UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Kremmling Field Office
2103 E. Park Avenue
Kremmling, Colorado 80459

FINAL ENVIRONMENTAL IMPACT STATEMENT for the Blue Valley Ranch Land Exchange

DOI/BLM/CO/PL-18/001

Estimated Lead Agency
Total Costs Associated with
Developing and Producing this EIS
$757,000

April 2021

BLM Mission Statement

It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

DOI/BLM/CO/PL-18/001

BLUE VALLEY RANCH LAND EXCHANGE
FINAL ENVIRONMENTAL IMPACT STATEMENT

KREMMLING FIELD OFFICE
GRAND COUNTY AND SUMMIT COUNTY, COLORADO

APRIL 2021

Lead Agency:	U.S. Department of the Interior Bureau of Land Management
Location:	Grand County, Colorado Summit County, Colorado
For Information Contact:	William Mills Field Manager Kremmling Field Office Bureau of Land Management

Abstract: This Final Environmental Impact Statement (Final EIS) has been prepared to analyze and disclose the effects to the human and biological environment anticipated to result from the proposed Blue Valley Ranch Land Exchange. The Proposed Action is to complete a land exchange pursuant to Section 206 of the Federal Land Policy and Management Act, 43 United States Code 1716.

Under the Proposed Action, approximately 1,489 acres of Federal lands managed by the Bureau of Land Management (BLM) in Grand County, Colorado would be conveyed to Blue Valley Ranch (BVR) in exchange for approximately 1,830 acres of non-Federal lands in Summit County and Grand County, Colorado. Approximately 300 acres of the non-Federal lands would become National Forest System lands because they are within the White River National Forest administrative boundary and would be transferred to the U.S. Forest Service for management. The remaining lands would be managed by the BLM Kremmling Field Office. Additionally, as a component of the Proposed Action, Galloway, Inc (the owner of BVR and the Proponent of this land exchange) has proposed a number of Recreation Design Features intended to facilitate realization of certain opportunities for enhanced public recreation made possible by the proposed land exchange.

This Final EIS also analyzes Alternative 3, which was incorporated into the analysis following the comment period on the Draft EIS. Alternative 3 includes a reconfigured boundary for BLM-I that would retain public access to the riverfront and associated walk-in fishing opportunities on this parcel. To equalize the land exchange without this portion of BLM-I, BVR-3 and BVR-4 are not included in Alternative 3. Additionally, Alternative 3 does not include donations from BVR of land or Recreation Design Features included in the Proposed Action.

The Proposed Action and Alternative 3 are described in detail under the *Alternative 2 – Proposed Action* and *Alternative 3* discussions in Chapter 2, Section B – Alternatives Considered in Detail.

This Final EIS and its Appendices discuss the Purpose and Need for the action, the Proposed Action, Alternative 3, the No Action Alternative, as well as alternatives that were considered but eliminated from detailed analysis; and potential direct, indirect, and cumulative impacts of implementing each alternative. Three alternatives are analyzed in detail in this Final EIS: Alternative 1 (No Action), Alternative 2 (Proposed Action), and Alternative 3.

Important Notice: Land exchange decisions are subject to a 45-day protest period under 43 Code of Federal Regulations (CFR) § 2201.7-1, and a subsequent right of appeal to the Interior Board of Land Appeals under 43 CFR Part 4. Information on protests and appeals, and on an alternative process, is contained in the BLM Land Exchange Handbook H-2200-1 (pp. 9-3–9-7). Protests received, including the names and addresses of those who protest, will become part of the public record for this project and will be subject to review pursuant to the Freedom of Information Act.

EXECUTIVE SUMMARY

The proposed land exchange analyzed in this document constitutes a proposed federal action, which has the potential to affect the quality of the human environment as a result of decisions concerning the public lands administered by the United States Department of the Interior (USDI) Bureau of Land Management (BLM). Therefore, the proposed land exchange must be analyzed pursuant to the National Environmental Policy Act of 1969 (NEPA). Under NEPA, federal agencies must carefully consider environmental concerns in their decision-making processes and provide relevant information to the public for review and comment.

The BLM has prepared this Final Environmental Impact Statement (Final EIS) in compliance with NEPA and other relevant federal and state laws and regulations. This Final EIS contains analyses consistent with NEPA, Council on Environmental Quality (CEQ) regulations, and BLM policy. This Final EIS discloses potential direct, indirect, and cumulative environmental effects on the human and biological environment anticipated to result with implementation of an action alternative. Additionally, it is intended to ensure that the decision-maker considers the environmental and social values of the Analysis Area and that potential resource conflicts are minimized, reduced, or avoided.

SUMMARY OF THE PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to:

- Meet objectives from the Kremmling Field Office's (KFO) 2015 Resource Management Plan (2015 RMP) for wildlife, recreation, public access, and scenic values.
- Consolidate boundaries associated with, and improve management of, public lands while minimizing and reducing conflict between users of public lands and private landowners.
- Improve access to and enhance recreational opportunities on public lands.

The need for the Proposed Action is to respond to a proposed land exchange to consolidate federal land ownership patterns in the following areas:

- The Lower Blue River Valley, between the north face of Green Mountain and the confluence of the Blue and Colorado River.
- An area north of Trough Road, along the Colorado River Headwaters Scenic Byway and within the Upper Colorado River Special Recreation Management Area.
- Parcels east of Kremmling adjacent to the Colorado River.

SUMMARY OF PROPONENT OBJECTIVES

In addition to the BLM's Purpose and Need, the Proposed Action would also satisfy the following objectives of the Proponent, which is Galloway, Inc (the owner of Blue Valley Ranch [BVR]):

- Consolidate private land ownership patterns to minimize conflicts with users of public lands and reduce potential for trespassing; and
- Improve management on private lands by facilitating consistent management practices to be applied across ecosystems under common ownership.

Overall, the proposed land exchange would support the mission of BVR for land preservation, wildlife conservation, and agricultural operations.

BACKGROUND AND SUMMARY OF THE PROPOSED LAND EXCHANGE

In 1998 the BLM and Galloway, Inc. (owner of BVR) completed the Eagle Pass Ranch Land Exchange (COC 58589). The land exchange achieved the objectives of consolidating federal and non-federal lands for more effective management for both parties, enhancing public access along the Colorado River and the Blue River, and bringing several large tracts of big game winter range into federal ownership.

In 2001 BVR approached the BLM to discuss a second land exchange in order to continue the consolidation of federal and non-federal lands in the area. Over the next several years, BVR and the BLM collaboratively developed the current proposed land exchange. In June 2005, the BLM issued its Notice of Exchange Proposal for the Blue Valley

Ranch Land Exchange and initiated the required environmental analysis and appraisal processes. However, the exchange process was placed on-hold in 2006 pending completion of the BLM KFO 2015 Record of Decision and Approved Resource Management Plan (2015 RMP). Work on the proposed land exchange was reinitiated upon completion of the 2015 RMP in July 2015. *Note*: The KFO RMP was originally approved in 1984 and subsequently revised and released in 2015 as the Record of Decision and Approved Resource Management Plan. It is referred herein as the 2015 RMP.

This Final EIS analyzes the Proposed Action, which includes the exchange of 1,489 acres of federal lands managed by the BLM in Grand County, Colorado for approximately 1,830 acres of non-federal lands in Summit and Grand counties, Colorado. Approximately 300 acres of the non-federal lands (southern half of BVR-2) would be transferred to the White River National Forest (WRNF) as required by The Federal Land Management and Policy Act of 1976 as amended, while the remaining approximately 1,530 acres would be managed by the BLM KFO. Pursuant to Section 206 of the Federal Land Policy and Management Act, as amended (FLPMA), the proposed land exchange must be identified as in the public interest, and appraisals of the Federal and non-Federal parcels must show that the exchange parcels are equal in value, or capable of being equalized. In the event that exchanged lands are not equal, the values may be equalized by the payment of money to the non-federal party or to the BLM, as the circumstances require, so long as the payment does not exceed 25 percent of the total values of the lands or interest in land transferred out of federal ownership. Values can also be equalized by the private party donating any difference in value owed to the BLM.

This Final EIS also analyzes Alternative 3, which was incorporated into the analysis following the comment period on the Draft EIS. Alternative 3 includes a reconfigured boundary for BLM-I that would retain public access to the riverfront and associated walk-in fishing opportunities on this parcel. To equalize the land exchange without this portion of BLM-I, BVR-3 and BVR-4 are not included in Alternative 3. Additionally, Alternative 3 does not include donations from BVR of land or Recreation Design Features included in the Proposed Action.

Refer to Table 1-1 in Appendix A for the location and legal descriptions of the exchange parcels. Refer to Figures 1 and 2 for a map of the proposed land exchange under either of the action alternatives. The Federal parcels are identified as BLM-A, BLM-B, BLM-C, BLM-F, BLM-G, BLM-H, BLM-I, BLM-J, and BLM-K, and the non-Federal parcels are identified as BVR-1, BVR-2, BVR-3, BVR-4, BVR-5, BVR-7, BVR-8, BVR-9, and BVR-10. Appendix E – Alternatives and Design Components Considered but Eliminated from Detailed Analysis, describes the reasoning for parcels that are no longer included in the proposed land exchange (e.g., BLM-D, BLM-E, and BVR-6). Figures 1–6 provide more detailed information on the 18 exchange parcels.

Potential impacts to the human and biological environment anticipated to result from the action alternatives are analyzed and disclosed in Chapter 3 – Affected Environment and Environmental Consequences. Resources with negligible direct and indirect effects are described in Appendix G.

SUMMARY OF THE ALTERNATIVES ANALYZED IN THIS FINAL EIS

The Proposed Action, Alternative 3, and the required No Action Alternative are analyzed in detail within this Final EIS. Refer to Chapter 2 for a full description of alternatives and Chapter 5 for figures.

ALTERNATIVE 1 – NO ACTION

By definition, the No Action Alternative represents a continuation of existing management practices without changes, additions, or upgrades to existing conditions. As a result, the No Action Alternative provides a baseline for comparing the effects of the action alternatives (refer to Figure 1).

Under this alternative the proposed land exchange would not occur, and ownership and management of the Federal parcels would not change. The non-Federal parcels would remain in private ownership and would be used consistent with County zoning regulations. The Federal parcels would continue to provide for livestock grazing, wildlife habitat, recreation uses, and other multiple uses consistent with BLM policy.

ALTERNATIVE 2 – PROPOSED ACTION

The Proposed Action is to complete a land exchange pursuant to Section 206 of the FLPMA, 43 U.S.C. § 1716. Under the Proposed Action, approximately 1,489 acres of Federal lands managed by BLM in Grand County, Colorado would be conveyed to BVR in exchange for approximately 1,830 acres of non-Federal lands in Summit and Grand counties,

Colorado. Administrative jurisdiction to approximately 300 acres of the non-Federal lands (southern half of BVR-2) would be transferred to the WRNF because it lies within the WRNF administrative boundary, the remainder of lands would be managed by the BLM KFO (refer to Figure 1). As a component of the Proposed Action, BVR has proposed a number of Recreation Design Features intended to facilitate realization of certain opportunities for enhanced public recreation (refer to Figures 3–6).

Table 2-1 in Appendix A discloses nine Federal parcels that would be exchanged under the Proposed Action, which range in size from approximately 40 to 330 acres. All of the Federal parcels, BLM-A–C and BLM-F–K, are located in Grand County. These parcels are mostly or entirely surrounded by BVR lands and are difficult for the public to legally access.

Table 2-2 in Appendix A discloses nine parcels of non-Federal lands that would be exchanged under the Proposed Action, ranging from approximately 1 to 657 acres. Non-Federal parcels (BVR) 1, 4, 5, 7, and 8 are located in Grand County, and 2, 3, 9, and 10 are located in Summit County. The BVR land proposed in this exchange is anticipated to provide increased public access to recreation opportunities.

BVR would convey to the United States (BLM) a water right associated with BVR-8 for approximately 7.12 cfs currently used on an irrigated pasture. Water rights totaling 8 cfs from Dry Creek Ditches 1, 2, and 3 tied to agricultural uses on BVR-1 would also be transferred to the BLM. Finally, as part of the exchange, approximately 5.375 cfs of water rights from Sophronia Day Ditch on BLM-J would be conveyed back to BVR for ultimate transfer to Skylark Ranch, which adjoins BLM-J.

Additionally, the proposal includes conveyance of the surface and mineral estates of the Federal and non-Federal lands, subject to valid existing rights, to avoid creating split estates. The conveyance of surface and mineral estates of the Federal and non-Federal lands is discussed in detail in Section G – Geology and Minerals of Appendix G.

The proposal also includes a variety of Recreation Design Features intended to provide opportunities to enhance recreation. The Recreation Design Features would be constructed following the closing of the exchange and would include features in the Confluence Recreation Area, Green Mountain Recreation Area, Spring Creek Bridge Take-Out and Rest Stop, and the Pump Station Rest Stop (refer to Figures 3–6 for a depiction of these areas). The features include a variety of in-stream river and riparian habitat improvements, two new river take-outs, two new river rest stops for floaters, the installation of various recreational amenities like toilets and picnic tables, and the enhancement of fishing access at various points along the Blue River through the development of improved parking and trails as well as the implementation of fishing and pedestrian access easements.

ALTERNATIVE 3

Alternative 3 would include a similar land exchange to the Proposed Action Alternative described in the previous section but would be different in four ways:

1) A 76-acre reduction of BLM-I, resulting in approximately 1,413 acres of Federal lands to be exchanged;
2) Parcels BVR-3 and BVR-4 would be removed from the exchange, resulting in approximately 1,484 acres of BLM lands to be exchanged;
3) BVR would not donate the 7-acre “Chevron Parcel” near BVR-8; and
4) There would be no Recreation Design Features included.

Table 2-3 in Appendix A discloses nine Federal parcels proposed for exchange under Alternative 3, which range in size from approximately 40 to 330 acres. All of the Federal parcels, BLM-A–C and BLM-F–K, are located in Grand County. These parcels are mostly or entirely surrounded by BVR lands and are difficult for the public to legally access.

Table 2-4 in Appendix A discloses seven parcels of non-Federal lands proposed for exchange under Alternative 3, ranging from approximately 1 to 657 acres. Non-Federal parcels (BVR) 1, 5, 7, and 8 are located in Grand County, and 2, 9, and 10 are located in Summit County. The BVR land proposed in this exchange is anticipated to provide increased public access to recreation opportunities.

All water rights associated with BVR-8 and BVR-1, as well as BLM-J, would be transferred to their prospective owners. All surface and mineral estates as described under the discussion of the Proposed Action Alternative would also be conveyed.

PUBLIC INVOLVEMENT

A scoping process was used to identify potential substantive issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis.

A Notice of Exchange Proposal was originally released in June 2005 and work on an Environmental Assessment (EA), including public scoping, began. However, work on the exchange was suspended in 2006 pending completion of revisions to the KFO RMP, which occurred in July 2015 (the 2015 RMP). Upon resumption of the exchange process, the KFO prepared a news release and accompanying maps for the proposed land exchange that were shared on its website and in the newspaper of record. This public notice invited interested parties to submit comments to the BLM for a period of 45 days. A Notice of Intent to prepare an EIS was published in the *Federal Register* on April 19, 2016, initiating the scoping period that was open from April 19, 2016 to June 8, 2016.

During the scoping period, two public meetings were held by the BLM. The first public meeting was held on May 23, 2016 at the Summit County Library in Silverthorne, Colorado. The second public meeting was held the following day on May 24, 2016 at the Grand County Extension Office of the Fairground in Kremmling, Colorado. Additional information was available on the KFO website (http://www.blm.gov/co/st/en/fo/kfo/proposed_blue_valley.html). Comments were accepted from the following sources: email, letter, public meetings, fax, and phone.

During the scoping period, the KFO received 68 comment submittals. Of the 68 comment submittals received during the scoping process the vast majority were from residents of Grand and Summit counties. A total of 104 substantive comments were extracted from the 68 comment letters. These comments were categorized by resource and were used to develop the issues described in the following Section F of this Executive Summary.

On May 11, 2018, the BLM published a Notice of Availability in the *Federal Register* announcing the BLM had prepared a Draft EIS for the proposed land exchange between the BLM and BVR and the opening of the comment period on this document. The notice indicated the BLM must receive written comments within 45 days following the date the Environmental Protection Agency publishes its Notice of Availability in the *Federal Register* to ensure comments would be considered. The BLM's notice also identified methods for submitting comments to include the project website, electronic mail, facsimile message (fax), and regular mail. During the Draft EIS comment period two public open houses were held by the BLM. The first public meeting was held on June 4, 2018 at the Summit County Library in Silverthorne, Colorado. The second public meeting was held on June 6, 2018 at the Grand County Extension Office of the Fairgrounds in Kremmling, Colorado. A total of 52 comment letters were received and, from these letters, 152 substantive comments were extracted. These substantive comments were combined and organized into twenty different themes. Following the Draft EIS comment period, the BLM analyzed and considered the comments received on the Draft EIS in the preparation of the Final EIS consistent with its obligations under NEPA. Comments, whether a change was made to the Final EIS or not, are documented and responded to in the Response to Comments Document, which is included as Appendix L – Response to Comments on the Draft Environmental Impact Statement.

SUMMARY OF RESOURCE ISSUES ADDRESSED

Based on the results of public scoping, specific areas of concern were identified and classified as being either "*issues for analysis*" or "*non-issues.*" Issues result from potentially adverse impacts from a proposed action (BLM NEPA Handbook H-1790-1). *Issues* for analysis may warrant the generation of an alternative, can be addressed by design criteria or mitigation, or generally require analysis and disclosure. *Non-issues* are beyond the scope of the proposed land exchange, are already decided by law, regulation or policy, or are not relevant to the decision.

HUMAN ENVIRONMENT

Lands and Realty

Issue: The proposed land exchange would alter the ownership of Federal and non-Federal parcels throughout the proposed land exchange area, which would require assignment, transfer or other accommodation of valid and existing rights such as rights of way or easements for utilities and roads.

Access and Traffic

Issue: The proposed land exchange, and future land uses of public and private parcels, may alter traffic patterns in the Analysis Area.

Issue: The proposed land exchange involves the potential addition of public lands to existing recreation areas that are managed by the BLM and may affect parking in the Analysis Area.

Issue: The proposed land exchange would alter public access to the riverfront and associated walk-in fishing opportunities on BLM-I, as well as access to BLM-G and BLM-H for floaters of the Blue River.

Recreation

Issue: BLM lands in the Analysis Area are used throughout the year for various recreational activities, including, but not limited to hiking, cycling, fishing, rafting, kayaking, and hunting. The proposed land exchange has the potential to alter recreational resources, trail connections, and the recreation management requirements on BLM lands within the jurisdiction of the KFO.

Social and Economic Resources:

Issue: The economy of the Blue River Valley is connected to the use and availability of public lands for recreational, scenic, and other ecological values. The proposed land exchange has the potential to alter the use and availability of public lands for these purposes with associated impacts to the regional economy.

Livestock Grazing Management

Issue: The proposed land exchange could affect grazing allotments and activities on the Federal and non-Federal parcels throughout the proposed land exchange area.

Paleontological Resources

Issue: The proposed land exchange could affect how known or unknown paleontological resources are managed or protected throughout the Analysis Area.

PHYSICAL/BIOLOGICAL RESOURCES

Wildlife

Issue: The future management of aquatic/fisheries resources across the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: The future protection of migratory birds throughout the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: Threatened, endangered and sensitive (TES) wildlife and aquatic species may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels in the Analysis Area.

Issue: The management of terrestrial habitat and habitat connectivity throughout the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Vegetation

Issue: The future management of vegetation communities in the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: The future management of noxious weed infestations throughout the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: Threatened, endangered, and sensitive (TES) plant communities may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels in the Analysis Area.

Issue: The proposed land exchange includes the transfer of historic water rights associated with BVR-1 and BVR-8, and BLM-J, which could alter how water is applied on the proposed exchange parcels and thus their vegetative communities.

Water Quality, Surface and Ground

Issue: The proposed land exchange entails transferring public and private lands, which could affect water quality depending on how Federal and non-Federal lands are managed/developed in the future.

Wetlands and Riparian Habitats

Issue: The proposed land exchange entails a change in ownership of waters of the U.S., including wetlands, contained on Federal and non-Federal parcels in the Analysis Area; therefore, having the potential to impact these resources through associated changes in management and land use.

Floodplains

Issue: The proposed land exchange may affect management of floodplains on Federal and non-Federal parcels in the Analysis Area.

ISSUES IDENTIFIED THAT HAVE NO OR NEGLIGIBLE IMPACTS

Based on the results of public scoping, the following specific areas of concern were identified and classified as *issues*; however, the analysis done for the Final EIS indicated that the reasonably foreseeable impacts of the action alternatives with respect to each of these *issues* is negligible or non-existent.

As a result, these *issues* and their accompanying analysis have been removed from the Chapter 3 resource analysis and can be found in Appendix G of this Final EIS.

HUMAN ENVIRONMENT

Visual Resources

Issue: The proposed land exchange would change private land ownership and management of public lands, with potential to affect the visual quality throughout the Analysis Area.

Determination: The reasonably foreseeable impacts of the proposed land exchange would not affect the visual quality throughout the Analysis Area. The visual resource analysis indicates that under exchanged conditions, future uses of the exchange parcels would resemble the current ranching practices of the area and no development is proposed on these parcels. Additionally, the proposed Recreation Design Features which would be implemented on non-Federal lands subsequent to the proposed exchange would be consistent with BLM visual resource management designations. As a result of these factors and additional context provided in Appendix G, analyses indicate that that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Cultural Resources

Issue: The proposed land exchange may affect how known or unknown cultural resources are managed or protected throughout the Analysis Area.

Determination: The proposed land exchange would not have direct, indirect, or cumulative effects on cultural resources in the APE. This determination is supported by the SHPO, which concurred with a finding of no adverse effect [36 Code of Federal Regulations § 800.5(b)] for site 5GA9 and the Blue Valley Ranch Land Exchange undertaking as a whole. As a result of these factors and additional context provided in Appendix G, analyses indicate that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Native American Religious Concerns

Issue: The proposed land exchange would change the ownership and management of resources that may be valued by Native Americans for religious or cultural reasons.

Determination: There are no direct or indirect effects to Native American religious concerns. Additionally, there would be no known impacts to sites and landscapes of cultural and religious significance to Native Americans in the proposed land exchange area. These factors and additional context provided in Appendix G indicate that that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Environmental Justice

Issue: Executive Order 12898, *Environmental Justice* requires that all federal agencies disclose any disproportionately high and adverse human health or environmental effects on minority and low-income populations that could result from a proposed action

Determination: There are no minority populations, as defined by CEQ above, that have been identified in the Analysis Area. Thus, the action alternatives are not expected to directly or indirectly create disproportionately high and adverse human health or environmental effects on minority and low-income populations. These factors and the additional context provided in Appendix G show that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Law Enforcement

Issue: The proposed land exchange entails the creation of new public recreation areas and the removal of some lands from BLM management, which would alter the law enforcement requirements of the BLM, CPW, and local units of government.

Determination: The action alternatives are not expected to affect the capacity of law enforcement within the KFO. This conclusion was based on personal communication with the LEO of the KFO. As these factors and additional context provided in Appendix G show that the action alternatives would have minimal or negligible direct or indirect effects to this resource, this resource analysis was removed from Chapter 3 of this Final EIS.

Wastes, Hazardous or Solid

Issue: Federal and non-Federal parcels in the proposed land exchange area may contain hazardous or solid wastes.

Determination: There are no Recognized Environmental Conditions (RECs) on the non-Federal parcels that would bar acquisition by the BLM. Furthermore, the BLM would not transfer any Federal parcel that has RECs to private ownership. The BLM would be responsible for maintaining the health of the lands on the acquired non-Federal parcels and the Proponent would be responsible for maintaining the health of the acquired Federal parcels. There are also no reasonably foreseeable developments for any of the Federal parcels to be acquired by the Proponent. As a result of these factors and additional context provided in Appendix G, it was indicated that that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

PHYSICAL/BIOLOGICAL RESOURCES

Geology and Minerals

Issue: The federal government owns the mineral estate underlying the Federal parcels. Transfer of ownership between public and private interests would affect the lands availability for mineral development or extraction.

Determination: Although the mineral estate on the Federal parcels would be transferred to private ownership, the loss of these mineral rights would represent a negligible effect as there is low development potential for leasable and locatable minerals on these parcels. There is no proposed development of the mineral estate on the Federal parcels and the salable mineral (sand and gravel) reserves have a net present value of $0.00. These factors and additional context provided in Appendix G demonstrate that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Water Rights and Use

Issue: The proposed land exchange includes the transfer of historic water rights associated with BVR-1, BVR-8, and BLM-J.

Determination: The two water rights totaling 5.375 cfs on the Sophronia Day Ditch on Federal parcel BLM-J would be conveyed to BVR. The 0.002 cfs Blue River water right on BLM-I would be relinquished to the stream system because this right cannot be transferred out of federal ownership to private parties. The three water rights on Dry Creek Ditch on BVR-1 owned by Galloway Inc. (the owner of BVR) would be conveyed to the BLM, and the 7.12 cfs water right on the Loback Ditch on BVR-8 would be conveyed to the BLM. Consequently, BLM would have a net gain of 9.823 cfs of water rights available for use by the BLM. As the proposed land exchange would result in a net gain of water rights available for use by the BLM, the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Soils

Issue: The proposed land exchange involves both Federal and non-Federal parcels containing varied soil types and characteristics.

Determination: There would be a net gain of soil resources under Federal management. This would include gains or losses of individual soil types; however, the end result would be a negligible effect to soil resources. Future uses of the exchange parcels would be subject to best management practices. While minimal development associated with the proposed Recreation Design Features would occur with the Proposed Action, it would occur on BLM lands under the direct supervision of the BLM. Considered alongside the overall net gain in soils resources, impacts associated with the construction of the two Recreation Design Features with the Proposed Action that occur on BLM lands are largely outweighed. These factors and additional context provided in Appendix G indicate that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

ISSUES DISMISSED FROM FURTHER ANALYSIS

As a result of external and internal scoping, the Interdisciplinary Team (ID Team) identified certain issues that are outside the scope of this analysis, or only required minimal analysis to determine that impacts would be negligible and thus would not require further analysis. The following issues are dismissed from further analysis.

Air Quality: The action alternatives would not involve any activity/management action that would measurably affect air quality. While traffic volumes are naturally increasing in the Analysis Area, the action alternatives are not anticipated to measurably increase traffic volumes on roadway networks accessing Federal and non-Federal parcels; therefore, it would not impact air quality.

Areas of Critical Environmental Concern (ACEC): No ACECs were identified within the Analysis Area. As the Analysis Area is not overlapped by any ACECs there is no potential for the action alternatives to impact these areas. Further, the proposed Recreation Design Features are not at a scale that would not be capable of altering any ACECs outside but nearby the Analysis Area.

Cadastral Survey: Cadastral Surveys are the surveys that create, mark, define, retrace, or reestablish the boundaries and subdivisions of the public lands of the United States. All cadastral surveys in the Analysis Area are accurate and up to date. The movement and/or placement of land ownership markers are not included in the action alternatives; therefore, there were no issues identified as it relates to cadastral surveys.

Forests: The action alternatives would not include any vegetation removal or other actions which would affect forest resources. There is no development associated with the action alternatives and none of the Recreation Design Features would generate use that is anticipated to result in impacts to Forest resources. As a result, there were no issues identified as it relates specifically to Forests. An analysis of vegetation, however, is included in Chapter 3.

Fire/Fuels Management: The action alternatives would not change fire behavior or fuels management. There is no future use proposed on any of the exchange parcels that is anticipated to alter fire behavior. Although the BLM would relinquish the ability to manage fuels on parcels exchanged into private ownership, the agency would ultimately be

capable of managing fuels on a greater amount of land post-exchange. As a result of these factors, there were no issues identified related to fires and fuels management.

Noise: The action alternatives would not involve any activity/management action that would measurably affect noise within the Analysis Area. During the construction of the proposed Recreation Design Features, temporary alternations to the natural soundscape would occur, attributable to the use of heavy machinery and increased vehicular traffic within a concentrated area. These impacts would be short term in nature and restricted to very limited areas of BLM lands; therefore, there were no noise issues identified, as no other component of the action alternatives would result in alteration of the existing soundscape.

Wild and Scenic Rivers: No Wild and Scenic Rivers exist directly within the Analysis Area; however, the segment of the Colorado River from the Pumphouse Recreation Site to State Bridge has eligibility as a Wild and Scenic River under the "recreational" classification and is nearby the proposed Confluence Recreation Area Recreation Design Feature. Future management of the proposed Confluence Recreation Area Recreation Area Design Feature would be managed to maintain consistency with the Wild and Scenic River eligibility for the segment of the Colorado River from the Pumphouse Recreation Site to State Bridge. Implementation of the proposed Confluence Recreation Area is not anticipated to impact this classification in any way, and construction would be managed accordingly to ensure that there is no infringement on the existing recreational resources of the area. As a result, no issues related to Wild and Scenic Rivers were identified. A discussion of Wild and Scenic Rivers in the context of the proposed Confluence Recreation Area Recreation Design Feature is continued in the recreation discussion of Chapter 3.

Wilderness/Wilderness Study Areas (WSAs)/Wilderness Characteristics: No Wilderness Areas or WSAs exist within the Analysis Area and the parcels evaluated for exchange are not identified as having wilderness characteristics. Further, none of the proposed Recreation Design Features would be capable of impacting wilderness areas outside but nearby the Analysis Area. As a result, no issues related to Wilderness or Wilderness Study Areas were identified.

SUMMARY OF CHANGES BETWEEN THE DRAFT EIS AND FINAL EIS

Following the release of the Draft EIS for public comment, the Final EIS was updated based on comments received during the Draft EIS comment period, as well as review from the BLM, U.S. Forest Service, and BVR (for document accuracy). These changes are summarized below. Overall, the length of the document has been reduced by placing a variety of the information, including the discussion of resources with negligible direct, indirect, and cumulative effects as well as alternatives and design components considered but eliminated from detailed analysis, into various appendices. This change consolidates the most relevant information on the Proposed Action and its impacts into the Final EIS, while including the remaining supporting information as appendices. In addition, the overall acreages of the parcels being exchanged were updated based on final appraisal information.

Changes were also made based on concerns raised by the public, which led to an increase in the Recreation Design Features that were incorporated into the Final EIS.

Two easements west of BVR-10 were added to the Proposed Action following the close of the Draft EIS comment period. These easements are incorporated as Recreation Design Features in the Green Mountain Recreation Area and are intended to facilitate public access in this area to better realize the opportunities for outdoor recreation that would be provided under the Proposed Action. Under the Proposed Action, BVR would grant a fishing easement in perpetuity for public use of the 0.18-mile segment of river on BVR property located between NFS lands to the south and BLM lands to the north. BVR would also grant a perpetual pedestrian-only access easement along the existing BVR ranch road and along a proposed trail to the edge of the fishing easement. These easements would enhance public and angler access to the Blue River.

To address public comments that expressed concern around the loss of BLM-G and BLM-H and the opportunities these parcels provide to floaters of the Blue River, an easement for a 0.5-acre site on the east bank of the river, to provide a floater rest stop downstream of BLM-H (on BVR private lands), was also added to the Proposed Action

following the close of the Draft EIS comment period. This easement is referred to as the Pump Station Rest Stop and has been incorporated as a Recreation Design Feature to augment the rest stop benefits provided by the Spring Creek Bridge Take-Out and Rest Stop. This new rest stop would be located approximately 3.1 miles downstream of the Spring Creek Rest Stop and about 6.8 miles upstream of the Lower Blue River Take-Out near the confluence of the Blue and Colorado Rivers. The Pump Station Rest Stop and Spring Creek Bridge Take-Out and Rest Stop are intended to provide floaters desiring a rest stop with similar, if not more frequent rest stop opportunities, than the existing conditions, given the float times between rest stop opportunities. The Pump Station Rest Stop would provide a seasonal toilet and trash receptacle.

Comments received on the Draft EIS allowed the BLM to better understand public concerns, which resulted in the creation of Alternative 3 that is included in this Final EIS. Alternative 3 includes a reconfigured boundary for BLM-I to retain public riverfront access and associated walk-in fishing opportunities on this parcel. To equalize the land exchange without this portion of BLM-I, BVR-3 and BVR-4 are not included in Alternative 3. Additionally, Alternative 3 does not include donations from BVR of land or Recreation Design Features included in the Proposed Action.

Additionally, text was added to the Purpose and Need section discussing shared objectives for the project around consolidating private land ownership to minimize conflicts with users of public lands and improving consistency of ecosystem management on private lands.

In some instances, the acreages reported in various resource analyses were updated based on final appraisal information, and/or inconsistencies identified in the public comment and review processes. As it relates to specific comments that were raised, these changes are described in Appendix L – Response to Comments on the Draft Environmental Impact Statement.

In addition, the following clarifications and updates were made throughout the document:

- The distance between Trough Road to the confluence of the Blue River and the Colorado River was corrected.
- Text describing that floating the Blue River, and accessing certain parcels included in the exchange along the Blue River, is only possible when flows allow.
- That the southern, not western, half of BLM-C would be transferred to Sheephorn Ranch following closing of the exchange.
- References to the Blue Valley Acres Metro District were replaced with Blue Valley Metropolitan District.
- Text describing that the Forest Service would be responsible for the management of the land transferred to their ownership and BVR would remain responsible for the land on the easements west of BVR-10.
- Text describing that the rest stops provided along the Recreation Design Features would include the right to re-entry.
- The requirement of a field survey on BLM-K by a BLM-permitted paleontologist was removed due to lack of paleontological resources on BLM-K.
- Text describing that under the No Action Alternative, parcels BLM-B and BLM-C would not be open to the public because they have no public access.
- Text describing that mineral development could occur on Federal parcels BLM-G, BLM-H, BLM-I and BLM-K under the No Action Alternative but would be unlikely because there is currently no vehicular access to the parcels.
- Various edits for grammatical accuracy and clarity were made.

TABLE OF CONTENTS

1. PURPOSE AND NEED

A. INTRODUCTION

The proposed land exchange analyzed in this document constitutes a proposed federal action, which has the potential to affect the quality of the human environment as a result of decisions concerning the public lands administered by the United States Department of the Interior (USDI) Bureau of Land Management (BLM). Therefore, the proposed land exchange must be analyzed pursuant to the National Environmental Policy Act of 1969 (NEPA). Under NEPA, federal agencies must carefully consider environmental concerns in their decision-making processes and provide relevant information to the public for review and comment.

The BLM has prepared this Final Environmental Impact Statement (Final EIS) in compliance with NEPA and other relevant federal and state laws and regulations. This Final EIS contains analyses consistent with NEPA, Council on Environmental Quality (CEQ) regulations, and BLM policy. This Final EIS discloses potential direct, indirect, and cumulative environmental effects on the human and biological environment anticipated to result with implementation of the action alternatives. Additionally, it is intended to ensure that the decision-maker considers the environmental and social values of the Analysis Area and that potential resource conflicts are minimized, reduced, or avoided. This document is organized into eight chapters:

- **Chapter 1 – Purpose and Need:** includes information on the history of the proposed land exchange, the purpose of and need for the proposed land exchange, and the proposal for achieving that Purpose and Need. Chapter 1 details how the BLM informed the public of the proposed land exchange and how the public responded. Chapter 1 also describes issues raised through the scoping process and whether those issues were considered in detailed analysis or dismissed due to lack of potential impacts.
- **Chapter 2 – Description of Alternatives:** provides a detailed description of the No Action Alternative, the Proposed Action, and Alternative 3 that are analyzed in detail in this document. This discussion also includes alternatives considered but eliminated from further analysis. This section also contains information on the relationship of the action alternatives to other actions, policies, and regulations.
- **Chapter 3 – Affected Environment and Environmental Consequences:** provides a description of the affected environment (i.e., existing conditions) by resource area, and describes the direct, indirect, and cumulative environmental effects of implementing the No Action Alternative, Proposed Action, or Alternative 3. Chapter 3 is organized by resource topic.
- **Chapter 4 – Consultation and Coordination:** provides a list of preparers and agencies consulted during the development of this Final EIS.
- **Chapter 5 – Figures:** provides the maps, figures, and perspectives used throughout the analysis.
- **Chapter 6 – Index:** provides a list and page number of frequently used terms throughout this Final EIS.

Separate from the main body of the document but also available for review are the Appendices for this Final EIS, which provide a variety of supporting information. There are 13 appendices included with this document, as described below:

- **Appendix A – Final EIS Tables and Charts:** includes all of the tables and charts included in the Final EIS.
- **Appendix B – References:** includes a complete list of references for the information and documents cited within this Final EIS.
- **Appendix C – Valuation Process for BLM Land Exchanges:** provides a description of the process used to estimate the market value of the lands included in the land exchange.
- **Appendix D – Reservation of Federal Rights or Interests:** states the rights and authorities retained by the BLM during the process of the land exchange.
- **Appendix E – Alternatives and Design Components Considered but Eliminated from Detailed Analysis:** discusses the alternatives and design components that were identified during scoping and internal interdisciplinary meetings but have been eliminated from further analysis. It also includes a description of why each alternative or component was eliminated.

- **Appendix F – Plan Conformance Review:** describes the conformance of the proposed land exchange with the 2015 Kremmling Field Office Resource Management Plan**.**
- **Appendix G – Resources with Negligible Direct and Indirect Effects:** includes the analyses completed for issues that were identified as having no or negligible impacts and were accordingly removed from the Final EIS.
- **Appendix H – Cumulative Effects to Resources with Negligible Impacts:** provides the cumulative effects analyses for issues that have no or negligible impacts.
- **Appendix I – Glossary of Terms:** provides a definition of technical and non-technical terms used throughout this Final EIS.
- **Appendix J – Acronyms and Abbreviations:** includes a complete list of the all the acronyms and abbreviations used throughout the document.
- **Appendix K – Eagle Pass Ranch Land Exchange Parcels Map and Notice of Decision:** provides a map and Notice of Decision of the previously completed Eagle Pass Ranch Land Exchange (COC 58589) that the BLM and the owner of Blue Valley Ranch (BVR) were engaged in.
- **Appendix L – Response to Comments on the Draft Environmental Impact Statement:** Provides responses to public comments that were submitted on the Draft EIS.
- **Appendix M – Federal, State, and Local Agency Comment Letters on the Draft Environmental Impact Statement:** includes all of the comment letters submitted by federal, state and local agencies on the Draft EIS.

Additional documentation, including more detailed evaluations of Analysis Area resources, may be found in the project file located at the Kremmling Field Office (KFO) of the BLM.

B. BACKGROUND AND SUMMARY OF THE PROPOSED LAND EXCHANGE

In 1998 the BLM and Galloway, Inc. (owner of BVR) completed the Eagle Pass Ranch Land Exchange (COC 58589), refer to Appendix K for a map and Notice of Decision for the Eagle Pass Ranch Land Exchange). The land exchange achieved the objectives of consolidating federal and non-federal lands for more effective management for both parties, enhancing public access along the Colorado River and the Blue River, and bringing several large tracts of big game winter range into federal ownership.

Galloway, Inc (the owner of BVR) is the proponent of the currently proposed land exchange. In 2001 BVR approached the BLM to discuss a second land exchange in order to continue the consolidation of federal and non-federal lands in the area. Over the next several years, BVR and the BLM collaboratively developed the current proposed land exchange. In June 2005, the BLM issued its Notice of Exchange Proposal for the Blue Valley Ranch Land Exchange and initiated the required environmental analysis and appraisal processes. However, the exchange process was placed on-hold in 2006 pending completion of the BLM KFO 2015 Record of Decision and Approved Resource Management Plan (2015 RMP). Work on the proposed land exchange was reinitiated upon completion of the 2015 RMP in July 2015.[1]

This Final EIS analyzes the Proposed Action, which includes the exchange of 1,489 acres of federal lands managed by the BLM in Grand County, Colorado for approximately 1,830 acres of non-federal lands in Summit and Grand counties, Colorado. Approximately 300 acres of the non-federal lands (southern half of BVR-2) would be transferred to the White River National Forest (WRNF) as required by The Federal Land Management and Policy Act of 1976 as amended, while the remaining approximately 1,530 acres would be managed by the BLM KFO.

This Final EIS also analyzes Alternative 3, which was incorporated into the analysis following the comment period on the Draft EIS. Alternative 3 includes a reconfigured boundary for BLM-I that would retain public access to the riverfront and associated walk-in fishing opportunities on this parcel. To equalize the land exchange without this portion of BLM-I, BVR-3 and BVR-4 would be eliminated from the exchange in Alternative 3. Additionally, Alternative 3 would not include donations from BVR of land or Recreation Design Features included in the Proposed

[1] The KFO RMP was originally approved in 1984 and subsequently revised and released in 2015 through a Record of Decision adopting the Approved Resource Management Plan. It is referred herein as the 2015 RMP.

Action. Alternative 3 is added into the Final EIS without need for supplement to the Draft EIS in accordance with the BLM NEPA Policy Handbook (H-1790-1). As Alternative 3 does not:

1. make substantial changes to the proposed action that are relevant to environmental concerns (40 Code of Federal Regulations [CFR] § 1502.9(c)(1)(i));
2. include a new alternative that is outside the spectrum of alternatives already analyzed (see Question 29b, CEQ, Forty Most Asked Questions Concerning CEQ's NEPA Regulations, March 23, 1981); or
3. present significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its effects (40 CFR § 1502.9(c)(1)(ii)).

The addition of this alternative is appropriate without supplement, as it is a new alternative and is within the spectrum of the Proposed Action already analyzed due to its reduced footprint within the same project area.

The lands included in the exchange proposal have been appraised in accordance with federal regulations and federal appraisal standards. The values of the federal and non-federal lands must be equal, or capable of being equalized, in order for the exchange to be approved. This is discussed in more detail in Section E – BLM Land Exchange Policies of this chapter.

Refer to Table 1-1 in Appendix A for the location and legal descriptions of the exchange parcels.[2] Refer to Figures 1 and 2 in Chapter 5 for a proposed land exchange location map under each of the action alternatives.

The Federal parcels are identified as: BLM-A, BLM-B, BLM-C, BLM-F, BLM-G, BLM-H, BLM-I, BLM-J, and BLM-K. It is important to note that the boundary of BLM-I varies between the two action alternatives.

The non-Federal parcels are identified as: BVR-1, BVR-2, BVR-3, BVR-4, BVR-5, BVR-7, BVR-8, BVR-9, and BVR-10. BVR-3 and BVR-4 are not proposed for exchange under Alternative 3.

The discussion in Chapter 2, Section D – Alternatives and Design Components Considered but Eliminated from Detailed Analysis, as well as in Appendix E, describes the reasoning for parcels that were considered in the early stages of the land exchange but are eliminated from detailed analysis (e.g., BLM-D, BLM-E, and BVR-6). Figures 1–6 in Chapter 5 provide more detailed information on the exchange parcels.

Potential impacts to the human and biological environment anticipated to result from the action alternatives are analyzed and disclosed in Chapter 3.

C. PURPOSE AND NEED FOR THE PROPOSED ACTION

The BLM's primary purpose of the Proposed Action is to:

- Meet objectives from the 2015 RMP for wildlife, recreation, public access, and scenic values.
- Consolidate boundaries associated with, and improve management of, public lands while minimizing and reducing conflict between users of public lands and private landowners.
- Improve access to and enhance recreational opportunities on public lands.

The BLM's need for the Proposed Action is to respond to a proposed land exchange to consolidate federal land ownership patterns in the following areas:

- The Lower Blue River Valley, between the north face of Green Mountain and the confluence of the Blue and Colorado River;
- An area north of Trough Road, along the Colorado River Headwaters Scenic Byway and within the Upper Colorado River Special Recreation Management Area; and
- Parcels east of Kremmling adjacent to the Colorado River.

[2] Note: this table is not specific to either action alternative, and includes all parcels considered for exchange under either Alternative 2 or Alternative 3.

In addition to the BLM-specific Purpose and Need, the Proposed Action would also satisfy the following shared objectives of the BLM and the Proponent:

- Consolidate private land ownership patterns to minimize conflicts with users of public lands and reduce potential for trespassing; and
- Improve management on private lands by facilitating consistent management practices to be applied across ecosystems under common ownership.

Overall, the proposed land exchange would support the mission of BVR for land preservation, wildlife conservation, and agricultural operations.

D. PROPOSED LAND EXCHANGE LOCATION AND LEGAL DESCRIPTIONS

ALTERNATIVE 2 – PROPOSED ACTION

Federal Parcels (BLM) A, B, C, F, G, H, I, J and K (Grand County)

All of the Federal parcels are located in Grand County. Refer to Figure 1 for a proposed land exchange location map. The majority of the parcels are located throughout the Blue River Valley between Kremmling and the southwestern boundary of Grand County.

One parcel, BLM-J, was previously acquired by the BLM from BVR as part of the "Eagle Pass Ranch Land Exchange" (the BLM is now proposing to exchange this parcel back to BVR minus the portion of the parcel that includes the Colorado River and a 100-foot buffer on the northern bank of the Colorado). The parcel was acquired in 1998 to gain ownership of the riparian habitat and to provide greater public access to the Colorado River. At the time of acquisition, the riparian habitat that the BLM was interested in could not be split from the irrigated acreage of the rest of the parcel. Since the parcel was acquired, the lack of BLM resources to manage the irrigated section of the parcel, as well as the isolation of the parcel, make it a costly parcel to manage, particularly in light of the fact that the public does not often utilize the parcel. The result is that a great amount of resources are committed to managing a parcel that the public seldom uses.

All of the Federal parcels are mostly, or entirely surrounded by BVR or other private property. BLM-J and BLM-F are the only parcels east of Colorado State Highway 9 (SH 9), all of the other parcels are located west of SH 9 between Green Mountain and Kremmling. Due to the surrounding private property, these parcels are difficult for the public to legally access and provide limited recreation opportunities. However, BLM-I, BLM-G, and BLM-H that are adjacent to the Blue River provide public access for recreation, particularly BLM-I that offers walk-in access for anglers. BLM-G and BLM-H are also adjacent to the Blue River, but these parcels are only legally accessible to the public by floating the river when flows allow and are used as a rest stop by recreationists.

The upland BLM parcels (especially A, B, and C) provide hunting opportunities; however, BLM-B and BLM-C are not legally accessible to the public because they are surrounded by private property. BLM-A only adjoins other public lands along its western boundary. The Federal parcels, except for BLM-J and BLM-K, are subject to grazing leases held by BVR.

Non-Federal Parcels (BVR) 1, 4, 5, 7, and 8 (Grand County)

The non-Federal parcels in Grand County also primarily occupy the Blue River Valley between Kremmling and the southwestern boundary of Grand County (refer to Figure 1 for a proposed land exchange location map). One parcel, BVR-5, is directly east of Kremmling, along U.S. Highway 40. The non-Federal parcels provide river frontage (BVR-8), big game habitat (BVR-1), sage-grouse habitat (BVR-1–4), and public access for a variety of uses. All of these parcels are adjacent to existing BLM lands and would consolidate boundaries and unlock previously inaccessible or difficult to access areas to the general public.

Non-Federal Parcels (BVR) 2, 3, 9, and 10 (Summit County)

The non-Federal parcels in Summit County are all in close proximity to the Blue River, below Green Mountain reservoir. BVR-2, BVR-9, and BVR-10 would add 756.3 acres of newly managed public lands to the Green Mountain area resulting in the acquisition of big game and sage grouse habitat, and further consolidation of public lands managed by the BLM, the U.S. Forest Service (Forest Service) and Summit County Open Space. This area provides increased ease of entry to previously difficult to access areas and a variety of recreation opportunities.

BVR-9 is owned by Summit County as part of its open space program. The parcel is bounded by BVR-2 on the north, west and south and other BLM managed land on the east. BVR has an option from Summit County to purchase this parcel concurrent with the closing of the land exchange and convey the parcel to the BLM. Inclusion of this parcel in the exchange would allow for consistent land management by BLM after the exchange is completed.

BVR-10 would improve access to a reach of the Blue River that is popular among anglers and other members of the public, but difficult to access due to adjoining private lands and physical constraints. Additional pedestrian and fishing access easements would be developed west of BVR-10 to provide 1.65 miles of contiguous Blue River access. BVR-3 would consolidate an existing block of BLM land east of SH 9. Approximately 300 acres in the southern half of BVR-2 would become National Forest System (NFS) lands under the Federal Land Management and Policy Act because they are within the WRNF's administrative boundary. These lands would then be managed by the WRNF.

Recreation Design Features

As a component of the Proposed Action, BVR has proposed a number of Recreation Design Features intended to enhance aquatic habitat near BVR-8 and to facilitate opportunities for enhanced public recreation. The proposed Recreation Design Features would be focused in four areas: near the confluence of the Blue River and Colorado River (vicinity of BVR-8); adjacent to the Spring Creek Road bridge, which crosses the Blue River; downstream of BLM-H (on BVR private lands approximately 3.1 miles downstream of the Spring Creek Rest Stop; and the northern end of the canyon below Green Mountain Reservoir (vicinity of BVR-10). The proposed Recreation Design Features are further described in Chapter 2.

Legal Descriptions of Federal and Non-Federal Parcels

The legal description and acreage of each Federal and non-Federal exchange parcel is included in Table 1-1 in Appendix A.[3]

ALTERNATIVE 3

Federal Parcels (BLM) A, B, C, F, G, H, I, J and K (Grand County)

Alternative 3 would include the same Federal parcels as the Proposed Action; however, a 76-acre riverfront portion of BLM-I would not be included in the exchange and would stay in Federal ownership. Maintaining this 76-acre portion of BLM-I in Federal ownership would allow the BLM to continue to provide public access and walk-in fishing opportunities along the Blue River from BLM-I. Refer to Figure 2 for a depiction of Alternative 3.

Non-Federal Parcels (BVR) 1, 5, 7, and 8 (Grand County)

Alternative 3 would include the same non-Federal parcels in Grand County as the Proposed Action; however, BVR-4 would not be included in the exchange and would stay in private ownership. Refer to Figure 2 for a depiction of Alternative 3.

Non-Federal Parcels (BVR) 2, 9, and 10 (Summit County)

Alternative 3 would include the same non-Federal parcels in Summit County as the Proposed Action; however, BVR-3 would not be included in the exchange and would stay in private ownership. Refer to Figure 2 for a depiction of Alternative 3.

Recreation Design Features

There are no Recreation Design Features in Alternative 3. The donation of the 7-acre "Chevron Parcel" to facilitate construction of the in-stream enhancements and provide continuous public access in the Confluence Recreation Area would also not be included under this Alternative.

[3] The acreage provided in the legal description, which has been calculated through cadastral survey work, provides the official acreage of all parcels. Where discrepancies occur with other mapping sources, the acreage described in the legal description is to be referenced.

Legal Descriptions of Federal and Non-Federal Parcels

The legal description and acreage of each Federal and non-Federal exchange parcel is included in Table 1-1 in Appendix A. It is important to note that BLM-I would be reduced by 76 acres under Alternative 3, and that BVR-3 and BVR-4 would not be included in Alternative 3.

E. BLM LAND EXCHANGE POLICIES

The BLM is authorized to complete land exchanges under Section 206 of the Federal Land Policy and Management Act of 1976 (FLPMA), as amended, after a determination is made that the public interest will be served.[4] When considering the public interest, the authorized BLM officer shall give full consideration to: 1) the opportunity to achieve better management of federal lands; 2) the needs of the state and local residents and their economies; and 3) securing important resource management objectives including, but not limited to: (A) protection of fish and wildlife habitats, cultural resources, watersheds, wilderness and aesthetic values; (B) enhancement of recreation opportunities and public access; (C) consolidation of lands and/or interests in lands, such as mineral and timber interests, for more logical and efficient management and development; (D) consolidation of split estates; (E) expansion of communities; (F) accommodation of land use authorizations; (G) promotion of multiple-use values; and (H) fulfillment of public needs.[5]

The BLM follows a detailed process for configuring, analyzing, and deciding upon proposed land exchanges, as defined by the BLM Land Exchange Handbook H-2200-1.[6] Per handbook direction, the exchange process can be divided into five phases:

Phase 1 – development of a land exchange proposal. The BLM and potential exchange parties meet to discuss land exchange processing requirements and capabilities, the potential lands to be included, and potential benefits and issues, as well as to informally share ideas about proposed land exchanges. This informal discussion and initial screening helps identify proposals that have fatal flaws, or those that would be otherwise unworkable.

Phase 2 – feasibility evaluation. In consultation with the non-federal party, the BLM prepares a report assessing the feasibility of the land exchange proposal, estimates processing costs, and completes the required State Office and Washington Office reviews. At the end of this period, if the parties agree to proceed with the exchange proposal, a nonbinding agreement to initiate a land exchange (ATI) is signed by the parties. The ATI outlines the property and interests to be transferred, assigns responsibility for various actions and costs, and sets a schedule for completing various actions.

Phase 3 – processing and documentation. This phase begins with public notification of the proposed exchange and an invitation to interested parties and the public to submit written comments or concerns regarding the proposed exchange (i.e., public scoping). During this phase, the NEPA process is begun, resource analysis occurs, title is reviewed, appraisals prepared and reviewed, and environmental issues identified. At the end of this period, the parties may reach an agreement on value.

Phase 4 – decision analysis and approval. This phase involves the remainder of the NEPA process, which includes the public interest determination, development of the exchange decision documents, completion of State Office and Washington Office reviews, decision signing, and public notification of the decision on the exchange.

Phase 5 – title transfer. This phase involves finalization of the exchange including receiving and reviewing the title evidence and land status, issuing the federal patent and the non-federal deed, and closing the transaction.

[4] 43 CFR § 2200.0–6
[5] Ibid.
[6] BLM, 2005

VALUATION PROCESS FOR BLM LAND EXCHANGES

FLPMA requires the value of exchanged Federal and non-Federal lands "are of approximately equal value;" however, adjustments for any difference in value by cash equalization payments may be made up to 25 percent of the value of the federal lands to be disposed.[7] For additional information regarding the valuation process, see Appendix C.

RESERVATION OF FEDERAL RIGHTS OR INTERESTS

The BLM has the authority to reserve rights and restrict activities in land exchanges. As explained in the BLM Land Exchange Handbook (H-2200-1), "The regulations under 43 CFR § 2200.0-6(i) provide that the public interest may be protected through the use of reserved rights or interests in the federal land." The proposed land exchange does not entail mitigation in the form of reserved federal rights. The need to reserve certain federal rights in order to move forward with the land exchange was not identified by BLM as part of its Phase 2 Feasibility Analysis. Accordingly, since it was not necessary for the initial public benefit determination, a reservation of federal rights was not considered in the appraisal process. For additional information regarding the reservation of federal rights or interests, see Appendix D.

F. COOPERATING AGENCIES

Pursuant to 43 CFR § 46.155 and 40 CFR § 1501.6, the BLM must invite any federal agency that has "jurisdiction by law with respect to any environmental issue" which should be addressed in the EIS, any federal agency "that is qualified to participate in the development of an [EIS] by virtue of its special expertise…[,]" which means "statutory responsibility, agency mission, or related program experience" with respect to any environmental issue which should be addressed in the EIS, and any state, tribal, or local agency which either have "jurisdiction by law" or "special expertise."[8] Any such agency may also request to be designated as a cooperating agency.

The WRNF agreed to be a Cooperating Agency in the NEPA process. Because a component of the proposed land exchange would include the authorization of a trail through NFS lands to better access recreation opportunities on what would become a Federal parcel, the WRNF agreed to be a part of the environmental review process. Additionally, approximately 300 acres of land in the southern half of BVR-2 that is within the WRNF administrative boundary would become NFS lands as a result of the exchange. This transfer of administrative jurisdiction of land to the WRNF does not require specific analysis as the agency is only receiving, rather than exchanging land.[9] The WRNF's specific role in contributing to the process and reviewing materials focused on resources and impacts associated with the Green Mountain area, the Lower Green Mountain Canyon, and consistency of the exchange with the 2002 Revision of the WRNF Land and Resource Management Plan (2002 Forest Plan).

There are no other Cooperating Agencies for this project; however, further detail regarding individuals and agencies that have been involved in the NEPA process is included in Chapter 4.

G. DECISION TO BE MADE

The BLM will decide whether to approve the proposed land exchange based on the analysis contained in this Final EIS. The BLM may choose to: a) proceed with the exchange as proposed, b) proceed with the proposed exchange with modifications/mitigation/Recreation Design Features and the proposed donation of non-federal land, c) proceed with the exchange with modifications to the parcels to be exchanged, or d) not proceed with the exchange.

The configuration of the exchange may be modified in the Record of Decision to allow the Proponent to donate, rather than exchange, portions of the non-Federal parcels, as may be necessary, in order to equalize appraised values, as provided by the BLM Land Exchange Handbook (H-2200-1). This is consistent with BVR's stated intent. All environmental effects determinations would remain unchanged under such a modification, as the effects are based on a change in ownership, rather than the specific method of transfer (i.e., exchange or donation). BVR has also stated its intent to donate the "Chevron Parcel" in the vicinity of BVR-8 under the Proposed Action, which provides continuous

[7] Because all acres are not equal in terms of public use/resources or financial value, FLPMA requires that dollar values be equal so that no party benefits financially.
[8] 43 CFR § 46.155; 40 CFR § 1501.6
[9] BLM, 1976 p. 689

BLM ownership along the Blue River and would facilitate implementation of the proposed Confluence Recreation Area Design Feature that is associated with this alternative.

H. SCOPING AND PUBLIC INVOLVEMENT

As required by the BLM's NEPA regulations, public involvement occurs throughout the EIS process.[10] An internal and external scoping process was used to identify potentially significant issues in preparation for impact analysis. The principal goals of scoping are to allow public participation to identify issues, concerns, and potential impacts that require detailed analysis.

As discussed earlier in this chapter, the Notice of Exchange Proposal was originally released in June 2005 and work on an EA, including public scoping, began. However, work on the exchange was suspended in 2006 pending completion of revisions to the KFO RMP, which was completed in July 2015 (the 2015 RMP).

Upon resumption of the exchange process, the KFO prepared a news release and accompanying maps for the proposed land exchange that were shared on its website and in the newspaper of record. This public notice invited interested parties to submit comments to the BLM for a period of 45 days. A Notice of Intent to prepare a Draft EIS was published in the *Federal Register* on April 19, 2016, initiating the scoping period that was open from April 19, 2016 to June 8, 2016.

Preliminary analysis by the BLM indicated that an EIS would be prepared to analyze the potentially significant environmental impacts associated with the proposed exchange such as access and traffic, recreation, livestock grazing, wildlife, vegetation, and others. Refer to Chapter 3 for more detail on the environmental consequences of the proposed land exchange under both action alternatives.

During the scoping period, two public meetings were held by the BLM. The first public meeting was held on May 23, 2016 at the Summit County Library in Silverthorne, Colorado. The second public meeting was held the following day on May 24, 2016 at the Grand County Extension Office of the Fairground in Kremmling, Colorado. Additional information was available on the KFO website (http://www.blm.gov/co/st/en/fo/kfo/proposed_blue_valley.html). Comments were accepted from the following sources: email, letter, public meetings, fax, hand delivery and phone.

During the scoping period, the KFO received 68 comment submittals. Of the 68 comments received, the vast majority were from residents of Grand and Summit counties.

Notable agencies and organizations that participated in the public scoping comment period include: Colorado Parks and Wildlife (CPW), United States Fish and Wildlife Service (USFWS), Grand County Board of County Commissioners, Summit County Board of County Commissioners, Town of Kremmling, Winter Park and Fraser Chamber of Commerce, Trout Unlimited, Friends of the Lower Blue River, Colorado Headwaters Land Trust, Western Lands Project, Colorado Wild Public Lands, and Blue Valley Sportsman Club.

A total of 104 substantive comments were extracted from the 68 comment letters. These comments were categorized by resource and were used to develop the issue statements available in Chapter 1, Section I – Issues for Analysis.

On May 11, 2018, the BLM published a Notice of Availability in the *Federal Register* announcing the BLM had prepared a Draft EIS for the proposed land exchange between the BLM and BVR and the opening of the comment period on this document. The notice indicated the BLM must receive written comments within 45 days following the date the Environmental Protection Agency publishes its Notice of Availability in the *Federal Register* to ensure comments would be considered. The BLM's notice also identified methods for submitting comments to include the project website, electronic mail, facsimile message (fax), and regular mail. During the Draft EIS comment period two public open houses were held by the BLM. The first public meeting was held on June 4, 2018 at the Summit County Library in Silverthorne, Colorado. The second public meeting was held on June 6, 2018 at the Grand County Extension Office of the Fairgrounds in Kremmling, Colorado. A total of 52 comment letters were received and, from these letters, 152 substantive comments were extracted. These substantive comments were combined and organized into twenty different themes. Following the Draft EIS comment period, the BLM analyzed and considered the comments received on the Draft EIS in the preparation of the Final EIS consistent with its obligations under NEPA. Comments, whether a change was made to the Final EIS or not, are documented and responded to in the Response to

[10] 40 CFR Parts 1500–1508

Comments Document, which is included as Appendix L – Response to Comments on the Draft Environmental Impact Statement.

I. ISSUES FOR ANALYSIS

Based on the results of public scoping, specific areas of concern were identified and classified as being either "*issues for analysis*" or "*non-issues.*" Issues result from potentially adverse impacts from a proposed action (BLM NEPA Handbook H-1790-1). *Issues* for analysis may warrant the generation of an alternative, can be addressed by design criteria or mitigation, or generally require analysis and disclosure. *Non-issues* are beyond the scope of the proposed land exchange, are already decided by law, regulation or policy, or are not relevant to the decision.

The following section provides a list of issues by resource, all of which are accompanied by a complete analysis that is contained in Chapter 3 of this Final EIS.

HUMAN ENVIRONMENT

Lands and Realty

Issue: The proposed land exchange would alter the ownership of Federal and non-Federal parcels throughout the proposed land exchange area, which would require assignment, transfer or other accommodation of valid and existing rights such as rights of way or easements for utilities and roads.

Access and Traffic

Issue: The proposed land exchange, and future land uses of public and private parcels, may alter traffic patterns in the Analysis Area.

Issue: The proposed land exchange involves the potential addition of public lands to existing recreation areas that are managed by the BLM and may affect parking in the Analysis Area.

Recreation

Issue: BLM lands in the Analysis Area are used throughout the year for various recreational activities, including, but not limited to: hiking, cycling, fishing, rafting, kayaking, and hunting. The proposed land exchange has the potential to alter recreational resources, trail connections, and the recreation management requirements on BLM lands within the jurisdiction of the KFO.

Social and Economic Resources

Issue: The economy of the Blue River Valley is connected to the use and availability of public lands for recreational, scenic, and other ecological values. The proposed land exchange has the potential to alter the use and availability of public lands for these purposes with associated impacts to the regional economy.

Livestock Grazing Management

Issue: The proposed land exchange could affect grazing allotments and activities on the Federal and non-Federal parcels throughout the proposed land exchange area.

Paleontological Resources

Issue: The proposed land exchange could affect how known or unknown paleontological resources are managed or protected throughout the Analysis Area.

PHYSICAL/BIOLOGICAL RESOURCES

Wildlife

Issue: The future management of aquatic/fisheries resources across the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: The future protection of migratory birds throughout the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: Threatened, endangered and sensitive (TES) wildlife and aquatic species may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels in the Analysis Area.

Issue: The management of terrestrial habitat and habitat connectivity throughout the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Vegetation

Issue: The future management of vegetation communities in the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: The future management of noxious weed infestations throughout the Analysis Area may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels.

Issue: Threatened, endangered, and sensitive (TES) plant communities may be impacted as a result of the transfer of ownership of Federal and non-Federal parcels in the Analysis Area.

Issue: The proposed land exchange includes the transfer of historic water rights associated with BVR-1 and BVR-8, and BLM-J, which could alter how water is applied on the proposed exchange parcels and thus their vegetative communities.

Water Quality, Surface and Ground

Issue: The proposed land exchange entail transferring public and private lands, which could affect water quality depending on how Federal and non-Federal lands are managed/developed in the future.

Wetlands and Riparian Habitats

Issue: The proposed land exchange entails a change in ownership of waters of the U.S., including wetlands, contained on Federal and non-Federal parcels in the Analysis Area; therefore, having the potential to impact these resources through associated changes in management and land use.

Floodplains

Issue: The proposed land exchange may affect management of floodplains on Federal and non-Federal parcels in the Analysis Area.

J. ISSUES IDENTIFIED THAT HAVE NO OR NEGLIGIBLE IMPACTS

Based on the results of public scoping, the following specific areas of concern were identified and classified as *issues*; however, the analysis done for the Draft EIS indicated that the reasonably foreseeable impacts of the action alternatives with respect to each of these *issues* is negligible or non-existent.

As a result, these *issues* and their accompanying analysis have been removed from the Chapter 3 resource analysis and can be found in Appendix G of this Final EIS.

HUMAN ENVIRONMENT

Visual Resources

Issue: The proposed land exchange would change private land ownership and management of public lands, with potential to affect the visual quality throughout the Analysis Area.

Determination: The reasonably foreseeable impacts of the proposed land exchange would not affect the visual quality throughout the Analysis Area. The visual resource analysis indicates that under exchanged conditions, future uses of the exchange parcels would resemble the current ranching practices of the area and no development is proposed on these parcels. Additionally, the proposed Recreation Design Features which would be implemented on non-Federal lands subsequent to the proposed exchange would be consistent with BLM visual resource management designations. As a result of these factors and additional context provided in Appendix G, analyses indicate that that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Cultural Resources

Issue: The proposed land exchange may affect how known or unknown cultural resources are managed or protected throughout the Analysis Area.

Determination: The proposed land exchange would not have direct, indirect, or cumulative effects on cultural resources in the APE. This determination is supported by the SHPO, which concurred with a finding of no adverse effect [36 CFR § 800.5(b)] for site 5GA9 and the Blue Valley Ranch Land Exchange undertaking as a whole. As a result of these factors and additional context provided in Appendix G, analyses indicate that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Native American Religious Concerns

Issue: The proposed land exchange would change the ownership and management of resources that may be valued by Native Americans for religious or cultural reasons.

Determination: There are no direct or indirect effects to Native American religious concerns. Additionally, there would be no known impacts to sites and landscapes of cultural and religious significance to Native Americans in the proposed land exchange area. These factors and additional context provided in Appendix G indicate that that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Environmental Justice

Issue: Executive Order 12898, *Environmental Justice* requires that all federal agencies disclose any disproportionately high and adverse human health or environmental effects on minority and low-income populations that could result from a proposed action

Determination: There are no minority populations, as defined by CEQ above, that have been identified in the Analysis Area. Thus, the action alternatives are not expected to directly or indirectly create disproportionately high and adverse human health or environmental effects on minority and low-income populations. These factors and the additional context provided in Appendix G show that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Law Enforcement

Issue: The proposed land exchange entails the creation of new public recreation areas and the removal of some lands from BLM management, which would alter the law enforcement requirements of the BLM, CPW, and local units of government.

Determination: The action alternatives are not expected to affect the capacity of law enforcement within the KFO. This conclusion was based on personal communication with the LEO of the KFO. As these factors and additional context provided in Appendix G show that the action alternatives would have minimal or negligible direct or indirect effects to this resource, this resource analysis was removed from Chapter 3 of this Final EIS.

Wastes, Hazardous or Solid

Issue: Federal and non-Federal parcels in the proposed land exchange area may contain hazardous or solid wastes.

Determination: There are no Recognized Environmental Conditions (RECs) on the non-Federal parcels that would bar acquisition by the BLM. Furthermore, the BLM would not transfer any Federal parcel that has RECs to private ownership. The BLM would be responsible for maintaining the health of the lands on the acquired non-Federal parcels and the Proponent would be responsible for maintaining the health of the acquired Federal parcels. There are also no reasonably foreseeable developments for any of the Federal parcels to be acquired by the Proponent. As a result of these factors and additional context provided in Appendix G, it was indicated that that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

PHYSICAL/BIOLOGICAL RESOURCES

Geology and Minerals

Issue: The federal government owns the mineral estate underlying the Federal parcels. Transfer of ownership between public and private interests would affect the lands availability for mineral development or extraction.

Determination: Although the mineral estate on the Federal parcels would be transferred to private ownership, the loss of these mineral rights would represent a negligible effect as there is low development potential for leasable and locatable minerals on these parcels. There is no proposed development of the mineral estate on the Federal parcels and the salable mineral (sand and gravel) reserves have a net present value of $0.00. These factors and additional context provided in Appendix G demonstrate that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Water Rights and Use

Issue: The proposed land exchange includes the transfer of historic water rights associated with BVR-1, BVR-8, and BLM-J.

Determination: The two water rights totaling 5.375 cfs on the Sophronia Day Ditch on Federal parcel BLM-J would be conveyed to BVR. The 0.002 cfs Blue River water right on BLM-I would be relinquished to the stream system because this right cannot be transferred out of federal ownership to private parties. The three water rights on Dry Creek Ditch on BVR-1 owned by Galloway Inc. (the owner of BVR) would be conveyed to the BLM, and the 7.12 cfs water right on the Loback Ditch on BVR-8 would be conveyed to the BLM. Consequently, BLM would have a net gain of 9.823 cfs of water rights available for use by the BLM. As the proposed land exchange would result in a net gain of water rights available for use by the BLM, the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

Soils

Issue: The proposed land exchange involves both Federal and non-Federal parcels containing varied soil types and characteristics.

Determination: There would be a net gain of soil resources under Federal management. This would include gains or losses of individual soil types; however, the end result would be a negligible effect to soil resources. Future uses of the exchange parcels would be subject to best management practices. While minimal development associated with the proposed Recreation Design Features would occur with the Proposed Action, it would occur on BLM lands under the direct supervision of the BLM. Considered alongside the overall net gain in soils resources, impacts associated with the construction of the two Recreation Design Features that occur on BLM lands are largely outweighed. These factors and additional context provided in Appendix G indicate that the action alternatives would have minimal or negligible direct or indirect effects and thus this resource analysis was removed from Chapter 3 of this Final EIS.

K. ISSUES DISMISSED FROM FURTHER ANALYSIS

As a result of external and internal scoping, the ID Team identified certain issues that are outside the scope of this analysis, or only required minimal analysis to determine that impacts would be negligible and thus would not require further analysis. The following issues are dismissed from further analysis.

Air Quality: Neither of the action alternatives would not involve any activity/management action that would measurably affect air quality. While traffic volumes are naturally increasing in the Analysis Area, neither action alternative is anticipated to measurably increase traffic volumes on roadway networks accessing Federal and non-Federal parcels; therefore, it would not impact air quality.

Areas of Critical Environmental Concern (ACEC): No ACECs were identified within the Analysis Area. As the Analysis Area is not overlapped by any ACECs there is no potential for either action alternative to impact these areas. Further, the proposed Recreation Design Features associated with the Proposed Action are not at a scale that would not be capable of altering any ACECs outside but nearby the Analysis Area.

Cadastral Survey: Cadastral Surveys are the surveys that create, mark, define, retrace, or reestablish the boundaries and subdivisions of the public lands of the United States. All cadastral surveys in the Analysis Area are accurate and

up-to-date. The movement and/or placement of land ownership markers are not included in either action alternative; therefore, there were no issues identified as it relates to cadastral surveys.

Forests: Neither of the action alternatives would include any vegetation removal or other actions which would affect forest resources. There is no development associated with either of the action alternatives and none of the Recreation Design Features associated with the Proposed Action would generate use that is anticipated to result in impacts to Forest resources. As a result, there were no issues identified as it relates specifically to Forests. An analysis of vegetation, however, is included in Chapter 3.

Fire/Fuels Management: Neither of the action alternatives would change fire behavior or fuels management. There is no future use proposed on any of the exchange parcels that is anticipated to alter fire behavior. Although the BLM would relinquish the ability to manage fuels on parcels exchanged into private ownership, the agency would ultimately be capable of managing fuels on a greater amount of land post-exchange. As a result of these factors, there were no issues identified related to fires and fuels management.

Noise: Neither of the action alternatives would involve any activity/management action that would measurably affect noise within the Analysis Area. During the construction of the proposed Recreation Design Features included in the Proposed Action, temporary alternations to the natural soundscape would occur, attributable to the use of heavy machinery and increased vehicular traffic within a concentrated area. Under Alternative 3, no Recreation Design Features would be constructed. As impacts associated with the Proposed Action would be short term in nature and restricted to very limited areas of BLM lands; therefore, there were no noise issues identified, as no other component of the proposed land exchange would result in alteration of the existing soundscape.

Wild and Scenic Rivers: No Wild and Scenic Rivers exist directly within the Analysis Area; however, the segment of the Colorado River from the Pumphouse Recreation Site to State Bridge has eligibility as a Wild and Scenic River under the "recreational" classification and is nearby the Confluence Recreation Area Recreation Design Feature included in the Proposed Action. Future management of the proposed Confluence Recreation Area Recreation Area Design Feature would be managed to maintain consistency with the Wild and Scenic River eligibility for the segment of the Colorado River from the Pumphouse Recreation Site to State Bridge. Implementation of the proposed Confluence Recreation Area is not anticipated to impact this classification in any way, and construction would be managed accordingly to ensure that there is no infringement on the existing recreational resources of the area. As a result, no issues related to Wild and Scenic Rivers were identified. A discussion of Wild and Scenic Rivers in the context of the Confluence Recreation Area Recreation Design Feature that is proposed under Alternative 2 is continued in the recreation discussion of Chapter 3.

Wilderness/Wilderness Study Areas (WSAs)/Wilderness Characteristics: No Wilderness Areas or WSAs exist within the Analysis Area and the parcels evaluated for exchange are not identified as having wilderness characteristics. Further, none of the proposed Recreation Design Features included in Alternative 2 would be capable of impacting wilderness areas outside but nearby the Analysis Area. As a result, no issues related to Wilderness or Wilderness Study Areas were identified

2. DESCRIPTION OF ALTERNATIVES

A. INTRODUCTION

Chapter 2 describes the alternatives considered within this environmental analysis and briefly summarizes the environmental consequences anticipated to result with the implementation of each. As required by the CEQ, the alternatives considered are presented in comparative form.[12]

NEPA requires that an environmental analysis examine a range of alternatives, which are reasonably related to the Purpose and Need for the project.[13] Both CEQ Regulations and BLM direction emphasize that alternatives must be practical or feasible and must respond to the Purpose and Need in order to warrant detailed analysis.

[12] 40 CFR § 1502.14
[13] BLM, 2008a Section 6.6

The BLM initially considered a total of nine alternatives in addition to the No Action Alternative, the three variations of Recreation Design Features, and the variations of the river frontage parcels included in the exchange. The BLM evaluated each and dismissed eight of the nine alternatives, concluding they were not consistent with the Purpose and Need, dismissed three variations of the proposed design components as they presented future management challenges or were inconsistent with the intended recreation experience, and dismissed all variations of the riverfront parcels included in the exchange except for Alternative 3. Alternatives that were considered within the analysis process, but were not reasonable, were eliminated from detailed study with a brief discussion of the rationale for their elimination.[14]

The issues raised during the scoping process (detailed in Chapter 1) were utilized as the basis for determining the range of alternatives to the Proposed Action in the Draft EIS. Comments received on the Draft EIS allowed the BLM to better understand public concerns, resulting in the creation of Alternative 3. A wide range of alternatives and design components, outlined in the Section B in this chapter and further described in Appendix E, were considered but eliminated from detailed analysis. In summary, alternative options for acquiring the lands included in the proposed land exchange, such as purchasing or accepting them all as donations, were considered impractical as non-Federal lands are only available on a "willing seller" basis and BVR would not be a "willing seller" outside of a land exchange. Ultimately, it was concluded that a third alternative was needed (in addition to the No Action (required) and Proposed Action alternatives) to create a reasonable range of alternatives.

The BLM has the ability to select an alternative in part or in whole. This ability of the BLM allows for a scenario that could exclude certain exchange parcels based on findings disclosed in this Final EIS. The analysis assumes the maximum level of impacts associated with the exchange of each parcel; therefore, any and all alternatives, which would exclude a parcel from the exchange are accounted for in this analysis. Should the Record of Decision approve a land exchange with some but not all of the proposed exchange parcels, BVR and BLM would then have to decide whether or not proceed with closing of the land exchange as configured in the Record of Decision

B. ALTERNATIVES CONSIDERED IN DETAIL

ALTERNATIVE 1 – NO ACTION

A No Action Alternative is analyzed alongside the action alternatives.[15] By definition, the No Action Alternative represents a continuation of existing management practices without changes, additions, or upgrades to existing conditions. As a result, the No Action Alternative provides a baseline for comparing the effects of the action alternatives (refer to Figure 1).

Under this alternative the proposed land exchange would not occur and ownership and management of the Federal parcels would not change. Further, the Recreation Design Features included in the Proposed Action would not be implemented. The non-Federal parcels would remain in private ownership and would be used consistent with County zoning regulations. The Federal parcels would continue to provide for livestock grazing, wildlife habitat, recreation uses, and other multiple uses consistent with BLM policy.

ALTERNATIVE 2 – PROPOSED ACTION

The Proposed Action is to complete a land exchange pursuant to Section 206 of the FLPMA, 43 U.S.C. § 1716. Under the Proposed Action, approximately 1,489 acres of Federal lands managed by BLM in Grand County, Colorado would be conveyed to Blue Valley Ranch in exchange for approximately 1,830 acres of non-Federal lands in Summit and Grand counties, Colorado. Administrative jurisdiction to approximately 300 acres of the non-Federal lands (southern half of BVR-2) would be transferred to the WRNF because it lies within the WRNF administrative boundary, the remainder of lands would be managed by the BLM KFO (refer to Figure 1).

Pursuant to Section 206 of the Federal Land Policy and Management Act, as amended (FLPMA), the proposed land exchange must be identified as in the public interest, and appraisals of the Federal and non-Federal parcels must show that the exchange parcels are equal in value, or capable of being equalized. In the event that exchanged lands are not equal, the values may be equalized by the payment of money to the non-federal party or to the BLM, as the circumstances require, so long as the payment does not exceed 25 percent of the total values of the lands or interest in

[14] 40 CFR § 1502.14(a)
[15] 40 CFR § 1502.14(d)

land transferred out of federal ownership. Values can also be equalized by the private party donating any difference in value owed to the BLM.

Federal Lands

The nine Federal parcels range in size from 40 to approximately 397 acres. All of the Federal parcels, BLM-A–C and BLM-F–K, are located in Grand County. The Federal parcels with the exception of BLM-J and BLM-K, are subject to grazing leases held by BVR (refer to Table 2-1 in Appendix A).

Upon closing of the exchange, BVR has stated that it would convey certain Federal parcels to other private landowners. BLM-C is only accessible to BVR and Sheephorn Ranch, and BVR has stated that it would convey approximately the southern half of BLM-C to Sheephorn Ranch, which currently hunts in this area. The sales agreement for BLM-C from BVR to Sheephorn Ranch restricts development (as a deed restriction) and a condition of closing is that this sales agreement restricting development needs to be in escrow.

BLM-J exists along U.S. Highway 40. Parcel BLM-J is a portion of a larger parcel previously acquired by the BLM from BVR as part of the Eagle Pass Ranch Land Exchange for its section of the Colorado River and waterfowl habitat. BVR has stated that upon closing of the exchange, Parcel BLM-J (which is set back from the Colorado River) would attempt to be sold to an entity such as the adjoining Skylark Ranch.

BLM-K is surrounded by non-Federal land within Blue Valley Acres #2 subdivision. BVR has stated that BLM-K would be transferred to Blue Valley Metropolitan District with a condition of closing that the parcel is to be used for community purposes. Specifically, this binding agreement states that there would be no development for the purpose of housing or commercial uses allowed on this parcel.

In addition, the northernmost portion of BLM-I which directly adjoins Trough Road (approximately 20 acres) may be conveyed by BVR to San Toy Land Company to create a straight east-west boundary line between San Toy Land Company to the north and BVR to the south.

It is important to understand that BLM-C and BLM-K would be conveyed to their respective private landowners with the aforementioned agreements and restrictions at the discretion of BVR. Although these agreements and restrictions would result in certain resource protections as is described throughout Chapter 3 of this document, the agreements and restrictions are not driven by the need for resource protections themselves. For this reason, BLM-J is proposed to be exchanged without any deed restrictions or covenants.

Although not foreseeable, should a scenario arise where BLM-C, BLM-J, and/or BLM-K are not exchanged and subsequently not conveyed by BVR to Sheephorn Ranch, Skylark Ranch, and/or Blue Valley Metropolitan District, respectively, these parcels would either be retained by BVR or excluded from the final exchange. Regardless of the entity that would have ownership of these parcels subsequent to the exchange, future land uses would be almost identical or less impactful than they would be if transferred as described in the previous paragraphs; therefore, the resource analysis in Chapter 3, does not account for a scenario where BVR retains these parcels.

Non-Federal Lands

Nine parcels of non-Federal lands ranging from less than an acre to approximately 657 acres are proposed in this exchange. Non-Federal parcels (BVR) 1, 4, 5, 7, and 8 are located in Grand County, and 2, 3, 9, and 10 are located in Summit County (refer to Figure 1 for a depiction of pre/post exchange conditions under the Proposed Action and Table 2-2 in Appendix A).

In addition, approximately 300 acres of land to be acquired by the United States in the southern half of BVR-2 would become NFS lands within the WRNF's administrative boundary. This transfer of administrative jurisdiction of the land to the WRNF is analyzed in this Final EIS; however, additional NEPA analysis in the form of an EA or EIS by the WRNF is not needed as the Forest Service is only assuming administrative jurisdiction in land titled to the United States, rather than exchanging land.[16]

[16] BLM, 1976 p. 689

Conveyance of Rights

BVR-7 is less than an acre but would provide access for the public in the form of a perpetual, non-exclusive, 30-foot-wide access easement across private land to a large block of BLM-managed public land in the Inspiration Point area. Under the Proposed Action, BVR would convey this easement to the United States (BLM).

BVR would also convey to the United States (BLM) a water right associated with BVR-8 for approximately 7.12 cfs currently used on an irrigated pasture. Water rights totaling 8 cfs from Dry Creek Ditches 1, 2, and 3 tied to agricultural uses on BVR-1 would also be transferred to the BLM. Finally, as part of the exchange, approximately 5.375 cfs of water rights from Sophronia Day Ditch on BLM-J would be conveyed back to BVR for ultimate transfer to Skylark Ranch, which adjoins BLM-J.

Additionally, the proposal includes conveyance of the surface and mineral estates of the Federal and non-Federal lands, subject to valid existing rights, to avoid creating split estates. Reports from 2003 concluded that there were no significant values for locatable minerals on any of the Federal parcels.[17] These same reports concluded that there was no oil and gas potential for Federal parcels BLM-A–C, and likely only minor leasing values for Federal parcels BLM-F–J; however, on portions of BLM-H, BLM-I, and BLM-K there was some potential for oil and gas leasing.[18] The reports recommended retaining the oil and gas leasable mineral estate for BLM-K until the potential resource can be tested.[19] In 2017, the USDI Appraisal and Valuation Services Office-Division of Minerals Evaluation prepared a Geologic Evaluation and Mineral Valuation Report that concluded because of the relatively rural location and overall low demand, there is relatively little value associated with the aggregates on the Subject Tracts.[20] Most aggregate demand would be driven by large, independent construction and/or highway maintenance projects, none of which have been identified as pending.[21] The various currently permitted operations appear to supply the aggregate demand in the region. Therefore, the USDI Appraisal and Valuation Services Office-Division of Minerals Evaluation has indicated that while BLM-G, BLM-H, BLM-I, and BLM-J have the potential to contain deposits of mineral materials (i.e., sand and gravel), the net present value of the royalty interest income of these parcels is $0.00, due to the fact that it is unlikely these tracts would be developed under current market conditions as a source of mineral materials.[22]

Recreation Design Features

As a component of the Proposed Action, BVR has proposed a number of Recreation Design Features intended to facilitate realization of certain opportunities for enhanced public recreation. Construction of the Recreation Design Features would occur once the exchange closes. Funding for the construction and future management of these features would be provided by BVR. The Recreation Design Features are depicted in detail in Figures 3–6. Figure 1 provides an overview of the Recreation Design Features in relation to one another and the land exchange as a whole.

Since the publication of the Draft EIS, the Recreation Design Features located in the Green Mountain Recreation Area have been modified in two ways to enhance public access. First, additional public access for fishing in the lower Green Mountain Canyon west of BVR-10 would be granted. BVR would grant a fishing easement in perpetuity for public use of the 0.18-mile segment of river on BVR property that lies between NFS lands to the south and BLM lands to the north. This fishing easement would result in a total of 1.65 miles of contiguous bank and wade fishing access on the Blue River. Secondly, to allow anglers to more easily reach the fishing easement, BVR would also grant a perpetual pedestrian-only access easement following the route of the existing BVR ranch road, which extends westerly from the boundary of BVR-10, and then following a trail, which would be created starting from a point where the road ends, to extend the pedestrian-only access easement to the edge of the fishing easement.

The fishing easement and the pedestrian-only access easement may be subject to the occasional temporary interruption of use for public safety, natural resource protection, and ranch management activities—such as river improvements, irrigation structure repair, and road maintenance. Because the easements would run through active ranch land, cattle grazing and irrigation activities would be proximate; therefore, the easements would not allow camping, fires, firearms or animals, and would only be used for pedestrian access. Motorized vehicles and wheeled

[17] BLM, 2003a
[18] BLM, 2003a,b,c
[19] BLM, 2003b
[20] USDI AVSO-DME, 2017
[21] Ibid.
[22] Ibid.

devices would not be permitted; and the public would not be permitted to use the easements for putting in to float the Blue River.

An easement for a floater rest stop downstream of BLM-H was added to the Proposed Action following the close of the Draft EIS comment period. This additional Recreation Design Feature is referred to as the Pump Station Rest Stop. This new rest stop would be located approximately 3.1 miles downstream of the Spring Creek Bridge Take-Out and Rest Stop and about 6.8 miles upstream of the take-out near the confluence of the Blue and Colorado Rivers. Under existing conditions, floaters can stop on BLM-H and BLM-I, which are located approximately 6.5 miles apart. Coupled with the Spring Creek Rest Stop, the Pump Station Rest Stop is intended to provide floaters desiring a rest stop with similar, if not more frequent, rest stop opportunities than are available under existing conditions. Under the Proposed Action, BVR would grant an easement in perpetuity for public use of an approximately 0.5-acre site on the east bank of the river (located on existing BVR private lands). The easement holder would be either a not-for-profit entity or governmental agency. The easement would provide a seasonal toilet and trash receptacle. The site is accessible for service by BVR's existing road network. The two new rest stops included in the Proposed Action provide replacement opportunities for floaters to stop and exit their crafts but with the access for service and funding for long term operations that is not available for existing rest stop opportunities.

Future management of these features, once implemented, would be the responsibility of BLM in the case of the Confluence Recreation Area, and the BLM in cooperation with the WRNF in the case of the Green Mountain Recreation Area, and either an existing governmental entity or a not-for-profit entity in the case of the proposed Spring Creek Bridge Take-Out and Rest Stop and the Pump Station Rest Stop (perpetual easements located on private lands). Management of activities on NFS lands would be the responsibility of the Forest Service. Management of the fishing access easement and the trail through the pedestrian access easement on private land would be the responsibility of BVR.

To ensure that the Recreation Design Features would be implemented, the closing of the land exchange would be conditioned on certain measures specific to each Recreation Design Feature being in place. In general, the provision for construction and operation of the Recreation Design Features would be part of a binding exchange agreement, with the assured construction of the proposed improvements covered by a bond that BVR would provide, and funding for future management of the proposed improvements set aside in the nature of an endowment funded by BVR.

Implementation of Recreation Design Features on BLM lands would be considered by BLM in light of Big Game Crucial Winter Range (CO-TL-3) considerations, identified in 2015 RMP for the protection of mapped elk production areas or winter ranges.[23] BLM may approve the Proposed Action based on a determination that Big Game Crucial Winter Range would not be unduly affected.

Implementation of the Recreation Design Features is required to be addressed in the Binding Exchange Agreement: the scope, general design, an updated cost of construction and cost of long-term maintenance must be identified. The Agreement would require BVR to provide a bond to cover the cost of the construction so as to enable BLM to complete the work should there be nonperformance. The Agreement shall call for BVR to carry out, at its cost and under the oversight of the BLM, the construction of the Recreation Design Features, with the exception of the trail on land managed by the WRNF at the Green Mountain Recreation Area; once the construction is complete, the bond shall be released. The Agreement shall require BVR to contribute to funds established and held by one or more third party fiduciaries to cover long-term maintenance of Recreation Design Features.

The proposed Recreation Design Features would be focused in the following three areas:

Confluence Recreation Area

Features

- Implementation of in-stream river and riparian habitat improvements designed by Wildland Hydrology, Inc., including the installation of structures, bank stabilization, and channel deepening, as depicted on Figure 3 and Figure 4, are proposed along approximately 0.75 mile of the Blue River within BVR-8 and the intermingled BLM managed lands.[24]

[23] BLM, 2015a, p.20
[24] Wildland Hydrology, 2016

  - There would be less than 1 acre of wetlands disturbed due to construction of the in-stream river and riparian habitat improvements. This small impact would be adjacent to the take-out/put-in boat feature and near the proposed oxbow ponds in the narrow stringer floodplain surface at the lower end of the project. Wetlands would be created on the new floodplain surface by a 3:1 margin to make up for the small area impacted. Most of the wetlands would be created within the constructed floodplains and associated raised water table with the oxbow ponds on adjacent floodplain surfaces.
  - Should the Proposed Action be approved, a Nationwide 27 permit would need to be obtained from the USACE. All appropriate field work and reporting necessary to complete the USACE application would be completed subsequent to project approval.
  - Approximately 2.5 months would be required to implement the river restoration portion of this Recreation Design Feature. Construction would likely occur in March, April and/or May when low river flows allow. During construction, the river would not be shut down for boating or fishing activities.
  - A supplementary information report from Wildland Hydrology, Inc. detailing project specifications, anticipated wetland impacts, application and permitting processes, and implementation techniques is contained in Appendix N.
- Construction of a new take-out for floaters (gravel or concrete ramp).
- Construction of wheelchair accessible and other fishing access points within the enhanced segment of the Blue River (approximately ten features).
- Day-use recreational amenities such as picnic benches (approximately six tables), trails (approximately 2.3 miles of compacted gravel) with fencing (approximately 1 mile), informational signage (one sign), a kiosk, two parking lots (approximately 0.5 acre in size per lot, accommodating 24 spaces per lot), and a restroom (approximately 12-foot by 14-foot vault toilet that would be contained within one of the parking areas).
- Donation to the United States of an additional non-Federal parcel within the Confluence Area, the 7-acre "Chevron Parcel" to facilitate construction of the proposed in-stream enhancements and provide continuous public access on both sides of this stretch of the Blue River.

Funding

- Develop an up-to-date cost estimate for the construction and long-term maintenance.
- Provide a bond sufficient to cover the construction costs of the above features.
- Create a fund sufficient to cover the long-term maintenance of the Recreation Design Features from which BLM would periodically draw in accordance with established BLM policy and written agreements.

Green Mountain Recreation Area

Features

- Initial maintenance work on an existing road across BLM managed lands (one-time maintenance and grading to an existing 1-mile section of existing road), which provides access to BVR-2 and BVR-10 from SH 9.
- Construction of a parking lot/trailhead (approximately 0.25 acre in size, accommodating 10 spaces) adjacent to BVR-10 for members of the public wishing to access the area.
- Construction of a hiking trail (approximately 0.5 mile of trail already exists, and 0.3 mile of new trail proposed to be constructed at an average width of 4 feet) on NFS lands down to the eastern bank of the Blue River immediately below BVR-10. The final design and approval of this trail is within the jurisdiction of WRNF. WRNF would perform an environmental review prior to a final decision as to design and construction of this trail.
- A fishing easement from BVR for public use in perpetuity extending between the high-water marks on the banks of the Blue River would connect NFS lands to the south and BLM lands to the north. This would result in a total of 1.65 miles of contiguous bank and wade fishing in lower Green Mountain Canyon.

- A pedestrian-only access easement in perpetuity extending westerly from the western boundary of BVR-10 along an existing BVR ranch road and continuing via a new trail to the high-water mark of the Blue River would provide an alternative route for anglers to reach the fishing easement from BVR-10.

Funding

- Develop an up-to-date cost estimate for the construction of the above features and an estimate for the cost of long-term maintenance of the trail.
- Provide a bond sufficient to cover the construction costs of the above features.
- Create a fund sufficient to cover the long-term maintenance of the above features from which WRNF would periodically draw in accordance with established Forest Service policy and written agreements.

Spring Creek Bridge Take-Out and Rest Stop

Features

- Establishment, through conveyance of an easement from BVR to either an existing governmental entity or a suitable not-for-profit entity in perpetuity, of a permanent take-out and rest stop with the right to re-entry for floaters with picnic tables (two tables), a seasonal toilet (portable restroom with enclosure), informational signage (one sign), and improvements related to parking (0.25 acre existing graded area, accommodating 10 spaces) and access on existing BVR property at the Spring Creek Bridge.

Funding

- Develop an up-to-date cost estimate for the construction of the above features and an estimate for the cost of long-term maintenance of this area.
- Provide a bond sufficient to cover the construction costs.
- Create a fund sufficient to cover the long-term maintenance of the trail to fund long-term maintenance of the facility; that fund would be utilized by the holder of the easement and manager of the facility, which would be either an existing governmental entity or a not-for-profit entity.

Pump Station Rest Stop

Features

- Establishment, through conveyance of an easement of a 0.5-acre parcel from BVR to either an existing governmental entity or a suitable not-for-profit entity in perpetuity, of a permanent rest-stop with the right to tie up watercrafts, use of the rest-stop, and with the right to re-entry to the river for floaters with a seasonal toilet (portable restroom with enclosure), informational signage (one sign).

Funding

- Develop an up-to-date cost estimate for the above features as well as an estimate for the cost of long-term maintenance of this area.
- Provide a bond sufficient to cover the construction costs.
- Create a fund sufficient to cover the long-term maintenance of the area; that fund would be used by the holder of the easement and manager of the facility, which would be either an existing governmental entity or a not-for-profit entity.

The Confluence Recreation Area Recreation Design Features are designed to offset loss of public access to walk-in fishing access associated with BLM-I, and to help the public realize the benefit of enhanced access to public lands facilitated by the proposed land exchange. The in-stream river and riparian habitat improvements would foster an enhanced fishery and the upland improvements would provide public recreational access to this improved fishery.

The hiking trail in the Green Mountain Recreation Area, would provide a stable hiking trail directly to the eastern bank of the Blue River. This 1.2-mile section of Green Mountain Canyon is currently largely inaccessible to the public due to topographical constraints that inhibit access from upstream and existing land ownership patterns east and west of the Forest Service-managed river corridor. The fishing easement over 0.18 mile of river flowing through BVR owned land would connect 1.2 miles of river on NFS land with 0.27 mile of river on BLM land, resulting in 1.65 miles of contiguous walk-in wade fishing access. These Recreation Design Features would provide access to this

section of Green Mountain Canyon, which would support the measures designed to offset the loss of walk-in fishing access on BLM-I.

Despite being located entirely on private lands, BVR currently grants permission to the public to use the Spring Creek Bridge as a take-out. This take-out is used by floaters after entering the river at the Green Mountain Dam put-in or BLM lands immediately upstream from Spring Creek Bridge. Under the Proposed Action, the right to use Spring Creek Bridge as a take-out and rest stop with re-entry would be granted to the public in perpetuity. The proposed Recreation Design Features at Spring Creek Bridge are intended to provide a manageable take-out and rest stop for floaters, compensating for the loss of public access to BLM-G and BLM-H, which recreationists use as rest stops during floats.

The proposed Pump Station Rest Stop is intended to augment the opportunity to stop and get out of a watercraft. The Pump Station Rest Stop is located approximately 3.1 miles downstream of the Spring Creek Bridge Take-Out and Rest Stop and 6.8 miles upstream of the Lower Blue River Take-Out. When coupled with the Spring Creek Bridge Take-Out and Rest Stop, this feature would provide a similar distance between rest stops as BLM-H and BLM-I. Unlike BLM-H, which is not publicly accessible by land, and BLM-I, which has steep terrain from the nearest road down to the river, the two new rest stops would offer improved accessibility for entities managing the rest stops. In addition, funding for long-term maintenance of these areas would be provided. Overall, the Pump Station Rest Stop and Spring Creek Take-Out and Rest Stop would help mitigate loss of public access to BLM-G, BLM-H, and BLM-I, which recreationists can currently use as rest-stops during floats.

To ensure that the Spring Creek Bridge Take-Out and Rest Stop and Pump Station Rest Stop would be implemented, the closing of the land exchange would be conditioned on perpetual easements being in place. Under these Recreation Design Features BVR's land at Spring Creek Bridge and Pump Station Rest Stops would not be conveyed to BLM. Like the other proposed Recreation Design Features, the construction of improvements at both locations would be part of a binding exchange agreement, with funding for the construction of the proposed improvements covered by a bond and funding for future management of the proposed improvements set aside by BVR for use by the holder of the easement. Following construction, the management of the Spring Creek Bridge Take-Out and Rest Stop would be the responsibility of either an existing governmental entity or a not-for-profit entity created to hold and manage the easement.

ALTERNATIVE 3

Pursuant to Section 206 of the FLPMA, 43 U.S.C. § 1716, Alternative 3 includes the exchange of approximately 1,413 acres of Federal lands managed by BLM in Grand County, Colorado would be conveyed to Blue Valley Ranch in exchange for approximately 1,483 acres of non-Federal lands in Summit and Grand counties, Colorado. Administrative jurisdiction to approximately 300 acres of the non-Federal lands (southern half of BVR-2) would be transferred to the WRNF because it lies within the WRNF administrative boundary, the remainder of lands would be managed by the BLM KFO (refer to Figure 2).

The following description summarizes the differences between the Proposed Action and Alternative 3. To reduce duplication of text, only the differences between the two action alternatives are identified. All other components of Alternative 3 would be identical to the Proposed Action. All laws, policies, and Federal guidance would continue to be meet through Alternative 3.

Federal Lands

Nine Federal parcels, all located in Grand County, would be exchanged under Alternative 3. A 76-acre riverfront portion of BLM-I would not be included in the exchange and would stay in Federal ownership, reducing the size of the parcel to be exchanged from 397 acres to approximately 321 acres.

Non-Federal Lands

Seven non-Federal parcels would be exchanged. Alternative 3 does not include parcels BVR-3 and BVR-4, which are 187.4 and 160 acres, respectively.

Conveyance of Rights

The conveyance of rights associated with each parcel, as discussed in the previous section, would remain the same. All water, surface, and mineral rights would be exchanged for each parcel.

Recreation Design Features

No Recreation Design Features would be included in Alternative 3. As Recreation Design Features are a proponent donation to offset the loss of riverfront opportunities, and BLM-I river frontage would be retained in Alternative 3, Recreation Design Features would no longer be included. This includes all Recreation Design Features, as described in the discussions of the Confluence Recreation Area, Green Mountain Recreation Area, Spring Creek Bridge Take-Out and Rest Stop, and the Pump Station Rest Stop as described under the Alternative 2 – Proposed Action heading. Further, the donation of the 7-acre "Chevron Parcel" to facilitate construction of the proposed in-stream enhancements and provide continuous public access in the Confluence Recreation Area would not be included under this Alternative. Existing use of the informal Spring Creek Bridge Take-Out and Rest Stop would not be affected by selection of this alternative and is further described under Chapter 3, Section C – Recreation.

C. CONNECTED ACTIONS

As defined by 40 CFR § 1508.25, *connected actions* are closely related and, therefore, should be discussed in the same impact statement. Actions are connected if they:

1. Automatically trigger other actions which may require environmental impact statements.
2. Cannot or will not proceed unless other actions are taken previously or simultaneously.
3. Are interdependent parts of a larger action and depend on the larger action for their justification.

There are two connected actions analyzed in this Final EIS (i.e., they would not take place unless the proposed land exchange is approved), both of which are associated with the Proposed Action but not Alternative 3. As applicable the analysis considers the following connected actions in this Final EIS: the environmental review and subsequent decision of the WRNF regarding construction of the proposed hiking trail across NFS lands; and the management of the proposed Recreation Design Features as defined in a future Memorandum of Understanding (MOU) between the BLM and BVR. All connected actions are analyzed as indirect effects in this Final EIS.

WRNF ENVIRONMENTAL REVIEW OF THE PROPOSED HIKING TRAIL

As a component of the Proposed Action, BVR has proposed to fund the construction of a hiking trail down to the eastern bank of the Blue River immediately below BVR-10. As previously mentioned, this trail would span NFS lands and would thus require environmental review and authorization by the WRNF for its construction. Upon closing of the exchange, BVR-10 would be transferred to BLM, providing direct public access to the eastern bank of the Blue River via NFS lands that were previously inaccessible from this direction (northeast) due to surrounding land ownership patterns.

The WRNF would analyze the environmental impacts of constructing a short hiking trail in this area in a subsequent process to the approval of the proposed exchange. The WRNF anticipates tiering to or incorporating by reference the analysis contained in this Final EIS to support a potential future decision on the hiking trail.

MANAGEMENT OF RECREATION DESIGN FEATURES

As previously discussed in the Proposed Action, BVR has proposed various Recreation Design Features. While the features themselves are included in the Proposed Action, the Proponent would fund construction and management of these features. The provision, therefore, would be addressed in the Exchange Agreement and analyzed as a connected action. Included in this Exchange Agreement would be a transfer of funds from BVR to an escrow to fund the BLM's management of the proposed Recreation Design Features. Funding would need to be covered by a bond for the cost of construction. An escrow would be for long-term management of the proposed Recreation Design Features to ensure that BLM resources are not burdened by maintaining and operating the donated features. As previously mentioned, the Exchange Agreement would provide for, or the closing of the land exchange would be conditioned as appropriate to assure the Recreation Design Features would be constructed and maintained. To ensure that the Recreation Design Features would be implemented, the construction of the Recreation Design Features would be part of a binding Exchange Agreement, with funding for the construction of the proposed improvements provided by BVR and addressed in a bond. It is estimated that approximately $1.2 to $1.9 million would be necessary to fund construction and future management of these features. Funding for maintenance would be set aside in an escrow. As has been made clear in the Proposed Action, BVR would be making this monetary contribution to the BLM as component of the proposed land exchange that would be ensured as a condition of closing.

Thus, the agreement to construct and manage Recreation Design Features, and ongoing monetary contributions that would support the management of Recreation Design Features, would be analyzed as a connected action under the Proposed Action.

D. ALTERNATIVES AND DESIGN COMPONENTS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The following alternatives were identified during scoping and internal interdisciplinary meetings but have been eliminated from further analysis. Refer to Appendix E for further details on each alternative.

- Use of the Land and Water Conservation Fund to Meet BLM's Purpose and Need for the Land Exchange
- Use of the Federal Land Transaction Facilitation Act
- Use of Alternative Methods Aside from a Land Exchange to Resolve Stated Conflicts
- Use of Conservation Easements, Patent, Deed. and/or Use Restrictions on Federal Land to be Exchanged: Inclusion of only BLM parcels that are solely of interest to BVR
- Inclusion of only BLM parcels that are solely of interest to BVR
- Alternate Exchange including BLM-D and BLM-E, and BVR-6
- Alternate Exchange of BVR-10
- Alternate Exchange Options of Parcels abutting Blue Valley Acres
- Alternate Recreation Design Features
- Potential Trails in the Green Mountain Area
- Future Management of Spring Creek Take-Out Area
- Alternate Exchange Options of River Frontage Parcels

E. PLAN CONFORMANCE REVIEW

The proposed land exchange, including both action alternatives, is subject to and has been reviewed for conformance with the 2015 RMP, as amended by the Northwest Colorado Greater Sage-Grouse Approved RMP Amendment. All the parcels included in this analysis are consistent with the disposal criteria outlined the 2015 RMP. A detailed analysis of disposal and acquisition criteria, as provided by the 2015 RMP, is provided in Chapter 3, Section A – Lands and Realty. The 2015 RMP provides management direction in the form of "Decisions." Decisions in RMPs guide future land management actions and subsequent site-specific implementation decisions. These Decisions fall into two categories:

1. Desired outcomes, or goals and objectives; and
2. Allowable uses, actions, and restrictions on uses anticipated to achieve desired outcomes.

Although the 2015 RMP provides management direction for the full range of resources and activities on BLM lands managed out of the KFO, only Decisions related to land tenure adjustments are reviewed in Appendix F. Conformance with the Colorado Standards for Public Land Health, which are included in the 2015 RMP, is also reviewed in Appendix F.

F. RELATIONSHIP TO AGENCY POLICIES, STATUTES, REGULATIONS, OTHER PLANS

FEDERAL LAND MANAGEMENT AND POLICY ACT

Conformance with FLPMA, as it relates to specific resources, is analyzed and discussed throughout Chapter 3. Included in both action alternatives is a transfer of administrative jurisdiction of lands to the Forest Service, which will be discussed in the following paragraphs in terms of consistency with FLPMA. As previously mentioned, approximately 300 acres in the southern half of BVR-2 would be transferred into WRNF management under both

action alternatives. The Forest Service would only receive lands from the currently proposed exchange; there would be no reciprocal exchange of NFS lands to the BLM or Proponent. As provided in Section 206 (c) of FLPMA:[25]

> *"Lands acquired by the Secretary by exchange under this section which are within the boundaries of any unit of the National Forest System, National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, or any other system established by Act of Congress, or the boundaries of the California Desert Conservation Area, or the boundaries of any national conservation area or national recreation area established by Act of Congress, upon acceptance of title by the United States shall immediately be reserved for and become a part of the unit or area within which they are located, without further action by the Secretary, and shall thereafter be managed in accordance with all laws, rules, and regulations applicable to such unit or area."*

Therefore, subsequent to the closing of the proposed land exchange, the southern half of BVR-2 would be managed by the WRNF. No analysis is needed on behalf of the WRNF to receive these lands, as lands are titled to the United States and the only change would be the administrative management of those lands by the WRNF.

BLM LAND EXCHANGE HANDBOOK

The proposed land exchange, including both action alternatives, is subject to the planning requirements and guidance outlined in the BLM Land Exchange Handbook. The land exchange proposal is a single phase-assembled transaction involving multiple parcels of Federal and/or non-Federal land that would be exchanged under one closing and values equalized under 43 CFR § 2201.6. The BLM completes land exchanges on an equal monetary value basis with differences in monetary value between the Federal and non-Federal lands equalized by the addition or subtraction of lands and/or a cash payment. Cash payments may not exceed 25 percent of the value of the Federal lands involved in the land exchange, and the goal is to minimize the amount of any cash payment.

COUNTY LAND USE AND ZONING

The non-Federal parcels (BVR-1–5 and BVR-7–10) are subject to county land use and zoning regulations, as appropriate. Non-Federal parcels BVR-1, BVR-4 (not included in Alternative 3), BVR-5, BVR-7, and BVR-8 are located in Grand County, and are currently subject to Grand County land use and zoning regulations. Non-Federal parcels BVR-2, BVR-3 (not included in Alternative 3), BVR-9, and BVR-10 are located in Summit County and are currently subject to Summit County land use and zoning regulations. Subsequent to completion of the proposed land exchange, the non-Federal parcels would no longer be subject to county zoning regulations, as they would fall under federal ownership.

All of the non-Federal Grand County parcels: BVR-1, BVR-4 (not included in Alternative 3), BVR-5, BVR-7, and BVR-8 have a zoning designation of Forestry/Open. The Declaration of Intent for the Forestry and Open Zone District states that, "The purpose of the Forestry and Open Zone District is to protect lands suitable for agricultural and related uses including uses related to forestry, mining and recreation after additional permitting. Higher impact uses are allowed when permitted and mitigated properly. Low density single-family residential uses are permitted in this zone district."[26] As it relates to the proposed Recreation Design Features included in the land exchange, the Grand County Zoning Regulations for the Forestry and Open Zone District state the following permitted uses, "Outdoor recreational areas and incidental facilities, provided all such uses retain natural environmental conditions, do not involve the storage of equipment outside of a building and are not obnoxious, offensive or objectionable because of excessive noise, odors, dust or vibration."[27] As such, it is anticipated that the proposed land exchange and Recreation Design Features would comply with Grand County land use and zoning requirements. However, following completion of the proposed land exchange, Recreation Design Features on Federal lands would not be subject to county zoning regulations. Thus, only the proposed Spring Creek Bridge Take-Out and Rest Stop on existing BVR property would need to comply with Grand County zoning regulations.

All of the non-Federal Summit County parcels: BVR-2, BVR-3 (not included in Alternative 3), BVR-9, and BVR-10 have a zoning designation of A-1 (Agricultural). The intent of the Agricultural zoning district is stated as, "[P]reserve

[25] BLM, 1976 p. 689
[26] Grand County, 2017
[27] Ibid.

agricultural and ranching uses. The uses, densities and standards established for this zoning district are intended to protect existing agricultural character, while providing for low intensity use of natural resources, limited residential and recreational development and other compatible uses."[28] Land use regulations for the Agricultural zone permit a variety of recreation uses (some as conditional or accessory uses). As it relates to the proposed hiking trail below BVR-10 that would be included in this area as a Recreation Design Feature in the proposed exchange, the land uses of "trail" is "permitted" and "trailhead" is considered an "accessory use." "Permitted" land uses do not require special review and based on the trailhead being located on the same lot as the trail itself, it would likely be permitted as an "accessory use" without special review. The proposed parking lot associated with this design feature would also be acceptable as an "accessory use" to the proposed hiking trail under Agricultural zoning regulations. Although these parcels would not be subject to county jurisdiction following the proposed land exchange, it is anticipated that that the proposed action alternatives and Recreation Design Features would be consistent with Summit County land use and zoning requirements.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 provides a description of the existing human, physical and biological resources throughout the Analysis Area, and presents comparative analyses of the direct, indirect, and cumulative effects on those resources. As previously described in Chapter 1, Section I – Issues for Analysis, this section includes the analysis of resources that were indicated to be *issues for analysis*. Specifically, these resources include: Lands and Realty; Access and Traffic; Recreation; Social and Economic Resources; Livestock Grazing Management; Paleontological Resources; Wildlife; Vegetation; Water Quality, Surface and Ground; Wetlands and Riparian Habitats; and Floodplains.

As described in Chapter 1, Section J – Issues identified That Have No or Negligible Impacts, certain issues that were analyzed in the Draft EIS were identified as having no or negligible impacts. As a result, these *issues* and their accompanying analysis have been removed from the Chapter 3 resource analysis and can be found in Appendix G. These *issues* include: Visual Resources; Cultural Resources; Native American Religious Concerns; Environmental Justice; Law Enforcement; Wastes, Hazardous and Solid; Geology and Minerals; Water Rights and Use; and Soils. For a brief rationale explaining the "no or negligible impacts" determination for these resources, the reader is referred to Chapter 1, Section J.

Within this analysis, the 2015 RMP is referenced, along with other relevant analysis as appropriate, consistent with 40 CFR § 1508.28, 40 CFR § 1502.21, and 43 CFR § 46.120.

Each section in Chapter 3 is organized according to the following headings.

SCOPE OF THE ANALYSIS

For each issue analyzed in detail in a Chapter 3 resource section, the Scope of the Analysis is defined. The Scope of the Analysis varies by resource (e.g., it is not the same for recreation resources and wildlife) and is guided by the issues identified for that resource. Background information regarding the resources and their identified issues or the nature of the analysis is also provided under the Scope of the Analysis heading. The spatial Scope of the Analysis is referred to as the "Analysis Area" throughout this document.

For the purposes of this Final EIS, it is noted that the proposed land exchange area and the Analysis Area are not necessarily the same, depending on the resource being considered. For example, the Analysis Area for botany and wetlands is the same as the proposed land exchange area. However, the Analysis Area for social and economic resources is much larger than the proposed land exchange area and includes all of Grand and Summit counties. The Analysis Area is defined under the *Scope of Analysis* for each resource analyzed in Chapter 3.

[28] Summit County, 1999

AFFECTED ENVIRONMENT

The Affected Environment defines the existing conditions for a particular resource or resource use. The Affected Environment provides the baseline conditions for which the effects of the No Action, Proposed Action, and Alterative 3 are analyzed and disclosed.

ENVIRONMENTAL EFFECTS

An environmental effect is defined as a modification of, or change in, the Affected Environment brought about by an action. Effects can vary in degree, ranging from only a slightly discernible change to a drastic alteration in the environment. Effects can be direct, indirect, or cumulative in nature. For this environmental analysis, the following definitions of direct, indirect and cumulative effects are used.

- *Direct effects* are caused by the action and occur at the same time and place.[29] *For the purposes of this analysis, direct effects are those anticipated to occur directly as a consequence of the proposed exchange of federal and private lands (and subsequent management/ownership). and the proposed Recreation Design Features included in the Proposed Action Alternative.*

  Indirect effects are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the patterns of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems.[30] *For the purposes of this analysis, indirect effects are disclosed for the agreements between BVR and other landowners in the area; the management of Recreation Design Features included in the Proposed Action Alternative; and WRNF environmental review of the proposed hiking trail as associated with the Proposed Action Alternative. Individual resource analyses may include other resource specific indirect effects and only discuss components of the aforementioned topics as relevant to the resource being analyzed*.
- *Cumulative effects* are the impacts to the environment that result from the incremental effects of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.[31] Reasonably foreseeable future actions include activities, developments, or events that have the potential to change the physical, social, economic, and/or biological nature of a specified area. Existing activities, projected activities directly associated with a proposed action, and other reasonably foreseeable future actions provide the basis for defining and analyzing cumulative impacts; reasonably foreseeable future actions do not include those actions that are highly speculative or indefinite. To be a cumulative effect, it must overlap in space and time with the direct and indirect effects of the action.

  Section M – Cumulative Effects of this chapter includes analysis of cumulative effects on a resource-by-resource basis as well as additional information on past, present and reasonably-foreseeable future land exchanges in the Analysis Area.

The following sections discuss the environmental impacts of No Action Alternative, the Proposed Action, and Alternative 3. The discussion of the Proposed Action contains the bulk of the environmental analysis and, because Alternative 3 is a modified version of the Proposed Action, the discussion of Alternative 3 focuses on the differences between the two alternatives (i.e., the impacts that would not occur under Alternative 3 or those that would only occur under Alternative 3).

A. LANDS AND REALTY

SCOPE OF THE ANALYSIS

The 2015 RMP and the 2015 Greater Sage-Grouse Approved Resource Management Plan Amendment (Sage-Grouse ARMPA) provide management direction in the form of "Decisions" for lands and realty on BLM lands. Decision language and compliance with the plans is explained in Appendix F.

[29] 40 CFR § 1508.8(a)
[30] 40 CFR § 1508.8(b)
[31] 40 CFR § 1508.7; 43 CFR § 46.30

The Analysis Area for this lands and realty analysis includes both the Federal and non-Federal parcels.

AFFECTED ENVIRONMENT

Federal and Non-Federal Parcels

The legal description of each of the Federal and non-Federal parcels is provided in Table 1-1 in Appendix A (refer to Figures 1 and 2 for parcel locations). It is important to note that BLM-I would be reduced by 76 acres under Alternative 3, and that BVR-3 and BVR-4 would not be included in Alternative 3. All other legal descriptions contained in Table 1-1 are applicable to both action alternatives. Within the legal description of each parcel contained in Table 1-1 are details of all valid and existing rights of way, easements, leases, or other encumbrances and authorizations affecting the Federal and non-Federal parcels. Of particular note is BVR-7, which is a perpetual, non-exclusive, 30-foot-wide access easement, for ingress and egress purposes, providing access to the Inspiration Point area. These details are described in further detail within the Agreement to Initiate contained in the project file.[32]

The Proponent and BLM have agreed that no additional reservations, exceptions, covenants, restrictions, or encumbrances shall be placed on the lands described in Table 1-1 in Appendix A without notice to, and an opportunity for comment by, the other party. The need to place such reservations, exceptions, covenants, restrictions, or encumbrances on a parcel may be grounds for the other party to refuse to accept a parcel.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Selection of the No Action Alternative would maintain the current land management/ownership of the Federal and non-Federal parcels, and no impacts to lands and realty would occur.

Direct and Indirect Effects

Federal Parcels

Under the No Action Alternative, the Federal parcels BLM-A–C and BLM-F–K would remain in public ownership by the BLM. Existing management and land uses on these parcels would continue, consistent with the 2015 RMP. Selection of the No Action Alternative would not preclude these parcels from disposal in future land tenure adjustment proposals (e.g., sales, land exchanges, etc.), contingent upon future site-specific NEPA analysis and approval. No impacts to these parcels would occur under the No Action Alternative.

Non-Federal Parcels

The non-Federal parcels BVR-1–5, BVR-7, BVR-8 and BVR-10 would be retained in private ownership and would be subject to Grand County and Summit County land use regulations. BVR-9, which is subject to an existing purchase option between BVR and Summit County, would continue to be owned by Summit County as part of its open space program. No impacts to these parcels would occur under the No Action Alternative.

Alternative 2 – Proposed Action

The Proposed Action is consistent with the land tenure adjustment direction set forth in the 2015 RMP.

Direct Effects

The Proposed Action would exchange approximately 1,489 acres of Federal land for approximately 1,830 acres of non-Federal land. All the Federal lands proposed for exchange are in Grand County. In Grand County, 1,489 acres of BLM lands would be transferred into private ownership, and 887 acres of private land would be transferred into public ownership. In Summit County, 943 acres of private lands would be transferred into federal ownership and would come under federal management. Grand County would have a net loss of 602 acres of public lands, and Summit County would have a net gain of 943 acres of public lands, including approximately 300 acres (southern half of BVR-2) that would become NFS-managed lands and would come under the management of the WRNF. In total, there would be a net gain of 341 acres of public lands. Refer to Table 2-1 and Table 2-2 in Appendix A for the acreages of each parcel by county.

[32] BLM, 2015b

Federal Parcels

All the parcels included in this analysis are consistent with the disposal criteria outlined the 2015 RMP. Specifically, as it relates to the following criteria:

- Consider disposals through exchanges, State selections, boundary adjustments, Recreation and Public Purpose Act leases and patents, leases under Section 203 and 209 of the FLPMA, and sales under FLTFA for BLM-managed public lands outside of Retention Areas. Apply the following criteria to disposals:
  - Lands that contain important wetland or riparian wildlife habitat, other water resources, significant cultural resources, recreational values, or are essential to candidate, listed, or proposed threatened or endangered species would be evaluated on a case-by-case basis;
  - Disposal of the land would not adversely impact the manageability of remaining BLM-managed public lands or minerals;
  - Disposal of the land would not adversely impact the public's access to remaining BLM-managed public lands;
  - Disposal of the land is deemed to be in the local public's interest; and
  - Existing public access at the time of disposal would be reserved, as needed, if the lands are transferred out of public ownership.

The disposal of the Federal parcels in this exchange is intended to enhance the manageability of remaining BLM-managed public lands by consolidating boundaries for public and private land ownership patterns. As such, the proposed exchange is anticipated to meet objectives of the 2015 RMP for wildlife, recreation, public access, and scenic values with improved management capacity. There is an existing 0.3-mile segment of public access to the Blue River (BLM-I) and two parcels accessible to the general public by floating the Blue River, which, according to scoping comments, are used by some recreationists as rest stops (BLM-G and BLM-H); that use opportunity would be lost as a result of the exchange. While this would result in loss of public access to recreation opportunities, transfer of these parcels to private ownership would not adversely affect access to remaining BLM-managed public lands. Recreation Design Features proposed by the Proponent are designed to off-set the loss of recreational opportunities associated with the few parcels adjacent to the Blue River. Further, all of the Federal parcels are mostly or entirely surrounded by BVR or other private lands and are difficult for the public to legally access (refer to Section B – Access and Traffic of this chapter for a complete analysis of access to each of the Federal parcels).

Non-Federal Parcels

The non-Federal parcels (BVR) 1–5 and 7–10 suitable for acquisition as outlined in the 2015 RMP, specifically as it relates to the following criteria:

- Consider acquisitions for BLM-managed public lands inside, and outside, of Retention Areas through exchanges, boundary adjustments, donations, or purchases that meet any of the following criteria:
  - Provide public access
  - Consolidate existing BLM-managed public lands, including parcels that make management easier or reduce trespass occurrences
  - Are suitable for public purposes adjacent to, or of special importance to, local communities and to state and/or federal agencies for purposes including, but not limited to, community expansion, extended community services, or economic development
  - Areas near communities that provide open spaces and preserve agriculture; protect wildlife and critical habitat
  - Enhance recreation opportunities; and, generally, serve the public good
  - Could improve water quality or increase water quantity
  - Facilitate the conservation or recovery of Special Status Species
  - Meet the intent of the LWCF or FLTFA

All of the non-Federal parcels would serve the outlined *Allocations and Management Action*s of the 2015 RMP to "provide public access; and consolidate existing BLM-managed public lands, including parcels that make management easier or reduce trespass occurrences, and enhance recreation opportunities." Further, proposed non-

Federal parcels 8 and 10 would function to, "enhance recreation opportunities; and, generally, serve the public good," as they would include Recreation Design Features which enhance opportunities as discussed in the Proposed Action. Substantial consolidation of public lands would occur in the southern portion of the proposed exchange due to the exchange of BVR-2, BVR-3, BVR-4, BVR-9 and BVR-10. Moreover, public lands would consist of BLM, Forest Service and Summit County Open Space.

Additionally, BVR-1 includes sage grouse and big game habitat and is within the scenic corridor of the Colorado River Headwaters Scenic Byway. Eight (8) cfs of water rights would be conveyed to the BLM along with the parcel. Acquisition of this parcel would provide access and recreational opportunities to a currently isolated 442-acre parcel of BLM-managed land, enhance protection of wildlife and habitat, consolidate existing BLM-managed public lands, and increase water quantity in federal ownership. Acquisition of BVR-8 would also convey 7.2 cfs of water rights to the BLM with the same result.

BVR-7 would provide access, in the form of a perpetual, non-exclusive, 30-foot-wide access easement across private land to a large block of BLM-managed public land in the Inspiration Point area that is currently difficult to access. This parcel would provide open space near a community, which is another acquisition criterion.

BVR-10, through the proposed pedestrian and fishing access easements extending west from the parcel, would provide access to a 1.65-mile section of contiguous walk-in wade fishing access. The fishing easement would extend between the high-water marks on the banks of the Blue River and connect NFS lands to the south and BLM lands to the north. The pedestrian access easement would extend from the western boundary of BVR-10 along an existing BVR ranch road and proposed new trail to the high-water mark of the Blue River. This easement would provide an alternative route to reach the fishing easement from BVR-10.

Other Authorizations

BLM would convey title to the Federal lands by federal patent or quit claim deed, as may be appropriate. The patent and quit claim deed shall reserve to the United States a right-of-way for ditches and canals under the Act of August 30, 1890. The patent and quit claim deed may be subject to existing valid rights for right-of-ways or other authorized uses if no separate agreement has been reached between the holder and Proponent.

Either party (BLM or BVR) may refuse to accept a parcel or parcels of land proposed to be conveyed to it, and such parcel shall be excluded from the exchange, if: any hazardous substance is discovered on the parcel prior to delivery of a patent or deed of conveyance to the other party; clear title to the parcel cannot be provided; or if the parcel contains a reservation, exception, covenant, restriction, or encumbrance that is objectionable to the receiving party.

Indirect Effects

Agreements Between BVR and Sheephorn Ranch

BVR has stated that upon closing of the exchange, it would convey approximately the southern half of BLM-C to Sheephorn Ranch that currently hunts in this area. The sales agreement for BLM-C from BVR to Sheephorn Ranch restricts development (as a deed restriction) and a condition of closing is that this sales agreement restricting development must be in escrow. Following the exchange, it is reasonably foreseeable that Sheephorn Ranch would continue to use the parcel for hunting. The agreement between the Proponent and Sheephorn Ranch does not directly affect lands and realty resources of the KFO as no further authorizations would be required for these private land uses.

Agreements Between BVR and Skylark Ranch

BVR has stated that upon closing of the exchange, parcel BLM-J would likely be conveyed to the adjoining Skylark Ranch. It is reasonably foreseeable that this parcel would continue to be used for grazing. Any future agreement that may be ultimately be entered into between the Proponent and Skylark Ranch does not directly affect lands and realty on the KFO.

Agreements Between BVR and Blue Valley Acres

BLM-K is surrounded non-Federal land within Blue Valley Acres #2 subdivision. As discussed in Chapter 2, Section B – Alternatives Considered in Detail, BLM-K would be transferred to Blue Valley Metropolitan District with a condition of closing that the parcel is to be used for community purposes—like a continuation of open space, ball fields, or a community meeting hall—and use would be limited to such. Specifically, this binding agreement states that there would be no development for the purpose of housing allowed on this parcel. Any future agreement that may

be ultimately entered into between the Proponent and Blue Valley Metropolitan District does not directly affect lands and realty on the KFO.

Alternative 3

Alternative 3 would be consistent with the land tenure adjustment direction set forth in the 2015 RMP.

Direct Effects

Alternative 3 would exchange approximately 1,413 acres of Federal lands for approximately 1,484 acres of non-Federal lands. All the Federal lands proposed for exchange are in Grand County. In Grand County, 1,413 acres of BLM lands would be transferred into private ownership, and 727 acres of private land would be transferred into public ownership. In Summit County, 757 acres of private lands would be transferred into federal ownership and would come under federal management. Grand County would have a net loss of 686 acres of public lands, and Summit County would have a net gain of 757 acres of public lands, including approximately 300 acres (southern half of BVR-2) that would become NFS lands and would come under the management of the WRNF. In total, there would be a net gain of 74 acres of public lands across the two counties. Refer to Table 2-3 and Table 2-4 in Appendix A for the acreages of each parcel by county.

Federal Parcels

In terms of the disposal of Federal parcels, Alternative 3 is anticipated to meet objectives of the 2015 RMP in almost the same way as the Proposed Action. Alternative 3 would retain river frontage and associated public access on BLM-I; however, changes to overall land ownership patterns and manageability, would not be measurably different from the Proposed Action Alternative. As river frontage and public access on BLM-I would be retained under Alternative 3, and the Recreation Design Features were in-part created to off-set a loss of walk-in fishing access on BLM-I, there are no Recreation Design Features proposed in this alternative. While walk-in fishing opportunities may remain comparable under Alternative 3, the wholesale removal of Recreation Design Features would result in loss of public access on BLM-G and BLM-H without the inclusion of Recreation Design Features intended to off-set this loss. Public comments expressed

Non-Federal Parcels

Refer to the previous discussion under the Proposed Action Alternative for a description of how the non-Federal parcels are suitable for acquisition as outlined in the 2015 RMP. Consolidation of public lands would occur in the southern portion of the project area but to a lesser extent than would occur under the Proposed Action Alternative due to the lack of inclusion of BVR-3 and BVR-4 in Alternative 3. The public benefits of exchanging parcels BVR-1, BVR-7, and BVR-10 would continue to be provided under this alternative and overall manageability public lands in the project would improve from existing conditions (e.g., the No Action Alternative).

Other Authorizations

Other authorizations under Alternative 3 are identical to those discussed under the Proposed Action. The reader is referred to the discussion under the *Other Authorizations* sub-heading contained in the previous section.

Indirect Effects

Agreements between BVR and Sheephorn Ranch, Skylark Ranch, and Blue Valley Acres are identical to those included in the discussion of the Proposed Action Alternative. The reader is referred to the discussion under the *Indirect Effects* sub-heading contained in the previous section.

B. ACCESS AND TRAFFIC

SCOPE OF THE ANALYSIS

This section describes the public access routes to the Federal and non-Federal parcels as associated with each of the action alternatives, as well as the existing and anticipated traffic, parking, and pedestrian access in the proposed exchange area. Current access and traffic in the Analysis Area has been shaped by a history of changing land ownership patterns. During the settlement of the American West, Federal land held in the public domain was transferred to private ownership through homesteading, mining claims, railroad grants and numerous other means. In many cases, this has created an intermingled mosaic of public and private land ownership. Additionally, public lands are managed by several federal and state agencies and local governments, further complicating ownership and access

issues. Under Colorado law, it is unlawful to enter private lands without permission of the landowner. Colorado law does not require private lands to be marked, fenced or posted in any manner. Depending on the circumstances, trespass in Colorado may be prosecuted as a misdemeanor or as a felony. Legal access to Federal land is provided by a system of public and agency roads and trails. Public roads are intended to meet the transportation needs of the public user. Generally, a public road is any federal or state highway or county road, administered by the appropriate jurisdiction. BLM and Forest Service roads and trails are maintained for the administration and use of Federal lands by those agencies. Public use of Federal lands is often tied to the availability parking, which is a large component of access, particularly as it relates to recreation opportunities.

It is important to note that land management agencies do not always have legal right-of-ways on all access roads or trails entering Federal lands, meaning that public access and use may be restricted despite what may appear to be roadways connecting these lands. As the proposed land exchange involves the transfer of ownership between the BLM and BVR, it is important to understand the implications of the proposal in the context of access to public lands, potential impacts to the surrounding transportation systems and parking in and around Federal lands.

The Analysis Area for this access and transportation assessment is limited to the Federal and non-Federal parcels as associated with each of the action alternatives (and adjacent land managed by the BLM) and the transportation systems that provide access to them.

AFFECTED ENVIRONMENT

Existing Legal Access

Federal Parcels

Parcels BLM-A, BLM-B and BLM-C

There is no legal, motorized public access to BLM-A, BLM-B and BLM-C. BLM-A can be legally accessed on foot from adjacent BLM land intersected by Trough Road (also known as Grand County Road 1); however, there are no designated BLM trails in this area and the difficult topography severely limits the accessibility of this parcel to the public.

Due to the surrounding land ownership patterns, the public does not have legal access, of any kind to, BLM-B and BLM-C. BLM-B is completely surrounded by BVR property on all sides, except for the southwest corner of the parcel that touches BLM-C. Likewise, BLM-C is only accessible to BVR and Sheephorn Ranch. Existing BVR lands surround the north and eastern boundaries of BLM-C, and Sheephorn Ranch lands on the south and western boundaries.

Parcel BLM-F

BLM-F is an 80-acre upland parcel, legally accessible from Grand County roads (motorized) off SH 9. From SH 9, visitors travel northeast on Williams Peak Road to BLM-F. BLM-F is approximately 1.5 miles from SH 9. There are no BLM managed roads or trails within this parcel's boundaries.

Parcels BLM-G, BLM-H, and BLM-K

BLM-G and BLM-H are located immediately down river of the Spring Creek Bridge of Spring Creek Road (also known as Grand County Road 10). BLM-G adjoins Blue Valley Acres #1 subdivision on its north and east sides. However, the roads within this subdivision are privately owned and maintained and public access through Blue Valley Acres #1 subdivision is not permitted. Spring Creek Road runs close to the western portion of BLM-H, but neither the roadway nor its right-of-way touch this parcel. Thus, the general public can only legally access BLM-G and BLM-H by floating down the Blue River from one of the existing public access points to the river. BLM-K is surrounded by non-Federal land within the Blue Valley Acres #2 subdivision, which also has private roads upon which public use is not allowed. Unlike BLM-G and BLM-H, BLM-K is not adjacent to the Blue River; therefore, the public does not have access to this parcel.

Parcel BLM-I

Legal, motorized access to BLM-I is available to the public via Trough Road from SH 9. From Trough Road, a primitive motorized road managed by the KFO provides legal and physical access to BLM-I. From an informal parking area, a primitive hiking trail is used to provide walk-in access to the western bank of the Blue River. BLM-I is

a 397-acre parcel that provides access to a 0.3 mile of public river access, which the public utilizes for fishing.[33] This particular parcel provides walk-in fishing opportunities; however, the area can also be legally accessed by floating the Blue River when the flows are sufficient to support lawful floating (i.e., rafts and other crafts do not touch the bottom of the river channel). BLM-I is in a stretch of the Blue River that is designated as "Gold Medal" trout fishing. There have been conflicts with this reach of the Blue River because it is bounded on both ends by BVR property, which has resulted in trespassing onto the BVR's private property, as well as onto the adjoining private property. The public has expressed concern over the loss of river access associated with this parcel and accordingly Alternative 3 was developed to better analyze and consider this issue.

Parcel BLM-J

Two distinct parcels comprise BLM-J. The northern parcel adjoins U.S. Highway 40 along its northern boundary. Skylark Ranch adjoins this parcel to the east, south and west. The larger, southern area of BLM-J is bounded by Skylark Ranch along its eastern, northern and western sides. However, the southern boundary of this parcel adjoins a 100-foot-wide strip of BLM-managed land that would be retained which extends along the northern bank of the Colorado River. Thus, the public would continue to have access the 100-foot strip of land south of BLM-J by either floating the Colorado River or from a non-motorized BLM trail that departs from River Drive, across Rifle Bridge Road from U.S. Highway 40. Visitors accessing BLM-J from this hiking trail must cross the Colorado River, which is only possible when flows permit safe crossing.

Non-Federal Parcels

There is no legal public access within any of the non-Federal parcels as associated with either of the action alternatives, because they are held by private ownership and public use is not granted. However, the non-Federal parcels are either crossed by public road or adjacent to public lands which are accessible to the public, and thus there would be legal public access to the non-Federal parcels, as associated with each action alternative, once the exchange is complete. Impacts to legal public access that would occur on these parcels as a result of the proposed exchange will be discussed under the following Environmental Effects section.

Parking

Federal Parcels

There are no BLM-managed parking facilities on any of the Federal parcels. BLM-I includes a popular informal parking area used by recreationists seeking walk-in access to fishing opportunities along the Blue River.[34] This is a primitive, motorized parking area that requires little management and is unmaintained. No other sanctioned parking areas exist on the Federal parcels.

Non-Federal Parcels

At present these non-Federal parcels are private lands, and thus, there is no legal public parking on any of these parcels. Certain non-Federal parcels are near existing BLM and WRNF managed recreation opportunities that include managed parking areas. Impacts to these parking areas and additional parking that would result from completion of the proposed exchanged will be discussed under the following Environmental Effects section.

Traffic Volumes

As has been discussed throughout this section the parcels included in this exchange are primarily accessed via SH 9 and Trough Road. Only parcels BVR-5 and BLM-J are located off U.S. Highway 40; however, visitors from other parts of Grand County and surrounding regions have used and would likely continue to use U.S. Highway 40 to access the other exchange parcels located along SH 9. Various county and BLM managed roads accessing the exchange parcels will also be discussed in the following paragraphs.

[33] Note that under Alternative 3 that the parcel boundaries of BLM-I are modified so that the portion of the parcel containing river frontage would not be exchanged and walk-in public access to this parcel would be maintained.
[34] Note that under Alternative 3 that the parcel boundaries of BLM-I are modified so that the informal parking area currently on BLM lands would not be exchanged.

State Highway 9

SH 9 is an approximately 140-mile highway extending from Cañon City to Kremmling. SH 9 serves as the primary route within the proposed land exchange area, connecting Interstate 70 (30 miles to the south) and intersecting with U.S. Highway 40 in Kremmling, 2 miles to the north. Traffic on SH 9 is not only affected by local residential population of Grand and Summit County, but is also heavily influenced by visitor traffic going to and coming from various recreation destinations within the corridor.[35] Several Colorado resort communities are served by this highway; therefore, it receives a high volume of both summer and winter recreational traffic. Not only does this highway serve multiple recreation destinations, it also has scenic value and a history of agricultural ranching heritage, both of which are important to the surrounding communities and region.

SH 9 between Silverthorne and Kremmling is primarily one lane in each direction (north and south), with speed limits ranging from 35 mph to 65 mph in this segment. Average Annual Daily Traffic (AADT) for the entire stretch of highway (in this case counting both north and southbound traffic together) between Silverthorne and Kremmling shows lower traffic volumes near Kremmling than Silverthorne. At the mile marker closest to Silverthorne AADT is 29,000 vehicles per day and at the mile marker closest to Kremmling AADT is 3,200 vehicles per day.[36] Similarly, route capacity, or the maximum number of vehicles which has a reasonable expectation of passing over a given section of lane or roadway during a given time, is generally much higher closer to Silverthorne at approximately 3,560 vehicles per day and ranging to 1,850 vehicles per day in Kremmling.[37]

For almost all of the segments of SH 9, traffic volumes are well within the capacity of the route. This is shown by the V/C ratio, which provides the hourly traffic volume divided by the capacity of the segment. A V/C ratio closer to one would indicate that a route is almost at capacity (i.e., 100 percent of capacity); whereas V/C ratios closer to zero would indicate that vehicle volume is far below the roadway's capacity. Within Silverthorne and its nearest mile markers, V/C ratios range from 1.05 to 0.57, indicating that there are likely delays in this area of SH 9 and that vehicle volume ranges from above full to half capacity.[38] The northern portion of SH 9 has V/C ratios ranging from 0.39 to 0.27, indicating that the route is well equipped to accommodate increases in traffic volume.[39] The V/C ratios in different areas of SH 9 highlight that not only is there a larger daily volumes of vehicular traffic closer to Silverthorne, these areas are also at or near route capacity. For the remainder of SH 9, extending to Kremmling, traffic volumes are significantly lower and are well-accommodated by the route capacity in these areas.

Trough Road

Trough Road is a gravel public roadway maintained by Grand County that extends approximately 24 miles between SH 9 in Grand County, to the east to Colorado State Highway 131 (SH 131) at State Bridge, in Eagle County to the west. SH 131extends southward, approximately 11 miles where it intersects with Interstate 70 at Wolcott. Exchange parcels BVR-1, BVR-7 and BVR-8 and BLM-I, and a variety of existing recreation opportunities on public lands are accessed directly from Trough Road or other public roads intersecting with Trough Road. Trough Road traverses the Gore Range south of Gore Canyon serving recreational sightseers, campers, and canyon white water rafters/kayakers that launch at the confluence of the Blue and Colorado Rivers. Below the Gore Canyon, rafters and kayakers land and take-out approximately 8 miles to the west, at the Pumphouse public campground and recreation area, managed by the KFO. Trough Road is also designated as part of the Colorado River Headwaters National Scenic Byway, which in itself generates vehicular traffic as the designation makes it a destination for tourism. Based on existing Annual Average Daily Traffic (AADT) for SH 9 in 2015 it appears that there is an almost even split of visitors coming from both Kremmling and Silverthorne, or adjacent areas surrounding either of these cities. Approximately 45 percent of vehicular traffic on Trough Road comes from Kremmling and the other 55 percent comes from Silverthorne.[40] Average vehicle speed, for all types of vehicles, along Trough Road is approximately 45 mph.

Average Daily Traffic (ADT) counts for Trough Road in 2015 show an almost even split of traffic coming from SH 131 and SH 9. A traffic counter at the Grand County line (closest to SH 131) recorded a total ADT of 700 vehicles per

[35] Lower Blue Planning Commission, 2010
[36] CDOT, 2016
[37] Ibid.
[38] Ibid.
[39] Ibid.
[40] 3,200 coming from Kremmling (counter north of Trough Road) 45 percent and 3,900 coming from Silverthorne (counter south) 55 percent

day. The traffic counter closest to SH 9 recorded a total ADT of 500 vehicles per day. Trucks (some of which may be traveling for commercial purposes) are accounted for in the total ADT numbers; however, trucks only account for 3 to 8 percent of the total ADT. This data was recorded over the course of an entire week of the summer season and averaged between weekdays and weekends.[41] These traffic patterns, and those that will be discussed in the remainder of this paragraph, are characteristic of a typical summer week. The volume of traffic was measurably higher at each location on weekend days.[42] Traffic volumes on the segment of Trough Road closest to SH 9 are most likely to be impacted by the proposed land exchange. Access to BVR-1, BVR-7, and BLM-I is within approximately 3 miles of SH 9; BVR-7 (an access easement providing enhanced public access to Inspiration Point and the adjoining BLM lands) is approximately 7.5 miles from SH 9. As previously mentioned, there are existing recreation opportunities managed by the KFO along Trough Road, which are also in close proximity to SH 9. These opportunities include BLM-I, which provides walk-in fishing access to the Blue River; the Confluence site, which includes walk-in fishing access and has a put-in for the popular Gore Canyon stretch of the Colorado River; and the Pumphouse Recreation Area, which includes camping, fishing access, hiking into Gore Canyon, and is a popular put-in for a variety of river users. Refer to Table 3B-1 in Appendix A for monthly traffic counts taken at the entries to existing recreation sites accessed via Trough Road, highlighting the relation of existing recreation opportunities to traffic volumes in this location.[43]

It is evident that users traveling to existing recreation sites are a component of the vehicular traffic along Trough Road, which ranges from 75 to 728 vehicles per day at the traffic counter closest to SH 9 that is also closest to the existing recreation opportunities. However, it is also clear that these recreation sites are not the primary driver of traffic volumes and only represent a fraction of the vehicular traffic on Trough Road. Both the vehicle count data and traffic data were taken during the spring and summer months; during the fall and winter, volumes are likely even lower.[44] The design capacity of Trough Road is not known, but even on days with the highest volume, the average gap between vehicles is never less than 45 seconds, and more often there are multiple minutes between vehicles traveling on this route.[45] Existing traffic volumes and average gap times between vehicles would indicate that the route is not yet at capacity and capable of handling increases in traffic.

Spring Creek Road

Spring Creek Road (also known as Grand County Road 10) is the first county-maintained public road intersecting SH 9 north of the Green Mountain Reservoir, crossing the Blue River and extending west approximately 6 miles, serving residential and ranch properties as well as BLM and Forest Service managed public lands high above the Blue River.[46] Between SH 9 and the Blue River, Spring Creek Road serves as the primary route through the Blue Valley Acres residential subdivision. BLM-K is accessed by using private roads intersecting Spring Creek Road.

West of the river, Spring Creek Road serves several less dense residential, ranch properties and public land beyond and the proposed Spring Creek Bridge Take-Out and Rest Stop is located where the road crosses the Blue River. Exchange parcels BLM-G and BLM-H are immediately downstream of the Spring Creek Bridge. However, these parcels are not accessible from Spring Creek Road and are only accessible to the public by floating the river.

Spring Creek Bridge is approximately 1 mile west of SH 9, where Spring Creek Road crosses the Blue River over a county-maintained two-lane bridge. Spring Creek Bridge is a popular location for kayakers and some rafters to take-out after floating for over 3 miles through Green Mountain Canyon from the public put-in at the base of Green Mountain Reservoir Dam. In response to that demand, BVR has established a revocable public egress license, which allows floaters to land and take-out on BVR property. Users then cross BVR land as pedestrians, to access Spring Creek Road. It is a common practice for white water enthusiasts to use this take-out as the downstream landing of a loop and allows them to return to the head of the canyon using a pre-parked vehicle at Spring Creek Road, or via hitch-hiking.

[41] Grand County Road and Bridge, 2015
[42] Ibid.
[43] This data is provided to help the reader better understand the use of the different recreation features along Trough Road, but given the identified errors (inaccurate data available and the monthly availability of the counts) in the data recorded, it is not used to calculate any actual impacts to traffic volumes.
[44] Ibid.
[45] Ibid.
[46] Matrix Design Group, 2013

Exact traffic volumes are unknown on Spring Creek Road. However, considering that Spring Creek Road primarily serves residential users and those currently utilizing the Spring Creek Bridge take-out it is assumed that current traffic volumes are well within the route's capacity. There have been no reports or observations published that would indicate otherwise.

U.S. Highway 40

Two of the proposed exchange parcels BVR-5 and BLM-J are located along U.S. Highway 40 between Kremmling and Granby. U.S. Highway 40 receives substantial traffic between Kremmling and Granby with AADT ranging from 2,000 to 5,500 vehicles per day for different segments in this area.[47] The V/C ratio for U.S. Highway 40 is much lower than SH 9, the other major highway in the land exchange area. For the entire area of highway between Kremmling and Granby, the highest V/C ratio calculated at 0.37 just north of Kremmling.[48] U.S. Highway 40 has substantial capacity to accommodate increased traffic volumes. Due to the isolated nature and limited number of parcels on U.S. Highway 40, there are no measurable traffic patterns that can be attributed to these parcels.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Direct and Indirect Effects

Under the No Action Alternative, access to Federal lands in the Analysis Area would be expected to resemble the current condition (presented in the Affected Environment section). Non-Federal parcels would remain in private ownership and public access would not change from current conditions. No impacts to access and transportation would be expected.

The proposed Recreation Design Features associated with the Proposed Action Alternative would not be implemented at BVR-8; and additional parking, and road and trail improvements would not occur in the Green Mountain Area; and proposed access to Lower Green Mountain Canyon made possible by the land exchange would not be provided.

Existing Legal Access

Under the No Action Alternative, the existing limited access to the Federal parcels would be maintained. Use of the Federal parcels would continue to be limited due to surrounding land ownership patterns and topographic constraints. BLM-I, and the northern portion of BLM-J would continue to be accessible to the public via the existing roads. BLM-A and BLM-F would continue to be accessible to hikers. BLM-G, BLM-H, and BLM-I would still be accessible to the public by floating down the Blue River from one of the available public put-ins when a floatable flow exists. As the non-Federal parcels would remain in private ownership, public access to these parcels would continue to be prohibited. No impacts to existing legal access would be expected.

Parking

Informal public parking would remain available on BLM-I. There would be no additional parking provided on BLM lands as associated with the proposed Recreation Design Features. No impacts to parking would occur.

Traffic Volumes

The No Action Alternative would not alter the current traffic volumes on roadway networks accessing Federal and non-Federal parcels. No impacts to traffic volumes would occur.

Alternative 2 – Proposed Action

The Proposed Action is expected to improve legal access to public lands. The Recreation Design Features would create improved and designated parking areas for recreation opportunities associated with the non-Federal parcels and the existing public lands adjacent thereto. While traffic volumes are naturally increasing in the Analysis Area, the Proposed Action is not anticipated to measurably increase traffic volumes on roadway networks accessing Federal and non-Federal parcels.

[47] CDOT, 2016
[48] Ibid.

Direct Effects

Existing Legal Access

Legal access to public lands would be improved. This determination supports a component of the Purpose and Need, which is to improve management of, and public access to, public lands. Through the proposed land exchange, the BLM would dispose of lands with limited public access and gain lands with existing vehicular access (refer to Figure 1). Additionally, new and improved public access to recreation opportunities would be gained as described in the proposed Recreation Design Features.

Federal Parcels

The limited legal public access associated with BLM parcels A, F, G, H, I and J would be lost. Generally, the impacts associated with this loss of public access are expected to be minimal due to the limited access to these parcels in their existing state.

As it relates to BLM-I, which currently has legal, motorized access to walk-in fishing opportunities on a stretch of the Blue River designated as "Gold Medal" trout fishing, public access would be lost. After the exchange, BLM-I would become private property restricting any use by the general public other than floating through the 0.3-mile segment of the river that flows through the parcel when the flows support lawful access (i.e., rafts and other crafts do not touch the bottom of the river channel) and float traffic is not anticipated to be impacted, as that is determined by flows of the Blue River, which are not impacted by the Proposed Action. Therefore, impacts to floating on this section of river are not anticipated. The proposed Recreation Design Features at the Confluence Recreation Area and those associated with the easements west of BVR-10 to provide walk-in fishing access, discussed in the following paragraphs, are intended to diminish the impacts associated with the loss of legal public access at BLM-I.

Non-Federal Parcels

The public would gain legal access to non-Federal parcels (BVR) 1–5 and 7–10. The Proposed Action would substantially improve access to recreation opportunities on those parcels as managed by the KFO and access would be enhanced through the trails, fishing platforms and parking associated with the proposed Recreation Design Features. Additional hunting access would be afforded in connection with the non-Federal parcels. Under the Proposed Action Alternative, legal access to the non-Federal parcels would primarily be served via SH 9 and existing county roads. Connectivity and legal access to the non-Federal parcels would be much higher than that of Federal parcels in their current state. Existing county roads serving these parcels are generally well maintained, and legal access would not be limited by surrounding land ownership patterns. The non-Federal parcels also provide improved access to existing Federal lands that adjoin the non-Federal parcels; approximately an additional 3,000 acres of hunting access would be available after the exchange.

Approximately 1.2 miles of the north half of Green Mountain Canyon which is currently difficult for the public to access due to severe topographical constraints and adjoining private land would become legally accessible through the transfer of BVR-2, BVR-9, and BVR-10 into public ownership. The fishing easement over BVR land west of BVR-10, including 0.18 mile of river access, would connect 1.2 miles of river on NFS land with 0.27 mile of river on BLM land, resulting in 1.65 miles of contiguous access for walk-in wade fishing on the river. As a component of the Proposed Recreation Design Features in the Green Mountain Recreation Area, the existing BLM road accessing these parcels would be improved to accommodate new visitor use. This road would provide access to BVR-2, BVR-9, and BVR-10 and access would be supported by the construction of a parking lot/trailhead adjacent to BVR-10, as included in the proposed Recreation Design Features. The Green Mountain area currently hosts a variety of recreation opportunities and increased access to this area is expected to enhance the resource as a whole.

The transfer of BVR-8 into KFO management along with the proposed Confluence Area Recreation Design Feature would improve legal public access to recreation opportunities between Trough Road and the confluence of the Colorado and Blue Rivers. As previously mentioned, Trough Road already provides access to a variety of existing recreation opportunities and is overlapped by the Upper Colorado SRMA. The addition of the proposed Confluence Recreation Area on BVR-8 would utilize existing roadways to increase the opportunities available in this area. An additional parking area is also included in the Recreation Design Features, to facilitate access for an increased number of users. The 7-acre "Chevron Parcel," which would be donated into BLM management as a component of the Proposed Action, would provide continuous public access along the Blue River. As such, increased access in this area has significant capacity to enhance the recreation resource on KFO managed lands.

A permanent rest stop with re-entry and take-out along Spring Creek Bridge would provide legal public access. Public use of this parcel is currently voluntarily allowed by BVR, as a revocable public egress license, allowing floaters only to land and take-out on BVR property. This provides lesser use than what is proposed under the Proposed Action Alternative.

Additionally, the Proposed Action would provide the public with permanent rest-stop 3.1 miles downstream of Spring Creek Bridge through conveyance of an easement of a 0.5-acre parcel from BVR to either an existing governmental entity or a suitable not-for-profit entity in perpetuity. This rest stop would only provide riverfront access to members of the public floating the Blue River and could not be legally accessed by the public from land. More specifically this feature would include the right to tie up watercrafts, use of the rest-stop with the right to re-entry to the river and would provide a seasonal toilet (portable restroom with enclosure) and informational signage (one sign).

Parking

Federal Parcels

Informal public parking on Federal parcels, particularly BLM-I would be lost. This is a small informal parking area adjacent to the BLM road primarily used by anglers would become private BVR property. The informal parking area at the end of the existing primitive BLM road from SH 9 and terminating near BVR-10 would be improved; this would serve increased access to lower Green Mountain Canyon. No other managed parking areas exist on the Federal parcels, thus impacts to public parking would be minor.

Non-Federal Parcels

Transfer of the non-Federal parcels into KFO management would improve parking, and thus, the public's accessibility to recreation in the Analysis Area. All of the proposed Recreation Design Features include additional parking that would accommodate new users and future increases in users associated with a growing demand for recreation opportunities in the area (discussed further in Section C – Recreation of this chapter). Further, existing parking at KFO and WRNF managed recreation sites would be augmented by the additional parking on the nearby non-Federal parcels as part of the proposed Recreation Design Features.

The proposed Confluence Recreation Area would feature two parking areas, each accommodating approximately 24 vehicles. The proposed Confluence Recreation Area would include both head-in spaces and spaces for vehicles towing trailers. Many users of this proposed Recreation Design Feature are anticipated to be floating the river, and the proposed additions to parking would serve users of the new Recreation Design Features, replace an existing informal parking area that serves the existing BLM take-out, and alleviate pressure on the existing parking near the confluence of the Blue and Colorado Rivers. This proposed Recreation Design Feature would also provide parking for anglers seeking walk-in fishing opportunities along the Blue River, reducing the impacts associating the loss of access and parking on BLM-I.

The proposed Green Mountain Recreation Design Feature includes the addition of a parking area capable of accommodating approximately 10 vehicles. This parking area would accommodate fishermen and other members of the public accessing the northern half of Green Mountain Canyon. The exchange would not change floaters' ability to park in this area to access the Blue River, which currently requires users to park and walk along the road and then traverse the steep slope down to the river. However, the proposed additional public access trails from the parking lot across BVR-10 and the BVR lands west of BVR-10 would not be available to the public as put-in access routes.

Lastly, improvements to parking at the Spring Creek Bridge Take-Out and Rest Stop on BVR property would accommodate approximately 10 vehicles, with some spaces for vehicles towing trailers. As previously stated, the facilities at Spring Creek Bridge Take-Out and Rest Stop are for taking out or rest stops only, no put-ins.

Indirect Effects

Traffic Volumes

As discussed in more detail below, the Proposed Action is not expected to increase traffic volumes beyond their design capacities on any of the roadways accessing Federal and non-Federal parcels.

Federal Parcels

As public use of the Federal parcels is currently limited by access to these parcels in their existing state, disposal of the Federal parcels through the land exchange is not expected to noticeably (indirectly) affect traffic volumes on the public roads nearest to/accessing the parcels. Traffic volumes on SH 9, Trough Road, Spring Creek Road and U.S. Highway 40 would be expected to remain in the range of current levels and well within the design capacity of these roads.

Non-Federal Parcels

It is reasonable to assume that BLM's acquisition of the non-Federal parcels (BVR) 1–5 and 7–10, through the proposed land exchange, would increase recreational use and human presence on these parcels, which in turn is likely to increase traffic volumes. Traffic volumes would likely be most noticeable on SH 9 as it serves all of the proposed exchange parcels as well as the roadways accessing parcels with proposed Recreation Design Features.

State Highway 9

For almost all the segments of SH 9, traffic volumes are well within the capacity of the route, shown by V/C ratios ranging from 0.39 to 0.27, expect in Silverthorne where V/C ratios range from 1.05 to 0.57. Increased traffic volumes associated the proposed land exchange would be expected to be minimal and well within the design capacity of the road. It is more likely that the additional recreation opportunities would accommodate users already traveling along SH 9 rather than generate additional visitation from outside the proposed land exchange area. For example, it is not expected that the additional Recreation Design Features would draw guests from Denver. Additionally, growing visitation in resort towns accessed by SH 9 would likely require improvements to better accommodate increasing traffic volumes for the segments of roadway with high V/C ratios in Silverthorne. For the remainder of SH 9, beyond the mile markers closest to Silverthorne, and extending to Kremmling, which the proposed land exchange parcels are included in, traffic volumes are significantly lower and well accommodated by the route capacity in these areas.

Additionally, the transfer of BVR-2, BVR-9, and BVR-10 and proposed Recreation Design Feature in the Green Mountain area could increase traffic volumes on a segment of the primitive BLM road accessed from SH 9. Ten additional parking spaces would be included in this area as well maintenance to the road that traverses BLM managed lands and provides access to BVR-2, BVR-9, and BVR-10. The area is intended to provide a dispersed recreation experience with low-density use. Traffic volumes and capacity of the road are not known; however, due to the limited capacity and isolated nature of this Recreation Design Feature it is anticipated that the improved BLM road would be able to accommodate increased traffic.

Trough Road

Traffic volumes on Trough Road could potentially experience an increase as a result of the public gaining legal access to BVR-1, BVR-7, and BVR-8. Additionally, the proposed Confluence Recreation Area is expected to draw more visitors to the area as there would be enhanced recreation opportunities and parking under the Proposed Action Alternative. The proposed Confluence Recreation Area includes the greatest amount of additional parking (48 spaces) and would likely generate more visitors than any other parcel. Based on existing AADT for SH 9 that shows approximately 45 percent of vehicular traffic to Trough Road coming from Kremmling and the other 55 percent coming from Silverthorne, these visitors would likely continue to be evenly split from each end of SH 9.[49]

Trough Road has an ADT of 500 vehicles per day at the traffic counter closest to SH 9.[50] Traffic volumes along Trough Road range from 75 to 728 vehicles per day during the spring and summer months and are likely even lower during the fall and winter months.[51] Increased traffic volumes associated with public access to BVR-1, BVR-7, and BVR-8 (including the Confluence Recreation Area) would be expected to be moderate and well within the design capacity of the road. On days with the highest volume, the average gap between vehicles is never lower than 45 seconds and more often there are multiple minutes between vehicles traveling on this route.[52] The proposed land exchange would not generate enough of an increase in traffic volumes to result in delays, even on days where traffic is

[49] 3,200 vehicles coming from Kremmling (counter north of Trough Road) and 3,900 vehicles coming from Silverthorne (counter south of Trough Road)
[50] Grand County Road and Bridge, 2015
[51] Ibid.
[52] Ibid.

at its highest volume. In addition, it is important to understand that the increase of traffic on this road is minor when compared to larger roadways in the area. In other words, what may be a measurable increase in traffic on Trough Road is negligible in the context of traffic within the Analysis Area as a whole.

Spring Creek Road

Spring Creek Road provides access to the proposed Recreation Design Feature at Spring Creek Bridge. The proposed Recreation Design Feature includes approximately 10 parking spaces in an area already used by recreationists as a take-out. There may be a slight increase in traffic volume along Spring Creek Road, attributable to a more structured take-out and rest stop with re-entry for floaters being present at Spring Creek Bridge; however, this would not result in measurable impacts to traffic volume that would impact the design capacity of Spring Creek Road.

U.S. Highway 40

Under the Proposed Action Alternative, the public would gain legal access to BVR-5 located along U.S. Highway 40 between Kremmling and Granby. U.S. Highway 40 receives significant traffic between Kremmling and Granby with AADT ranging from 2,000 to 5,500 vehicles per day for different segments in this area.[53] The V/C ratio for U.S. Highway 40 is much lower for the entire area between Kremmling and Granby, with its highest being a V/C ratio of 0.37 just outside of Kremmling.[54] Considering U.S. Highway 40 has significant capacity to accommodate increased traffic volumes and that BVR-5 is the only parcel on this roadway that the public would gain access to it is not anticipated that there would be any measurable impacts to traffic volume on U.S. Highway 40. Additionally, BVR-5 does not include any proposed Recreation Design Features.

Alternative 3

Similar to the Proposed Action Alternative, Alternative 3 is expected to improve legal access to public lands. Although there are no Recreation Design Features associated with this alternative, legal access would still be improved through changes to land ownership patterns and the public access that would be retained on BLM-I under this alternative. While traffic volumes are naturally increasing in the Analysis Area, Alternative 3 is not anticipated to measurably increase traffic volumes on roadway networks accessing Federal and non-Federal parcels.

Direct Effects

Existing Legal Access

Legal access to public lands would also be improved. This determination supports a component of the Purpose and Need, which is to improve management of, and public access to, public lands. Through the proposed land exchange, the BLM would dispose of lands with limited public access and gain lands with existing vehicular access (refer to Figure 2). Unlike the Proposed Action Alternative, there would be no improved public access through the Recreation Design Features under this alternative.

Federal Parcels

The limited legal public access associated with BLM parcels A, F, G, H, and J would be lost. Generally, the impacts associated with this loss of public access are expected to be minimal due to the limited access to these parcels in their existing state. BLM-I, and the public access it provides, would be retained under this alternative.

Non-Federal Parcels

The public would gain legal access to non-Federal parcels BVR 1–5 and 7–10 but would not gain access to BVR-3 and BVR-4 as these two parcels are not included in this alternative. Public access opportunities that would be provided under Alternative 3 would be similar to those described in the discussion of the Proposed Action Alternative. However, the public would not gain access to BVR-3 or BVR-4 nor would the public gain any Recreation Design Features as neither of these components are included in this alternative.

Public use of the existing Spring Creek Bridge take-out would not be affected by Alternative 3, as it is currently voluntarily allowed by BVR. It is important to note that this opportunity exists as a revocable public egress license,

[53] CDOT, 2016
[54] Ibid.

allowing floaters only to land and take-out on BVR property. This provides lesser use than what is proposed under the Proposed Action Alternative.

Parking

Federal Parcels

Some informal public parking on Federal parcels would be lost but the existing parking on BLM-I would be retained. The informal parking area at the end of the existing primitive BLM road from SH 9 and terminating near BVR-10 would also remain the same. No other managed parking areas exist on the Federal parcels, thus impacts to public parking would be minor.

Non-Federal Parcels

Transfer of the non-Federal parcels into KFO management would minorly impact parking in the project area. The parcels could provide individual parking spots as road widths allowed but no additional parking would be created through Recreation Design Features. Overall, effects to parking would be minor under Alternative 3.

Indirect Effects

Traffic Volumes

As discussed in more detail under the Proposed Action Alternative, Alternative 3 is not expected to increase traffic volumes beyond their design capacities on any of the roadways accessing Federal and non-Federal parcels. Because Alternative 3 does not include any Recreation Design Features, there are no potential estimated increases in traffic in the project area and impacts to traffic would be minor. Refer to Section B, Environmental Effects, Proposed Action for more detail on potential impacts to traffic.

C. RECREATION

SCOPE OF THE ANALYSIS

The KFO manages 377,860 acres of public land for many uses, including recreation, in Colorado. Numerous forms of outdoor activities are provided as part of the recreation resource analyzed in this document. These include camping, hunting, fishing, hiking, horseback riding, boating, whitewater rafting, off-highway vehicle driving, mountain biking, birding and wildlife viewing, photography, climbing, all types of winter sports, and visiting natural and cultural heritage sites. In an increasingly urbanized West, these recreational opportunities and the landscape settings where they take place are vital to the quality of life enjoyed by residents of western states, as well as national and international visitors.

Public scoping comments from the project's initiation (2005 and 2016 public scoping processes) identified the recreation resource as having potential to be impacted by the proposed exchange. Pursuant to the proposed land exchange, certain existing recreation opportunities identified herein would be transferred out of public ownership, while new opportunities would become available to the public. In response to public input, the Proponent has worked with the BLM to develop Recreation Design Features intended to facilitate realization of certain opportunities for enhanced public recreation that would be made possible by the proposed land exchange. The proposed Recreation Design Features, as described in the Proposed Action, will be analyzed in relation to existing and anticipated future conditions of the Federal and non-Federal parcels included in the proposed land exchange and the recreation resource as a whole. Additionally, surrounding public lands (including adjacent NFS lands), and the capacity of the proposed land exchange to impact the recreational opportunities on these lands will be analyzed and disclosed in this section. Based on input from public scoping and BLM specialists, the following criteria were selected to guide the analysis in assessing impacts to the recreation resource:

- Recreation Management
- Recreational Opportunities
- Trail Connections
- Recreational Demand for Public Lands

AFFECTED ENVIRONMENT

Recreation Management

As it relates to the recreation resource, specific goals and objectives are provided on page 44 of the 2015 RMP under the "Recreation and Visitor Services" Decision in Chapter 2 – Plan Decisions. The direction provided in the 2015 RMP will be used to guide the analysis of potential impacts to recreation management that could result from the proposed exchange.

Federal Parcels

Many of the Federal parcels are mostly or entirely surrounded by private lands and are difficult for the public to legally access. The parcels that are adjacent to the Blue River provide public access for recreation; however, even these parcels receive limited use. Use of these parcels is reported as a maximum of 3 vehicles at one time containing 1 to 2 people at BLM-I; and no observed use of BLM-G and BLM-H, although it is reasonable to conclude that the use of these parcels by the public does occur.[55] Furthermore, use is often limited to individuals familiar with the area and/or those who may go elsewhere if the area is already being used.[56] Thus, recreation and associated management is not emphasized on the majority of these lands. BLM parcels J and I are both overlapped by the Upper Colorado SRMA. The public lands of the Upper Colorado SRMA are located along the Colorado River corridor and offer visitors outstanding opportunities for float boating, trout fishing, and scenic driving. This corridor attracts visitors both within and beyond the region.[57] None of the other Federal parcels are located in SRMAs or Extensive Recreation Management Areas (ERMAs).

Non-Federal Parcels

As currently private lands, non-Federal parcels (BVR) 1–5 and 7–10 are not managed by the BLM and do not receive recreational use.

Adjacent BLM Lands in the Analysis Area

The BLM uses SRMAs or ERMAs to manage established areas where BLM public lands experience heavy recreation use or where the KFO plans on making large investments in staff, funding, facilities, or time. As previously mentioned in this section, the Upper Colorado SRMA is near many of the proposed exchange parcels and overlaps BLM-J and BLM-I. The KFO manages the Upper Colorado, Wolford, North Sand Hills, and Strawberry SRMAs and the Headwaters Extensive Recreation Management Area (ERMA). The Upper Colorado SRMA is the only one of these designated recreation management areas near the proposed exchange parcels.

Upper Colorado SRMA

The Upper Colorado SRMA follows the Colorado River corridor and includes five different Recreation Management Zones (RMZ), which are described as RMZ-1 – Parshall to Kremmling; RMZ-2 – Gore Canyon; RMZ-3 – Pumphouse to State Bridge; RMZ-4 – Yarmony Jeep Trail; and RMZ-5 – Gore Canyon Ranch.[58] The proposed exchange parcels are in closest proximity to RMZs 1, 2, and 3.[59] A map of these zones is available in the 2015 RMP.

The important values of the SRMA are providing public lands along the Colorado River corridor that offer visitors opportunities for float boating, trout fishing, and scenic driving. The corridor attracts visitors both within and beyond the region. Adjacent destination tourism markets in Grand, Summit, Eagle, and Routt counties currently market the recreational opportunities.[60] The 2015 RMP states the following in regard to the BLM's ability to manage recreation resources in this SRMA:[61]

> *The recreation infrastructure (e.g., river access, parking areas, campgrounds and restrooms) are created and meeting current demand. Recreation use may increase, requiring the expansion of some recreational facilities especially parking areas, campgrounds and boat launches. Additional BLM*

[55] RRC Associates LLC, 2013
[56] Ibid.
[57] BLM, 2015a
[58] Ibid.
[59] Ibid.
[60] Ibid.
[61] Ibid.

funding might be needed to support on-the-ground BLM staff and maintenance of facilities. The effectiveness of managing recreation resources over the long-term will depend on having: (a) an assurance that gateway communities (businesses, chambers, tourism organizations and local governments) will market the SRMA responsibly and accurately; (b) a commitment that local users/partners are available to provide on-the-ground support; (c) sufficient funding and staff to implement the planning decisions and the necessary site specific implementation actions; and (d) there are adequate flows in the river to support the targeted activities.

Recreation Opportunities

Federal Parcels

Current recreation opportunities on the Federal parcels include hunting, fishing, and compliment a variety of water sports, providing take-outs and rest stops. Use of these parcels is often dictated by factors such as seasonal variability and water flow. Despite being BLM land, the public does not have legal access to BLM parcels B and C due to the surrounding land ownership patterns, and thus there are no recreation opportunities associated with these parcels.

Parcel BLM-I

BLM-I currently provides walk-in fishing opportunities to 0.3 mile of the Blue River and experiences regular float fishing traffic during the summer months when the flows are more likely to be sufficient to support lawful floating (i.e., rafts and other crafts do not touch the bottom of the river channel).[62] BLM-I includes a small informal parking area and primitive hiking trail to the river. While recreation uses may also include viewing the scenery at the overlook area above the river and near the parking area, it is estimated that virtually all current users of BLM-I are anglers.[63] Only minimal use of the walk-in fishing opportunities occurs, as limited space often deters anglers when other vehicles are already present at the parking area.[64] Generally, 3 vehicles reflects the maximum number of users at one time; however, it is more typical to see fewer or no vehicles at this site.[65] When vehicles were present, most contain 1 to 2 persons per vehicle.[66] This stretch of the Blue River on BLM-I is designated as "Gold Medal" trout fishing and is overlapped by the Upper Colorado SRMA.

Parcel BLM-J

As previously discussed, BLM-J is also overlapped by the Upper Colorado SRMA. BLM-J only includes the upland area, approximately 100 feet north of the bank of the Colorado River. As such, this parcel does not offer opportunities for float boating and fishing. There is waterfowl habitat on this parcel, which provides opportunities for hunting.

Parcels BLM-G and BLM-H

BLM-G and BLM-H are only accessible to the public by floating down the Blue River when flows are sufficient. BLM-H is surrounded by private land, predominately BVR with a very small portion adjoining Blue Valley Acres #1 subdivision. BLM-G adjoins BVR on its southern and western boundaries. Blue Valley Acres #1 subdivision adjoins BLM-G on the parcel's northern boundary, and Blue Valley Acres #2 subdivision adjoins BLM-G on the parcel's eastern boundary; however, the lands within both subdivisions and their roads are not accessible to the general public. While both parcels provide rest stop opportunities for floaters, BLM-G has a short shoreline that is limited by a steep embankment and consequently BLM-H accommodates the majority of the rest stops along this section of river. Both BLM-G and BLM-H were included as a part of an observational study and over a period of three boating seasons prior to 2013, there were no sightings of use on these parcels by wade anglers or boaters utilizing the land as a rest stop.[67] While it is noted that these observations were not made over the course of an entire day, and that there might be use that was not visible, it is reasonable to conclude that the use of these parcels by the public is currently minimal.[68] However, public comments from the scoping process and other data have indicated that some

[62] RRC Associates LLC, 2013
[63] Ibid.
[64] Ibid.
[65] Ibid.
[66] Ibid.
[67] Ibid.
[68] Ibid.

recreationists floating the Blue River do utilize these parcels as rest stops. In any case, BLM management of these parcels as a stopping point for floaters is severely restricted due to their access limitations.

Upland Parcels

Recreation opportunities on parcels BLM-A and BLM-F primarily involve hunting with some low levels of other recreational activities that likely include sightseeing and wildlife viewing based on uses currently observed in the area.[69] In general, public use is minimal due to the limited accessibility of these parcels. There is no legal public access within BLM-B, BLM-C and BLM-K due to surrounding land ownership patterns. BLM-B is totally surrounded by BVR property, and likewise, BLM-C is only accessible to BVR and Sheephorn Ranch. BLM-K is surrounded by non-Federal land within Blue Valley Acres #2 subdivision making it legally inaccessible to the public.

Non-Federal Parcels

As currently private lands, non-Federal parcels (BVR) 1–5 and 7–10 provide no public recreation opportunities.

Adjacent Recreation Opportunities

Existing BLM Confluence Site

KFO managed recreation opportunities currently exist at a site along the confluence of the Blue River and Colorado River at the existing BLM-managed Confluence site. This site has restrooms and serves as the put-in for the Gore Canyon segment of the Colorado River. As such, it is primarily used by experienced boaters, both rafters and kayakers that are attracted by the Class V waters of the canyon. It also attracts some sightseers, users of the restrooms, occasional wade fishermen and wildlife viewers.[70] Based on counts during summer 2012, use of this parking area generally ranged from 0 to 8 vehicles, with 3 vehicles as the most common amount.[71] Approximately 80 percent of the users were from Colorado and out-of-state residents accounted for approximately 20 percent (based on the observed license plates).[72] Party sizes were not identified at the Confluence site.

Lower Blue River BLM Take-Out

An informal take-out on BLM land is located just upstream of the existing Confluence site and exchange parcel BVR-8. Over the course of seven boating seasons, recreational use of the boat take-out and parking area on BLM land was observed by tracking vehicular use of the parking area. As is the case with most recreational opportunities along the Lower Blue River, use is often dictated by the flow of the river. During periods when optimal flows (not too high and not too low) exist for floating and fishing, vehicle counts were as high as 30 vehicles.[73] However, most days' vehicle counts were much lower (often no vehicles were present at all), and in some seasons vehicle counts were never higher than 12 vehicles.[74] The observational research found an average party size of 2.6 persons per vehicle at the take-out.[75] The area in the immediate vicinity of the BLM take-out is used by more than just floaters. Occasionally dog walkers, fishermen and sightseers were observed at the parcel, although use is most often associated with boaters that have parked a vehicle for take-out.[76] Most users (approximately 90 percent) were identified to be from Colorado based on the observed license plates.[77]

Spring Creek Bridge Take-Out

A take-out, which permits public use, is located on private BVR land along Spring Creek Road (Grand County Road 10). The existing take-out is surrounded by BVR private property and is used as popular kayak and river rafting take-out that exists as a permissive use allowed under a revocable license for egress from the river. This access allowed by BVR is revocable at any time. This parcel is not included in the proposed land exchange; however, this is the same location as the proposed Recreation Design Feature at Spring Creek Bridge. The site is currently signed as a "take-out only." Observations indicate that it is used as a take-out by kayakers, floaters and stand-up paddle boarders.

[69] Ibid.
[70] Ibid.
[71] Ibid.
[72] Ibid.
[73] Ibid.
[74] Ibid.
[75] Ibid.
[76] Ibid.
[77] Ibid.

Generally, the rafters taking out at this location are users that are primarily interested in floating through and fishing Green Mountain Canyon. Those that plan to continue fishing float through the BVR for approximately 9 miles to the public take-out near the Confluence. On a majority of days (approximately 55 percent), there were no cars present at the take-out during an observational period during 2012 when river flows averaged between 300 and 500 cfs, which is at the low end of the reported optimal range of 450 cfs or more for floating (based on conversations with fly fishing outfitters and recreational floaters).[78]

When vehicles were present, the count totaled 1 to 4 vehicles; and again, the majority of all vehicles had Colorado plates, further indication of the relatively higher use of the river by residents of Colorado.[79] As will be discussed under Green Mountain Recreation Area, it can be reasonably inferred that the average party size is approximately 2 users per vehicle, as users of this site begin their float from the Green Mountain area.

Green Mountain Put-in Area

The area at the base of Green Mountain Dam typically receives higher use than the other adjacent recreation sites, because it serves as a put-in for kayakers and floaters, as well as for wade fishermen and occasional hikers. This area is not part of, nor connected to the land exchange. It is the area providing public access for floating the Blue River below Green Mountain Dam. This information is provided for contextual information given the river usage addressed. Access to the river in this area can be characterized as difficult, requiring users to traverse steep trails down to the river to put-in. Due to the variety of recreational opportunities, there is less of a correlation between river flow and the number of vehicles observed in this area. During the season of observation, vehicle counts averaged approximately 8 vehicles per day (ranging from 0 to 14 vehicles on any given day), with the average party size was observed to be approximately 2 users per vehicle.[80]

Trail Connections

Federal Parcels

A segment of a publicly accessible BLM-managed road and informal trails exist on BLM-I; however, this trail does not connect to larger network of BLM or NFS roads and trails. Game and user-created trails have been cleared and marked leading into some of the other BLM parcels included in the exchange; however, these trails are not part of a long-term trail system and are not actively managed or maintained by the BLM.

Non-Federal Parcels

There are no public recreational trails on the non-Federal parcels. In the vicinity of BVR-2, BVR-9, and BVR-10, there are unmanaged informal trails and primitive two-track roads that provide access to a variety of recreation opportunities. Additionally, BLM-managed trails exist near BVR-8 in the existing Confluence Recreation Area.

Recreation Demand for Public Lands

Demand for recreation resources throughout Colorado is related to the state's population. In general, demand is heavily influenced by the distribution of population; as such, the more residents in an area, the greater the demand for recreation opportunities.[81] Recreationists from other regions and areas beyond the State of Colorado altogether can also contribute to the increasing demand for recreation opportunities. The populations of Grand and Summit counties, which surround the Federal and non-Federal parcels, have both experienced substantial growth in population over the past few decades, and are anticipated to continue growing at increasing rates. Table 3C-1 in Appendix A highlights historic population growth trends in more detail. Additionally, Table 3C-2 in Appendix A provides greater detail regarding the projected change in population within the Analysis Area. As shown in Table 3C-2, population growth trends are projected to remain strong, with the existing populations of Grand and Summit counties anticipated to double by 2050. A more detailed discussion of population trends, as it relates to social and economic resources is available in Section D of this chapter. As population grows in any region, recreational demand can be expected to grow commensurate with the population. As a result of the growing population, it is anticipated that demand for additional recreational opportunities will increase proportionately.

[78] Ibid.
[79] Ibid.
[80] Ibid.
[81] Ibid.

Growing populations within the Analysis Area have been placing increasing demands on BLM lands for a diversity of quality recreational opportunities that support outdoor-oriented lifestyles and add to participants' quality of life, while, at the same time, contributing to the local economies.[82] In addition, the availability of public lands for recreation plays an important role in the local economies within and adjacent to the KFO. Within the two counties in the Analysis Area, Summit County currently contains the highest proportion of land under federal management with 79 percent of land in the county being public lands. Summit County, however, also has the lowest percentage of public lands managed by the KFO, at less than 1 percent. In both counties, the majority of public lands are NFS lands (managed by the WRNF in Summit County, and the Arapaho National Forest and the Medicine Bow-Routt National Forest in Grand County). The remaining acres of Federal land are managed by the BLM, National Park Service and other federal agencies. This information, along with the acreage of non-Federal land in relation to the percent of total land area for each county, is presented in Chart 3C-1 in Appendix A. The availability of public lands is inherently tied to meeting increasing demand for recreation and both counties have high percentages of public land in relation to the percent of total land area. BLM land is not the predominant type of Federal land in either of the two counties included in the Analysis Area. In both counties, however, BLM land represents a critical component of the overall percentage public land that is available to accommodate an increasing demand for recreation opportunities.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Direct and Indirect Effects

Under the No Action Alternative, access to, management of, and recreational opportunities on Federal lands in the Analysis Area would be expected to resemble the current condition (presented in the Affected Environment discussion).

If the No Action Alternative is selected, non-Federal parcels would remain in private ownership. The public would continue to not be allowed to recreate on the private lands.

Recreational Opportunities

Under Alternative 1, the Federal parcels—with the exception of parcels BLM-B and BLM-C—would remain available to the public, but the land would generally remain difficult to access and hence recreational opportunities would continue to be limited. BLM-I, however, would continue to be available for walk-in fishing access on a 0.3-mile stretch of the Blue River that is classified as "Gold Medal" trout fishing. BLM-G and BLM-H would continue to provide rest stops for users floating the Blue River when the flow is floatable. Hunting would likely continue to occur in limited capacity on the upland parcels that are accessible to the public.

Trail Connections

Under the No Action Alternative, existing trails (motorized and non-motorized) would be maintained. There would be no increase or decrease in trail connectivity as it relates to the proposed exchange parcels and surrounding KFO or WRNF managed lands.

Recreation Management

With selection of the No Action Alternative, BLM management requirements would continue to be low for the majority of the Federal parcels. Difficult access and the isolated nature of these parcels would continue to create management challenges for the KFO.

Recreational Demand for Public Lands

As demonstrated in the Affected Environment discussion, recreation demand for public lands is expected to continue to grow in the Analysis Area commensurate with population increases. Under the No Action Alternative, the increased opportunities for recreation on public lands that would occur in connection with this exchange would not take place, and the public would continue to have access to, and enjoy the use of, the existing recreation resources in the Analysis Area. However, in specific places where access is already limited, like parcels BLM-I, BLM-G, and BLM-H, increased recreational pressure could increase access conflicts in these areas.

[82] BLM, 2015a p.44

Alternative 2 – Proposed Action

The Proposed Action is expected to produce beneficial effects for recreational resources—including hunting, hiking, and more—within the Analysis Area. The recreational opportunities currently provided on the Federal parcels would be relinquished but the public would gain an additional 341 acres of land that would become public, resulting in a net gain in acreage of BLM and NFS lands within the Analysis Area. As previously stated, a number of the BLM parcels either have constrained access or no access at all. Therefore, under the Proposed Action the public would actually gain additional access on previously inaccessible public lands suitable for recreation that would be made accessible through the consolidation of land ownership boundaries. The Proposed Action would also create additional recreation opportunities through the proposed Recreation Design Features. The proposed land exchange would be expected to enhance access to, and recreational opportunities associated with, public lands under the Proposed Action. Beneficial effects for trail connections would occur, particularly as it relates to public lands in the Green Mountain area that would benefit from the construction of a short hiking/access trail on NFS lands providing access to the bank of the Blue River and fishing and pedestrian access easements across BVR property providing continuous fishing access from the existing BLM lands to the north to the National Forest System lands to the south. Additionally, recreational opportunities and trail access in the Confluence Recreation Area would increase due to additional land and Recreation Design Features to be constructed adjacent to the Upper Colorado SRMA. Recreation Design Features along the Blue River, such as the Spring Creek Bridge Take-Out and Rest Stop and the Pump Station Rest Stop would maintain a similar floating experience to what is currently available, by providing the floating public with designated stopping points along the Blue River. The two new rest stops would offer improved accessibility for entities managing the rest stops. In addition, funding for long-term maintenance of these areas would be provided. Overall, the Spring Creek Take-Out and Rest Stop and Pump Station Rest Stop would help mitigate loss of public access to BLM-G, BLM-H, and BLM-I, which recreationists can currently use as rest-stops during floats. The Proposed Action would also improve BLM's ability to manage recreation resources by consolidating land ownership boundaries and reducing conflict.

Direct Effects

Recreational Opportunities

The change in ownership and management of these lands under the Proposed Action is expected to increase recreation opportunities on public lands compared to the No Action Alternative, because the non-Federal parcels are more accessible than the Federal parcels. The Recreation Design Features would create additional formalized opportunities that would facilitate greater public use.

Federal Parcels

Under the Proposed Action, the recreational opportunities provided on the Federal parcels would no longer be available to the public. Users most impacted by the exchange of the Federal parcels would be floaters utilizing BLM-G and BLM-H as a stopping point, which as previously discussed were recorded to be minimal based on observational reports; anglers utilizing BLM-I that observational reports indicated was typically no more than 6 users per day based on a maximum of 3 vehicles with an average of 1 to 2 passengers; and hunters utilizing the publicly accessible upland parcels, which was not estimated through observational reports.[83]

The impacts of the loss of public use of BLM-G and BLM-H, would be diminished by the proposed Recreation Design Features at Spring Creek Bridge and Pump Station Rest Stop. An analysis of float times shows that under various flow regimes the proposed Spring Creek Bridge Take-Out and Rest Stop and BLM-G and BLM-H are approximately fifteen to minutes away from one another.[84] The enhanced site at Spring Creek Bridge would include a permanent rest stop with the right to re-enter the river and take-out for floaters with picnic tables, a seasonal toilet, and improvements related to parking and access on existing BVR property at the Spring Creek Bridge. The Pump Station Rest Stop would provide an additional permanent rest stop with the right to re-enter the river, seasonal toilet, and informational signage.

In summary, users that previously used the Federal parcels as a stopping point (BLM-G and BLM-H), would no longer be able to stop in this area and would have to stop earlier at the proposed Spring Creek Bridge Take-Out and Rest Stop or at the proposed Pump Station Rest Stop that is approximately 3.1 miles downstream. As the Pump

[83] RRC Associates LLC, 2013
[84] Kossler, 2016

Station Recreation Design Feature is located approximately 3.1 miles downstream of the Spring Creek Bridge Take-Out and Rest Stop and 6.8 miles upstream of the Lower Blue River Take-Out the Proposed Action Alternative would provide similar distances between rest stops as BLM-H and BLM-I that are currently utilized by the public. Overall, the Pump Station Rest Stop and Spring Creek Take-Out and Rest Stop would help mitigate loss of public access to BLM-G, BLM-H, and BLM-I, which recreationists can currently use as rest-stops during floats.

Additionally, the proposed permanent rest stops and take-out are expected to provide a better stopping point than currently available on BLM-G and BLM-H, as their location severely limits the BLM's ability to manage and provide necessary services on these parcels.

Although losses of recreation opportunities would be diminished by the proposed exchange and the associated Recreation Design Features, certain opportunities would no longer exist in their current state. Additionally, there would be a period following the close of the proposed land exchange where the proposed Recreation Design Features would not be constructed yet. During this window of time, certain users may perceive a greater loss in recreation opportunities; however, it is important to note that following completion of the exchange, public access for casual use on parcels with proposed Recreation Design Features is allowed. This interim loss of opportunity is expected to have a minor net impact because public use appears to be limited due to either inaccessibility or the limited opportunities provided by these parcels.[85]

Non-Federal Parcels

Under the Proposed Action, the approximately 67-acre BVR-8 would be managed by the KFO (refer to Figure 1). The recreation value of BVR-8 is high as it would provide greater continuity in an area already managed for public recreation use and would add to the existing recreation opportunities through its proposed Recreation Design Features. Public acquisition of BVR-8 would consolidate public ownership frontage on the Blue River from just north of Trough Road to the confluence of the Blue River and Colorado River—a distance of approximately 2 miles. Included on BVR-8 would be in-stream river and riparian habitat improvements along approximately three-quarters of a mile of the Blue River within BVR-8 and the intermingled BLM managed lands; construction of a new take-out for floaters; construction of wheelchair accessible and other fishing access points within the enhanced segment of the Blue River; and day-use recreational amenities such as picnic benches, trails, and a parking lot (refer to Figures 3 and 4). Additionally, BVR proposes to donate its 7-acre "Chevron Parcel" adjacent to BVR-8 to the BLM, to facilitate construction of the proposed in-stream enhancements and provide continuous public access along the Blue River.

The transfer of BVR-8 into federal ownership and its associated Recreation Design Features is intended to reduce the loss of fishing access on BLM-I and is anticipated to have a positive impact on the existing Confluence Recreation Area and the adjoining Upper Colorado SRMA as a whole. Furthermore, BVR-8 would be more easily accessed by the public and better capable of handling any increased recreation use as a result of the Proposed Action and/or recreation use trends under the proposed conditions. This parcel would be managed commensurate with the Upper Colorado SRMA and would provide a valuable addition to recreation opportunities already managed by the BLM in this area. The proposed Recreation Design Feature would both improve fishing conditions, by improving stream health through bank stabilization and other measures, as well as access and recreation conditions through the implementation of a new take-out and fishing access points, wheelchair access, and day-use amenities like picnic benches, trails, and restrooms. While the fishing access of BLM-I would no longer be available, the recreation and fishing amenities within BVR-8 would be vastly improved.

Conveyance of BVR-2, BVR-9, and BVR-10 to the public would increase the consolidation of public lands in the Green Mountain Area. Of the 756.3 acres conveyed, approximately 300 acres of BVR-2 which are within the exterior boundaries of the WRNF would become NFS lands. The balance would be managed by BLM. The BLM, Forest Service, and Summit County Open Space currently manage lands for public use in this area (refer to Figure 1). BVR-10 would provide pedestrian access to NFS lands within the lower (northernmost) 1.2 miles of Green Mountain Canyon, which is largely inaccessible to the public due to topographical constraints that inhibit access from upstream and existing land ownership patterns east and west of the WRNF-managed river corridor. Further, the recreational opportunities in the Green Mountain area would be enhanced by the Recreation Design Features included in the Proposed Action. The features proposed in this area would include maintenance to an existing road across BLM managed lands, which provides access to BVR-2 and BVR-10; construction of a parking lot/trailhead adjacent to

[85] RRC Associates LLC, 2013

BVR-10 for members of the public wishing to access the area; construction of the previously mentioned hiking trail across NFS lands down to the eastern bank of the Blue River immediately below BVR-10 (refer to Figure 5), a fishing easement for the stretch of river flowing through BVR property that lies between NFS lands to the south and BLM lands to the north, and an easement for an additional public pedestrian access route to this fishing easement. Conveyance of BVR-2, BVR-9, and BVR-10 and the associated Recreation Design Features would increase access by a total of 1.65 miles of contiguous walk-in wade fishing on the Blue River. Construction of the proposed hiking trail and these easements would also offset the loss of fishing access currently available on BLM-I. Conveyance of BVR-2, BVR-9, and BVR-10 provides access to those 756 acres for activities such as hiking and hunting and enhances such access to existing Federal lands to the west and south of those parcels.

Under the Proposed Action, BVR-7 would be transferred to the United States. Although this parcel is an access easement (an interest in land) comprising less than an acre, its management under the KFO would provide the public with access and the ability to enjoy recreation opportunities in a large block of BLM managed public land in the Inspiration Point area. The Inspiration Point area is known for its natural beauty, expansive views of the Colorado River Valley, and is popular amongst wildlife viewers. Conveyance of BVR-1 to the public would also provide access to approximately 440 acres of BLM land which is currently isolated within private land and, therefore, inaccessible to the public. These lands can provide a variety of recreational opportunities in conjunction with BVR-1.

Projected Use of Proposed Recreation Design Features

As has been discussed under the Affected Environment discussion, there is not currently public use of the non-Federal parcels, because public use is not permitted. Public use of the non-Federal parcels for recreation would generally be expected to increase with transfer into KFO management, largely attributable to the proposed Recreation Design Features. As such, existing trends in use of adjacent recreation opportunities (as discussed under the Affected Environment) can be used to project use of the proposed Recreation Design Features. Figures 3–6 depict conceptual designs of the proposed Recreation Design Features.

Confluence Recreation Area

The proposed Confluence Recreation Area Recreation Design Features would include two parking areas, each accommodating 24 vehicles, although it is expected that vehicles towing trailers may occupy more than one space in the parking area closest to the proposed take-out (refer to Figure 3 and Figure 4).[86] This proposed design feature would be located between the existing KFO managed Confluence (downstream) and the existing Lower Blue River take-out (upstream). Existing use trends at these nearby existing sites can be used to infer how recreationists may use the proposed Recreation Design Features at the Confluence Recreation Area. The proposed parking area adjacent the improved take-out area (refer to Figure 3) would likely be used very similarly to the existing Lower Blue River BLM take-out located just downstream. It is anticipated that usage would vary with the flow of the river, when conditions are ideal for fishing and floating. Since recreationists using this parking area would be primarily be doing so to leave a vehicle while they float the river, it is expected that party size would be similar to that of the existing take-out and be approximately 2.6 persons per vehicle. When vehicle occupancy is quantified by the number of parking spaces this could result in the opportunity for approximately 62 additional users to have access to and enjoyment of the recreational opportunities on the Lower Blue River.

Users of the proposed Confluence Recreation Area not utilizing the improved take-out would likely park closer to the proposed river improvements and fishing access on the peninsula of the proposed Confluence Recreation Area (refer to Figure 3). These users would likely behave more similarly to those using the existing Confluence site. Although the parking area can accommodate 24 vehicles, use would likely be lower as wade fishermen tend to disperse and will avoid fishing too close to one another as is seen at BLM-I and the existing Confluence site. It is anticipated that use would likely be closer to 2 persons per vehicle due to the limited space of the area. However, as is the case with the existing Confluence site, party sizes would be difficult to determine due to the greater range of opportunities and spillover parking for those wishing to use take-out on days where the parking area is full could be accommodated by the peninsula parking area.

At its highest use, the proposed Recreation Design Features could facilitate the opportunity for an additional 125 users (assuming a party size of 2.6 for both parking lots) to have access to and enjoyment of the recreational opportunities

[86] Matrix Design Group, 2013

on the Lower Blue River and Confluence area. Consistent with projected increases in demand for recreation, the proposed Recreation Design Features are anticipated to better accommodate a greater number of users that would likely be in the area in the near future by providing improved access and amenities.

Green Mountain Recreation Area

Proposed Recreation Design Features, improving access to the lower reaches of Green Mountain Canyon via BVR-2, BVR-9, and BVR-10, and the proposed hiking trail, fishing and pedestrian access easements to the river west of BVR-10 (1.65 mile of contiguous walk-in and wade fishing access) would generate use in this area that has previously been inaccessible (refer to Figure 5). The addition of a parking area capable of accommodating 10 vehicles would largely dictate the number of users in this area at a given time.[87] The user types and spatial bounds of the new recreation opportunities that would be gained as a result of this proposed Recreation Design Feature would have a greater range than the other proposed sites. As previously mentioned, the parcels acquired in the Green Mountain area would consolidate a large area of public lands. As such users are expected to be much more dispersed and experiences would include fishing, hiking, dispersed camping, and hunting throughout the North and West side of Green Mountain. The variance in recreation opportunities again poses a challenge for determining the number of users per vehicle. However, it can be reasonably inferred that there would be between 2 and 2.6 users per vehicle as shown by the range in users at nearby existing recreation sites. Accordingly, approximately 20 to 26 users would be expected to use this area on days with the highest use, when the proposed parking area is at capacity. Projected increases in demand for recreation opportunities along the Blue River would be better met by the Recreation Design Features providing access to approximately a 1.2-mile stretch of river in lower Green Mountain Canyon.

Spring Creek Bridge Take-Out and Rest Stop

As has been discussed under Affected Environment, there is an existing take-out at the Spring Creek Bridge, which use is permitted at BVR's sole discretion. The proposed Recreation Design Feature at this location would include a permanent right for the use of this property as a river take-out and rest stop with re-entry. In its existing state, the number of vehicles counted on days with vehicles ranged from 1 to 4, with approximately 2 users per vehicle (refer to Figure 5). The proposed Recreation Design feature would increase the number of parking spaces to 10 (including spaces for trailers), and add improved amenities (picnic tables, seasonal toilet, access) that would be able to accommodate approximately twenty additional users in this area. The proposed amenities are consistent with the projected increases in levels of use and growth in the area, accommodating and providing amenities for an increase number of users. Funding for this feature would be provided by BVR, but management of the area, once established, would be provided by a not-for-profit or existing governmental entity that would hold the easement and an escrow of funds sufficient to ensure the area is maintained and in suitable condition for users.

Pump Station Rest Stop

As discussed previously, the Pump Station Rest Stop would provide an additional rest stop with right to re-entry for floaters of the Blue River and would include a seasonal restroom and signage (refer to Figure 6). As this Recreation Design Feature does not yet exist, there is no existing use. Given the location of the proposed rest stop between the Spring Creek Bridge Take-Out and Rest Stop and the existing Lower Blue River take-out on BLM land, it is likely that floaters would frequently use this area under post-exchange conditions as it would provide a similar stopping point as BLM-G and BLM-H in terms of where it is located temporally in a float of the Blue River originating at put-in below Green Mountain Reservoir Similar to the Spring Creek Bridge Take-Out and Rest Stop, funding for this feature would also be provided by BVR, but management of the area, once established, would be provided by a not-for-profit or existing governmental entity that would hold the easement and an escrow of funds sufficient to ensure the area is maintained and in suitable condition for users.

Trail Connections

The Proposed Action would have a beneficial effect on trail connections within the KFO and adjacent WRNF lands. Existing trails on the Federal parcels would no longer provide connections to federal lands upon transfer into private ownership, and trails (existing or proposed) on the non-Federal parcels would provide connections to federal lands. The following paragraphs describe how trail connections on federal lands would be altered by the Proposed Action.

[87] Ibid.

Federal Parcels

None of the Federal parcels include roads or trails that are part of a long-term trail system and are not actively managed by the BLM. No trail connections or overall trail connectivity would be impacted because of the proposed Federal parcels being transferred into private ownership.

Non-Federal Parcels

Proposed Recreation Design Features, which include trails on BVR-8 and on WRNF lands adjacent to BVR-10, are anticipated to improve trail connections in the Confluence Recreation Area and Green Mountain area, respectively (refer to Figure 4 and Figure 5). BLM managed trails exist within the Confluence Area, and the addition of BVR-8 and the "Chevron Parcel" with proposed trails, would greatly improve connectivity in the area. Trail connectivity would be increased as new trails would allow users to access previously inaccessible lands on BVR-8 and the "Chevron Parcel," while also providing a connection via proposed trails and an existing road to adjacent recreation opportunities on federal lands at the Confluence site (refer to Figure 4).

There are also existing roads and trails (both motorized and non-motorized) managed by the WRNF that exist in the Green Mountain area and provide access to a variety of recreation opportunities. As included in the proposed Recreation Design Features, a hiking trail would be constructed across NFS lands down to the eastern bank of the Blue River immediately below BVR-10. Construction of a short trail providing access to the riverbank is intended to avoid soil erosion and other resource damage. This trail would increase trail connectivity by providing an additional trail that accesses existing trails and recreation opportunities in the Green Mountain area. The fishing easement and an easement for added pedestrian access to the river west of BVR-10 creates 1.65 miles of contiguous walk-in and wade fishing access, which adds to the trail connectivity for walk-fishing.

Additionally, the consolidation of land ownership boundaries that would occur under the Proposed Action would increase the potential for greater trail (both motorized and non-motorized) connectivity in the future. By creating greater continuity between lands managed by the KFO, it is anticipated that trail connectivity and trail connections would increase under future management. Large blocks of public land, which were previously fragmented by private land ownership, could be utilized to provide miles of uninterrupted trails.

Recreation Management

The Proposed Action is expected to have a beneficial effect on recreation management within the KFO by consolidating land management boundaries and facilitating achievement of recreation objectives as discussed in the 2015 RMP. Further, the Proposed Action would relieve challenging management situations that currently result from existing land ownership patterns, minimizing and reducing conflict.

Federal Parcels

Under the Proposed Action, Federal parcels BLM-A–C and BLM-F–K would no longer be managed by the KFO. Management of recreation resources is directed by the 2015 RMP and emphasized on BLM-I and BLM-J, which are overlapped by the Upper Colorado SRMA. Combined, BLM-I and BLM-J would reduce the Upper Colorado SRMA by approximately 487 acres or approximately 3 percent. River frontage along the Colorado River and the river itself adjoining BLM-J would be retained in public ownership, as specified in the setback discussed in the Proposed Action. This setback would facilitate public use and enjoyment of resources under continued public ownership, consistent with the intentions of the Upper Colorado SRMA. BLM-I is overlapped by the Upper Colorado SRMA, but does not include frontage along the Colorado River. As previously mentioned, this parcel provides limited access to the Blue River that is primarily used by anglers seeking walk-in access to the Blue River. The Lands and Realty decision of the 2015 RMP directs that BLM managed public lands designated as SRMAs be retained for long-term management. However, as stated under *Exception Criteria for Retention Areas* the 2015 RMP states, "lands on the list of Retention Areas included in a proposed land exchange for which an agreement to initiate an exchange was approved before the date of the Notice of Intent to prepare the [Kremmling] DRMP/Draft EIS" are exempt.[88] None of the other Federal parcels are located in SRMAs or ERMAs; therefore, transferring the proposed Federal exchange parcels into private ownership would have little to no adverse effect on BLM management efforts of the recreation resource as it would be consistent with the 2015 RMP.

[88] BLM, 2015a

Non-Federal Parcels

It is reasonable to assume that there would be an additional human presence on the non-Federal parcels, particularly those that include Recreation Design Features. Thus, as a direct effect of the proposed land exchange, it is anticipated that the management responsibilities of the KFO would increase. Funding for Recreation Design Features would be provided by BVR, and if approved, management options would be developed by the BLM. Funding would not be limited to construction costs, and a means for funding long-term operation and maintenance of the proposed Recreation Design Features would be established for the future. As outlined in the 2015 RMP, the KFO would likely pursue opportunities to collaborate with community partners in order to appropriately maintain the proposed recreational opportunities.[89] Similar strategies have been employed on nearby recreation sites, and are anticipated to support successful management of the proposed Recreation Design Features by the KFO. An example of successful partnerships in co-managing recreational resources in the KFO can be seen at the Pumphouse Recreation site, where resources like the Gore Canyon Whitewater Park, are supported by Grand County despite being entirely located on BLM lands.

Future management of the additional recreational sites would remain consistent with the existing management of surrounding lands. Specifically, future management of the proposed Confluence Recreation Area, located in vicinity of the existing Upper Colorado SRMA would be managed to maintain consistency with the Wild and Scenic River eligibility for the segment of the Colorado River from the Pumphouse Recreation Site to State Bridge. This segment of river has eligibility as a Wild and Scenic River under the "recreational" classification.[90] Implementation of the proposed Confluence Recreation Area is not anticipated to impact this classification in anyway, and construction would be managed accordingly to ensure that there is no infringement on the existing recreational resources of the area. Additionally, the Wild and Scenic Stakeholder Group Management Plan, which the 2015 RMP defers to for management of Wild and Scenic River Eligibility along the Colorado River cites its focus as promoting recreational fishing and float boating in segments of river below the proposed Confluence Recreation Area.[91] While the proposed Confluence Recreation Area is located above these segments, its proposed in-stream enhancements have potential to benefit the fishery as a whole, while improving the suite of recreation opportunities managed by the KFO and accommodating future use levels throughout the greater area. By providing additional recreation opportunities near those eligible for Wild and Scenic River status, the proposed Recreation Design Features would relieve pressure and the potential for recreational resources to be degraded by overuse.

As a direct result of the proposed land exchange, it is anticipated that management responsibilities would increase for the KFO; however, ability to achieve recreation goals and objectives outlined in the 2015 RMP and recreation opportunities associated with public lands would be enhanced. Specifically, the Proposed Action would support the overall goal of, "Produce a diversity of quality recreational opportunities that support outdoor-oriented lifestyles and add to participants' quality of life while, at the same time, contributing to the local economies." By consolidating boundaries and providing additional recreation opportunities it is also anticipated that Use/User Conflict objectives would be met, "Achieve a minimum level of conflict between recreation participants to: 1) allow other resources and programs to achieve their RMP objectives; 2) curb illegal trespass and property damage; and 3) maintain a diversity of recreational activity participation." Effectively, the KFO would be managing a larger area of public land, with increased recreation opportunities; however, these lands would also be more consolidated/accessible and capable of accommodating increased demands for recreation in the KFO.

Recreational Demand for Public Lands

Recreational demand for public lands is expected to increase throughout the KFO as the surrounding population continues to grow. In particular, a considerable and growing recreation demand is expected on BLM lands around and between communities in wildland-urban interface areas with trail/road networks and aesthetic amenities.

As displayed in Table 3C-3 in Appendix A, the net gain of 341 acres of public land translates to 0.03 percent increase in Federal land acreage across the Analysis Area. While small, the net gain in acres of public land would provide additional opportunities for recreation to match the expected growth in recreation demand for Federal lands. Overall, there would be a loss of Federal lands in Grand County, with a 0.07 percent loss of total Federal lands in the county.

[89] Ibid.
[90] Upper Colorado River Wild and Scenic Stakeholder Group, 2011
[91] BLM, 2015a; Upper Colorado River Wild and Scenic Stakeholder, 2011

There would be a gain of total Federal land in Summit County by 0.3 percent (943 acres) and a gain in BLM land in Summit County by 29 percent or 643 acres.

In addition to the net gain of public land, the Proposed Action would also help address anticipated increases in recreation demand. The Proposed Action would provide additional river and trail access in the project area, as well as improving access to BLM parcels that were previously public land but were difficult to reach. The Confluence Recreation Area would improve access for recreationists by providing additional fishing access points, a new take out, and day-use recreational amenities. The Green Mountain Recreation Area would improve access to BLM-managed lands, provide additional parking and trail access, and an additional 1.65 of contiguous bank and wade fishing. The Spring Creek Bridge Take-Out and Rest Stop and Pump Station Rest Stop together would add two additional rest stops and one take-out along the Blue River. These Recreational Design Features would provide additional access, parking, and recreational amenities in the project area and would help alleviate pressures of increased recreation. In addition, all Recreation Design Features include improved access and funding for maintenance, which would support the longevity of these features and ensure that land mangers could provide a consistent experience for the public.

Indirect Effects

WRNF Environmental Review of the Proposed Hiking Trail

If the proposed land exchange is approved, the WRNF would have to initiate environmental review of the proposed hiking trail down to the eastern bank of the Blue River immediately below BVR-10. BVR would fund the construction of this proposed Recreation Design Feature, but this trail would span NFS lands and thus would require environmental review and authorization by the WRNF. The WRNF would analyze the environmental impacts, including those to the recreational resource, of constructing a short hiking trail in a separate document subsequent to the approval the proposed exchange. Existing trails on NFS lands in the Green Mountain area and impacts to connectivity would likely be disclosed in the subsequent environmental review document.

Management of Recreation Design Features

The management of proposed Recreation Design Features would be defined by a future MOU between the BLM and BVR. It is anticipated that future management of the Recreation Design Features would be part of a binding exchange agreement, with funding for the construction addressed by a bond, and funding for future management of the proposed improvements set aside in escrow. At this time, the monetary amount necessary to fund construction and future management of these features is estimated at approximately $1.2–$1.9 million dollars. While the monetary amount needed to construct and manage the proposed Recreation Design Features may be further refined, it has been made clear in the Proposed Action that BVR would be responsible for funding the construction and for funding an endowment for management of the proposed Recreation Design Features.

Alternative 3

Alternative 3 is expected to produce beneficial effects for recreational resources as compared to the existing conditions by acquiring additional public access on the non-Federal parcels while retaining the riverfront on BLM-I, which is highly valued by the public for its walk-in fishing access. As compared to the Proposed Action Alternative, there are not Recreation Design Features included in this alternative; however, it is acknowledged that some recreationists in the project area may prefer the land ownership configuration and opportunities that would be provided under Alternative 3 due to affinities for certain parcels and their resources. Many of the recreational opportunities currently provided on the Federal parcels would be relinquished but the public would gain an additional 71 acres of land that would become public, resulting in a net gain in acreage of BLM and NFS lands within the Analysis Area. As previously stated, a number of the BLM parcels either have constrained access or no access at all. Therefore, under Alternative 3 the public would actually gain additional access on previously inaccessible public lands suitable for recreation that would be made accessible through the consolidation of land ownership boundaries. Alternative 3 would also improve BLM's ability to manage recreation resources by consolidating land ownership boundaries and reducing conflict.

Direct Effects

Recreational Opportunities

Similar to the Proposed Action Alternative, the change in ownership and management of exchange parcels under Alternative 3 is expected to increase recreation opportunities on public lands compared to the No Action Alternative,

because the non-Federal parcels are more accessible than the Federal parcels. As there are no Recreation Design Features associated with this alternative, the overall benefit to recreation in the project area is anticipated to be lesser than the Proposed Action Alternative.

Federal Parcels

Under Alternative 3, the recreational opportunities provided on the Federal parcels would no longer be available to the public, with the exception of walk-in fishing access that is currently available on BLM-I. As previously described, Alternative 3 contains a modified parcel boundary that would retain river frontage and walk-in public fishing access on BLM-I. In terms of recreation opportunities on the federal parcels this alternative would effectively provide a continuation of the existing conditions. No other Federal parcels that would be transferred under this alternative provide opportunities for walk-in fishing. Table 3C-4 in Appendix A compares the amount of walk-in fishing access across the three alternatives.

Under Alternative 3, users most impacted by the exchange of the Federal parcels would be floaters utilizing BLM-G and BLM-H as a stopping point, as these parcels would be transferred into private ownership. Under Alternative 3, float times between rest stops would increase as compared to the No Action Alternative. Floaters of the Blue River would have to stop at public lands prior to or at Spring Creek Bridge and would not be able to stop again until reaching BLM-I. Table 3C-4 in Appendix A compares the maximum distance of river between rest stops across the three alternatives.

Compared to the Proposed Action Alternative, this could be considered a benefit to recreation resources in the project area by some users, as this existing opportunity would not be lost under Alternative 3. Although Recreation Design Features are in part intended to offset the loss of BLM-I that would occur under the Proposed Action Alternative, and would provide new recreation opportunities, it is understood that certain users prefer the existing opportunity on BLM-I, which would be retained under Alternative 3. While members of one user group (walk-in anglers) may prefer this Alternative, it would also come at the expense of other user groups (e.g., float/boating community) as the retention of riverfront and public access on BLM-I under Alternative 3 would preclude the implementation of any Recreation Design Features (not just those intended to off-set walk-in fishing access). As shown in Table 3C-4, Alternative 3 would result in longer distances between rest stops than the Proposed Action Alternative, both of which are longer than the No Action Alternative. Additionally, the facility improvements related to both walk-in fishing and floating would not be included in this alternative, which and could be seen by certain users as either a positive or negative in terms of the difference in experience these features would provide.

Non-Federal Parcels

Under the Alternative 3, the approximately 67-acre BVR-8 would be managed by the KFO (refer to Figure 2). The recreation value of BVR-8 is high as it would provide greater continuity in an area already managed for public recreation use. Public acquisition of BVR-8 would consolidate public ownership of Blue River frontage from just north of Trough Road to the confluence of the Blue River and Colorado River.

The transfer of BVR-8 into federal ownership under Alternative 3 would have a positive impact on the existing Confluence Recreation Area and the adjoining Upper Colorado SRMA as a whole. Coupled with the retention of public access and riverfront on BLM-I, Alternative 3 would increase the amount of riverfront on BLM exchange parcels available to the public for walk-in fishing opportunities than the existing condition. Table 3C-4 shows, that the Proposed Action Alternative would provide greater walk-in fishing opportunities in-terms of the amount of access through the donation of the Chevron parcel and fishing easement adjacent to BVR-10. Additionally, Alternative 3 would not include the Recreation Design Features, which include enhancements such as trails, ADA fishing platforms, and River Restoration project that could which and could be seen by certain users as either a positive or negative in terms of the difference in experience these features would provide.

Conveyance of BVR-2, BVR-9, and BVR-10 to the public would increase the consolidation of public lands in the Green Mountain Area. Of the 756.3 acres conveyed, approximately 300 acres of BVR-2 which are within the exterior boundaries of the WRNF would become NFS lands. The balance would be managed by BLM. The BLM, Forest Service, and Summit County Open Space currently manage lands for public use in this area (refer to Figure 2). BVR-10 would provide pedestrian access to NFS lands within the lower (northernmost) 1.2 miles of Green Mountain Canyon, which is largely inaccessible to the public due to topographical constraints that inhibit access from upstream and existing land ownership patterns east and west of the WRNF-managed river corridor. Conveyance of BVR-2,

BVR-9, and BVR-10 provides access to those 756 acres for activities such as hiking and hunting and enhances such access to existing Federal lands to the west and south of those parcels. Under this alternative, access to these lands would be through minimally maintained road, an informal parking area, and off trail hiking down to the eastern bank of the Blue River immediately below BVR-10. Although riverfront access would not be provided on BVR-2, BVR-9, and BVR-10, these parcels would provide access to riverfront on adjacent NFS lands, which is largely inaccessible in its current condition due to topography and land ownership boundaries. Compared to the Proposed Action Alternative it is important to understand that under Alternative 3 there would be no hiking trail across NFS lands down to the eastern bank of the Blue River immediately below BVR-10, nor would there be a fishing easement for the stretch of river flowing through BVR property that lies between NFS lands to the south and BLM lands to the north. Table 3C-4 in Appendix A compares the amount of walk-in fishing access across the three alternatives.

BVR-3 and BVR-4 would not be transferred into Federal ownership under Alternative 3, as they are not included in this alternative. These parcels have little recreational value and are located in upland areas; however, there could be opportunities for dispersed recreation and hunting that would not be obtained under Alternative 3. Under Alternative 3 the transfer of other non-Federal parcels would be the same as described as the Proposed Action Alternative. The reader is referred to the previous section for additional details.

Trail Connections

As none of the Federal parcels include roads or trails that are part of a long-term trail system and are not actively managed by the BLM and there would be no construction of Recreation Design Features on the non-Federal parcels to be exchanged, Alternative 3 would have a negligible impact on trail connections within the KFO and adjacent WRNF lands. No trail connections or overall trail connectivity would be impacted because of the proposed Federal parcels being transferred into private ownership.

Overall, the consolidation of land ownership boundaries that would occur under Alternative 3 would increase the potential for greater trail (both motorized and non-motorized) connectivity in the future. By creating greater continuity between lands managed by the KFO, it is anticipated that trail connectivity and trail connections would increase under future management. Large blocks of public land, which were previously fragmented by private land ownership, could be utilized to provide miles of uninterrupted trails.

Recreation Management

Alternative 3 is expected to have a beneficial effect on recreation management within the KFO by consolidating land management boundaries and facilitating achievement of recreation objectives as discussed in the 2015 RMP. Further, Alternative 3 would relieve challenging management situations that currently result from existing land ownership patterns, minimizing and reducing conflict.

Federal Parcels

Under the Alternative 3, Federal parcels BLM-A–C and BLM-F–K would no longer be managed by the KFO, although BLM-I's modified boundary under this alternative would retain river frontage and public access. Management of recreation resources is directed by the 2015 RMP and emphasized on BLM-I and BLM-J, which are overlapped by the Upper Colorado SRMA. Under Alternative 3, BLM-I and BLM-J would reduce the Upper Colorado SRMA by a combined approximately 411 acres or approximately 3 percent. As previously mentioned, the configuration of BLM-I under Alternative 3 would retain river frontage on the Blue River and public access in this area of the Upper Colorado SRMA, which is the most desirable portion of this parcel from a recreation perspective despite not including frontage on the Colorado River. River frontage along the Colorado River and the river itself adjoining BLM-J would be retained in public ownership, as specified in the setback discussed in the Proposed Action Alternative. This setback would facilitate public use and enjoyment of resources under continued public ownership, consistent with the intentions of the Upper Colorado SRMA. None of the other Federal parcels are located in SRMAs or ERMAs; therefore, transferring the proposed Federal exchange parcels into private ownership would have little to no adverse effect on BLM management efforts of the recreation resource as it would be consistent with the 2015 RMP.

Non-Federal Parcels

It is reasonable to assume that there would be an additional human presence on the non-Federal parcels. Even without the inclusion of Recreation Design Features human presence would increase on the non-Federal parcels due to the

increased accessibility to recreation resources. While the management responsibilities of the KFO would increase under Alternative 3, it would be to a much lesser extent than Proposed Action Alternative as there are no Recreation Design Features contained in this alternative. It is likely that the KFO would be able to handle the management of acquired non-Federal parcels without much outside support, although opportunities to partner would be pursued as appropriate.

As a direct result of the proposed land exchange, it is anticipated the ability to achieve recreation goals and objectives outlined in the 2015 RMP would increase. By consolidating boundaries it is anticipated that Use/User Conflict objectives would be met, "Achieve a minimum level of conflict between recreation participants to: 1) allow other resources and programs to achieve their RMP objectives; 2) curb illegal trespass and property damage; and 3) maintain a diversity of recreational activity participation." Effectively, the KFO would be managing a slightly larger area of public land than it currently does under existing conditions, with increased recreation opportunities; however, these lands would also be more consolidated/accessible and capable of accommodating increased demands for recreation in the KFO. Additionally, Alternative 3 would support the overall goal of, "Produce a diversity of quality recreational opportunities that support outdoor-oriented lifestyles and add to participants' quality of life while, at the same time, contributing to the local economies"; however, this would be to a lesser degree than the Proposed Action Alternative as Recreation Design Features are not included in this alternative.

Recreational Demand for Public Lands

Recreational demand for public lands is expected to increase throughout the KFO as the surrounding population continues to grow. In particular, a considerable and growing recreation demand is expected on BLM lands around and between communities in wildland-urban interface areas with trail/road networks and aesthetic amenities.

As displayed in Table 3C-3 in Appendix A, the net gain of 71 acres of public land translates to less than a hundredth of a percent increase in Federal land acreage across the Analysis Area. While small, the net gain in acres of public land would provide additional opportunities for recreation to match the expected growth in recreation demand for Federal lands. Overall, there would be a loss of Federal lands in Grand County, with a 0.08 percent loss of total Federal lands in the county. There would be a gain of total Federal land in Summit County by 0.24 percent and a gain in BLM land in Summit County by 20.4 percent.

Indirect Effects

As there are no Recreation Design Features included in Alternative 3, including the hiking trail down to the eastern bank of the Blue River immediately below BVR-10, there are no indirect effects to recreation discussed in this section.

D. SOCIAL AND ECONOMIC RESOURCES

SCOPE OF THE ANALYSIS

Social and economic resources are those features of the human environment that form the social and economic fabric of a county, community, or region. Population, economics, public lands, and tax revenues and Payments in Lieu of Taxes (PILT) are considered in this socioeconomic analysis, because these are the most relevant social and economic resources to the proposed land exchange. The Analysis Area for social and economic resources includes all of the two counties (Grand and Summit County) that encompass the Analysis Area.

AFFECTED ENVIRONMENT

Population

The population of Grand and Summit counties has been steadily growing for the past thirty years. The combined population total for the Analysis Area increased by 103 percent between 1985 and 2015, growing from 22,077 to 44,914.[92] Summit County grew at a significantly larger rate of 135 percent between 1985 and 2015, while Grand County only grew at a rate of 59 percent.[93] Table 3C-1 in Appendix A highlights the population totals for the Analysis Area between 1985 and 2015 in greater detail.

[92] Colorado State Demography Office, 2016
[93] Ibid.

The Colorado State Demography Office has projected a strong growth trend for the next thirty-five years, but not as substantial as has been observed since 1985. Between 2015 and 2050 population in the Analysis Area is projected to increase by 86 percent, growing from 44,914 in 2015 to 83,353 in 2050.[94] Unlike the 1985–2015 period, population growth in the 2015–2050 period is expected to be greater in Grand County. Table 3C-2 in Appendix A highlights the projected population for the Analysis Area between 2015 and 2050.

Economy

Travel and tourism is a major economic component of each county involved in the proposed land exchange. In this context, travel and tourism consists of sectors that provide goods and services to visitors to the local economy, as well as to the local population.[95] For the purposes of this analysis these sectors include: retail trade; passenger transportation; arts, entertainment and recreation; and accommodation and food services. Nationally, travel and tourism account for about 16 percent of total employment in 2015. When the national average is compared with 58 percent of total employment in Grand County in 2015 and 64 percent of total employment in Summit County in 2015, the extent of each county economy's reliance on tourism becomes evident: Grand and Summit counties are dependent on tourism.[96] This comparison is depicted in Chart 3D-1 in Appendix A. It should also be noted that the percentage of employment related to travel and tourism in the Analysis Area is likely higher than presented, as second home construction and some other tourism related activities are not included in this calculation.

Public Lands

Public lands play an important role in local employment in the Analysis Area by providing multiple-use opportunities including those for recreation. Communities adjacent to public lands can see economic activity from visitors who spend money in hotels, restaurants, ski resorts, gift shops, and elsewhere. In the Analysis Area, Summit County contains the highest proportion of land in federal ownership, with 79 percent of land in the county being public lands. Summit County, however, also has the lowest percentage of public lands managed by the BLM, at only 0.6 percent.[97] The proportion of federal land as a percent of the total land area in each county is presented in Chart 3C-1 in Appendix A. The existing acreage of federal land managed by the BLM and Forest Service in each county is presented in Table 3D-1 in Appendix A.

Tax Revenues and PILT

Public revenues are sources of funding for governments that allow them to operate and provide public services to their constituency. Public revenues in the Analysis Area are generated primarily through property taxes, although sales taxes, federal and state payments (a.k.a. PILT), and other local sources of revenue are also important for the operation of the county governments. PILT payments are federal payments to local governments that help offset losses in property taxes due to nontaxable federal lands within their boundaries. PILT payments help local governments carry out such vital services as firefighting and police protection, construction of public schools and roads, and search-and-rescue operations. These county payments are an important component of local government fiscal health for rural counties with a large share of land in federal ownership. For counties with fewer public lands and larger economies, federal land payments are a small piece of a much broader revenue stream.

In each county, property and sales taxes are the largest sources of public revenues, at approximately 63 percent for both Grand and Summit counties. PILT payments have a relatively small impact in both of the counties, contributing between 1.8 and 6.4 percent of total general revenue, based on the most recently reported federal land payments (Fiscal Year [FY] 2011) compared to total general revenue for FY 2017.[98] The breakdown of total general revenue by source for each county in FY 2017 is presented in Table 3D-2 in Appendix A.

[94] Ibid.
[95] Without additional data and research, it is not known what exact proportion of the jobs in these sectors is attributable to expenditures by visitors, including business and pleasure travelers, versus by local residents. Some researchers refer to these sectors as "tourism-sensitive." They could also be called "travel and tourism-potential sectors" because they have the potential of being influenced by expenditures from non-locals. In this report, they are referred to as "travel and tourism."
[96] U.S. Department of Commerce, 2015
[97] USGS, 2016
[98] U.S. Department of Commerce, 2018

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Direct Effects

Under the No Action Alternative, no changes or modifications would be approved that would directly or indirectly affect the social or economic resources in the Analysis Area. The baseline socioeconomic conditions presented in the Affected Environment section above would be expected to continue into the immediate future. The Federal parcels would remain under BLM management. The non-Federal parcels would remain private lands.

Indirect Effects

The non-Federal parcels could be sold and/or developed for residential or commercial purposes in the future, consistent with county zoning and land use regulations. However, analysis of the social and economic impacts of future sale and/or development of the non-Federal parcels is beyond the scope of this analysis because no such future actions are proposed or reasonably foreseeable.

Alternative 2 – Proposed Action

Direct Effects

The proposed land exchange is not expected to noticeably affect the population projections for the Analysis Area made by the Colorado State Demography Office. Similarly, the proposed land exchange is not expected to noticeably affect the overall extent and composition of the economy in the region. Both Grand and Summit counties are expected to remain dependent on tourism into the future, and the Proposed Action would not change that condition.

The proposed land exchange, with the inclusion of the proposed Recreation Design Features, would incrementally add to the growing recreational opportunities of the region. While it is not expected that the proposed land exchange and Recreation Design Features would draw visitors to the area on its own, it would increase the area's overall appeal as a recreation destination and thus contribute to economic activity to the Analysis Area.

A 2008 Visitor Study for the KFO has found that "the Kremmling public lands were a destination for 88 percent of the visitors," indicating that visitors are coming to the area to specifically engage in recreation on public lands.[99] The proposed land exchange would result in a net gain of 341 acres of public lands, increasing the amount access and opportunities for visitors who come to the KFO and spend money in the surrounding areas. The KFO Visitor Study found "the average trip expenditure by KFO day visitors was $163.43 with the highest proportion spent on food and meals, and gas and transportation. The average trip expenditure by KFO overnight visitor was $690.11 with the highest proportion spent on lodging, gas and transportation and food and meals."[100] Improved recreational access and the proposed Recreation Design Features are not likely to draw a substantial amount of new visitation and economic activity on their own and would have only a minimal effect on economic activity in the area. However, the additional resources provided by the proposed land exchange could contribute positively to the overall economic trends of the Analysis Area, supporting the travel and tourism component of the economy of both counties involved in the proposed land exchange.

Certain members of the public have suggested that the exchange of BLM-G into private ownership may result in individual property value losses for homeowners in the Blue Valley Metropolitan District (refer to Appendix L – Response to Comments on the Draft Environmental Impact Statement); however, evidence of this assertion has not been provided.[101] BLM acknowledges that access to this parcel and the Blue River via this parcel may be the reason that individuals purchased property in Blue Valley Metropolitan District. While there may have been a perception that this land would exist in BLM ownership in perpetuity, this parcel is described as being appropriate for disposal in the 2015 RMP.

Finally, as a result of the transfer of BLM and private lands across the Analysis Area, property tax revenues would increase in Grand County and decrease in Summit County. PILT would be decreased in Grand County and increased

[99] BLM and ASU, 2008; Virden et al., 2008
[100] Ibid.
[101] The potential property value loss for each homeowner is uncertain and is based upon numerous factors other than adjacency to public lands.

in Summit County. The rate per acre for federal land payments have experienced considerable volatility over the past two decades, and as a result, the specific amount of Federal Land Payments to each county under the Proposed Action cannot be accurately projected. While it is unknown if the payment per acre of land in federal ownership would increase or decrease in the future, it is known that there would be an increase in land in federal ownership Summit County and, therefore, an increased base on which to apply future PILT formulas. It is important to note, however, that Federal Land Payments historically have not covered the full loss of property tax revenue when lands are transferred to public ownership. None of these minor changes to public revenue sources are expected to noticeably affect the operation of any of the counties or their ability to provide public services to their constituencies.

There would be no anticipated impacts to socioeconomic resources associated with the conveyance of the surface and mineral estates of the Federal and non-Federal lands. In 2017 the USDI Appraisal and Valuation Services Office-Division of Minerals Evaluation prepared a Geologic Evaluation and Mineral Valuation Report that concluded there was relatively little value associated with the salable minerals on any of the Federal parcels. Most aggregate demand would be driven by large, independent construction and/or highway maintenance projects, none of which have been identified as pending.[102] The various currently permitted operations appear to supply the aggregate demand in the region. Therefore, the USDI Appraisal and Valuation Services Office-Division of Minerals Evaluation has identified that while BLM-G, BLM-H, BLM-I, and BLM-J have the potential to contain deposits of mineral materials (i.e., sand and gravel), the net present value of the royalty interest income of these parcels is $0.00, due to the fact that it is unlikely these tracts would be developed under current market conditions as a source of mineral materials.[103]

Indirect Effects

WRNF Environmental Review of the Proposed Hiking Trail

Socioeconomic impacts would likely be disclosed in the subsequent environmental review document but can generally be expected to be similar to those on KFO lands: increased recreational opportunity from this trail would contribute to the regional travel and tourism economy.

Management of Recreation Design Features

The funding on financial assurance to address construction and management of proposed Recreation Design Features would be addressed in the Exchange Agreement between the BLM and BVR. It is anticipated that future management of the Recreation Design Features would be funded through this agreement. At this time, it is estimated approximately $1.2 to $1.9 million would be necessary to fund construction and future management of these features. The specific timing of construction is unknown at this time, but construction of the project components would generate job opportunities and economic activity in the construction industry in the year(s) that construction occurs.

Alternative 3

Direct Effects

Similar to the Proposed Action, proposed land exchange under Alternative 3 is not expected to noticeably affect the population projections for the Analysis Area or the overall extent and composition of the economy in the region. Alternative 3 would differ from the Proposed Action Alternative in that it would not incrementally add to the growing recreational opportunities of the region due to the lack of Recreation Design Features included in this Alternative. Although the Recreation Design Features included in the Proposed Action Alternative are only anticipated to have a minimal effect on economic activity in the area, Alternative 3 would do less to increase the area's overall appeal as a recreation destination and thus contribute less to potential economic activity to the Analysis Area.

Impacts to property tax revenues and PILT as described under the Proposed Action Alternative would not be considerably different. Under Alternative 3, there would a slight increase in the amount of revenue from property taxes in Grand County and a slight decrease in the amount of revenue in of property taxes in Summit County as compared to the Proposed Action Alternative. Similarly, PILT would be decreased in Grand County and increased in Summit County compared to the Proposed Action Alternative.

[102] USDI AVSO-DME, 2017
[103] Ibid.

For reasons described under discussion of the Proposed Action's effects on socioeconomic resources, there would be no anticipated impacts associated with the conveyance of the surface and mineral estates of the Federal and non-Federal lands.

Indirect Effects

In contrast to the discussion included under the Proposed Action, there are no indirect effects associated with Alternative 3, as there are no Recreation Design Features proposed under this alternative.

E. LIVESTOCK GRAZING MANAGEMENT

SCOPE OF THE ANALYSIS

The BLM administers public land ranching in accordance with the Taylor Grazing Act of 1934 and more recent laws and provides livestock-based economic opportunities while contributing to America's, and the West's, social fabric and identity. Together, public lands and the adjacent private ranches maintain open spaces in the fast-growing West, provide habitat for wildlife, offer a myriad of recreational opportunities for public land users, and help preserve the character of the rural West.

In 1997 the BLM in consultation with the Resource Recovery Advisory Council in Colorado developed standards for public land health and guidelines for livestock grazing on public lands. The Standards for Public Land Health and Guidelines for Livestock Grazing Management describe conditions necessary to sustain public land health and relate to all uses of the public lands.[104] The Standards are applied on a landscape scale and relate to the potential of the landscape. The Goal of the RMP is to apply flexible and sustainable livestock grazing in accordance with the Standards in order to contribute to local economies, ranching livelihoods, and to the rural western character integral to many communities.

In applying the Standards and managing livestock grazing on public rangelands, the BLM's overall objective is to ensure the long-term health and productivity of these lands and to create multiple environmental benefits that result from healthy watersheds. The terms and conditions for grazing on BLM-managed lands (such as stipulations on forage use and season of use) are set forth in the permits and leases issued to ranchers on public lands.

In order to address the potential effects of the proposed land exchange on grazing allotments and activities on both the Federal and non-Federal parcels, this analysis considers the existing conditions and the proposed uses on each parcel. The existing condition on all parcels has been evaluated relative to Standards 1, 3 and 4. The scope of analysis for livestock grazing management includes all Federal and non-Federal parcels included in the proposed land exchange.

AFFECTED ENVIRONMENT

Federal Parcels

Grazing Permits

The BLM has issued grazing permits on Federal parcels (BLM) B, C, F, G, H, and I. There are no grazing permits on Federal parcels (BLM) A, J, and K. Table 3E-1 in Appendix A identifies the allotment number and name, the Permittee of the allotment, the Animal Unit Months (AUMs) for each allotment, and the time of grazing. BVR has five grazing allotments that allow for 479 AUMs on five of the nine Federal exchange parcels. Cattle (cow-calf pairs) are generally put on these ranges in mid- to late-summer for approximately one month of grazing.

Grazing Management

The BLM manages livestock grazing in a manner aimed at achieving and maintaining public land health. To achieve desired conditions, the agency uses standards for public land health and guidelines for livestock grazing management. Standards describe specific *conditions* needed for public land health, such as the presence of streambank vegetation and adequate canopy and ground cover. Guidelines are the management *techniques* designed to achieve or maintain healthy public lands, as defined by the standards. These techniques include such methods as seed dissemination and periodic rest or deferment from grazing in specific allotments during critical growth periods.

[104] BLM, 2008b

In 2013 the Federal parcels were evaluated to determine compliance with Standards 1 (upland soils), 3 (plant and animal communities), and 4 (special status, threatened and endangered species and BLM species on interest).[105] Standard 2 (riparian systems) is addressed in Section K – Wetlands and Riparian Habitats of this chapter and Standard 5 (water quality of streams) is addressed in Section J – Water Quality. Table 3E-2 in Appendix A summarizes Standards 1, 3 and 4 for Public Land Health and the results of the analysis are summarized in Table 3E-3 in Appendix A. The Rangeland Health Worksheets are contained in the project file.

The rangeland evaluation identified that all Federal parcels meet Standard 1. All Federal parcels meet Standard 3 except for BLM-G and BLM-K. BLM-G has two List B noxious weeds, tall wheatgrass (*Agropyron elongatum*) and alfalfa (*Medicago sativa*) that are present along a pipeline. BLM-K is also not meeting Standard 3 because the western third of this parcel has been revegetated with a monoculture of crested wheatgrass (*Agropyron cristatum*) and invasive weeds are common throughout the parcel.

All Federal parcels meet Standard 4 except for BLM-G and BLM-K. BLM-G has a population of Harrington penstemon (*Penstemon harringtonii*), a BLM sensitive species, which is potentially threatened by invasive and introduced agricultural plants. The use of the parcel by people from the nearby subdivision for recreation opportunities such as hiking, fishing, and sightseeing, has impacted the quality of the habitat for sage-grouse (*Centrocercus urophasionus*), also a BLM sensitive species. Thus, BLM-G is not meeting Standard 4. BLM-K is also not meeting Standard 4 because it has a population of Harrington penstemon which is potentially threatened by invasive weeds, and the quality of the habitat for sage-grouse is impacted by its use by people from the nearby subdivision.

Range Improvements

Table 3E-4 in Appendix A documents range improvements on BLM grazing allotments in the Analysis Area. It should be noted that none of these improvements occurred on any of the exchange parcels. The south part of BLM-J is flood irrigated from the Sophronia Day Ditch No. 2, and it is used to harvest hay but not grazed.

Non-Federal Parcels

Livestock Grazing

The BVR is surrounded by or has a common boundary with all Federal exchange parcels except for BLM-J and BLM-K, which have no grazing allotments.

Grazing Management

Non-Federal parcels (BVR) 2, 3, 4, 5, 7, 9 and 10 are not grazed. BVR-1 and BVR-8 are leased to Yust (San Toy Land Company). BVR-1 has 150 AUMs and is grazed in late summer/early fall. BVR-8 has two parts: approximately 41 acres on the large part (BVR-8 North) is flood irrigated in late May and again after haying in late August or early September. Hay production averages 60 tons per year. BVR-8 North has 107 AUMs. Specifically, 300 head of cattle graze the parcel for ten days in the fall and about 75 head of yearlings graze for fourteen days after that. The small south part of BVR-8 receives little livestock grazing due to its small size and because dense willows cover more than half of the parcel.

In 2013 the non-Federal parcels were evaluated to determine compliance with Standards 1 (upland soils), 3 (plant and animal communities), and 4 (special status, threatened and endangered species and BLM species on interest) (refer to Table 3E-3 in Appendix A).[106]

The rangeland evaluation demonstrated that all non-Federal parcels except for BVR-7 and BVR-8 South meet Standard 1. BVR-7 encompasses a dirt road in a 30-foot-wide easement and hence is only partially vegetated. BVR-8 South is bisected and disturbed by a dirt road and has gullies and areas of soil erosion. All parcels achieve Standard 3 except for BVR-5, BVR-7, BVR-8 North, and BVR-8 South. The 2-acre parcel BVR-5, which provides access to adjoining BLM land to the north, is bisected by a dirt road, has remnants of an old gravel mine adjacent to the road, and the area closest to U.S. Highway 40 has been disturbed and is dominated by crested wheatgrass (*Agropyron*

[105] Petterson, 2013
[106] Ibid.

cristatum). As noted, the less than an acre parcel BVR-7 is disturbed by a road. BVR-8 North is dominated by introduced agricultural plants, and BVR-8 South has disturbances associated with a dirt road and soil erosion.

All parcels meet Standard 4 except for BVR-5, BVR-7, BVR-8 North, and BVR-8 South. The proximity of U.S. Highway 40 to BVR-5 and the disturbance to sagebrush reduces the quality of the habitat for use by sage-grouse, and hence it was rated as functioning at risk. BVR-7 is located adjacent to a busy road, Trough Road, and much of the sagebrush habitat has been disturbed by the road which bisects the parcel. BVR-7 is rated as not meeting Standard 4 due to reduced quality of sage-grouse habitat. There is little sagebrush habitat on the flood irrigated BVR-8 North and grazing by cattle reduces the quality of the habitat on the parcel for sage-grouse, and it is thus rated as functioning at risk. Also, the sagebrush habitat on BVR-8 South has been heavily grazed by cattle, and this and the access road reduce the quality of the habitat for sage-grouse. This parcel is functioning at risk.

Range Improvements

Range improvements have occurred only on BVR-1. Specifically, an existing spring water source in Section 36 on Dry Creek near Dry Creek Ditch No. 1 was re-developed and a 10-foot water tank was added. A pond located on Dry Creek near the east boundary of Section 36 was cleaned out. In addition, a fence line on the northwest corner of Section 31 was straightened with a two-strand high tension wire with an electric charger. An illustration of these improvements is contained in the project file.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Direct and Indirect Effects

Under the No Action Alternative, existing land ownership patterns and grazing responsibilities would not change. With the No Action Alternative there would be no direct effects to livestock grazing on the Federal and non-Federal parcels. Specifically, there would be no change to the ownership of grazing allotments, grazing density (AUMs) or the time of grazing on the Federal parcels. Similarly, grazing on non-Federal parcels 1 and 8 would continue to be managed by BVR, and the practice of not grazing non-Federal parcels (BVR) 2, 3, 4, 5, 7, 9, and 10 would likely continue.

Alternative 2 – Proposed Action

Direct Effects

With the change in land ownership, four grazing allotments on Federal parcels (BLM) B, C, F, G, H, and I totaling 479 AUMs would be cancelled by the BLM. All of these allotments are currently leased to BVR. Concurrently, the leases of non-Federal parcels BVR-1 and BVR-8 by BVR to Yust would be cancelled.

Indirect Effects

The BLM would evaluate each of the acquired non-Federal parcels to determine which should be grazed based upon vegetation condition and compatibility with other land uses as per the RMP. All non-Federal parcels that would be acquired by the BLM through the land exchange are adjacent to and have a border with BLM lands. The small less than an acre non-Federal parcel BVR-7 is an easement and would not likely be appropriate for a grazing lease because of its small size.

It is reasonably foreseeable that BVR would continue existing grazing practices on the acquired Federal parcels BLM-A–C and BLM-F–I. It is anticipated that the southern portion (approximately 50 percent) of BLM-C would be conveyed to Sheephorn Ranch, and the acquired portion would likely be grazed. It is also anticipated that following the land exchange, BLM-J would be sold to the adjacent landowner, Skylark Ranch. The ranch would likely continue existing land management practices. BLM-K, location in a residential subdivision, would be conveyed to the Blue Valley Metropolitan District. It is not currently grazed and would not be grazed following the land exchange and its conveyance to the Metropolitan District.

Alternative 3

As there is currently no grazing on BVR-3 and BVR-4 (not proposed for exchange under Alternative 3) and the only modification to federal parcels is the parcel boundary of BLM-I (AUMs on this parcel would be cancelled under this

alternative as well), there would be no measurable differences between Alternative 3 and the Proposed Action Alternative as it relates to the livestock grazing management resource.

F. PALEONTOLOGICAL RESOURCES

SCOPE OF THE ANALYSIS

The BLM manages, preserves, and protects paleontological resources on public land using scientific principles and expertise. Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that provide information about the history of life on earth. Paleontological resources do not include any materials associated with an archaeological resource or any cultural item.[107] Paleontological resources are managed in order to safeguard their scientific and educational values as well as to promote public benefit and enjoyment.

The classification system utilized by the BLM for assessing impacts to fossil resources is the Potential Fossil Yield Classification (PFYC). This system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically important invertebrate and plant fossils and their sensitivity to adverse impacts. This classification is applied to a geologic formation, member, or other distinguishable subunit. It recognizes that although significant fossil localities may occasionally occur in a geologic unit, a few widely-spaced localities do not necessarily indicate a higher class. The primary purpose of the PFYC is to assess the possible impacts from surface disturbing activities and help determine the need for analyses of existing data, pre-disturbance surveys, and/or monitoring during construction.

The Area of Potential Effect (APE), which includes the acreage of all Federal parcels, defines the scope of the paleontological resource analysis. The analysis is based on the findings of a mineral report conducted on the Federal parcels, which identified the geologic units present within each parcel, and was used to identify their PFYC assignments.[108]

AFFECTED ENVIRONMENT

All parcels involved in the land exchange are geographically situated in or adjacent to Middle Park, an intermontane basin. This basin consists of several north south "fingers" where various ranges are faulted up from the Front Range into the basin's southern margin. The earliest geologic history of Middle Park is recorded in rocks of late Paleozoic age, which were deposited after uplift and erosion of the ancestral Rocky Mountains shed coarse deposits to the east and west of the range. The majority of older sedimentary rocks were eroded off the uplift.

A paleontological record search was completed to check for the presence of previously recorded fossil localities within the APE. Both the Denver Museum of Nature and Science (DMNS) and the University of Colorado Museum (UCM) were contacted in this exercise. The UCM has no previously recorded fossil localities within the APE; however, the DMNS has one locality. DMNH #3448 produced one record of fossil invertebrates from the Benton Shale near BLM-I.

Note that no official assessment of potential paleontological resources was completed on the non-Federal parcels being traded to BLM as part of the exchange. The proposed land exchange would not affect any paleontological resources that may be present on these parcels, and if the proposed exchange is approved the BLM would complete an assessment on these parcels prior to any changes in land use from that of adjacent lands already under BLM management.

Federal Parcels

Parcels BLM-A, BLM-B and BLM-C

Federal parcels BLM-A, BLM-B and BLM-C lie southwest of Kremmling in rugged terrain north of Sheephorn Mountain in the Gore Range, south and west of the Colorado and Blue Rivers. All three parcels are characterized by Precambrian metamorphic rocks consisting of biotite gneiss, quartz-feldspar and mica schist and migmatite. BLM-A contains outcrops of schist and BLM-B consists mainly of granite, while BLM-C largely consists of granitic and gneissic bedrock but with some quartz-rich migmatite-like coarse gneiss.

[107] 16 U.S.C. § 470aaa(4)
[108] BLM, 2016

The geologic formations within the area of parcels BLM-A, BLM-B and BLM-C include.

- Metamorphic rocks (gneiss and schist) of the Precambrian age (Class 1)

Metamorphic rocks (gneiss and schist) are ranked as Class 1 under the PFYC system.[109] This classification is used to identify areas that are not likely to contain recognizable paleontological resources. Typical characteristics of areas assigned to Class 1 include igneous or metamorphic units, excluding air-fall and re-worked volcanic ash; and units that are Precambrian in age.[110]

The BLM's PFYC provides the following insight on the probability of impacting significant paleontological resources ranked as Class 1.

> *The probability of impacting significant paleontological resources is very low and further assessment of paleontological resources is usually unnecessary. An assignment of Class 1 normally does not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate an unanticipated discovery.*[111]

Parcel BLM-F

BLM-F is located on a moderately steep, west sloping ridge of the Williams Fork Mountains about 1.5 miles east of SH 9 and about 2.5 miles north of Green Mountain Reservoir. This parcel contains the Cretaceous Pierre Shale, Undivided. Differential erosion of the sedimentary rock has exposed interbedded sandstone and shale beds. Some gentle slopes and washes within the parcel are mantled with coarse resistant Precambrian cobles and boulders, likely transported during erosion of the Precambrian age bedrock east of the tract, above the Williams Range Thrust Fault. No notable faults or folds are preserved within the tract, nor is there any evidence of the Tertiary igneous activity that is seen west and south of the parcel.

The geologic formations within the area of BLM-F include:

- Upper Cretaceous Pierre Shale (Class 4)

In this part of Colorado, the Pierre Shale is ranked as Class 4 under the PFYC system.[112] This classification is used to identify areas that are known to contain a high occurrence of paleontological resources. Typical characteristics of units assigned to Class 4 are: documentation of significant paleontological resources that may vary in occurrence and predictability has occurred; surface disturbing activities may adversely affect paleontological resources; rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present; and illegal collecting activities may impact some areas.[113] Fossils of the Pierre Shale, a marine rock unit, include marine reptiles, fish, birds, pterosaurs, dinosaurs, and invertebrates including ammonites, bivalves and gastropods.

The BLM's PFYC provides the following insight on the probability of impacting significant paleontological resources ranked as Class 4.

> *The probability for impacting significant paleontological resources is moderate to high, and is dependent on the proposed action. Mitigation plans must consider the nature of the proposed disturbance, such as removal or penetration of protective surface alluvium or soils, potential for future accelerated erosion, or increased ease of access that could result in looting. Detailed field assessment is normally required and on-site monitoring or spot-checking may be necessary during land disturbing activities. In some cases avoidance of known paleontological resources may be necessary.*[114]

Parcels BLM-G, BLM-H and BLM-K

Federal parcels BLM-G, BLM-H, and BLM-K are all located near the Blue River and west of SH 9, about 3.5 miles north of Green Mountain Reservoir. BLM-G and BLM-K are located east of the Blue River, and BLM-H is located

[109] DOE and BLM, 2008
[110] BLM, 2016
[111] Ibid.
[112] CDOT, 2011
[113] BLM, 2016
[114] Ibid.

west of the Blue River. Cretaceous Pierre Shale and Colorado Group (shale) occur on these parcels. Much of BLM-G has a gravel terrace underlain by Pierre Shale and the Niobrara Formation. Gravel deposits of varying depths occur on this parcel. BLM-H consists of several old gravel capped river terrace levels cut into bedrock of the Niobrara Formation and Benton Shale. Small areas of limestone likely within the Niobrara Formation and above the Dakota Sandstone are also present. Extensive gravel deposits of varying thickness also occur on BLM-H. BLM-K has a broad gravel terrace over bedrock of Pierre Shale and Benton Shale and Niobrara Formations. No river or terrace alluvium is present, but there is a porphyry igneous intrusive of Tertiary age.

The geologic formations within the area of BLM-G, BLM-H, and BLM-K include:

- Upper Cretaceous Pierre Shale (Class 4)
- Upper Cretaceous Niobrara Formation (Class 5)
- Upper Cretaceous Benton Shale (Class 3)
- Lower Cretaceous Dakota Sandstone (Class 3)
- Tertiary porphyry (Class 1)

Refer to the previous discussion above on Parcel BLM-F for more details on the PFYC of Pierre Shale.

The Benton Shale and Dakota sandstone are ranked as Class 3 under the PFYC system.[115] This classification is used to identify sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. Characteristically, units ranked as Class 3: are marine in origin with sporadic known occurrences of paleontological resources; inclusive of paleontological resources that may occur intermittently, but abundance is known to be low; have units that may contain significant paleontological resources, but these occurrences are widely scattered; and have low-to-moderate potential for an authorized land use to impact a significant paleontological resource.[116] The Benton Shale preserves mostly fossil invertebrates such as ammonites, bivalves and brachiopods. Vertebrate fossils are less common, and include plesiosaurs, ichthyosaurs, bony fish, and sharks. The Dakota Sandstone contains locally abundant fossil vertebrate and invertebrate trackways and other trace fossils, plants, and less common dinosaurs and marine reptiles.

The BLM's PFYC provides the following insight on the probability of impacting significant paleontological resources ranked as Class 3.

> *This classification includes units of moderate or infrequent occurrence of paleontological resources. Management considerations cover a broad range of options that may include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Surface-disturbing activities may require assessment by a qualified paleontologist to determine whether significant paleontological resources occur in the area of a proposed action, and whether the action could affect the paleontological resources.*[117]

The Upper Cretaceous Niobrara Formation is ranked as Class 5 under the PFYC system.[118] This classification is used to identify highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources. Typically, units assigned to Class 5 have significant paleontological resources that have been documented and occur consistently include paleontological resources that are highly susceptible to adverse impacts from surface disturbing activities; and are frequently the focus of illegal collecting activities.[119] The Niobrara Formation contains locally abundant fossil invertebrates such as bivalves, ammonites and gastropods, and vertebrate fossils such as fish, marine reptiles, birds, and amphibians.

The BLM's PFYC provides the following insight on the probability of impacting significant paleontological resources ranked as Class 5.

> *The probability for impacting significant paleontological resources is high. The area should be assessed prior to land tenure adjustments. Pre-work surveys are usually needed and on-site*

[115] DOE and BLM, 2008; CDOT, 2011
[116] BLM, 2016
[117] Ibid.
[118] DOE and BLM, 2008
[119] BLM, 2016

> *monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.*[120]

Porphyry is ranked as Class 1 under the PFYC system.[121] This classification is used to identify areas that are not likely to contain recognizable paleontological resources. Typical characteristics of area assigned to Class 1 include igneous or metamorphic units, excluding air-fall and re-worked volcanic ash; and units that are Precambrian in age.[122]

Refer to the previous discussion above on parcels BLM-A–C for more details on the probability of impacting significant paleontological resources ranked as Class 1.

Parcel BLM-I

The irregular-shaped BLM-I is located southeast of Trough Road about 2 miles south of Kremmling and immediately west of the Blue River. This parcel contains Cretaceous Dakota Sandstone, Benton Shale, Niobrara Formation, and Pierre Shale. Areas of river terrace gravel parallel the Blue River on high and low terraces, and Holocene alluvium is also present.

The geologic formations within the area of BLM-I include:

- Upper Cretaceous Pierre Shale (Class 4)
- Upper Cretaceous Niobrara Formation (Class 5)
- Upper Cretaceous Benton Shale (Class 3)
- Lower Cretaceous Dakota Sandstone (Class 3)
- Holocene Alluvium (Class 2)

Refer to the previous discussion on Parcel BLM-F for a discussion on the PFYC of Pierre Shale, and parcels BLM-G, BLM-H and BLM-K for a discussion on the PFYC of the Niobrara Formation, Benton Shale, and Dakota Sandstone. The general fossil content of each of these units is also provided above.

Holocene Alluvium is ranked as Class 2 under the PFYC system.[123] This classification is used to identify geologic units that are not likely to contain paleontological resources. Typically, units assigned to Class 2: have been field verified that significant paleontological resources are not present or are very rare; are generally younger than 10,000 years before present; are recent aeolian deposits; and/or are sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.[124] Holocene alluvium contains the unfossilized remains of modern species of animals and plants, and is too young to preserve in-situ fossils.

The BLM's PFYC provides the following insight on the probability of impacting significant paleontological resources ranked as Class 2.

> *The probability of impacting significant paleontological resources is low. Localities containing important paleontological resources may exist, but are occasional and should be managed on a case-by-case basis. An assignment of Class 2 may not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate unanticipated discoveries.*[125]

Parcel BLM-J

BLM-J is located about 4.5 miles east of Kremmling and is divided into two parts. The northern part is located along U.S. Highway 40 and the southern part is located to the south near the Colorado River. Both parts of this parcel are underlain by Quaternary alluvium and there is no exposed bedrock.

[120] Ibid.
[121] DOE and BLM, 2008
[122] BLM, 2016
[123] CDOT, 2011
[124] BLM, 2016
[125] Ibid.

The geologic formations within the area of BLM-J include:

- Quaternary Alluvium (Class 2)

Quaternary (Pleistocene and Holocene) Alluvium is ranked as Class 2 under the PFYC system.[126] This classification is used to identify geologic units that are not likely to contain paleontological resources. Typically, units assigned to Class 2: have been field verified that significant paleontological resources are not present or are very rare; are generally younger than 10,000 years before present; are recent aeolian deposits; and/or are sediments that exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.[127]

Refer to the previous discussion above on Parcel BLM-I for more details on the PFYC probability of impacting significant paleontological resources ranked as Class 2.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action Alternative

Direct and Indirect Effects

Under the No Action Alternative, the lands would not be exchanged and unknown paleontological resources that may be on Federal lands would remain protected, but similar resources on private lands would remain unprotected. Unknown paleontological resources that are present on the Federal parcels may be susceptible unauthorized collection under the No Action Alternative, but this is limited by the currently difficult public access to the Federal parcels. Unknown paleontological resources on the non-Federal parcels would be protected from the general public as there is not legal access to these lands but could be affected by the decisions of the private landowner.

Alternative 2 – The Proposed Action

Based on the PFYC, the probability of impacting significant paleontological resources in the APE ranges from "very low" to "high" for the Federal exchange parcels. These probabilities are based on the class rankings for the geologic formations found in the Federal parcels and are primarily tied to land uses or ground disturbance. Although vertebrate fossils or scientifically significant invertebrate fossils are known or can reasonably be expected to occur in the exchange area, the greatest potential for impacts is associated with excavation of surficial materials and shallow bedrock. Any surface disturbing activities increases the probability of impacting significant fossils, but there are no surface disturbing activities included in or that are reasonably foreseeable to result from the Proposed Action on Federal parcels. Because there is no proposed ground disturbance associated with the Proposed Action it is not anticipated that this alternative would adversely affect scientifically important fossils.

Additionally, PFYC guidance only recommends that Class 5 areas be assessed prior to land tenure adjustments.[128] This would include portions of BLM-G, BLM-H, BLM-K and BLM-I, which overlap the Niobrara Formation. These areas have been considered and because there are no outcrops on any of these parcels, the likelihood of finding scientifically significant paleontological resources is negligible. BLM knowledge of the area and museum record searches do not support the likelihood of subsurface paleontological resources being present.

Direct Effects

Under the Proposed Action there would be no direct effects to paleontological resources that may be present on Federal and non-Federal parcels.

Federal Parcels

Paleontological resources that are transferred from federal to private ownership would lose BLM management and federal protection, but would likely remain unaltered, as surface disturbance is not proposed on any of these parcels. Additionally, transfer to private ownership would eliminate legal public access and would reduce the likelihood of unauthorized collection of unknown paleontological resources potentially occupying these lands.

[126] CDOT, 2011
[127] BLM, 2016
[128] Ibid.

Non-Federal Parcels

Under the Proposed Action, currently unprotected paleontological resources on private lands in the exchange would become federally protected and managed by the BLM. The increase in public access to these parcels could increase the likelihood of unauthorized collection of paleontological resources if discovered; however, transfer to federal ownership and associated protection under management by the BLM is anticipated to have a beneficial impact to paleontological resources on these lands.

Indirect Effects

Agreements between BVR and Sheephorn Ranch

BVR has stated that upon closing of the exchange, it would convey approximately the southern half of BLM-C to Sheephorn Ranch that currently hunts in this area. The agreement between the Proponent and Sheephorn Ranch would not directly affect paleontological resources on the KFO, because there is no ground disturbance associated with this agreement, nor is there a high probability that significant paleontological resources exist in this area.

Agreements between BVR and Skylark Ranch

BVR has stated that upon closing of the exchange, parcel BLM-J would likely be sold to the adjoining Skylark Ranch. It is reasonably foreseeable that this parcel would remain as agriculture. Any agreement between the Proponent and Skylark Ranch is not anticipated to does not directly affect paleontological resources of the KFO, as there is no anticipated ground disturbance associated with this parcel nor is there a high probability that significant paleontological resources exist in this area.

Agreements between BVR and Blue Valley Acres

BLM-K is surrounded non-Federal land within Blue Valley Acres #2 subdivision. BVR has offered to convey this parcel to the Blue Valley Metropolitan District, provided that future use of the property serves some form of community purpose such as continuation of open space, ball fields, a community meeting hall, etc. It is not anticipated that the transfer of this parcel to Blue Valley Metropolitan District subsequent to the exchange would result in adverse impacts to paleontological resources; however, there is a potential for impacts to occur.

Alternative 3

Direct Effects

As compared to the Proposed Action Alternative, slightly less land would be transferred from federal to private ownership under Alternative 3. As a result, more land would be retained under BLM management and federal protection of paleontological resources that may be present would persist. This is attributable to the altered boundary of BLM-I that is included in this alternative. Overall, paleontological resources on the federal lands to be exchanged would likely remain unaltered, as surface disturbance is not proposed on any of these parcels. Additionally, transfer to private ownership would eliminate legal public access and would reduce the likelihood of unauthorized collection of unknown paleontological resources potentially occupying these lands.

Similar to the Proposed Action Alternative, unprotected paleontological resources on private lands in the exchange would become federally protected and managed by the BLM. The only change from the Proposed Action Alternative is that slightly less land would be transferred to the BLM due to the removal of BVR-3 and BVR-4 from this alternative; therefore, Alternative 3would result in less lands receiving protection and management from the BLM. The increase in public access to these parcels could increase the likelihood of unauthorized collection of paleontological resources if discovered; however, transfer to federal ownership and associated protection under management by the BLM is anticipated to have a beneficial impact to paleontological resources on these lands

Indirect Effects

Indirect effects associated with Alternative 3 would be identical to those described under the Proposed Action Alternative in the previous section.

G. WILDLIFE

SCOPE OF THE ANALYSIS

This analysis addresses potential impacts to wildlife (terrestrial and aquatic) species listed under the Endangered Species Act (1973 as amended), BLM and Forest Service listed sensitive species, and general wildlife species. This wildlife analysis incorporates by reference the 2008 Southern Rockies Lynx Amendment.[129] A Biological Assessment (BA) and Biological Evaluation (BE) have been prepared and are in the project file and are incorporated by reference.[130] The BA analyzes federally listed threatened, endangered and proposed species, and the BE analyzes both BLM and Forest Service sensitive species. In addition, Forest Service species of viability concern (SVC) and species of local concern (SOLC) are addressed in the BE; however, the proposed land exchange would have no impact on SVC or SOLC and these species were dropped from further analysis. The Analysis Area for wildlife resources encompasses the nine Federal and nine non-Federal parcels, and the three connected actions: the Confluence Recreation Area, the Green Mountain Recreation Area, and the Spring Creek Bridge Take-Out and Rest Stop. The Analysis Area also includes down-stream aquatic resources (to the extent that they may see potential interconnected impacts). Please note, the Analysis Area for Forest Service sensitive species includes only those NFS lands (and downstream aquatic habitats, as applicable) potentially affected by development of the proposed hiking trail near Green Mountain. Direct effects to wildlife species and their habitats are discussed in terms of a change in land ownership, and the indirect effects are discussed in terms of the likely change in land use patterns resulting from the change in ownership, including the construction of Recreation Design Features. The Forest Service Region 2 sensitive species that are listed as occurring on the WRNF, or that potentially could be indirectly affected or occur downstream of the project are in Table 3G-1 in Appendix A. A pre-field review was conducted of available information to assemble occurrence records and to describe habitat needs and ecological requirements. At this time, field-based habitat verifications have occurred, but species-specific presence/absence surveys have not occurred. No further analysis is needed for species that are not known or are not suspected to occur on NFS lands in the Analysis Area, and for which no suitable habitat is present. If suitable habitat is present, then presence of the species is assumed. There are no aquatic or terrestrial SOLC or SVC within the Analysis Area; therefore, none of these species were carried forward in this analysis.

Additionally, this analysis presents the No Action and action alternatives' consistency with BLM Colorado Public Land Health Standards 3 and 4, as required by the 2015 RMP. Refer to Appendix F for a complete list of the BLM Colorado Public Land Health Standards.

AFFECTED ENVIRONMENT

Threatened, Endangered and Sensitive Wildlife

The BLM and the Forest Service are mandated under sections 7(a)(1) and 7(a)(2) of the Endangered Species Act to carry out programs for the conservation of listed species and to ensure that any action the BLM authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species, or result in the destruction or adverse modification of designated critical habitat.[131] Additionally, it is the BLM's policy, as described in Manual 6840 to initiate proactive conservation measures that reduce or eliminate threats to BLM sensitive species in order to minimize the likelihood of and need for listing of those species under the Endangered Species Act.[132] Finally, under Forest Service Manual (FSM) 2670, it is a stated objective to ensure that Forest Service Actions do not contribute to a loss of viability of sensitive species or contribute to a trend towards federal listing.[133] Individual Forest Service and BLM offices develop and maintain lists of species considered to be sensitive within the specific area of the offices' administrative boundaries.

Federal threatened and endangered species potentially within and down-stream of the Analysis Area are listed in Table 3G-2 in Appendix A. Other listed and proposed species known to occur elsewhere on the KFO and WRNF, or in proximity to the Analysis Area, were considered but dropped from detailed analysis because their habitats do not

[129] USDA Forest Service, 2008
[130] Petterson, 2017; Petterson and Orthner, 2017
[131] USFWS and NMFS, 1998
[132] BLM, 2008c
[133] USDA Forest Service, 2015a

occur on the KFO or the Dillon Ranger District, and they have no affinities to Analysis Area habitats, and/or the Analysis Area is outside of the species' range.

A pre-field review of available information was conducted to assemble occurrence records, describe habitat needs and ecological requirements, and determine whether field reconnaissance was needed to complete the analysis. Sources of information included BLM and Forest Service records and files, the Colorado Natural Heritage Program database, CPW information, and published research. The landscape within and surrounding the Analysis Area was surveyed for the existence of habitat for federally listed threatened, endangered, proposed and sensitive wildlife species during site visits conducted during the summer of 2013.[134] No further analysis is needed for species that are not known or suspected to occur in the Analysis Area, and for which no suitable habitat is present.

Per Table 3G-2, the following species were dropped from detailed analysis because their range does not include the Analysis Area, and habitat required during their life history is not found within the Analysis Area: Mexican spotted-owl, yellow-billed cuckoo, Colorado pikeminnow, razorback sucker, humpback chub, bonytail chub, and Uncompahgre fritillary butterfly.

The effects of the proposed land exchange and Recreation Design Features are analyzed in detail for Canada lynx, North American wolverine, and greenback cutthroat trout as potential habitat for these species is either overlapped by the proposed land exchange area or has the potential to be affected by the action alternatives. BLM-G and BLM-K and a large portion of BLM-H are contained within the Mahan Lynx Analysis Unit (LAU); BVR-9 and BVR-10 and a large portion of BVR-2 are also within this LAU. While these areas are not currently known to contain Canada lynx, they consist of suitable habitat that approximates the average size of a lynx's home range. Potential habitat for North American wolverine and greenback cutthroat trout also exists within the Analysis Area.

BLM and Forest Service Sensitive Wildlife Species

The BLM sensitive species list was developed by the Colorado State Director and referenced for this Project. This list is provided in Table 3G-3 in Appendix A. Only species occurring in the KFO area were included. While all listed species were initially considered, species unlikely to occur in the Analysis Area were eliminated from further consideration Eliminations are based on all known range distributions being outside of the Analysis Area and/or complete habitat incompatibility within the Analysis Area.

Due to recent regulatory guidance and interest, additional consideration in this Final EIS was given for the greater sage-grouse (see the following discussion). All BLM sensitive species were thoroughly considered and additional detail can be found in the BE in the project file.

Greater Sage-Grouse

The greater sage-grouse is a sagebrush obligate, ground-nesting upland game-bird species. The birds are found at elevations ranging from 4,000 to over 9,000 feet and are highly dependent on sagebrush for cover and food. Sage-grouse require wide expanses of sagebrush, and the mere presence of sagebrush in small patches does not indicate an area is suitable sage-grouse habitat.

The Sage-Grouse ARMPA was signed in September of 2015.[135] The Sage-Grouse ARMPA amended the 2015 RMP to identify and incorporate appropriate measures to conserve, enhance, and restore sage-grouse habitat by avoiding, minimizing or compensating for unavoidable impacts on sage-grouse habitat in the context of the BLM's multiple use and sustained yield mission under the FLPMA (1976, as amended).

Sage-grouse habitat on BLM-administered lands consists of lands allocated as Priority Habitat Management Areas (PHMA), General Habitat Management Areas (GHMA) and Linkage/Connectivity Habitat Management Areas (LCHMA). PHMA, GHMA and LCHMA are defined as follows:

- *PHMA* – BLM-administered lands identified as having the highest value to maintaining sustainable sage-grouse populations. Areas of PHMA largely coincide with areas identified as priority areas for conservation in the USFWS's 2013 Conservation Objectives Team report.[136] These are areas that have been identified as

[134] URS, 2014
[135] BLM, 2015c
[136] USFWS, 2013

having the highest conservation value to maintaining sustainable sage-grouse populations; they include breeding, late brood-rearing, and winter concentration areas.

- *GHMA* – BLM-administered lands where some special management would apply to sustain sage-grouse populations. These are areas of seasonal or year-round habitat outside of priority habitat.
- *LCHMA* – Areas that have been identified as broader regions of connectivity important to facilitate the movement of sage-grouse and maintain ecological processes.

Parcels BVR-1–4, BVR-9 and BVR-10, BLM-F, and BLM-H–K provide sagebrush habitats with the cover, slopes, and understory grass and forb components suitable for potential sage-grouse use. These parcels provide highly suitable habitats for sage-grouse, and grouse occupancy of these parcels has been confirmed by previous field observations.[137]

On private parcels, there are approximately 1,605 acres of PHMA and 6 acres of GHMA, and on BLM lands 767 acres of PHMA and 73 acres of GHMA. For context, within Grand County, there are 60,700 acres of PHMA, and 11,300 acres of GHMA. Within Summit County there are 700 acres of PHMA, and no GHMA. Table 3G-4 and Table 3G-5 in Appendix A provide a summary of sage-grouse habitat by BVR and BLM parcels.

Bighorn Sheep

Bighorn sheep are currently present in the vicinity of Green Mountain. Current use of Green Mountain by bighorn sheep is concentrated on higher slopes, with rocky outcrops and escape cover. Utilization generally occurs in the spring, as bighorn sheep ewes move into this area from winter ranges along the Colorado River near Radium, and possibly from sheep utilizing the Eagles Nest Wilderness Area further to the south.[138] Bighorn sheep generally do not winter on Green Mountain, but some ewes may utilize it for lambing. At this time, it is thought that an average of around five ewes utilize Green Mountain, with the majority of the herd staying in the Gore Canyon area along the Colorado River.

Migratory Birds and Birds of Conservation Concern

The Migratory Bird Treaty Act (MBTA) includes native passerines (e.g., flycatchers and songbirds) as well as birds of prey, migratory water birds (waterfowl, wading birds, and shorebirds), and other species such as doves, hummingbirds, swifts, and woodpeckers. Within the context of the MBTA, "migratory" birds include non-migratory "resident" species as well as true migrants, essentially encompassing virtually all native bird species. For most bird species, nesting habitat is of special importance because it is critical for supporting reproduction in terms of nesting and foraging sites. Because birds are generally territorial during the nesting season, their ability to access and utilize sufficient food is limited by the quality of the territory occupied. During non-breeding seasons, birds are generally non-territorial and able to feed across a larger area and wider range of habitats.

A variety of migratory birds are present within the Analysis Area, and potential impacts to individual species are analyzed in this section. USFWS lists of Birds of Conservation Concern (BCC) for the project region area available below.[139] The Analysis Area may be used by the following BCC: bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus*), prairie falcon (*Falco mexicanus*), flammulated owl (*Psiloscops flammeolus*), Lewis's woodpecker (*Melanerpes lewis*), Grace's warbler (*Setophaga graciae*), Brewer's sparrow (*Spizella breweri*), black rosy-finch (*Leucosticte atrata*), brown-capped rosy finch, (*Leucosticte australis*), and Cassin's finch (*Haemorhous cassinii*).

Seven of these species (bald eagle, golden eagle, peregrine falcon, flammulated owl, Lewis's woodpecker, long-billed curlew, and Brewer's sparrow) are also BLM or Forest Service listed sensitive species.

Sagebrush shrublands is the most common habitat type in the Analysis Area, occupying approximately 47 percent of the habitats within the subject parcels. Non-BCC migratory songbirds nesting in this habitat type include the mountain bluebird (*Sialia currucoides*), western meadowlark (*Sturnella neglecta*), vesper sparrow (*Pooecetes gramineus*), green-tailed towhee (*Pipilo chlorurus*), and lark sparrow (*Chondestes grammacus*), among others.

[137] URS, 2014
[138] Sralla, 2018
[139] URS, 2014; USFWS, 2008

Within the mixed conifer and aspen forest types (occupying approximately 27 percent of the parcels), BCC species including flammulated owl, Grace's warbler, and Cassin's finch may be found nesting. Non-BCC migratory songbirds also potentially nesting in this habitat type include dark-eyed junco (*Junco hyemalis*), mountain chickadee (*Poecile gambelii*), nuthatches (white-breasted, red-breasted and pygmy [*Sitta* spp.]), brown creeper (*Certhia americana*), ruby-crowned kinglet (*Regulus calendula*), yellow-rumped warbler (*Setophaga coronata*), broad-tailed hummingbird (*Salasphorus platycercus*), western wood-pewee (*Contopus sordidulus*), plumbeous vireo (*Vireo plumbeus*), cordilleran flycatcher (*Empionax occidentalis*), tree swallow (*Tachycineta bicolor*), and violet-green swallow (*T. thalassina*).

Songbirds occurring more widely in the project vicinity and less tied to specific habitat types include the common raven (*Corvus corax*), American crow (*C. brachyrhynchos*), blackbilled magpie (*Pica hudsonia*), and the migratory Brewer's blackbird (*Euphagus cyanocephalus*). Sensitive birds of prey potentially nesting in the project vicinity include:

- Golden eagle (BCC, BLM sensitive species)
- Bald eagle (BCC, BLM sensitive species)
- Peregrine falcon (BCC, BLM sensitive species)
- Prairie falcon (BCC, BLM sensitive species)

Like the golden eagle, prairie falcons nest on cliffs and forages primarily in unwooded habitats such as sagebrush and saltbush shrublands. Peregrine falcon nest on large cliffs, and CPW data indicates it may be found nesting on Green Mountain; this raptor may be seen flying any habitat type across the Analysis Area, while it hunts for smaller birds. Other raptors potentially present and more likely to nest and forage in the Analysis Area include.

- American kestrel (*Falco sparverius*)
- Cooper's hawk (*Accipiter cooperii*)
- Sharp-shinned hawk (*A. striatus*)
- Red-tailed hawk (*Buteo jamaicensis*)
- Swainson's hawk (*B. swainsoni*)
- Northern harrier (*Circus cyaneus*)
- Great horned owl (*Bubo virginiana*)

In addition to these are two small owls; the flammulated owl (*Psiloscops flammeolus*) and saw-whet owl (*Aegolius acadicus*). Both are potentially present in the stands of mixed-conifer forests and aspen in the Analysis Area. The flammulated owl is also a BCC species.

Other Wildlife

Habitats in the Analysis Area and vicinity range from xeric shrublands and irrigated hayfields to more mesic sagebrush shrublands and, at the highest elevations, montane mixed conifer and aspen forests. Given these vegetation types, the area provides cover, forage, breeding, and nesting habitat for a variety of big game and small game species as well as nongame species.

Big Game Species

The Analysis Area is within overall ranges of mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and Rocky Mountain elk (*Cervus elaphus nelsoni*). Deer, pronghorn, and elk are recreationally, culturally, and ecologically important species common throughout suitable habitats in the region. The pronghorn was reintroduced to the area by CPW and BVR in 1995.

The Analysis Area provides various big game habitats, as defined by CPW. Winter ranges for mule deer, elk and pronghorn occur throughout the area, and elk production (calving) areas occur in forested areas. Refer to Table 3G-6 in Appendix A for a descriptions of big game habitat designations.

The Winter Range Categories are defined as follows:

- *Mule Deer Winter Range* – That part of the overall range where 90 percent of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site-specific period of winter as defined for each Data Analysis Unit (DAU).
- *Mule Deer Severe Winter Range* – That part of the overall range where 90 percent of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten.
- *Mule Deer Winter Concentration Areas* – That part of the winter range where densities are at least 200 percent greater than the surrounding winter range density during the same period used to define winter range in the average five winters out of ten.
- *Pronghorn Winter Range* – That part of the overall range where 90 percent of the individuals are located between the first heavy snowfall and spring green-up during the average five winters out of ten *or* for a site-specific period defined by CPW personnel for that DAU.
- *Elk Winter Range* – That part of the overall range of elk where 90 percent of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site-specific period of winter as defined for each DAU.
- *Elk Winter Concentration Area* – That part of the winter range of elk where densities are at least 200 percent greater than the surrounding winter range density during the same period used to define winter range in the average five winters out of ten.
- *Elk Severe Winter Range* – That part of the overall range of elk where 90 percent of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten. The winter of 1983/84 is a good example of a severe winter.
- *Elk Production Area* – That part of the overall range of elk occupied by the females from May 15 to June 15 for calving. (Only known areas are mapped and this does not include all production areas for the DAU).

Areas where elk tend to concentrate during calving are generally transitional in elevation and provide a combination of thermal and hiding cover, water, and good-quality forage needed to sustain lactating females and their young. The mapped production areas, with seclusion and water afforded by the aspen and mixed conifer forests, provides this combination of qualities. Seasonal restrictions on BLM lands for human use in late spring/early summer (May 15 to June 15) apply to elk production areas to minimize disruption during the birthing season, when elk are present and especially sensitive to disturbance.

Carnivores

Large carnivores potentially present in the project vicinity include mountain lion (*Felis concolor*), which moves seasonally with its preferred prey (mule deer), and black bear (*Ursus americanus*). Black bears are uncommon in the lower elevations due to the scarcity of sufficient forest cover and suitable foods (including acorns and berries), but suitable habitat exists on the western parcels and on Green Mountain where more mesic shrublands and forests occur. Two smaller carnivores, the coyote (*Canis latrans*) and bobcat (*Lynx rufus*), are also present throughout the region in open habitats and broken or wooded terrain, respectively, where they hunt for small mammals, reptiles, and ground-dwelling birds. Other small carnivores potentially present are striped skunk (*Mephitis mephitis*), red fox (*Vulpes vulpes*), long-tailed weasel (*Mustela frenata*), ermine (*M. erminea*), badger (*Taxadea taxus*), mink (*Neovison vison*), and American marten (*Martes americana*).

Rodents and Lagomorphs

Small mammals present within the project vicinity include rodents such as the Wyoming ground squirrel (*Spermophilus elegans*), golden-mantled ground squirrel (*Callospermophilus lateralis*), and least chipmunk (*Tamias minimus*). Smaller rodents likely to occur include the packrat (or bushy-tailed woodrat; *Neotoma cinerea*), deer mouse (*Peromyscus maniculatus*), long-tailed vole (*Microtus longicaudus*), and others in the same genera. Lagomorphs likely to occur include the mountain cottontail (*Sylvilagus nuttallii*), snowshoe hare, and white-tailed jackrabbit (*L. townsendii*). Rodents and lagomorphs are important prey species.

Upland Fowl

Four species of galliforms (upland gamebirds) are present in the project vicinity. The native wild turkey (*Meleagris gallopavo*), is mostly associated with more mesic or densely vegetated habitats, including mixed mountain shrubs, particularly those with Gambel's oak or other tall species, and foothills or montane conifers. Dusky grouse (or blue grouse; *Dendragapus obscurus*) occurs in mixed-conifer and aspen forests; Columbian sharp-tailed grouse (*Tympanuchus phasianellus columbianus*) was reintroduced to the area by CPW and BVR in the early 2000s, and occurs in mesic mixed mountain shrublands and adjacent meadows. The native wild turkey was reintroduced to the area by CPW and BVR in 1999. All of these upland fowl species are seasonally hunted through CPW's administered upland game bird hunting seasons.

Reptiles

Reptiles are fairly limited in the Analysis Area; only the western terrestrial garter snake (*Thanophis elegans*), and possibly the bull snake (or gopher snake; *Pituophis catenifer*) may occur in the area.

Amphibians

Among amphibians, the area is occupied by the western chorus frog (*Pseudacris triseriata*). The western chorus frog occurs primarily in irrigated hayfields, seasonally flooded wetlands, and ponds. The northern leopard frog (*Lithobates pipiens*), a BLM sensitive species, may occur in similar habitats, but has become very scarce in the Analysis Area (refer to the BE in the project file for more information).[140] The barred salamander (*Ambystoma tigrinum*) is also potentially present in the project vicinity, primarily using perennial ponds for breeding but spreading farther afield than the other species as air-breathing adults and hiding in burrows during daylight.

Potential breeding habitats for amphibians in the project vicinity includes small ponds, areas of protracted seasonal flows along the ephemeral drainages, irrigated hayfields, and widespread wetlands and seasonally inundated overbank areas along the Colorado River and Blue River.

Aquatic Habitats and Fishes

Blue River

For reference, the reader is referred to Table 3I-1 in Appendix A for a summary of the existing water rights and uses. Three BLM parcels are abutting the Blue River. Approximately 1,760 linear feet of the Blue River flows through BLM-H; 300 feet of the western edge of BLM-G abuts the Blue River; and towards the northern end of the ranch, near the Trough Road, approximately 1,600 linear feet of the Blue River bisects BLM-I.

One BVR parcel, BVR-8, abuts the Blue River close to the confluence with the Colorado River. The western and portions of the south/eastern sides of BVR-8 fronts approximately 3,905 feet of the Blue River.

In the vicinity of the Colorado River (east of Kremmling), there is only one parcel (BLM-J). As previously mentioned, a 100-foot corridor along the north bank of the Colorado River in BLM-J would be retained by the BLM, but the uplands north of the riverbanks would be conveyed to BVR (which would then transfer these lands to the Skylark Ranch).

Aquatic habitats are very similar on the southern BLM-G and BLM-H; but the entire Blue River flow regimes are heavily regulated by releases from Green Mountain Reservoir, which occurs approximately 4.1 river miles upstream from BLM-H; BLM-I is 11.4 miles downstream from Green Mountain Reservoir, and BVR-8 occurs approximately 13.4 downstream from Green Mountain Reservoir.

The Blue River's flow is regulated due to the presence of Dillon and Green Mountain Reservoirs for water supply; approximately 30 percent of the flows from the Blue River basin are currently exported from the Blue River basin to Front Range communities (through the 23.3-mile Roberts Tunnel). Because of this water management, the Blue River through the Analysis Area has an "inverted" hydrograph; the lowest flows occur in the spring during the runoff season when upstream reservoirs are filling, and high flows occur during the mid- to late-summer and fall when reservoir releases serve downstream water rights. Flows between years can vary considerably given the hydrologic year in the

[140] Petterson, 2017

mountains and along the Front Range, given the specific water agreements Dillon and Green Mountain Reservoirs are required to serve.

The Blue River has seen approximately 7 miles of instream fish habitat improvements, primarily on BVR lands, and contains multiple water diversions serving agricultural irrigation on BVR and adjacent ranches, as well as supplemental irrigation for created wetlands for wildlife habitat improvement.[141] No habitat improvements have been completed on public lands.

The present fishery is a coldwater fishery with a reproducing fish community dominated by brown trout (*Salmo trutta*), western white sucker (*Catastomus commersoni*), longnose sucker (*Catastomus catastomus*) and mottled sculpin (*Cottus bairdii*). Fish maintained in the river through stocking or incidental introduction include rainbow trout (*Oncorhynchus mykiss*) and various hybrids, including Snake River cutthroat trout (*Oncorhynchus clarki bouvieri*). Other salmonids including brook trout (*Salvelinus fontinalis*), lake trout (*Salvelinus namaycush*), and Kokanee salmon (*Onchyrynus nerka nerka*), may also occur in the Blue River or incidentally in the Colorado River. Rainbow trout and their hybrids are legally introduced by public agencies and private landowners along the river. In 2006 CPW initiated a stocking program for the Hofer strain of rainbow trout and its hybrids to re-establish a wild, self-propagating rainbow trout population in the river.[142] Most private land rainbow trout stocking programs in the river have been voluntarily curtailed to assist survival of these CPW introduced fish.

With the recent habitat improvements and active fish stocking program, the Blue River is currently designated Gold Medal Waters. However, it also carries whirling disease (caused by the parasite *Myxobolus cerebralis*), and an invasive algae called "rock snot" (*Didymosphenia geminata*).[143]

The Blue River fishery through the Analysis Area is dominated by brown trout, which occurs as a self-propagating population. The next most common sport fish in the Blue River is the rainbow trout, which is maintained through stocking due to whirling disease. The stocking of rainbow trout is important, as to maintain the Gold Medal Water criteria, there must be a minimum of 60 pounds of fish per surface acre of water.[144]

From 1999 to 2007 the Blue River was managed under two sets of management tasks.[145] The most intense set of management activities included physical trout habitat improvement, nutritional intervention, and rainbow trout stocking on a roughly 10-mile reach on BVR. In areas that had habitat improvement and stocking, the trout fishery is estimated to sustain standing crops between 300 and 700 pounds per acre. Many trophy-size fish dominated by rainbow trout were present within the intensely managed waters while other reaches that received much less management supported near pre-management trout stocking rates. Since 2006 all intense management activities, except installed habitat improvements, ceased on private lands. Fish sampling in 2012 indicated most stations from BLM-H down to the confluence with the Colorado have diminishing trout fisheries. Along much of the Blue River through BVR, trout fishery stock rates have reduced to near baseline (1994) levels. Brown trout now dominate all fishery samples taken from the river.[146]

As another gauge of the fishery, "mean angler success," indicates that fishing quality based on catch per angler hour was just 0.5 fish per hour in 1991; peaked at 7.5 fish per hour in 2004/05 when intensive management was applied and has diminished since 2005 to 2 fish per hour in 2012.[147]

Habitat analysis models were completed only in unmodified areas of the river.[148] These habitat models indicated there is good trout habitat present in all areas of the river, but that habitat effectiveness is heavily dependent on instream flows. As flows increase, the trout habitat in the area of BLM-H and BLM-G changes from primarily adult trout habitat to incorporation of more juvenile and spawning habitat. Conversely, areas downstream near BLM-I and

[141] Mitchell, 2013
[142] Ibid.
[143] Ibid.
[144] Ibid.
[145] Ibid.
[146] Ibid.
[147] Ibid.
[148] Ibid.

BVR-8 are dominated by trout spawning habitat during low-flows and increase to include more juvenile and adult habitat as flows increase.

The habitat analysis indicated that the area below Trough Road (BLM-I and especially BVR-8) is a regionally important trout spawning habitat area for Grand County, supporting fisheries in both the Blue and Colorado River.[149]

Macroinvertebrate analysis was conducted from 1994–2012, and results for a Biotic Condition Index (BCI) indicated that much of the river is similar in its environmental quality.[150] However, the BCI also indicated that the timing and amount of instream flow heavily influenced macroinvertebrate diversity. Macroinvertebrate diversity trended downward slightly further down the Blue River and trended downward slightly since 1994. Some species of stoneflies (an important top-level invertebrate predator in this aquatic system) have diminished in numbers in Lower Blue River samples since 1994.

Colorado River

While the Blue River has seen extensive fisheries management and sampling efforts by BVR and their consultants, the Colorado River has not seen similar levels of biological data gathering and analysis. However, other existing resources are available which help describe the existing conditions of aquatic habitat and potential aquatic species use near BLM-J, and in the vicinity of BVR-8.

In 2015 AECOM conducted an extensive study of the Colorado River in the vicinity of Kremmling for a number of irrigators being impacted by increased water diversions out of the Colorado River Basin to Front Range communities and resulting diminished instream flows in the Colorado River.[151] These studies investigated the impacts of decreased flows on aquatic habitats, channel stability, water temperatures, and modification of hydrogeomorphology.

Transbasin Diversions

Transbasin diversions have impacted the Colorado River for over 100 years. The reach of the Colorado River around BLM-J (and somewhat for BVR-8) is downstream of a number of trans-basin diversions that divert on average in excess of 300,000 acre-feet a year of water from the Colorado River Basin across the Continental Divide to serve the Front Range.[152] At full buildout these facilities would divert up to 80 percent of the native flow of the Colorado River above the subject parcels. The situation is compounded by the fact that portions of the Colorado River and Blue River are further impacted by compensatory storage reservoirs: Green Mountain and Wolford Mountain Reservoirs, that replace depletions from this reach while the depletions occur upstream (Ruedi Reservoir is a third reservoir, but it is located much further downstream from the Analysis Area). These diversions have a significant impact on the hydrology, and therefore, hydraulics, that shape the form and habitat of the Colorado River.[153]

Aquatic Prey Species

In 2011 the State of Colorado published the Colorado River Aquatic Resources Investigations Federal Aid Project F-237R-18.[154] During the 1980s, two studies developed baseline information on the fish and aquatic invertebrate fauna of the Upper Colorado River from Windy Gap Dam downstream to the confluence with the Blue River.[155] The goal of the 2011 study was to go back to the same riffles examined in the 1980/81 study using the same sampling protocol to assess how the ecosystem has changed over the intervening decades. In 2010 the researchers were only able to successfully sample at five of the seven riffle locations sampled in the 1980/81 study.

The study reported that throughout the Analysis Area on the Colorado River there had been a 38 percent loss of total benthic macroinvertebrate (important trout prey species) diversity in the thirty years from 1980 to 2010. Since 1980/81 percentages of stoneflies have declined by up to 40 percent.[156] A particularly important food sources for trout in the Colorado and Blue Rivers is a species of macroinvertebrate salmonfly or giant stonefly (*Pteronarcys californica* [Pc]). Nehring et al. (2011) found that Pc larvae were completely eliminated at two of the sampling locations and that

[149] Ibid.
[150] Ibid.
[151] AECOM, 2015
[152] Ibid.
[153] Ibid.
[154] Nehring et al., 2011; AECOM, 2015
[155] Nehring et al., 2011
[156] AECOM, 2015

there was a reduction in number of Pc larvae at all other stations since 1980/81. A similar lack of Pc was documented (by Mitchell 2013) in the Blue River through the Analysis Area. Some observers have interpreted the results of Nehring's study to indicate that the Upper Colorado River is at the point of ecologic collapse.[157]

Water Temperature

Fishing guides at Reeder Creek Ranch have been informally monitoring river water temperature over the past several years and on numerous occasions have recorded temperatures in excess of 68°F (20°C), as early in the year as June. In 2014 AECOM recorded water temperatures in excess of 65°F (18°C) on 13 different days, and in excess of 68°F (20°C) on one day. These temperatures were recorded during a period when the minimum flow of the river was 226 cfs and the average flow was in excess of 350 cfs, which is almost double than the in-stream right of 150 cfs. Trout are cold water fish and a temperature in excess of 77°F (25°C) is considered the upper lethal limit for trout.[158] They prefer water temperatures generally less than 68°F (20°C).[159] The shallow water depths during this period were likely the main factor resulting in warm water temperatures.

Channel Morphology

Many factors, including reduced flows, have resulted in a channel that is overly wide at low flows.[160] The in-stream flow for the Colorado River from the area upstream of BLM-J is 150 cfs. At this flow the average hydraulic depth (cross-sectional area/top width) is only 1.6 feet, but the water surface width at these flows is as high as 200 feet. The wide, shallow flow is more easily heated by air temperature and solar radiation. This condition is exacerbated by the degraded condition of much of the riparian vegetation, which provides little shade.[161]

There is significant bank erosion evident throughout a 10-mile reach of the Colorado around Kremmling.[162] While aerial photographs show that the overall form of the Colorado River has been relatively consistent over the last seventy years, certain locations have been experiencing increasing rates of bank erosion. Over the last few years the rate of loss has been as high as 30 feet per year at some locations, resulting in the loss of wetland and riparian vegetation, irrigation infrastructure and irrigated lands.

Reduced flows have also allowed vegetation to become established on some point bars. This vegetation has promoted the additional deposition of sediment which narrows the active channel. Analysis of historic photos by AECOM provides evidence of this adjustment, with some areas seeing a reduction of the active channel by up to 50 percent. While increased vegetation on some point bars has occurred, the majority of the Colorado River has seen bank and riparian vegetation loss, and this vegetation establishment on point bars is not compensating for overall riparian vegetation loss.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Under the No Action Alternative existing land ownership patterns would not change. The Federal parcels would continue to be owned and managed by the BLM and the non-Federal parcels would remain in private ownership and be managed by their owners. The Analysis Area would continue to provide habitat for species present. Potential disturbance to these species would remain at current levels. Implementation of the No Action Alternative would have no impact on threatened, endangered or proposed species; however, it may impact some BLM and Forest Service sensitive species primarily due to the continued livestock grazing on public and private parcels (refer to Table 3G-7). Due to recent regulatory guidance, additional analysis regarding greater sage-grouse is presented here regarding impacts associated with current land use. The entire analysis for greater sage-grouse (and other species) is included in the BE, which is in the project file.

[157] Redal, 2011; AECOM, 2015
[158] Matthews and Berg, 1996
[159] Jobling, 1981; AECOM, 2015
[160] AECOM, 2015
[161] Ibid.
[162] Ibid.

Threatened and Endangered Wildlife

There would be no direct impacts to threatened or endangered wildlife species under the No Action Alternative, as there are no federally threatened or endangered wildlife species known to be present on any of the exchange parcels, and hence there would be no discernable impacts to Canada lynx, North American wolverine, or greenback cutthroat trout. As previously mentioned, BLM-G and BLM-K and a large portion of BLM-H are contained within the Mahan LAU; BVR-9 and BVR-10 and a large portion of BVR-2 are also within this LAU. While these areas are not currently known to contain Canada lynx, they consist of suitable habitat that approximates the average size of a lynx's home range. The No Action Alternative would not alter the habitat beyond current conditions that exist in the above parcels.

Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for threatened, endangered and proposed wildlife species would continue to be met under the No Action Alternative for all Federal parcels.

Any future mineral development that could potentially occur on Federal parcels BLM-G, BLM-H, BLM-I and BLM-K would go under future site-specific NEPA analysis; however, mineral development is unlikely because there is currently no vehicular access to these parcels. In addition, any future surface disturbing activities would be constrained by Controlled Surface Use Stipulations on BLM sensitive wildlife which would allow the BLM to relocate or modify activities to protect sensitive wildlife and their habitats.

BLM and Forest Service Sensitive Wildlife Species

Selection of the No Action Alternative would have no change to existing conditions and management trajectories for sensitive wildlife species. BLM, private land, and Forest Service management activities would continue to occur and all activities currently permitted or occurring in the Analysis Area and adjacent lands would continue to occur. This includes continued cattle grazing, noxious weed management, recreational access, haying and ranching, and wildlife habitat management. There would be no new surface occupancy or new activities on public lands associated with the No Action. Private landowners may continue to irrigate, hay and manage landscapes, and may develop private lands per current County Land Use Code guidance. Recreational activities on public and private lands would continue to have seasonal impacts on habitats and the species that utilize these habitats.

Primarily due to continued livestock grazing on Federal (and private) parcels, there is a potential for negative impacts to some BLM sensitive wildlife species through trampling and impacts to habitat (e.g., reduction in grass and forb cover, impacts to wetland areas, damage to shrubs). Livestock grazing may impact a variety of habitats and the species that utilize those habitats; while these impacts are considered to be relatively minor, they cannot be entirely dismissed for individual wildlife species or their habitats.

Species potentially seeing direct and indirect impacts under Alternative 1 include pygmy shrew, greater sage-grouse, Brewer's sparrow, Columbian sharp-tailed grouse, and northern leopard frog. Even under current management scenarios, livestock grazing is known to cause some impacts to these species and their habitats.

Continued recreational floating and fishing on the Blue River in the vicinity of BLM-I puts human activities in very close proximity to a golden eagle nest site, which may cause agitation for nesting eagles. However, these recreational activities have been on-going for quite some time, and golden eagles continue to choose to nest in this location. Adherence to the Bald and Golden Eagle Protection Act is achieved as eagles have continued to choose and successfully nest in this location despite ongoing recreational activities occurring on BLM and private lands.

While the No Action Alternative may see some impacts to individual species, no meaningful impacts to any of these species populations or impacts to population trends would be anticipated to occur. Impacts to these species would be considered negligible across their habitat and range within the KFO and WRNF planning areas. Selection of the No Action Alternative would have no impact on the ability of the BLM or Forest Service to meet the objectives in the 2015 RMP or 2002 Forest Plan.

The BLM does not have a "effects determination" per se, for sensitive species, but the Forest Service does provide specific effect or impact determinations. The Forest Service determinations are:

- ***No impact*** – where no effect is expected
- ***Beneficial impact*** – where effects are expected to be beneficial, and no negative effects are expected to occur

- ***May adversely impact individuals, but not likely to result in a loss of viability in the Analysis Area, nor cause a trend toward federal listing*** – where effects in the Analysis Area are not expected to be significant, and the species and its habitat would remain well distributed
- ***Likely to result in a loss of viability in the Analysis Area, or in a trend toward federal listing*** – where effects are expected to be detrimental and substantial, and the species and its habitat would not be maintained in sufficient numbers or distribution through time

Table 3G-7 in Appendix A provides a summary of impacts determinations for both BLM and Forest Service sensitive wildlife species (refer to the BE in the project file for additional analysis information).

Because of recent regulatory guidance, additional analysis detail is provided in this Final EIS for the greater sage-grouse.

Greater Sage-Grouse

Under the No Action, the approximately 1,605acres of PHMA and 6 acres of GHMA in private ownership would remain in private ownership. Potential land use on private lands is regulated by the Grand and Summit County land use codes, which at this time do not regulate potential impacts to sage-grouse habitats, other than providing guidance that wildlife habitats should be maintained and allowing CPW to provide comment to the County on potential land-use and wildlife habitat impacts. Any potential future impacts to habitat (such as conversion of sagebrush habitats to agricultural fields) would be mapped and tracked by the BLM on both public and private lands (per the Sage-Grouse ARMPA guidance to track disturbance impacts in relation to the 3 percent disturbance cap in the Middle Park management zone); however, there is no regulatory authority by the BLM over use or disturbance to sage-grouse habitats on private lands by the BLM or other state or federal agency.[163]

As there is no new reasonably foreseeable anthropogenic disturbance to sage-grouse PHMA habitats within the Federal or non-Federal parcels, no Analysis Area Surface Disturbance calculations have been developed (see section E.3 in Appendix E of Sage-Grouse ARMPA). The No Action Alternative would have no new anthropogenic disturbances (e.g., physical removal of habitat, including, but not limited to, paved highways, graded gravel roads, transmission lines, substations, wind turbines, oil and gas wells, pipelines, and mines [ARMPA 2015]) to sage-grouse habitats on Federal or private parcels, and is therefore consistent with ARMPA guidance.

Private Parcels

Cattle grazing and other land uses by the private owners would continue. This also includes the legal hunting of sage-grouse. Currently, cattle grazing and range utilization is at a level that allows for continued sage-grouse foraging, lekking, nesting, and brood rearing activities to occur on the private parcels. Continued traffic on SH 9, the Trough Road, and other access roads would continue at current trajectories, which is likely diminishing habitat effectiveness on parcels BVR-1, BVR-2, BVR-3, and BVR-9, given the proximity of these parcels to roadways. Decreased sage-grouse use of habitats near roadways has been documented as a potential indirect impact to habitat effectiveness.[164]

Federal Parcels

On Federal parcels there are 767acres of PHMA and 73 acres GHMA under BLM management (combined total is 840 acres of All Designated Habitats [ADH] on BLM lands). Potential land use on BLM lands is regulated by the 2015 RMP, and the Sage-Grouse ARMPA.[165] These guidance documents prescribe the avoidance and minimization of potential impacts to sage-grouse habitats in designated PHMA and GHMA on lands managed by the BLM.[166] Any potential future impacts to habitat (such as rangeland improvement projects) must be consistent with these plans for the protection of sage-grouse and their habitats. As there is no new reasonably foreseeable anthropogenic disturbance to sage-grouse PHMA habitats within these private parcels, no Analysis Area Surface Disturbance calculations have

[163] BLM, 2015c, Appendix E. The ARMPA incorporates a 3 percent disturbance cap within PHMA, regardless of land ownership. "Disturbance" is defined in Appendix E, Table E-1 and E-2 of the ARMPA, but is summarized as anthropogenic features [roads, powerlines, agriculture, mines, etc.]. If 3 percent of the PHMA is already "disturbed," then no further project-related disturbance would be allowed and the project should be deferred.
[164] Holloran, 2005; Aldridge and Boyce, 2007; Dinkins et al., 2014; Petterson, 2017
[165] BLM, 2015a,c
[166] The BLM also has a fiduciary responsibility to protect sage-grouse habitats on private lands, when an action is within their prevue or for projects with a BLM nexus (e.g., authorizations for development of federal minerals underneath private surfaces).

been developed (see section E.3 in Appendix E of Sage-Grouse ARMPA). Alternative 1 would have no new anthropogenic disturbances to sage-grouse habitats on public parcels.

Cattle grazing and other land uses (e.g., recreation) on the BLM parcels would continue. This also includes the legal hunting of sage-grouse. Currently, the levels of livestock grazing and range utilization allow for continued sage-grouse foraging, lekking, nesting, and brood rearing activities to occur on the BLM parcels, but cattle grazing can reduce residual grass and forb cover, damage sagebrush, and can thus negatively impact sage-grouse habitats.[167] Traffic on SH 9, the Trough Road, and other access roads would continue at current trajectories, which is likely diminishing habitat effectiveness on parcel BLM-I, given the proximity of this parcel to roadways (there are no roads on BLM-F, BLM-G or BLM-H). Decreased sage-grouse use of habitats near roadways has been documented as a potential indirect impact to habitat effectiveness.[168]

There are no reasonably foreseeable new projects, actions or anthropogenic impacts which may create new impacts to sage-grouse habitats. Sage-grouse use of the BLM parcels would still be largely dependent on both the quality of habitat within and around the parcels. However, because of continued livestock grazing, hunting, and other (albeit minor) impacts to sage-grouse and their habitats, there would be ongoing anthropogenic impacts to sage-grouse and their habitats under the No Action Alternative. Therefore, a determination of ***may adversely impact individuals, but not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing*** is warranted for Alternative 1 (the No Action Alternative) for greater sage-grouse.

Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the No Action Alternative for all Federal parcels.

Migratory Birds and Birds of Conservation Concern

Under the No Action Alternative, the proposed land exchange would not occur, and the Recreation Design Features would not be constructed. BLM and private lands management and currently permitted activities in the Analysis Area, and associated impacts would continue. These would include activities and impacts associated with access roads, recreation, and grazing. With continued livestock grazing and agricultural production on Federal and non-Federal parcels, there are potential incidental impacts to migratory birds, including disturbance during the nesting season from livestock, noxious weed control, recreation, and agricultural activities. While these activities may impact nesting birds, continued long-term conservation of species is anticipated to occur on Federal parcels through administration of the 2015 RMP and 2002 Forest Plan, which protects and maintains habitats and minimizes potential impact to nesting migratory bird species.

Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the No Action Alternative for all Federal parcels.

Other Wildlife

Under the No Action Alternative, the proposed land exchange under either of the action alternatives and construction of Recreation Design Features (specific to the Proposed Action Alternative) would not be constructed. No project-related impacts to big game species, carnivores, rodents and lagomorphs, upland fowl, reptiles and amphibians, and aquatic life forms would occur from activities as described above for the Proposed Action Alternative. BLM and private land management and currently permitted activities in the Analysis Area, and associated impacts, would continue. These would include activities and impacts associated with access roads, recreation, and grazing.

Given interest in the Blue and Colorado River aquatic resources, additional detail is provided here.

Aquatic Habitats and Fishes

Under the No Action Alternative, water management regimes associated with Dillon and Green Mountain Reservoirs and in the Upper Colorado River basin would continue to drive habitat suitability for aquatic species, including fish. These management regimes would continue to cause reduced instream flows which would continue to shift macroinvertebrate and fish species composition; it is important to note that these water management regimes are outside of the scope and direction of the BLM and the land exchange process. Brown trout and other non-native fish

[167] Knick and Connelly, 2012
[168] Holloran, 2005; Aldridge and Boyce, 2007; Dinkins et al., 2014; Petterson, 2017

species would continue to dominate the Blue and Colorado Rivers in the Analysis Area. Without continued stocking of rainbow trout and/or other sport-fish species, the warmer waters and current habitat conditions would favor existing species.

Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the No Action Alternative for all Federal parcels.

Alternative 2 – Proposed Action

Under the Proposed Action, 1,830 acres of non-Federal lands would be exchanged for 1,489 acres of Federal lands. In addition, three Recreation Design Features connected with the exchange would be developed.

The direct effect of the proposed land exchange would be a change in ownership of habitats present on the Federal and non-Federal parcels. The exchange would result in a net gain of approximately 342.2 acres of habitat resources under Federal management.[169] There would be a net gain of resources under Federal management of mixed conifer forest, mixed conifer forest with aspen, aspen forest, sagebrush shrubland, barrenlands, grass dominated meadows, and irrigated agricultural meadows habitats. However, there would be a net loss under BLM management of mountain shrubland, riparian habitat and wetland habitats (refer to Section H – Vegetation). Although there would be a reduction in some habitat types under BLM management (refer to Table 3H-9 in Appendix A), this change would be minor as these parcels and their habitats represent only a small fraction of the entire lands managed by the KFO.

With the change in land ownership (and selling of BLM-J to Skylark Ranch), it is possible that land use patterns may slightly change. However, the change in ownership would not have a significant effect on wildlife habitats, as the parcels entering federal ownership would be protected by BLM management and the acres removed from federal management would be managed in a similar manner to existing management practices. More specifically, it is reasonably foreseeable that BVR would continue the existing grazing practices on those Federal parcels which are currently grazed after the transfer was completed. Likewise, the southern portion of BLM-C, which would be conveyed to Sheephorn Ranch, would likely also continue to be grazed.

BLM-K, which has been proposed to be conveyed to Blue Valley Metropolitan District after the exchange, could potentially be developed for facilities benefitting the neighborhood. Any facilities that would be built would likely be in the western portion of the parcel where the vegetation has previously been disturbed and is immediately adjacent to an existing roadway and homes. At this time, the nature and scope of development is anticipated to be for community purposes, like a continuation of open space, ball fields, or a community meeting hall.

Finally, with the Proposed Action Alternative, several Recreation Design Features are proposed to be constructed. The proposed improvements, which would be paid for by BVR, include the stream habitat and recreational improvements at the Confluence Recreation Area, a seasonal take-out and rest stop with re-entry at Spring Creek Bridge on the Blue River, and recreation trails, a fishing easement across BVR property providing continuous fishing access from the existing BLM lands to the north to the National Forest System lands to the south, parking improvements into the lower Green Mountain Canyon north of Green Mountain Reservoir. The proposed Recreation Design Features would result in the minor direct loss of wildlife habitats due to new trails, parking facilities, restrooms, and fishing access. As currently planned, these improvements, which are designed to improve aquatic habitat, may result in the direct loss of approximately 3 acres of wildlife habitats, with additional indirect impacts through wildlife avoidance of areas seeing high levels of human activity.

Threatened and Endangered Species

Canada Lynx

The private parcels near Green Mountain (BVR-2, BVR-9 and BVR-10) are within the Mahan Lynx Analysis Unit (LAU). LAU's have habitat characteristics that could potentially support Canada lynx. Since LAUs are relatively large and coarse-filter attempts to delineate potential Canada lynx habitat, not all of the habitat within these Units is

[169] The net gain of 342.2 acres of habitat resources differs from the net gain in 341 acres of public lands because habitat resources are mapped and calculated in GIS, while land exchange acreage is based on the legal description of parcels, which has been calculated through cadastral survey work.

suitable for the primary prey of the lynx, the snowshoe hare. The private parcels contain only a trace amount of spruce-fir habitat, where lynx spend much of their time in pursuit of the hares.

While a new trail to be constructed on NFS lands in the Mahan Lynx Analysis Unit is proposed, the land exchange proposal does not authorize the actual construction of the trail at this time. However, this assessment does consider potential construction of this trail as a potential interrelated and interdependent action. The potential use of this trail for angler access to the Blue River is likely to be in the summer, as the access road to the trailhead would not be plowed or open in the winter months. Therefore, the proposed trail would not meet the definition of a new Snow Compacted Route. Hence, there would be slight to discountable impacts to suitable lynx habitats within the Mahan LAU.

Federal parcels BLM-A, BLM-B and BLM-C do support suitable lynx habitats and are adjacent to larger blocks of suitable habitat on Sheephorn Mountain and the Mahan LAU. However, as these parcels are not within a LAU, and BLM-B and BLM-C are completely surrounded by private lands and BLM-A is surrounded on three sides by private land, the USFWS, Forest Service, and BLM have demonstrated that such isolated parcels at the periphery of lynx habitats are not necessary for the continued persistence of lynx on public lands in Colorado.[170] The disposal of BLM-A, BLM-B, and BLM-C would result in no net loss of suitable lynx habitats within a LAU. BLM parcels G, H, and K are contained within the Mahan LAU; the large majority of these parcels contain sagebrush habitat, as they are on the fringes of the LAU, and impacts are expected to be minimal to lynx foraging habitats.

While there would be no anticipated long-term or persistent lynx residency in the area, there is a potential for lynx to pass through the area as they seek out or disperse to suitable habitats. If lynx were to utilize the area for dispersal, the land condition of the parcels after the land exchange would still allow for lynx dispersal as no new vegetation management actions or developments creating movement barriers are proposed. However, the likelihood that lynx would be passing through most of the subject parcels is relatively low, given the unsuitable habitats in the greater area.

As the proposed land exchange would not authorize any vegetation management activities, would not result in an increase in Snow Compaction Routes, would not create any barriers to habitat connectivity, and such activities are neither planned nor reasonably foreseeable, the Proposed Action Alternative would have ***no effect*** to Canada lynx or its habitat. There would be no change in acres of suitable lynx habitat within the Mahan LAU; and no Exemptions and/or Exceptions at the LAU scale are requested.

North American Wolverine

The Analysis Area is dominated by sagebrush shrublands and adjacent montane forest habitats. There is an existing road network in the area, which sees almost daily traffic, ranching, some timber extraction, and dispersed recreational activities. Current habitat conditions and human activities make the Analysis Area inconsistent with the high alpine and remote habitat types favored by wolverine, but the Analysis Area would not necessarily be considered "non-habitat." More appropriately, the Analysis Area would be categorized as supporting generally suitable (but not optimal) habitat, which is made less effective given the human use patterns in the area. As there are more suitable, large blocks of high elevation habitat types to the south of the Analysis Area (in the Gore Range), it is possible that if wolverine were to become re-introduced or established in the State, they could possibly utilize the Analysis Area.

At this time there is no wolverine population in the State; therefore, it is extremely unlikely that a wolverine would occur in the Analysis Area at this time. Based on this assessment, the Proposed Action is ***not likely to jeopardize continued existence or adversely modify proposed critical habitat*** for the wolverine.

Greenback Cutthroat Trout

The proposed land exchange occurs in areas which provides potential habitat for greenback cutthroat trout, but at this time is in all likelihood unoccupied habitat, primarily due to competition from non-native trout species (brown and rainbow trout), and from modified hydrologic regimes as a result of long-term water diversion projects on the Blue and Colorado Rivers.

[170] USDA Forest Service, 2008

No direct effects are expected to occur that would influence greenback cutthroat trout as there are no contemporary records of greenback cutthroat trout occurring within the Blue or Colorado Rivers. Under the Proposed Action Alternative, transference of parcels BLM-H and BLM-I to private landowners would likely reduce the amount and intensity of human use of the riparian corridors, especially during the summer months when public boating use is high. Regardless, a reduction in human activity at these parcels would not likely have any meaningful impact in habitats which, in all likelihood, are un-occupied by greenback cutthroat trout.

At BVR-8, development of a public river access point would introduce new impacts to this area; and there would be some loss in riparian habitats in this area and increased angler pressure in the Blue River around BVR-8. However, the loss in a small area of riparian habitat at BVR-8, and increased angler pressure in this area would not be expected to have any meaningful impact on habitat conditions for greenback cutthroat trout, given how small the river-access point would be; additionally, 0.75 mile of riparian restoration activities are planned this area which would benefit habitats for greenback cutthroat trout, and would outweigh the impacts of a developed river access point.

The two primary factors which likely regulate greenback cutthroat trout occurrence in the Analysis Area are water management in the Colorado and Blue Rivers, and the persistence of non-native fish species; the long-term management of these two factors would not be affected by the Proposed Action Alternative, and are outside of the scope of the project.

The Proposed Action Alternative is not anticipated to result in changes in the availability of prey species densities or habitat availability, and would have no meaningful impact on habitats; the largest factors affecting potential greenback cutthroat trout occurrence in the Analysis Area are not at issue with this project. Therefore, a determination of ***no effect*** is warranted for greenback cutthroat trout.

Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the Proposed Action Alternative for all Federal parcels.

BLM and Forest Service Sensitive Species

Primarily due to continued livestock grazing, there is a potential for continued negative impacts to some BLM and Forest Service sensitive wildlife species through potential trampling and impacts to habitat (e.g., reduction in grass and forb cover, shrub damage, impacts to wetlands). Under the Proposed Action, livestock grazing could occur on the Federal parcels that would be transferred into private ownership and would be subject to the practices of the private landowner (in accordance with the Clean Water Act and other applicable regulations) rather than management by the BLM. Livestock grazing may impact a variety of habitats and the species that utilize those habitats; while these impacts are considered to be relatively minor, they cannot be entirely dismissed for individual wildlife species or their habitats.

Species potentially seeing impacts under the Proposed Action Alternative include pygmy shrew, golden eagle, peregrine falcon, greater sage-grouse, Brewer's sparrow, Columbian sharp-tailed grouse, long-billed curlew, northern leopard frog and western bumblebee. While impacts may be minor, livestock grazing is known to cause some impacts to these species and their habitats. Increased human activities at BVR-8 may impact long-billed curlew and western bumblebee individuals through disturbance and some loss of irrigated hay field habitats. Recreation Design Features would increase human activities on Green Mountain, which may indirectly impact a number of BLM and Forest Service sensitive species. Sage-grouse are covered in additional detail in the following discussion. Additionally, bighorn sheep are also covered in greater detail in the following discussion, as increased pedestrian traffic associated with the proposed Recreation Design Feature in the Green Mountain area could affect this species.

Continued recreational floating and fishing on the Blue River in the vicinity of BLM-I puts human activities in very close proximity to a golden eagle nest site, which may cause agitation for nesting eagles. However, as these activities have been on-going for quite some time, and golden eagles continue to choose and successfully nest in this location, adherence to the Bald and Golden Eagle Protection Act is achieved, despite ongoing recreational activities occurring on BLM and private lands. The impacts of the Proposed Action Alternative are not anticipated to change the timing, intensity or duration of recreational activities in the vicinity of the golden eagle nest.

In summary, while the Proposed Action Alternative may see some impacts to individual species, no meaningful impacts to any of these species populations or impacts to population trends would be anticipated to occur. Impacts to these species would be considered negligible across their habitat and range within the KFO and WRNF planning

areas. Implementation of this project would have no impact on the ability of the BLM or Forest Service to meet the objectives in the 2015 RMP and 2002 Forest Plan.

Table 3G-8 in Appendix A provides a summary of impacts determinations for both BLM and Forest Service sensitive wildlife species under both action alternatives (refer to the BE in the project file for additional analysis information).

Greater Sage-Grouse

Under the Proposed Action, parcels BLM-I, BLM-H, BLM-J and BLM-F would enter into private ownership, which are all within PHMA, and all have documented sage-grouse occupancy. These parcels total 767 acres of PHMA. However, the BLM would receive parcels BVR-1, BVR-2, BVR-3, BVR-4, BVR-8, BVR-9, and BVR-10 which are also within PHMA and have documented sage-grouse occupancy, and total 1,605 acres of PHMA.[171] This would result in a net of 838 acres of occupied PHMA being acquired by the BLM (refer to Table 3G-9 in Appendix A). When considering ADH, regardless of habitat suitability or occupancy, the Proposed Action would result in a net 771 acres of ADH being conveyed to the BLM.[172]

In summary, the Proposed Action would result in a net gain of approximately 838 acres of PHMA for the BLM, and 0.5 acre of suitable habitat would be impacted for road improvement activities, which is consistent with the Sage-Grouse ARMPA decisions for preserving habitat for this species.

As directed by the Sage-Grouse ARMPA, an Analysis Area Surface Disturbance calculation was conducted for the Proposed Action, due to anthropogenic impacts associated with proposed Recreation Design Features for the Green Mountain Trails, the river access at the Spring Creek Bridge Take-Out and Rest Stop, and at BVR-8; all of these Recreation Design Features would introduce new anthropogenic impacts within CPW and BLM-mapped PHMA. Regardless of actual on-the-ground habitat suitability, the Sage-Grouse ARMPA requires that new anthropogenic activities on BLM lands, or for projects with a BLM-nexus and within a PHMA be analyzed through the Project Analysis Surface Disturbance process (see section E.3 in Appendix E of Sage-Grouse ARMPA).

The proposed upgrades to the Green Mountain Recreation Area would result in approximately 2 acres of new anthropogenic disturbance in suitable habitats, within mapped PHMA. Approximately 1.5 acres of the proposed disturbance would occur in areas that have been previously disturbed (e.g., existing road and trail) and only minor re-grading would occur in these areas. When compared to the size of the Analysis Area, these impacts would be negligible. The proposed Spring Creek Bridge Take-Out and Rest Stop would result in approximately 0.3 acre of new anthropogenic disturbance in an area of unsuitable habitat (non-sagebrush, mostly-forested riparian habitats adjacent to the Blue River, and a major County Road), but within PHMA; this would have no impact to suitable habitats, and a negligible disturbance within the larger Analysis Area. The proposed Confluence Recreation Area at BVR-8 would result in approximately 2.25 acres of new anthropogenic disturbance within unsuitable habitats (non-sagebrush, irrigated hayfield habitats adjacent to riparian stands of cottonwood trees), but within PHMA; additionally, instream developments and habitat improvements would occur along the stretch of the Blue River in this area. Despite being larger than the other proposed Recreation Design Features, the disturbances of the proposed Confluence Recreation Area would still be negligible when compared to the overall size of the Analysis Area, and within unsuitable and likely unoccupied habitat.

BLM-J is within GHMA, but habitat consists of irrigated fields which are not adjacent or abutting suitable habitats, and in all likelihood sage-grouse utilization of this parcel is extremely infrequent given the forested conditions from a stand of cottonwood trees along the Colorado River and proximity to U.S. Highway 40; however, some potential sage-grouse use of this parcel cannot be completely ruled out.[173]

Continued cattle grazing and other land uses (e.g., recreation) on the BLM and private parcels are expected to continue under the Proposed Action; this also includes the legal hunting of sage-grouse consistent with CPW regulations. The current levels of cattle grazing and range utilization allows for continued sage-grouse foraging, lekking, nesting, and brood rearing activities to occur on the BLM and private parcels, but direct impacts to sage-grouse nests (through trampling) and a reduction in grass and forb cover would continue to occur. Decreased residual

[171] Private and Federal parcels within unsuitable habitat and no documented sage-grouse use were not detailed in this summary.
[172] Petterson, 2017
[173] Per the Sage-Grouse ARMPA, Analysis Area Surface Disturbance assessments are not needed in GHMA.

grass and forb cover, and some rare incidences of impacts to sage-grouse nests from livestock grazing, has been documented as a negative effect to habitat effectiveness and brood success.[174]

Traffic on the existing SH 9, the Trough Road, and other area roads would continue at current trajectories, which is likely diminishing habitat effectiveness on parcel BLM-I (there are no roads on BLM-F), and on parcels BVR-1–4 (given the proximity of these parcels to roads). Decreased sage-grouse use of habitats near roadways has been documented as a potential indirect impact to habitat effectiveness.[175]

There are no reasonably foreseeable anthropogenic actions impacting sage-grouse habitats proposed for lands going into private ownership, aside from continued livestock grazing; however, there is little protection for sage-grouse once these lands are within the private domain given current County Land Use Code guidance.

Based on this analysis, the Proposed Action Alternative ***may adversely impact individuals, but is not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing***. Land uses are anticipated to be similar to the current use patterns. Additional impacts to sage-grouse from the Proposed Action would not contribute towards a trend to list the species under the Endangered Species Act.

The Proposed Action was also compared to the Sage-Grouse ARMPA management direction (refer to page 76 in the BE).[176] The Proposed Action Alternative is consistent with the Sage-Grouse ARMPA's management direction for Land Tenure Adjustments. Specific direction is given in management direction LR-11, 12, 13 and 14, which discourages disposal of parcels designated as PHMA and GHMA, unless there is a net benefit to sage-grouse conservation.[177] The Proposed Action would have a net increase of 838 acres of PHMA under the management of the BLM; therefore, it is at the discretion of the BLM Authorized Officer if the Proposed Action is consistent with the goals and objectives of the Sage-Grouse ARMPA, and would ultimately result in a beneficial or neutral long-term effect on sage-grouse abundance and distribution.

The Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the Proposed Action Alternative for all Federal parcels.

Bighorn Sheep

A pedestrian angler trail down to the Blue River would not be expected to have meaningful or measurable impacts on foraging habitat and would have no significant impacts to foraging habitats. Indirect impacts to ewes and lambs on Green Mountain could occur through human use of the trail, if that use occurred in the spring and summer months when Green Mountain is occupied by bighorn sheep. Humans hiking along the trail may cause sheep to pause from eating or startle, or cause sheep to flush and flee to higher slopes and avoid habitats near the trail. All of these behavior responses can stress bighorn sheep and can possibly impact lamb survivorship. The presence of dogs accompanying anglers on the trail can exacerbate these behavior responses from sheep. The anticipated trail impacts are somewhat tempered by the fact that there are already anglers using the Blue River in this area, and these ewes already come into contact with humans in the Green Mountain area and in their other ranges (such as in the canyons near the Colorado River). These sheep are already exposed to human activities and disturbances; therefore, their reactions and behavioral responses may not be as strong as would be expected in more wild sheep.

[174] Beck and Mitchell, 2000; Pedersen et al., 2003; Knick and Connelly, 2012
[175] Holloran, 2005; Aldridge and Boyce, 2007; Dinkins et al. 2014; Petterson, 2017
[176] Petterson, 2017
[177] **MD LR-11**: Retain public ownership of sage-grouse PHMA. Consider exceptions where: It can be demonstrated that: 1) disposal of the lands, including land exchanges, will provide a net conservation gain to the sage-grouse; or 2) the disposal of the lands, including land exchanges, will have no direct or indirect adverse impact on sage-grouse conservation. There is mixed ownership, and land exchanges would allow for additional or more contiguous federal ownership patterns within the sage-grouse PHMA. **MD LR-12**: (PHMA) In isolated Federal parcels, only allow tract disposals that are beneficial or neutral to long-term management of sage-grouse populations. **MD LR-13**: (GHMA) For lands in GHMA that are identified for disposal, the BLM would only dispose of such lands consistent with the goals and objectives of this ARMPA, including, but not limited to, the ARMPA objective to maintain or increase sage-grouse abundance and distribution. **MD LR-14**: (ADH) Consider sage-grouse habitat values in acquisitions. For example: Identify key sage-grouse habitats on private or state land, adjacent to existing BLM land, where acquisition and protection by BLM could substantially benefit the local sage-grouse population. This could be accomplished via purchase, exchange, or donation to satisfy mitigation requirements.

Another factor that limits the extent of impacts is that the number of sheep using Green Mountain is relatively small.[178] Indirect impacts from anglers in this area is not expected to impact sheep at the herd or population scale, and impacts would be limited to a few individual ewes and lambs. Use during the winter months when sheep are not in the area would have no impact on sheep.

Nevertheless, indirect disturbances from recreationists is becoming a larger impact factor in western Colorado, and behavioral responses to human disturbances can have negative impacts on bighorn sheep. Therefore, CPW is requesting that bighorn sheep use and angler pressure along the trail be monitored. If recreational pressure from anglers (accounting for the incidence of accompanying dogs) rises to a level that begins to have measurable or meaningful impacts on ewes and lambs on Green Mountain, then CPW may request from the BLM and Forest Service a seasonal closure to minimize impacts to bighorn sheep during the sensitive lambing season. While lambing generally occurs from June 1 through June 30, CPW may request longer closure periods if warranted.

The currently proposed Green Mountain trail ***may adversely impact individuals, but (is) not likely to result in a loss of viability in the Planning area, nor cause a trend toward federal listing or a loss of species' viability range wide***.

Migratory Birds and Birds of Conservation Concern

The land exchange itself would not directly authorize vegetation management activities which may result in a loss of nesting, roosting, perching, or foraging habitat for migratory birds. Such activities are not proposed, nor reasonably foreseeable. The exchange would result in a net gain of approximately 342.2 acres of potential migratory bird habitat under Federal management.[179] There would be a net gain of mixed conifer forest, mixed conifer forest with aspen, aspen forest, sagebrush shrubland, grass dominated meadows, and irrigated agricultural meadows (refer to Section H – Vegetation of this chapter). However, there would be a net loss in mountain shrubland, riparian habitat and wetlands under BLM management.

There would be no reduction in habitat effectiveness from the actual land exchange. However, the proposed Recreation Design Features would result in the minor loss of potential nesting bird habitats due to new trails, parking facilities, restrooms, and fishing access. As currently planned, these improvements may result in the direct loss of approximately 3 acres of potential nesting habitats. In addition to direct habitat loss and fragmentation around the Recreation Design Features, it is possible that during construction activities, individual birds would be displaced to adjacent habitats due to increased noise and human presence. Effects of displacement would include increased risk of predation, nest abandonment, or inability to reproduce if adjacent habitat is already at carrying capacity.

However, habitat improvement projects at BVR-8 would improve approximately 0.75 mile of riparian and wetland habitats for a number of species; Wilson's warbler (*Cardellina pusilla*), red-winged blackbird (*Agelaius phoeniceus*), Virginia and sora rail (*Rallus limicola* and *Porzana carolina*), and a variety of duck and other migratory bird species would see increased effective habitat, which would outweigh the impacts of a developed river access location.

Consistent with Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* and BLM Colorado guidelines, activities on BLM lands or with a BLM nexus would be subject to a Timing Stipulations prohibiting vegetation removal or ground-disturbing activities in areas containing one or more active nests of migratory birds during the period May 15 to July 15. This stipulation is from a number of objectives and restrictions listed in the 2015 RMP (e.g., CO-TL-4, CO-TL-9). If the project is approved, vegetation clearing should occur for the Recreation Design Features as possible prior to May 15 or after July 15 in order to avoid and minimize potential impacts to nesting birds. In addition, a preconstruction survey for nesting birds would be conducted in areas where vegetation removal cannot be removed prior to May 15 or after July 15. Any active nests identified during the pre-construction nesting surveys could then be avoided. These steps and the documented aversion of nesting birds to areas near roads and human activity areas, are expected to limit impacts to the level of individuals.

Other Wildlife

The land exchange itself would not authorize any new vegetation treatments or other new anthropogenic activities that would impact wildlife or wildlife habitats. Such activities are not proposed, nor reasonably foreseeable. Land

[178] Sralla, 2018

[179] The net gain of 342.2 acres of habitat resources differs from the net gain in 341 acres of public lands because habitat resources are mapped and calculated in GIS, while land exchange acreage is based on the legal description of parcels, which has been calculated through cadastral survey work.

management of public and Federal parcels would be expected to mostly continue on current management and use, including livestock grazing, noxious weed control, recreational access, and road maintenance. Thus, the land exchange would have very minor potential impacts to big game species, carnivores, rodents and lagomorphs, upland fowl, reptiles and amphibians, and aquatic life forms.

Potential direct impacts to terrestrial wildlife species from continued human activities, livestock grazing, noxious weed control, road maintenance and other activities may include mortality, disturbance, interference with foraging or reproduction, habitat loss, and displacement to less suitable habitats. Impacts would generally be more substantial if activities occur during critical seasons such as winter (for big game species) or the spring/summer breeding season (small mammals, reptiles, birds and amphibians; but see previous analysis regarding potential impacts on special status wildlife, including sensitive species, migratory birds, etc.). No fragmentation of habitats would be expected, as no activities would be authorized that would create any barriers to movement. Indirect impacts from human activities on parcels (assuming similar management could continue) could include changes in foraging, reproduction (including nesting), habitat use, and utilization of less suitable habitats. The most significant impacts would likely be avoidance of otherwise available habitats near areas of more intense human activities, which reduces overall habitat effectiveness for species, and can increase energy output for species avoiding humans.

The Recreation Design Features are the only activities which may directly impact habitats, and these impacts are focused in areas which already see some level of impact from ongoing recreation. Construction of Recreation Design Features would have impacts to general wildlife habitat from the direct conversion of approximately 3 acres of habitats, currently comprised of sagebrush shrublands, riparian woodlands, and irrigated pasturelands, to roads, parking lots, and river access points (effectively a conversion to non-habitat). There would also be approximately 0.75 mile of riparian restoration and wetland creation on BVR-8, which would increase structural diversity and improve habitats for wildlife species in this area. Indirect impacts in these areas would result from more concentrated or increased human use, which can result in wildlife avoidance of otherwise suitable habitats in these areas. As previously discussed, the timing of human use of Recreation Design Features is linked to the level of impact; human activities occurring in the spring (nesting and reproduction times) and winter months (when energetic demands on wildlife are very high, and foraging resources are limited) would have greater potential indirect impacts on wildlife.

In summary, the proposed land exchange would have little direct impact on wildlife habitats or use patterns, but assuming similar management and use of these lands, there would be some continued direct and indirect impact to wildlife, albeit a very limited impact in terms of timing, intensity and duration. Potential development of Recreation Design Features are the only new potential impacts that are notably different in type and level of disturbance intensity, and these features are relatively small in scale, and in areas that already experience some level of human activity.

The Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the Proposed Action Alternative for all Federal parcels.

Aquatic Habitats and Fishes

The transfer of BLM parcels to private land ownership would likely reduce the amount and distribution of human use in riparian corridors on these lands, especially during the summer months when public boating is high. This would be because human access to the Blue River would be concentrated at the designated river access points at Spring Creek Bridge and at BVR-8. By concentrating human activities at these designated access points, riparian health should increase, which would be beneficial for the aquatic environment. However, given the current level of human use along riparian areas, these habitats on public lands are not significantly degraded or have current, wide-spread habitat degradation issues, so the net benefit to aquatic species from concentrating river access would be minor.

At BVR-8, development of a public river access point would introduce new impacts to this area. There would be some minor loss in riparian habitats at the river access point, but the development of 0.75 mile of riparian restoration downstream from the access point would eliminate these impacts such there would likely be a net benefit to aquatic habitat and fishes. There would likely be increased angler and human recreation impacts to aquatic resources around BVR-8, but increased human activity in this area would not be expected to have any significant impact on habitat conditions or aquatic species in this area. Of note, this section of the Blue River is an important spawning area for rainbow trout, so increased human activities (including wading, swimming, boat landing/launching) may have some localized impacts on spawning habitats through disturbance to redds. Given that water quantity and habitat conditions

are the main drivers of rainbow trout persistence in the Blue (and Colorado) River(s), localized impacts around BVR-8 would not be expected to result in meaningful impacts to rainbow trout populations in the area.

Similarly, increased angler and human recreation impacts could occur in the Green Mountain Area (resulting from increased access and fishing easements) and at the Pump Station Rest Stop that would be included under the Proposed Action. While potentially increasing angler pressure in these areas, neither of these project components would result in changes water quantity and habitat conditions that would cause meaningful impacts to trout populations. Disturbance to aquatic vegetation proximate to the banks would likely occur, but would be localized to these areas. It is not anticipated that this disturbance would result in significant or wide-spread degradation issues. Refer to Chapter 2, Section B – Alternatives Considered in Detail for a complete description of the features associated with the Green Mountain Canyon Area and the Pump Station Rest Stop.

The Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the Proposed Action Alternative for all Federal parcels.

Alternative 3

Similar to the Proposed Action Alternative, direct effects of Alternative 3 would primarily occur as a result of the change in ownership of habitats present on the Federal and non-Federal parcels. The exchange would result in a net gain of approximately 71 acres of habitat resources under Federal management. There would be a net gain of resources under Federal management of mixed conifer forest, mixed conifer forest with aspen, aspen forest, sagebrush shrubland, barrenlands, grass dominated meadows, and irrigated agricultural meadows habitats. Additionally, the revised configuration of BLM-I would result in a minor net gain of aquatic habitat. However, there would be a net loss under BLM management of mountain shrubland, riparian habitat and wetland habitats (refer to Section H – Vegetation). Although there would be a reduction in some habitat types under BLM management (refer to Table 3H-9 in Appendix A), this change would be minor as these parcels and their habitats represent only a small fraction of the entire lands managed by the KFO.

Another important difference as it relates to wildlife resources is that there are no Recreation Design Features associated with Alternative 3. Generally, this would reduce the direct loss of wildlife habitats due to new trails, parking facilities, restrooms, and fishing access, although as reported under the Proposed Action Alternative, the impact of Recreation Design Features is relatively minor. Under Alternative 3, there would be no direct loss of wildlife habitats (approximately 3 acres) or additional indirect impacts through wildlife avoidance of areas seeing high levels of human activity due to the lack of Recreation Design Features included in this alternative.

Alternative 3 includes the same conveyance to Skylark Rach, Sheephorn Ranch, and the Blue Valley Metropolitan District and land use patterns associated with these transfers of land would not differ from the discussion contained in the Proposed Action Alternative.

The following paragraphs discuss differences between Alternative 3 and the Proposed Action Alternative on a species by species basis.

Threatened and Endangered Species

Canada Lynx

As it relates to Canada lynx, the primary difference between the Proposed Action Alternative and Alternative 3 is that there would be no trail constructed on NFS in the Mahan Lynx Analysis Unit as this alternative does not include Recreation Design Features. As only slight to discountable impacts to suitable lynx habitats within the Mahan LAU, are anticipated to occur as a result of this trail, there would not be a measurable benefit to the species associated with Alternative 3. As a result, Alternative 3 is understood to have ***no effect*** to Canada lynx or its habitat. There would be no change in acres of suitable lynx habitat within the Mahan LAU; and no Exemptions and/or Exceptions at the LAU scale are requested.

North American Wolverine

Potential impacts to North American Wolverine are identical to those described under the Proposed Action Alternative. The reader is referred to the discussion of this species in the previous section for additional details.

Greenback Cutthroat Trout

Under Alternative 3, no direct effects are expected to occur that would influence greenback cutthroat trout as there are no contemporary records of greenback cutthroat trout occurring within the Blue or Colorado Rivers. Although the riverfront of BLM-I and public access to this parcel would be retained under Alternative 3, the analysis of the Proposed Action Alternative determined that a reduction in human activity at these parcels would not likely have any meaningful impact in habitats which, in all likelihood, are un-occupied by greenback cutthroat trout. Therefore, this difference between the two action alternatives is not anticipated to result in measurable differences in impacts to the species.

As there are no Recreation Design Features associated with Alternative 3, there would be no riparian restoration activities are planned this area which would benefit habitats for greenback cutthroat trout. Conversely, there would also be no new impacts in the Confluence Recreation Area as there would not be the development of a public river access point and associated loss in riparian habitats and increased angler pressure.

Similar to the Proposed Action Alternative, the two primary factors which likely regulate greenback cutthroat trout occurrence in the Analysis Area are water management in the Colorado and Blue Rivers, and the persistence of non-native fish species; the long-term management of these two factors would not be affected by Alternative 3, and are outside of the scope of the project.

Alternative 3 is not anticipated to result in changes in the availability of prey species densities or habitat availability, and would have no meaningful impact on habitats; the largest factors affecting potential greenback cutthroat trout occurrence in the Analysis Area are not at issue with this project. Therefore, a determination of ***no effect*** is warranted for greenback cutthroat trout.

Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under Alternative 3 for all Federal parcels.

BLM and Forest Service Sensitive Species

As impacts to BLM and Forest Service Sensitive Species would primarily occur due to livestock grazing on the federal parcels subject to the practices of the private landowner following the exchange of lands, impacts associated with Alternative 3 would not differ considerably from the Proposed Action Alternative. Species potentially seeing impacts under Alternative 3 would include pygmy shrew, golden eagle, peregrine falcon, greater sage-grouse, Brewer's sparrow, Columbian sharp-tailed grouse, long-billed curlew, northern leopard frog and western bumblebee.

An important difference between the Proposed Action Alternative and Alternative 3 is that there are no Recreation Design Features associated with Alternative 3; therefore, voiding the increase in human activity to the same degree that is discussed under the Proposed Action Alternative. That being said, human activity is still expected to increase on BVR-8 and in the parcels that would become public in the Green Mountain Area, solely as a result in the change in land ownership. As a result, there may be a lesser degree of impacts to certain sensitive species, but determinations would remain consistent between alternatives.

As it relates specifically to Sage Grouse there would be slightly less PHMA entered into private ownership, with the reduction of BLM-I that is included in Alternative 3 (refer to Table 3G-9 in Appendix A for acreages of habitat associated with this alternative). Additionally, the lack of Recreation Design Features in this alternative could reduce the human disturbance of this species. Due to the minor scope and scale, these modifications would not change the determination of ***may adversely impact individuals, but is not likely to result in a loss of viability in the planning area, nor cause a trend toward federal listing*** for the species.

As it relates to Big Horn Sheep, the analysis under the Proposed Action Alternative describes that impacts are primarily related to the hiking trail to the eastern bank of the Blue River as associated with the Green Mountain Recreation Area Design Feature. Under Alternative 3, there would be no hiking trail constructed and thus this alternative would likely have reduced indirect disturbances from recreationists; however, it is anticipated that increased public access associated with the consolidation of public lands in the Green Mountain Area would still result in increased recreational pressure from anglers and ***may adversely impact individuals, but (is) not likely to result in a loss of viability in the Planning area, nor cause a trend toward federal listing or a loss of species' viability range wide***.

Overall, and consistent with the Proposed Action Alternative, Alternative 3 could result in some impacts to individual species; however, no meaningful impacts to any of these species populations or impacts to population trends would be anticipated to occur. Impacts to these species would be considered negligible across their habitat and range within the KFO and WRNF planning areas. Implementation of this project would have no impact on the ability of the BLM or Forest Service to meet the objectives in the 2015 RMP and 2002 Forest Plan.

Table 3G-8 in Appendix A provides a summary of impacts determinations for both BLM and Forest Service sensitive wildlife species under either of the action alternatives.

Migratory Birds and Birds of Conservation Concern

Under Alternative 3, there would be no reduction in habitat effectiveness or any loss of nesting, roosting, perching, or foraging habitat for migratory birds. As there are no Recreation Design Features proposed under this alternative, there would be no minor loss of potential nesting bird habitats due to new trails, parking facilities, restrooms, and fishing access. Additionally, there would be no impacts to birds associated with construction activities under Alternative 3. Conversely, there would be habitat improvement projects at BVR-8, which as described under the Proposed Action Alternative would improve approximately 0.75 mile of riparian and wetland habitats for a number of species. Overall, impacts to migratory birds and birds of concern would remain largely similar to those described in the Proposed Action Alternative, with slight benefits stemming from the lack of Recreation Design Features, both in terms of minor loss of habitat and increased human presence (e.g., during construction and from use of the proposed features).

Other Wildlife

Similar to the Proposed Action Alternative, Alternative 3 would have little direct impact on wildlife habitats or use patterns, but assuming similar management and use of these lands, there would be some continued direct and indirect impact to wildlife, albeit a very limited impact in terms of timing, intensity and duration. As there is no development of Recreation Design Features associated with Alternative 3, there would be no new potential impacts that are notably different in type and level of disturbance intensity, despite these features being relatively small in scale, and in areas that already experience some level of human activity.

The Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under Alternative 3 for all Federal parcels.

Aquatic Habitats and Fishes

The transfer of BLM parcels to private land ownership under Alternative 3 would likely reduce the amount and distribution of human use in riparian corridors on these lands, especially during the summer months when public boating is high. Compared to the Proposed Action Alternative, Alternative 3 would result in less concentration of human access to the Blue River as river frontage and associated public access on BLM-I would persist under this alternative. Compared to the No Action Alternative, there would still be greater concentration of human activities resulting from the transfer of other riverfront parcels, which would be beneficial for the aquatic environment and would increase riparian health. However, given the current level of human use along riparian areas, these habitats on public lands are not significantly degraded or have current, wide-spread habitat degradation issues, so the net benefit to aquatic species from concentrating river access would be minor.

There would be no Recreation Design Features associated with this Alternative; therefore, the riparian restoration projects resulting in net benefit to aquatic habitat and fishes in the vicinity of BVR-8 would not occur.

The Public Land Health Standard 3 for healthy, productive plant and animal communities and Standard 4 for BLM wildlife species would continue to be met under the Alternative 3 for all Federal parcels.

H. VEGETATION

SCOPE OF THE ANALYSIS

The future management of plant communities, TES plants, and invasive and non-native plant species (including noxious weeds) in the Analysis Area may be impacted as a result of the change in ownership of Federal and non-Federal parcels. This analysis is divided into three categories: vegetation types, TES plants, and invasive and non-native plant species. The Analysis Area for all three types of vegetation resources encompasses the nine Federal and nine non-Federal parcels, as well as the three connected actions: the Confluence Recreation Area, the Green Mountain

Recreation Area, and the Spring Creek Bridge Take-Out and Rest Stop. For each category, the potential effects under the action alternatives and the No Action Alternative are discussed. Specifically, the direct effects to vegetation types, TES plant species, and noxious weeds are discussed in terms of a change in land ownership, as well as the indirect effects to these resources as a result of the change in land use patterns and from the three connected Recreation Design Features.

Additionally, this analysis presents the No Action and action alternatives' consistency with BLM Colorado Public Land Health Standard 4, as required by the 2015 RMP. Refer to Appendix F for a complete list of the BLM Colorado Public Land Health Standards.

Threatened, Endangered and Sensitive Plants

The BLM and the Forest Service are mandated under sections 7(a)(1) and 7(a)(2) of the Endangered Species Act to carry out programs for the conservation of listed species and to ensure that any action the BLM authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species, or result in the destruction or adverse modification of designated critical habitat.[180] Additionally, it is the BLM's policy, as described in Manual 6840, to initiate proactive conservation measures that reduce or eliminate threats to BLM sensitive species in order to minimize the likelihood of and need for listing of those species under the Endangered Species Act.[181] Finally, under FSM 2670, it is a stated objective to ensure that Forest Service Actions do not contribute to a loss of viability of sensitive species or contribute to a trend towards federal listing.[182] The Botanical BA/BE prepared specifically for this project is included in the project file. The Botanical BA/BE analyzes federally listed proposed, threatened, endangered, and both BLM and Forest Service sensitive species. The following analysis of botanical resources summarizes the BA/BE. In addition, Forest Service SOLC and SVC are addressed. Please note, the Analysis Area for Forest Service sensitive, SOLC, and SVC plant species includes only those NFS lands potentially affected by development of the proposed hiking trail near Green Mountain. The Analysis Area for BLM sensitive species includes all of the exchange parcels and any other lands potentially affected by the Recreation Design Features.

Invasive, Non-Native Plants

The 2015 RMP Objective is to prevent the establishment of, treat existing, and reduce/slow the spread of, noxious and invasive weeds across landscape and ownership boundaries.[183] Several management actions are provided in the RMP, such as focusing control on priority treatment areas (e.g., Special Status Species habitat, riparian areas, developed recreation sites), using appropriate integrated vegetation treatments, and holding project Proponents responsible for monitoring and treatment that result from any new surface disturbances authorized on BLM lands.

In addition, the State of Colorado through the Colorado Noxious Weed Act (§§ 35-5.5-101 through 119, C.R.S.) directs the Department of Agriculture to develop and implement management plans for all List A and List B noxious weed species. The management objective for List A species is always elimination, but for List B species management objectives vary. These management plans are regularly reviewed, updated and detailed in the Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act, also called the Noxious Weed Rule (8 CCR 1206-2).

AFFECTED ENVIRONMENT

Vegetation Types – Exchange Parcels

A comprehensive floristic inventory of the exchange parcels was conducted in 2003 by Cynthia Villa.[184] Additional botanical surveys were conducted in 2013 by URS and in 2016 by Western Ecological Resource.[185] The following section summarizes vegetation types found within the exchange parcels and is largely based on field work conducted in 2003 and 2013. For a detailed description for the vegetation types present on each of the exchange parcels, the reader is referred to the *Existing Conditions Report for Terrestrial Biological Resources*.[186] A site-specific vegetation

[180] USFWS and NMFS, 1998
[181] BLM, 2008c
[182] USDA Forest Service, 2015a
[183] BLM, 2015a, Section 2.1.4.4 p.15
[184] Villa, 2004
[185] URS, 2014; WER, 2016
[186] URS, 2014

type map for each of the exchange parcels was prepared for this analysis using aerial imagery available from Google Earth and ESRI, the aforementioned existing reference reports, and field reconnaissance. Vegetation type maps of each parcel are contained in the project file. In general, the major vegetation types on the exchange parcels include upland forests, sagebrush shrublands, mixed mountain shrublands, barrenlands, riparian habitats, and wetlands. Each of these vegetation types is briefly discussed below. The elevation of these parcels ranges from a low of 7,400 feet on BVR-8 near the confluence of the Blue and Colorado Rivers to a high of 9,418 feet at the top of Green Mountain on BVR-2.

Upland Forests

Coniferous forests, a major vegetation type within the area of the land exchange parcels, extend from the shrubland communities at the lower elevations to the highest elevations of the exchange parcels. Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) are the climax trees, and lodgepole pine (*Pinus contorta*) and aspen (*Populus tremuloides*) occur in areas of past disturbance. Douglas-fir (*Pseudotsuga menziesii*) occurs as small stands generally on north-facing mesic slopes. Due to past historic disturbances in the spruce-fir forest zone, the composition of the coniferous forests on the exchange parcels includes most of these forest trees. Most of the coniferous stands are even-aged and either single-storied or two-storied, although small pockets of old-growth spruce-fir stands are present. Smaller groves of aspen occupy the more protected, mesic sites between or below the coniferous forests. Many of the aspen stands occur in areas impacted by fire and tree harvesting. Aspen are also established in montane and subalpine meadows where fire has been excluded. The majority of aspen observed throughout the survey were heavily barked by elk.

Sagebrush Shrublands

Sagebrush shrublands, primarily dominated by mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), cover much of the non-forested lower elevations of the exchange parcels. Douglas-fir, Rocky Mountain juniper (*Juniperus scopulorum*) and quaking aspen occasionally occur as scattered individuals or in small stands within these shrublands. Sagebrush communities are in mid- to late-seral condition.

Mixed Mountain Shrublands

Mixed mountain shrublands generally consist of varying compositions of mountain mahogany (*Cercocarpus montanus*), serviceberry (*Amelanchier alnifolia*), chokecherry (*Prunus virginiana*), bitterbrush (*Purshia tridentata*), snowberry (*Symphoricarpos rotundifolius*), and mountain big sagebrush, depending on elevation, aspect, drainage patterns and soil conditions. Saltbrush (*Atriplex canescens*) and greasewood (*Sarcobatus vermiculatus*) shrublands are occasionally present at lower elevations in heavy clay soils with a high alkaline content.

Grass Dominated

Grass dominated areas support a variety of native and non-native grasses and forbs that vary with elevation and livestock usage. At higher elevations, these open areas may be a result of conifer mortality and are comprised of various natives such as Thurber fescue (*Festuca thurberi*), nodding brome (*Bromopsis canadensis*), blue wildrye (*Elymus glaucus*), needlegrass (*Stipa* sp.), Bluebunch wheatgrass (*Pseudoroegneria spicata*) and a variety of native forbs. Other grass-dominated areas occur at the transition between wetlands and upland shrublands and are comprised of a mixture of more mesic native and non-native grasses. On one parcel (BLM-H), a sagebrush shrubland was converted to an upland grassland. In other areas (e.g., BLM-K) crested wheatgrass (*Agropyron cristatum*), a non-native grass, was interseeded into the sagebrush shrubland to create a non-native/sagebrush mix.

Irrigated Agriculture

Areas of irrigated agriculture, or hayfields, are typically comprised of non-native pasture grasses such as smooth brome (*Bromus inermis*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), Kentucky bluegrass (*Poa pratensis*), meadow fescue (*Festuca pratensis*), and meadow foxtail (*Alopecurus pratensis*), with some native species occurring as well. In the wettest portions of these areas, herbaceous wetland vegetation predominates.

Barrenlands

Barrenland vegetation is comprised of a vegetative cover of less than 20 percent. These communities occur on the steepest shale or clay loam soils. Typical vegetation includes a variety of herbaceous species such as Indian ricegrass (*Oryzopsis hymenoides*), squirreltail (*Sitanion hystrix*), shortstem buckwheat (*Eriogonum brevicaule*), lesser rushy

milkvetch (*Astragalus convallarius*), evening primrose (*Oenothera* sp.), and cryptantha (*Cryptantha* sp.). Also included in this vegetation type are the occasional rock talus slopes such as those found on non-Federal BVR-2.

Riparian and Wetland Habitats

Riparian communities on the exchange parcels include lowland riparian habitats associated with the Colorado River, the Blue River, and intermittent drainages; and montane riparian habitats associated with intermittent drainages of the mountain forested areas. Lowland riparian vegetation is associated with irrigation ditches and on sandy, cobbly terraces and benches of the large meandering river systems. The forested canopy in these systems is composed of narrowleaf cottonwood (*Populus angustifolia*) with a secondary canopy layer of willow (*Salix* spp.) and various other shrubs intermixed. The vegetation structure of higher elevation parcels varies, depending upon the forest canopy type, although almost all support willow species and thinleaf alder (*Alnus tenuifolia*). In addition, many parcels contain pockets of wetlands, seeps or springs. Refer to Section K – Wetlands and Riparian Habitats of this chapter for additional information on wetlands and riparian habitats.

Federal Parcels

Refer to Table 3H-1 in Appendix A for a listing of vegetation types and acreages found in the Federal parcels.

BLM-A (80 acres) is dominated by mixed-conifer forests with some aspen stands on south to southeast aspects. The mixed-conifer stands are comprised of Engelmann spruce and subalpine fir with a minor component of Douglas-fir. These stands are most prevalent on steeper north-facing slopes and in concave draws where available moisture is greater. Aspen often intergrade with these mixed-conifer forests. Where there are contiguous stands of lodgepole pine, these stands have experienced substantial mortality from mountain pine beetle (MPB) (*Dendroctonus ponderosae*). No wetlands or riparian habitats occur on this parcel.

BLM-B (120 acres) is bisected by three drainages and supports mainly mixed-conifer forest, aspen forest and mixed-conifer forest with a significant aspen component. Like Federal parcel BLM-A, there has been significant lodgepole pine mortality due to MPB. In addition, significant aspen decline was observed on this parcel. Where aspen are in decline, the vegetation is comprised of mixed grasses, forbs and scattered shrubs. Some wetland habitats also occur on this parcel.

BLM-C (330 acres), which is adjacent to BLM-B, contains similar vegetation types of mixed-coniferous forests, with both Engelmann spruce-subalpine fir and stands of lodgepole pine and Douglasfir. Again, significant mortality of lodgepole pine by MPB was observed, as well as subalpine mortality presumably due to balsam fir beetle (*Dryocoetes confuses*) infestations. Some stands of aspen are also present on this parcel, as are sagebrush shrublands dominated by mountain big sagebrush, green rabbitbrush (*Chrysothamnus viscidiflorus*), snowberry, serviceberry, and others. Finally, grass-dominated meadows and wetland habitat are also present on this parcel.

BLM-F (80 acres) is mainly comprised of sagebrush shrubland with a minor composition of a mixed-mountain shrubland on the ridgetops and steep slopes. In addition, some shale barrenlands occur within the mixed-mountain shrublands on shale/clay loam and mudstone slopes and contain less than 10 percent vegetative cover.

BLM-G (79 acres) is dominated by sagebrush terraces above the Blue River, and is bisected by King Creek, a perennial drainage, and bordered by approximately 586 feet of the eastern bank of the Blue River. In addition to sagebrush shrublands, this parcel contains shale barrenlands on the south and southwestern slopes above King Creek as well as mountain shrublands. Wetland and riparian habitats also occur, as does a small area of irrigated hayfield with introduced agricultural grasses.

BLM-H (273 acres) occurs west of the Blue River and north of Spring Creek Road. It is primarily a sagebrush covered landscape, with some riparian areas and irrigated hayfields along the bottomlands near the Blue River. In addition, there are shale barrenlands throughout the southern portion of the parcel and small areas of mixed conifers (lodgepole pine and Douglas-fir) on north-facing slopes. There is also a small pond present and one area of sagebrush that has been converted to an upland grassland.

BLM-I (397 acres) is located along Trough Road and predominately west of the Blue River. The majority of the parcel is dominated by sagebrush shrublands; however, some barrenlands also occur on the steep slopes below the sagebrush covered mesas. Along the Blue River are irrigated hayfields and wetland/riparian habitats. A cottonwood

riparian forest also occurs along Dry Creek, and grass dominated meadows occur in the northern portion of this parcel.

BLM-J (90 acres), also known as "Palmer Meadows," occurs east of Kremmling and was acquired by the BLM in a 1998 land exchange. This parcel is comprised of two parts. The north part is a subirrigated meadow and the south part is a flood irrigated meadow.

BLM-K (40 acres) occurs adjacent to the Blue Valley Acres subdivision and west of SH 9. The parcel is dominated by sagebrush shrublands with a high composition of non-native agricultural grasses on the gentle slopes of the western portion of the parcel. Some rocky barrenlands vegetation also occurs along the southern ridgeline of this parcel.

Non-Federal Parcels

Refer to Table 3H-2 in Appendix A.

BVR-1 (657 acres) is located at the headwaters of Dry Creek, northwest of Trough Road. This parcel is dominated by sagebrush shrublands, aspen forests, and an aspen/mixed conifer forest on north-facing slopes. A few stock ponds and wetlands and riparian habitats also occur, as do irrigated areas downslope of two irrigation ditches extending across the landscape from Dry Creek. Finally, the steep south-facing slopes of the southwest corner of this parcel support a barrenlands vegetation type. As with other parcels in this area, the lodgepole pine component of the mixed-conifer forests has seen recent evidence of mortality from MPB.

BVR-2 (622 acres) encompasses most of Green Mountain and abuts NFS lands managed by the WRNF on the west and south. The northern, lower elevations of this parcel are dominated by sagebrush shrublands, with mountain shrublands dominating the rockier more xeric sites. The mountain shrublands are characterized by mountain mahogany, antelope bitterbrush, serviceberry, and chokecherry, with some scattered Rocky Mountain juniper and Douglas-fir trees. The forested portions of this parcel consist of a mixed-coniferous forest dominated by Douglas-fir with some Engelmann spruce. Many of these forested areas contain numerous dead spruce and fir trees, likely due to the western spruce budworm (*Choristoneura occidentalis*).[187] One small stand of aspen was also identified. Rocky outcrops and shale barrenlands vegetation types occur on xeric shale ridgetops and slopes. No wetlands or riparian habitats occur on BVR-2.

BVR-3 (187 acres) abuts SH 9 east of Green Mountain. The parcel is dominated by large expanses of gently sloping sagebrush shrublands. Steeper slopes in the northern portion of this parcel support a mountain shrubland component with areas of barrenlands. Several swales bisect the property and are dominated by wetlands and upland grasslands.

BVR-4 (160 acres) is located east of SH 9 and consists mainly of sagebrush shrublands. A small intermittent drainage bisects the parcel, along with Forest Service Road 200. The moderate to steep south-facing slopes in the northern portion of the parcel are dominated by a mountain shrubland consisting of mountain mahogany, bitterbrush and some areas of serviceberry and sagebrush. Shale barrenlands and some small cliff habitats also occur here. Small areas of wetland and riparian habitat also occur.

BVR-5 (2 acres) is located just north of U.S. Highway 40 east of Kremmling. The parcel is bisected by a dirt road and there are remnants of an old gravel mine adjacent to the road. The area closest to the highway is dominated by crested wheatgrass (*Agropyron cristatum*) and western wheatgrass (*Pascopyrum smithii*) with scattered sagebrush shrublands. To the north is a sagebrush dominated hillside. No wetlands or riparian habitats are present.

BVR-7 (1 acre) is an access easement for the public that occurs along an existing 12-foot-wide road. This access easement connects Trough Road with existing BLM lands near Inspiration Point. Both non-vegetated (existing road) and sagebrush shrublands occur within this parcel. The habitats in the general area around the easement are a mosaic of aspen, Engelmann spruce, narrowleaf cottonwood, Douglas-fir, and Rocky Mountain juniper with a shrub understory of rabbitbrush, sagebrush, chokecherry, and antelope bitterbrush. There are no wetlands on this parcel.

BVR-8, comprised of two separate parts totaling 67 acres, is located next to the Blue River just south of the confluence with the Colorado River. Both parcels are bisected by an existing road that provides access to BLM lands at the Confluence. The larger of the two parts supports a 41-acre irrigated hay meadow with its northwest and western boundary delineated by the Blue River. In addition, there are shrublands dominated by fourwing saltbush

[187] USDA Forest Service, 2015a

(*Atriplex canescens*) and mountain sagebrush on the slopes east of the access road, and a greasewood dominated mountain shrubland on the lower terraces west of the road. Likewise, the smaller part is comprised of mountain shrubland to the east and a greasewood dominated shrubland closer to the river. Both parts of BVR-8 also support riparian and wetland habitats. Approximately 20 acres of BVR-8 is proposed for development of the Confluence Recreation Area.

BVR-9 (120 acres) is located on the eastern flanks of Green Mountain. Sagebrush shrublands dominate the knoll in the northern part of this parcel, with a Douglas-fir mixed-coniferous forest intergrading with the sagebrush in the south. Like BVR-2 located to the west of this parcel, there are numerous dead spruce and fir trees, likely due to the western spruce budworm.[188] An old homestead is located in the eastern portion of this parcel along a drainage swale, and there is a small stand of aspen and a spring in this area. The homestead area is dominated by grasses mixed with sagebrush. A few mountain shrublands dominated by bitterbrush, serviceberry, snowberry, and spineless horsebrush (*Tetradymia canescens*) are also present. Finally, shale barrenlands are present in a few locations as well. No wetlands or riparian habitats occur on this parcel.

The 15-acre BVR-10 is located on the northernmost reaches of Green Mountain. NFS lands occur west of the parcel and non-Federal BVR-2 is located to the south and east. Vegetation types include mixed-conifer forest dominated by Douglas-fir, mountain shrublands, and sagebrush shrublands. No wetland or riparian habitats are present.

Vegetation Types – Green Mountain Trail Area

Vegetation surveys of proposed trail on the WRNF were performed by URS and Western Ecological Resource.[189] The area under consideration for access development (Trail Area) is located along the Blue River on the northwest side of Green Mountain, about 1.5 to 3 miles north of Green Mountain Reservoir. The trail area has an elevation of about 7,550 along the Blue River to about 8,000 feet on Green Mountain. The vegetation types of the Trail Area include Douglas-fir forest, sagebrush shrubland, grass dominated areas on steep slopes, and rocky boulder fields.

Threatened, Endangered and Sensitive Plants

Threatened and Endangered Species

A USFWS species list was generated for the Analysis Area from the USFWS' on-line Information, Planning, and Conservation (IPaC) decision support system in October 20, 2016 (refer to Table 3H-3 in Appendix A). The USFWS plant species list includes the federally endangered Osterhout milkvetch (*Astragalus osterhoutii*) and the federally endangered Penland penstemon (*Penstemon penlandii*). However, at the request of the BLM, the federally threatened Ute ladies'-tresses orchid (*Spiranthes diluvialis*) was also considered for analysis. No critical habitats are currently designated for any federally listed plant species within the exchange parcels or areas potentially affected by the Recreation Design Features. Further information on each of these species is detailed further in this section.

Osterhout Milkvetch

The Osterhout milkvetch is a herbaceous (non-woody) plant species in the pea family (Fabaceae). It has many slender and erect stems that grow to, on average, 12 to 40 inches tall. The species is known only to a 15-mile range near the Town of Kremmling in Middle Park of northern Colorado and occurs in five scattered populations on barren shale soils. These soils are rich in selenium, which the Kremmling Osterhout milkvetch concentrates in its tissues, giving the plant a distinctive garlic-like odor. Osterhout milkvetch is threatened by off-highway vehicle (OHV) recreation, road and utility construction and maintenance, mining, oil and gas exploration, concentrated livestock use, land development, and other land uses occurring within the species' habitat. Some plants were lost when Wolford Dam was constructed. Additional threats include climate change and nonnative invasive plants (weeds). Due to its limited range and low population, its vulnerability to habitat modification and loss is high. Therefore, protection of existing populations is vital to the survival of the species.[190]

Extensive surveys of the exchange parcels and the areas of the Recreation Design Features were completed in 2003 by Cynthia Villa, in 2013 by URS Senior Ecologist Jeff Dawson and plant ecologist Lisa Tasker of EM Ecological, and

[188] Ibid.
[189] URS, 2014; WER, 2016
[190] USFWS, 2016

in 2016 by Rea Orthner of Western Ecological Resource. This species was not detected on any of the exchange parcels during the multiple survey efforts, and is, therefore, presumed to be absent.

Penland Penstemon

The Penland penstemon is a herbaceous plant species in the plantain family (*Plantaginaceae*) (formerly in the figwort family). It is a compact, clumping plant with straight and pointed dark green, inrolled leaves and its flowers are blue-violet and tubular, measuring 0.75-inch-long. Penland penstemon is endemic to Middle Park in Grand County of northern Colorado east of the Town of Kremmling, and is only known to occur on white to tan barren shale soil exposures. There is only one known population of Penland penstemon in the world, making the plant a local treasure. Penland penstemon is threatened by OHV recreation, road maintenance, fugitive dust from nearby roads, and utility maintenance. The species' extremely small range and limited habitat availability make it more susceptible to extinction than other species with broader ranges. Therefore, protection of existing populations is vital to the survival of the species. Additional threats include climate change and nonnative invasive plants (weeds). Protection of native bee pollinators and their nesting habitat is also essential to the Penland penstemon's survival.[191] Non-Federal BVR-5 is located less than 1 mile south of the Troublesome Creek Potential Conservation Area, where this plant is known to occur. However, BVR-5 does not provide appropriate habitat for Penland penstemon and no plants were found during the comprehensive field reconnaissance. Therefore, this species is presumed to be absent.

Ute Ladies'-tresses Orchid

Ute ladies'-tresses is a perennial herb in the orchid family (*Orchidaceae*). It has erect, glandular-pubescent stems 12 to 60 cm tall arising from tuberous-thickened roots and a 3 to 15 cm long spike of numerous small white or ivory-colored flowers arranged in a gradual spiral. Ute ladies'-tresses is endemic to moist soils in mesic or wet meadows near springs, lakes, or perennial streams and along riparian edges, gravel bars, old oxbows, and high flow channels.[192] The orchid prefers habitats with permanent sub-irrigation such as floodplains where the water table is near the surface throughout the growing season, but it may also be found in wetland and seepy areas near lakes and springs outside of floodplains. Populations of Ute ladies'-tresses orchid occur in three general areas of the western United States: near the base of the eastern slope of the Rocky Mountains in southeastern Wyoming and northcentral and central Colorado; in the Upper Colorado River Basin, particularly in the Uintah Basin; and in the Bonneville Basin along the Wasatch Front and westward in the eastern Great Basin, in north-central and western Utah and eastern Nevada.[193]

Although appropriate habitat for Ute ladies'-tresses does occur on several of the exchange parcels, the orchid is only known to occur up to 7,000 feet in elevation over its entire range and the lowest elevation of potential habitat is around 7,400 feet on BVR-8.[194] In addition, there are no known orchid populations in Grand County and the closest populations west of the Continental Divide occur in the Browns Park/Lodore Canyon of western Moffat County and along the Roaring Fork River in Pitkin County. Therefore, the Ute ladies'-tresses orchid was excluded from further analysis and will not be discussed further in this document.

BLM Sensitive Species

The BLM Manual 6840 defines a sensitive plant as a native species that either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or
2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

Federal candidates for listing are also managed as BLM sensitive plants.

The Colorado BLM State Director has identified sensitive species for the State of Colorado. Documented and suspected occurrences of sensitive plants on the KFO are listed in Table 3H-4 in Appendix A. Only one sensitive

[191] Ibid.
[192] USFWS, 1995; Jennings, 1990; Fertig et al., 2005
[193] USFWS, 1995
[194] Fertig et al., 2005

plant species, Harrington penstemon (*Penstemon harringtonii*), has been carried forward into the analysis and is described below.

Harrington Penstemon

Harrington penstemon is a perennial herbaceous plant that primarily occurs in open stands of big sagebrush shrublands, or less commonly in pinyon-juniper woodlands, between 6,800 to 9,200 feet. The soils are typically rocky loams and rocky clay loams derived from coarse calcareous parent materials or basalt. Harrington penstemon is only found in Colorado in Grand, Eagle, Routt, Summit, Garfield, and Pitkin counties.[195] This showy species grows to 18 inches in height and has light blue flowers in interrupted spikes. An easily recognizable feature of the flowers is the two lower stamens that stick out of the floral tube. The population trend of *P. harringtonii* is unknown and may be difficult to quantify because the species responds strongly to annual precipitation and is capable of remaining dormant for at least a year if conditions are unfavorable.[196] Occurrences may have many aboveground plants in a wet year and few in a dry year. There are several threats to the persistence of *P. harringtonii* including residential and agricultural development, off-road vehicle use, exotic plant species invasion or intentional seeding, over-grazing by domestic and wild ungulates, oil and gas development, and climate change.

Site specific surveys for Harrington penstemon were conducted in 2003 by Cynthia Villa and in 2016 by Rea Orthner of Western Ecological Resource.[197] In addition, the Colorado Natural Heritage Program (CNHP) maintains data on Harrington penstemon. The results of these surveys are shown in Table 3H-5 in Appendix A. In summary, Federal parcels BLM-G, BLM-H, BLM-I, BLM-K, and non-Federal parcel BVR-3 have identified locations of Harrington penstemon. Further information including Element Occurrence data forms for the 2016 survey may be found in the project file.

Forest Service Sensitive Species

FSM 2670 defines a sensitive plant as one that is not presently listed as threatened or endangered by the USFWS, but for which concerns about the population viability have been identified as evidenced by:

1. Significant current or predicted downward trends in population numbers or density.
2. Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

Federal candidates for listing are also included as Forest Service sensitive plants. The Regional Forester has identified sensitive species for Region 2.[198] Suspected occurrences of sensitive plants within the Analysis Area on the WRNF are listed in Table 3H-6 in Appendix A. A complete list of the sensitive plants known or suspected to occur on the WRNF is found in the project file. Three sensitive plant species have been carried forward into the analysis. These include park milkvetch (*Astragalus leptaleus*), Colorado tansyaster (*Machaeranthera coloradensis*) and Harrington penstemon.

Park Milkvetch

Park milkvetch is an inconspicuous perennial herb of the bean family (Fabaceae) that grows in sedge-grass meadows, swales and hummocks, wetlands, aspen glades, and streamside willow communities at elevations between 6,000 and 10,000 feet. Park milkvetch is a regional endemic of the Rocky Mountains. The plant has been previously found near Green Mountain Reservoir dam, located a few miles south of the Analysis Area.[199] Potentially suitable habitat within the Analysis Area occurs in the riparian zones and small moist swales along the Blue River. No plants were found during on the ground surveys conducted for Green Mountain Trails.[200]

Colorado Tansyaster

Colorado tansyaster is a low-growing shrub or perennial herb in the aster family (*Asteraceae*). Colorado tansyaster is found in sparsely vegetated gravelly places in subalpine mountain parks, plains/park grassland, in dry ponderosa pine

[195] CNHP, 1997
[196] Panjabi and Anderson, 2006
[197] Villa, 2004; WER, 2016
[198] USDA Forest Service, 2015b
[199] Ladyman, 2006
[200] WER, 2016; URS, 2014

grasslands, on alpine scree slopes and fell fields, and on dry tundra.[201] Colorado tansyaster is endemic to south-central Wyoming and central, west-central, and southwestern Colorado. Potentially suitable habitat for this plant occurs on the sparsely vegetated sagebrush and mountain shrublands in the vicinity of non-Federal parcel BVR-2. No plants were found during on the ground surveys conducted for Green Mountain Trails.[202]

Harrington Penstemon

Harrington penstemon is a BLM and Forest Service sensitive species. Please refer to the *BLM Sensitive Species* section above for further information on this plant and the positive survey results for the exchange parcels.

Plant Species of Local Concern and Species of Viability Concern

Plant SOLC are not designated sensitive and have no legal status. However, they are a component of the biological diversity on the WRNF, which is required to be maintained by the National Forest Management Act of 1976 (36 CFR § 219.19) as well as under FSM Directive Number 2 (FSM 2670.22), which states to "Maintain viable populations of all native and desired nonnative wildlife, fish, and plant species in habitats distributed throughout their geographic range on NFS lands." There are eighty-one designated SOLC plants for the WRNF. This list is contained in the project file. No plant SOLC were found on NFS lands that would be affected by the proposed Green Mountain Recreation Area.

A total of twelve plant SVC are designated in the 2002 Forest Plan. Forest-wide standards require surveys for these SVC and require projects to avoid disturbances that would significantly affect species viability or trend the species towards federal listing. Of the twelve species listed, two are federally threatened, nine are Forest Service sensitive, and one is a SOLC. There are two plant SVC potentially present within the Analysis Area, the Colorado tansyaster and Harrington penstemon. As previously discussed, Colorado tansyaster was not found during field surveys and the Harrington penstemon, which was found on several of the exchange parcels, does not occur on the NFS lands that would be potentially affected by the proposed Green Mountain Recreation Area.

Invasive, Non-Native Plants

Seven species of Colorado-listed noxious weeds were documented within the Analysis Area. These include Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans* ssp. *macrolepis*), houndstongue (*Cynoglossum officinale*), diffuse knapweed (*Centaurea diffusa*), hoary cress (*Cardaria draba*), quackgrass (*Elytrigia repens*) and cheatgrass (*Bromus tectorum*). The Canada thistle, musk thistle, houndstongue, diffuse knapweed and hoary cress are all designated as List B Noxious Weeds by the State of Colorado and have associated management plans designed to suppress Canada thistle, musk thistle, houndstongue, and eliminate the diffuse knapweed and hoary cress by 2021.[203] There are no List A Noxious Weed Species present. The State does not require management of List C Noxious Weed Species. Table 3H-7 and Table 3H-8, both in Appendix A, summarize the noxious weed infestations identified on the Federal and non-Federal exchange parcels. Maps of the larger, more significant infestations may be found in the URS Resource Summary Report.[204]

Finally, other non-native, potentially invasive plants were noted during field reconnaissance. These plants are mainly limited to non-native agricultural species such as smooth brome (*Bromus inermis*), crested wheatgrass (*Agropyron cristatum*), timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), Kentucky bluegrass (*Poa pratensis*), tall wheatgrass (*Elymus lanceolatus*), meadow foxtail (*Alopecurus pratensis*), yellow sweet clover (*Melilotus officinalis*), and alfalfa (*Medicago sativa*).

Federal Parcels

Four species of Colorado listed noxious weeds have been identified on the Federal exchange parcels. BLM-A, BLM-B and BLM-C all had varying amounts of houndstongue, particularly in the dense beetle-killed lodgepole pine stands. BLM-I also had houndstongue in riparian habitats. Canada thistle was observed along drainage ways and within or adjacent to wetlands on BLM-C, BLM-G, BLM-H, BLM-I, and BLM-J. Quackgrass was observed in

[201] Beatty et al., 2004
[202] WER, 2016; URS, 2014
[203] CDA, 2016
[204] URS, 2014

seepage areas and irrigated meadows on BLM-G and BLM-H. Finally, cheatgrass was recorded on BLM-H, BLM-I and BLM-K; however, it is likely present on all of the exchange parcels (refer to Table 3H-7 in Appendix A).

Non-Federal Parcels

BVR uses an integrated pest management approach to weed control; utilizing cultural, biological and chemical control methods. Target areas are prioritized each season according to ranch goals and recent disturbances, and all treatments are documented and mapped.[205] Seven species of Colorado Noxious Weeds were observed on the non-Federal exchange parcels. Canada thistle is most common and occurs along drainage ways and in wetland and riparian habitats on non-Federal parcels (BVR) 1, 3, 4, 8 and 9. Musk thistle was found scattered on BVR-3. Diffuse knapweed was observed just north of the access road on BVR-4, but the population was very small, about 15 feet in diameter.[206] BVR-1 contains a significant infestation of houndstongue along the timber access road bisecting the aspen and mixed-conifer stands at the southwestern side of the parcel. Houndstongue was also observed in riparian areas on BVR-8. Finally, quackgrass occurs on BVR-1 and BVR-8 and cheatgrass was identified on BVR-3 and BVR-4 but is likely present on all exchange parcels (refer to Table 3H-8 in Appendix A).

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Under the No Action Alternative there would be no change to existing land ownership patterns. The Federal parcels would continue to be owned and managed by the BLM and the non-Federal parcels would remain in private ownership and be managed by their owners.

Direct and Indirect Effects

Vegetation Types

With the No Action Alternative, there would be no direct or indirect effects to vegetation types on the Federal parcels. Land use patterns, which mainly include livestock grazing, would remain the same and there would be no change in the ownership of grazing allotments, grazing density (AUMs) or the time of grazing.

Similarly, for the non-Federal parcels, grazing on BVR-1 and BVR-8 would continue to be managed by BVR, and the practice of not grazing non-Federal parcels (BVR) 2, 3, 4, 5, 7, 9 and 10 would likely continue. However, given their retention in private ownership under the No Action Alternative, the non-Federal parcels could feasibly be sold and/or developed for residential or commercial purposes, consistent with county zoning and land use regulations, which would introduce an undetermined impact to vegetation resources.

Threatened, Endangered and Sensitive Plants

There would be no direct effects to TES plants under the No Action Alternative. There are no federally threatened or endangered plants present on any of the exchange parcels, and hence there would be ***no effect*** to Osterhout milkvetch or Penland penstemon. Harrington penstemon, the only BLM or Forest Service sensitive plant found during the surveys, would likely persist on the four Federal parcels (BLM-G, BLM-H, BLM-I, and BLM-K) and the one non-Federal parcel (BVR-3). However, population numbers would likely continue to fluctuate with environmental variables such as precipitation and grazing pressures by both wild and domestic ungulates (refer to Section E – Livestock Grazing Management of this chapter). Public Land Health Standard 4 for TES plants would continue to be met under the No Action Alternative for Federal parcels BLM-H and BLM-I, and remain functioning-at-risk for Federal parcels BLM-G and BLM-K due to the presence of invasive, non-native plants and human use.

Any future surface disturbing activities would be constrained by a Controlled Surface Use Stipulation on BLM sensitive plants which would allow the BLM to relocate activities to protect sensitive plants and their habitats.

Invasive, Non-Native Plants

There are no anticipated direct or indirect effects to invasive, non-native plants under the No Action Alternative. The BLM would continue to manage noxious and other undesirable weed species according to the 2015 RMP, and BVR would continue to manage weeds according to their Integrated Weed Management Plan. However, if additional areas

[205] Ibid.
[206] Ibid.

of native vegetation are converted to pastures or developed for residential or commercial purposes, then these surface disturbances could potentially provide a niche for the invasion of noxious weeds, which would further degrade the condition of the vegetative resource if weeds are not actively controlled.

Alternative 2 – Proposed Action

Under the Proposed Action, 1,830 acres of non-Federal lands would be exchanged for 1,489 acres of Federal lands. In addition, three Recreation Design Features connected with the exchange would be developed.

Vegetation Types

Direct Effects

The direct effect of the proposed land exchange would be a change in ownership of the vegetation resources present on the Federal and non-Federal parcels. As summarized in Table 3H-9 in Appendix A, the exchange would result in a net gain of approximately 342.2 acres of vegetation resources under Federal management.[207] There would be a net gain of mixed conifer forest, mixed conifer forest with aspen, aspen forest, sagebrush shrubland, barrenlands, grass dominated meadows, and irrigated agricultural meadows. However, there would be a net loss in mountain shrubland, riparian habitat and wetlands under BLM management. Wetlands are analyzed in Section K – Wetlands and Riparian Habitats of this chapter.

At this time, there are no proposed or reasonably foreseeable actions which would lead to the destruction of vegetation resources associated with the BLM parcels that would be exchanged into a private ownership. However, given their transfer into private ownership under the Proposed Action Alternative, the Federal parcels could feasibly be sold and/or developed for residential or commercial purposes, consistent with county zoning and land use regulations, which, would introduce an undetermined impact to vegetation resources. Refer to Table 3H-9 in Appendix A.

Indirect Effects

With the change in land ownership, it is possible that land uses of the parcels could change. However, the change in management would not have a significant effect on the vegetation, as the parcels entering federal ownership would be protected by BLM management and the acres removed from federal management would be managed in a manner similar to existing management practices. More specifically, it is reasonably foreseeable that BVR would continue the existing grazing practices on those Federal parcels which are currently grazed. Likewise, the southern portion of BLM-C, which would be conveyed to Sheephorn Ranch, would likely also continue to be grazed.

BLM-K, which is proposed by BVR to be transferred to Blue Valley Metropolitan District after the exchange, could potentially be developed for facilities benefitting the neighborhood. Any facilities built would likely be in the western, gently sloping portion of the parcel where the vegetation has previously been disturbed. However, at this time any future development on this parcel is unknown and none is proposed, and thus not reasonably foreseeable.

Finally, under the Proposed Action, several Recreation Design Features are proposed to be constructed. The proposed improvements include the stream habitat and recreational improvements at the Confluence Recreation Area, a seasonal take-out and rest stop with re-entry at Spring Creek Bridge on the Blue River, and recreation trails, a fishing easement across BVR property providing continuous fishing access from the existing BLM lands to the north to the National Forest System lands to the south, parking improvements into the lower Green Mountain Canyon north of Green Mountain Reservoir. These Recreation Design Features would result in the minor loss of vegetation types due to new trails, parking facilities, restrooms, and fishing access. The sites of the proposed Recreation Design Features are within irrigated agriculture, riparian habitat, grass dominated, mountain shrubland, sagebrush shrubland, and mixed conifer forest vegetation types. As currently planned, these improvements may result in the loss of approximately 3 acres of vegetation resources.

[207] The net gain of 342.2 acres of habitat resources differs from the net gain in 341 acres of public lands because habitat resources are mapped and calculated in GIS, while land exchange acreage is based on the legal description of parcels, which has been calculated through cadastral survey work.

Threatened, Endangered and Sensitive Plants

There are no federally threatened or endangered plants present on any of the exchange parcels or in areas affected by the Recreation Design Features. Hence, a determination of ***no effect*** is warranted for the endangered plants Osterhout milkvetch and Penland penstemon. The potential effects to Harrington penstemon, which is listed as BLM and Forest Service sensitive, are discussed below.

Direct Effects

The exchange would result in the net loss of ownership and management of occupied Harrington penstemon habitat for the BLM. Approximately 7.3 acres of occupied habitat on Federal parcels BLM-G, BLM-H, BLM-I and BLM-K would be exchanged for 0.3 acre of occupied habitat on non-Federal BVR-3. Thus, the exchange would result in a net loss in the number of acres under BLM ownership of approximately 7.0 acres of Harrington penstemon habitat.

Indirect Effects

With the land exchange, the 7.3 acres of occupied Harrington penstemon habitat on Federal parcels BLM-G, BLM-H, BLM-I and BLM-K would no longer be under federal ownership. It is reasonably foreseeable that BVR would continue existing grazing practices on BLM-G, BLM-H, and BLM-I, and hence no new adverse indirect impacts to these plants are anticipated as a result of the exchange. BLM-K, however, would likely be transferred to Blue Valley Metropolitan District and could potentially be developed for community-based facilities. Most likely any facilities would be constructed on the level western portion of the parcel, which does not support any Harrington penstemon plants or potential habitat. However, there is a possibility of adverse impacts to these plants if development occurs on the sagebrush shrublands of this parcel. Overall, however, the loss of 2.9 acres of occupied Harrington penstemon habitat on BLM-K, if it occurred, would not result in the overall decline of this species as a whole and would not trend the species toward federal listing.

The Green Mountain Recreation Area, which would be developed as part of the Proposed Action, would lead to additional vegetation disturbance on NFS lands adjacent to non-Federal BVR-10. However, no Forest Service sensitive plants were observed during comprehensive field reconnaissance and hence they are presumed to be absent. Therefore, a ***no impact*** determination is warranted for the three Forest Service sensitive plants carried forward in Analysis: Park milkvetch, Colorado tansyaster and Harrington penstemon. Finally, no Forest Service designated SOLC or SVC were found and hence would not be impacted by the Proposed Action. Table 3H-10 in Appendix A contains a summary of the effect determination for the TES plant species.

Invasive, Non-Native Plants

Direct Effects

Under the Proposed Action, there would be a change in ownership of the Federal and non-Federal parcels, including populations of noxious weeds on those parcels. Small populations of noxious weeds on the Federal parcels would be transferred to private ownership, and the BLM would acquire the noxious weed populations present on non-Federal parcels (BVR) 1, 3, 4, 8 and 9. Specifically, the BLM would acquire areas of Canada thistle along several drainages/wetlands on non-Federal parcels (BVR) 1, 3, 4, 8, and 9, some musk thistle on BVR-3, white top on BVR-1 and BVR-4, and a small population of diffuse knapweed on BVR-4. In addition, several of the parcels contain cheatgrass. Many of these populations of noxious weeds have been actively treated by BVR through their Integrated Weed Management Plan. Failure to continue irrigation on BVR-8 has been identified by CPW as likely to result in an increase of noxious plant species on that parcel.

Similarly, BVR would acquire the noxious weed populations on the Federal parcels, including houndstongue on Federal parcels BLM-A, BLM-B and BLM-C and Canada thistle on BLM-G, BLM-H, BLM-I and BLM-J. BVR would also acquire quackgrass on BLM-G and cheatgrass on BLM-H, BLM-I and BLM-K. Therefore, under the Proposed Action, similar levels of noxious weed infestations would be transferred into and out of federal ownership, resulting in no significant increased burden on the federal government for control of noxious weeds.

Indirect Effects

Under the Proposed Action, there would be no adverse impacts due to invasive non-native weeds. The BLM would manage noxious weeds according to their 2015 RMP and BVR would manage newly acquired populations according to their Integrated Weed Management Plan. Use of the irrigation water rights and management of the irrigated pasture

on BVR-8 would be pursuant to future BLM management decisions. The Recreation Design Features, which would involve ground disturbances, would be constructed according to BLM standards and guidelines, which require control and management of any noxious or other undesirable weed populations.

Alternative 3

Vegetation Types

Direct Effects

Alternative 3 would result in a net gain of 71 acres of vegetation resources under Federal management compared to the Proposed Action Alternative, which would result in of approximately 342.2 acres of vegetation resources under Federal management.[208] This is attributable to the removal of 76 acres of BLM-I and the exclusion of BVR-3 and BVR-4 from exchange under Alternative 3. As documented in Table 3H-2, BVR-3 and BVR-4 primarily consistent of sagebrush shrubland, mountain shrubland, and barren lands (in that order with BVR-3 also containing a minor component grass dominated and wetland vegetation types). BLM-I consists of sagebrush shrubland, mountain shrubland, barrenlands, grass dominated, riparian habitat, wetlands, and aquatic habitat. The modified parcel boundary in Alternative 3 would remove almost all riparian habitat, wetlands, and aquatic habitat from exchange as well as components of the other vegetation types located on this parcel.

Under Alternative 3 there would still be a net gain of mixed conifer forest, mixed conifer forest with aspen, aspen forest, sagebrush shrubland, barrenlands, grass dominated meadows, and irrigated agricultural meadows. Additionally, the revised configuration of BLM-I would result in a minor net gain of aquatic habitat. Similar to the Proposed Action Alternative, there would be a net loss in mountain shrubland, riparian habitat and wetlands under BLM management.

At this time, there are no proposed or reasonably foreseeable actions which would lead to the destruction of vegetation resources associated with the BLM parcels that would be exchanged into a private ownership. However, given their transfer into private ownership under Alternative 3, the Federal parcels could feasibly be sold and/or developed for residential or commercial purposes, consistent with county zoning and land use regulations, which, would introduce an undetermined impact to vegetation resources.

Indirect Effects

Indirect effects would be limited to the change in land ownership as described in the previous section under the discussion of indirect effects associated with the Proposed Action Alternative. As described in the previous section, the change in management would not have a significant effect on the vegetation, as the parcels entering federal ownership would be protected by BLM management and the acres removed from federal management would be managed in a manner similar to existing management practices. The reader is referred to the previous section for additional details on how this would relate to subsequent transfers of lands to adjacent private entities, as the indirect effects are identical to the Proposed Action Alternative.

Lastly, there are no Recreation Design Features under Alternative 3; therefore, there would be no minor loss of vegetation types due to new trails, parking facilities, restrooms, and fishing access. Small areas of irrigated agriculture, riparian habitat, grass dominated, mountain shrubland, sagebrush shrubland, and mixed conifer forest vegetation types would marginally benefit as the estimated loss of 3 acres of vegetation resources would not occur under this alternative.

Threatened, Endangered and Sensitive Plants

There are no federally threatened or endangered plants present on any of the exchange parcels; therefore, Alternative 3 would result in a determination of ***no effect***.

Direct Effects

The exchange would result in the net loss of ownership and management of occupied Harrington penstemon habitat for the BLM. Approximately 7.3 acres of occupied habitat on Federal parcels BLM-G, BLM-H, BLM-I and BLM-K

[208] The net gain of 342.2 acres of habitat resources differs from the net gain in 341 acres of public lands because habitat resources are mapped and calculated in GIS, while land exchange acreage is based on the legal description of parcels, which has been calculated through cadastral survey work.

would be exchanged for 0.3 acre of occupied habitat on non-Federal BVR-3. Thus, the exchange would result in a net loss in the number of acres under BLM ownership of approximately 7.0 acres of Harrington penstemon habitat.

Indirect Effects

With the land exchange, the 7.3 acres of occupied Harrington penstemon habitat on Federal parcels BLM-G, BLM-H, BLM-I and BLM-K would no longer be under federal ownership. It is important to note that 2.9 acres of the occupied Harrington penstemon habitat occurs on BLM-I. It is undetermined if the modified boundary associated with Alternative 3 would overlap the area of occupied habitat. In other words, there is a chance that some of the Harrington penstemon habitat would be retained under federal management based on the modified BLM-I boundary included in Alternative 3; however, it would not change the overall determination from what was reported under the Proposed Action Alternative for this species as it is reasonably foreseeable that BVR would continue existing grazing practices on BLM-G, BLM-H, and BLM-I, and hence no new adverse indirect impacts to these plants are anticipated as a result of the exchange. As BLM-K would still likely be transferred to Blue Valley Metropolitan District under Alternative 3, and could potentially be developed for community-based facilities, there is a possibility of adverse impacts to these plants if development occurs on the sagebrush shrublands of this parcel. Overall, however, the loss of 2.9 acres of occupied Harrington penstemon habitat on BLM-K, if it occurred, would not result in the overall decline of this species as a whole and would not trend the species toward federal listing.

Similar to the Proposed Action Alternative, a ***no impact*** determination is warranted for the three Forest Service sensitive plants carried forward in analysis under Alternative 3: Park milkvetch, Colorado tansyaster, and Harrington penstemon. Finally, no Forest Service designated SOLC or SVC were found and hence would not be impacted by the Alternative 3. Table 3H-10 in Appendix A contains a summary of the effect determination for the TES plant species.

Invasive, Non-Native Plants

Direct Effects

BVR-3 and BVR-4, both of which are known to have small populations of noxious weeds, would not be transferred into federal ownership. While this may result in marginally less noxious weed infestations being transferred into federal ownership, all of the federal parcels containing noxious weeds (with a slight reduction in the acreage of BLM-I) would still be transferred out of BLM ownership, resulting in no significant increased burden on the federal government for control of noxious weeds. The reader is referred to the discussion of noxious weeds under *Alternative 2 – Proposed Action* in this section for additional details on the species of invasive, non-native plants present on the exchange parcels.

Indirect Effects

There would be no adverse impacts due to invasive non-native weeds. The BLM would manage noxious weeds according to their 2015 RMP and BVR would manage newly acquired populations according to their Integrated Weed Management Plan. Use of the irrigation water rights and management of the irrigated pasture on BVR-8 would be pursuant to future BLM management decisions. There are no indirect effects associated with ground disturbances under Alternative 3.

I. WATER RIGHTS AND USE

SCOPE OF THE ANALYSIS

BLM national policy on water rights states:

> *Water of sufficient quality and quantity is integral to the successful management of the National System of Public Lands. Just the presence of water is not enough. In the Western United States, the right to use a sufficient quantity of water for any number of beneficial uses is paramount in ensuring proper management of the public lands and is a necessary resource both for mankind's uses and ecosystem sustainability.*[209]

The objectives of the BLM water rights program are to:

- Acquire and Perfect Water Rights

[209] BLM, 2010

- Protect and Manage Water Rights
- Ensure Water Availability to Protect Public Resources
- Locate, Describe and Record Water Rights[210]

The goal of the RMP is to protect watershed function in the capture, retention, and release of water in quantity, quality, and timing in order to meet aquatic and terrestrial ecosystem needs. The following objectives were developed to meet this goal:

- Ensure that streams on BLM-managed public lands are in geomorphic balance (that stream-channel size, sinuosity, and substrate are appropriate for its landscape position and geology) with the water and sediment being supplied by the watershed (no accelerated erosion, deposition, or head-cutting).
- Provide sufficient water quantity on BLM-managed public lands for multiple use and sustained-yield management and functioning, healthy riparian, wetland, aquatic, and upland systems.

The Analysis Area for this water rights assessment includes the Federal and non-Federal parcels. Water rights information for the exchange parcels was acquired from General Warranty Deeds, the owners of the water rights including the BVR and the BLM, and the Colorado Division of Water Resources' website.[211]

AFFECTED ENVIRONMENT

Federal Parcels

The BLM holds a federal appropriative water right on the Blue River in BLM-I. The 0.002 cfs right is for fishing, wildlife, and recreational uses, and was confirmed in 1982 by the Colorado Supreme Court in *"United States v. City and County of Denver, 656 P.2d 1 (Colo. 1982)."*. BLM's rights for diverting water from streams for federal purposes are summarized in a document called the "interlocutory decree" that was issued by the court. The appropriation and priority dates are both January 1, 1881. The right is strictly for the management of public lands and is non-transferable. If BLM-I is transferred to private ownership, the right would be null and void.

BLM-J is the only Federal parcel with transferable water rights. The BLM owns a 2.125 cfs water right on the Sopronia Day Ditch and another 3.25 cfs water right on the Sophronia Day Ditch No. 2 which are used to flood irrigate the south part (approximately 31 acres) of BLM-J. Combined, these water rights account for 5.375 cfs from the Colorado River. The headgate for the Sophronia Day Ditch is located on the north side of the Colorado River approximately 1 mile east of the parcel and is used for both rights. The rights were acquired as part of the Eagle Pass Ranch land exchange. There are five water right decrees that adjudicate water in the Sophronia Day Ditch, for a total of 24.125 cfs. The ditch diverts out of the Upper Colorado River, which is heavily affected by upstream water diversions and reservoir operations. Since 2000, the maximum daily diversion rate for each year was averaged and equals 29.6 cfs. Usage occurs over an average of 94 days of diversions, generally from mid-May through mid-July. Once haying is complete, the ditch runs water again into September. Hay production on the Skylark Ranch is estimated at 60 to 70 tons. The north part of the parcel is not currently flood irrigated or used for growing hay. Table 3I-1 in Appendix A summarizes existing water rights and uses for the Federal and non-Federal exchange parcels.

Non-Federal Parcels

Non-Federal parcels with water rights include BVR-1 and BVR-8. Dry Creek is a small intermittent drainage that flows through BVR-1. As summarized by Table 3I-1 in Appendix A, Galloway, Inc. (the owner of BVR) has decreed water rights in Dry Creek Ditches 1, 2 and 3. Their 3 cfs water right in the Dry Creek Ditch No. 1 is used to irrigate approximately 22 acres of pasture north of the Ditch. The State of Colorado's (State Engineer's Office, Water Division 5) structure summary for Ditch No. 1 shows that the maximum diversion rate averages 2 cfs for many years since it has been in operation, with usage primarily occurring in April–June. The majority of the diversion occurs in early May. Dry Creek Ditch No. 2 is the oldest of the three ditches, having been in use since 1910. The 3 cfs water right in Dry Creek Ditch No. 2 is used to irrigate approximately 25 acres of pasture south of the Ditch, although State Engineer's records range from 64 to 160 acres. The maximum daily diversion rate averaged over many years is 1 cfs,

[210] BLM, 2013
[211] CDWR, 2016

due to many years not diverting at all. Diversions primarily occur from April–June, with the maximum daily diversion rates of 3 cfs (the decreed amount) occurring in April.

Dry Creek Ditch No. 3 is in disrepair and has not been used for several years. Historically, it was used to irrigate 25 to 30 acres north of the Ditch. The Division of Water Resources' records show the ditch irrigating between 79 to 86 acres, with the last reported use being 2010. The ditch's maximum daily diversion rate averaged 1 cfs. Years that report a maximum daily diversion rate of 2 cfs are almost entirely in April.

The Dry Creek Ditches are turned on in the spring when water is available, the ditch is accessible, and the water right in priority. Irrigation continues for as long as water is available. This may be as early as the first part of April, or as late as early June, and may last anywhere from a couple of weeks to a month or more, depending on the snow year and runoff. The irrigated areas are characterized by native species, but pasture grasses such as timothy (*Phleum pretense*) smooth brome (*Bromus inermis*) and meadow foxtail (*Festuca pratensis*) are also present. Historically, the irrigated areas were hayed, but they are currently grazed as irrigated pasture. When cattle are present the irrigation water is turned off.

The small pond (0.06 acre) on Dry Creek was constructed for livestock watering. It has a culvert in the dam which serves as a spillway for overflow, which flows down Dry Creek for about 30 or 40 feet to the diversion point for Dry Creek Ditch Nos. 2 and 3.

The Loback Ditch is decreed for 75.8 cfs absolute. The 7.12 cfs portion of the Loback Ditch water right owned by BVR is used to flood irrigate approximately 41 acres of BVR-8. The east side of the parcel and that portion of the parcel located to the southeast of the large part is not flood irrigated and not used for hay production. The head-gate for the Loback Ditch is located on the north side of the Blue River on BLM-I, approximately 3 miles south of BVR-8. The hayfield is flood irrigated in late May and again after haying in late August or early September. Hay production averages 60 tons per year. The Blue River is also heavily affected by upstream diversions and reservoir operations. In forty-four years of records, the ditch's maximum daily rate of diversion was 89 cfs (2012), minimum of 8 cfs, and an average of 57 cfs. Since 2000, the ditch has an average of 64.25 cfs, and runs primarily in June and July.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Under the No Action Alternative there would be no change to existing land ownership patterns or the ownership of the water rights on Federal parcels BLM-I and BLM-J and non-Federal parcels BVR-1 and BVR-8. The existing uses of the water rights would likely be continued. However, there is an opportunity for the BLM to work with the Colorado Water Trust to convert the BLM's portion of the Sophronia Day Ditch water right to instream flow purposes. If this would occur, there could be a requirement imposed by the water court system for the acreage presently irrigated on BLM-J to be dried up. BLM would need to implement a program to convert the vegetative community from irrigated meadow to native floodplain/wetland vegetation.

Alternative 2 – Proposed Action

Direct Effects

The two water rights totaling 5.375 cfs on the Sophronia Day Ditch on Federal parcel BLM-J would be conveyed to BVR. The 0.002 cfs Blue River water right on BLM-I would be relinquished to the stream system because this right cannot be transferred out of federal ownership to private parties. The three water rights on Dry Creek Ditch on BVR-1 owned by Galloway Inc. (the owner of BVR), as summarized in Table 3I-1 in Appendix A, would be conveyed to the BLM, and the 7.12 cfs water right on the Loback Ditch on BVR-8 would be conveyed to the United States. Consequently, BLM would have a net gain of 9.823 cfs of water rights available for use by the United States. When considered with the total amount of water rights existing with the Blue River watershed, the quantity of water rights that would be transferred under the Proposed Action would have a negligible impact.

Parcel BLM-J

Over the short term, BVR would continue to use Sophronia Day Ditch water rights to irrigate wet meadows for hay production and livestock grazing. BVR intends to convey the parcel and the water rights to Skylark Ranch, who is expected to continue the land and water uses.

Parcel BVR-1

BLM would continue to use the Dry Creek Ditch water rights to irrigated native vegetation on the parcel. Instead of using irrigation to exclusively support livestock grazing, the BLM would implement irrigation to support livestock grazing and broader objectives, including improving big game habitat and riparian habitat. BLM may also work cooperatively with grazing permittees and other water right owners in Dry Creek to maximize wildlife and riparian benefits by closely coordinating the timing and location of irrigation practices. Specific irrigation practices would be developed as part of a comprehensive management plan for the acquired lands.

Parcel BVR-8

Over the short term, the BLM would use the Loback Ditch water rights to support conversion of the parcel from agricultural uses to recreational uses. Specific irrigation and leasing practices would be developed as part of a comprehensive management plan for the acquired lands.

Indirect Effects

Upon completion of the land exchange, it is the intent of BVR to convey BLM-J along with its water right to the Skylark Ranch. Skylark Ranch would likely use the water right to continue to flood irrigate the south part of the parcel for hay production, the current flood irrigation practice. The BLM would likely continue to use the acquired water rights on BVR-1 and BVR-8 for agricultural purposes until management plans consistent with management priorities are developed.

Alternative 3

Direct and indirect impacts to water rights are identical to those described under the Proposed Action Alternative. The reader is referred to the discussion in the previous section for additional details.

J. WATER QUALITY – SURFACE AND GROUND

SCOPE OF THE ANALYSIS

FLPMA sets forth the fundamental policy of managing the land for multiple-use while preserving the sustainable yield of its renewable resources. To achieve this goal, it is necessary for the BLM to adopt a strategic approach to protecting water resources. This approach addresses current water quality issues and proactively prevents future issues resulting from authorized land management decisions through the use of BMPs and stipulations (preventative measures) and through the implementation of the RMP objectives for water quality and Public Land Health Standards. Refer to Appendix F for a complete list of the BLM Colorado Public Land Health Standards.

The 2015 RMP provides water quality management direction for the KFO. The Goal is to "Protect watershed function in the capture, retention, and release of water in quantity, quality, and timing in order to meet aquatic and terrestrial ecosystem needs."[212] The Water Quality Objectives are:

- Ensure that streams on BLM-managed public lands are in geomorphic balance (that stream-channel size, sinuosity, and substrate are appropriate for its landscape position and geology) with the water and sediment being supplied by the watershed (no accelerated erosion, deposition, or head-cutting).
- Ensure that the water quality of all surface water and groundwater located on, or influenced by, BLM-managed public lands contributes to achieving the water quality standards (numeric criteria, narrative criteria, and anti-degradation requirements) established by State of Colorado requirements, under State law, as required by Section 303(c) of the Clean Water Act.

To determine compliance with Standard 5, the health of the watersheds on the exchange parcels was assessed to determine if there were any conditions or land uses within the watershed that are impacting water quality. Specifically, the health of the vegetation types and their ability to retard erosion was assessed by determining compliance with Public Land Health Standard 3, the potential of upland soils to erode was assessed by determining compliance with Public Land Health Standard 1, the potential of the land uses of the parcel to impact water quality was assessed, and existing disturbances on the parcels were identified and quantified. Finally, the list of impaired waters as documented by the Water Control Commission of the Colorado Department of Public Health and

[212] BLM, 2015a

Environment (CDPHE) was reviewed and the water quality of the Blue River was described from the U. S. Geological Survey (USGS) data.

The Analysis Area for the water quality assessment includes watersheds on both the Federal and non-Federal parcels and the surface and ground water resources present on these parcels. The exchange parcels are located east and west of SH 9 and along U.S. Highway 40 east of Kremmling. This area is characterized by the east-west trending Gore Range to the west, the east-west trending Williams Fork Mountains to the east, and the gentler landscapes in the Colorado River Valley to the north. This area is drained by the north-flowing Blue River and its tributary perennial stream and intermittent drainages. The Blue River flows into the west-flowing Colorado River just south of Kremmling. All Federal and non-Federal parcels drain to the Blue River except for Federal parcels BLM-A, BLM-J, and part of BLM-C, and non-Federal parcels BVR-5 and BVR-7, which all drain to the Colorado River via intermittent drainages.

AFFECTED ENVIRONMENT

Federal Parcels

Surface Water

Five of the Federal parcels (BLM-B, BLM-C, and BLM-G–I) have a total of 22,509 linear feet of river, perennial stream and intermittent drainage segments. These include 7,886 linear feet of perennial river and stream, and 14,623 linear feet of intermittent drainages (refer to Table 3J-1 in Appendix A). There is one 1.1-acre seasonal pond on Federal parcel BLM-H and a 0.1-acre perennial pond on BLM-C. Locations of the water courses can be found in the project file. BLM-B and BLM-C are located north of Sheephorn Mountain. BLM-B has segments of three unnamed intermittent drainages that flow northeast across the parcel to Beaver Creek, a perennial tributary to the Blue River, which is tributary to the Colorado River just south of Kremmling. BLM-C has a 3,261-foot-long segment of the west-flowing Corduroy Canyon Creek which is tributary to the Colorado River. It also has a 984-linear foot segment of an intermittent tributary to Beaver Creek. BLM-G, located on a terrace between the Blue River and SH 9, is bisected by a 1,480-linear-foot segment of King Creek, a perennial tributary to the Blue River. The southwest corner of BLM-G also has a 586-linear-foot segment of the Blue River. BLM-H, located west of the Blue River and north of Green Mountain Reservoir, has two segments of the Blue River, 1,415 and 2,697 feet in length, and a 2,782-foot-long east-flowing intermittent drainage which is tributary to the Blue River. BLM-I is located west of the Blue River and about 1.5 miles south of Kremmling. BLM-I has a 1,598-foot-long segment of the Blue River on the east end, a 110-linear-foot segment of the Blue River on the north end, a 1,712-foot-long segment of Dry Creek, and two segments (1,417 and 755 feet in length) of unnamed intermittent drainages that flow east to the Blue River.

Watershed Conditions

Table 3J-2 in Appendix A identifies the vegetation types on each Federal parcel, lists whether it meets Public Land Health Standards for vegetation (Standard 3) and soils (Standard 1), lists the major land uses of the parcel (livestock grazing, hay production, flood irrigated, open space), and identifies the landscape disturbances. The only landscape disturbances include access roads.

As documented by Table 3J-2, all of the parcels meet Public Land Health Standard 1 for upland soils, and hence there are no areas with accelerated erosion. All meet Standard 3 for vegetation, except for BLM-G and BLM-K, and have healthy, productive and resilient native plant communities, which prevent erosion. BLM-G and BLM-K do not meet Standard 3 due to areas of introduced vegetation; however, the introduced vegetation effectively stabilizes the soils and retards erosion.

BLM-B, BLM-F, BLM-H, and BLM-I are all grazed by livestock. Stormwater runoff from watersheds that are grazed by livestock that produce manure has a limited potential to locally impact the water quality of receiving streams, especially for BLM-B, BLM-H and BLM-I, as all have watersheds with streams. The impact to surface water quality is likely insignificant and immeasurable.

BLM-G, BLM-H, and BLM-J all have areas of the watershed that are flood irrigated. BLM-G is bisected by King Creek and borders the Blue River. Approximately 0.5 acre of the floodplain of the Blue River on BLM-G is flood irrigated and the tailwater from flood irrigation practices has a limited potential to impact the water quality of the Blue River. Approximately 4.5 acres of the floodplain of the Blue River on BLM-H are flood irrigated and any tailwater

would have the potential to impact the water quality of the Blue River. Similarly, approximately 31 acres of the south part of BLM-J is flood irrigated and any tailwater has the potential to impact the water quality of the Blue River, which is located immediately south of the parcel. The impact to stream water quality is likely insignificant and immeasurable.

BLM-B, BLM-G, BLM-H, BLM-I, and BLM-K all have gravel and/or dirt roads ranging in size from 0.2 to 1.2 acres. During precipitation events, these roads have the potential to provide a source of sediment to streams and rivers on and adjacent to the parcels. BLM-B, BLM-G, BLM-H, and BLM-I have streams; however, the stormwater runoff from the roads on these parcels does not flow directly to a stream but flows across native vegetation which eliminates or significantly reduces the volume of sediment to surface waters.

Water Quality

The mainstream of the Colorado River is on the Colorado Water Control Commission 303(d) List as impaired at a high priority for temperature.[213] The non-Federal parcels are within the affected watershed, but due to vegetation conditions, land uses and size, are not likely affecting the water quality of the Colorado River.

The mainstream of the Blue River from the outlet of Dillon Reservoir to the confluence with the Colorado River is on the Colorado Water Control Commission 303(d) List as impaired at a high priority for temperature.[214] The impairment is likely reflective of the Green Mountain and Dillon Reservoir operations and transmountain diversions. The Federal parcels are within the affected watershed, but due to vegetation conditions, land uses, size, and stream enhancements, are not likely to be affecting the water quality of the Blue River.

USGS data for the 1984–2007 time-period for that section of the Blue River from the outflow of the Dillon Reservoir to the confluence with the Colorado River for 33 sites and 1,143 samples documented that:

- Almost all water temperature measurements and dissolved oxygen concentrations met the CDPHE standard for aquatic life protection.
- Almost all pH values were within CDPHE standards.
- All concentrations of chloride, sulfate and dissolved solids were less than the CDPHE domestic water-supply standards and the U.S. Environmental Protection Agency (EPA)-recommended limits.
- All total ammonia, nitrate and nitrite concentrations met CDPHE standards for aquatic life protection or domestic water supply.
- The CDPHE standard for E. coli for recreational use of streams was met for all samples except for two samples collected in 2001.[215]

Ground Water

Ground water is present in the alluvial aquifers along the rivers and streams of the project site. As documented by Table 3J-1 in Appendix A, segments of the Blue River occur on Federal parcels BLM-H and BLM-I, a segment of the perennial King Creek occurs on Federal parcel BLM-G, and segments of intermittent drainages occur on Federal parcels BLM-B, BLM-C, BLM-F, and BLM-I. The volume of ground water present in the alluvium along the Blue River and the drainages is related to the thickness of alluvial deposits, the width of the floodplain, the hydrology of the water courses, the time of year, and the climatic conditions. The Colorado Geological Survey identified the Colorado River and Blue River as major alluvial aquifers. There are no springs on any of the parcels; however, most of the wetlands (as described in Section K – Wetlands and Riparian Habitats of this chapter) have seeps, which are groundwater fed.

The Colorado Geological Survey has also identified and mapped the Precambrian crystalline and Tertiary Igneous rocks as a major mountain aquifer.[216] This aquifer occurs in the higher elevations of the Williams Fork Mountains and in the Gore Range. Federal parcels BLM-A, BLM-B, and BLM-C are the only Federal exchange parcels to contain metamorphic rocks composed of granites, gneisses, and schists, and hence they may have an aquifer. In general, ground water within the fractured crystalline-rock aquifer is unconfined with water levels fluctuating seasonally. The

[213] CDPHE, 2016
[214] Ibid.
[215] USGS, 2013
[216] Colorado Geological Survey, 2016a

predominant recharge is from snowmelt. The depth to water varies but is generally within 150 feet of the surface. Well yields in this aquifer are generally only a few gallons per minute. Water quality in Precambrian crystalline rock aquifers is generally good, except in areas of mineralization where acidic or metallic waters may be found. There are no wells on any of the parcels.

Non-Federal Parcels

Surface Water

Three non-Federal parcels, BVR-1, BVR-4, and BVR-8, have a total of 16,503 linear feet of river and drainage segments. These include 5,069 linear feet of the perennial Blue River and 11,434 linear feet of intermittent drainages (refer to Table 3J-3 in Appendix A). Locations of the water courses can be found in the project file.

BVR-1 is located on the northeast slopes of the San Toy Mountains about 1.5 miles south of Kremmling. The intermittent Dry Creek and tributaries flow 8,952 linear feet through BVR-1 to the Blue River. An intermittent tributary to Dry Creek traverses 167 linear feet of the northeast end of BVR-1. This parcel has a 0.06-acre seasonal pond located on Dry Creek just west of the diversion point for the Dry Creek No. 2 and 3 Ditches. BVR-4, located on lower slopes of the Williams Fork Mountains just north of the Green Mountain Reservoir, is bisected by a 2,315-linear-foot segment of an intermittent tributary to the Blue River. BVR-8, which has two parts, is located along the Blue River about 1 mile south of Kremmling. The northern part of the parcel has two segments of the Blue River, 1,212 and 2,693 feet in length. The southern part of the parcel has a 1,164-foot-long segment of the Blue River. Thus, this parcel has segments of the Blue River totaling 5,069 linear feet.

Watershed Conditions

As documented in Table 3J-4 in Appendix A, all of the non-Federal parcels, except for BVR-5, BVR-7 and BVR-8, meet Public Land Health Standard 3 and have healthy, productive and viable native plant communities that retard erosion. BVR-5, BVR-7, and BVR-8 do not meet Standard 3 because they have areas of introduced non-native vegetation. However, these non-native plants stabilize the soils of the watershed and prevent erosion in the watershed. All of the parcels meet Public Land Health Standard 1 for upland soils except for the south part of BVR-8, which has a slight development of rills and gullies likely due to livestock grazing. This small area along the bank of the Blue River has some potential to impact the water quality of the river.

BVR-1 and BVR-8 are grazed by livestock, and approximately 25 acres of BVR-1 and approximately 41 acres of BVR-8 are flood irrigated. BVR-1 is bisected by Dry Creek and its tributaries, and parts of BVR-8 border the Blue River. Livestock grazing in the watershed of these parcels and the production of manure by livestock has a limited potential to locally impact the water quality of stormwater runoff entering Dry Creek and the Blue River. Furthermore, tailwater from flood irrigation practices on BVR-1 has the potential to impact the water quality of Dry Creek. Similarly, tailwater from flood irrigation practices on the south part of BVR-8 have the potential to impact the water quality of the bordering Blue River. However, the impact to water quality of water courses from livestock grazed and flood irrigated areas is likely insignificant and immeasurable.

Non-Federal parcels (BVR) 1, 2, 4, 5, 7, 8 and 9 all have gravel and/or dirt roads ranging in size from 0.2 to 1.9 acres, and BVR-1, BVR-4 and BVR-8 have streams and rivers on or adjacent to the parcels. The roads have the potential to generate sediment during precipitation events and impact the water quality of these water courses. However, the stormwater runoff from the roads on these parcels does not flow directly to a stream but instead flows across native vegetation which eliminates or significantly reduces the volume of sediment to watercourses.

Water Quality

See the analysis of stream impairments for the Colorado and Blue Rivers under Federal parcels.

Ground Water

With regard to the non-Federal parcels, segments of the Blue River occur on BVR-8 and segments of intermittent drainages occur on BVR-1 and BVR-4. The volume of water present in the alluvium along the Blue River and the drainages is related to the thickness of alluvial deposits, the width of the floodplain, the hydrology of the river and drainages, the time of year, and the climatic conditions. The Colorado Geological Survey identified the Colorado River and Blue River as major alluvial aquifers. There are no springs or wells on any of the parcels. As described in Section K – Wetlands and Riparian Habitats of this chapter, many of the wetlands have seeps.

The Colorado Geological Survey has also identified and mapped the Precambrian crystalline and Tertiary Igneous rocks as a major mountain aquifer.[217] The Precambrian crystalline and Tertiary Igneous rock aquifer occurs only on the less than 1-acre BVR-7. Thus, this parcel could potentially have an aquifer.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Direct and Indirect Effects

Federal Parcels

Under the No Action Alternative, the BLM would retain ownership of the Federal parcels and their surface and ground water resources. The BLM would continue to be responsible for managing the land uses of the watersheds on the parcels to maintain State of Colorado Water Quality Standards for the river, stream and ground water resources. Water quality in the rivers, perennial streams, intermittent drainages, and in the alluvial aquifers on the Federal parcels would likely remain the same because the land use would likely be the same.

Non-Federal Parcels

Under the No Action Alternative, the non-Federal parcels and their surface water features and ground water resources would continue to be owned and managed by BVR and Summit County (BVR-9), at least for the foreseeable future. BVR and Summit County would continue to be responsible for maintaining the water quality of surface and ground water resources on the parcels. Water quality in the river, intermittent drainages, and in the alluvial aquifers on the non-Federal parcels would likely remain the same because the land use would likely be the same, because there are no foreseeable development plans for these parcels.

Alternative 2 – Proposed Action

Direct Effects

Federal Parcels

Under the Proposed Action, ownership of nine Federal parcels and their surface and ground water features would be transferred to BVR, and they would be responsible for management of the watersheds on these parcels to meet Colorado Water Quality Standards. BVR would acquire 7,886 linear feet of river and perennial stream including 6,406 linear feet of the Blue River on Federal parcels BLM-G, BLM-H and BLM-I and 1,480 linear feet of the perennial King Creek on Federal parcel BLM-G, and 14,623 linear feet of intermittent streams on Federal parcels BLM-B, BLM-C, BLM-H and BLM-I (refer to Table 3J-1 in Appendix A).

Non-Federal Parcels

Ownership of nine non-Federal parcels and their surface and ground water features would be transferred to the BLM, and they would be responsible for managing the watersheds on the parcels to meet Colorado Water Quality Standards. As summarized by Table 3J-3 in Appendix A, with the land exchange the BLM would acquire 16,503 linear feet of river and drainages, including 5,069 linear feet of the Blue River on non-Federal BVR-8, and 11,434 linear feet of intermittent drainages on non-Federal parcels BVR-1, BVR-3 and BVR-4. The watershed on these parcels would be managed to meet Colorado Land Health Standard 5 and comply with the Clean Water Act.

In summary, the BLM would give up ownership of 6,406 linear feet of the Blue River on BLM-G, BLM-H and BLM-I, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net loss of 1,337 linear feet of federal ownership on this river. With respect to perennial streams, they would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,189 linear feet under BLM management. The total net loss of river, perennial stream and intermittent drainages under BLM management would be 6,006 linear feet. No adverse change to the resource is reasonably foreseeable.

[217] Ibid.

Indirect Effects

Federal Parcels

The watersheds on the Federal exchange parcels to be acquired by BVR are healthy under current land uses on the watersheds. Therefore, the water quality of the water courses on the parcels and the ground water in the alluvial aquifers below the parcels likely achieve State Water Quality Standards.

Because it is reasonably foreseeable that the current land uses of the watersheds on the Federal exchange parcels to be acquired by BVR are the same or similar to those implemented following the land exchange, overall surface and ground water quality would not likely be affected. However, following the land exchange, it is the intent of BVR to convey ownership of acquired Federal parcel BLM-J to Skylark Ranch, Federal parcel BLM-K to the Blue Valley Metropolitan District, and the southern half (approximately 50 percent) of BLM-C would be conveyed to Sheephorn Ranch. BLM-J and BLM-K have healthy watersheds, but do not have any water courses. However, BLM-C has intermittent drainages, a portion of which, depending on the configuration of the land sale, could be conveyed to Sheephorn Ranch. It is the intention of Sheephorn Ranch to use the acquired land to graze livestock. Potential changes in land use on the watersheds of the exchange parcels could result in changes to the water quality of water courses and ground water. However, there are no current development plans for any of the Federal parcels that BVR would acquire. Thus, there are no reasonably foreseeable significant impacts to these resources.

Non-Federal Parcels

The watersheds on the non-Federal parcels to be acquired by the BLM are healthy under current land uses; therefore, the water quality of the water courses on the parcels and the ground water in the alluvial aquifers below the parcels would likely achieve State Water Quality Standards. The BLM would be responsible for managing the land uses of the watersheds on the acquired non-Federal parcels to maintain the quality of surface and ground water to meet the Goals and Objectives of the RMP in order to meet Public Land Heath Standard 5 and all state and federal water quality regulations.

In-stream improvements proposed for the Confluence Recreation area and Recreation Design Features proposed for the Confluence, Green Mountain and Spring Creek Bridge areas including enhanced public access to the Blue River in the form of a trail for fishing access, wheelchair access facilities, parking lots, picnic tables, seasonal toilets, and take-out facilities for rafts would have an impact on the water quality of the Blue River during construction. Subject to future acquisition of a section 404 permit, BMPs would be needed to protect water quality during construction.[218] Following construction, the impact of these features would have an insignificant and immeasurable impact on the water quality of the Blue River. However, the water quality of the Blue River may benefit from the proposed in-stream channel work as reducing the stream width and creating pools of water would likely reduce the warming of the water.

Alternative 3

Direct Effects

Federal Parcels

Under Alternative 3, ownership of nine Federal parcels and their surface and ground water features would be transferred to BVR, and they would be responsible for management of the watersheds on these parcels to meet Colorado Water Quality Standards. BVR would acquire 6,178 linear feet of river and perennial stream including 4,698 linear feet of the Blue River on Federal parcels BLM-G and BLM-H and 1,480 linear feet of the perennial King Creek on Federal parcel BLM-G, and 12,911 linear feet of intermittent streams on Federal parcels BLM-B, BLM-C, BLM-H and BLM-I (refer to Table 3J-1 in Appendix A). The primary differences in linear feet of river, stream, and drainage segments to be exchanged under Alternative 3 as compared to the Proposed Action Alternative, is attributable to the modified BLM-I boundary included in this alternative. As it relates to Table 3J-1 in Appendix A, the unnamed intermittent streams on BLM-I (Middle and South) are within the modified BLM-I boundary included in

[218] Section 404 of the Clean Water Act requires that anyone obtain a permit before placing dredged or fill material in waters of the U.S. Appropriate BMPs would be identified during project review by the USACE. BMP management and monitoring plans are required on a case-by case basis.

Alternative 3, but the segments of Blue River and Dry Creek on BLM are excluded from exchange under the Alternative 3 parcel boundary.

Non-Federal Parcels

Ownership of seven non-Federal parcels and their surface and ground water features would be transferred to the BLM, and they would be responsible for managing the watersheds on the parcels to meet Colorado Water Quality Standards. As summarized by Table 3J-3 in Appendix A, with the land exchange the BLM would acquire 14,188 linear feet of river and drainages, including 5,069 linear feet of the Blue River on non-Federal BVR-8, and 9,119 linear feet of intermittent drainages on non-Federal parcel BVR-1. The watershed on these parcels would be managed to meet Colorado Land Health Standard 5 and comply with the Clean Water Act.

In summary, the BLM would give up ownership of 4,698 linear feet of the Blue River on BLM-G and BLM-H, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net gain of 371 linear feet of federal ownership on this river. With respect to perennial streams, they would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,792 linear feet under BLM management. The total net loss of river, perennial stream and intermittent drainages under BLM management would be 4,901 linear feet. No adverse change to the resource is reasonably foreseeable.

Indirect Effects

Under Alternative 3, indirect effects to watersheds would be similar to those discussed under the Proposed Action. Watersheds on the Federal exchange parcels to be acquired by BVR are healthy under current land uses and subsequent transfers to other entities (e.g., Skylark Ranch, Blue Valley Metropolitan District, and Sheephorn Ranch) and assumptions about land uses on these parcels would be consistent with the discussion of the Proposed Action Alternative.

Similarly, watersheds on the non-Federal parcels to be acquired by the BLM are healthy under current land uses; therefore, the water quality of the water courses on the parcels and the ground water in the alluvial aquifers below the parcels would likely achieve State Water Quality Standards. The primary difference is that intermittent drainages on BVR 3 and BVR 4 would not be transferred under this alternative. With regard to the remaining non-Federal parcels, the BLM would be responsible for managing the land uses of the watersheds to maintain the quality of surface and ground water to meet the Goals and Objectives of the RMP in order to meet Public Land Heath Standard 5 and all state and federal water quality regulations.

As there are no Recreation Design Features associated with Alternative 3, there would be no impacts (potentially harmful or beneficial as associated with the river restoration at the Confluence Recreation Area) to water quality from the construction of these features as discussed under the Proposed Action Alternative.

K. WETLANDS AND RIPARIAN HABITATS

SCOPE OF THE ANALYSIS

The future management of wetlands, streams, ponds, and riparian habitats in the Analysis Area may be affected as a result of the change in ownership of Federal and non-Federal parcels. Accordingly, this analysis has been prepared to comply with the BLM's responsibilities under Executive Order 11990, *Wetlands Protection*. Executive Order 11990 directs federal agencies to consider wetlands protection in decision making and to evaluate the potential impacts of any new construction proposed in a wetland. Specifically, federal agencies are directed to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for acquiring, managing, and disposing of federal lands and facilities.

When federally owned wetlands or portions of wetlands are proposed for disposal to non-federal public or private parties, Executive Order 11990 directs federal agencies to (a) reference in the conveyance those uses that are restricted under identified federal, state or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or (c) withhold such properties from disposal.

Moreover, Executive Order 11990 requires agencies to consider factors relevant to a proposal's effect on the survival and quality of the wetlands. Among these factors are:

- Public health, safety, and welfare, including water supply, quality, recharge and discharge, pollution, flood and storm hazards, and sediment and erosion;
- Maintenance of natural systems, including conservation and long-term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and
- Other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

Many wetlands are also protected under the Clean Water Act, which is administered by the U.S. Army Corps of Engineers (USACE). Regulated wetlands and surface waters (ponds and streams) are known as waters of the U.S. Wetlands and other waters of the U.S. are regulated by the USACE under Section 404 of the Clean Water Act, which requires a permit to discharge dredged or fill material into waters of the U.S., including wetlands.

The Clean Water Act and Executive Order 11990 encourage measures to preserve and enhance the natural and beneficial functions of wetlands and also require federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands. More information on the Clean Water Act and the wetland regulatory program administered by the USACE is included at the end of this section. Wetland impacts disclosed below describe the consistency or lack thereof with Executive Order 11990.

The 2015 RMP for the KFO identifies a number of goals and objectives affecting management of wetlands, surface waters and riparian habitats, as well as stipulations for land use in the vicinity of perennial streams, water bodies, fisheries, and riparian areas.

In regard to riparian habitat, an important RMP goal is to maintain Proper Functioning Condition of riparian vegetation, with management actions focused on improvement or protection of wetlands and riparian values.[219] These actions include management of livestock grazing, plantings, restrictions on recreational use, and the use of structures (such as fencing) and upland water developments to direct livestock away from sensitive riparian areas. Moreover, Public Land Health Standard 2 addresses proper functioning of riparian systems and the RMP identifies ten indicators used to evaluate riparian systems for Standard 2.[220] Refer to Appendix F for a complete list of the BLM Colorado Public Land Health Standards. The RMP acknowledges the importance of wetlands and riparian habitats, and they are identified as a priority treatment area for noxious and invasive weeds.[221] In terms of fisheries, perennial water sources (streams, rivers, lakes, ponds, springs, seeps, wetlands, wet meadows, bogs, and fens) and riparian areas are identified as priority habitats that should be protected.[222]

Organization and Scope of this Section

The Analysis Area for wetlands, waters of the U.S. and riparian habitats encompasses the nine Federal and nine non-Federal parcels, as well as the area encompassed by three connected actions: the Confluence Recreation Area, the Green Mountain Recreation Area, and the Spring Creek Bridge Take-Out and Rest Stop. This section identifies the existing wetlands and waters of the U.S. on the exchange parcels, including fen wetlands and those wetlands likely sustained by irrigation water; the location and size of streams, rivers and ponds; and the extent of upland riparian habitats. In addition, the potential effects to these resources are evaluated under the action alternatives and the No Action Alternative. Specifically, the direct effects to wetlands, fens, riparian habitats, and surface waters (ponds and streams) are discussed in terms of a change in land ownership, as well as the indirect effects to these resources that could potentially result from a change in land use patterns following the exchange and from the three connected Recreation Design Features.

For the purposes of this analysis, riparian habitat is defined as a transition area between aquatic and terrestrial (upland) environments influenced by the high-water table associated with a stream or river. Riparian habitats are commonly recognized by the combination of high species diversity, high species density and high productivity.

Fens are wetlands characterized by the accumulation of organic-rich soils and are primarily fed by groundwater sources. For the purposes of this document, the limit of the fens is defined as the outer limit of the organic-rich soils.

[219] BLM, 2015a p.14
[220] Ibid., Appendix J
[221] Ibid., p.15
[222] Ibid., p.16

Organic-rich soils, or Histosols, are characterized by more than 40 cm (16 inches) of organic matter accumulation in the upper 32 inches.

AFFECTED ENVIRONMENT

Wetlands, Waters of the U.S., and Riparian Habitats

Initial wetlands mapping on the exchange parcels was completed by Jacobs Engineering Group in October and November of 2012.[223] The field investigation delineated wetlands, other waters of the U.S. (streams and ponds), and riparian areas for each of the exchange parcels and for an adjacent area of the Blue River riparian/wetland corridor near BVR-8 known as the "Chevron Parcel." Wetland delineations were completed in accordance with the 1987 USACE Wetland Delineation Manual and the Regional Supplements for the Western Mountains, Valleys, and Coast Region (2010) or the Arid West Region (2008), based on conditions on the parcel.[224] The delineation was focused on areas identified as wetlands by the National Wetland Inventory, depressions, drainages, or potential wetlands identified on aerial photographs.

In addition, the Jacobs wetland delineation identified areas of potential fens based on the presence of groundwater discharge, slope or basin wetland types, histosol soils, nearly continuous soil saturation, and vegetation characteristics. Jacobs did not collect soil samples for laboratory determination of the percent organic carbon in the soil.

The boundaries of wetlands and potential fens were marked in the field with a hand-held GPS unit and digitized into GIS. Other waters of the U.S. identified by Jacobs include rivers, streams, drainages, and ponds. For a detailed description of the wetlands and waters of the U.S. investigation prepared by Jacobs, the reader is referred to the *Wetland, Other Waters of the U.S. and Riparian Areas Delineation Report for the Blue Valley Ranch and Bureau of Land Management Land Exchange* in the project file.

The initial investigation completed by Jacobs was supplemented by additional field reconnaissance conducted by Western Ecological Resource, Inc. in September 2016. The Western Ecological Resource investigation focused on parcels where potential fens were present; areas mapped as "wetland complexes" of both upland and wetland habitats; and areas that warranted further investigation based on examination of high-resolution aerial photography. Wetlands were identified based on the vegetation, hydrology and soil criteria of the 1987 USACE Wetland Delineation Manual and the Regional Supplement for the Western Mountains, Valleys, and Coasts. Wetland evaluations were completed by Heather Houston, plant ecologist with Western Ecological Resource and David Buscher, a Certified Professional Soil Scientist with Buscher Soil & Environmental Consulting, Inc. Mr. Buscher field evaluated the organic matter content of potential fens to determine if they contained histosols, and estimated and mapped their limits.

The results of the combined analyses conducted by Western Ecological Resource and Jacobs are summarized in the *Wetland and Riparian Technical Report for the Blue Valley Ranch and Bureau of Land Management Land Exchange* contained in the project file. It should be noted that the boundaries of some of the exchange parcels changed between the two investigations, and this resulted in some corresponding changes to the area of wetlands, riparian habitat, and aquatic habitats on those exchange parcels. Additional changes included in the technical report are the result of field verification conducted by Western Ecological Resource that helped to refine and update the initial mapping prepared by Jacobs.

Federal Parcels

Wetlands, other waters of the U.S., and/or riparian habitats are present on six of the Federal parcels (BLM) B, C, G, H, I, and J. Each of these parcels is summarized in Table 3K-1 in Appendix A. Brief discussions for each parcel are provided following the table. For additional detail, refer to the Wetland, Other Waters of the U.S., and Riparian Area Delineation Report prepared by Jacobs (2015), and the Wetland Technical Report; these are all contained in the project file.

The 120-acre parcel BLM-B contains approximately 1.5 acres of wetlands located along three intermittent drainages. As summarized in Table 3K-1 in Appendix A, these three drainages have a combined length of approximately 3,712 feet within the parcel boundary. The seep wetlands associated with these intermittent drainages are fed by

[223] JEG, 2015
[224] USACE, 1987; USACE, 2008; USACE, 2010

seasonal groundwater discharge and are connected by small sections of channel with a defined bed and bank. Groundwater discharge from the seeps generates surface saturation with small seasonal flows in the three drainages which are conveyed northeast to Beaver Creek, a perennial tributary of the Blue River.

The drainages are generally located within mixed-conifer and aspen (*Populus tremuloides*) forests, with stands of thinleaf alder (*Alnus incana* ssp. *tenuifolia*), willows *(Salix* sp.), and a wetland understory dominated by native herbaceous species including bluejoint reedgrass (*Calamagrostis canadensis*), fowl mannagrass (*Glyceria striata*), Nebraska sedge (*Carex nebrascensis*), arrowleaf groundsel (*Senecio triangularis*), chiming bells (*Mertensia ciliata*), and the introduced agricultural grasses redtop (*Agrostis gigantea*) and timothy (*Phleum pratense*).

The 330-acre parcel BLM-C is located adjacent to BLM-B and is characterized by similar vegetation communities. The parcel is dominated by mixed-coniferous and aspen forests, with wetlands occurring along intermittent drainages and seeps. As summarized in Table 3K-1 in Appendix A, approximately 3.9 acres of wetlands are mapped on the parcel, including approximately 0.08 acre of fens. Approximately 4,245 linear feet of intermittent drainages are located within the parcel boundary.

Wetland development is most extensive in the western portion of BLM-C along Corduroy Canyon Creek, an intermittent drainage characterized by seasonal groundwater discharge. The drainage originates in a wetland seep complex on the parcel that contains a 0.03-acre fen. Seeps occur along most of the 3,261 linear feet of the Corduroy Canyon Creek drainage and are connected by sections of bed-and-bank channel. In addition to the 0.03-acre fen in the upper reaches of this drainage complex, a second small fen (435 square feet) is located in a seep about 60 feet south of the drainage bottom. Vegetation along this wetland drainage includes an overstory of aspen with scattered alders and willows. In the fen areas, which are characterized by organic soil more than 16 inches thick, beaked sedge (*Carex utriculata*) grows densely with mountain and planeleaf willows (*Salix monticola, S. planifolia*).

Seep wetlands also occur along the unnamed tributary to Beaver Creek, an intermittent drainage in the southeastern corner of BLM-C. The northeast-flowing drainage includes two fen areas measuring approximately 0.01 and 0.03 acre. Grazing impacts are evident in these two fens. In particular, the vegetation and organic soil have been extensively trampled and areas at the margins have been converted from native vegetation to stands of the noxious weeds Canada thistle (*Cirsium arvense*). The fens are characterized by nearly continuous groundwater discharge, and the other seep wetlands seasonally discharge groundwater to create surface flows in the drainage. Beaked sedge is the dominant vegetation in the saturated soil of the fens, where it grows with arrowleaf groundsel, largeleaf avens (*Geum macrophyllum*), false hellebore (*Veratrum tenuipetalum*), bluejoint reedgrass, and fowl mannagrass. Agricultural species and weeds have established at the margins, including timothy, Canada thistle and houndstongue (*Cynoglossum officinale*).

Three additional seep wetlands are located on BLM-C in the north and north-central portion of the parcel. Similar to other wetlands on the project site, seasonal groundwater discharge creates saturated soil conditions in these areas, and they support similar plant communities. Common species include beaked sedge, bluejoint reedgrass, arrowleaf groundsel, false hellebore, and thinleaf alder.

The 79-acre parcel BLM-G is dominated by sagebrush terraces above the Blue River, and is bisected by King Creek, a perennial stream that crosses the parcel for approximately 1,480 linear feet. In addition, the southwest corner of BLM-G abuts approximately 586 linear feet of the Blue River. These two perennial drainages have a combined length of approximately 2,066 feet on the parcel (refer to Table 3K-1 in Appendix A). Wetlands and riparian habitat occur in association with King Creek, in a seep on the river terrace south of King Creek, and near an irrigation ditch above the Blue River in the southwestern corner of the parcel. The total wetland area on BLM-G is 0.7 acre, and there are approximately 1.8 acres of riparian habitat.

King Creek originates east of the parcel in the Williams Fork Mountains and flows below SH 9 before entering BLM-G. Within the parcel, King Creek is lined by wetlands (0.67 acre) and riparian habitat (1.63 acres). In wetland areas, groundwater is seasonally discharged and contributes to the stream flow. The wetland vegetation along King Creek has an herbaceous understory dominated by beaked sedge, scattered broadleaf cattails (*Typha latifolia*), and water hemlock *(Sium suave*), with willows and narrowleaf cottonwood (*Populus angustifolia*) trees in the overstory. In the adjacent upland riparian habitats, narrowleaf cottonwoods, aspen, Douglas-fir (*Pseudotsuga menziesii*), blue spruce (*Picea pungens*), and Rocky Mountain juniper (*Juniperus scopulorum*) are present. At the western boundary of the parcel, King Creek is diverted into the Stafford Blue River Ditch.

The southwest corner of BLM-G abuts approximately 586 linear feet of the Blue River riparian corridor, which is dominated by narrowleaf cottonwoods and willows. Two small wetlands dominated by redtop are mapped in this area along the Stafford Blue River irrigation ditch.

The 273-acre parcel BLM-H is located along the west bank of the Blue River just north of Spring Creek Road. Most of the landscape is dominated by sagebrush shrublands; however, wetlands and riparian habitat occur along the Blue River, in an agricultural hayfield on the river terrace, and in association with a seasonal pond. A total of 6.9 acres of wetlands and 2.9 acres of riparian habitat are mapped on the parcel (refer to Table 3K-1 in Appendix A). A seasonal pond in the southern portion of the parcel measures approximately 1.1 acres, and about 5.1 acres of the aquatic habitat of the Blue River are within the parcel boundary. In addition, the southeastern corner of the parcel is crossed by approximately 2,782 linear feet of an unnamed intermittent tributary to the Blue River. Approximately 4,112 linear feet of the Blue River are located on the parcel boundary.

The Blue River and its associated riparian and wetland habitats are present in two locations on BLM-H. In total, the parcel contains 1.2 acres of the Blue River Wetland and 2.9 acres of upland riparian habitat along the Blue River. The wetlands are supported by perennial flows in the river as well as a seasonally high groundwater table associated with the alluvial aquifer. In the north, irrigation tailwater may also contribute to the hydrology of the Blue River Wetland. The steep banks present in the northern part of the parcel limit wetland development along this reach. Vegetation along the Blue River is characterized by stands of mature narrowleaf cottonwood trees interspersed with willow-dominated habitats, with pockets of emergent wetlands in areas of saturated soil habitat in the southern part of the parcel. In the upland riparian habitats, the wetland understory is replaced by agricultural grasses such as timothy and smooth brome.

On the terrace above the Blue River in the southern portion of BLM-H, the 1.1-acre seasonal pond is filled by a seasonal seep and is surrounded by a 0.8-acre wetland. Vegetation surrounding this shallow, seasonal aquatic site is dominated by native species including creeping spikerush (*Eleocharis palustris*), alkali bulrush (*Scirpus maritimus*), arrowgrass (*Triglochin maritima*), and shore buttercup (*Ranunculus cymbalaria*).

On the river terrace in the northern portion of BLM-H, flood irrigation has contributed to wetland development on approximately 4.9 acres. These irrigated wetlands support stands of native vegetation as well as introduced agricultural grasses such as meadow foxtail *(Alopecurus pratensis*), reed canarygrass (*Phalaris arundinacea*), redtop, and timothy, as well as the noxious weed quackgrass (*Elytrigia repens*). Native species such as beaked sedge and fowl bluegrass (*Poa palustris*) are also common.

The 397-acre parcel BLM-I is generally located between Trough Road to the west and the Blue River to the east, with a small portion on the east side of the river. Wetlands and riparian habitats are present where the Blue River enters the parcel in two locations, in association with three intermittent drainages, and in an irrigated area of the river terrace in the north. In total, there are 5.5 acres of wetlands and 5.8 acres of riparian habitat on BLM-I (refer to Table 3K-1 in Appendix A). Approximately 4.1 acres of the aquatic habitat of the Blue River are within the parcel boundary. The intermittent drainages include Dry Creek (1,712 linear feet), a tributary of the Blue River, and two unnamed drainages in the south (1,417 and 755 linear feet) which are intercepted by an irrigation ditch.

The Blue River flows cross the easternmost portion of BLM-I and a small area of the river enters the northern tip. Approximately 1.55 acres of the Blue River Wetland have been mapped within BLM-I, in addition to 4.1 acres of upland riparian habitat located along the river. The wetlands occur on seasonally inundated areas of the floodplain dominated by sandbar willows (*Salix exigua*) and on willow-dominated islands and bars within the channel. The upland riparian habitats in these areas support mature narrowleaf cottonwood trees and a diverse shrub layer that includes sandbar, Bebb, and mountain willows (*Salix exigua, S. bebbiana, S. monticola*), bush honeysuckle (*Distegia involucrata*) and Woods' rose (*Rosa woodsii*) with an understory dominated by introduced agricultural grasses.

The mid-terrace of the Blue River also supports large wetland areas in the eastern portion of BLM-I. Although irrigation ditches are present, this area is not actively irrigated. Seasonal high groundwater creates saturated soil and shallow water conditions for wetland development that cover 2.2 acres on the west side of the river and 0.03 acre on the east side. Some of the vegetation on the river terrace has been modified for agricultural purposes and supports a prevalence of herbaceous plants including both native and introduced agricultural species. However, willow-dominated wetlands are also present. Where sandbar willows occur, areas with a wetland understory are tall and

dense, and commonly support mountain golden banner (*Thermopsis montana*) and starry false Solomon's seal (*Maianthemum stellatum*).

Herbaceous wetlands dominated by native sedges occur in the shallow water habitats. These areas commonly support dense stands of beaked sedge with arrowleaf groundsel and water hemlock. In the seasonally saturated habitats, agricultural grasses such as meadow foxtail grow with native species including beaked sedge, mountain golden banner, Rocky Mountain iris (*Iris missouriensis*), tufted hairgrass (*Deschampsia caespitosa*), and clustered field sedge (*Carex praegracilis*).

A 1,712-linear foot section of Dry Creek, an intermittent tributary of the Blue River, crosses the central portion of BLM-I. Approximately 0.3 acre of wetlands and 1.7 acres of riparian habitat have been identified along Dry Creek within BLM-I.

There are also wetlands associated with two unnamed intermittent drainages in the southern portion of BLM-I. The central unnamed drainage crosses the parcel for 1,417 linear feet, and it has wetlands along most of this length, totaling approximately 0.66 acre. The southern unnamed drainage extends across the parcel for 755 linear feet, with a 0.14-acre wetland at the eastern end. These two intermittent drainages are fed by seasonal groundwater discharge and runoff from the drainage basin to the west.

Finally, two small wetlands are located on the river terrace in the northern portion of BLM-I. One of these is at the outfall of a small irrigation pipe, and the other is in a depression nearby. These two wetlands, which are influenced by leakage of irrigation water, have a combined area of approximately 0.65 acre. These wetlands are dominated by Baltic rush (*Juncus arcticus* ssp. *ater*), clustered field sedge, Rocky Mountain iris, fowl bluegrass, and Kentucky bluegrass *(Poa pratensis)*.

The 90-acre parcel BLM-J, also known as "Palmer Meadows," is located east of Kremmling between U.S. Highway 40 to the north and the Colorado River to the south. This parcel is comprised of two parts. The northern portion is a subirrigated wetland meadow and the southern portion is a flood irrigated complex of wetlands and upland hay meadow. The total wetland area on both portions of BLM-J is 59.2 acres. There are no riparian habitats, streams or ponds mapped on this parcel (refer to Table 3K-1 in Appendix A).

The northern portion of BLM-J is entirely covered by herbaceous wetlands which are supported by seasonal high groundwater. The 13.5-acre wetland on the northern part of BLM-J is dominated by natives including beaked sedge, water sedge (*Carex aquatilis*), panicled bulrush (*Scirpus pallidus*) and mannagrass (*Glyceria grandis*).

The southern portion of BLM-J also has extensive wetland development, covering at least 45.7 acres. This wetland complex includes both natural and irrigation-induced wetlands that are hayed. The lowest, wettest areas are in natural swales that are historic channels of the Colorado River. Many of these low swales are dominated by predominantly native species including beaked sedge and water sedge, bulrushes, seaside arrowgrass (*Triglochin maritima*), and mannagrass. The natural swales have been modified for irrigation use and additional ditches have been constructed that have increased the extent of wetlands. These irrigated and hayed wetlands include mixed stands of native and introduced species. Some of the most abundant species include sedges, redtop, timothy, tall fescue (*Festuca arundinacea*), Kentucky bluegrass, and red clover (*Trifolium pratense*).

It is not feasible to precisely estimate the extent of natural wetlands on the southern part of BLM-J; however, the wetlands in low swales and areas dominated by beaked sedge and other native species account for at least 21 acres of the wetlands. The remaining 24.7 acres of wetlands on the southern portion of BLM-J likely include some flood-induced wetlands and some areas that would remain wetlands in the absence of flood irrigation. Assuming approximately half of these remaining wetlands are due to irrigation, they would account for 12.4 acres of the wetlands mapped on the southern part of BLM-J.

Non-Federal Parcels

Wetlands, other waters of the U.S., and/or riparian habitats are present on four of the non-Federal parcels (BVR) 1, 3, 4, and 8. Each of these parcels is summarized in Table 3K-2 in Appendix A. For additional detail, refer to the Wetland, Other Waters of the U.S., and Riparian Area Delineation Report prepared by Jacobs (2015), the Wetland Technical Report, and the Wetland and Floodplain Assessment Report, which are contained in the project file.

The 657-acre BVR-1 is located at the headwaters of Dry Creek, northwest of Trough Road. This parcel is dominated by sagebrush shrublands, aspen forests, and aspen/mixed conifer forests on north-facing slopes. Wetlands occur along Dry Creek, near an unnamed tributary to Dry Creek in the northeastern corner of the parcel, and downslope of irrigation laterals, where they either receive direct surface flows or have elevated groundwater due to irrigation. In total, approximately 9.4 acres of wetlands have been mapped on BVR-1 (refer to Table 3K-2 in Appendix A). The wetlands supported by flood irrigation comprise approximately 1.3 acres of this total. Riparian habitat is also present along Dry Creek, covering 1.9 acres. A 0.1-acre man-made stock pond has been constructed on Dry Creek near the diversion point for the Dry Creek Ditches No. 2 and 3. Two intermittent drainages on BVR-1, Dry Creek and an unnamed tributary to Dry Creek, have a combined length of 9,119 feet.

Dry Creek is an intermittent drainage that originates on the parcel and extends northeast for 8,952 linear feet. Wetland seeps are common along the Dry Creek drainage, and they seasonally discharge groundwater to create flows in the channel segments between seeps. As described above, a 0.1-acre man made stock pond has been created on this drainage. Vegetation along Dry Creek includes stands of aspen in the riparian habitats, with willows in the wetland seeps and scattered along the channel, where they grow with both native and introduced wetland plants. The most abundant native species is beaked sedge, which dominates the wettest habitats. Other common species include Nebraska sedge and the introduced grasses redtop, meadow foxtail and timothy, as well as the native forb Rocky Mountain iris.

The irrigated wetlands are generally located in areas where the sagebrush has been cleared and they are dominated by introduced pasture grasses. Some of the most common species in the irrigated wetlands include the introduced agricultural grasses meadow foxtail, timothy, Kentucky bluegrass, redtop, and the noxious weed quackgrass.

The small intermittent tributary to Dry Creek in the northeastern corner of BVR-1 extends onto the parcel for 167 linear feet. The dominant vegetation in this area is western wheatgrass *(Pascopyrum smithii)*.

The 187-acre BVR-3 abuts SH 9 east of Green Mountain. The parcel is dominated by large expanses of gently sloping sagebrush shrublands with wetland seeps in the lower elevations on the western side of the parcel. The total area of wetlands on BVR-3 is approximately 4.2 acres, including a 0.05-acre fen (refer to Table 3K-2 in Appendix A). There are no riparian habitats on BVR-3.

The northernmost wetland seep on BVR-3 measures approximately 1.6 acres and includes the 0.05-acre fen. Wetlands in this area are supported by groundwater discharge, which is nearly continuous within the fen. However, vegetation changes at the margins of the seep suggest that it has become drier in recent years, with large areas of Canada thistle establishing upslope of the wetland. The fen is the wettest portion of this wetland complex, which has an overstory of mature river birch (*Betula occidentalis*) and an understory dominated by beaked sedge and marsh arrowgrass (*Triglochin palustris*).

A second, larger seep wetland measuring approximately 2.5 acres is located to the south along the western boundary of BVR-3. A few small swales drain toward this wetland complex, but the main source of hydrology is groundwater discharge. Although this wetland contains organic-rich soil, it does not meet the definition of a fen. The vegetation includes stands of beaked sedge in the wettest areas, with Baltic rush, field horsetail (*Equisetum arvense*), and other native species in drier habitats. A few river birch and willows are present, but they are much less abundant in this area.

The third area of wetlands on BVR-3 is located in a swale associated with a culvert under SH 9. During road construction, a new culvert was installed and minor grading was completed adjacent to the roadway, potentially altering the flow and distribution of water. The existing wetland in this area measures approximately 0.1 acre and is dominated by native species including beaked sedge.

The 160-acre parcel BVR-4 is located east of SH 9 and approximately one-third mile north of BVR-3. An unnamed intermittent drainage originates within the parcel and continues west for 2,315 linear feet to the parcel boundary. This drainage is a tributary to the Blue River and is supported by seasonal groundwater discharge. The vegetation along this drainage includes 0.6 acre of riparian habitat and 0.2 acre of wetlands (refer to Table 3K-2 in Appendix A). Some of the common species include serviceberry (*Amelanchier alnifolia*) and snowberry (*Symphoricarpos rotundifolius*) in the riparian habitats, with Tracy's rush (*Juncus tracyi*), redtop, Bebb willow, and Baltic rush in the wetlands.

The 67-acre parcel BVR-8, comprised of two separate parts, is located next to the Blue River just south of the confluence with the Colorado River. These two sub-parcels include sections of the Blue River riparian/wetland corridor and the aquatic habitat of the Blue River. The combined area of wetlands on BVR-8 is 2.0 acres; in addition, approximately 7.1 acres of the aquatic habitat of the Blue River and 3.3 acres of riparian habitat are mapped within the parcel (refer to Table 3K-2 in Appendix A). The two parcels extend to the centerline of the Blue River along approximately 5,069 linear feet of the parcel boundaries.

The larger portion of BVR-8 measures approximately 61.5 acres. This portion is dominated by an irrigated hay meadow that covers approximately 41.0 acres. The Blue River and its associated riparian and wetland habitat border the hay meadow. The Blue River forms the western boundary of this part of BVR-8 as well as the southeastern edge, and approximately 5.1 acres of the Blue River aquatic habitat are within the parcel boundary. The larger sub-parcel supports 1.8 acres of wetlands and 2.7 acres of riparian habitat.

The smaller portion of BVR-8 is located just upstream, approximately 675 feet to the southeast, and measures approximately 6.9 acres. The Blue River forms the southeastern side of this triangular-shaped sub-parcel, and approximately 2.0 acres of the aquatic habitat of the river are within the parcel boundary. Riparian and wetland habitats line the riverbank, with 0.2 acre of wetlands and 0.6 acre of riparian habitat.

The riparian and wetland habitats along the Blue River on BVR-8 have a few narrowleaf cottonwoods, but sandbar willow and other willows are more abundant, including Bebb willow and Drummond willow (*Salix drummondiana*). Some of the most abundant species in the wetland understory include the native beaked sedge and the introduced agricultural species redtop and reed canarygrass. Reed canarygrass and redtop are also common in the small areas of irrigated wetlands within the hayfield on BVR-8.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Under the No Action Alternative there would be no change to existing land ownership patterns. The proposed land exchange would not occur and ownership and management of the Federal parcels would not change. The non-Federal parcels would remain in private ownership and could potentially be sold and/or developed consistent with relevant county zoning regulations. Current land uses on the Federal parcels would likely continue, including livestock grazing. Some of the Federal parcels could be leased for mineral and/or energy development, although this is unlikely to occur. Under the No Action Alternative, the BLM would continue to periodically inspect the Federal parcels and grazing allotments to inform management decisions with the goal of achieving the Public Land Health Standards.

Direct and Indirect Effects

Federal Parcels

Under the No Action Alternative, there would be no direct or indirect effects to wetlands, riparian habitats, or water bodies on the Federal parcels. For the foreseeable future, the existing land use patterns, primarily livestock grazing, would remain the same and there would likely be no change in the ownership of grazing allotments. In addition, other ongoing agricultural activities, including flood irrigation and haying, would likely continue. There would be no change in ownership of the water rights. Irrigation activities would continue to influence wetland development.

Although there is the remote possibility that some of the Federal parcels could potentially be mined for salable minerals (i.e., sand and gravel), which could potentially adversely affect wetlands and riparian habitats, any future mining permits would undergo site-specific NEPA analysis. Moreover, most wetlands are protected by the Clean Water Act and are regulated by the USACE, as discussed below. Impacts from mineral development to jurisdictional wetlands, streams or ponds would be subject to USACE permitting and mitigation requirements.

Non-Federal Parcels

Similarly, for the non-Federal parcels, grazing on BVR-1 and BVR-8 would continue to be managed by BVR, and the practice of not grazing non-Federal parcels (BVR) 2, 3, 4, 5, 7, 9 and 10 would likely continue. Current irrigation practices would likely continue, contributing to wetland development on BVR-1 and BVR-8. If any future proposed development on the private parcels would impact jurisdictional wetlands, streams or ponds, it would be reviewed and approved by the USACE, as discussed below, and mitigation would be required. BVR has conducted many beneficial

habitat management and enhancement projects and there is the potential that they could choose to restore, enhance, and/or stabilize areas of the Blue River in the future under the No Action Alternative.

Alternative 2 – Proposed Action

Under the Proposed Action, 1,830 acres of non-Federal lands would be exchanged for 1,489 acres of Federal lands managed by the BLM. In addition, three Recreation Design Features connected with the exchange would be developed: the Confluence Recreation Area, the Green Mountain Recreation Area, and the Spring Creek Bridge Take-Out and Rest Stop. There are no wetlands or riparian habitats in the vicinity of the Green Mountain Recreation Area on non-Federal parcels BVR-2 and BVR-10 or the adjacent Forest Service Analysis Area; however, the other two proposed features could impact wetlands and riparian habitat and are evaluated in this section as indirect effects.

As discussed in Chapter 2, the Confluence Recreation Area would include the implementation of in-stream river and riparian habitat improvements designed by Wildland Hydrology, Inc. along approximately 0.75 mile of the Blue River within non-Federal parcel BVR-8 and the intermingled BLM managed lands; construction of a new take-out for floaters; construction of wheelchair-accessible and other fishing access points within the enhanced segment of the Blue River; day-use recreational amenities such as picnic benches, trails, and a parking lot; and, donation to the United States of an additional non-Federal parcel within the Confluence Area, the 7-acre "Chevron Parcel," to facilitate construction of the proposed in-stream enhancements and provide continuous public access on both sides of this stretch of the Blue River.

At the Spring Creek Bridge, the existing Spring Creek Bridge take-out on BVR land would be enhanced and the right to use the take-out and rest stop would be granted to the public in perpetuity. The permanent rest stop and take-out for floaters would include picnic tables, a seasonal toilet, and improvements related to parking and access on existing BVR property at the Spring Creek Bridge.

Wetlands

Direct Effects

The direct effect of the proposed land exchange would be a change in ownership of the wetland resources present on the Federal and non-Federal parcels. As summarized in Table 3K-3 in Appendix A, the exchange would result in a net loss of approximately 61.8 acres of wetlands under BLM management. However, it should be noted that approximately 17.95 acres of this total are irrigated wetlands, which are potentially induced by flood irrigation. If the irrigated wetlands are excluded from the analysis, the Proposed Action would result in a smaller net loss of wetlands under BLM management, approximately 43.9 acres. Additionally, Table 3K-4 in Appendix A summarizes how the change in ownership of wetland resources would be affected with regard to future land uses of the exchange parcels and in the context of regulatory oversight that exists on these lands.

Indirect Effects

Federal Parcels

Approximately 77.7 acres of wetlands on Federal parcels BLM-B, BLM-C, BLM-G, BLM-H, BLM-I and BLM-J would be transferred to private ownership and the resulting land uses could have indirect effects on wetlands.

Executive Order 11990 calls for the BLM to make a determination as to whether "appropriate restrictions" should be placed on parcels containing wetlands that it plans to transfer to private ownership. In this land exchange, that includes parcels BLM-B, BLM-C, and BLM-G–J. Parcels BLM-B, BLM-G–I, and one half of BLM-C would remain in BVR ownership after the exchange. BVR has an established history of maintaining, preserving, enhancing, and creating new wetlands and riparian areas on its property. As stated on page 3-205 of the Draft EIS, "additionally, it is reasonable to anticipate that wetlands transferred out of BLM ownership would maintain their integrity. Between 1994 and 2014, BVR conservation efforts have result in a net increase of 153 wetland acres within BVR ('Pre-Restoration' there were 105 acres, 'Post-Restoration' there are 258 acres)."

Because BVR plans to continue its conservation focus coupled with historic agricultural practices, it is not reasonably foreseeable that the exchange would result in an adverse impact relative to the current existing conditions. Post-exchange grazing practices on parcels BLM-B, BLM-C, and BLM-G–I are projected to be consistent with pre-exchange grazing practices.

While there are no proposed or reasonably foreseeable plans for development on those parcels, and BVR has a demonstrated history of conservation and stewardship, the proposal of any unforeseen future development within the wetlands of those parcels would trigger 1) the stringent requirements of Section 404 of the Clean Water Act and 2) protective restrictions in the Grand County Planning and Zoning Regulations, as discussed below.

These local and federal restrictions would also apply to any potential impacts to wetlands on BLM-J and the one-half of BLM-C that BVR plans to transfer to other ranch owners following approval of the exchange. In addition, a significant portion of the wetlands on BLM-J are the result of irrigation and would be supported by the irrigation needed to support ranching activities on the property (BLM-J would be transferred with its associated agricultural water rights).

Regarding BLM-C, it is located at higher elevation and is currently subject to a BLM grazing permit. Therefore, a continuation of grazing is not projected to impact any wetlands on BLM-C, whether under BVR ownership or as part of the Sheephorn Ranch. Additionally, there is a provision in the agreement between BVR and the ownership of Sheephorn Ranch that restricts future development on the portion of BLM-C to become part of Sheephorn Ranch. There, additional restrictions beyond the local and national regulations discussed below are not necessary for parcels BLM-C and BLM-J.

Any unforeseen attempts to develop the wetlands, either by BVR or the third parties eventually acquiring BLM-J and half of BLM-C, would require review and approval from the USACE pursuant to Section 404 of the CWA. Essentially, this section and the accompanying regulations prohibit the discharge or dredged or fill materials into wetlands if (1) a practicable alternative exists that is less damaging to the aquatic environment or (2) the nation's water would be significantly degraded. Therefore, there is a significant regulatory scheme in place to protect the wetlands involved in the exchange.

In addition to the CWA, any use of the parcels is subject to local Grand County Zoning Regulations that contain further protections for wetlands. The parcels in question lie with the Forestry and Open Zone District pursuant to Section VI of the Grand County Zoning Regulations. The purpose for this district is to "to protect land suitable for agricultural and related uses." This subjects any development to the following restrictions relevant to wetlands protections:

- Other than the permitted uses listed in Section VI 6.1, any other "higher impact uses" such as camping, cemeteries, and public facilities are only permitted by special review of the Planning Commission and Board of County Commissioners, in which they consider, among other facts,
    - The visual, environmental, physiographic and socioeconomic characteristics of the land to be used [and];
    - Evaluation of the broad ecosystems, topography, soils, hydrology, geology, vegetation, wildlife, climate, and unique fractures so that approved special use shall result in the least possible adverse impacts within any zoning district (Section 11.2, page 21).[225]

It is reasonably foreseeable that BVR would continue existing grazing practices on the acquired Federal parcels BLM-B, BLM-G, BLM-H, and BLM-I, since all of these parcels are currently grazed under allotments from the BLM. Approximately 50 percent of BLM-C would be conveyed to Sheephorn Ranch. It is possible that Sheephorn Ranch could change current grazing practices on the southern portion of BLM-C, which contains the Corduroy Canyon Creek drainage and two fen wetlands. The sales agreement for BLM-C from BVR to Sheephorn Ranch, restricts development (as a deed restriction) and a condition of closing is that this sales agreement restricting development needs to be in escrow. The potential for grazing impacts on the Federal parcels following the land exchange would depend upon the timing, duration and intensity of grazing practices or other future land uses. These impacts could include alteration of the vegetation structure and composition, noxious weed abundance, landform, and water distribution within wetlands and riparian habitats. It is assumed that BVR would continue the current irrigation practices on the parcels they acquire.

It is the intention of BVR to convey BLM-J to Skylark Ranch, along with its water right. The proposed transfer of BLM-J is consistent with Executive Order 11990, as local controls are in place that would preclude the destruction of wetlands on this parcel once transferred to private ownership. BLM-J is currently within the Forestry and Open Zone

[225] Grand County, 2017

District, which permits uses related to agriculture, forestry, and mining. Recreational and higher impact uses are allowed when permitted and mitigated properly and development of the property would be allowed in this zone; However, BLM-J has a floodplain along the Colorado River which ranges up to 130 feet in width and development would have to undergo additional consideration by the County if development was proposed to impact it. Further, as discussed under Section L – Floodplains, since BLM-J is located in a major flood channel, it is further subject to regulations and is likely not able to be developed for dwellings. Therefore, the existing county regulations are anticipated to prevent wetland impacts and thus the transfer of BLM-J is consistent with Executive Order 11990. BLM-J is not currently grazed but there is the potential that it could be in the future, which could affect wetlands. Many of the wetlands on BLM-J are due in part to flood irrigation, and it is assumed that Skylark Ranch would likely continue to irrigate BLM-J for hay production, contributing to wetland development and the maintenance of existing irrigated wetlands.

There is no foreseeable plan to develop the mineral estate on any of the Federal parcels transferred to private ownership. However, if these activities would impact jurisdictional wetlands or other waters of the U.S., they would be subject to USACE permitting and mitigation requirements. Likewise, if these parcels would be used for residential or commercial developments, they would be subject to USACE permitting and mitigation requirements for impacts to jurisdictional wetlands.

Given the consideration of the factors discussed above, no additional restrictions are needed or appropriate to ensure the protection of wetlands on property to be transferred from federal to private ownership in this exchange.

Non-Federal Parcels

The BLM would acquire 15.9 acres of wetlands on BVR-1, BVR-3, BVR-4 and BVR-8. The management of these parcels has the potential to affect wetlands and riparian habitats. In particular, livestock grazing has the potential to alter the vegetation structure and composition, noxious weed abundance, landform, and water distribution within wetlands and riparian habitats. Following the land exchange, the BLM would evaluate each of the acquired non-Federal parcels to determine which should be grazed based upon vegetation condition and compatibility with other land uses as per the 2015 RMP. As specified in the 2015 RMP, livestock grazing management would be focused on protecting wetlands and riparian values with the objective of achieving Proper Functioning Condition and attainment of Public Land Health Standard 2. Specific management actions are identified in the 2015 RMP to reduce or limit grazing impacts.

As discussed in Section G – Geology and Minerals in Appendix G of this Final EIS, there is some potential that the acquired non-Federal parcels would be subject to mineral development in the future. Following the land exchange, the BLM would prepare minerals reports for the acquired non-Federal parcels to determine their mineral potential. If valuable mineral resources are present on any of the parcels, they would be evaluated in accordance with the 2015 RMP established guidelines to provide opportunities for leasing, exploration and development. If oil and gas leasing would occur on the parcels, the RMP provides guidance and a number of stipulations in Appendix B which restrict surface occupancy and use in the area of wetlands and riparian habitats, in order to protect their functions and values.

Recreational land uses also have the potential to impact wetland resources on the acquired non-Federal parcels. In particular, users have the potential to trample wetland vegetation along the Blue River when accessing the river for fishing or rafting; however, recreational uses can be managed, and designated access points can be established to help limit trampling in wetlands. In addition, the proposed recreational improvements in the Confluence Recreation Area and at the Spring Creek Bridge have the potential to impact wetlands.

The conceptual design for the Confluence Recreation Area (refer to Figure 3) illustrates the in-stream and riparian habitat improvements developed by Wildland Hydrology, as well as the concepts for the new take-out, the wheelchair-accessible and other fishing access points within the enhanced segment of the Blue River, and the day-use recreational amenities such as picnic benches, trails, and a parking lot. There would likely be some temporary as well as permanent impacts to wetland vegetation along the Blue River, associated with modifications to these species habitat and potential trampling from the use of machinery during the construction of these Recreation Design Features. However, it should be noted that the in-stream features are designed to have a long-term beneficial effect for the Blue River and its adjacent wetlands. As documented by Wildland Hydrology, this area of the Blue River is over-widened and is subject to streambank erosion that delivers an estimated 560.8 tons of sediment per year into the river. The accelerated streambank erosion in this area creates steep banks that limit the opportunity for wetland

development. Thus, installation of the in-stream structures would help to stabilize the reach and would create a channel morphology that is more suitable to the development of wetland and riparian habitats; as a result, the in-stream features and bank stabilization have the potential to increase the extent of wetlands and riparian habitat along this reach of the Blue River. Moreover, the proposed project would be subject to USACE wetland permitting and mitigation requirements. The USACE and BLM would work with BVR to develop the final design for the Confluence Recreation Area and based on this design the anticipated wetland impacts would be calculated. Given the nature of the proposed project and the magnitude of impacts, the USACE would determine whether additional wetland mitigation would be required.

Similarly, the development of the improved Spring Creek Bridge Take-Out and Rest Stop has the potential to impact wetlands and riparian habitat. However, it is likely that most impacts in this area could be avoided since the picnic tables, seasonal toilet, and improvements related to parking and access could be located in upland habitats. If the proposed improvements would impact wetlands, they would be subject to USACE permitting and mitigation requirements.

Fens

Direct Effects

The direct effect of the proposed land exchange would be a change in ownership of the wetland resources present on the Federal and non-Federal parcels, including fens. Under the Proposed Action, 0.08 acre of fen wetlands on Federal parcel BLM-C would be exchanged for 0.05 acre of fens on non-Federal parcel BVR-3. As summarized in Table 3K-3 in Appendix A, the exchange would result in a net loss of approximately 0.03 acre of fens under BLM management. It is important to note that, USACE classifies fens as "Resource Category 1" and that destruction and mitigation of fens is not allowed; therefore, even after transfer into private ownership, there would be no direct impact to fens.

Indirect Effects

Federal Parcels

Grazing management on BLM-C following the land exchange has the potential to affect 0.08 acre of fen wetlands. Two of these fens are located in the eastern half, which would be retained by BVR, and two are located in the southern portion, which would be conveyed to Sheephorn Ranch. During field reconnaissance in September 2016, grazing impacts were evident in the two fens located in the eastern half of BLM-C. Specifically, portions of the fen were physically damaged by trampling of the peat and the vegetation, which has affected the flow of water and potentially contributed to the establishment of noxious weeds adjacent to the fen. Future grazing management assessments would determine whether there are additional impacts.

In addition, fens could potentially be impacted by resource extraction or development on BLM-C. However, as previously mentioned, fens are afforded special protection by the USACE and obtaining a wetland permit to impact a fen is a complex process. In Colorado, most Nationwide Wetland Permits are revoked in fens and for wetlands adjacent to fens. Obtaining an Individual Wetland Permit to impact a fen requires a rigorous alternatives analysis and environmental review that includes a public comment period and agency review by the EPA, USFWS, CPW, and other regulatory agencies.

Non-Federal Parcels

BVR-3 contains a 0.05-acre fen, which could be affected by future land uses on that parcel. The BLM would manage BVR-3 in accordance with the 2015 RMP, which provides direction to protect wetlands and riparian habitats, maintain Proper Functioning Condition, and meet Public Land Health Standard 2 for riparian systems.

Riparian Habitats

Direct Effects

The land exchange would result in the net loss in ownership of approximately 4.6 acres of riparian habitat for the BLM (refer to Table 3K-3 in Appendix A). Approximately 10.9 acres of riparian habitat on Federal parcels BLM-G, BLM-H and BLM-I would be exchanged for 5.8 acres of riparian habitat on non-Federal parcels BVR-1, BVR-4, and BVR-8.

Indirect Effects

Federal Parcels

Following the proposed land exchange, 10.5 acres of riparian habitats on BLM-G, BLM-H, and BLM-I would be privately owned and could be affected by land use changes on the parcels. The upland riparian habitats are not subject to regulation under the Clean Water Act, and no USACE permit would be required to impact them. The primary threats to riparian habitats on these parcels could be improperly managed livestock grazing, mineral extraction, or development of the parcels for residential or commercial uses, subject to county zoning regulations.

Non-Federal Parcels

The 5.9 acres of riparian habitat on BVR-1, BVR-4, and BVR-8 would be acquired by BLM and would be managed in accordance with the 2015 RMP. The BLM would evaluate these parcels for attainment of the Public Land Health Standard 2 for riparian systems and would develop management plans in accordance with the 2015 RMP, with the goal of protecting the wetlands and riparian habitat and maintaining Proper Functioning Condition. In addition, the stream restoration and habitat improvements proposed by Wildland Hydrology for the Confluence Recreation Area would stabilize the channel and promote the establishment of riparian habitats in areas currently subject to bank erosion in the vicinity of non-Federal BVR-8. Recreational use could potentially impact riparian habitats on BVR-8, but these impacts could be outweighed by providing designated access points to limit trampling and locating amenities such as trails away from sensitive areas.

Aquatic Habitats

Direct Effects

Aquatic habitats on the exchange parcels include surface waters associated with streams, ponds and rivers. Like wetlands, most rivers, streams and ponds are waters of the U.S. that are protected by the Clean Water Act. Under the proposed land exchange, 10.4 acres of aquatic habitats on Federal parcels BLM-G, BLM-H and BLM-I would be exchanged for 7.2 acres of aquatic habitats on BVR-1 and BVR-8. Specifically, the BLM would exchange approximately 9.3 acres of the Blue River aquatic habitat on BLM-G, BLM-H, and BLM-I and a 1.1-acre seasonal pond on BLM-H for 7.1 acres of the Blue River aquatic habitat on BVR-8 and a 0.1-acre perennial pond on BVR-1. Thus, the exchange would result in a net loss in ownership of 3.2 acres of aquatic habitat for the BLM. There would be a net loss of 2.2 acres of the Blue River aquatic habitat, a loss of 1.1 acres of the seasonal pond, and a gain of 0.1 acre of a perennial pond (refer to Table 3K-3 in Appendix A).

In terms of the drainages, the Federal parcels contain 7,886 linear feet of perennial streams and 14,623 linear feet of intermittent drainages, for a total of 22,509 linear feet. Under the proposed exchange, BVR would acquire 7,886 linear feet of river and perennial streams including 6,406 linear feet of the Blue River on Federal parcels BLM-G, BLM-H and BLM-I and 1,480 linear feet of the perennial King Creek on Federal parcel BLM-G, in addition to 14,623 linear feet of intermittent streams on Federal parcels BLM-B, BLM-C, BLM-H and BLM-I.

On the non-Federal parcels, BLM would acquire 16,503 linear feet of river and drainages, including 5,069 linear feet of the Blue River on non-Federal parcel BVR-8, and 11,434 linear feet of intermittent drainages on non-Federal parcels BVR-1, BVR-3 and BVR-4.

In summary, the BLM would transfer ownership of 6,406 linear feet of the Blue River on parcels BLM-G, BLM-H and BLM-I, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net loss of 1,337 linear feet of this river under BLM ownership. With respect to other perennial streams, the BLM would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,189 linear feet under BLM ownership. The total net loss of river, perennial streams and intermittent drainages under BLM management would be 6,006 linear feet.

Indirect Effects

Federal Parcels

Following the land exchange, the 10.4 acres of aquatic habitats on BLM-G, BLM-H and BLM-I, and the 22,509 linear feet of drainages on the Federal parcels, would be transferred to private ownership and would potentially be subject to differing land uses; however, no changes are proposed or anticipated at this time. Most of the aquatic habitat is associated with the Blue River, which is protected by the Clean Water Act as well as state water quality

regulations administered by the State of Colorado Public Health and Environment's Water Quality Control Division. However, it should be noted that many land uses that contribute to non-point source pollution on private lands are not regulated. Additional analysis of the potential water quality impacts following the land exchange is included in Section J – Water Quality of this chapter.

Non-Federal Parcels

The BLM would be responsible for managing the aquatic habitats and drainages acquired on Parcels BVR-1, BVR-4, and BVR-8. These resources would be managed in accordance with the 2015 RMP with the goal of meeting the Public Land Heath Standards. If mineral resources were to be developed on any of the parcels in the future, those activities would be subject to project-specific NEPA analysis as well as the protections established by the Clean Water Act and the State of Colorado Water Quality Control Division.

Public Land Health Standard 2

Standard 2 specifies that "riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance (such as fire, severe grazing, or 100-year floods). Riparian vegetation captures sediment, and provides forage, habitat and bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly."

Federal Parcels

Most of the riparian and wetland habitats present on the Federal parcels were observed to be meeting Standard 2. With the exception of the irrigated wetlands that contain introduced pasture grasses, they are largely dominated by native plants that are vigorous and desirable, with appropriate structural diversity, adequate composition, cover and density. However, as noted by Wildland Hydrology, the Blue River in the Analysis Area has been affected by past grazing and farming practices, by the regulation of flows below the Dillon Reservoir, and by an over-widened channel, which have contributed to erosion and sediment accumulation. In the vicinity of the Confluence Recreation Area just downstream of BLM-I, Wildland Hydrology estimates that bank erosion is contributing 560.8 tons of sediment per year into the Blue River. Therefore, portions of the Blue River could be classified as Functioning at Risk. Grazing impacts to two fen wetlands were observed on BLM-C, along the intermittent tributary to Beaver Creek in the southeastern corner. Specifically, portions of the fens were physically damaged by trampling of the peat and the vegetation, which has affected the flow of water and evidently contributed to the establishment of noxious weeds adjacent to the fen. This area of BLM-C is Functioning at Risk for Standard 2.

Non-Federal Parcels

Following the land exchange, if approved, the wetlands and riparian resources acquired by the BLM would be managed in accordance with the 2015 RMP with the goal of meeting Standard 2 and achieving Proper Functioning Condition. Currently, portions of the Blue River in the vicinity of BVR-8 could be classified as Functioning at Risk due to the bank erosion and sediment accumulation described above. No other problematic areas were noted during field reconnaissance.

Regulation and Mitigation of Wetland Impacts

Jurisdictional wetlands and waters of the U.S. are regulated by the USACE under Section 404 of the Clean Water Act, which requires a permit to discharge dredged or fill material into waters of the U.S., including wetlands. There are two primary types of Section 404 permits. Nationwide permits are designed to streamline the authorization of activities that result in minimal adverse effects on the aquatic environment. Generally speaking, most wetland impacts of less than 0.5 acre can be permitted under a Nationwide Permit, provided that they comply with all of the general and regional special conditions. Many of the Nationwide Permits require a Pre-Construction Notification, which must be approved by the USACE prior to the commencement of the project. Projects that do not qualify for a Nationwide Permit must follow the Individual Permit process, which includes a more comprehensive application and a full public interest review by the public and state and federal agencies, including a Public Notice and comment period and a comprehensive alternatives analysis. In Colorado, most of the Nationwide Permits are unavailable for projects proposed in fens and wetlands adjacent to fens; therefore, these projects would require an Individual Permit. For projects within 100 feet of the discharge of springs, the USACE would determine whether the proposed work would have more than a minimal effect to the spring and whether an Individual Permit is required. Normal farming and ranching activity impacts are typically exempt but the conversion of the wetland to upland or farmland would not be

exempt and would be required to obtain a permit. Specific to wetlands themselves is the *Highly Erodible Land Conservation and Wetland Conservation Compliance* provisions, which prohibit producers from planting on converted wetlands or converting wetlands for crop production. In the context of Blue Valley Ranch, this would mean that continued grazing would be permissible on the non-Federal exchange parcels. The conversion of wetlands on the non-Federal parcels to upland or farmland would not occur subsequent to the transfer of the non-Federal lands into private ownership, and grazing practices of the private landowners typically utilize fencing designed to keep cattle out of riparian areas wherever possible. Overall, this would mean that the Proposed Action would be consistent with Section 404 of the CWA as well as Executive Order 11990.

USACE policy generally requires mitigation for wetland impacts greater than 0.1 acre, and this can include the construction of new wetlands to replace those that were lost, the purchase of credits in a wetland mitigation bank, the restoration of a degraded wetland, or a combination of these. Additionally, any proposed development would trigger Grand County special review. Factors in Grand County Zoning Regulations Section 6.1 would be considered in order to protect the environmental characteristics of the land.

Alternative 3

Wetlands

Direct Effects

The direct effect of Alternative 3 would be a change in ownership of the wetland resources present on the Federal and non-Federal parcels. Under this Alternative, the exchange would result in a net loss of approximately 62.8 acres of wetlands under BLM management. This is a slightly greater loss due to the modified boundary of BLM-I and the lack of BVR-3 and BVR-4 being included under this alternative. The reader is referred to Tables 3K-1 and 3K-2 in Appendix A for additional details that were used to extrapolate these findings. Similar to the Proposed Action Alternative, it should be noted that approximately 17 acres of this total are irrigated wetlands, which are potentially induced by flood irrigation. If the irrigated wetlands are excluded from the analysis, Alternative 3, like the Proposed Action Alternative, would result in a smaller net loss of wetlands under BLM management. Additionally, Table 3K-4 in Appendix A summarizes how the change in ownership of wetland resources would be affected with regard to future land uses of the exchange parcels and in the context of regulatory oversight that exists on these lands.

Indirect Effects

Federal Parcels

Alternative 3 would transfer approximately 3.4 less acres of wetlands on Federal parcels BLM-B, BLM-C, BLM-G, BLM-H, BLM-I and BLM-J to private ownership than the Proposed Action Alternative. Aside from this minor difference associated with the modified parcel boundary of BLM-I that is included in this alternative, the resulting land uses and discussion of indirect effects on wetlands is identical to that contained in the analysis of the Proposed Action Alternative in the previous section. The reader is referred to this section for additional details.

Non-Federal Parcels

Under Alternative 3, the BLM would acquire 4.4 less acres of wetlands than the Proposed Action Alternative due to the exclusion of BVR-3 and BVR-4 from this alternative. Additionally, there are no Recreation Design Features included in this alternative, which as discussed under the Proposed Action Alternative have the potential to impact wetlands. Aside from these differences, the resulting land uses and discussion of indirect effects on wetlands is identical to that contained in the analysis of the Proposed Action Alternative in the previous section.

Fens

Direct Effects

The direct effect of the proposed land exchange would be a change in ownership of the wetland resources present on the Federal and non-Federal parcels, including fens. Under the Proposed Action Alternative, 0.08 acre of fen wetlands on Federal parcel BLM-C would be exchanged. As BVR-3 is not included in Alternative 3, the BLM would not receive 0.05 acre of fens under this alternative; therefore, there would be a net loss of approximately 0.08 acre of fens under BLM management (0.03 acre greater than the Proposed Action Alternative). It is important to note that, USACE classifies fens as “Resource Category 1” and that destruction and mitigation of fens is not allowed; therefore, even after transfer into private ownership, there would be no direct impact to fens.

Indirect Effects

Federal Parcels

Indirect impacts related to the land management of BLM-C are identical to those discussed under the analysis of the Proposed Action Alternative in the previous section. The reader is referred to this section for additional details. In summary, fens are afforded special protection by the USACE and obtaining a wetland permit to impact a fen is a complex process. In Colorado, most Nationwide Wetland Permits are revoked in fens and for wetlands adjacent to fens. Obtaining an Individual Wetland Permit to impact a fen requires a rigorous alternatives analysis and environmental review that includes a public comment period and agency review by the EPA, USFWS, CPW, and other regulatory agencies.

Non-Federal Parcels

There are no non-Federal parcels with fens proposed for exchange under Alternative 3.

Riparian Habitats

Direct Effects

The land exchange would result in the net loss in ownership of approximately 1.2 acres of riparian habitat for the BLM (refer to Table 3K-3 in Appendix A). Approximately 6.4 acres of riparian habitat on Federal parcels BLM-G, BLM-H and BLM-I would be exchanged for 5.2 acres of riparian habitat on non-Federal parcels BVR-1and BVR-8.

Indirect Effects

Federal Parcels

Alternative 3 would transfer approximately 4.5 less acres of riparian habitat on Federal parcels BLM-G, BLM-H and BLM-I to private ownership than the Proposed Action Alternative. Aside from this minor difference associated with the modified parcel boundary of BLM-I that is included in this alternative, the resulting land uses and discussion of indirect effects to riparian areas is identical to that contained in the analysis of the Proposed Action in the previous section. The reader is referred to this section for additional details.

Non-Federal Parcels

Under Alternative 3, the BLM would acquire 0.6 less acre of riparian habitat than the Proposed Action Alternative due to the exclusion of BVR-3 and BVR-4 from this alternative. The BLM would evaluate riparian habitats acquired on BVR-1 and BVR-8 for attainment of the Public Land Health Standard 2 for riparian systems and would develop management plans in accordance with the 2015 RMP, with the goal of protecting the wetlands and riparian habitat and maintaining Proper Functioning Condition. Additionally, there are no Recreation Design Features included in this alternative; and therefore, indirect impacts associated with the Confluence Recreation Area as discussed under the Proposed Action Alternative are not relevant to this alternative. Aside from these differences, the resulting land uses and discussion of indirect effects on riparian habitats is identical to that contained in the analysis of the Proposed Action Alternative in the previous section. The reader is referred to this section for additional details.

Aquatic Habitats

Direct Effects

Aquatic habitats on the exchange parcels include surface waters associated with streams, ponds and rivers. Like wetlands, most rivers, streams and ponds are waters of the U.S. that are protected by the Clean Water Act. Under Alternative 3, 6.3 acres of aquatic habitats on Federal parcels BLM-G and BLM-H would be exchanged for 7.2 acres of aquatic habitats on BVR-1 and BVR-8. Specifically, the BLM would exchange approximately 5.2 acres of the Blue River aquatic habitat on BLM-G and BLM-H and a 1.1-acre seasonal pond on BLM-H for 7.1 acres of the Blue River aquatic habitat on BVR-8 and a 0.1-acre perennial pond on BVR-1. Thus, the exchange would result in a net gain in ownership of 0.9 acre of aquatic habitat for the BLM. There would be a net gain of 1.9 acres of the Blue River aquatic habitat, a loss of 1.1 acres of the seasonal pond, and a gain of 0.1 acre of a perennial pond. The reader is referred to Tables 3K-1 and 3K-2 in Appendix A for additional details that were used to extrapolate these findings.

As previously discussed under the environmental effects of Alternative 3 in Section J – Water Quality, the BLM would give up ownership of 4,698 linear feet of the Blue River on BLM-G and BLM-H, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net gain of 371 linear feet of federal ownership on this river. With respect to perennial streams, they would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent

drainages, there would be a net loss of 3,792 linear feet under BLM management. The total net loss of river, perennial stream and intermittent drainages under BLM management would be 4,901 linear feet.

Indirect Effects

Under Alternative 3, modifications to the BLM-I parcel boundary and the exclusion of BLM-3 and BLM-4 would result in different amounts of aquatic habitats to be exchanged than the Proposed Action Alternative (refer to previous section for additional details). Aside from these modifications, the discussion of indirect effects to aquatic habitats would be identical to that contained in the analysis of the Proposed Action in the previous section.

Public Land Health Standard 2

Following the land exchange, if approved, the wetlands and riparian resources acquired by the BLM would be managed in accordance with the 2015 RMP with the goal of meeting Standard 2 and achieving Proper Functioning Condition. As described under the discussion of Public Health Standard 2 contained within the analysis of the Proposed Action Alternative, portions of the Blue River in the vicinity of BVR-8 could be classified as Functioning at Risk due to the bank erosion and sediment accumulation. Additionally, as described under the discussion of Public Health Standard 2 contained within the analysis of the Proposed Action, a portion BLM-C is Functioning at Risk for Standard 2 due to past grazing activities.

No other problematic areas with were noted during field reconnaissance.

Regulation and Mitigation of Wetland Impacts

There are no differences from the discussion under the Proposed Action Alternative related to the regulation and mitigation of wetland impacts. The reader is referred to this section for additional details and a description of applicable regulations.

L. FLOODPLAINS

SCOPE OF THE ANALYSIS

Executive Order 11988, *Floodplain Management* directs federal agencies to evaluate the potential effects of any actions that may be taken in a floodplain. When conducting activities in a floodplain, federal agencies are required to take actions to reduce the risk of flood damage; minimize the impact of floods on human safety, health and welfare; and restore and preserve the natural and beneficial values served by floodplains.

Topographic maps, aerial photography and site reconnaissance were used to determine which of the exchange parcels have segments of river, stream, and drainages, the length of the segments, and the seasonality of the water flow: perennial or intermittent. For the floodplain analysis, the Federal Emergency Management Agency (FEMA) floodplain mapping for the State of Colorado was obtained from the FEMA Map Service Center to determine the 100-year floodplains of these water courses. FEMA has not mapped the 100-year floodplain for any of the river, stream or drainage segments on the exchange parcels. However, there are floodplains associated with the rivers, the perennial stream and to a lesser extent, the intermittent drainages. In general, intermittent drainages have a floodway, the main channel, but little 100-year floodplain development as erosion has not removed significant volumes of sediment and there is little aggradation or alluviation, the deposition of sediment.

AFFECTED ENVIRONMENT

Federal Parcels

Streams/Rivers

Table 3L-1 in Appendix A, identifies the Federal parcels that have streams and rivers, the seasonality of the water course, the segment length of the water course on the parcel, an estimate of the floodplain width on the parcel, and the condition of the floodplain. Locations of the water courses are available in the project file. Intermittent drainages occur on BLM-B, BLM-C, BLM-H, and BLM-I and river and perennial stream segments occur on BLM-G, BLM-H, BLM-I, and BLM-J. BLM-B is traversed by three northeast flowing tributaries to the perennial Beaver Creek, an east-flowing tributary to the Blue River. These drainages have a total length of 3,712 feet on BLM-B. BLM-C has 4,245 linear feet of two intermittent drainages including the headwaters of a northeast-flowing intermittent drainage that traverses BLM-B to the northeast, and the west-flowing Corduroy Canyon Creek, which is tributary to intermittent

drainages that flow north to the Colorado River. Dry Creek, an intermittent east-flowing tributary to the Blue River, traverses 1,712 linear feet of BLM-I. BLM-I is also crossed by two east-flowing intermittent tributaries to the Blue River with a total length of 2,172 feet.

King Creek, a perennial west-flowing tributary to the Blue River, traverses 1,480 linear feet of BLM-G and it has little floodplain development due to an incised channel. The perennial Blue River traverses the southwest corner of BLM-G (586 linear feet), southeast (1,415 linear feet) and northeast (2,697 linear feet) parts of BLM-H, and the east end (1,598 linear feet) and the north extension (110 linear feet) of BLM-I.

Floodplains

The presence of floodplains within the Federal parcels was assessed by reviewing the FEMA Flood Insurance Rate Map, Grand County, Colorado and Incorporated Areas, Effective Date January 2, 2008, and Summit County, Colorado and Incorporated Areas, Effective Date November 16, 2011. No Flood Hazard Analysis has been conducted for the streams on any of the parcels. All parcels are mapped as Zone D, which indicates areas with possible but undetermined flood hazards.

Estimates of the width of the floodplains of rivers and streams on the Federal exchange parcels were completed by a stream hydrologist using aerial photography and interpretation. Table 3L-1 in Appendix A documents the estimated floodplain widths. The width of the floodplain for the intermittent drainages on BLM-B is less than 5 feet. Similarly, the two streams on BLM-C also have little floodplain development. On BLM-G, the width of the Blue River floodplain ranges from 10 to 100 feet and King Creek has a floodplain width estimated to be 25 to 50 feet. BLM-H has two segments of the Blue River which has a floodplain width ranging from 15 to 25 feet for the southeast segment of the river to 20 to 300 feet wide for the northeast section of the river. There is also a small 10- to 20-foot-wide floodplain for the unnamed stream to the south. BLM-I has five water courses with floodplains ranging in width from 50 to 300 feet and 30 to 500 feet for the Blue River segments, and 10 to 70 feet and 5 to 30 feet for segments of the two intermittent streams. BLM-J has a floodplain along the Colorado River which ranges up to 130 feet in width.

The extent of floodplain inundation of the Federal parcels along the Blue River is a function of the rate of water released from Green Mountain Reservoir as well as the geomorphic condition of the river system at any point along the study reach. Flow data for the Blue River immediately downstream of Green Mountain Reservoir is available from 1938 to 2016. However, because the dam was completed in 1942 and there are only a few years of pre-dam flow data available, the flow record is insufficient to provide a reasonable hydrologic comparison of pre- and post-dam annual peak flows. Because the reservoir is used to store spring runoff water for release later in the year, it is reasonable to expect that post-reservoir peak flows released from the reservoir are likely less than the pre-reservoir flows; therefore, there is potentially less flooding on portions of the floodplains of the Federal parcels along the Blue River.

The variability of Blue River channel condition influenced by decades of a modified flow regime below the reservoir raises the possibility that some sections of the river immediately below the dam may have experienced scour due to "hungry water conditions," whereas reaches farther downstream may be experiencing deposition due to reduced bankfull flow rates and diminished ability to transport the normal sediment loads delivered to those river reaches. Federal parcels along the Blue River that are scoured or affected by post-reservoir flow rates potentially may experience less flooding.

The floodplains on the Federal parcels do not have any structures, although segments of existing access roads occur in the floodplains on BLM-G, BLM-H and BLM-I.

Non-Federal Parcels

Floodplains

The presence of floodplains within the non-Federal parcels was identified by reviewing the FEMA Flood Insurance Rate Map, Grand County, Colorado and Incorporated Areas, Effective Date January 2, 2008, and Summit County, Colorado and Incorporated Areas, Effective Date November 16, 2011. No Flood Hazard Analysis has been conducted for the streams on any of the parcels. All parcels are mapped as Zone D, which indicates areas with possible but undetermined flood hazards.

Estimates of the width of the floodplains of rivers and streams on the non-Federal parcels were completed by a stream hydrologist using aerial photography and interpretation. Table 3L-2 in Appendix A documents the estimated

floodplain widths. BVR-1 has segments of intermittent drainages with floodplains ranging from 5 to 25 feet and 10 to 90 feet in width. The unnamed intermittent drainage on BVR-4 has a floodplain that ranges in width from 5 to 15 feet. The floodplain on BVR-8 North extends entirely across the parcel to the bottom of the slope on the east side of the parcel. The estimated width of the floodplain is 1,400 feet. The width of the floodplain on BVR-8 South is 20 to 40 feet.

See the Floodplains section under Federal parcels for a discussion of floodplain inundation, which applies to the non-Federal parcels as well.

The floodplains on the non-Federal parcels do not have any structures, although small segments of existing access roads occur on the floodplain of BVR-1, BVR-4, and BVR-8.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Direct and Indirect Effects

Under the No Action Alternative, ownership and management of floodplains along streams and rivers on Federal and non-Federal parcels would remain unchanged. Flooding along water courses on Federal parcels would not affect structures because none are present. Similarly, there are no structures along the water courses and floodplains on the non-Federal parcels to be impacted by flooding. However, short segments of existing access roads occur on the floodplain of some of the exchange parcels and would continue to be subject to flooding during storm events.

Alternative 2 – Proposed Action

Direct Effects

Table 3L-3 in Appendix A summarizes how the change in ownership of floodplain resources would be affected with regard to future land uses of the exchange parcels and in the context of regulatory oversight that exists on these lands. As shown in Table 3L-2 in Appendix A, the BLM would acquire ownership of four non-Federal parcels that have a total of 5,069 linear feet of the perennial Blue River and 11,434 linear feet of small intermittent drainages. Floodplains occur along the Blue River on BVR-8 and along intermittent drainages on BVR-1 and BVR-4. Thus, the BLM would assume ownership and management of these waterways and their floodplains.

A total of 22,509 linear feet of river, stream and drainages, including 6,406 linear feet of the Blue River, 1,480 linear feet of the perennial King Creek, and 14,623 linear feet of intermittent drainages on four Federal parcels would be transferred to private ownership. Floodplains occur along the Blue River on BLM-G, BLM-H and BLM-I; along the Colorado River on BLM-J South; and along intermittent drainages on BLM-B, BLM-C, BLM-H and BLM-I. Thus, BVR would assume ownership and management of these waterways and their floodplains.

With the proposed land exchange, the BLM would have a net loss in ownership of 6,006 linear feet of waterways and their floodplains, including 1,337 linear feet of the Blue River, 1,480 linear feet of the perennial King Creek, and 3,189 linear feet of intermittent drainages.

Applicable Grand County, Colorado land use regulations would apply to any future developments to protect watershed resources and floodplains that would be transferred into private ownership. The Federal parcels located within floodplains are all in Grand County, which has regulations in place that require permitting for recreation and higher impact uses that could be pursued on parcels with floodplains. While there are no foreseeable plans for development on those parcels, if any unforeseen development within the floodplains of those parcels is proposed once they are no longer in federal ownership, it would be subject to protective restrictions in the Grand County Planning and Zoning Regulations as follows:

- Section 3.3.5 (“Floodplain Management”) of the Storm Drainage Design and Technical Manual states: “in general, floodplains should be left in historic condition whenever possible. The policy of the county shall be to leave floodplains in a natural state whenever possible.”[226]
- Section 14.3 (Supplementary Regulations—Major Flood Channels) of the Zoning Regulations states: “Buildings or other structures, except a flood control dam or irrigation structure, shall not be constructed in

[226] Grand County, 2006

> areas subject to inundation unless and until the plans for such building or structure are first approved by the Board of County Commissioners subject to the following special conditions: (1) Any building or structure which is approved shall be located so as to offer minimum obstruction to the flow of flood water, and shall not cause lands outside of the natural flood channel to be flooded; (2) No dwellings shall be permitted; (3) No schools, churches, or other places of public assembly shall be permitted; and (4) No storage of materials which could be moved by flood waters shall be permitted."[227]

These restrictions would appropriately and adequately ensure that harm to lives, property, and floodplain values are identified and minimized and that floodplain values are restored and reserved in compliance with Executive Order 11988. Land that is located in a major flood channel, is subject to further regulations and is likely not able to be developed for dwellings; therefore, despite the fact that the watershed resources and floodplains would be transferred out of BLM management, these resources would be protected by local regulations and thus the Proposed Action is consistent with Executive Order 11988.

Further, in-stream improvements proposed for the Confluence Recreation Area and Recreation Design Features proposed for the Confluence, Green Mountain and Spring Creek Bridge areas, including enhanced public access to the Blue River in the form of a trail for fishing access, fishing and access easements, wheelchair access facilities, parking lots, picnic tables, seasonal toilets, and take-out facilities for rafts, many of which would be located in the floodplain of the Blue River have been designed to minimize the effects of dispersed human use at river access locations. As dispersed use at public lands that are popular amongst recreationists creates erosion, compacts soils, and removes vegetation, the proposed Recreation Design Features would provide for the enjoyment of these lands in a way that is not anticipated to negatively impact floodplains as a result of their formalized nature. By encouraging human access at designated access points, this would minimize the creation of informal trails and roads to access the river elsewhere. Additionally, the proposed Recreation Design Features would be constructed to minimize impacts on floodplain function, such as placement of structures so as to not impede flood flows, permeable parking lots to encourage water infiltration, placement away from wetland and riparian areas, replanting of areas de-vegetated by dispersed use, and other necessary measures that may become applicable as these sites are used over-time.

Indirect Effects

The floodplains on the acquired non-Federal parcels would be managed by the BLM in accordance with Executive Order 11988 and other federal laws. The 2015 RMP has stipulations that require BMPs for the areas that buffer all streams and drainages. Any future development on the floodplains of streams and rivers on the acquired parcels would require a NEPA analysis of potential impacts to floodplain functionality and an assessment of the risk of flood hazards.

Flooding would not be a concern on the non-Federal parcels to be acquired by the BLM because there are currently no structures on the floodplains of these water courses and there are no reasonably foreseeable development plans to build structures within the floodplains of these water courses. However, short segments of existing access roads occur on the floodplains of BLM acquired BVR-1, BVR-4, and BVR-8, and would continue to be subject to flooding during high flow events. In-stream improvements proposed for the Confluence Recreation Area and Recreation Design Features proposed for the Confluence, Green Mountain and Spring Creek Bridge areas, including enhanced public access to the Blue River in the form of a trail for fishing access, wheelchair access facilities, parking lots, picnic tables, seasonal toilets, and take-out facilities for rafts, many of which would be located in the floodplain of the Blue River, would be subject to flooding during flood events. However, location of these facilities in the floodplain would have an insignificant and immeasurable impact on the flows in the Blue River.

Flooding could be a minor seasonal problem on the Federal parcels going to private ownership if additional roads or structures are built within the floodplains following the land exchange. At this time, there are no reasonably foreseeable development plans for these parcels. Small segments of existing access roads occur on the floodplains of BLM-G, BLM-H, and BLM-I and would continue to be subject to flooding during high flow events. However, any development in the floodplains of the streams and rivers acquired by BVR would be required to comply with any applicable local and county zoning restrictions.

[227] Grand County, 2017

Alternative 3

Direct Effects

Alternative 3 differs from the Proposed Action Alternative in that the Blue River and Dry Creek water resources on BLM-I would be retained in Federal ownership. All other components of Table 3L-3 in Appendix A remain applicable to this alternative.

Conversely, under Alternative 3, the BLM would only acquire ownership of watershed resources on two non-Federal parcels (rather than three under the Proposed Action Alternative) that have a total of 5,069 linear feet of the perennial Blue River and 9,119 linear feet of small intermittent drainages. The main difference between the Proposed Action Alternative and Alternative 3 is that the BLM would not acquire the unnamed intermittent drainage on BVR-4. All other aspects of Table 3L-2 in Appendix A remain relevant to this alternative.

A total of 19,089 linear feet of river, stream and drainages, including 4,698 linear feet of the Blue River, 1,480 linear feet of the perennial King Creek, and 12,911 linear feet of intermittent drainages on four Federal parcels would be transferred to private ownership. Floodplains occur along the Blue River on BLM-G, BLM-H and BLM-I (a small portion of floodplain at the north end of BLM-I would still be included in this alternative); along the Colorado River on BLM-J South; and along intermittent drainages on BLM-B, BLM-C, BLM-H and BLM-I. Thus, BVR would assume ownership and management of these waterways and their floodplains.

Under Alternative 3, the BLM would have a net loss in ownership of 4,901 linear feet of waterways and their floodplains. More specifically, under the BLM would give up ownership of 4,698 linear feet of the Blue River on BLM-G and BLM-H, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net gain of 371 linear feet of federal ownership on this river. With respect to perennial streams, they would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,792 linear feet under BLM management.

Aside from the minor differences between the Proposed Action Alternative and Alternative 3 in the amount the amount of river, stream, and drainages that would change ownership 3, the effects would be largely similar as applicable Grand County, Colorado land use regulations would apply to any future developments to protect watershed resources and floodplains that would be transferred into private ownership. The reader is referred to the previous section for a discussion of applicable Grand County Planning and Zoning Regulations. These restrictions would appropriately and adequately ensure that harm to lives, property, and floodplain values are identified and minimized and that floodplain values are restored and reserved in compliance with Executive Order 11988. Land that is located in a major flood channel, is subject to further regulations and is likely not able to be developed for dwellings; therefore, despite the fact that the watershed resources and floodplains would be transferred out of BLM management, these resources would be protected by local regulations and thus Alternative 3 is consistent with Executive Order 11988.

Further, there are no Recreation Design Features proposed under Alternative 3. Although this departure from the Proposed Action Alternative would preclude disturbance, both from the installation of infrastructure and human use, it could actually result in a greater likelihood that of informal trails and roads to access the river be created under Alternative 3. Without designated access points, and formalized use, there is a chance that Alternative 3 has additional impacts to floodplains than the Proposed Action Alternative, although insignificant and immeasurable overall.

Indirect Effects

The floodplains on the acquired non-Federal parcels would be managed by the BLM in accordance with Executive Order 11988 and other federal laws. The 2015 RMP has stipulations that require BMPs for the areas that buffer all streams and drainages. Any future development on the floodplains of streams and rivers on the acquired parcels would require a NEPA analysis of potential impacts to floodplain functionality and an assessment of the risk of flood hazards.

Flooding would not be a concern on the non-Federal parcels to be acquired by the BLM because there are currently no structures on the floodplains of these water courses and there are no reasonably foreseeable development plans to build structures within the floodplains of these water courses. However, short segments of existing access roads occur on the floodplains of BLM acquired BVR-1 and BVR-8 and would continue to be subject to flooding during high flow events.

Flooding could be a minor seasonal problem on the Federal parcels going to private ownership if additional roads or structures are built within the floodplains following the land exchange. At this time, there are no reasonably foreseeable development plans for these parcels. Small segments of existing access roads occur on the floodplains of BLM-G and BLM-H and would continue to be subject to flooding during high flow events. However, any development in the floodplains of the streams and rivers acquired by BVR would be required to comply with any applicable local and county zoning restrictions.

M. CUMULATIVE EFFECTS

As discussed in this chapter's Introduction, cumulative effects are the impacts to the environment that result from the incremental effects of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.[228] Reasonably foreseeable future actions include activities, developments, or events that have the potential to change the physical, social, economic, and/or biological nature of a specified area. Existing activities, projected activities directly associated with a proposed action, and other reasonably foreseeable future actions provide the basis for defining and analyzing cumulative impacts. To be a cumulative effect, the impacts from an action must overlap in space and time with the direct and indirect effects of the action.

The spatial and temporal scope for cumulative effects is defined by resource. Table 3M-1 in Appendix A provides a list of past BLM land exchanges that have occurred throughout the Analysis Area since 1984. This information is based off of a database query for Case Recordation Reports for authorized Forest Service and BLM land exchanges within Summit and Grand counties administered by the BLM KFO. There are no reasonably foreseeable future actions which relate to development of the Federal parcels nor with respect to any future land exchanges in the Analysis Area.

In addition to past land exchanges that have occurred in the Analysis Area the following projects and plans were considered in this analysis:

- 1984 Kremmling RMP
- 2015 RMP
- 2002 Forest Plan
- 2015 Sage-Grouse ARMPA
- 2011 Grand County Master Plan
- 2009 Countywide Comprehensive Plan (Summit County)
- Lower Blue Master Plan (Summit County)
- Wild and Scenic Stakeholder Group Management Plan
- Colorado Parks and Wildlife State Wildlife Action Plan
- SH 9 Colorado River South Wildlife & Safety Improvements (completed 2016)

The 2015 RMP cumulative impacts analysis discloses past, present, and reasonably foreseeable actions and trends that most prominently inform the cumulative impact analysis documented in this Final EIS. Additional actions and trends are identified where new information or smaller-scale information is relevant to the cumulative impacts of the action alternatives.

Specific details of the cumulative effects to each resource analyzed in this Final EIS are discussed below, and apply to both the No Action Alternative, Proposed Action, and Alternative 3. An underlying premise of this cumulative effects analysis is that unless there are direct and/or indirect effects to any given resource specifically related to a proposed project, there cannot, by definition, be cumulative effects. Because the direct and indirect effects associated with the action alternatives are in most cases minimal, and in some cases nonexistent, cumulative effects associated with the proposed land exchange are not significant. The cumulative effects to resources with negligible direct or indirect effects can be found in Appendix H.

[228] 40 CFR § 1508.7

CUMULATIVE EFFECTS BY RESOURCE

The following cumulative effects analyses are provided for resources that were identified to have potential "issues" through public scoping and the analysis prepared for the Draft EIS. These resources had their direct and indirect effects analyzed in detail throughout Chapter 3 of the main body of this Final EIS.

Lands and Realty

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects dates back to 1984, the date of approval for the KFO RMP, and under which RMP this land exchange was initiated in 2005. Past exchanges in the Analysis Area approved under the 1984 RMP are considered in this analysis; however, direction from the 2015 RMP supersedes the 1984 RMP and guides the current analysis. There are no other actively proposed land tenure actions within the Analysis Area.

Spatial Bounds

The Analysis Area for the cumulative effects analysis of lands and realty resources includes the two counties (Grand and Summit) that encompass the project area, as well as BLM and NFS lands within the Analysis Area.

Past, Present, and Reasonably Foreseeable Future Projects

As evidenced in Table 3M-1 in Appendix A, since 1984 the federal government has acquired a total of approximately 7,237.30 acres of non-Federal lands and conveyed approximately 12,331.75 acres to non-federal ownership, in four land exchanges throughout the Analysis Area. *This has resulted in a net loss of approximately 5,094.45 acres of public lands*.

While land exchanges between other federal agencies, particularly the Forest Service, have occurred in the Analysis Area, all of the past BLM land exchanges occurred either partially or wholly in Grand County. No previous BLM land exchanges in the Analysis Area have resulted in the transfer of lands in Summit County.

The net gain or loss of land terms of acreage is important in considering land exchange patterns within the Analysis Area; however, it is also important to understand that land exchanges are completed on an equal value basis, not an equal acre basis (per the BLM Land Exchange Handbook H-2200-1). Thus, regardless of a net gain or loss of public lands by acreage, environmental review and the appraisal process has indicated that the lands exchanged were in the public interest and of approximately equal value as required by law.

The Proposed Action would increase the total non-federal lands acquired by the United States Government in the Analysis Area from 7,237 acres to 9,067 acres, a 25 percent increase. The Proposed Action would increase the total federal lands conveyed to non-federal ownership from 12,332 acres to 13,821 acres, a 12 percent increase. Similarly, Alternative 3 would increase the total non-federal lands acquired by the United States Government in the Analysis Area from 7,237 acres to 8,721 acres, a 20 percent increase. Alternative 3 would increase the total federal lands conveyed to non-federal ownership from 12,332 acres to 13,745 acres, a 12 percent increase.

Dating back to 1984, all lands acquired by the United States Government through land exchanges in the cumulative effects Analysis Area have been incorporated into either BLM or Forest Service management plans, as appropriate. These management plans provide direction to the agency on a resource-by-resource basis, commensurate with law, regulation and policy. Quantification of the specific impacts resulting from past land exchanges that have been conducted in the cumulative effects Analysis Area on a resource-by-resource basis is beyond the scope of this cumulative effects analysis. The impact of past exchanges to each resource in the Analysis Area is reflected in the respective baseline, and thus it is unnecessary to try and quantify the impacts of the exchanges beyond the analysis contained in the baseline. However, in general, it is logical to assume that resources on lands acquired by the United States Government were afforded federal protections and management, while lands acquired by private landowners lost some protections and management.

Since 2002 Summit County's Open Space Program has completed eight land transactions at the northern end of Summit County resulting in fee simple acquisition of 1,552 acres. These 1,552 acres of land are in close proximity to BVR-2, BVR-9, and BVR-10, which upon transfer into BLM ownership under either of the action alternatives would further consolidate the amount of public lands and open space in the Green Mountain Area. Although some of the

Summit County Open Space parcels are held in conservation easements, with restricted access and no public recreational opportunities, there would be a cumulative net gain in acreage for land based recreational activities due to this exchange and the Summit County Open Space and Trails Department acquisitions.

Present and reasonably foreseeable future actions in the Analysis Area that could affect and would be likely to continue to affect lands and realty include new and existing right-of-ways for projects such as pipelines, transmission lines, communication sites, and housing subdivisions on private lands.

Increasing interest in utility and mineral development in the Analysis Area has placed and is expected to place a greater demand on lands and realty actions. These demands create the need for land tenure adjustments and additional right-of-ways for pipelines, transmission lines, and other facilities supporting development.

These effects considered along with other activities in the Analysis Area are not expected to cumulatively affect lands and realty on the KFO.

Access and Transportation

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects dates back to the 1984 KFO RMP, to account for past land exchanges that specifically shaped public access within the Analysis Area. Additionally, the focus of this analysis is from 2002 to present, a time period that includes the most recent resource management plans from the KFO and WRNF, county plans for Grand and Summit counties, and the Lower Blue Master Plan.

Spatial Bounds

The Analysis Area for the cumulative effects analysis of access and traffic includes the two counties (Grand and Summit) that encompass the project area, as well as BLM and NFS lands within the Analysis Area. More specifically, the cumulative effects analysis for this resource includes SH 9, Trough Road, Spring Creek Road, and U.S. Highway 40.

Past, Present, and Reasonably Foreseeable Future Projects

Reasonably foreseeable trends that would result in cumulative impacts on access and transportation include increasing demand for recreation opportunities within the State of Colorado, increased demand for close-to-home recreation opportunities for local residents, continued and increased visitation from a growing regional population, and increased popularity of adjacent public lands.

Past transportation projects within the Analysis Area have generally improved access and transportation on key roadways for residents, recreationists, and visitors of the region. As traffic naturally increases in the region, future transportation projects are expected to maintain road conditions under increased traffic volumes. In 2016 the Colorado Department of Transportation completed wildlife and safety improvements on a section of SH 9 identified as Colorado River South. This project improved the road quality on SH 9 and has reduced the number of wildlife and vehicle related incidents on this main artery of the Analysis Area. When considered with the effects of the action alternatives that would not measurably increase traffic volumes in the Analysis Area, past and future transportation projects have and are anticipated to continue to reduce the impacts of naturally increasing traffic volumes in the Analysis Area, which is growing in popularity among recreationists and visitors to the region.

Forest plans for adjacent NFS lands and RMPs for adjacent BLM-administered lands have closed areas and routes to motorized recreation, causing users to move to other NFS and BLM-administered lands in the Analysis Area. Increasing urban and suburban populations proximate to and within the Analysis Area have increased the level of recreational and route use on NFS and BLM-administered lands.

In general, lands acquired by the United States Government through the past land exchanges identified in the cumulative effects Analysis Area have been made accessible to the public. Conversely, federal lands that were conveyed to private ownership as a result of these land exchanges were generally closed to public access. Because the both action alternatives would improve legal access to public lands in the Analysis Area (refer to Section B – Access and Traffic of this chapter), the cumulative effects to access and transportation are considered beneficial to helping meet recreational demand in the Analysis Area by providing additional BLM administered lands to accommodate

increasing recreational route use and providing legal access to additional recreation opportunities. This is generally consistent with the goals and objectives outlined in the county plans for Grand and Summit counties, as well as the Lower Blue Master Plan, which will be discussed in the following section.

Recreation

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects dates back to 1984 and includes impacts associated with the 1999 Eagle Pass Ranch Land Exchange, which resulted in the development of formalized recreation opportunities, similar to those proposed in the Recreation Design Features of this exchange. This temporal bound also allows for consideration of the most recent resource management plans from the KFO and WRNF, county plans for Grand and Summit counties, and the Lower Blue Master Plan, all of which in some capacity shape recreation resources in the Analysis Area.

Spatial Bounds

The Analysis Area for the cumulative effects analysis of recreation resources is focused on the two counties (Grand and Summit) that encompass the project area but also includes the entire State of Colorado. Many of the trends that affect the recreation resource originate on a statewide level and thus, must be considered cumulatively with the impacts to recreation generated by the proposed land exchange in Grand and Summit counties.

Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future actions and conditions within the Analysis Area that have affected and would be likely to continue to affect recreation are increased visitation (especially from residents within the Analysis Area and those from the surrounding region), urbanization of communities, advances in outdoor recreation equipment, management in existing Recreation Management Areas, and energy development. In light of these changing conditions, direction provided by the most recent resource management plans from the KFO and WRNF, county plans for Grand and Summit counties, and the Lower Blue Master Plan is anticipated to guide development and land use in a way that can sustainably accommodate increased visitation attributable to recreation. All of these plans acknowledge the aforementioned trends and recognize that an increase in federal lands in their respective planning areas would benefit the recreation resource.

There is a strong correlation between population growth, visitation, and recreation in large part because many new residents have moved to the area specifically because of easy access to recreation opportunities on BLM administered and NFS lands. The expanding suburban development footprint has also placed many new neighborhoods directly adjacent to BLM and Forest Service boundaries, resulting in increased trespass onto private property and resource impacts from private property owners accessing public lands from adjoining private land (e.g., social trailing, etc.). Cumulatively, the direct and indirect effects of the proposed land exchange under either action alternative, are anticipated to have a positive effect on the recreation resource when considered with these trends by increasing the amount of federal lands that are publicly accessible in the cumulative effects Analysis Area.

Further, lands acquired by the United States Government through past land exchanges identified in the cumulative effects Analysis Area have been made accessible to the public, generally benefitting the scope of recreation opportunities in the Analysis Area. Some of these past land exchanges have resulted in the development of formalized recreation opportunities, similar to those proposed in the Recreation Design Features associated with the Proposed Action. Of particular significance are the cumulative effects to recreation that resulted from the 1999 Eagle Pass Ranch Land Exchange (refer to Table 3M-1 in Appendix A). The Eagle Pass Ranch Land Exchange affected river recreation in the area. As a result of this exchange, the public received 0.7 mile of Gold Medal water on the Colorado River east of Kremmling, an additional 2.3 miles of the Colorado River that is not designated Gold Medal water, and 0.22 mile on the Lower Blue River that is Gold Medal water. As far as river recreation, the acquisition on the Lower Blue River was an important acquisition for river recreation as BLM constructed a boat launch used by kayakers and rafters floating Gore Canyon, at the existing Confluence Site. This boat launch is heavily used and provides a managed public access point to floaters. The public did lose access to 1.4 miles of Blue River shoreline in the Eagle Pass Ranch Land Exchange, including 0.65 mile that were very difficult for pedestrian access and 0.61 mile that were river access only. Since the proposed land exchange would be expected to enhance recreational opportunities for the

public and legal recreational access to public lands to some degree under either of the action alternatives it is anticipated to have a cumulatively beneficial impact to recreational resources when considered with the four previous land exchanges in the cumulative effects Analysis Area, and more specifically the 1999 Eagle Pass Ranch Land Exchange.

Additionally, specific to the cumulative impacts of recreation resources in the Analysis Area are the acquisitions of Summit County Open Space and Trails Department. Since 2002 Summit County's Open Space Program has completed eight land transactions at the northern end of Summit County resulting in fee simple acquisition of 1,552 acres. These 1,552 acres of land are in close proximity to BVR-2, BVR-9, and BVR-10, which upon transfer into BLM ownership under either of the action alternatives would further consolidate the amount of public lands and open space in the Green Mountain Area. Although some of the Summit County Open Space parcels are held in conservation easements, with restricted access and no public recreational opportunities, there would be a cumulative net gain in acreage for land based recreational activities due to this exchange and the Summit County Open Space and Trails Department acquisitions.

Summit County's Lower Blue Master Plan also encompasses each of the non-Federal BVR parcels in Summit County that would be transferred to BLM ownership following the exchange. A large component of this Plan's vision is the importance of open spaces, and improvement of trail systems and other public recreation opportunities. It is anticipated that the proposed land exchange under either action alternative and subsequent future management of these parcels by BLM and the Forest Service, in addition to Summit County Open Space and Trails Department efforts, would have a cumulatively beneficial impact on the objectives of Summit County's Lower Blue Master Plan.

Social and Economic Resources

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects dates back-to-back to 2002, which includes the most recent resource management plans from the KFO and WRNF, county plans for Grand and Summit counties, and the Lower Blue Master Plan. This temporal bound focuses the analysis to current patterns within the Analysis Area and eliminates past planning and projects that are no longer relevant to potential social and economic impacts associated with the proposed land exchange.

Spatial Bounds

The Analysis Area for the cumulative effects analysis of social and economic resources includes the two counties (Grand and Summit) that encompass the project area, as well as BLM and NFS lands within the Analysis Area.

Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future actions and conditions within the Analysis Area that have affected and would likely continue to affect social and economic conditions are chiefly increasing populations and urbanization of communities, mining and mineral exploration and development, lands, realty, transportation, right-of-ways, renewable energy development, the advancement of the recreation economy, and livestock grazing. As there would be no direct or indirect impact to socioeconomic resources associated with the conveyance of the surface and mineral estates of the Federal and non-Federal lands, there is no cumulative effect on mining and mineral exploration or renewable energy development associated with the proposed land exchange.

In terms of recreational opportunities, which is an important economic feature of public lands in the Analysis Area, the proposed land exchange under either action alternative would increase the availability of these opportunities through the additional legal access to public lands and specific to the Proposed Action Alternative, through the proposed Recreation Design Features. The proposed land exchange is expected to increase the area's overall appeal as a recreation destination and thus contribute to economic activity in the Analysis Area. When considered with the most recent planning documents for the different entities of the Analysis Area this is viewed as a positive cumulative effect. The resource management plans from the KFO and WRNF, county plans for Grand and Summit counties, and the Lower Blue Master Plan all acknowledge that the economies of the Analysis Area are closely tied to the availability of recreation opportunities. As both action alternatives would increase the availability of recreation resources in the Analysis Area to some degree, and the aforementioned planning documents share a common directive to do so within

the Analysis Area, it is anticipated that cumulatively, the effects of the proposed land exchange on the recreation economy of the Analysis Area would be perpetuated. In summary, it is reasonably foreseeable that future recreation projects would be implemented under the direction of these planning documents, ultimately benefitting social and economic resources within the Analysis Area.

As discussed under the *Lands and Realty*, *Access and Transportation*, and *Recreation* cumulative effects sections, past land exchanges and transportation projects have generally resulted in positive impacts to the recreation resource; therefore, these past projects and actions have likely also had positive contributions to social and economic resources within the Analysis Area. As previously mentioned, public comments suggested that the exchange of BLM-G into private ownership, as associated with both action alternatives, may result in individual property value losses for homeowners in the Blue Valley Metropolitan District (refer to Appendix L – Response to Comments on the Draft Environmental Impact Statement); however, evidence of this assertion has not been provided.[229] Further, BLM acknowledges that access to this parcel and the Blue River via this parcel may be the reason that individuals purchased property in Blue Valley Acres.

While the exchange of BLM-G into private ownership may result individual property value losses for homeowners in the Blue Valley Metropolitan District, these impacts are expected to be minimal in the context of the broader positive impacts to social and economic resources. Further, the disposal of BLM-G is consistent with the 2015 RMP, despite the potential perception of homeowners that this parcel would exist as BLM lands in perpetuity.

Livestock Grazing Management

Although the Proposed Action would result in direct effects to livestock and grazing management through the transfer of six grazing allotments under either of the action alternatives (refer to Section E – Livestock Grazing Management for additional details), this would not substantially impact range management or existing grazing rights on Federal or non-Federal parcels considered in the exchange. Thus, the proposed land exchange under either of the action alternatives is not anticipated to cumulatively impact range management or existing grazing rights in the cumulative effects Analysis Area. The impacts to the resource were analyzed and are limited to the direct and indirect effects discussed elsewhere in this document; there are no cumulative impacts to this resource identified because there are no reasonably foreseeable future actions that would lead to further impacts to the resources.

Paleontology

The direct effects of the proposed land exchange to paleontological resources, under either action alternative, have been identified previously (refer to Section F – Paleontological Resources of this chapter), as have the indirect effects (related to agreements between BVR and other landowners in the area). Because there is generally no proposed ground disturbance associated with the action alternatives on lands that would be transferred out federal ownership, it is not anticipated that the land exchange would adversely affect scientifically important fossils. BLM-K, which under either of the action alternatives would be conveyed and likely be developed by Blue Valley Acres #2 subdivision subsequent to this exchange, is ranked as Class 5 under the PFYC system. Construction of the proposed Recreation Design Features would occur on BLM lands under the supervision of BLM personnel; should paleontological resources be discovered, construction would be halted immediately. Thus, the proposed land exchange under either action alternative is not anticipated to cumulatively impact paleontological resources.

Wildlife

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects to wildlife resources dates back to 2002, the year in which the WRNF published their resource management plan. This temporal bound encompasses the other land use plans that have affected wildlife resources in Analysis Area, which includes the 2015 RMP, 2015 Sage-Grouse ARMPA, and the Colorado Parks and Wildlife State Wildlife Action Plan.

[229] The potential property value loss for each homeowner is uncertain and is based upon numerous factors other than adjacency to public lands.

Spatial Bounds

The cumulative effects Analysis Area for wildlife resources includes the entire KFO planning area and adjacent NFS lands in the Green Mountain Area.

Past, Present, and Reasonably Foreseeable Future Projects

Consistent with the 2015 RMP, past, present, and reasonably foreseeable future actions and conditions within the Analysis Area that have affected and would likely to continue to affect wildlife are mineral exploration and development; residential and industrial development (including power lines and other right-of-ways); forestry; grazing; recreation; road construction; water diversion and withdrawals; weed invasion and spread; prescribed and wildland fires; CPW, WRNF, and BLM management objectives for wildlife species and habitat; vegetation treatments; habitat improvement projects; insects and disease; and drought.

Water management regimes associated with Dillon and Green Mountain Reservoirs and in the Upper Colorado River basin would continue to drive habitat suitability for aquatic species, including trout. These management regimes would continue to cause reduced instream flows which would continue to shift macroinvertebrate and fish species composition; it is important to note that these water management regimes are outside of the scope and direction of the BLM and the land exchange process. Brown trout and other non-native fish species would continue to dominate the Blue and Colorado Rivers in the Analysis Area. Without continued stocking of rainbow trout and/or other sport-fish species, the warmer waters and current habitat conditions would favor existing species.

Many of the activities described above can change habitat conditions, which then cause or favor other habitat changes. For example, wildland fire removes habitat, and affected areas are more susceptible to weed invasion, soil erosion, and sedimentation of waterways, all of which degrade habitats. In general, resource use activities have cumulatively caused habitat removal, fragmentation, noise, increased human presence, and weed spread. Land planning efforts that have resulted in vegetation, habitat, and weed treatments have offset some of these effects by improving habitat connectivity, productivity, diversity, and health. In addition, the continual management of BLM lands, as provided by the 2015 RMP, would maximize habitat suitability for wildlife in the project area.

Climate change could cause an increase or decrease in temperatures and precipitation, which would affect soil conditions, vegetative health, and water flows and temperature. Such changes would alter habitat conditions, potentially creating conditions that could favor certain species or communities, weeds, or pests.

The direct effect of the proposed land exchange under either of the action alternatives would be a change in ownership of habitats present on the Federal and non-Federal parcels. The exchange, under either action alternative, would result in a net gain of habitat resources under Federal management.[230] The proposed exchange would result in BLM acquisition of certain habitat types as well as a loss in ownership of other habitat types. This change would be insignificant as these parcels and their habitats represent only a small fraction of the habitat managed by the KFO. The proposed land exchange under either of the action alternatives would have little direct impact on wildlife habitats or use patterns, but assuming similar management of these lands, there would be some continued direct and indirect impact to wildlife, albeit a very limited impact in terms of timing, intensity and duration. Potential development of Recreation Design Features that would occur under the Proposed Action Alternative are the only new potential impacts that are notably different in type and level of disturbance intensity, and these features are relatively small in scale, and in areas that already see some level of human activity.

Cumulatively, the effects of the proposed land exchange under either of the action alternatives are not large enough in scale to generate impacts that would compound impacts to wildlife that have resulted from the previous land exchanges in the Analysis Area, nor would they compound the effects of resource use activities, changes to water management regimes, or climate change when considered at the spatial bounds of the KFO planning area.

[230] The net gain of 342.2 acres of habitat resources differs from the net gain in 341 acres of public lands because habitat resources are mapped and calculated in GIS, while land exchange acreage is based on the legal description of parcels, which has been calculated through cadastral survey work.

Vegetation

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects to vegetation resources dates back to 2002, the year in which the WRNF publish their resource management plan. This temporal bound encompasses the 2015 RMP, which has also outlined management objectives for vegetation resources in Analysis Area.

Spatial Bounds

The cumulative effects Analysis Area for vegetation resources includes the entire KFO planning area and adjacent NFS lands in the Green Mountain Area.

Past, Present, and Reasonably Foreseeable Future Projects

Consistent with the 2015 RMP, past, present, and reasonably foreseeable future actions and conditions within the Analysis Area that have affected and are likely to continue to affect vegetation are mineral exploration and development, livestock grazing, recreation, road construction, right-of-ways (including large transmission lines or pipelines), weed invasion and spread, prescribed and wildland fires, land planning efforts, vegetation treatments, habitat improvement projects, insects and disease, and drought. Many of these create conditions that cause or favor other vegetation changes. For example, wildland fire causes vegetation removal, which makes affected areas more susceptible to weed invasion and soil erosion.

Drought conditions reduce vegetative health, which makes vegetation prone to insect infestation or disease. In general, resource use activities have cumulatively caused vegetation removal, fragmentation, weed spread, soil compaction, and erosion, whereas land planning efforts and vegetation and weed treatments have countered these effects by improving vegetative connectivity, productivity, diversity, and health.

Climate change within the Analysis Area could cause an increase or decrease in temperatures and precipitation, which would affect soil conditions, vegetative health, and water availability. Such changes would alter the conditions to which vegetative communities are adapted, potentially creating conditions that could favor certain species or communities, weeds, or pests.

The direct effect of the proposed land exchange under either of the action alternatives would be a change in ownership of the vegetation resources present on the Federal and non-Federal parcels. The exchange, under either action alternative, would result in a net gain vegetation resources under Federal management.[231] The proposed exchange would result in BLM acquisition of certain vegetation communities as well as a loss in BLM ownership of other vegetation communities now on BLM lands. The exchange would result in a net loss of approximately 7 acres of Harrington penstemon habitat under management of the BLM (potentially less under Alternative 3). As such, potential adverse impacts to plants could occur (associated with anticipated indirect effects), but no effects to species as a whole are expected to occur. Lastly, under the Proposed Action, similar levels of noxious weed infestations would be transferred into and out of federal ownership, resulting in no significant increased burden on the federal government for control of noxious weeds.

Cumulatively, the effects of the proposed land exchange under either of the action alternatives are not large enough in scale to generate impacts that would compound impacts to vegetation that have resulted from the previous land exchanges in the Analysis Area, nor would they compound the effects of resource use activities or climate change when considered at the spatial bounds of the KFO planning area.

Water Rights and Use

Dating back to 1984, some of the past land exchanges presumably included a transfer of water rights between private landowners and the United States; however, as described in Section I, 5.375 cfs of two water rights on the Sophronia Day Ditch No. 2 on Federal BLM-J would be conveyed to BVR under either of the action alternatives. The three water rights on Dry Creek on BVR-1 owned by Galloway Inc. (the owner of BVR), along with the 7.12 cfs water right

[231] The net gain of 342.2 acres of habitat resources differs from the net gain in 341 acres of public lands because habitat resources are mapped and calculated in GIS, while land exchange acreage is based on the legal description of parcels, which has been calculated through cadastral survey work.

on the Loback Ditch on BVR-8 would be conveyed to the United States under either of the action alternatives. As the water rights that would be transferred as a result of the proposed land exchange are considered negligible in light of the total amount of decreed water rights in the Blue River watershed, neither of the action alternatives are anticipated to cumulatively impact water rights.

Water Quality, Surface and Ground

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects to water resources dates back to 1994, the year in which BVR began improving portions of the Blue River channel located on its property. This temporal bound also encompasses the WRNF Forest Plan, Summit and Grand County Master Plans, the Lower Blue Master Plan, the Wild and Scenic Stakeholder Group Management Plan, and the 2015 RMP, all of which have directly or indirectly affected water resources in Analysis Area. This also focuses the analysis to recent trends in actions or processes with potential to cumulatively affect water resources.

Spatial Bounds

The cumulative effects Analysis Area includes the Blue River and Colorado River watersheds that overlap the Federal and non-Federal parcels and thus have the potential to be affected by the proposed land exchange under either of the action alternatives. The surface and ground water resources present on these parcels is also assessed.

Past, Present, and Reasonably Foreseeable Future Projects

As described in the 2015 RMP, potential cumulative impacts on water resources in the planning area would result from alteration of functional vegetative communities and could lead to increased runoff and sediment/contaminant delivery. Activities with impacts on water resources include management actions attributed to the alteration of natural vegetative communities (e.g., pinyon-juniper invasion and cheatgrass); the spread of insects and diseases; historic grazing practices; surface-disturbing actions in areas of low reclamation potential; conversion of native rangelands to irrigated agricultural lands (on non-BLM-administered lands); residential development; improper maintenance of transportation facilities, spills/leaks of substances used to develop mineral resources; increased water diversions for a variety of purposes; wildland fire and fuels; drought; and recreational use. These activities cause surface disturbances by removing vegetation cover, displacing and compacting soils, and altering soil structure and chemistry. The result is exposed surfaces that increase the potential for runoff and erosion, which delivers sediment and contaminants to nearby waterways. Sedimentation in waterways can cause changes in water chemistry as well as geomorphic adjustments that could have negative effects on stream function.

Urban growth and development in the Analysis Area is anticipated to have impacts on water quantity and water quality. The demand for water is anticipated to increase with urban expansion.

Impacts on water quantity could affect wildlife habitat (e.g., riparian areas and wetlands, aquatic habitat, wildlife, water quality, and fisheries). Loss of vegetation and disturbed soils associated with construction and development projects would leave denuded surfaces susceptible to soil detachment and transport during runoff. Increased runoff and erosion following runoff events and mass wasting could further deliver sediment and contaminants to nearby waterways.

In addition, agricultural runoff would introduce nutrients, pesticides, and herbicides to shallow groundwater and adjacent hydrologic features. Unavoidable water quality impacts would include temporary increases in suspended load in flowing streams as a result of culvert installation, vehicle use of low-water crossings, and livestock, wildlife, and wild horse use of stream banks and wetlands; permitted channel fills resulting from construction of oil and gas pads, roads, and pipelines; and the introduction of nutrients from irrigation practices occurring on private lands. Water quantity impacts would include water withdrawals for livestock use, oil and gas and other mineral resource exploration, development and production, and watering of roads for dust mitigation. Dust on snow resulting from fugitive dust production outside of the planning area would continue to impact the timing of melt out and the quantity of water available for downstream users.

Under the Proposed Action, the BLM would transfer ownership of 6,406 linear feet of the Blue River on BLM-G, BLM-H, and BLM-I, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net loss of 1,337 linear feet of

this river under BLM management. With respect to perennial streams, they would transfer ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,189 linear feet under BLM management. The total net loss of river, perennial stream and intermittent drainages under BLM management would be 6,006 linear feet.

Under Alternative 3, BLM would give up ownership of 4,698 linear feet of the Blue River on BLM-G and BLM-H, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net gain of 371 linear feet of federal ownership on this river. With respect to perennial streams, they would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,792 linear feet under BLM management. The total net loss of river, perennial stream and intermittent drainages under BLM management would be 4,901 linear feet.

As described in the *Direct* and *Indirect Environmental Effects* discussion of Section J – Water Quality, the current land uses of the Federal exchange parcels to be acquired by BVR are the same or similar to those implemented following the land exchange, overall surface and ground water quality would likely not be affected. Therefore, there are no cumulative effects to water quality, associated with the transfer in ownership portion of the proposed land exchange. In terms of the loss in linear feet under BLM management that would occur under the Proposed Action Alternative, and whether previous land exchanges in the Analysis Area resulted in a net gain or loss of linear feet of water resources under BLM ownership was not specifically analyzed as it can be reasonably inferred that environmental review of the previous land exchanges would have ensured consistency with guiding resource management plan direction that was in place at the time of the exchange. Further, at the scale of the cumulative effects Analysis Area, which includes the Blue River and Colorado River watersheds, this change in ownership would not be measurable.

The proposed Recreation Design Features that are included in the Proposed Action Alternative, particularly in-stream developments at the proposed Confluence Recreation Area, have potential to cumulatively impact water resources in a different capacity. Over the last twenty-three years, BVR has improved approximately 25,300 linear feet of the Blue River channel for aquatic habitat and bank protection. Approximately 8,300 feet of old "oxbow channels" have been re-connected to the main stream channel; approximately 60 acres of seasonally flooded pond areas have been created for waterfowl habitat; and approximately 150 acres of new wetland areas have been created or enhanced. This work has been accomplished under the supervision of the section 404 permit program of the USACE. The currently proposed Recreation Design Features that are included in the Proposed Action Alternative would cumulatively add to the in-stream improvements of river in the Analysis Area. Under the Proposed Action Alternative, in-stream improvements proposed for the Confluence Recreation Area and Recreation Design Features proposed for the Confluence, Green Mountain and Spring Creek Bridge areas, including enhanced public access to the Blue River in the form of a trail for fishing access, wheelchair access facilities, parking lots, picnic tables, seasonal toilets, and take-out facilities for rafts, would have an impact on the water quality of the Blue River during construction. Cumulatively, the instream fish habitat improvements proposed as part of the Confluence Recreation Area under the Proposed Action Alternative would add 4,043 linear feet of improvements to the Blue River, an additional 16 percent of improved instream habitat when added to the length of the Blue River and its immediate tributaries previously enhanced by BVR (25,300 linear feet). The proposed Recreation Design Features that are included in the Proposed Action Alternative have potential to impact water quality in the Analysis Area in the short term but are anticipated to have long-term cumulative benefits when considered with past BVR projects executed under the supervision of the section 404 permit program of the USACE. Alternative 3 does not include Recreation Design Features and there would be no cumulative effects associated with this alternative beyond the transfer of ground and surface water resources as discussed in the previous paragraph.

Wetlands and Riparian Habitats

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects to wetland and riparian resources dates back to 1994, the year in which BVR began conservation efforts with regard to wetland and riparian resources located on its property. This temporal bound also encompasses the WRNF Forest Plan, Summit and Grand County Master Plans, the Lower Blue Master Plan, and the 2015 RMP, all of which have directly or indirectly affected water resources in Analysis Area.

This also focuses the analysis to recent trends in actions or processes with potential to cumulatively affect wetland and riparian resources.

Spatial Bounds

The cumulative effects Analysis Area for wetland and riparian resources includes the entire KFO planning area and adjacent NFS lands in the Green Mountain Area.

Past, Present, and Reasonably Foreseeable Future Projects

Past, present, and reasonably foreseeable future actions and conditions within the Analysis Area that have affected and would likely to continue to affect wetlands and riparian habitats are mineral exploration and development, livestock grazing, recreation, road construction, right-of-ways (including large transmission lines or pipelines), weed invasion and spread, prescribed and wildland fires, land planning efforts, vegetation treatments, habitat improvement projects, insects and disease, and drought. Many of these create conditions that cause or favor other vegetation changes. For example, wildland fire causes vegetation removal, which makes affected areas more susceptible to weed invasion and soil erosion.

Drought conditions reduce vegetative health, which makes vegetation prone to insect infestation or disease. In general, resource use activities have cumulatively caused vegetation removal, fragmentation, weed spread, soil compaction, and erosion, whereas land planning efforts and vegetation and weed treatments have countered these effects by improving vegetative connectivity, productivity, diversity, and health.

Climate change within the Analysis Area could cause an increase or decrease in temperatures and precipitation, which would affect soil conditions, vegetative health, and water availability. Such changes would alter the conditions to which vegetative communities are adapted, potentially creating conditions that could favor certain species or communities, weeds, or pests.

As summarized in Section J – Water Quality of this chapter, BVR has created or enhanced 150 acres of wetlands adding to the total beneficial cumulative impact to wetland resources in the Analysis Area. A USACE-issued wetland permit is required for dredging and filling of jurisdictional wetlands; therefore, the USACE would have required appropriate mitigation for impacts to wetlands within the cumulative effects Analysis Area, negating the ability of past land exchanges to present cumulative effects when considered with the currently proposed land exchange. Therefore, although past land exchanges may have resulted in a loss of wetlands within the Analysis Area, impacts that could have occurred under private ownership would have been mitigated, either through restoration, establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. Quantification of the extent (i.e., acreage) of wetlands and riparian areas that were transferred between private landowners and the United States Government over the past three decades and the qualification of impacts (i.e., dredge and fill) to any wetlands and riparian areas is not included in this cumulative effects analysis.

As discussed previously (refer to Section K – Wetlands and Riparian Habitats of this chapter), the direct effect of the proposed land exchange under either action alternative would be a change in ownership of the wetland resources present on the Federal and non-Federal parcels, resulting in a net loss of approximately 61.4 acres of wetlands under BLM management for the Proposed Action Alternative and 62.8 acres of wetlands under BLM Management for Alternative 3. It should be noted that approximately 17.95 acres of this total are irrigated wetlands, which are potentially induced by flood irrigation. The exchange would also result in a net loss of BLM ownership of approximately 0.03 acre of fens.

Additionally, it is reasonable to anticipate that wetlands transferred out of BLM ownership would maintain their integrity. Between 1994 and 2014 BVR conservation efforts have resulted in a net increase of 153 wetland acres within BVR (“Pre-Restoration” there were 105 acres, “Post-Restoration” there are 258 acres).

Floodplains

Scope of the Analysis

Temporal Bounds

The temporal scope of analysis for cumulative effects to water resources dates back to 1994, the year in which BVR began improving portions of the Blue River channel, as well as engaging in wetland and riparian area conservation efforts for resources located on its property. This temporal bound also encompasses the WRNF Forest Plan, Summit and Grand County Master Plans, the Lower Blue Master Plan, the Wild and Scenic Stakeholder Group Management Plan, and the 2015 RMP, all of which have directly or indirectly affected water resources in Analysis Area. This also focuses the analysis to recent trends in actions or processes with potential to cumulatively affect water resources.

Spatial Bounds

The cumulative effects Analysis Area for floodplains includes the entire KFO planning area and adjacent NFS lands in the Green Mountain Area.

Past, Present, and Reasonably Foreseeable Future Projects

Quantification of the extent (i.e., linear feet) of waterways and their floodplains that were transferred between private landowners and the United States Government within the temporal bounds of this cumulative effects analysis is not specifically analyzed, as following the transfer in ownership of floodplain resources, local land use regulations would apply to any floodplain impacts that could occur under the current private ownership. It is assumed that past land exchanges have resulted in a loss of wetland resources; however, impacts to these resources were properly avoided and/or mitigated through local regulations and exchanges were made consistently with Executive Order 11988. Under the Proposed Action Alternative, the BLM would have a net loss of ownership of 6,006 linear feet of waterways and their floodplains, including 1,337 linear feet of the Blue River, 1,480 linear feet of the perennial King Creek, and 3,189 linear feet of intermittent drainages.

Under Alternative 3, the BLM would have a net loss in ownership of 4,901 linear feet of waterways and their floodplains. More specifically, under the BLM would give up ownership of 4,698 linear feet of the Blue River on BLM-G and BLM-H, and acquire 5,069 linear feet of the Blue River on BVR-8, for a net gain of 371 linear feet of federal ownership on this river. With respect to perennial streams, they would give up ownership of 1,480 linear feet of King Creek in BLM-G. For intermittent drainages, there would be a net loss of 3,792 linear feet under BLM management.

As discussed in Section L – Floodplains, applicable Grand County, Colorado land use regulations would apply to any future developments to protect watershed resources and floodplains that would be transferred into private ownership; therefore, despite the fact that the watershed resources and floodplains would be transferred out of BLM management, these resources would be protected by local regulations; thus, the proposed action is consistent with Executive Order 11988. Further, in-stream improvements proposed for the Confluence Recreation Area and Recreation Design Features that are included under the Proposed Action Alternative have been designed to minimize the effects of dispersed human use at river access locations as well as the impacts on floodplain function.

These factors indicate that aside from the transfer of ownership of the water resources themselves and the cumulative loss in floodplain resources under BLM management, there would not be additional cumulative effects related to the functioning of floodplains within the Analysis Area, as Executive Orders and local regulations have and would continue to avoid and/or reduce impacts to this resource.

4. CONSULTATION AND COORDINATION

A. PREPARERS

Members of the project team who participated in the impact analysis and preparation of this Final EIS are listed below, along with their areas of responsibility.

BLM INTERDISCIPLINARY TEAM

William Mills	Field Manager
Annie Sperandio	ID Team Leader/Realty Specialist
Ken Belcher	Forestry Program Lead
Paula Belcher	Hydrologist
Shane Dittlinger	Outdoor Recreation Planner
Bill Falvey	GIS Coordinator
James Dahlkemper	Natural Resource Specialist
Tifany Rubalcaba	Terrestrial Biologist
Tom Fresques	Fisheries Biologist
R.C. Lopez	Rangeland Management Specialist
John Monkouski	Outdoor Recreation Planner
Kyle Scholl	Land Surveyor
CW Portell	Fuels Specialist
Bill Wyatt	Archeologist
Jessica Lopez Pearce	Geologist

CONSULTANT TEAM

The CEQ provides guidance for contracting NEPA documentation at 40 CFR § 1506.5(b) and (c). "Third party contract" refers to the preparation of an EIS or EA by contractors paid by the applicant. Because the proposed land exchange was proposed by a Non-Federal party (i.e., the Proponents), the BLM declared that it is appropriate for a third-party contractor to be used for preparation of this Final EIS. Contracting an environmental document does not in any way reduce or eliminate the BLM's active role in the NEPA process; the BLM is responsible for all content within the Final EIS document and the supporting materials, which must be included in the administrative record. Additionally, the findings in this analysis are those of the BLM, not of the contractor, and the decision must reflect a review of this NEPA document.[232]

A MOU was executed between the BLM and the Proponent, establishing the roles and responsibilities of each party, including the contractor. Among other things, the MOU specifies that all costs of using a contractor to prepare environmental documents will be borne by the Proponent. The MOU describes the responsibilities of the BLM and the Proponent in the administration of the MOU and in oversight of, and communication with, the contractor and the Proponent. The MOU is contained in the project file.

SE Group

Travis Beck	Director, Project Manager
Scott Prior	Assistant Project Manager/Environmental Analyst
Drew Pollak-Bruce	Environmental Planner
Liz Grades	Landscape Architect
Paula Samuelson	Production Specialist

[232] BLM, 2008a

Western Ecological Resource, Inc.

David Johnson	Principal
Rea Orthner	Botanist
Heather Houston	Ecologist

Olsson Associates

Eric Petterson	Wildlife Biologist

Metcalf Archaeological Consultants, Inc.

Melissa Elkins	Principal Investigator, Project Manager
Cody Anderson	Principal Investigator
Dante Knapp	Archeological Technician

B. FEDERAL GOVERNMENT

The following federal agencies have participated in the preparation of this Final EIS or will be involved in subsequent permitting processes, either through consultation or other regulatory oversight. Only the WRNF of the U.S. Forest Service is a cooperating agency, which is discussed further in Chapter 1, Section F – Cooperating Agencies. Although all the following federal agencies have been involved in the NEPA process, none of the other agencies listed below are cooperating agencies for this project.

- U.S. Forest Service
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- Advisory Council on Historic Preservation
- Environmental Protection Agency

C. TRIBAL GOVERNMENTS

The KFO manages lands that contain the traditional territory of a number of American Indian peoples. Notice of the land exchange was sent to those tribes with potential to be affected:

- Northern Arapaho Tribe
- Eastern Shoshone Tribe
- Ute Mountain Ute Tribe
- Southern Ute Indian Tribe
- Ute Indian Tribe

Government-to-government consultation between the Native American Tribes in the KFO and the BLM has been initiated. The initial consultation letter, dated April 17, 2017, requested the tribes to identify issues and areas of concern within the proposal. A follow-up with the tribes occurred in April 2017, at which time a face-to-face consultation with the tribes took place. No comments were provided from the tribes during face-to-face consultation and no traditional properties or areas of long-term spiritual use were identified in the land exchange area. No comments were received from any tribal government nor was any request for additional information or consultation received throughout the environmental review process.

At this time, no Native American religious concerns were raised in relation to the action alternatives, and the BLM is not aware of any issues related to the Federal and non-Federal parcels. Therefore, there are no direct or indirect effects to Native American religious concerns.

D. INDIVIDUALS, ORGANIZATIONS OR AGENCIES

As discussed in Chapter 1, Section H – Scoping and Public Involvement, a scoping process was used to identify potential substantive issues in preparation for impact analysis. During the scoping period, the KFO received 68 comment submittals. Of the 68 comment submittals received during the scoping process the vast majority were from residents of Grand and Summit counties. Notable agencies and organizations that participated in the public scoping comment period include:

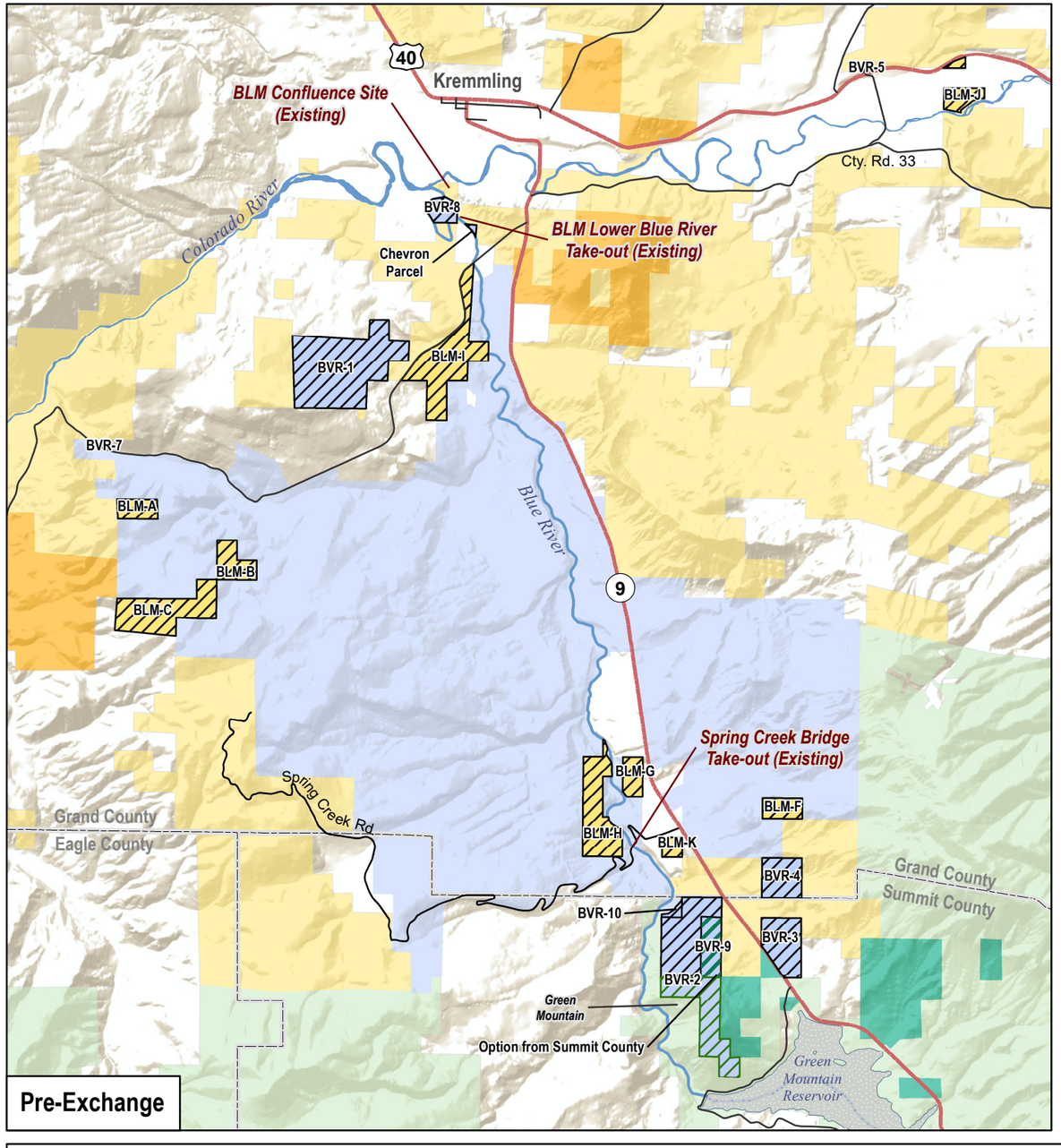
- Colorado Parks and Wildlife
- United States Fish and Wildlife Service
- Grand County Board of County Commissioners
- Summit County Board of County Commissioners
- Town of Kremmling
- Winter Park and Fraser Chamber of Commerce
- Trout Unlimited
- Friends of the Lower Blue River
- Colorado Headwaters Land Trust
- Western Lands Project
- Colorado Wild Public Lands
- Blue Valley Sportsman Club

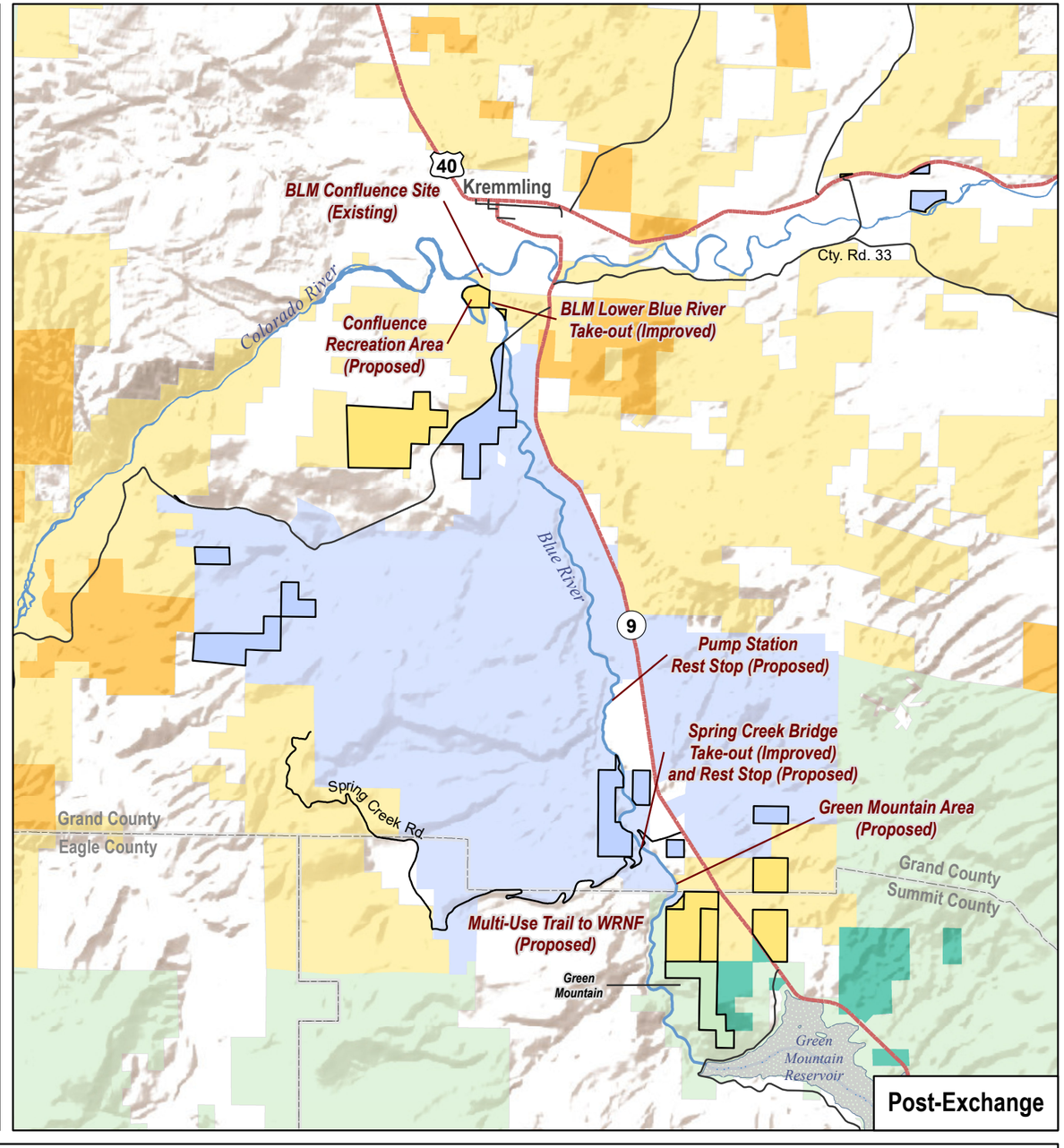
During the Draft EIS comment period, 52 comment letters were received. Notable agencies and organizations that participated in the Draft EIS comment period include:

- Colorado Parks and Wildlife
- United States Environmental Protection Agency, Region 8
- Summit County Board of County Commissioners
- Colorado Wild Public Lands
- Trout Unlimited
- WildEarth Guardians
- Grand County Board of County Commissioners
- Friends of the Lower Blue River
- Colorado Whitewater

Additional details regarding the public comments that were submitted during the Draft EIS comment period can be found in Appendix L – Response to Comments on the Draft Environmental Impact Statement.

5. FIGURES





Land Ownership

- Bureau of Land Management
- US Forest Service
- State and CO Parks and Wildlife
- Summit County Open Space
- Blue Valley Ranch
- Other Private

Land Exchange Parcels

- BLM to BVR (1,489 Acres)
- BVR to BLM (1,530 Acres)
- BVR to WRNF (300 Acres)
- BVR Option from Summit County[1]

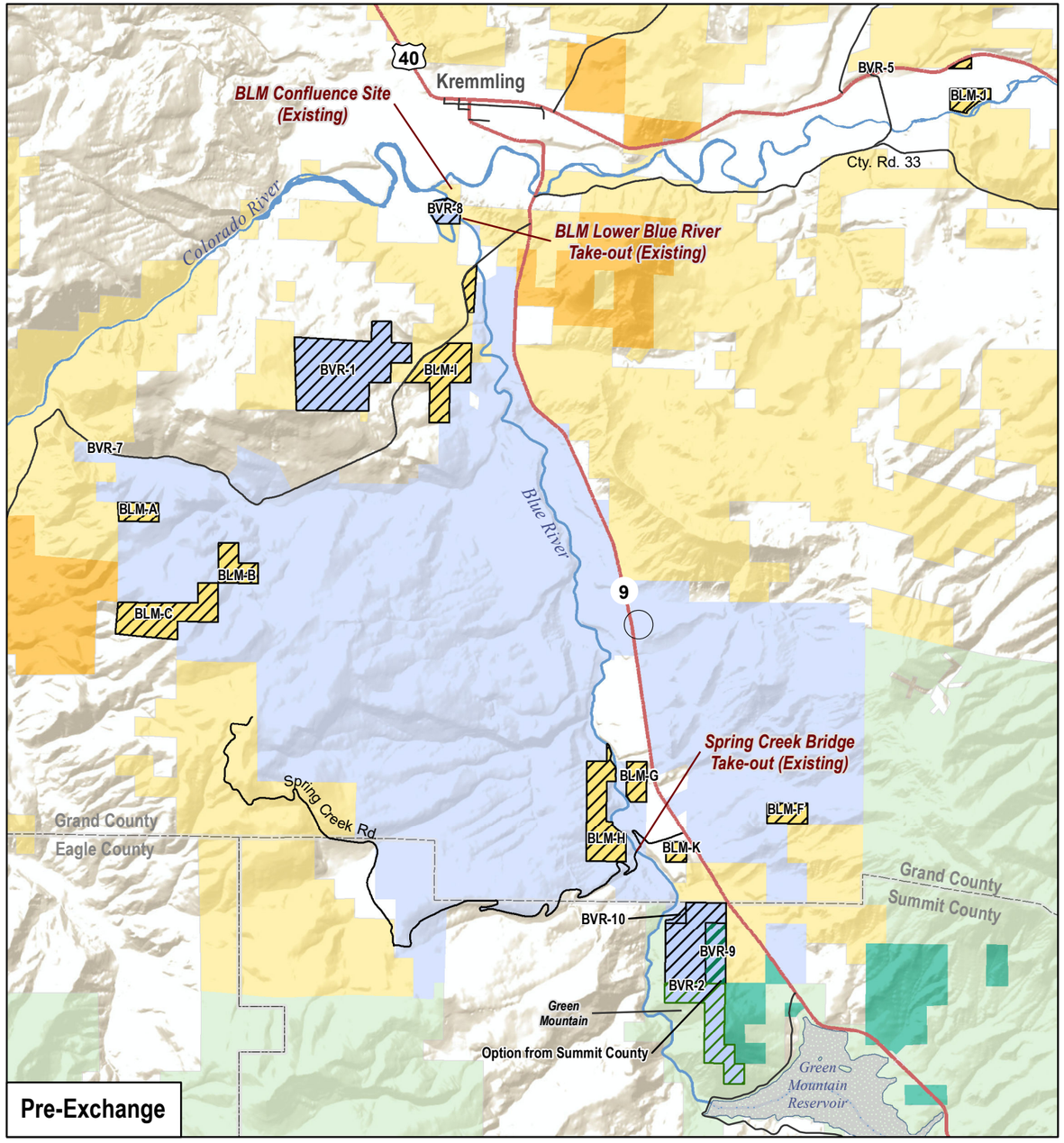
Blue Valley Ranch Land Exchange EIS

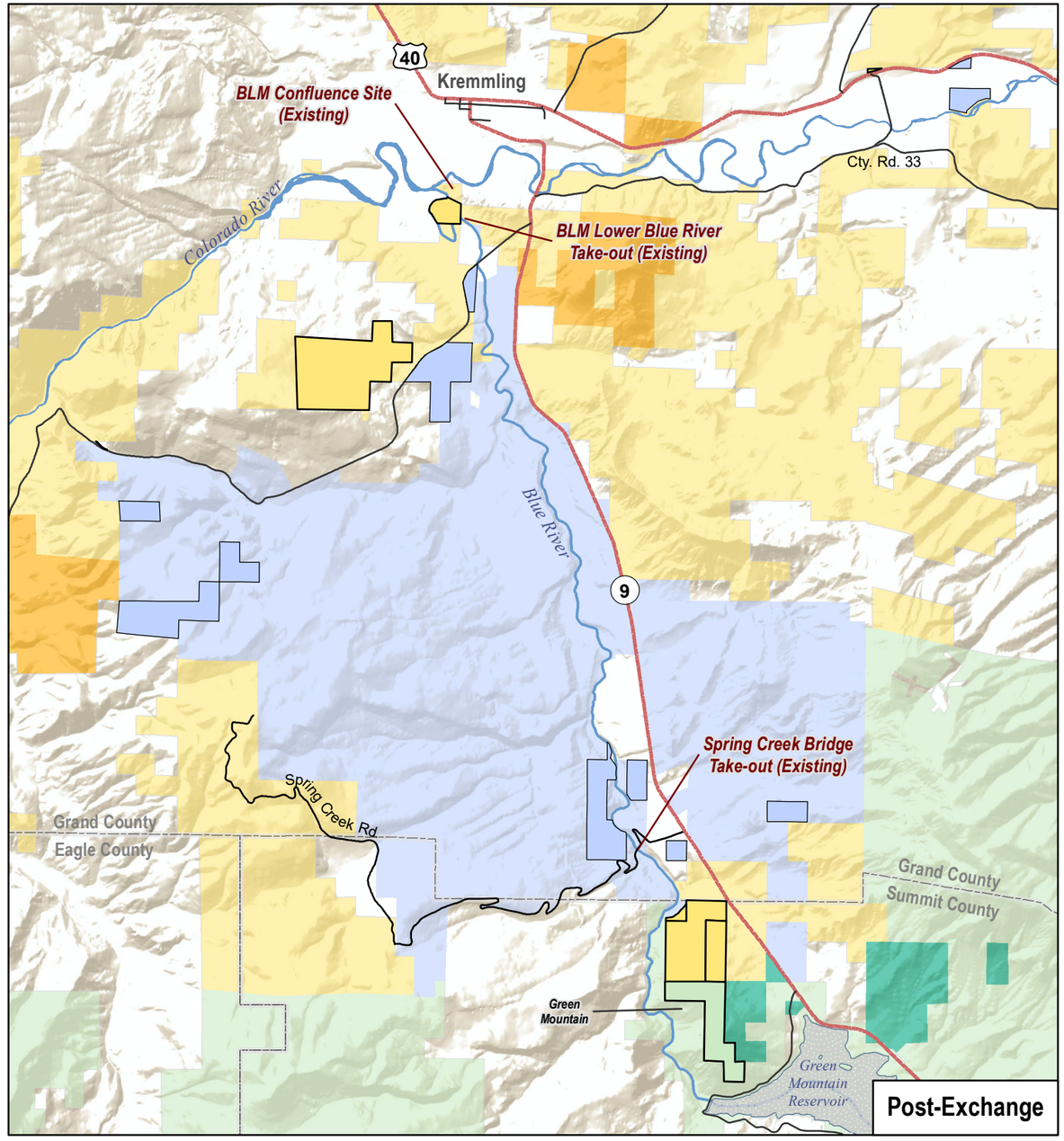
Figure 1:
Alternative 2 - Proposed Action
Pre/Post-Exchange Land Ownership

0 0.5 1 2 Miles

Produced by: SE GROUP

[1]BVR has an option from Summit County to purchase this parcel concurrent with the closing of the land exchange and convey the parcel to the BLM.





Land Ownership

- Bureau of Land Management
- US Forest Service
- State and CO Parks and Wildlife
- Summit County Open Space
- Blue Valley Ranch
- Other Private

Land Exchange Parcels

- BLM to BVR (1,413 Acres)
- BVR to BLM (1,184 Acres)
- BVR to WRNF (300 Acres)
- BVR Option from Summit County[1]

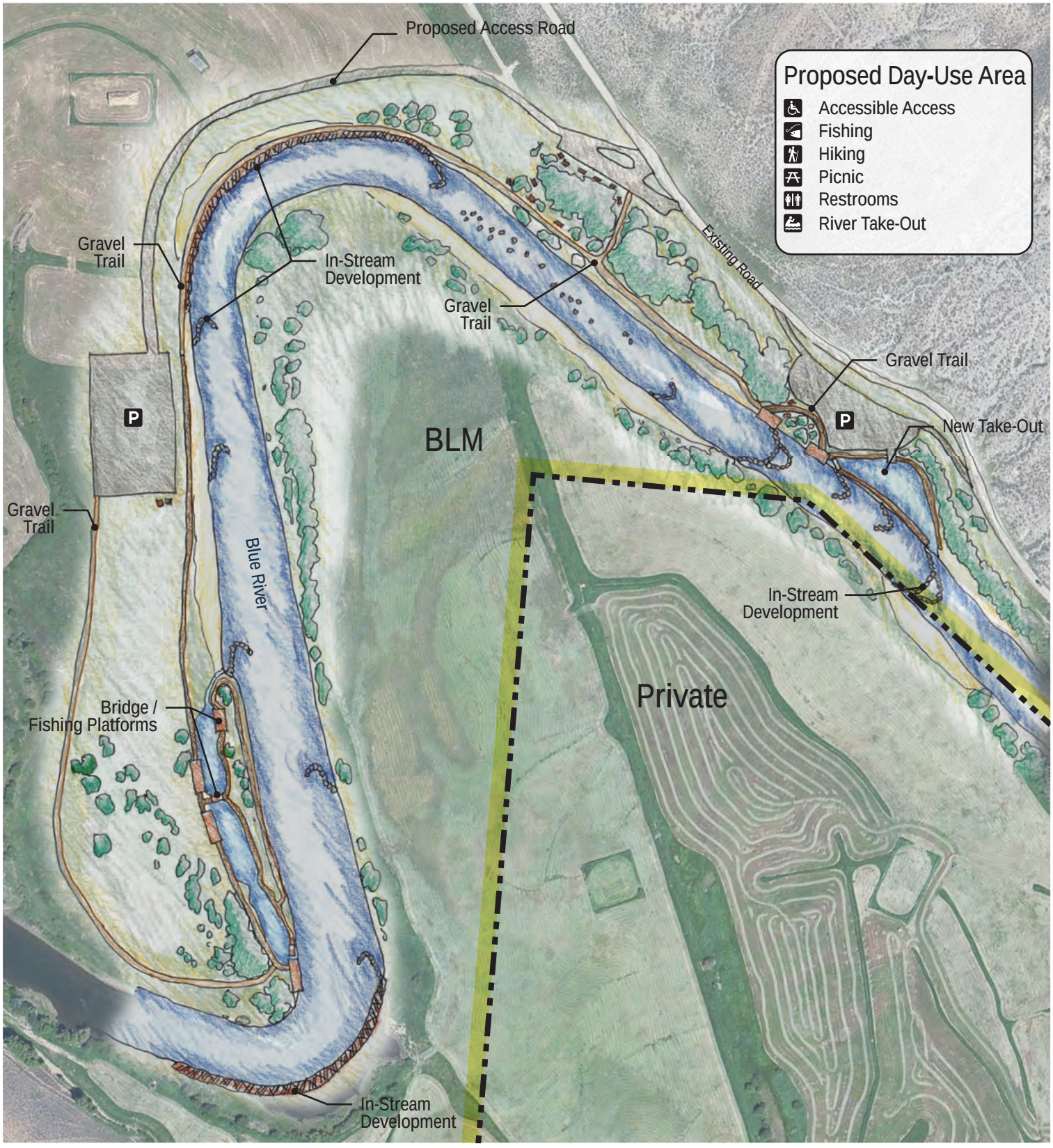
Blue Valley Ranch Land Exchange EIS

Figure 2:
Alternative 3
Pre/Post-Exchange Land Ownership

[1]BVR has an option from Summit County to purchase this parcel concurrent with the closing of the land exchange and convey the parcel to the BLM.

0 1 2 Miles

Produced by: SE GROUP



Blue Valley Land Exchange EIS

Figure 3:

Post-Exchange

Proposed Confluence Recreation Area Concepts

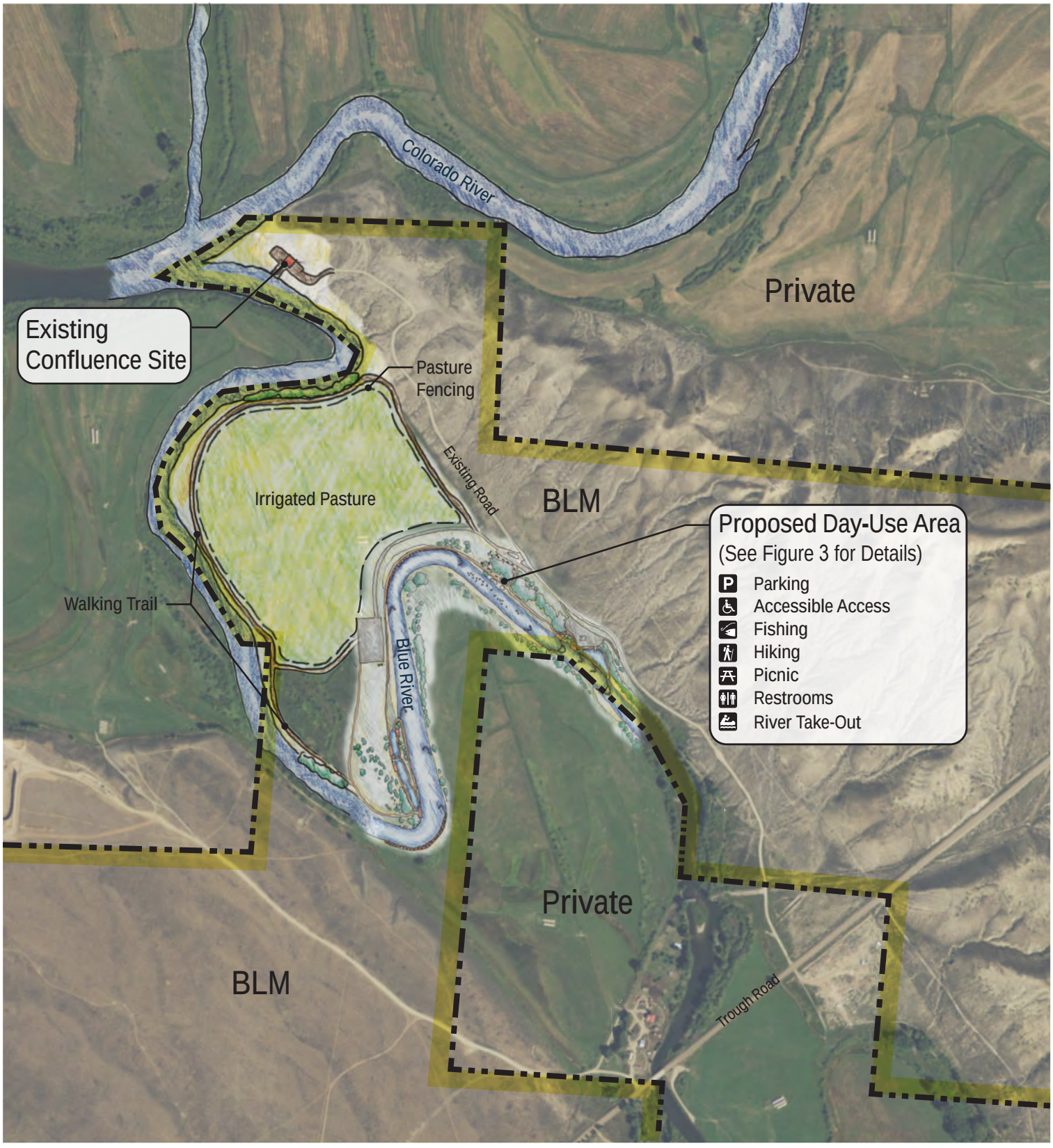
0 125 250 Feet

Legend

Parcel Boundary

BLM Boundary

Produced by: SE GROUP



Blue Valley Land Exchange EIS

Figure 4:

Post-Exchange

Proposed Confluence Recreation Area

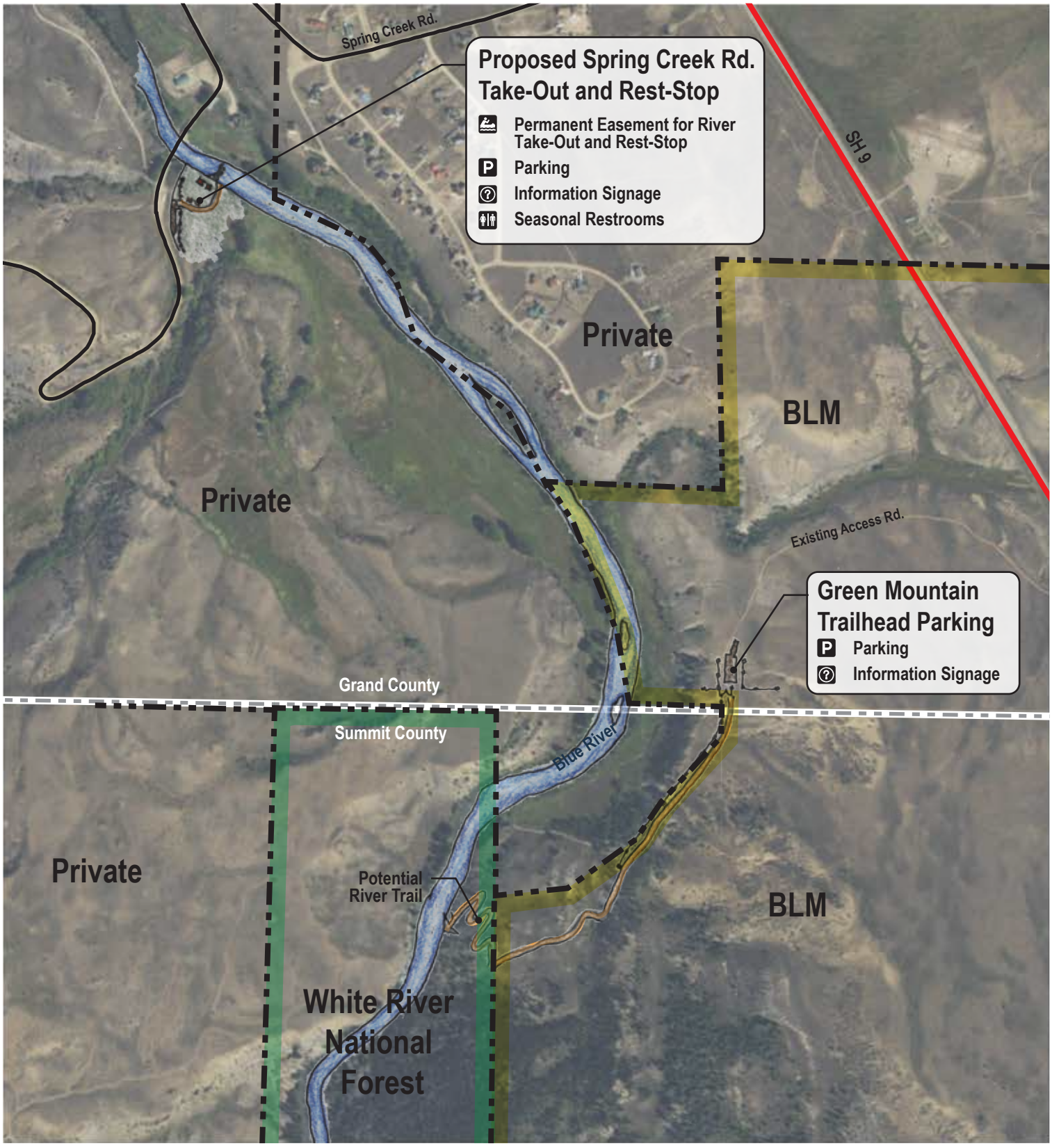
0 500 1,000 Feet

Legend

Parcel Boundary

BLM Boundary

Produced by: SE GROUP



Blue Valley Land Exchange EIS

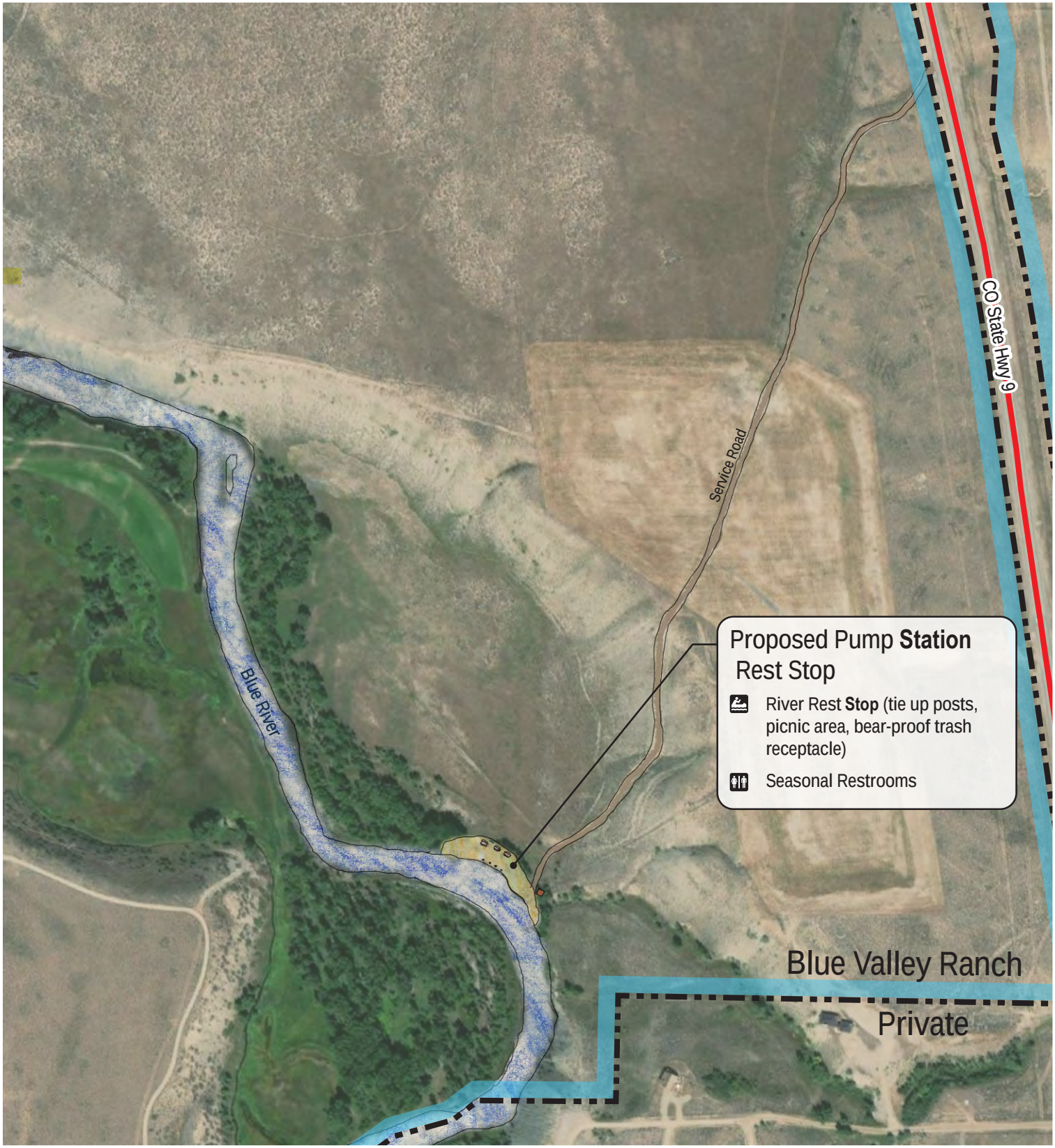
0 500 1,000 Feet

Figure 5:
Post-Exchange
Proposed Spring Creek Bridge and Green Mountain Recreation Concepts

Legend

- Parcel Boundary
- County Boundary
- National Forest Boundary
- BLM Boundary

Produced by: SE GROUP



Blue Valley Land Exchange EIS

*Figure **6**:*
Post-Exchange
*Proposed Pump **Station** Rest Stop*

0 300 600 Feet

Legend

Parcel Boundary

Blue Valley Ranch Boundary

Produced by: SE GROUP

6. INDEX

S

T

U

V

W