

STATE OF COLORADO

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DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

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WGFP 1058



For Wildlife-
For People

Tully

December 29, 2008

Will Tully
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Mr. Tully,

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WGFP

Thank you for the opportunity to evaluate the proposed Windy Gap Firing Project. We have reviewed the Windy Gap Firing Project (WGFP) Draft Environmental Impact Statement (DEIS) and have the following comments. Alternative 1 (No Action) has the least negative impacts on wildlife. We have also provided other mitigation recommendations in the event the Bureau selects a different alternative. The impacts of the WGFP must be considered in the context of current conditions on impacted streams which have resulted from the larger CB-T project.

The Colorado River through Grand County offers a highly valuable public fishery resource. It is nationally known as a quality trout stream and provides significant economic value to a rural area. We believe the CB-T Project has had dramatic impacts on the Colorado River since being built. In 1981, the trout population in the Kemp-Breeze State Wildlife area near Parshall included 89 trout per acre longer than 14 inches. In 2007, the estimate for the same reach of river was 21 trout per acre longer than 14 inches. This data supports the popular notion among the angling public that the quality of fishing on this reach of river has steadily declined since the construction of the Windy Gap project. We understand that Senate Document 80 originally enabled the development of the project. However, that document also stated that the project was "to preserve the fishing and recreational facilities and the scenic attractions of Grand Lake, the Colorado River, and Rocky Mountain National Park." We feel that the existing project has decreased the recreational fishery value of the Colorado River by limiting fish population biomass and numbers principally through: reduced aquatic insect production; exacerbating whirling disease and diatom blooms; and reduced flows inadequate for channel maintenance and sediment transport which result in elevated water temperatures in portions of the Colorado River.

In 1987 whirling disease was detected in the river. The density of the whirling disease pathogen in the Colorado River immediately below Windy Gap has been among the highest ever observed in the state. CDOW aquatic researchers found that the proliferation of the disease, which eliminated natural recruitment and thus decimated the rainbow trout population, was greatly exacerbated by the presence of Windy Gap Reservoir.

Based on multiple studies discussed below, we now know that the minimum flows that were established by the Azure Settlement Agreement of June 23, 1980, are inappropriate for maintaining aquatic resource integrity and are often not even met. Minimum flows in place for the section of the river between Granby reservoir and Windy Gap are even more inappropriate. These statements are supported by multiple documents and studies, dating as far back as 1951 with the report entitled "Recreational Use and Water

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

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

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

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

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

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

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

Flow Related Issues – West Slope

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

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

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

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

Flow Related Issues – East Slope

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

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

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

Terrestrial Resources

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

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

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

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

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

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

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

Mitigation

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

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

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

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

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

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

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

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

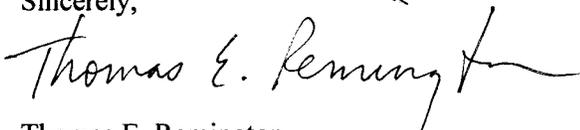
There is no mention of any sort of mitigation action for loss of big game habitat. If one of alternatives 2-5 is selected for development, CDOW would recommend significant mitigation measures be incorporated in the development plan and construction of this project in an effort to reduce negative impacts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

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

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

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

Sincerely,



Thomas E. Remington
Director

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