failure to use the proper baseline for the analysis.

⁵ Current operation of the C-BT Project is likely to significantly contribute to the problem.

The DEIS relies on the QUAL2K Model to predict how anticipated flow reductions in the Colorado River will change stream temperatures in the river at various locations. *DEIS at 3-92*. The QUAL2K Model is a “steady state” model that simulates future conditions based on data inputs for a single instant in time – in this case, a single day: July 25. The model was run under two different flow scenarios. One scenario uses modeled stream flows for July 25 in an average year. The other scenario assumes July 25 stream flows that approximate the 90 cfs minimum flows beyond which WGFP would not be able to divert. *Stream Water Quality Technical Report at 51*. Model results are reported in terms of percentage of stream temperature change expected on that single day. *DEIS at p. 3-141*. These stream temperature change predictions are compared with stream temperatures standards adopted by the State of Colorado, and conclusions with respect to potential impacts to aquatic resources drawn.

The DEIS’s analysis is deficient in three critical ways. First, it relies on a steady state, single-day model that is inherently incapable of accurately predicting stream temperature increases either on a single day or over time. Second, the DEIS compares modeled increases against the wrong State stream temperature standards deemed to be protective of cold water biota. Third, even though the model establishes that operation of WGFP will cause the State’s chronic stream temperature standards to be exceeded, the DEIS arbitrarily concludes that aquatic resources will not be impacted. These deficiencies, described in detail in what follows, are fundamental deficiencies that render the DEIS incapable to inform the agencies’ decision, much less enable them to meet the “hard look” requirements of NEPA.

1. The DEIS fails to take a hard look at how stream temperatures will change as a result of WGFP.

The QUAL2K Model looks at temperature changes as a result of operation of WGFP and other projects on a single day. The model does not look at how diversions affects flows and stream temperatures in previous days or how it will affect stream temperature in subsequent days. This limitation has a number of serious consequences. First, it precludes an accurate assessment of stream temperatures on the single modeled day. Second, it precludes an assessment of stream temperature changes over time and, consequently, an evaluation of chronic stream temperature impacts. Third, it precludes an assessment of the cumulative effects operation of WGFP will have, when combined with continued diversions by other projects, including C-BT, Moffat, and the reasonably foreseeable Moffat Expansion.

The DEIS fails to accurately predict stream temperature increases due to WGFP operation on the single modeled day. Stream temperatures fluctuate more rapidly when flows are low. Therefore, when low flow periods are extended, the probability that both daily maximum temperatures and weekly average temperatures will be exceeded increases. Diversions by WGFP and future projects would increase periods

in which stream flows are reduced not only on the single, modeled day, but also in previous days. If these flow reductions have caused stream temperatures to gradually increase, a single day's diversion can increase temperatures to a point where they are harmful to aquatic life. Yet, because the model looks at neither predicted flows nor predicted temperature conditions as a result of operation of WGFP and future projects before the single modeled day, it fails to assess the projects' impacts on stream temperature and, therefore, on aquatic resources.

The DEIS admits this limitation of the model when it states that State standards could be exceeded "if the existing conditions temperatures during that week were already near or above the standard." *DEIS at 3-96*. However, the DEIS fails to evaluate the extent and frequency of these conditions. Absent this information, it is impossible to draw conclusions as to the potential impacts of the WGFP and other projects on the river's aquatic resources.

The DEIS fails to evaluate how stream temperatures will increase over a series of days. The DEIS predicts that stream temperatures will increase by up to 0.6°C on an average July 25 day under the Proposed WGFP. *DEIS at p. 3-96*. Based on this prediction, the DEIS concludes that operation of WGFP will not cause exceedences of the State standards under the average July 25 scenario. *Id.* However, the DEIS does not explain how this information translates into stream temperature changes in subsequent days. If the Proposed Action causes stream temperatures to increase by 0.6°C on July 25, does that mean that temperatures will also be increased by 0.6°C on July 26, resulting in a total 1.2 °C increase? Will this exceed acute or chronic tolerance thresholds? What will the increase be in July 27? Will that increase exceed those thresholds? And so on. Because the DEIS relies on a steady state, single-day model, it cannot answer these critical questions.

The DEIS fails to evaluate the potential for stream temperature conditions that have chronic impacts on aquatic resources. Because the model cannot predict stream temperature changes over a period of time, the DEIS does not evaluate the extent to which operation of WGFP and other projects will cause increases in stream temperature that create chronic conditions harmful to the river's aquatic resources. Chronic conditions include effects which, while not immediately lethal, have the potential to devastate fisheries - such as reduced growth, reduced reproduction, and reduced survivorship. As further described below, the State has adopted standards that reflect temperature levels trout fisheries can tolerate, both on a daily basis (acute) and over a period of time (chronic). Chronic standards are expressed as maximum weekly average tolerance levels (MWAT). To assess whether operation of WGFP and other projects will cause increases in stream temperature that will exceed chronic tolerance levels, the agencies must be able to evaluate how stream temperatures will change on a weekly basis. A steady state, single-day model which can only make predictions based on conditions for the single modeled day, cannot do this.

The DEIS draws conclusions with respect to the project's predicted impacts on these chronic exposure levels, *DEIS at 3-96*. However, neither the DEIS nor the Stream Water Quality Technical Report on which it relies explain how these conclusions were derived or how single-day model predictions were translated into weekly values. In the end, the DEIS simply admits that chronic levels could be exceeded if existing stream temperature conditions during the week are already near or above the standard. *See DEIS at p. 3-96; Technical Report at 62*. Neither the DEIS nor the Technical report evaluate the expected frequency of this condition. As a result, the DEIS fails to assess whether and how often operation of the WGFP and other projects will cause stream temperatures to exceed the State chronic temperature standards or otherwise create chronic conditions that harmful to the river's aquatic life.

The DEIS fails to evaluate the impacts of cumulative stream temperature increases caused by operation of WGFP, combined with projects that will continue to operate when WGFP ceases to pump. Even more alarming is the DEIS's failure to evaluate the combined effects on stream temperature (and consequent effects on aquatic resources), caused by the combination of WGFP pumping and continued diversions by other project after WGFP operation ceases. Projects such as C-BT, Moffat Tunnel and the reasonably foreseeable Moffat Tunnel Expansion are not subject to the same limitations that restrict WGFP pumping (i.e., junior priority of water rights and minimum 90 cfs flows). Accordingly, these projects can continue to reduce stream flows well after WGFP ceases diversions. If operation of WGFP causes stream temperatures to increase, such increases will be further aggravated by continued diversions by these projects. Yet, the DEIS completely fails to evaluate such combined effects.

2. The DEIS fails to evaluate the most harmful stream temperature changes that would occur as a result of operation of WGFP and other projects.

The DEIS indicates that the two modeled runs (i.e., the average year July 25 run and the 90cfs July 25 run) were selected to capture a "worst case" scenario. *DEIS at p. 3-141, n. 2*. Presumably, evaluation of these worst case scenarios obviates the need to assess impacts that may occur under other scenarios. The DEIS's assumption that the modeled scenarios are worst case scenarios is unsupported. The DEIS fails to look at the truly harmful effects of the project.

The assertion that an average July 25 represents a worst case scenario is unfounded. From a hydrological and climate perspective, WGFP diversions in August would clearly present a worse scenario. The DEIS indicates that, under the Proposed Action alternative, WGFP will increase Windy Gap diversions by 144% in an average August. *DEIS, Appendix A, Table A-6, at p. A-11*. Moreover, the cumulative impacts of WGFP pumping will likely be much greater after July 25, when other projects, including C-BT, Moffat Tunnel and the reasonably foreseeable Moffat Tunnel Extension continue

to deplete the Colorado River, further increasing stream temperatures already increased due to operation of WGFP.

WGFP's reduction of flows to 90 cfs is not, by far, the worst case scenario for the Colorado River's aquatic resources. A very alarming and, unfortunately, real scenario that is not considered anywhere in the DEIS, is the operation of WGFP down to 90cfs, followed by continued flow reductions caused by operation of projects that are not restricted by the 90 cfs instream flow right held by the Colorado Water Conservation Board (CWCB). As discussed above, diversions by C-BT, Moffat Tunnel, Moffat Tunnel Expansion and, perhaps other reasonably foreseeable projects, are not restricted by the 90 cfs CWCB instream flow right. As a result, WGFP's reduction of flows down to 90 cfs is not, by far, the worst case scenario. Operation of these projects after WGFP has ceased pumping is.⁶ Matters can get even worse as a result of climate changes – a cumulative impact the DEIS glosses over. Indeed, reducing flows down to 90cfs is not, by far, the worst case scenario the Colorado River fisheries would endure. The worst case scenarios are neither identified nor considered anywhere in the DEIS.

3. The DEIS compares modeled stream temperature as a result of operation of the WGFP and reasonably foreseeable future projects to the wrong State Standards.

In January of 2007, the Colorado Water Quality Control Commission, the State agency charged with adoption of water quality standards under the Clean Water Act, adopted regulations that define the levels of stream temperature beyond which harm to aquatic life is anticipated (State Standards). *See Basic Standards and Methodologies for Surface Water, 5 CCR 1002-31.*⁷ For cold water biota, standards were adopted based on stream temperature levels deemed to be protective of trout fisheries. Maximum daily (DM) and weekly average (MWAT) levels were established to protect all life stages of trout from acute and chronic effects. While both acute and chronic standards were adopted, the chronic (MWAT) standard was established on an interim basis, pending hearings to assess whether the established levels of protection were necessary to protect biota within specific streams in the State. *See 5 CCR 1002-31.45; 5 CCR 1002-33.41.*

In June of 2008, the Commission held hearings and proceeded to adopt regulations applying final acute and chronic temperature standards to streams within the

⁶ Indeed, while any continued diversions below 90 cfs would make a bad stream temperature situation even worse, the combination of WGFP pumping down to 90 cfs, followed by C-BT's reduction of Granby releases to 20 cfs on September 1 and continued diversions by Moffat and Moffat Expansion, would present perhaps the worst case scenario, potentially leading to a catastrophic event.

⁷ The referenced State's stream temperature regulations and policy documents are available from the Colorado Water Quality Control Commission's offices and on the web, at <http://www.cdphe.state.co.us/op/wqcc/StatutesRegsPolicies/StatRegsPols.html>

Colorado River basin, including the reach of the Colorado River impacted by the WGFP alternatives evaluated in the DEIS. *5 CCR 1002-33; 5 CCR 1002-33.44*. For that reach, the Commission adopted the following stream temperature standards:

Temperature	TEMPERATURE TIER	TIER COD	SPECIES EXPECTED TO BE PRESENT	APPLICABLE MONTHS	TEMPERATURE STANDARD (°C)	
					(MWAT)	(DM)
	Cold Stream Tier II	CS-II	brown trout, rainbow trout, mottled sculpin, mountain whitefish, longnose sucker, Arctic grayling	April – Oct.	18.2	23.8
				Nov. – March	9.0	13.0

5 CCR 1002-33.6(3). These temperature standards were adopted following years of intense evaluation of available scientific literature, studies and data by the Commission’s staff in conjunction with a widely represented technical advisory panel. See *5 CCR 1002-31.44(H); 5 CCR 1002-31.45; Temperature Criteria Methodology, Policy Statement 06-1*. Accordingly, they represent the best science and consensus available at the time.

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 2007, not the final standards adopted in 2008. 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 2008. The DEIS also fails to evaluate the impacts of WGFP and other projects on the State’s stricter acute and chronic stream temperature standards applicable for the November through March time period.

5. Finding that operation of WGFP will exceed State Standards, the DEIS either ignores the exceedences or arbitrarily concludes that such violations will not impact the river’s aquatic resources.

The DEIS’s surface water quality analysis predicts that maximum weekly average stream temperatures in the Colorado River upstream of Williams Fork will reach 18.9°C when pumping under the Proposed Action alternative reduces flows to 90 cfs. *DEIS at 3-96*. This level exceeds the maximum, chronic thermal tolerance levels deemed for rainbow and brown trout established by the Commission.

Likewise, modeled maximum daily temperatures are expected to increase to 25.5°C - well in excess of the 23.8°C acute (lethal) levels deemed safe by the State. *Stream Water Quality Technical Report, Table 26 at 63.*

Because it uses the wrong State Standards, the DEIS entirely ignores the projected violation of the State's acute, lethal standard. The DEIS's stream water quality analysis does acknowledge that State chronic standards will be exceeded. However, the DEIS proceeds to disregard it, arbitrarily concluding that such temperature standard violations are "unlikely to measurably impact fish populations." *DEIS at 3-141.*

The DEIS appears to base this conclusion on three rationales. First, the DEIS finds that "temperature of about 19°C is well below lethal and chronic [tolerance] levels for rainbow cutthroat, and especially brown trout." *DEIS at p. 3-141.* Second, the DEIS states that the conclusion is based on "observed water temperatures, which occasionally exceed 19°C under current conditions, and the healthy fish populations that exist in this reach of the river." *DEIS at p. 3-141.* In the end, the DEIS simply concludes that WGFP will infrequently divert to 90cfs when air temperatures are high and, therefore, no "measurable impacts to fish populations" will result. *DEIS at p. 3-141.* The DEIS's reasoning is scientifically flawed and ignores well-supported standards legally adopted by the State in accordance with and under the authority of the Clean Water Act. As such, the DEIS conclusion is arbitrary and capricious and contrary to law.

The DEIS arbitrarily establishes thermal tolerance levels that are inconsistent with levels established by the State after rigorous scientific review and formal rulemaking. State regulation states that the summertime chronic thermal tolerance level for adult and juvenile cutthroat trout is 17°C and 18.2°C for juvenile and adult rainbow and brown trout. For this segment of the Colorado River, State regulation establishes rainbow and brown trout tolerance levels as the State Standard. Defining thermal tolerance levels for aquatic life is challenging, to say the least. Hundreds of studies and papers on the subject are available expressing widely varying conclusions – not all of which meet the highest scientific standards. The State Standards were adopted after rigorous review and selection of literature and other data on the subject, a multi-year, open process involving a panel of experts with widely varying perspectives.

In contrast, the DEIS summarily concludes that stream temperatures that exceed the State Standard are "well within" tolerance levels, citing a handful of studies. Neither the DEIS nor the Technical Report explain why these particular studies, among the myriad of studies and information, were selected.⁸ The data set on which the State

⁸ The DEIS's conclusion that chronic temperatures of 19°C MWAT are within tolerance levels "especially for brown trout" is particularly aggravating, as the statement disregards the impacts of these higher temperature levels on rainbow trout, which were decimated in this section of the Colorado River by operation of the original Windy Gap project and are subject to intense reintroduction efforts by the State.

Standards are based was adopted after rigorous analysis and an open, public process. It represents the best estimate of the thermal tolerance for those fishes. The DEIS's disregard of these formally adopted State Standards is arbitrary and capricious. Moreover, should a legitimate disagreement with the State Standards, adopted under the authority of the Clean Water Act, arise the proper means to address such differences is by requesting the State Commission to adopt different standards after a formal rulemaking hearing process that is open to the public.

The DEIS's conclusion that modeled temperature exceedences are not harmful to the fisheries because occasional exceedences currently occur and the fisheries appear to be healthy lacks any scientific basis. That an apparently healthy fish population persists where temperatures occasionally are high enough to produce chronic impacts is not proof that these chronic impacts are not being felt. Instead it merely indicates that, to date, the existing data set is incapable of detecting these sub-lethal, chronic effects. Indeed, it is the difficulty of demonstrating these in the field that necessitates the adoption of standards that prevent sub-lethal impacts. Yet, the DEIS appears to be arguing the converse: that the inability to detect sub-lethal effects obviates the need for the adopted standards. This is patently false.

Increasing the frequency and or duration of low flow events and associated high water temperatures is likely to increase the severity of these sub-lethal effects, perhaps to the point where they are easily detectable in the fish population. The rationale behind the recently adopted temperature standards is a desire to protect the fishery and avoid measurable population impacts, impacts that may only be easily detectable when they are very, very large. The DEIS's disregard for the State Standards and conclusion that impacts do not exist because they have not been measured is arbitrary and capricious, unsupported by science and is contrary to duly adopted State regulations.⁹

6. The DEIS's conclusion that WGFP will not "significantly" impact the aquatic resources of the Colorado River because WGFP will infrequently divert in July and August is arbitrary and capricious and contrary to the information presented.

After extensive discussion of potential stream temperature changes, spanning dozens of pages and significant (although not particularly helpful) technical analysis, in the end, the DEIS simply concludes that "measurable impacts to fish populations are not

⁹ Before claiming that impacts to fish populations are not currently detected because the impacts either do not exist or are too small to detect, the DEIS should have at least bothered to engage in a power analysis. A power analysis is a statistical determination of how large or small an effect must be before it can be detected with a given data set. Without such an analysis, the observation that there have been no measurable impacts of temperature on fish in the Colorado River is merely evidence that the reviewed data set is inadequate – i.e., that the agencies have failed to look for those impacts hard enough.

expected because flow reductions in July and August would be infrequent.” *DEIS at p. ES-14*. The scientific bases for this critical conclusion are not explained. Its basic premise – i.e., that WGFP will not divert in July and August, is contrary to specific DEIS findings. The assumptions it reflects are unfounded and contrary to State regulation. As such, the conclusion is arbitrary and capricious, contrary to law, and renders the DEIS fatally flawed.

The conclusion that the project will infrequently divert in July and August is in direct conflict with the DEIS findings, as reflected in Appendix A of the DEIS. As discussed in Part A of these comments, Table A-6, Appendix A of the DEIS indicates that WGFP diversions under the Proposed Action alternative will increase current diversions by as much as 109% in July and by as much as 144% in August on average years – this, compared to estimated diversion increases of 13% in June, 5% in May, and 0% during the rest of the year. On a wet year, the DEIS estimates a 1639% increase in July, compared to an estimated 13% increase in diversions in June, 4% in April, and 0% for the rest of the year. *DEIS, Appendix A, Table A-6*. Model outputs also estimate that the greatest Colorado River flow reductions below Windy Gap as a result of operation of the Proposed WGFP would occur in July, when flows will be reduced by 23% in an average year. Flows in August would be reduced by as much as 16%. In a wet year, flow reductions caused by operation of the Proposed Action alternative would be the highest in August, when flows below Windy Gap would be reduced by as much as 33%. July reductions would be the next highest, at 26%. *DEIS Appendix A, Table A-10*. Indeed, the DEIS’s reported hydrological model outputs belie the DEIS’s conclusion and indicate that the effect of WGFP will be to significantly increase July and August diversions.

The assumption that stream temperature reductions outside of July and August would not have an impact on the river’s aquatic resources is groundless. As discussed above, the model and information provided in the DEIS and associated technical reports is incapable of supporting this or any other conclusion with respect to the magnitude of or frequency in which WGFP operations will cause exceedences of stream temperature standards, or otherwise increase temperature to levels that are lethal to the aquatic resources.

The DEIS fails to describe the criteria by which the “frequency” of a stream temperature exceedence is deemed to yield a “measurable” impact for purposes of the NEPA analysis. The acute and chronic stream temperature standards adopted by the State define not only the levels, but also the frequency of exposure that results in lethal (daily) and chronic (weekly) impacts to trout fisheries. The DEIS’s conclusion entirely disregards these standards, established by the State of Colorado after extensive analysis and formal hearings. The DEIS fails to provide any explanation as to why the State’s frequency standard was disregarded, or what other criteria the agencies’ relied upon to

conclude that no “measurable” impacts resulted. The conclusion is arbitrary and capricious, and contrary NEPA and well established State law.

F. The DEIS fails to evaluate other critical impacts of WGFP and other reasonably foreseeable projects on trout fisheries and entirely fails to evaluate impacts on other fish species.

Changes in WUA and stream temperature are not the only mechanisms by which fish can be impacted. Trout can be impacted if changes in flow lead to a collapse of important food resources like the stonefly, *Pteronarcys californica*. In addition, if reduced peak flows cause additional sediments suitable for the tubificid worm, *Tubifex tubifex*, to accumulate along the Colorado River below Windy Gap, problems with whirling disease may be exacerbated. The DEIS fails to adequately evaluate these impacts or explain why these obvious effects of changes in flows have been ignored.

1. The DEIS fails to take a “hard look” at potential impacts to macroinvertebrates.

The DEIS simply states that the “habitat needs of the macroinvertebrates . . . are similar to those of the trout species” and that “species, abundance, and distribution of macroinvertebrates should remain similar to existing conditions under all alternatives based on the anticipated changes in flow and minor changes in water quality.” *DEIS at p. 3-142*. However, no evidence is presented to support these conclusions. In fact, the habitat needs of fish and aquatic invertebrates are quite different since fish generally live within the water column, while invertebrates spend most of their lives on the surfaces of and in the spaces between rocks and cobble found on the streambed. Water quality conditions may change significantly at low flows as acknowledged by the Aquatic Resources Technical Report’s statement that “[l]ower flows could increase the potential for exceedence of the weekly maximum average temperature for standard aquatic life.” *see Aquatic Resources Technical Report at p. 38*.. As such, the DEIS conclusion that aquatic macroinvertebrate species and distribution are not expected to change is unsubstantiated.

2. The DEIS fails to evaluate impacts to other fish species.

The DEIS focuses on two non-native trout species to the exclusion of other fish species. The DEIS states that two native species of sculpin are present within Colorado River and Willow Creek study areas. In addition, non-native dace, chub darter, and sucker can also be found in these study areas. *See Table 2, Aquatic Resources Technical Report at p. 14*. The DEIS fails to evaluate impacts of WGFP on these other native and non-native fish species.

3. The DEIS fails to evaluate impacts of WGFP and other reasonably foreseeable projects on whirling disease and, consequently, on the Colorado River, west slope reservoirs, and east slope streams and reservoirs fisheries.

The DEIS's aquatic resource impacts analysis entirely fails to address WGFP's potential to exacerbate the impacts of whirling disease on the aquatic resources of the Colorado River, west slope reservoirs, and east slope reservoirs and streams. This, in spite of admitting that "CDOW identified Windy Gap Reservoir as some of the most suitable habitat (low-velocity water and silt or mud substrate) for *T. tubifex*, especially those lineages that are most susceptible to infection by *M. Cerebralis* (Beauchamp et al. 2002), *DEIS at 3-133*, that "potential biological limiting factors in the Colorado River include the presence of whirling disease and its impact on rainbow trout," *Aquatic Resources Technical Report at 78*, and that Windy Gap Reservoir has historically been considered a major source for TAM production in this drainage (Nehring and Thompson 2003)." *DEIS at 3-133*.

Tables 6 and 7 of the Aquatic Resources Technical Report further supports the conclusion that rainbow trout have declined dramatically since 1988. Accordingly, prior to 1988, rainbow trout generally comprised 70%-80% of the fish population in biomass, total numbers and fish over 35 cm in length. Since 1988, the rainbow population has declined to comprise only around 20% of the total population, 20%-30% of the total biomass and 25% to 50% of the fish over 35 cm in length. *Aquatic Resources Technical Report at 19-20*.

In spite of these findings, the DEIS fails to evaluate the likelihood that further reduction in flows will prolong or even aggravate whirling disease conditions either in the Colorado River itself or in west slope reservoirs and east slope streams where additional Windy Gap water will be pumped. Rather, the DEIS cursory dismisses the issue, concluding that whirling disease is no longer an issue. *See DEIS at 3-133; Technical Report at 29* (citing only a "personal communication" between "B. Nerhing and Don Carlson," a Northern employee).

Failure to consider the potential impacts of increased WGFP pumping on whirling disease and, therefore, on the survival of trout populations both in the Colorado River and in west slope and east slope reservoirs and streams, renders the DEIS fatally deficient. Such failure is particularly aggravating, given the acknowledged fact that approval of the original Windy Gap project was directly responsible for wiping out the rainbow trout population of the Colorado River below Windy Gap reservoir in the first place.

G. The DEIS fails to take a hard look at the cumulative impacts operation of the WGFP, combined with past, present and future reasonably foreseeable projects will have on the aquatic resources of the Colorado River.

So far, these comments have highlighted several DEIS deficiencies that preclude the agencies' required "hard look" at both the direct and the cumulative impacts of the WGFP. Not only does the DEIS fail to look at the cumulative impacts of WGFP combined with past, present and reasonably foreseeable future projects, it fails to look at the impacts of WGFP, either alone or in combination with other projects, across the years. Instead, the analysis focuses on individual, isolated, average days, months and years. This approach ignores the most potentially damaging impacts of WGFP on the aquatic resources of the river and renders the DEIS fatally defective.

The DEIS's cumulative impacts analysis is deficient in other ways. First, it fails to evaluate the impacts ongoing project operations, including C-BT, Moffat Tunnel and Windy Gap, have had on the river's aquatic resources. Second, it fails to take into account the impacts of all reasonably foreseeable projects. Third, it fails to evaluate the cumulative impacts of reasonably foreseeable future events, such as global warming, on the Colorado River's hydrology and its aquatic resources. These deficiencies render the DEIS fatally defective.

1. The DEIS fails to evaluate the impacts ongoing project operations, including C-BT Project operations, have had on the Colorado River resources.

The DEIS's cumulative impacts analysis does not evaluate the impacts large transmountain diversions, such as C-BT and the Moffat Tunnel, have had on the resources of the Colorado River. The DEIS acknowledges that these and other diversions have had a profound impact on the hydrologic regime of the river. For example, the DEIS notes that flows at Hot Sulphur Springs have been reduced from 486,209 acre-feet per year during the period from 1905-1949, to only 175,264 acre-feet per year for the period from 1950-1994. *DEIS at p. 3-7.* Yet, the DEIS fails to evaluate the impacts these changes have had when assessing the cumulative impacts of the WGFP and other foreseeable actions on water and aquatic resources. Instead, the cumulative impacts analysis only looks at expected future changes as compared to existing conditions. *See e.g., DEIS at p. 3-1.* If the Colorado River is to avoid a death of 1,000 cuts, future changes must be placed in the broader context of the alterations that have occurred to date.

The DEIS does not explain the rationale for this decision. At most, in describing the environment affected by the project, the DEIS states that "[t]he affected environment reflects any past activities that have affected the resources and that contributed to the current status of the resource." *DEIS at 3-1.* However, acknowledging that the Colorado River has been impacted by past activities is not the same as actually evaluating those impacts.

Perhaps an assumption is being made that, if current flows support a healthy fishery, the changes to date have not significantly impacted the aquatic resources of the

river. If this is the case, the assumption would have no empirical support. Indeed, it is much more reasonable to presume that the changes resulting from diverting nearly two-thirds of the native flow from the basin have been significant. The resilience (Holling 1996) of the system has almost certainly been compromised.

The critical question the DEIS must answer is not how much of a change will the WGFP and other future projects will have on the Colorado River of today, but whether the Colorado River can withstand any further impacts without being pushed into an alternative state, one that cannot support healthy fish populations and other aquatic life. This question is critical to evaluating the impact of future projects and has not been asked.

Ecologists have long recognized that many ecosystems exhibit nonlinear behavior in response to human perturbations. In other words, a continuous change in an independent variable (e.g., a continuous decline in stream flow) may not produce smooth changes in a response variable (e.g., fish productivity). Instead, if a threshold is crossed, the system may flip from one capable of supporting trout to one that can not. The term “ecological resilience” has been used to describe the amount of disturbance required to propel the ecosystem across a threshold and into an alternative stable state (Holling 1996). Riverine ecosystems are strongly affected by external factors like stream flow, sediment, and temperature (Groffman et al. 2006). Indeed, the quantity and timing of stream flow are critical components responsible for maintaining the ecological integrity of river ecosystems (Poff et al. 1997) and stream flow is often considered a “master variable” that limits the distribution and abundance of riverine species (Resh et al. 1988, Power et al. 1995). Continued reductions in stream flow quantity and changes in stream flow timing have the potential to fundamentally alter how the Colorado River ecosystem functions. Potential non-linear responses to the continued reduction in stream flow have not been considered in the DEIS, and this is a significant omission.

Because many ecosystems such as the Colorado River’s exhibit hystereses, the change required to restore the ecosystem may need to be much greater than the change that produced the change in state. The best know examples of this phenomenon are from lakes where continuously adding nutrients has little impact on water clarity before a threshold is crossed and the lake flips from a clear-water state to a cloudy, phytoplankton-dominated state (Scheffer and Carpenter 2003). Restoring the lake frequently requires not only ending the input of nutrients, but removing much of the nutrients that have accumulated in the lake. Thus, the challenge for managers is to recognize the existence of such a threshold before it is crossed. Not only does the DEIS fail to recognize the potential for these thresholds, but by evaluating cumulative impacts as the change from current conditions rather than the change from the native state, it fails to acknowledge the likelihood that the historic reductions in flow have already pushed the river close to any existing threshold.

2. The DEIS fails to evaluate the cumulative impacts of reasonably foreseeable projects.

Green Mountain Reservoir Substitution and Power Interference Agreement. Reclamation is currently in the process of evaluating a proposal by Colorado Springs Utilities (CSU) and Western Area Power Administration to enter into a Substitution and Power Interference Agreement for Green Mountain Reservoir (Green Mountain Reservoir Agreement). <http://www.usbr.gov/gp/nepa/quarterly.cfm#ecao>. According to the draft EA, released in September of 2008, the proposed 40-year Agreement would allow CSU to use Wolford Mountain Reservoir and Homestake Reservoir releases to substitute Blue River diversions at times when Green Mountain Reservoir does not fill. Currently, CSU is only allowed to meet its substitution obligations by releasing water from Williams Fork Reservoir or storage sources in the Blue River.

As acknowledged in the draft EA, the proposed Agreement would impact the reach of the Colorado River between its confluence with Williams Fork and its confluence with the Eagle River. *See Draft EA, Figure 3-1.* Impacts include reduction of flows within the reach. *See Draft EA, Chapter 3.* Yet, the DEIS entirely fails to include the Green Mountain Substitution and Power Interference Agreement in the list of reasonably foreseeable projects, to include in any way evaluation of this project in its cumulative impacts analysis, or to explain why the project was not included – this, in spite of the fact that the project is currently being considered by the lead federal agency for the WGFP.

Northern Integrated Supply Pipeline (NISP). Likewise, the Corps is currently evaluating a CWA § 404 permit application for the Northern Integrated Supply Project. <https://www.nwo.usace.army.mil/html/od-tl/eis-info.htm>. Although the primary identified sources of water for the project are located in the east slope, use of upper Colorado River sources for initial fill and/or storage at times when east slope sources are not available seems to be contemplated. Yet, neither the project's draft EIS, nor the DEIS for WGFP evaluate the potential cumulative impacts of such potential diversions. The DEIS determines that NISP is not a reasonably foreseeable project because "identified sources of water and storage locations for the NISP Project indicate that this project would have little or no interaction or overlap with the area of potential effect for the WGFP." *DEIS, Table 2-4 at 2-53.* If such remains the case and the Corps specifically prohibits NISP's use of west slope water, then evaluation of the project in the context of WGFP is not necessary. Otherwise, the project and its potential cumulative impacts must be evaluated.

3. The DEIS fails to evaluate the cumulative impacts of climate change and global warming and mountain pine beetle killed trees.

The DEIS recognizes that “climate change and global warming may affect the WGFP” and that records and models indicate “higher temperatures which can result in earlier snowmelt and runoff, higher evaporation rates and increased water demands” *DEIS at 2-44*. However, the DEIS fails to evaluate these potential impacts and simply states that “there is no accepted science for transforming the general concept of variations in global temperature into incremental change in stream flow at particular locations”. Moreover, the DEIS fails to acknowledge the potential impacts of global warming on exacerbating already anticipated stream temperature problems.

A recent report prepared by CU-NOAA Western Water Assessment for the Colorado Water Conservation Board (CWCB) reports that recent hydrologic studies of the Upper Colorado River Basin project multi-model average decreases in runoff ranging from 6% to 20% by 2050 compared to the 20th century average.¹⁰ The report concludes that “[a] warming climate will amplify Colorado’s water related challenges, with potential reductions and seasonal shifts in water availability. While most water resource planning has been based on past hydrology, *water users can no longer assume that future conditions will reflect the past. Although there are uncertainties regarding aspects of the science, enough information is available to support adaptation planning for risks associated with climate variability and change* [emphasis added].¹¹ Clearly, acceptable science is currently available and the DEIS should utilize this science to evaluate how climate change may affect its assumptions regarding impacts to stream flows and stream temperature.

The DEIS also recognizes that pine beetle killed trees may have implications for the upper Colorado River such as increased rate of nitrification and increased wildfire risk resulting in increased runoff, sediment and nutrients *DEIS at 2-44* but the DEIS fails to quantitatively evaluate these impacts, particularly in terms of sedimentation and sediment transport problems, or to acknowledge potential impacts on stream temperature.

H. The DEIS fails to take a “hard look” at the effects of WGFP and other reasonably foreseeable projects on the special State and Federal designations of the affected reach of the Colorado River.

The Colorado River reaches impacted by the proposed WGFP and other foreseeable projects are subject to special designations by both the State and the Federal government. The reach between Windy Gap Reservoir and the river’s confluence with Troublesome Creek is a Gold Medal Trout fishery, designated by the Colorado Wildlife Commission. This designation is reserved to outstanding fisheries that meet specific fish

¹⁰ *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. 2008. Page 2.*

¹¹ *Id. at p. 43.*

population and size requirements.¹² There are only 10 designated Gold Medal streams in the State of Colorado. The reach of the river between Gore Canyon and State Bridge is a designated “Wild Trout” stream. This designation is based on the presence of naturally reproducing, wild trout.¹³

In addition to the State’s Gold Medal and Wild Trout designations, these reaches of the river are “eligible” reaches for Wild & Scenic Rivers Act (WSA) designation. *Final Wild and Scenic River Eligibility Report for Kremmling and Glenwood Springs Field Offices, Colorado (March 2007)*. The reaches have been deemed to be eligible under the WSA because they exhibit “outstandingly remarkable values” (ORVs) that merit protection. These values include outstanding fishing recreation. BLM manages these and other eligible rivers so as to not adversely affect their values pending potential WSA designation by Congress. *BLM Policy 8351 (Dec. 22, 1993)*. In addition, over the last year, a stakeholders group has been working diligently to develop a plan for the management of the upper Colorado River (including the reach between Gore Canyon and State Bridge), to protect the ORVs of the reach. Reclamation staff has been attending these meetings.

The DEIS acknowledges most of these designations in its Recreation analysis. *See DEIS at 3-3-231 to 234*. Yet, the DEIS’s analysis entirely fails to evaluate the direct, indirect and cumulative impacts of WGFP on these designations, focusing the recreation impacts analysis almost exclusively on boating recreation (e.g., rafting and kayaking). At most, the DEIS’ recreational analysis makes conclusory statements regarding the anticipated impacts on fishing recreation, but provides no supporting analysis. *See DEIS at 3-26 and 3-246* (“Potential effects to aquatic resources from changes in streamflow and reservoir storage on the West Slope and East Slope as discussed in Section 3.9 are unlikely to adversely impact sports fishing under any alternative based on estimated effects to fish habitat and communities.”).

As discussed at great length in these comments, the aquatic resources impacts analysis on which the DEIS’s conclusions rely is fatally flawed and, therefore, cannot provide the basis for such conclusion. Moreover, while the aquatic impacts analysis discusses potential impacts to fisheries, it does not evaluate the impacts of the project on

¹² The Colorado Wildlife Commission defines a Gold Medal Water as a lake or stream that supports a standing stock of at least 60 pounds per acre, and contains an average of at least 12 quality (14” or longer) trout per acre. *See Colorado Wildlife Commission’s “Wild and Gold Medal Trout Management Policy” September 18, 1992 (Revised June 12, 2008)*.

¹³ The Colorado Wildlife Commission defines Wild Trout Water as a lake or stream that contains a wild trout population; a wild trout population is one that can sustain itself through natural reproduction and recruitment and a wild trout is a trout that completes its entire life cycle in a lake or stream. *Colorado Wildlife Commission’s “Wild and Gold Medal Trout Management Policy” September 18, 1992 (Revised June 12, 2008)*.

the quality of those fisheries for recreational use.¹⁴ For example, the size of fish plays as critical a role in the State's designations as their numbers. Yet, the aquatic impacts analysis only describes potential impacts to fish populations. Because BLM's outstanding recreational fishing designation is largely based on the State's designation criteria, the aquatics analysis also fails to yield the information needed to assess potential impacts on designation under the WSA.

Even more alarming is the fact that the DEIS reaches the same conclusions with respect to impacts of the project on fishing recreation downstream of Gore Canyon, even though the aquatic resource impacts analysis does not look at impacts to fisheries in that reach. Indeed, relying on an inadequate hydrological analysis, the aquatic resource impacts analysis ends its review at the Colorado River's confluence with the Blue. *See DEIS at 3-6 and 3-130*. Yet, even under inadequate hydrological modeling used in the aquatic resources impacts analysis, on an average, operation of WGFP and other reasonably foreseeable projects will reduce flows in the reach below Gore Canyon by 13%. This, compared to an average of 20% flow reduction below Windy Gap Reservoir. *DEIS, Table 2-7 at 2-67*. Operation of WGFP and other reasonably foreseeable projects would reduce stream levels below Gore Canyon by a foot. *DEIS, Table 2-7 at 2-67*. This is by no means an insignificant reduction. And, while during high flow conditions the impacts on aquatic resources may not be as great, they could be quite significant during low flows. Unfortunately, the DEIS only provides annual average information. It does not explain what the anticipated reductions would be from month to month or, even more importantly, from day to day. As such, DEIS's failure to evaluate aquatic resource impacts downstream of Gore Canyon renders the analysis fatally flawed and the DEIS's determination that fishing recreation values in that reach are unlikely to be impacted arbitrary and capricious.

Finally, it should be noted that BLM has already forewarned Reclamation of concerns with respect to the cumulative impacts of WGFP and other reasonably foreseeable projects on the Colorado River, both upstream and downstream of its confluence with the Blue River. In its comment letter regarding Reclamation's consideration of the Green Mountain Agreement, BLM expresses concern with the cumulative impacts of individual projects, including WGFP, on the reach of the Colorado downstream of Gore Canyon, noting that "[n]one of the in *individual* projects appear to have overwhelmingly negative impacts on the ORVs . . . however, *collectively*, the reasonably foreseeable projects could have substantial impacts on the ORVs over time."

¹⁴ It should be noted that the Recreation Technical Report simply cites "Miller Ecological 2008" as sole support for its repeated assertions that no impacts to fishing recreation or Gold Medal fisheries would result. *See e.g., Technical Report at 43 and 51*. Presumably, this cite refers to the Aquatic Resources Technical Report prepared in connection with the DEIS. Yet, like the DEIS, the Aquatic Resources Technical Report reaches no conclusions with respect to impacts to either fishing recreation or State designations.

Memorandum dated October 14, 2008, from David Stout to Kara Lamb (emphasis in the original).

I. The “no action” alternative evaluated in the DEIS is speculative and the associated analysis misleading.

NEPA requires federal agencies to evaluate all reasonable alternatives to a proposed action, including the option of taking no action. *Silverton Snowmobile Club v. U.S. Forest Service*, 433 F.3d 772, 780 (10th Cir. 2006).

The DEIS defines the “no action” alternative for the WGFP as follows:

“Under this alternative, Participants would maximize delivery of Windy Gap water according to their demand, water rights, availability of storage in Granby Reservoir, and existing Adams Tunnel conveyance constraints. The City of Longmont would enlarge Ralph Price Reservoir by raising the dam and increasing storage capacity by 13,000 AF (Figure ES-3).” *DEIS at ES-5*.

The DEIS goes on to estimate future diversion scenarios by Windy Gap project participants, in the absence of WGFP, and reaches conclusions regarding anticipated impacts of such diversions on the environment, including aquatic resources. These estimated impacts are then compared with the predicted impacts associated with the action alternatives, as well as to existing conditions. As further explained below, the DEIS’s assumptions regarding these future scenarios are speculative and its estimated impacts artificially inflated when compared to the action alternatives. As a result, the DEIS fails to properly evaluate the impacts of opting to take no action.

1. The “no action” alternative defined by the DEIS is speculative.

To be reasonable, an alternative must be non-speculative. *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.

First, the “no action” alternative assumes enlargement of Longmont’s Ralph-Price reservoir based on a statement by the City of Longmont that it may pursue such enlargement should the WGFP not be approved. Yet, the feasibility of such project as well as conditions that may significantly restrict its development are not evaluated in the DEIS. Indeed, enlargement of Ralph-Price Reservoir would require CWA § 404 permits and other approvals, the evaluation of which would raise environmental impacts considerations, and potential restrictions, similar to those raised by the proposed WGFP. The DEIS does not evaluate such potential restrictions but, rather, assumes that the project would allow diversions to the full extent requested by Longmont. This assumption is simply unreasonable and so is the assumption that, given potential

restrictions, reservoir enlargement would remain an economically feasible prospect for Longmont.

The agencies themselves conclude that such an endeavor is speculative when they decline to evaluate the cumulative impacts of enlarging Union Park Reservoir, another Longmont project, as too speculative. *See DEIS, Table 2-4 at p. 2-52.* The DEIS neither discusses nor evaluates whether enlargement of Ralph-Price Reservoir is more or less likely or the basis for such determination. As further discussed below, the agencies' arbitrary selection of assumptions for the action and no action alternatives artificially inflates the impacts of the no-action alternative while at the same time minimizing the impacts of the action alternatives.

Second, the "no action" alternative assumes that, in the absence of WGFP, participants will find ways to fully utilize their Windy Gap shares and projects future diversions, and resulting impacts, accordingly. Yet, the DEIS finds this very same exercise too speculative for cumulative impacts analysis. *See DEIS, Table 2-4 at p. 2-53 (Firming Remaining Windy Gap Project Units).* As a result, the impacts of future share development are reflected in the "no action" alternative, but they are not reflected in the action alternatives. As further discussed below, such arbitrary approach artificially inflates the impacts of the "no action" alternative, while minimizing the potential impacts of the action alternatives.

Third, the DEIS fails to evaluate the economic feasibility of the no action alternative when compared with less costly means potentially available to participants to meet their future water needs. Indeed, as discussed in comments submitted by Western Resource Advocates, adoption of the conservation measures consistent with the State's conservation objectives would enable project participants to meet their demand through 2030. When other projects currently proposed and involving several of the WGFP participants is considered, firm supplies will exceed participant demands through 2050. Indeed, the original Windy Gap project, approved over 20 years ago, anticipated the need for 90,000 acre-feet of storage but assumed that such storage would be supplied by the project participants. Such assumption did not come to fruition, hence the proposed WGFP. The DEIS's assumption that, absent WGFP, project participants will choose the high cost of pumping Windy Gap water over conservation and other solutions is both unsupported and highly speculative.

2. The DEIS relies on inconsistent assumptions that artificially inflate the impacts of the no action alternative and understate the impacts of the action alternatives.

The environmental impacts of the WGFP action alternatives and, as currently defined, the "no action" alternative are directly tied to the amount and timing of additional Colorado River and Willow Creek diversions expected under each alternative.

The more water diverted, the greater the likelihood and extent of impact – particularly at times when stream flows are low. Accordingly, the DEIS impacts analysis relies on a hydrological model that attempts to predict the amount and timing of future diversions expected under each alternative. While the approach is reasonable, the DEIS arbitrarily uses a different set of assumptions when predicting future diversions associated with WGFP action alternatives than those used to predict future diversions under the no action alternative. As a result, the diversions (and impacts) of the no action alternative are artificially inflated and the diversions (and impacts) of the action alternatives artificially reduced, thus creating the misleading impression that, should the agencies choose to do nothing, the environmental impacts would still be quite large.

The DEIS improperly and arbitrarily uses two different participants’ “demands” to evaluate anticipated future diversions under the action and the no action alternatives. According to the DEIS, the hydrological model predicts future diversions under both the action and no action alternatives using the project participants’ estimated future “demands.” The term is not defined anywhere in the DEIS or associated technical reports. Under common usage, “water demand” is the amount of water requested by users to satisfy their needs. As such, the water demands of project participants are in no way tied to the availability of Windy Gap water supplies or how those supplies are delivered. As a result, water demands under both the action and no action alternatives should be the same.

Under the DEIS, they are different. Indeed, the DEIS estimates that demands under the no action alternative will be twice as much as the demands under the action alternatives. *See e.g., Water Resources Technical Report at 81.* Under the no action alternative, it assumes that all Windy Gap unit holders, including non-project participants, will divert as much water as they can to satisfy their needs. Under the action alternatives, the DEIS only assumes diversions by WGFP project participants necessary to satisfy their firm yield. The bases for this inconsistent approach are not explained.

The DEIS’s no action alternative analysis assumes future diversions that the agencies specifically rejected as too speculative for inclusion in their action alternatives impacts analysis. As the language cited above indicates, the DEIS’s “no action” alternative analysis assumes that both WGFP participants and Windy Gap unit holders that are not participating in the project, will strive to fully divert under their shares. *See also Water Resources Technical Report at p. 51* (“No Action reflects the estimated future full demand by all Windy Gap unit holders, including those entities not in the WGFP.”). Yet, when evaluating whether to include full development by Windy Gap unit holders in its cumulative impacts analysis, the DEIS concludes that such development is too speculative to include in the evaluation. *See DEIS, Table 2-4, at 2-53.* As a result of this arbitrary disparity of treatment, increased diversions by Windy Gap shareholders are taken into account in the no action alternative but appear to be omitted from the action alternatives analysis. Thus, the DEIS artificially inflates diversions and

resulting impacts under the no action alternative while at the same time understating the true impacts of the action alternatives.

3. The DEIS fails to provide needed information to enable the agencies' or the public's evaluation of the adequacy of modeled predictions under the "no action" alternative analysis.

The DEIS fails to explain critical assumptions used in modeling anticipated future diversions under the no action alternative. According to the DEIS, the model assumes that most project participants will try to maximize their Windy Gap diversions within existing project constraints (e.g., junior priority of water rights and limits in C-BT system capacity). However, the DEIS does not describe how most project participants would do so, by how much, or the assumptions used regarding Windy Gap water availability and participant system capacity and need.

Indeed, the DEIS attributes the additional diversions under the no action alternative strictly to Longmont's storage in Ralph Price Reservoir. *See DEIS at 3-22 and 23.* If this is the case, and the increases in Windy Gap diversions under the no action alternative are strictly attributable to enlargement of the reservoir, then Longmont's future needs would be the only needs properly modeled. The assumptions used in the model regarding such needs are not described or explained. Based on the DEIS estimates of Longmont's water demands, even under a worst case scenario, estimated future no action alternative diversions far exceed Longmont's projected Windy Gap needs. *See DEIS at 1-30 and 3-22 and 23.*

If, on the other hand, the model assumes other participants' increased future diversions under the no action alternative, the assumptions used in the model remain unexplained. What portion of modeled future diversions are attributable to Longmont, and what portion to other participants? Are future diversions by Lafayette assumed, given the city's announcement that it would drop from Windy Gap if WGFP is not approved? What assumptions were made with respect to the system capacity of participants to handle the diversions? Does the model assume water plant enlargement? Does it assume increased storage?¹⁵ What assumptions were made with respect to the timing of available supply and project participants needs? Municipal water demands can be considerably lower during wet years, which appears to be when the majority of no action alternative diversions are estimated. Does the model take into account the timing of project participants' needs, or does it assume full diversion regardless of need? If diversions are assumed regardless of need and not storage is assumed, where would participants put the water?

¹⁵ Inclusion of additional storage assumptions in the model without discussion of specifics, including assumptions regarding size, location, etc., would render the no action alternative's analysis fatally flawed – particularly in light of the DEIS's lengthy discussion of the potential enlargement of Ralph Price Reservoir.

In addition, the assumptions used in the model regarding availability of C-BT system capacity are not explained and appear to be inconsistently applied. First, the DEIS indicates that the model assumes continuation of existing system restrictions and repeatedly states that additional diversions under the no action alternative could be accomplished when Granby is full “as long as there is space in the Adams Tunnel . . .” *DEIS at 3-22*. Was the availability of tunnel capacity under the no action alternative modeled? Second, the DEIS’s predicts that wet year diversions under the no action alternative will increase by an average of 25,400 acre-feet from existing conditions. *DEIS at 3-23*. Yet, the DEIS states that “under . . . the No Action alternative, Windy Gap diversions would be limited or curtailed in most wet years” because “there is no conveyance or storage capacity in the C-BT system for Windy Gap water when Granby Reservoir fills.” *DEIS at 3-14*. Does this mean that the anticipated 25,400 acre-foot average diversions under the no action alternative will not take place in most years? How does this affect the no action alternative impacts on aquatic resources?

Finally, the DEIS indicates that the “no action” alternative modeling assumes that exchange capacity in St. Vrain is available to accomplish delivery to Ralph Price Reservoir. Has this assumption been verified? Quantified? Is it reasonable? What basis?

A full disclosure of the assumptions built into the “no action” alternative modeled projections is critical, first, because of the inherently speculative nature of the exercise and, second, because of the risk that using arbitrary assumptions will under-estimate the impacts of WGFP and over-estimate the effects of doing nothing. Full disclosure is also particularly important given the relatively small difference between modeled future diversions under the no action and action alternatives. That a 93,000 acre-foot, \$3__ million reservoir can accomplish so very little improvement in diversions over a 13,000 acre-foot, \$33 million enlargement is simply counter-intuitive, and brings into question the economic feasibility and viability of the WGFP.

4. The “no action” alternative does not provide the baseline against which WGFP impacts can be evaluated and is otherwise inconsistent with NEPA.

The purpose of requiring federal agencies to include a "no-action" alternative is to enable them to “compare the potential impacts of the proposed major federal action to the known impacts of maintaining the status quo.” *Custer County Action Assoc. v. Garvey*, 256 F.3d 1024, 1040 (10th Cir. 2001). For the no-action alternative, the current level of activity is used as a benchmark. *Id.*

The no action alternative against which the proposed WGFP is compared does not reflect either the “status quo” or the “current level of activity” (i.e., water diversions in the study area today). Rather, the “no action” alternative consists of speculative guesses as to what may occur in the future, absent development of the WGFP. As discussed

above, such predictions are not only speculative, but the assumptions on which they are based remain largely unexplained and lead to counter-intuitive results.

Perhaps in recognition of the speculative nature of the exercise and other shortcomings, the DEIS also compares the WGFP action alternatives to existing conditions. However, the DEIS does not reveal which predictions are being used by the agencies as the “baseline” against which WGFP impacts are compared. Without establishing a baseline, there is no way for the agencies to determine what effect the proposed action will have on the environment and, consequently, no way to comply with NEPA. *Half Moon Bay Fishermans’ Mktg Ass’, v. Carlucci*, 857 F.2d 505, 510 ((9th Cir. 1988). Without disclosure regarding the baseline used by the agencies, NEPA’s dual goals to (1) insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) that the public has sufficient information to challenge the agency. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). Moreover, if existing conditions are being used by the agencies as the benchmark against which the action alternatives are measured, evaluation of the no action alternative appears to serve no purpose other than to artificially minimize the impacts of the Proposed WGFP, a purpose which would bring into question whether the outcome of the Proposed WGFP has already been decided.

J. The DEIS’s characterization of the “unavoidable impacts” of WGFP on the aquatic resources of the Colorado River is arbitrary and capricious and fails to meet NEPA and CWA §404(b)(1) review requirements.

The DEIS describes the expected unavoidable impacts of WGFP on the aquatic resources of the Colorado River as follows:

“The additional diversions under all alternatives would result in a decrease in available fish habitat in the Colorado River below Windy Gap Reservoir and Willow Creek below Willow Creek Reservoir. The greatest effect to fish habitat would occur in the reach between Windy Gap Reservoir and the Williams Fork River; however, no significant impacts to fish populations are likely. Additional Windy Gap diversions from the Colorado River are likely to result in more exceedances of the aquatic life temperature standard, primarily when diversions occur in July and August.” *DEIS at p. 3-145 (emphasis added)*.

With respect to exceedances of temperature standards, the DEIS further concludes that “measurable impacts” to fish populations are not expected because flow reductions in July and August would be infrequent. *DEIS at p. ES-1*.

The DEIS’s description fails to meet NEPA requirements, reflects unsupported, arbitrary and capricious conclusions, and is based on the DEIS’s failure to take a “hard

look” at the potential impacts of WGFP and other reasonably foreseeable projects on the aquatic resources of the Colorado River.

1. The DEIS’s unavoidable impacts description fails to meet NEPA’s requirement to inform both the decision-making agencies and the public.

The DEIS describes unavoidable impacts in a cursory manner, without describing the basis for its conclusions or whether they reflect an evaluation of proposed mitigation measures. Even more troubling is the fact that, the DEIS reaches critical conclusions with respect to the “significance” of identified, unavoidable impacts, but fails to explain the basis for those conclusions. Without such description, it is impossible for the agencies’ decision-makers or the public to evaluate the soundness of the conclusions or the true nature of the unavoidable impacts the project will have. This leaves the decision-makers and the public with the only option of wading through the thousands of pages of DEIS and technical reports, and the hundreds of unexplained graphs, to at best guess the basis for the preparer’s conclusions. As such, the DEIS fails to meet the most basic purposes of NEPA – i.e., to inform the decision-making agencies and the public, and violates the specific requirements of CEQ regulations.

2. The DEIS’s determination that unavoidable impacts are not significant is arbitrary and capricious and contrary to NEPA.

NEPA regulations specify the criteria by which the “significance” of an environmental impact is to be evaluated by a federal agency. *See 40 C.F.R. § 1508.27.* The DEIS summarily concludes that identified impacts are not “significant” or “measurable,” but does not conduct the required analysis in accordance with CEQ regulations. In fact, the DEIS fails to describe any criteria used to arrive at such significance determinations. In addition, as discussed at length in these comments, the information provided in the DEIS and associated technical reports is inadequate to support any conclusions regarding the significance of the impacts of WGFP and other projects on the river’s aquatic resources, much less a determination that identified impacts are not significant. As such, the DEIS significance conclusions are both arbitrary and capricious and inconsistent with NEPA requirements.

3. The DEIS’s determination that no other unavoidable impacts will result is arbitrary and capricious and contrary to NEPA.

The same lack of adequate information and analysis, as described in these comments, precludes a determination that the identified impacts are the only unavoidable impacts resulting from the project. For example, the DEIS’s failure to properly analyze how the impacts of WGFP on the Colorado River hydrograph precludes the agencies from taking a “hard look” at the impacts of reducing peak flows and less-than-peak flows that serve key aquatic habitat functions, such as cleaning spawning beds. The DEIS’

inadequate analysis of macroinvertebrates and the impacts potential low flows and high stream temperatures will have on these organisms precludes a determination of whether these aquatic organisms will be impacted and, in turn, whether the fisheries will be affected by a reduction in food supply. The DEIS's failure to evaluate potential impacts of increased pumping on whirling disease and, therefore, on the survival of the trout fisheries, precludes a determination that the exacerbating effects of whirling disease are not unavoidable impacts. As a result, whether WGFP will result in other unavoidable impacts cannot be ascertained at this time and the DEIS's conclusions in this regard, arbitrary.

K. The DEIS fails to present an adequate mitigation measures analysis.

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. at 352. CEQ regulations require that the agencies include in the EIS a discussion of appropriate measures to mitigate adverse environmental impacts. *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. *40 CFR §1505.2(c)*. Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated. *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. *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. *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380-81 (9th Cir. 1998)

The only two discernable mitigation measures proposed to address impacts to the aquatic resources of the Colorado River are as follows:

- The Subdistrict will work with Grand County, CDOW, and others to determine if increasing bypass flows in the Colorado River from the existing minimum flow of 90 cfs to 135 cfs while Windy Gap is pumping during July and August would result in temperature reductions downstream of Windy Gap that would measurably benefit the trout fishery. If studies indicate that increased bypass flows would be effective, Subdistrict would consider increasing required flows under certain water supply conditions.

- Opportunities for improvements to aquatic lie habitat in the Colorado River and mitigation of impacts of fish will be coordinated with the CDOW, Grand County and other responsible agencies.

DEIS at ES-21. The DEIS's description of proposed mitigation measures fails to meet NEPA's requirements.

1. The DEIS's description of mitigation measures fails to meet NEPA requirements.

First, the description of mitigation measures is vague, generally announcing an intent to study potential, as-yet-unsubmitted, mitigation ideas. Second, the DEIS fails to describe when, where or how "improvements" opportunities would be explored and implemented. Third, the DEIS completely fails to explain how these to-be-studied mitigation measures will address impacts to aquatic resources or how effective they will be in affecting such impacts. Fourth, the DEIS makes no commitment to actually implement such measures. Rather, it vaguely states that "opportunities" for habitat improvement (if any) would be coordinated, and that the Subdistrict "may consider" implementing bypass measures. Fifth, the DEIS offers no mitigation whatsoever to address impacts to Willow Creek. As such, the DEIS's mitigation measures description fails to meet NEPA requirements.

2. The DEIS fails to support the adequacy or effectiveness of the suggested "bypass flow" to address aquatic resources impacts and omits proposed mitigation of impacts as a result of reduced fish habitat.

The DEIS's aquatic resources impacts analysis indicates that the optimum flows for adult rainbow and brown trout habitat are 500 cfs. *DEIS at 3-135.* Yet, mitigation proposed would, at most, restrict WGFP pumping to times when Colorado River flows below Windy Gap are reduced to 135 cfs and further restricts potential implementation of such restrictions to a showing of benefits to the fisheries due to stream temperature reductions. The DEIS fails to explain how such dramatic reductions below trout habitat needs would avoid or minimize impacts to aquatic resources, or the impacts of such reduced flows on these Gold Medal, Wild and Scenic Rivers Act eligible fisheries.

3. The DEIS's suggested "bypass flow" mitigation measure is subject to conditions that are scientifically unworkable and unjustified.

Requiring proof that bypassing 135cfs "would result in temperature reductions downstream of Windy Gap that would measurably benefit the trout fishery" is scientifically unworkable. Thankfully, all trout do not die each and every time a certain stream temperature level is reached. Instead, they begin to suffer sub-lethal effects (e.g., reduced growth, reduced reproduction, as well as reduced survivorship) which increase in

magnitude as both the severity and duration of temperature exceedences increase. If temperatures increases are high enough, all the trout will die. Indeed this is why trout are not found in warm-water streams. However, demonstrating the benefit of a specific instance in which exposure to temperatures that produce sub-lethal effects was avoided in the field is very difficult if not impossible to do. Instead, we adopt protective standards based on controlled studies and attempt to avoid exceeding the standards. **This is why the State has adopted stream temperature standards, based on extensive and well vetted studies.** Even assuming such demonstration is possible, developing the required information would be, at best, prohibitively expensive. In either case, the condition would pretty much ensure that no flow mitigation is ever done.

Moreover, requiring such effort is scientifically unjustifiable. Flow is one of the critical factors determining how quickly a stretch of river warms (or cools) on a given day. Higher flows change temperature more slowly than lower flows.¹⁶ It is unquestionable that increased bypass flows will result in smaller temperature swings throughout the day and lower average temperatures at any given location. We know that trout are negatively impacted by high daily maximums and by prolonged exposure to high temperatures. Indeed, the State went through a rigorous and protracted evaluation of the available science to determine what temperatures would be protective of trout. Requiring that the avoidance of a given temperature exceedences be correlated with a measurable benefit for the trout fishery is recreating the wheel. We know that temperature exceedences harm trout. This is why temperature standards were adopted. A demonstration of the specific benefit of any avoided temperature exceedences in these specific reaches of the river is not needed.

The DEIS's proposed mitigation is vague, unsupported, and imposes conditions that are unnecessary and virtually impossible to meet. Accordingly, the DEIS's mitigation analysis is fatally flawed.

¹⁶ There are two reasons for this and they both come back to mass. The greater the volume of water that is being heated, the more energy it needs to absorb or release to change temperature. This is essentially the first law of thermodynamics: "the increase in internal energy of a system is equal to the amount of energy added by heating the system, minus the amount lost as a result of the work done by the system". When discharges are higher, there is more water in the river that needs to be heated (or cooled) for any given swing in temperature. Because velocity is also related to discharge in that the average water velocity of a river increases with increasing discharge, the turnover time of the river is also greater. This means that water in a river reach is replaced more frequently when discharge is high than when it is low. This, too, contributes to the total amount of water than needs to be heated to produce a swing in temperature. Another way to think about this is that all else being equal, when water velocity is high a slug of water travels further downstream before it absorbs enough heat to produce a given increase in temperature. Since much Colorado River Water begins as snowmelt at 0 °F this means that when velocity is high, water travels further before it is heated to temperatures that are stressful for trout.

L. The DEIS fails to comply with NEPA requirements and agency guidance requiring evaluation of consistency with Federal, State, regional or local laws.

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) 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.” *40 CFR § 1506.2(d)*. In addition, Reclamation and the Corps operate under specific guidance for compliance with NEPA regulations. *See Reclamation’s Environmental and Planning Coordination Office, D-5100; 33 CFR Part 320 and 325 (Corps)*. The DEIS fails to meet NEPA requirements and guidance as set forth in CEQ regulations and the agencies’ respective guidance and regulations.

First, the DEIS lists “[p]rincipal federal, state and local environmental compliance requirements associated with implementation of [WGFP].” *DEIS at 1-43; see DEIS, Table 1-7 at 1-44 to 1-46; see also DEIS at 3-130 (specific to aquatic resources and recreational fisheries)*. However, while summarily listing such requirements, the DEIS fails to evaluate whether approval of WGFP would conflict with these requirements or how, if such conflict exists, the agencies propose to reconcile approval of WGFP with such requirements. Based on the information provided by the DEIS, and as discussed in these comments, it is clear that, at a minimum, approval of WGFP would conflict with State law establishing stream temperature Standards for the protection of cold water biota. The DEIS could also conflict with Colorado’s management of fisheries within the affected segments as Gold Medal and/or Wild trout fisheries, the goals of the Fish and Wildlife Coordination Act, and Executive Order 12962 (established to “conserve, restore, and enhance aquatic systems to provide for increased recreational fishing opportunities nationwide.”). The DEIS does not discuss how the agencies propose to reconcile approval of WGFP with such conflicts.

Second, the DEIS fails to identify State water laws as a requirement with which approval of WGFP must comply. Colorado water laws establish a system to administer and protect the water rights of its citizens, including instream flow water rights held by the CWCB for “protection of the natural environment to a reasonable decree.” [CITE]. As further discussed in Section III of these comments, approval of WGFP absent a change of water rights by a Colorado water court would violate the State’s water right laws. Yet, the DEIS neither identifies nor addresses potential conflicts with such laws.

Finally, the DEIS improperly restricts the requirement for compliance with Grand County’s 1041 regulations to actions that require construction of reservoirs in the west slope. *See DEIS, Table 1-7, at 1-46*. Trout Unlimited refers to Grand County’s comments in this regard.

The DEIS fails to identify and evaluate potential conflicts with Federal, State and local laws as required by CEQ regulations and agency guidance. Accordingly, the DEIS fails to meet NEPA requirements.

II. THE DEIS FAILS TO PROVIDE INFORMATION NECESSARY FOR THE AGENCIES' EVALUATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS.

Before the agencies decide on a course of action regarding the proposed WGFP, they must evaluate whether their actions will comply with Federal, State and local laws and they must consult with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts to aquatic resources.¹⁷ The information provided in the DEIS is inadequate to enable the agencies' determination in this regard. The DEIS is also inadequate to enable the U.S. Fish and Wildlife Service to provide recommendations under the Federal Wildlife Coordination Act (FWCA) or for the State of Colorado to issue a certification under CWA § 401. Accordingly, Reclamation and the Corps should stay any decision with respect to WGFP until such time as a supplemental EIS providing the required information is prepared.

A. The DEIS fails to provide information necessary for Reclamation's evaluation of compliance with Senate Document 80 and other Reclamation laws and policies.

Senate Document 80 (SD 80) imposes upon Reclamation an affirmative duty to protect the Colorado River's fisheries.¹⁸ It provides that the project must be operated "to most nearly effect" the C-BT Project's primary purposes. SD 80 specifically identifies preservation of the Colorado River's fisheries as one of those purposes. *SD 80 at pp. 2.* SD 80 further stipulates that the project shall be operated so as to "insure an adequate supply for irrigation, for sanitary purposes, for the preservation of scenic attractions, **and for the preservation of fish life.**" *SD 80 at p. 5 (emphasis added).*

¹⁷ The DEIS acknowledges the agencies' obligation to make consistency determinations with respect to other laws, but states that such determination "is not part" of the DEIS. *DEIS at 1-42.* Accordingly, these comments are not intended to provide a comprehensive analysis in this regard. Rather, they are intended to provide initial input with respect to the sufficiency of the information and analysis provided in the DEIS to enable such decisions. Trout Unlimited will provide comprehensive comments regarding the consistency and legality of Reclamation's proposed contractual actions upon notice, as required by Federal regulations and Reclamation's policy. *See e.g., 43 CFR § 426.22; Reclamation Manual, PEC P06 (Oct. 3, 2006) and WTR 04-01(Nov. 11, 2000).* **Trout Unlimited again requests to be directly notified with respect to any proposed contract action by Reclamation in connection with WGFP.**

¹⁸ Senate Document 80 is the legal foundation of the C-BT Project. The Project was authorized by the Appropriations Act of August 9, 1937, 50 Stat. 564, 595, which requires that the project be built and operated in accordance with Senate Document 80.

Enabling projects such as WGFP is not a primary, secondary, or tertiary purpose of the project. Indeed, enabling such projects is not a purpose of the C-BT Project at all. At most, reclamation's approval of the WGFP carriage contract would be a voluntary Reclamation action "to assist in improving the management of the West's water resources." *See Reclamation Manual, WRP P04 (Jan. 10, 2001).*

Assuming that using C-BT Project facilities and water for such purpose is allowable under SD 80, an assumption that as further discussed Section III remains in question, if operation of WGFP results in negative impacts to the river's fisheries or recreation resources, Reclamation must either impose conditions that will protect the river's resources or it must deny use of C-BT Project facilities and water to accomplish WGFP purposes.¹⁹ The information provided by the DEIS is insufficient to support Reclamation's decision in this regard.

First, the DEIS fails to evaluate the impacts the C-BT Project is already having on the Colorado River fisheries. Rather, the DEIS simply assumes that past impacts are reflected in existing conditions. While in philosophical sense this may be true, as discussed in detail in Section I of these comments, such analysis is insufficient to understand the extent to which the Colorado River fisheries have been compromised by past operations, including C-BT Project operations and, therefore, the extent to which additional diversions by WGFP may push the river system over the brink, causing significant degradation, or even the total collapse of these valuable fisheries.²⁰

Second, the DEIS fails to assess the true impacts of WGFP on the Colorado River's aquatic resources and recreational values. As discussed at length in Section I of these comments, the DEIS fails to evaluate the most likely and damaging impacts of the project and arbitrarily dismisses impacts that are identified – including anticipated

¹⁹ Reclamation's failure to do so would not only violate SD 80, but also the Warren Act and Reclamation's policy implementing it. *See e.g., Reclamation Manual, WRP P04 (Jan. 10, 2001); and Principles Governing Voluntary Water Transactions That Involve or Affect Facilities Owned or Operated by the Department of the Interior (Dec. 16, 1988) (1988 Principles).* See discussion in Part III of these comments, below.

²⁰ The DEIS makes passing reference to the "Principles to Govern the Release of Water at Granby Reservoir Dam to provide Fishery Flows immediately downstream . . ." (Principles). While these principles may have at one time been intended to provide flow protection downstream of Granby Reservoir, more recent information, including information provided by the Grand County Stream Flow Management Plan and even information presented in the DEIS, shows that those flows are insufficient for the purpose. Moreover, available information also indicates that the flows established in 1961 are inconsistent with the recommendations made by the USFWS. *See Fish and Wildlife Service and Bureau of Reclamation Joint Report Concerning Fishery Flows below Granby and Willow Creek Dams, Colorado Big Thompson Project.*

violations of stream temperature standards adopted by the State of Colorado for the projection of aquatic life.

Third, the DEIS fails to propose firm mitigation measures, or to evaluate the extent to which mitigation measures that may be evaluated in the future will protect the fisheries.

Reclamation's first duty is to operate the C-BT Project in a manner that meets the primary purposes identified in SD 80, including the primary purpose of preserving the fisheries and recreation opportunities of the Colorado River. Even if such duty allows room for Reclamation's facilitation of projects like WGFP, Reclamation may not do so at the expense of fulfilling its primary obligations under SD 80. The DEIS fails to provide information necessary to enable Reclamation's determination in this regard. Accordingly, Reclamation may not approve WGFP until such time as adequate information is developed or strict conditions that will ensure that the river's fisheries and recreation opportunities will not be harmed are developed.

B. The DEIS fails to provide information needed to enable the Agencies compliance with the Federal Wildlife Coordination Act.

The Federal Wildlife and Coordination Act (FWCA) requires federal agencies to consult with the USFWS and the State's fish and wildlife agencies when evaluating approval of projects that will impound, divert, or otherwise modify a stream or other water body. *16 U.S.C § 662(a)*. The purpose of this requirement is to ensure that "wildlife conservation shall receive equal consideration with other features in the planning of Federal water resource development programs . . . putting fish and wildlife on the basis of equality with flood control, irrigation, navigation, and hydroelectric power in our water resource programs. . ." *S.Rep. No. 1981, 85th Cong.2d Sess. (July 28, 1958). 1958 U.S.Code Cong. & Admin.News, pp. 3446, 3448, 3450.1958 U.S.Code Cong. & Admin.News, at 3450.*

Consultation with the fish and wildlife agencies must occur before the agencies make decisions. *See, e.g. Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970), and their recommendations must be given proper consideration and weight. *See e.g., Sierra Club v. Alexander*, 484 F. Supp. 455, 470 (N.D.N.Y. 1980). To enable consultation, federal agencies must give the fish and wildlife agencies a meaningful opportunity to comment. *Sierra Club v. U.S. Army Corps of Engineers*, 935 F. Supp. 1556, 1580 (S.D. Ala. 1996).

The DEIS provides sufficient information to warrant a determination by the USFWS and the Colorado Division of Wildlife that the proposed WGFP will have unacceptable impacts to aquatic resources – in particular, given the acknowledged violation of State stream temperature standards. However, for the reasons summarized in Part B, above, and described in detail in Section I of these comments, the DEIS fails to

provide adequate information to understand the full impacts of the project or from which recommended mitigation can be developed. Accordingly, the agencies have failed to provide a meaningful opportunity for the WSFWS and the Colorado Division of Wildlife's comments, in violation of the FWCA.

C. The DEIS fails to provide information needed to enable the Agencies to evaluate compliance with Executive Order 12962.

Executive Order 12962 (EO 12962), issued on June 7, 1995, requires federal agencies to take actions designed to improve aquatic resources to provide increased recreational fishing opportunities. In this regard, EO 12962 provides, in pertinent part:

Federal agencies shall, to the extent permitted by law and where practicable, and in cooperation with States and Tribes, improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by . . . *b*) identifying recreational fishing opportunities that are limited by water quality and habitat degradation and promoting restoration to support viable, healthy, and, where feasible, self-sustaining recreational fisheries; *c*) fostering sound aquatic conservation and restoration endeavors to benefit recreational fisheries . . . *f*) implementing laws under their purview in a manner that will conserve, restore, and enhance aquatic systems that support recreational fisheries . . . *h*) evaluating the effects of Federally funded, permitted, or authorized actions on aquatic systems and recreational fisheries and document those effects relative to the purpose of this order.

EO 12962, § 1. The order further creates a National Recreational Fisheries Coordination Council, of which the Department of the Interior, the Department of Defense and EPA are members. The council is directed to, among other things, "ensure that the social and economic values of healthy aquatic systems that support recreational fisheries are considered by Federal agencies in the course of their actions." *EO 12962, § 2(a).*

Not only does the DEIS fail to evaluate the extent to which approval of WGFP will further and not conflict with the directives of EO 12962, for the reasons summarized in Part B, above, and discussed in detail in Section I of these comments, the DEIS fails to supply the information needed for the agencies evaluation of consistency with EO 12962.

D. The DEIS fails to provide information needed for the State of Colorado's determination of compliance with CWA § 401.

Section 401 of the Clean Water Act requires § 404 permit applicants to provide a State certification of compliance with state water quality standards. *See 33 USC § 1341(a).*

In spite of its inadequacies, the DEIS already establishes that operation of WGFP will violate stream temperature standards established by the State of Colorado for the protection of cold water biota. As described in Section I of these comments, these acknowledged violations may only reflect the “tip of the iceberg” with respect to the extent to which operation of WGFP may aggravate stream temperature problems. Due to inadequacies of the model and analysis, the DEIS fails to evaluate the full extent to which operation of WGFP, combined with past, present and future reasonably anticipated projects, will cause violations of the State Standards. The DEIS further fails to propose firm mitigation measures that will prevent either acknowledged or as yet undetermined violations of these State Standards. As a result, the information provided by the DEIS is insufficient to enable the State to do anything other than to deny CWA § 401 certification.

5. The DEIS fails to provide information needed for the Corps’ determination regarding compliance with CWA § 404.

Trout Unlimited’s comments in this regard are incorporated in its comments to the Corp’s proposed CWA § 404, attached to these comments as Attachment __ .

III. THE WGFP ACTION ALTERNATIVE, AS PROPOSED, WOULD VIOLATE FEDERAL AND STATE LAW.²¹

NEPA requires consideration of *reasonable* alternatives. *Utahans for Better Transportation v. U.S. Department of Transportation*, 305 F.3d 1152, 1172 (10th Cir. 2002). An illegal or unauthorized alternative cannot be considered reasonable. *Utah v. Norton*, 2006 WL 11798 (*slip opinion*). The Proposed WGFP Action alternative, as proposed, would violate Federal and State law.

A. Reclamation laws.

1. Use of C-BT Project Facilities.

The Warren Act provides Reclamation’s general authority to enter into contracts allowing the use of Reclamation project facilities for storage and conveyance of non-project water (excess capacity contracts), subject to strict requirements designed to protect the beneficiaries of the Reclamation project. The proposed WGFP carriage contract would be an excess capacity contract.

²¹ Trout Unlimited’s comments are not intended to provide comprehensive input as to the legality of the agencies’ action in this regard. Rather, they are intended to provide input regarding the legality of the proposed alternative in the context of the NEPA analysis. Comprehensive comments will be provided by Trout Unlimited upon notification of agency action.

In 1985, an investigation of practices approving excess capacity contracts under the Warren Act revealed that many such contracts could not be administered under the Act.²² As a result, Reclamation developed a number of policies addressing the conditions under which Reclamation would approve excess capacity contracts. *See, e.g. 1988 Principles; Reclamation Manual, Policy WTR-P04 (Jan. 10, 2001); Reclamation Manual, Policy WTR P03 (Jan. 10, 2001)*. The Policies apply to amendments and extensions of previous excess capacity contracts as well as to new contracts.

These policies prohibit Reclamation from entering into excess capacity contracts unless specific conditions are met. They include, but are not limited to, the following provisions:

- “Excess capacity will be made available only for the storage and conveyance of non-project water to be used for irrigation, except in the case of the projects identified in section 305 of the Drought Relief Act or in other project-specific legislation.” *Policy WTR-P04 at p. 3*. According to the Policy, this limitation is imposed by the Warren Act. *Policy WTR-P04 at p. 3, n. 2*.
- “Reclamation will not allow the use of Reclamation project facilities for the storage and conveyance of nonproject water unless excess capacity exists and project operations and Reclamation’s contractual obligations to its project contractors, O&M contractors, or others can and will be protected.” *Policy WTR-P04 at p. 3*.
- “The storage and conveyance of non-project water will be allowed only if this will not impair Reclamation’s ability to protect the water rights for and the yield of its projects and to meet its statutory or regulatory obligations.” *Id.*
- “Reclamation will not enter into contracts for the use of excess capacity unless and until the requirements of contracts applicable to project service from the facilities involved, of Federal reclamation law (including, but not limited to, the requirements, restrictions, and limitations of the Warren Act and, if applicable, section 305 of the Drought Relief Act), and of all other applicable Federal laws (including, but not limited to, NEPA and the Endangered Species Act) are met.” *Id. at p. 4*.
- Reclamation may enter into excess capacity contracts only when doing so can be accomplished without diminution of services to those parties being served by the

²² *See Memorandum from Keith Eastin, Associate Solicitor, Division of Energy and Natural Resources, Dept. of Interior, to Commissioner, Regarding Application of Reclamation Reform Act of 1982 to Contracts Executed Pursuant to the Warren Act of 1911, at 7 (Aug. 28, 1985).*

project and there are no third-party consequences, those consequences are addressed in appropriate forums, or the consequences will be mitigated to the satisfaction of the affected parties. *1988 Principles, §§ 2 and 3.*

- “Primacy in water allocation and management decisions rests principally with the States. Voluntary water transactions under this policy must be in accordance with applicable State and Federal laws.” *1988 Principles, § 1.*

2. Use of C-BT Project Water.

Neither the Warren Act nor these policies authorize the use of project water for non-project purposes. With respect to the use of project water for non-project purposes, Reclamation has adopted a specific policy, which states:

“Effective immediately, no new contracts for the sale or use of project water or surplus project water from a Reclamation project shall be entered into based upon the Warren Act of 1911 (43 U.S.C. 523-525). Rather, all future contracts for the sale or use of project water or surplus project water shall be entered into based upon the Reclamation Project Act of 1939 and/or other applicable authorities.”

Reclamation Manual, WTR P03 (January 10, 2001). Indeed, the DEIS indicates that Reclamation will evaluate the extent to which using C-BT Project water for non-project purposes will meet the requirements of § 14 of the Reclamation Project Act of 1939. *See DEIS at 1-43.* However, it is unclear whether such Act applies to these circumstances and, if so, whether use of C-BT Project water for WGFP purposes is “necessary and in the interests of the United States and the project,” as required by the act - particularly in light of the potential impacts such use will have on the primary purposes of the C-BT Project, as stated in SD 80.

In addition, the storage facilities where C-BT Project water is to be stored are specifically identified in SD 80 and the Blue River decree, the water rights decree under which the C-BT Project operates consistent with State water law. Neither SD 80 nor the Blue River decree authorizes storage of C-BT Project water in non-project facilities, such as the proposed Chimney Hollow Reservoir. Whether storage of C-BT Project water can be accomplished consistent with SD 80 restrictions is questionable. As further discussed in Part B, below, storage of C-BT Project water in a new reservoir, absent a change of water right duly decreed by the court, would most certainly violate State water law.

Moreover, as further described in Part B, below, major modifications to Granby Reservoir may be needed to ensure that implementation of the Proposed Alternative will not illegally expand C-BT Project diversions. Such changes, as well as storage of C-BT

Project water in an unauthorized facility, appear to constitute “major changes” requiring Congressional approval under the Reservation Projects Act. *43 U.S.C. § 390b(d)*.

Serious questions remain as to the legality of the Proposed WGFP Action, as currently proposed. Accordingly, before the agencies proceed, they must take a close look as to whether the Proposed Action alternative is legal and, therefore, meets NEPA requirements. In accordance with NEPA, such review must be made available for public review.

B. Colorado water law.

1. Absent a change of water rights decree, Reclamation’s storage of C-BT Project water in Chimney Hollow Reservoir would violate Colorado water law.

The WGFP Proposed Action alternative relies on temporary storage of C-BT Project water in the new Chimney Hollow Reservoir – a concept described in the DEIS as “prepositioning.” Reclamation would store C-BT Project Water in the new, proposed Chimney Hollow Reservoir, thus creating space in Granby for storage of Windy Gap water when in priority.

Storage of C-BT Project water in Chimney Hollow reservoir is not authorized under the Blue River decree, the court decree authorizing diversion and storage of C-BT Project water under its senior, 1937 priority.²³ Under Colorado law, the owner of a decreed water right has the right to change the place where decreed water will be stored, or to add places of storage. *See Trail’s End Ranch v. Colorado Division of Water Resources*, 91 P.3d 1058, 1061 (Colo. 2004); *C.R.S. § 37-92-103(5)*. However, to do so, the owner must obtain a decree from the water court approving the change of water rights. *Trail’s End Ranch*, 91 P.3d at 1061; *Empire Lodge Homeowners’ Ass’n v. Moyer*, 39 P.3d 1139 (Colo. 2001); *Farmers Reservoir and Irr. Co. v. City of Golden*, 44 P.3d 241, 246 (Colo. 2002). The purpose of the requirement is to ensure that the change in the use of the decreed water right will not result in injury to the water rights of others.²⁴

²³ *See Final Decree for Consolidated Civil Case Nos. 2782, 5016 and 5017, in the U.S. District Court for the District of Colorado.* While water right decrees in Colorado are usually adjudicated in State water courts, as the decree explains, the Blue River decree was issued by Federal district court because the case was removed by the United States from state court. However, in ruling on the matter, the federal court must use and is bound by Colorado water law.

²⁴ As further discussed below, Trout Unlimited is particularly concerned with the injury the proposed change of C-BT Project water rights will have on the instream flow water rights held by the CWCB, in trust, for the people of the State of Colorado, to preserve the natural environment to a reasonable degree. For example, the CWCB instream flow rights are junior to the C-BT Project water rights. Accordingly, to the extent the change in water rights increases C-BT Project diversions beyond what is legally allowed under the Blue River decree, the CWCB’s junior instream flow rights will be injured.

Empire Lodge Homeowners' Ass'n, 39 P.3d 1158; *Farmers Reservoir and Irr. Co. v. City of Golden*, 44 P.3d at 246. The requirement is mandatory, not discretionary. *Id.* Accordingly, unless Reclamation obtains a decree amending the Blue River decree to authorize storage of C-BT Project water in Chimney Hollow reservoir, storage of C-BT Project water in that reservoir would be illegal under State law.

The DEIS indicates that the Colorado State Engineer “indicated that the Proposed Action to deliver and store water in Chimney Hollow Reservoir using prepositioning could be administered in compliance with current water right decrees and within the priority system.” *DEIS at 3-7 (citing January 17, 2007 personal communication between then State Engineer Simpson, H.D. and Fred Ore, DEIS at 5-12)*. However, Colorado water law is crystal clear in that the Colorado State Engineer does not have the authority to make this type of determination. Only the water court does. *See e.g., Empire Lodge Homeowners' Ass'n*, 39 P.3d at 1147; *Simpson v. Bijou Irrigation Co.*, 69 P.3d 50 (Colo. 2003).²⁵

The DEIS further indicates 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.” *DEIS at 3-24*. Presumably, this limitation would prevent expansion of the C-BT Project water rights to the injury of others. However, even if Reclamation were to incorporate such limitation in its carriage (excess capacity) contract, Reclamation would be violating Colorado water law unless it obtains the mandatory change of water rights decree from water court.

Far from a mere formality, the requirement of water court approval of changes of water rights “provides an important protection for potentially affected decree water rights holders.” *Trail's End Ranch*, 91 P.3d at 1063. “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. Reclamation may not substitute its authority for the authority of the water court, granted by the State of Colorado, and having primacy over federal law.

Moreover, the proposed restriction is ineffective in protecting water rights held by others from injury caused by the proposed prepositioning. First, the suggested volumetric limits would allow diversion of C-BT Project water in excess of what is authorized in the Blue River decree. Under the Blue River decree, Granby Reservoir's total storage

²⁵ 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).

capacity is 543,758 acre-feet. However, only 469,568 acre-feet are active storage. By storing water in an additional, undecreed reservoir, and restricting storage to 539,568 AF, the Proposed Action alternative may illegally expand existing C-BT Project water rights.²⁶ In fact, to the extent the proposed limit permits increases in Granby's current operational capacity, prepositioning would illegally expand such water rights and potentially injure the water rights of others.

Second, the suggested volumetric limits could allow an expansion of the historical diversions associated with the C-BT Project. To the extent storage in Chimney Hollow Reservoir allow an increase of C-BT Project diversions beyond that which has occurred historically, such expansion of historical use would violate Colorado water law. *See Santa Fe Trail Ranches Prop. Owners Ass'n*, 44 P.3d 46 (Colo. 1999). To the extent such expansion in the historic diversions injures the water rights of others, including the CWCB's instream flow rights (e.g., by reducing the amount of Colorado River water available, in priority, to other water rights), such would also violate Colorado water law. *Id.*

Third, by storing C-BT Project water in Chimney Hollow reservoir and, then, "exchanging" it for Windy Gap water when the latter is available in priority, prepositioning would increase the length and frequency with which Windy Gap water rights can divert from what has occurred historically. Indeed this is one of the very goals of prepositioning. In doing so, WGFP would improperly expand the existing, decreed Windy Gap water rights, potentially injuring water rights that are junior to the C-BT Project water rights, but senior to the Windy Gap decreed water rights (such as the CWCB's instream flow rights).

Fourth, the suggested storage limitation is worthless unless it can be enforced – e.g., unless storage in Granby Reservoir can be prevented once the sum of water stored in Granby and in Chimney Hollow exceeds the proposed volumetric limits. The proposed combined storage limitation would create a "paper fill" situation, whereby room for storage will be physically available in Granby even after it is declared officially "full" as a result of implementation of the proposed limitation. If Granby is in this condition into the runoff season, Granby will continue to physically fill, whether it is entitled to or not. Unless the physical means are available to release flows into the Colorado River in excess of what the "paper fill" entitles C-BT to store, the proposed limitations will not be physically enforceable and the downstream water rights, including the CWCB's instream flow water rights, will be illegally injured. There seems to be some indication that the outlet works for Granby may not be sufficient to handle the release of excess, out of

²⁶ In fact, the Blue River decree's identified storage capacity for Granby Reservoir is inconsistent with the lesser capacity identified in SD 80. Yet, the Blue River decree purports to give effect to and, in fact, incorporates the "manner of operation" (including structure capacity descriptions) set forth in SD 80 by reference. This potential inconsistency would have to be resolved by the court upon consideration of a change of water rights decree.

priority, storage water – which during runoff has been as high as 3,000 cfs. Reclamation must closely look at Granby's spill and outlet release capabilities. If the capabilities are not there, the proposed limits could not be implemented and injury to vested water rights could result, in violation of Colorado water law.

Reclamation law and policy requires operation of Reclamation projects in strict compliance with State water laws. Moreover, Reclamation law and policy specifically prohibits Reclamation from entering into excess capacity contracts unless such contracts can be carried out in accordance with State water laws. *See, e.g. Warren Act; 1988 Principles; Reclamation Manual, Policy WTR-P04 (Jan. 10, 2001); Reclamation Manual, Policy WTR P03 (Jan. 10, 2001)*. Thus, Reclamation may not approve the Proposed WGFP unless obtains a decree amending the Blue River decree, which decree imposes conditions to prevent injury to the water rights of others and ensures that the proposed change of water rights otherwise complies with Colorado water law. As proposed, the WGFP Action alternative, which includes repositioning, does not require Reclamation's application for a change of the Blue River decree. Accordingly, the Proposed Action alternative is illegal, in violation of Colorado water law.

2. Absent a change of water rights decree, storage of Windy Gap water in Chimney Hollow or the other action alternative reservoirs would violate Colorado water law.

Diversion of Windy Gap Project water rights is authorized pursuant to a decrees issued by Colorado water court (Windy Gap decrees).²⁷ The Windy Gap decrees do not allow storage of Windy Gap water anywhere except in Windy Gap reservoir (in the amount of 1546.14 acre-feet) and in Jasper Reservoir (in the amount 11,292.58 acre feet). 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. Only alternative 3 includes a decreed storage reservoir, Jasper Reservoir, but in amounts that far exceed the decreed amount. Thus, for the reasons discussed above, in the absence of a change of the Windy Gap water rights, the WGFP action alternatives identified in the DEIS would violate Colorado water law.

It should be noted, in this regard, that while the Windy Gap decrees authorize in priority diversions of large direct flow rights, 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. *New Loveland & Greeley Irr. & Land Co.* at 368. Moreover, the fact that water is diverted from the

²⁷ *See Civil Action No. 1768, Grand County District Court; W-4001, District Court, Water Division 5, and 80CW108, District Court, Water Division 5.*

basin of origin for storage in a different basin does not change the need, under Colorado law, to obtain a decree authorizing such storage and including terms and conditions to prevent injury to the water rights in 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).

Because they contemplate storage of Windy Gap water under the Windy Gap decrees, and such decrees do not authorize storage in location and/or amounts identified in the decrees, the WGFP action alternatives are illegal unless a change of water rights decree is obtained in accordance with Colorado water law.

CONCLUSION

For the reasons described in detail in this letter, Trout Unlimited believes that the WGFP may not be approved until such time as the agencies prepare a supplemental EIS which resolves the problems raised, and an adequate opportunity for public comment is provided as required by NEPA.

Thank you for the opportunity to comment.

Figure 1. Daily flows vs. mean monthly flows
(USGS Colorado River at Windy Gap, near Granby, CO gage - #09034250)

