

Briefing Paper on the Windy Gap Firing Project and Moffat Expansion Project: Impacts on Grand County

I. Unmitigated Water Diversion Projects Will Negatively Impact the Entire State of Colorado and Not Just the West Slope.

Colorado's mountain environment is the reason that so many of us have chosen to live in Colorado. It is also one of the primary economic engines of the state. Recreation and tourism, which is centered in the mountains and to which Grand County contributes substantially, is one of Colorado's largest industries exceeding revenue produced by mining and agriculture combined.¹

West slope water accounts for most of these tourism dollars through snowmaking for skiing, rafting, kayaking, fishing, camping, or simply enjoying the mountain splendor. It also provides for clean drinking water, irrigation and other domestic and industrial activities in the headwaters necessary to accommodate the tourism industry and the mountain way of life. Snowfall in the Upper Colorado River watershed is the source of this water.

While Front Range water providers continue to increase the amount of west slope water they divert to support the ever-expanding growth and demands of their customers, mountain communities struggle to retain enough to provide for the basic water needs of their residents and tourists, so vital to the economy of the headwaters region and the entire state.

II. The Demand for Water Continues to Evolve

When water rights to the Upper Colorado drainage were established in the late 1800's and early 1900s, the current uses of water were if anything, wild fantasies. The mountain communities were rugged outposts with little known need for water other than for domestic, agriculture and mining uses. No one predicted that mountain communities would grow to the extent that they have. No one imagined that Colorado would ever be so highly dependent upon the environmental health and beauty of its mountains for its economic well-being. Skiing did not begin in earnest until the late 1960s and rafting was an occasional activity for the adventurous few. Gondolas, mountain bikes, snowboards and kayak courses were beyond imagination. These factors that are now so critical to the economy of the state were not even a consideration when water rights were first established.

On the other hand, Front Range communities and agriculture were thriving, and still are. Far-sighted city founders, correctly predicting demands far exceeding the Front Range water supply, began establishing water rights and developing projects in the late 1880s² to bring large amounts of water over the continental divide from the mountain

¹ Colorado Data Book, State Office of Economic and International Trade.

² Construction of the Moffat Tunnel was begun in 1923 and completed in 1928. *The Moffat Tunnel Commission Collection at the Colorado State Archives*, www.colorado.gov/dpa/doit/archives/moffat/.

streams to the Front Range. Now, the Front Range communities own rights to more water in the Upper Colorado watershed than actually flows in many years.

III. Current Situation

The state finds itself with a growing demand for water that is increasingly difficult to meet. Moreover, the majority of the most senior water rights belong to agricultural users and Front Range communities.

Currently, 65% of the natural flow of the Upper Colorado River drainage is being diverted from the mountains to the Denver metropolitan area and other east slope communities. These diversions are already causing stress to fisheries, the aquatic environment and agriculture; the ability of streams to adequately assimilate water from sewage treatment plants; recreational opportunities, and the beauty of naturally flowing water courses. In fact, in 2005 American Rivers designated the Fraser River of Grand County as the third most endangered river in the United States due to water withdrawals and trans-basin diversions.

Low flows in the Colorado below Windy Gap in the late summer and early fall are already often causing high water temperatures that adversely impact the trout fishery.³

The current diversions are also handicapping the ability of the west slope to provide water to its own residents and the needs of the tourist industry. Reduced flows have limited the ability of the river to adequately dilute wastewater during dry years. These flow reductions, on top of the new growth in mountain communities, have contributed to the need to build the new \$8.5 million wastewater treatment facility near the Town of Fraser. Projected increased future diversions by Denver Water, if not properly mitigated, may create operational difficulties even at the new facility.⁴

Further, in order to accommodate stream flow shortages due to Front Range demands, and still satisfy its own needs and values, the town of Winter Park may begin refusing water to new customers. To protect the Fraser River as it flows through town, the town is considering “down zoning” and foregoing use of its own water rights to reduce the level of growth it will allow.⁵

³ See e.g. *The Upper Colorado River Basin Study, Phase II, Final Report, Executive Summary*, May 29, 2003, at vii (hereinafter “UPCO Report”). This Report was conducted for Denver Water, NCWCD, Summit County, Grand County, Middle Park Water Conservancy District, Colorado River Water Conservation District, Colorado Springs Utilities and Northwest Colorado Council of Government’s (NWCCOG’s) Water Quality / Water Quantity Committee. The analysis was based upon the 1947-1991 hydrologic record. While these included wet, dry and average years, it did not include any years comparable to the drought conditions of 2002. *Ibid.* at i.

⁴ Michael Wageck, District Manager of Winter Park Water and Sanitation District, Phone Conversations, 8/31/05 and 9/1/05.

⁵ *Ibid.*

Meanwhile, although Denver Water has continued to mandate conservation measures throughout the current drought, several other Front Range communities that are participants in the existent and newly proposed water diversions have not done so.⁶

IV. New Proposed Projects

A. Moffat Expansion Project

Through the Moffat Expansion Project, the Denver Water Board is proposing to develop infrastructure to enable it to provide an additional 18,000 acre feet⁷ (known as “firm yield”) at its Moffat Water Treatment Plant. Annual diversions from the Fraser River alone currently average 63,000 acre feet.⁸ The expanded yield would be accomplished through diversions from the Fraser River and the Williams Fork River. In order to store this additional diverted water, the existing Gross Reservoir on South Boulder Creek would be expanded and/or new reservoirs would be built.⁹ While 18,000 acre feet represents only about 4% of the Denver Water Board’s projected ultimate water needs,¹⁰ the diversion, without mitigation, would have a profound impact on the natural and human environment of Grand County and other mountain communities.

B. Windy Gap Firming Project (WGFP)

In 1985, the Municipal Subdistrict of the Northern Colorado Water Conservancy District (NCWCD) constructed the Windy Gap Project near Granby to divert water from the Colorado River to the Front Range through the Colorado-Big Thompson Project.¹¹ Due to project limitations and other factors, the participants have not received the full benefit of their rights to Windy Gap water. Accordingly, the participants¹² have requested the NCWCD to develop the Windy Gap Firming Project (WGFP). The project could deliver a consistent, or “firm” annual yield of 30,000 acre feet of additional water from the existing Windy Gap Project.¹³

⁶ While Denver has mandated water restrictions in the summer of 2005, several communities participating in the proposed Windy Gap Firming Project discussed further below, such as Broomfield, Lafayette, Longmont, Loveland, Erie and Louisville, have no mandatory watering restrictions.

⁷ Fed. Reg. Vol. 68, No. 180 (Sept. 16, 2003).

⁸ UPCO Report at 25.

⁹ Moffat Collection System Project EIS Agency Meeting, presented by the US Army Corps of Engineers, May 9, 2005. For example, one alternative under consideration, would enlarge the Gross Reservoir, and construct new reservoirs at Leyden Gulch and Sixmile Canyon; another would build a new reservoir at Soda Creek and enlarge the Gross Reservoir and the Ralston Creek Reservoir.

¹⁰ See Denver Water's Integrated Resource Plan, Feb 2002, which states that Denver Water's projected build out demand is 420,000 acre feet for all needs, contracts, etc. The firm yield of the Moffat Expansion, 18,000 acre feet, is 4.3% of 420,000 acre feet.

¹¹ *What is the Windy Gap Firming Project?* Reclamation: Managing Water in the West Windy Gap Firming Project, Project Update, December 2004, U.S. Dep’t of Interior, Bureau of Reclamation and the Municipal Subdistrict, Northern Colorado Water Conservancy District, www.usbr.gov/gp/eca/windy_update_0505.pdf

¹² Participants in the WGFP are the Front Range municipalities of Broomfield, Greeley, Longmont, Lafayette, Louisville, Loveland, Erie, Evans, Fort Lupton and Superior, and the Central Weld County Water District, the Little Thompson Water District, the Platte River Power Authority and the Middle Park Water Conservancy District. *Ibid.*

¹³ *Ibid.*

The NCWCD is examining several sites both on the west and east slopes for constructing reservoirs to create additional storage. It estimates that 110,000 acre feet of additional storage will be needed to accomplish the purpose of the WGFP.¹⁴ Due to annual variability in precipitation, evaporation and other incidental losses of water, the consistent delivery of 30,000 acre feet may, during some years, require annual diversions significantly greater than this figure.¹⁵ Together with the Moffat Expansion Project described above and other existing water diversions,¹⁶ this may leave as little as 15% of the natural flow of water in the upper Colorado drainage.¹⁷

V. Concerns

A. Additional Diversions May Decrease Stream flows in Grand County to Low Flow Conditions Year-Round.

Currently on average, an estimated 65% of the total water in the Upper Colorado River System is diverted to the east slope - a percentage that will increase to 85% if both the WGFP and Denver Water's Moffat Collection System Project are implemented. In addition, other proposed projects like the reductions of downstream water rights calls at the Shoshone Power Plant and the proposed Wolcott Reservoir could have additional incremental negative impacts to stream flows in Grand County.

According to minimum levels recommended by the Colorado Water Conservation Board, even in the absence of another severe drought like in 2002, if the diversion projects are approved, stream flows in areas of the Colorado River and Fraser may be at or below the bare minimum to support the health of fish during parts of the year.¹⁸ Annual high water flows which naturally occur with spring runoff, are necessary to clear sediment from spawning beds and maintain stream channel structure. If unmitigated, increased water diversions may prevent such "flushing" high flows. Trout life cycles may be disrupted.

In addition, lack of flushing flows may prevent the natural function of wetlands in mountain areas to serve as natural reservoirs and filter and recharge alluvial aquifers. Because of the essential functions of periodic high water levels, the timing of diversions

¹⁴ *Windy Gap Firming Project: Scoping Announcement, Alternatives Under Consideration*, www.ci.greeley.co.us/2n/PageX.asp?fkOrgId=43&PageURL=windy_gap.

¹⁵ The exact amount will depend upon the final alternative chosen and the annual hydrology.

¹⁶ The existing water diversions affecting the upper Colorado River drainage are the Colorado-Big Thompson, the Grand River Ditch and Windy Gap.

¹⁷ The "natural flow" referred to here reflects the ten year average (1991-2001) of stream flows at the United States Geological Survey's gauge below Windy Gap, added to the current diversions through the Adams, Berthoud and Moffat Tunnels and Grand River Ditch. The 15% figure is derived from the total of projected diversions through these same facilities, after the WGFP and Moffat Expansion divided by the natural flow described above. This is an estimate based on past hydrology, not exact because the exact patterns of use and river flows in the future are based upon predictions.

¹⁸ UPCO Report at vi and vii.

is critical, and many of the diversions' most devastating impacts can be mitigated through timing.¹⁹

Reduced flows on the Colorado and Fraser Rivers from out of basin diversions may lower water flows below the minimum needed to support fish in what have always been significant fisheries.²⁰

Another concern is that increased pumping into Lake Granby could increase nutrient loading which consumes oxygen necessary for aquatic life.²¹ Once again, if unmitigated, this threatens the health of the fisheries, aesthetic beauty and along with them, the tourist dollars attributable to fisheries and boating.

The proposed diversions may cause the high quality rafting and kayaking segments to fall below minimal levels for rafting and kayaking more frequently. For example, the Gore Canyon stretch, one of two premiere Class 5 white water areas for kayaking and rafting in the nation and home of the U.S. National White Water (rafting) Championship may fall below optimal levels for rafting and kayaking.²² Hence, the tourist dollars brought in to the area by rafters and kayakers may also diminish.

West slope ranchers are being squeezed out of business already as the state's economy moves away from its agricultural roots. Low water flows create a lack of positive pressure in ditch heads and pumps for irrigation of hay fields. Finally, low water levels may be stressing ranchers' fisheries, handicapping their ability to lease fishing rights, a critical supplement to the income of many ranches on the riverfront.²³

B. Mountain Communities May be Unable to Meet the Water Needs of Their Own Residents and Demands of the Tourist Industry.

Moreover, water supplies in certain areas of the Fraser River watershed may be inadequate to meet the demands of residents and tourists alike. The Upper Colorado River Basin Study (UPCO) estimates that communities in the Fraser River watershed will have municipal water shortages of as much as 2,369 acre feet in the future.²⁴ Additional in-stream needs, such as dilution of municipal wastewater and the maintenance of minimum stream flows, bring this shortage significantly higher.²⁵

¹⁹ "Colorado River Diversions Where West Meets East, NWCCOG, Water Quality / Water Quantity Committee, 2003.

²⁰ UPCO at vi-vii.

²¹ UPCO Report at 32, Table.

²² *Ibid* at vi-vii; and p. 42.

²³ George Stark, Grand County ranch owner, "Colorado River Diversions Where West Meets East, NWCCOG, Water Quality / Water Quantity Committee, 2003.

²⁴ UPCO Report at v.

²⁵ *See ibid* at vi.

VI. The Environmental Impact Statement Process

Pursuant to National Environmental Policy Act, an Environmental Impact Statement (EIS) must be completed for both the Moffat Expansion Project and the Windy Gap Firing Project. The US Bureau of Reclamation has been designated as the lead agency for the EIS on the WGFP. Originally expected to be released in the fall of 2006, the Draft EIS was just released on August 29, 2008.

The meetings will be held on:

October 7th— Loveland

McKee Conference Center
2000 Boise Ave,
Loveland 80538
Informational session 5PM
Open House starts at 6PM
Public Hearing starts at 7PM

October 9th—Granby

The Inn at Silvercreek
62927 US Hwy 40
Granby, CO 80446
Open House starts at 5PM
Public Hearing starts at 6PM

Written comments are due by October 29, 2008. These should be sent by mail, fax or e-mail to:

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

The US Army Corps of Engineers has been designated the lead agency on the Moffat Expansion Project. The Draft EIS for this project has not yet been released.

While the issues are complicated, through knowledge, awareness and concern, the seemingly opposing interests of the Front Range and mountain communities can be met through careful planning, conservation, reuse and mitigation.

*Drafted on behalf of the Northwest Council of Governments, Water Quality/Quantity Committee, revised October 5, 2008.
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