

RECLAMATION

Managing Water in the West

Windy Gap Firming Project

Final Environmental Impact Statement Errata



U.S. Department of the Interior
Bureau of Reclamation
Great Plains Region

November 2012

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Windy Gap Firing Project Final Environmental Impact Statement

Errata Sheet November 2012

This errata sheet documents changes to the text of the Windy Gap Firing Project (WGFP) Final Environmental Impact Statement (FEIS) that was released in November 2011. These corrections reflect errors discovered after the release of the FEIS. We have utilized “tracked changes” (underlined additions and crossed-out deletions) for some of the changes where we felt it would assist the reader in more easily following the corrections. There are no changes to the project or significant new circumstances or information identified in this Errata Sheet that affect the analysis and conclusions in the WGFP FEIS. Please refer to the WGFP FEIS Supplemental Information Report dated April, 2012, for a more detailed review of the new Multi Metric Index (MMI) methodology referenced below in the Section 3.9 corrections.

Please note the following changes to the WGFP FEIS.

Section 2.4 Alternative 2 – Chimney Hollow Reservoir (Proposed Action)

Page 2-22, the next to the last sentence in the last paragraph should have the following change:

The estimated cost for removal of the existing transmission line and construction of the new line is \$4.5 million ~~and would be paid for by the Subdistrict and Western.~~

Section 2.10 Summary

Page 2-69, Table 2-6 (cont’d). Comparison of direct and indirect effects by alternative, the second row (Threatened and Endangered), third column (Alternative 2) should be corrected with the following changes:

Increased ~~Additional depletions in the Colorado River WGFP diversions~~ of 21,317 AF attributable to the WGFP would result in an adverse effect to four Colorado River endangered fish species. The Subdistrict would pay a one-time depletion fee in accordance with the Recovery Program and previous programmatic biological opinion for depletions in the Colorado River. No other federally listed species would be impacted.

Section 3.7 Stream Morphology and Floodplains

Page 3-97, first full paragraph beginning with: “Effects to Channel Maintenance Flows”, should be corrected with the following changes:

An evaluation was completed for the Colorado River at the Hot Sulphur Springs gage below the Windy Gap diversion to compare changes in the timing and frequency of various channel maintenance flows under the alternatives using the 47-year model period (Table 3 32, Figure 3 34, and Figure 3 35). The percent of years within the low channel maintenance flow range of 510 cfs to 1,240 cfs would decrease from 62 percent under existing conditions to about 51 percent for the Proposed Action and 53 percent for No Action. The duration of flows for the 510 to 1,240 cfs flow range, during years when such flows occur, would decrease from 2 to 4 days for all alternatives compared to existing conditions. The percent of years with flows in the 2- to 5-year recurrence interval range would decrease ~~about 4 from 38 percent~~ under existing conditions to 34 percent under the Proposed Action, for the action alternatives and 2 percent for the No Action Alternative compared to existing conditions. Flows within the recurrence interval of 5 to 10 years would decrease from 30 percent under existing conditions to 17 percent under the Proposed Action, about 13 percent for the Proposed Action, 11 percent for other action alternatives, and 2 percent for No Action. However, the duration of flows in this range would increase slightly (by up to 2.5 days for the Proposed Action) from existing conditions. The percent of years with flows in the 10- to 25-year recurrence interval would occur in 6 out of 47 years under existing conditions and 3 out of 47 years under the Proposed Action, about 7 percent less under the action alternatives compared to existing conditions, but with a slightly greater duration (up to 2 days longer for the Proposed Action). Changes in the frequency and duration of channel maintenance flows from existing conditions of this magnitude are unlikely to measurably alter stream morphology or sediment transport at Hot Sulphur Springs.

Page 3-99, Replace the next to last sentence of first paragraph with:

Table 3-32 shows that the percentage of years that flows are equal to or greater than the 10-year peak flow would change from 13 percent under existing conditions to 6 percent under the action alternatives and for a duration of 4 to 6 days, respectively, when such flows occur.

Page 3-99, second paragraph beginning with the 5th sentence through the next to last sentence should have the following corrections:

The percent of years with flows in the 2- to 5-year recurrence interval range would decrease from 49 percent under existing conditions to 45 to 47 percent ~~about 2 to 4 percent~~ for the action alternatives ~~and 2 percent for the No Action Alternative compared to existing conditions,~~ and the duration of flows would increase by about 2 days under the Proposed Action. Flows in the 5- to 10-year recurrence interval would decrease from 19 percent under existing conditions to 15 percent ~~about 4 percent~~ for the action alternatives ~~and 2 percent for No Action.~~ The duration of flows in this range would decrease by 3 days from existing conditions. The percent of years in the 10- to 25-year recurrence interval would decrease from 9 percent under existing conditions to 6 percent ~~occur about 3 percent less~~ under the action alternatives ~~compared to existing conditions,~~ but the duration would increase by 2 days.

Page 3-103, the last four sentences in the first paragraph under Section 3.7.3, should be corrected as follows:

The percentage of years such flows are estimated to occur would decrease ~~from 62 percent under existing conditions to 47 percent under the action alternatives.~~ ~~by 6 to 15 percent.~~ Under the action alternatives channel maintenance flows ranging from 1,650 to 11,900 cfs at Kremmling are estimated to occur from 5 days less to up to 1 day longer during years when such flows occur compared to existing conditions. The percentage of years such flows would occur would decrease ~~under no action and action alternatives (Table 3-36).~~ ~~by 3 to 17 percent.~~ The magnitude of the change in the frequency of channel maintenance flows is unlikely to substantially change stream morphology or change sediment transport and deposition.

Section 3.8 Water Quality

There was a typo in the text referencing four of the lake/reservoir standards summary tables in Section 3.8 of the FEIS erroneously noting use of 2000-2007 data. These should be changed to indicate that the standards were assessed based on September 2002-2007 data. Please note the following corrections:

- **Page 3-111, Replace paragraph 2, first sentence with:**
Table 3-40 provides a summary of water quality in Granby Reservoir for September 2002 to 2007 with applicable standards.
- **Page 3-114, Replace paragraph 1, first sentence with:**
Table 3-42 provides a summary comparison of water quality in Shadow Mountain Reservoir for the years September 2002 to 2007 with applicable standards.
- **Page 3-116, Replace paragraph 5, first sentence with:**
Table 3-44 provides a summary comparison of water quality at the Grand Lake monitoring site on the west side of the lake for the years September 2002 to 2007 with applicable standards.
- **Page 3-123, Replace paragraph 1, first sentence with:**
Table 3-52 provides a summary comparison of water quality in Carter Lake for September 2002 to 2007 with applicable standards.

Page 3-115, Table 3-42, Comparison of Key Water Quality Standards for Shadow Mountain Reservoir Under Existing Conditions has the following correction:

In the first row of the table (below the header row), the “Standard Met?” column for dissolved oxygen should read “No”. Note: This is due to USGS profiles in 2007 below 6.0 mg/L to full depth. These USGS profiles in August and September of 2007 were not available at the time of the original data compilation in 2008. Note: The text already indicates this exceedance of DO.

Page 3-117, the caption for Table 3-44 should be corrected to read:

Comparison of Key Water Quality Standards for Grand Lake under Existing Conditions
(Site: Grand Lake at Grand Lake)

Page 3-126, Table 3-54, Comparison of Key Water Quality Standards for Horsetooth Reservoir (Soldier Canyon Dam) Under Existing Conditions has the following corrections:

- In the first row of the table (below the header row), the “In-Lake Value” for dissolved oxygen should read 7.3 (31) – not 6.9.
- In the first row of the table, the Applicable Standard should read 6.0, – not 5.0.
- In the second footnote, the phrase “Water quality data for the past 5 years (9/02 on)” should be replaced with “Water quality data from 2004-2007”.
- The following sentence should be deleted from the 5th footnote: “Because the revised criteria are less stringent (assesses a narrower zone at the surface), the evaluation was not revised for the FEIS.”

Table 3-71 (page 3-163), Table 3-73 (page 3-167), and Table 3-75 (page 3-171) should be corrected as follows:

The word “Daily” should be deleted from the first row header. Thus, the header caption for all three tables would read: “Average Annual Values Over the 15-Year Model Period and the Range in Values (min – max)”

Section 3.9 Aquatic Resources

In October 2010, the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Commission (WQCC) adopted the Aquatic Life Use Attainment WQCC Policy 2010-1. The WQCC also adopted the 2012 Listing Methodology in March 2011. The WQCC determined that the Colorado Multiple Metric Index (MMI) is an appropriate tool for the quantitative bioassessment of aquatic invertebrates. The CDPHE uses MMI as a measure for determining whether streams are attaining their aquatic life use.

Section 303(d) of the federal Clean Water Act (CWA) requires states to identify waters where effluent limitations mandated by Section 301(b)(1)(A) and Section 301(b)(1)(B) are not stringent enough to attain water quality standards (CDPHE 2011). These waters are compiled into the Section 303(d) list of impaired waters. The Colorado Section 303(d) List identifies those water bodies, where there are exceedances of water quality standards or non-attainment of uses. Streams that are determined to have water quality impairments, including quantitative bioassessment measures, are placed on the States’ 303(d) list. The Monitoring and Evaluation List (M&E List) identifies water bodies where there is reason to suspect water quality problems, but there is also uncertainty regarding one or more factors, such as whether the data are representative (CDPHE 2011).

Based on Colorado Division of Parks and Wildlife (CPW) data that resulted in calculated MMI values below Windy Gap Reservoir that were both above and below the impairment threshold, the Water Quality Control Division (WQCD) determined that the portion of the Colorado River from below Windy Gap Reservoir to the Road 578 Bridge should be placed on the M&E List for impairment of aquatic life. The WQCD recognized that

samples taken below water impoundments may not be reflective of the health of the aquatic community throughout the entire segment, and that an M&E listing may be more appropriate for this segment than inclusion on the 303(d) list (WQCC 2011). The WQCD indicates plans for future study of an alternate threshold for portions of stream segments below reservoirs because of the different physical and flow conditions found below dams (WQCC 2011).

The MMI values used for evaluating aquatic invertebrates reported in the FEIS were calculated using a previous version of MMI protocols. The CDPHE has revised the methodology for the calculations and new values were calculated. Thus, the following sections of the FEIS were revised as indicated below to reflect the new protocols:

Page 3-208, third full paragraph should be corrected as follows:

Aquatic invertebrates in the Colorado River near Windy Gap have a high diversity with numerous species present (Miller Ecological Consultants 2010; Rees 2009). The Colorado Department of Public Health and Environment (CDPHE) evaluates macroinvertebrate communities for impairment based on the Multi Metric Index (MMI). This index assesses biological condition on a scale of 0 to 100. The Colorado River below Windy Gap Reservoir, per CDPHE criteria, is classified as biotype 1 or a transitional stream between mountains and plains. The aquatic life thresholds for biotype 1 streams have an attainment threshold MMI value of 52 and an impairment MMI value of 42 (CDPHE 2010). Between these two values auxiliary metric thresholds are used to supplement MMI values. Auxiliary metrics for assessing impairment for biotype 1 include a Hilsenhoff Biotic Index (HBI) value of less than 5.4 and a Shannon Diversity Index greater than 2.4. For high-elevation cold-water streams an MMI value of 50 or less indicates impairment (CDPHE 2010b). Rees Timberline Aquatics (201109) calculated a MMI values of 44.692 and 89 and secondary metrics that were above the impairment range for the macroinvertebrates upstream and downstream of Windy Gap Reservoir, respectively. Miller Ecological Consultants' data (2010) calculated MMI values using the EDAS program developed by CDPHE for the Lone Buck and Breeze sites. Results indicate a 42.9 MMI value for the Breeze site and a 52.7 MMI value for the Lone Buck site. Thus, the Lone Buck site is above the attainment threshold and the Breeze site is in the zone between attainment and impairment. The secondary metrics for both the Breeze and Lone Buck sites met or exceed the values for HBI and Shannon Diversity Index indicating that the sites are not impaired. had MMI values of 100. Both of these samples indicate a healthy macroinvertebrate community. However, although sStudies in 2004 (Miller Ecological Consultants 2010) found the *Pteronarcys* stonefly downstream of Windy Gap; surveys in 2009 (Rees) did not find *Pteronarcys* stoneflies upstream or downstream of Windy Gap. CDPW also reported a decrease in the abundance and distribution of both the stonefly *Pteronarcys* and mottled sculpin since Windy Gap Reservoir was constructed (Nehring et al. 2010).

Page 3-229, the first 5 sentences of the first paragraph under Macroinvertebrates, should be corrected as follows:

Habitat needs of the macroinvertebrates present in the Colorado River and Willow Creek are similar to those of the trout species. The species, abundance, and distribution of macroinvertebrates should remain similar to existing conditions under all alternatives based on the anticipated changes in flow and changes in water quality. Based on the field data, the wetted channel width reaches the banks at approximately 90 to 100 cfs, which provides the maximum wetted area for macroinvertebrates. The existing MMI values and secondary indicators for the Colorado downstream of Windy Gap Reservoir indicate that macroinvertebrate composition is above impairment, but below attainment values.ranges from 92 (Timberline AquaticsRees 201109). to 100 Further downstream at the Lone Buck site above the Williams Fork, MMI values were above the attainment threshold and at the Breeze site below the Williams Fork, MMI values were between the impairment and attainment thresholds. Auxiliary metrics indicate the existing macroinvertebrate community is unimpaired (Miller Ecological Consultants 2012). ~~These MMI values indicate the existing macroinvertebrate community is unimpaired.~~

Chapter 5 References

The following references should be added to the reference section of the FEIS:

Colorado Department of Public Health and Environment. 2010. Aquatic Life Use Attainment, Methodology to Determine Use Attainment for Rivers and Streams. Policy Statement 10-1. Water Quality Control Division, Denver, Colorado.

Colorado Water Quality Control Commission (WQCC). 2011. Colorado Water Quality Control Commission State of Colorado Rebuttal Statement of the Water Quality Control Division in the Matter of the 2012 List of Water Quality Limited Segments Requiring Total Maximum Daily Loads and 2012 Monitoring and Evaluation List (Regulation No. 93). November 30.

Colorado Department of Public Health and Environment (CDPHE). 2011. Section 303(d) Listing Methodology 2012 Listing Cycle. Water Quality Control Division. March 10.

MEC (Miller Ecological Consultants). 2012. Technical Memo. Issues associated with recalculation of macroinvertebrate Multi Metric Index (MMI). March 27.

Timberline Aquatics, Inc. 2011. Letter from David Rees, Timberline Aquatics to Esther Vincent, Northern Colorado Water Conservation District on assessment of the benthic macroinvertebrate community downstream from Windy Gap Reservoir. November 30.

The date on the following reference should be corrected:

Corps (U.S. Army Corps of Engineers). ~~2010~~2009. Moffat Collection System Project Draft Environmental Impact Statement. October.

Appendix C to FEIS, Preliminary Draft Section 404(b)(1) Effects Analysis

Page C-10, Table C.1 Comparison of direct and indirect effects by alternative, organized based on CFR 40 Part 230. Section 404(b)(1) guidelines, row 6.1 Threatened and Endangered Species (230.30), fourth column (Alternative 2 Proposed Action, should be corrected with the following changes:

~~Increased-Additional depletions in the Colorado River WGFP diversions~~ of 21,317 AF ~~attributable to the WGFP~~ would result in an adverse effect to four Colorado River endangered fish species. The Subdistrict would pay a one-time depletion fee in accordance with the Recovery Program and previous programmatic biological opinion for depletions in the Colorado River. No other federally listed species would be impacted.