THE CITIZEN'S ALTERNATIVE FOR MAINTAINING MULTIPLE USE AND PROTECTING BIOLOGICAL DIVERSITY ON THE RIO GRANDE NATIONAL FOREST

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I. INTRODUCTION

The various organizations listed in the cover letter (sent separately) present this alternative for the revision of the land and resource management plan for the Rio Grande National Forest (RGNF). Our intent is that this alternative be analyzed as a full alternative, i. e., analyzed in detail, in the environmental impact statement for the plan revision. We are happy to work with the agency's interdisciplinary planning team and specialists to help develop our alternative into one that will fit into the plan revision EIS.

This alternative emphasizes the protection and enhancement of biological diversity while still providing for multiple use, as is explained in more detail below. It provides for internal and cross-border connectivity of wildlife habitat. We believe that many of the provisions in this alternative should be applied to the other revised plan EIS alternatives, to ensure protection of important resources. This is detailed in our scoping comments, which are being submitted concurrently (but separately) with this Alternative.

Our alternative would help implement part of the Southern Rockies Wildlands Network Vision ("Vision"), which sets forth a goal to "rewild" public lands in southern Wyoming and Colorado. See SREP et al, 2003. The goals of the Vision are:

1. Protect and recover native species;
2. Protect and restore native habitats;
3. Protect, restore, and maintain ecological and evolutionary processes;
4. Protect and restore landscape connectivity;
5. Control and remove exotic species; and
6. Reduce pollution and restore areas degraded by pollution.

Vision at 115. [1]

This Alternative does not strictly follow the Vision, but our recommendations for wilderness and special area designations, along with existing wilderness and other designated areas, would be the equivalent of core areas. Application of our recommended lynx linkage management area and

[1] See id. at 6-7 for a list and brief description of the elements of the Vision. See also id. at 97-99 for a description of elements of the Vision for the Upper Rio Grande Watershed, which is mainly composed of the RGNF and adjacent BLM and National Park lands.

a wildlife corridor from the Spruce Hole area on the RGNF to the Carson NF in New Mexico forms the needed connectivity to other areas (Carson, San Juan, Pike-San Isabel, and GMUG National Forests) that is needed as part of a rewilding for the Southern Rockies.[2]

The RGNF has numerous "distinctive roles and contributions within the broader landscape". See the 2012 Planning Rule at 219.7(f)(1)(ii)). These include, but are not limited to: the headwaters of Rio Grande; important habitat for lynx, a threatened species under the Endangered Species Act; habitat for numerous other wildlife species; opportunities to recover populations of Rio Grande cutthroat trout, outstanding scenery; interesting and important geologic and historical areas; and great opportunities for mountain recreation, including opportunities for primitive recreation and solitude. This alternative is designed to protect and enhance these attributes, among others.

II. NEED FOR CHANGE IN THE FOREST PLAN. There is a need to change the existing plan. Since it was approved in 1997, more than 19 years have passed. A new planning rule (2012) is in place which puts more emphasis on providing sustainability of ecosystems than the previous rules did. It requires assessment of

> System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.

219.6(b)(3). The 2012 rule also requires that plans contain components, including standards and guidelines

> to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity.

219.9(a)(1).

There was no language in the 1982 rule requiring considerations such as the ones quoted above. The 1982 rule, under which the previous two plans for the RGNF were prepared, was more

[2] Focal species has a different meaning in the Vision than it does in the Planning Rule. In the latter, focal species are used for monitoring ecological conditions. 36 CFR 219.13(a)(5)(iii). In the Vision, they encompass various species classifications, including indicator, umbrella, keystone, and ecologically interactive species. See Vision at 48-49.

focused on timber harvest. The new rule's requirements, along with the fact that the plan is long past its legal expiration date[3], constitute a need for change.

In addition, numerous issues have changed or arisen since the previous plan, including:

--lynx has been reintroduced to the RGNF and is listed as threatened under the ESA, and there is a recognition of that connectivity across the landscape is paramount for maintaining or recovering lynx populations;[4]

--the Colorado Roadless Rule, approved in 2012, governs how roadless areas on Colorado's national forests, including the RGNF, are managed;

--an updated forest-wide analysis of areas for possible protective designations, including new wilderness and additions to existing wilderness, is needed;

--the need for protection of biological diversity and connectivity of habitats has received more widespread recognition by scientists;

--oil-gas technology has greatly changed, with hydraulic fracturing ("fracking") and horizontal drilling coming into common usage, making much additional land of possible interest to industry for exploration and production;

--climate change has been recognized as a significant issue;

--A 2000 law created Great Sand Dunes National Park and Preserve and changed some administrative boundaries of the RGNF;

--there is a need to ensure management consistency, to the extent practicable, with: management of adjacent national forests (Carson, Pike-San Isabel, San Juan, and Grand Mesa-Uncompahgre-Gunnison); adjacent BLM land (San Luis Valley Field Office); National Park Service lands, and State lands. See section IV below, and Appendix 1.

--there is a need to ensure separation of bighorn sheep and domestic sheep[5];

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[3] Under the National Forest Management Act, plans must be revised at least once every 15 years. 16 U.S.C. 1604(f)(5).

[4] The Final Environmental Impact Statement for the Village at Wolf Creek Access Project stated:

> Because of the patchy, discontinuous distribution of lynx habitat in the Southern Rockies Ecosystem, maintaining landscape-level habitat connectivity may be paramount to maintaining a viable population.

Id. at 3-70.

--direction for mountain bike use is needed in at least some areas; and

--management direction for the Continental Divide National Scenic Trail corridor is needed.

III. THEME OF THE ALTERNATIVE

The theme of this alternative is to maintain, restore, and enhance biological diversity, including: consideration of plants, animals, fish, invertebrates, natural ecological processes, and local and landscape-level habitat connectivity, while still providing opportunities for multiple uses, as required by the Multiple Use Sustained Yield Act and the National Forest Management Act. Attaining and maintaining viable populations of all species of conservation concern (SCC) is a long-term desired condition. (SCC are discussed in detail in section IV of this document.) In addition, land is managed to retain habitat for all species, especially so that populations do not decline to levels that may require special management, or even listing under the federal Endangered Species Act.

We recommend an emphasis on protecting, enhancing, and where needed, restoring, biological diversity in order to conserve what is left of nature's legacy. The national forest lands have a special role to play in this mission. There are only limited opportunities to protect some resources on private lands, most of which have been developed to some degree, and are managed primarily, for human uses. Similarly, many state lands not in the Colorado State Land Board's Conservation Trust are leased for oil and gas development or livestock grazing. In short, it is only on portions of national forests and other federal public lands where natural values can be retained over sizable areas, and where habitat can be reconnected across the landscape. Thus some areas of national forest must be managed to retain ecological values and to restore and maintain connectivity.

This alternative is not at all inconsistent with the principle or the practice of multiple use. In fact, we believe that selection and implementation of an alternative like this one is necessary to insure sustained "yield" of wildlife and fish. "Yield" in this case means robust populations of all native species in well-distributed and well-connected habitats. This includes: threatened and endangered species, species of conservation concern, and species of local concern, as well as more common wildlife and fish species such as those commonly hunted and fished.

Populations of various wildlife, fish, and plant species have declined over the past several decades. To allow these populations to recover to the point where they are fully viable (i. e., secure), management focus on them is needed. Thus other activities will be limited as necessary

[5] See Forest Plan Monitoring and Evaluation Report, 2013, at 13, 46.

to provide for these species' recovery. The reestablishment of ecological processes to help support them and other species will also be emphasized. Doubts about what is needed to protect rare species will generally be resolved in favor of protecting and recovering the species, consistent with applicable laws and regulations, and public safety. Absent a focus on restoring and maintaining populations of rare species, the Forest Service would be remiss in its legal duty to fully provide the wildlife and fish multiple use.

This alternative also emphasizes protection and recovery of watersheds whose functioning is less than robust. See section VIII below. Watershed is another of the five uses specifically mentioned in the Multiple Use Sustained Yield Act. 16 U.S.C. 528. The three other uses listed there (besides wildlife and fish, discussed above) are: outdoor recreation, range, and timber. They would all be provided under this alternative.

While this Alternative deals specifically only with the RGNF, it is our intent that it serve as a guide for also protecting habitat for wildlife, fish, and plant species, and for protecting biological diversity generally on adjacent land ownerships as well. Applying principles of biological diversity protection across the landscape will be necessary to ensure species recovery. Thus we encourage the Forest Service to participate in cooperative management agreements with adjacent national forests (Pike-San Isabel, San Juan, Grand Mesa-Uncompahgre-Gunnison, and Carson), and with agencies such as the Bureau of Land Management, the National Park Service, the Colorado State Land Board and Department of Natural Resources, and also with private landowners, to manage their respective lands to help maximize protection and enhancement of biological diversity.

See section IV below for details on cross-border management with the RGNF.

Implementation of this alternative would have many benefits. It would help restore nature's legacy in a portion of Colorado. It would foster recovery of populations of rare or declining species over time to secure, viable populations while continuing to provide multiple uses for the benefit of the American people. It would emphasize providing "ecosystem services", such as clean water, clean air, and consumptive and non-consumptive wildlife. Maintaining a natural appearance on much of the landscape would help retain the attractiveness of the area for recreational tourism, an important component of the local economy.

IV. PROTECTING BIOLOGICAL DIVERSITY

The first step in protecting and restoring biological diversity is to ensure adequate representation of all native ecosystems in some form of protection.[6] It is most important to maintain ecological

[6] Numerous studies make this point. See, e.g., Olsen and Dinerstein, 1997.

values on the ecological types that are least represented. To ensure this is accomplished, many elements, as described below, need to be part of the revised plan.

Retaining and enhancing connectivity of habitats for all species, but especially rare and declining ones, must be a focus of management. Connectivity will be necessary for ensuring genetic integrity of populations of various species and for providing opportunities for some species to respond to climate change. See additional information in our scoping comments.

There are various studies that show wildlife movement across the Colorado-New Mexico border, between the Rio Grande and Carson National Forests. See SREP, 2003, and Muldavin and McCullough, 2016. In addition, the Colorado Division of Parks and Wildlife has GIS data on various species.[7] There is an indication from the available data that the Colorado-New Mexico border area may be important for landscape-level connectivity. Logging and related activity could disrupt this connectivity for lynx and other species, further fragmenting habitat.

Thus connectivity between the RGNF and the Carson NF in New Mexico needs to be established, retained, and/or enhanced. For this purpose, we propose a wildlife corridor extending from the Spruce Hole area on the Conejos Peak Ranger District to the border with the Carson NF. See Appendix 7.

For a discussion on why wildlife corridors are important, see "Scientific Basis for Protecting Wildlife Corridors", Appendix 2 of comments by The Wilderness Society on Assessment 15, and January 29, 2016. This is Appendix 2 to this submission.

Connectivity between the RGNF and the San Juan, GMUG, and Pike-San Isabel National Forests, discussed in more detail below, must be retained and enhanced if possible. Note that there are disparities in protective management across national forest boundaries, i. e., where management on another national forest is more protective than on the adjacent RGNF. See Appendix 1.

Connectivity within the RGNF is also important, including that between lynx analysis units.

Cross-boundary connectivity. While the revised plan for the RGNF will only directly address RGNF lands, it must have provisions that facilitate connectivity of habitat and consistency of management with land in other ownerships. Below, we discuss specific areas where such provisions are needed.

--Connections with the Pike-San Isabel National Forest. The Pike-San Isabel NF borders the RGNF near Poncha Pass. Management of this corner of the RGNF needs to be consistent with the Poncha Lynx Linkage, which is not far away.

[7] See, e. g., data on elk at: http://cpw.state.co.us/learn/SpeciesKMZMaps/Elk.kmz

> This linkage area provides for movement to and from the San Juan Mountains and the Sawatch and Sangre de Cristo Ranges. It connects central Colorado to southern Colorado and is a very important connection.

Southern Rockies Lynx Amendment (SRLA)[8] FEIS, Vol I at D-4. The two national forests also share management of the Sangre de Cristo Wilderness Area.

--Connections with the San Juan National Forest. The San Juan National Forest shares a long border with the RGNF along the continental divide. The South San Juan and Weminuche Wilderness Areas cross this border. The Wolf Creek Pass Lynx Linkage, a very important linkage that is discussed in more detail below in section V and in Appendix 7, includes parts of both national forests.

--Connections with the Grand Mesa-Uncompahgre-Gunnison (GMUG) National Forest. The RGNF and GMUG NF share a long border along the continental divide. The La Garita Wilderness Area has acreage in both national forests. The Cochetopa Hills/ North Pass Lynx Linkage is in this area. The Continental Divide National Scenic Trail is located on or close to most of this border.

--Connections with the Carson National Forest. The Rio Grande and Carson National Forests share a border of approximately 17.5 miles near Cumbres Pass. As discussed above, recent data shows the importance of this area for wildlife movement.

--Connections with BLM lands. The RGNF is adjacent to BLM lands managed by the San Luis Valley Field Office, from a few miles north of Del Norte to Poncha Pass, and from a few miles south of Del Norte to the New Mexico state line. Some of these BLM lands have grassland- or shrubland-dominated ecosystems that are not well represented on the RGNF. Thus management should ensure movement of animals across the agency borders.

--Connections with Geat Sand Dunes National Park lands. The RGNF borders the Great Sand Dunes National Park and Preserve, added since the last Management Plan revision. The Baca Mountain Tract, adjacent to the RGNF, is now managed by the Forest Service. 50,000 acres of the northernmost Park lands was recommended for Wilderness designation in the NPS Management Plan.

[8] The official title of this document is Southern Rockies Lynx Management Direction. We use the more common name.

See Appendix 1 for descriptions of management issues at the boundaries of adjacent national forests and BLM. See also Muldavin and McCollough, 2016, for a first step in analysis of wildlife connections between the RGNF and New Mexico. This is attached as Appendix 3.

Restoring and maintaining natural processes. Fire, predation, natural hydrological cycles, wood decay into new soil, are all very important processes that maintain ecosystems and habitat.

Protected areas. Components of biodiversity need protected areas, i. e., areas where human use is limited and ecosystems largely remain intact, or the areas can be restored to a natural condition. Wide-ranging species like lynx and black bear need large areas of habitat. Ecological processes like fire need sizable areas in which to operate freely.

Our alternative includes the following types of protected areas:

--existing designated wilderness areas
--recommendations for additions to existing wildernesses
--recommendations for new wilderness areas
--roadless areas
--research natural areas
--special designated areas
--areas protected by specific management areas

A description of specific recommendations for each type of area is provided below in section VI and various appendices.

SPECIES OF CONSERVATION CONCERN. To provide diversity of plant and animal communities, the Planning Rule states that plans

> must include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area.

219.9(a)(2). In addition:

> *Additional, species-specific plan components.* (1) The responsible official shall determine whether or not the plan components required by paragraph (a) of this section provide the ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area. If the responsible official determines that the plan components

> required in paragraph (a) are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.

219.9(b).

> *Species of conservation concern.* For purposes of this subpart, a species of conservation concern is a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area.

219.9(c).

While the plan components designed to protect ecosystems per (a) above, i. e., those designed at a broad scale, are important, they will not likely be sufficient to protect all species. In addition, there are numerous species for which there is substantial scientific concern about long-term persistence. Thus specific plan components, including standards and guidelines, will be needed to allow an opportunity for species of conservation concern (SCC) to recover to viable populations.

We find the recently published SCC list to be good, but it needs a few additions. See our comments on SCC and wolverine in our scoping comments, section IV, dated October 28, 2016. Wolverine, which is once again a candidate for listing under ESA, needs ecological conditions and plan components to ensure its recovery and viability, per 219.9(b).

V. LYNX. Lynx deserves special attention in the Rio Grande Plan because: a) it is listed as threatened under the federal Endangered Species Act; b) its habitat is primarily high-elevation conifer forest, much of which exists on the RGNF; and c) most of the species' habitat in Colorado is on national forest land, including the RGNF and the adjacent national forests.

It is most important to protect lynx linkages. Linkages are defined as follows:

> Areas that facilitate movements of lynx beyond their home range, such as dispersal, breeding season movements or exploratory movements. Linkage areas may incorporate topographic features that tend to funnel animal movements and may encompass areas of non-lynx habitat.

CLCAS, 2013, at 125.

The Southern Rockies Lynx Amendment describes linkage areas as follows:

> Linkage areas are **areas of movement opportunities**. They exist on the landscape and can be maintained or lost by management activities or developments. They are not "corridors" which imply only travel routes; they are broad areas of habitat where animals can find **food, shelter and security.**

SRLA Final Environmental Impact Statement, Vol I at D 1; emphasis original.

The CLCAS, 2013, has the following conservation measure to address habitat fragmentation:

> Identify linkage areas where needed to maintain connectivity of lynx populations and habitat. Factors such as topographic and vegetation features and local knowledge of lynx movement patterns should be considered. Retain lynx habitat and linkage areas in public ownership and acquire land to secure linkage areas where needed and possible. On private lands in proximity to federal lands, agencies should strive to work with landowners to develop conservation easements, explore potential for land exchanges or acquisitions, or identify other opportunities to maintain or facilitate lynx movement.

Id. at 93.

Because of the importance of lynx linkages, we recommend a new management area for them. It is described below

Management Area __
Lynx Linkages

Theme: This MA is used to protect lynx habitat, especially in landscape linkages.

Setting: This MA is applied to areas of known lynx linkages, especially landscape linkages. It is also applied, as appropriate, to connections within and between LAUs, on the RGNF and wherever connectivity for lynx needs to be established, retained, maintained, or enhanced.

This management area can be applied to areas with substantial forest overstory mortality where lynx habitat still exists.

Desired Condition: these areas will usually be in higher elevation conifer forests that have, or are expected to develop, lynx habitat. They will generally have minimal management. Any activity will be designed to maintain or enhance lynx connectivity.

Natural processes, such as fire and insect and disease attacks, shall generally be allowed to occur. Aspen forests are allowed to naturally succeed to conifer forest.

The landscape is primarily natural. There is usually little evidence of recent human activity, but there may be signs of past activity. Trailheads and other facilities are located outside of these areas.

Non-motorized recreation is allowed but not emphasized. ROS classes are primitive and semi-primitive non-motorized. The scenic integrity objective is high.

Standards

Motorized use is prohibited year-round except for emergency use. Non-motorized recreation is managed as needed to reduce or eliminate conflicts with lynx use.

New road construction is prohibited. Trail construction is discouraged except to reduce conflicts with lynx use by relocating trail segments where appropriate.

Existing roads not needed for administrative use or access are closed, and either obliterated or converted to non-motorized trails.

National forest lands are not exchanged or sold. Acquire private land via purchase or exchange that would add to the linkage and help insure connectivity. Acquisition of private lands with lynx habitat in this MA shall be high priority.

These areas are not part of the timber base and are thus considered unsuitable for timber production. Timber cutting occurs only infrequently if at all to maintain or enhance lynx habitat.

These areas are administratively unavailable for leasable minerals and are withdrawn from locatable mineral entry.

New utility corridors shall not be designated.

Existing livestock grazing is permitted, but may be adjusted and limited to reduce or eliminate any conflicts with lynx. New or expanded grazing shall be prohibited. Vacant allotments within this MA shall remain vacant, i. e., not be restocked.

Dogs accompanying humans must be leashed.

Public drone use is not allowed.

Guidelines

As money and personnel allow, monitor lynx use of the linkage areas.

Non-intrusive scientific research that does not conflict with lynx habitat or use is allowed.

Camping is discouraged.

Application of the Lynx Linkage MA. At a minimum, the linkages identified in the SRLA should be assigned to the new MA, as well as a few other areas where special management is needed, or at least is desirable, to ensure connectivity of lynx habitat. These areas are described below. However, other areas should also be considered for use of this MA, as described in the MA write-up above.

-- Cochetopa Hills/North Pass, which "is a well-used movement corridor by lynx" (SRLA FEIS Vol. I at D-4). This connects the RGNF and the GMUG NF, and may help facilitate passage to the high quality habitat west of the Continental Divide on the latter.

--Poncha. "This linkage area provides for movement between the San Juans to the Sawatch and Sangre de Cristo Ranges. It connects central Colorado to southern Colorado and is very important connection." Ibid. This connects the Rio Grande and Pike-San Isabel National Forests, and may help facilitate passage to high quality habitat west of the Continental Divide on the GMUG National Forest.

--Slumgullion Pass. "This linkage area includes the Spring Creek and Indian Creek areas. It provides a north-south connection between Lake City to the Creede area…". Ibid. This connects the Rio Grande and GMUG National Forests.

--Spruce Hole-Osier-Toltec Landscape Connectivity Zoological Area. This linkage will help facilitate movement between the RGNF and the Carson NF. It would complement ongoing efforts on the Carson to ensure connectivity of habitat for not only lynx, but other species as well. Data shows that lynx have crossed into New Mexico using this area. See DOW, 2005b. Thus this area deserves its own special area designation. See Appendix 7 for a detailed description and justification.

--Wolf Creek Pass. The latter is known to be a very important lynx linkage, as it connects two areas of high quality habitat. The FEIS for the Village at Wolf Creek Access Project stated the following:

> Lynx are heavily using the [Wolf Creek Pass Lynx Linkage or] WCPLL area as a dispersal corridor and the viability of this linkage is important to the recovery of lynx in Colorado. The linkage spans a forested swath over the Continental Divide between large blocks of highly effective subalpine habitat. Lynx denning and established home ranges have been identified to the north and south of the WCPLL. The linkage is part of the CDOW's "Core Research Area" in the San Juan Mountains, recognized as the largest continuous block of high quality lynx habitat in the state and where the CDOW focused their 10-year lynx monitoring and research efforts. This core area (defined as New Mexico north to Gunnison, west to Taylor Mesa, and east to Monarch Pass) is where all 218 [reintroduced] lynx were released. …
>
> The WCPLL was designated expressly because (1) this portion of the Continental Divide is known to be important for lynx (and multiple wildlife species) movements, (2) one lynx mortality has occurred along the highway (at Pass Creek on the east side of the pass in 2000), and (3) because of concern that the 2-3 lane, high speed Hwy 160 is presently impairing lynx movements.

Wolf Creek FEIS at 3-71, 3-72; emphasis added. DOW, 2005a, shows numerous crossings of highway U. S. 160 in this general area. This report also states the following:

> The corridor links two primary, year-round use areas - one centered near the release areas close to Creede, Colorado and a second area centered northwest of Platoro Reservoir.

Id. at 11.

The area surrounding the WCPLL must be managed to ensure that lynx will be able to get to the linkage and use it. Given its importance as a linkage, we propose a special area designation for the area around the RGNF side of Wolf Creek Pass to ensure that management is focused on protecting lynx. See Appendix 7. Note that our special area should be consistent with management just across the Continental Divide on the San Juan NF. The management prescription there is "Natural Landscapes with Limited Management", under which commercial timber harvest is prohibited, and most ground-disturbing activities are restricted. See Final San Juan Plan (September, 2013) at 186.

Land near the Poncha linkage, another important linkage, must also be managed to facilitate lynx use. See section IV above.

The Lynx Linkage MA should also be used for at least some areas that connect LAUs and for any new landscape linkages recognized for lynx.

Areas that were considered suitable lynx habitat, but now have substantial overstory mortality must not automatically be considered to be unsuitable habitat. Many such stands have subalpine fir overstories, and/or understories with spruce and/or fir trees of various sizes. Such areas often provide lynx habitat, such as winter foraging habitat, where snowshoe hare, the lynx' chief prey, can reach conifer needles for winter food. Standing dead trees by themselves, and especially with mature fir trees, provide "other" habitat, i. e., they still provide enough cover to allow lynx to move through and connect to winter foraging and/or denning habitat.[9] When the standing dead trees fall down, they will form piles which will become denning habitat.

It is likely that spruce-fir forests that provided lynx habitat prior to attack by bark beetles will continue to provide such habitat after mortality has occurred. The beetle mortality kills the crown foliage, but the dead trees remain standing, as do the understories, where subalpine fir and small spruce trees are only minimally affected by beetles.

Logging such areas would damage and/or destroy lynx habitat. Removing dead and/or live overstory would remove existing "other" habitat and prevent the formation of future denning habitat. Logging operations such as felling, skidding, and skid trail and landing construction would kill many of the smaller trees and thus damage or destroy winter foraging habitat.

VI. PROTECTED AREAS. This alternative recommends various kinds of protected areas, as described below, in order to maintain and enhance biological diversity

Potential additions to the National Wilderness Preservation System. The Planning Rule requires that plans:

> Identify and evaluate lands that may be suitable for inclusion in the National Wilderness Preservation System and determine whether to recommend any such lands for wilderness designation.

219.7(c)(2)(v).

[9] The Forest Plan Monitoring Evaluation Report for 2013 notes that lynx are still using suitable habitat as expected, in spite of the bark beetle mortality in spruce. Id. at 14. More recent unpublished research has confirmed this. See The Wildlife Society, 2016.

"The Responsible Official shall identify and create an inventory of all lands that may be suitable for inclusion in the National Wilderness Preservation System". FSH 1909.12, section 70.62 a; emphasis added. "The inventory is intended to be reasonably broad and inclusive". Id. at 71. The inventory shall be "based on information obtained during the assessment or from public and governmental participation opportunities". Id. at 70.62.

At a minimum, the plan revision must consider all Colorado Roadless Areas as part of the inventory, but under FSH 1909.12, Chapter 70, the inventory of potential wilderness lands should include all lands that might be capable of wilderness.

Areas with maintenance level 1 roads must be included in the inventory. Id. at 71.22 1a. Areas with low road density where all roads are found in the Travel Analysis Report to likely not be needed for future use should be considered for wilderness designation.[10]

It is important to recognize that areas do not have to be absolutely pristine to qualify for designation as wilderness. For example, wilderness areas "generally appear[] to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable". The Wilderness Act, 16 U.S.C. 1131; emphasis added. Plan Rule directives specifically direct that areas with low-standard roads and various minor improvements be included in the inventory. FSH 1909.12, section 71.22. Especially noteworthy is that the nearby presence of non-wilderness activities does not disqualify an area:

> The fact that nonwilderness activities or uses can be seen or heard from within any portion of the area, must not, of itself, preclude inclusion in the inventory.

Id. at 71.22b (10).

The Forest Service must ensure that all lands that are capable of wilderness designation are included in the inventory.

Generally, all upper tier Colorado Roadless Areas that do not have motorized trails in them should be considered for wilderness designation, as should all capable areas adjacent to existing wildernesses.

Please see our comments on the preliminary wilderness evaluation, dated September 6, 2016 and attached as Appendix 4. Attached to that document are full descriptions of the areas we

[10] FSH 1909.12, chapter 70, section 71.22a(1)(b) ("Areas with any routes that are decommissioned, unauthorized or temporary, or forest roads that are identified for decommissioning in a previous decision document, or identified as likely unneeded in a travel management plan (36 CFR 212.51) or a travel analysis (36 CFR 212.5(b))")

recommend for wilderness designation and why we believe they should be designated as wilderness. It is attached to this Alternative as Appendix 5.

Wild, scenic, and recreational river segments. See detailed comments in our scoping comments of October 28, 2016.

During the previous revision of the Rio Grande Plan, rivers were evaluated for eligibility. See Final Environmental Impact Statement for the 1997 plan revision at 3-363. That evaluation found only 14 stream segments totaling 126 miles to be eligible, while 429 streams totaling 1764 miles were found ineligible. Ibid. In 1982, 36.8 miles of the Conejos River was recommended for inclusion in the System. Ibid. However, a 1993 update shows 57 miles of this river to be eligible, including the "North, Middle, and El Rito Azul Forks from sources to confluence with Conejos River, thence Conejos River to confluence with South Fork". See http://www.nps.gov/ncrc/programs/rtca/nri/index.html

The Forest Plan was supposed to designate Saguache Creek as an eligible wild river. See Plan at IV-8, Plan FEIS at 3-363. This means the creek and its corridor should have received a 1.5 management area prescription. But on the Forest Plan management areas map, it has a 3.3, eligible scenic rivers, management prescription instead.[11] This must be corrected in the revised plan.

Since the eligibility evaluation done for the previous plan revision is approaching 20 years old, we believe all stream segments found ineligible should be re-evaluated for eligibility as part of the current revision. This re-assessment should use at least two screens: a) investigation of potential changed circumstances that could not make select segments eligible. Facilities that were previously judged to make stream segments ineligible may no longer exist. b) Reconsideration of river values and river corridor values in the context of the current regional and national array of river-related natural values.

There are some stream segments that were not evaluated for the previous forest plan, including nine segments in the Baca tract, which the Forest Service has acquired since the previous plan revision, and 25 segments elsewhere. See Need For Change, Version 2, item A 3 and Appendix A 3 thereto. We are pleased to see that these stream segments will be examined for eligibility.

Research Natural Areas. Regulations encourage the Forest Service to designate research natural areas (RNAs):

[11] Note that Saguache Creek does not appear on this list of eligible scenic rivers – see Plan at IV-19 and Plan FEIS at 3-363.

> …when appropriate, the Chief shall establish a series of research natural areas, sufficient in number and size to illustrate adequately or typify for research or educational purposes, the important forest and range types in each forest region, as well as other plant communities that have special or unique characteristics of scientific interest or importance.

36 CFR 251.23.

Under Forest Service directives:

> Research Natural Areas are principally for nonmanipulative research, observation, and study. They also may assist in implementing provisions of special acts, such as the Endangered Species Act of 1973 and the monitoring provisions of the National Forest Management Act of 1976.

FSM 4063. The FSM further states the reasons for having RNAs:

> The objectives of establishing Research Natural Areas are to:
>
> 1. Maintain a wide spectrum of high quality representative areas that represent the major forms of variability found in forest, shrubland, grassland, alpine, and natural situations that have scientific interest and importance that, in combination, form a national network of ecological areas for research, education, and maintenance of biological diversity.
>
> 2. Preserve and maintain genetic diversity, including threatened, endangered, and sensitive species.
>
> 3. Protect against human-caused environmental disruptions.
>
> 4. Serve as reference areas for the study of natural ecological processes including disturbance.
>
> 5. Provide onsite and extension educational activities.
>
> 6. Serve as baseline areas for measuring long-term ecological changes.
>
> 7. Serve as control areas for comparing results from manipulative research.

8. Monitor effects of resource management techniques and practices.

FSM 4063.02. These objectives for establishing RNAs are well aligned with this alternative, as any RNAs designated would contribute to: ensuring ecological representation in protected areas, helping maintain genetic diversity, and allowing evaluation of management techniques for conserving biodiversity. We strongly encourage establishment of RNAs on the RGNF where appropriate.

It would be desirable to have RNAs in every nearly ecological type that has more than a minor amount of land on the Rio Grande National Forest. As the FEIS for the 1997 Plan Revision put it:

> The goal of the RNA program is to represent the ecological diversity that occurs on National Forests and National Grasslands so that we can assess the impacts of management and conserve biodiversity.

Id. at D-1.

The 1997 Plan designated six RNAs. Plan FEIS at 3-331. Two of them are in wilderness areas and one is partially within wilderness. Id. at 3-335. All of the existing RNAs should be carried over to the forthcoming plan revision. It is most important to retain and maintain the Hot Creek RNA, as

> This area is significant because it contains rare exemplary occurrences of ponderosa pine forests with a grass understory of Arizona fescue and mountain muhly. These plant communities are common at low to middle elevations of the [RGNF] but over most of the Forest they have been affected by livestock grazing, logging, or developed recreation.

Id. at D-7. Given that the RNA was established to protect a plant community that can be, and probably has already been, adversely affected by livestock grazing, the Forest Service should consider eliminating this use from the Hot Creek RNA.

The Forest Service should also evaluate other areas to ensure that all ecological types are represented within the RNA system or other equally protective designations on the RGNF to the greatest degree possible.

It may be difficult to find potential RNAs that have not been grazed. In the absence of areas that have never been grazed by domestic stock, the Forest Service should consider designating as

RNAs one or more areas that have not been grazed for many years and have ecologically recovered.

We recommend the following be designated as RNAs:

--Deep Creek, 360 acres
--Half Peak, 245 acres
--Sheep Mountain, 1443 acres

Please see Appendix 6 for detailed descriptions of these recommendations.

Designated areas. Under the Planning Rule, units are directed to

> [i]dentify existing designated areas other than [wilderness and wild-scenic rivers], and determine whether to recommend any additional areas for designation. If the responsible official has the delegated authority to designate a new area or modify an existing area, then the responsible official may designate such area when approving the plan, plan amendment, or plan revision.

36 CFR 219.7(c)(2) (vii).

In the 1997 Plan revision, the following were designated as special interest areas: Blowout Pass (1260 acres); Devil's Hole (270 acres); Fremont Historic Area (10,830 acres); Wagon Wheel Gap Experiment Station (1585 acres); Elephant Rocks Botanical Area (8440 acres); Ripley Milkvetch (5000 acres), and Bachelor Loop Historic Area (4475 acres). Five other areas were proposed in other Plan FEIS alternatives. Forest Plan FEIS at 3-72 to 3-75.

The Plan Rule Directives list the following types of areas of less than 100,000 acres that can be administratively designated by the Regional Forester, upon recommendation from the Supervisor:

Botanical Area
Geological Area
Scenic Area
Zoological Area
Paleontological Area
Historical Area
Recreational Area

FSH 1909.12, section 24, Exhibit 24-01[12]. However, the text with this exhibit states:

> The list in exhibit 01 is not comprehensive. Some plan areas may have unique designations created by special legislation or other administrative action in addition to the types identified in this section. If a land area does not qualify as a designated area or has not been designated, but needs specific guidance, the Responsible Official may identify the area as a management area or as a geographic area to apply specific plan components in the land management plan.

Some areas that might not qualify for, or be most appropriately designated as, special areas, may still need protection via management areas and associated standards and guidelines. We make some recommendations in this regard below. For these areas and special areas, the revised plan must apply management area prescriptions to conserve, maintain, and where appropriate, enhance, the qualities that make each area a candidate for designation or otherwise deserving of protection or special management.[13]

Special Areas should include the following (acres are approximate):

Blanca Peak Special Area, 4300 acres
Summer Coon/La Ventana Geologic Area, 22,400 acres
Chama Basin Watershed Protection Area, 22,900 acres
Wolf Creek Pass Landscape Linkage Zoological Area, 22,300 acres
Spruce Hole-Osier-Toltec Landscape Connectivity Area, 30,500 acres

Please see Appendix 7 for full descriptions and justifications for the areas we recommend for special designations.

Other protective management prescriptions. In addition to the management area prescription of lynx linkage areas, described in section V above, we recommend that a new management area prescription similar to the current plan's MA 3.3 Backcountry be developed and applied as discussed below.

[12] Areas of 100,000 acres or more must be designated by the Chief of the Forest Service. Ibid.
[13] See FSM 2372.03(4) ("Manage other values or resources in the area to a level compatible with the area's primary values and overall National Forest management objectives.") and FSM 2372.4(8) ("Allow other occupancy and use of the area's resources to the extent they neither interfere with the primary values for which the area was established nor negatively affect the visitor's experience.")

This new MA should be assigned to areas that have been shaped primarily by natural processes, including those identified as potentially suitable for Wilderness, especially those with high ecosystem representation value, high biodiversity value, or high value to landscape connectivity.

The new MA should have the following features:

--the area is unsuitable for timber harvest;
--logging is allowed only as an emergency measure to reduce threats to human life and safety (such as removal of dead trees near trails);
--for oil-gas leasing, the area is discretionary no lease or NSO;
--prescribed fire and fire use are permitted;
--no new road construction is allowed;
--motorized recreation is allowed only on designated routes where such use is deemed appropriate and consistent with the desired conditions and other plan components for the MA;
--off-route motorized game retrieval is prohibited; and
--livestock grazing is allowed but at no more than the number of AUMs, season, and intensity permitted at the time of revised plan approval.

The following are two of the areas where this new MA should be applied:

Summit Peak-Elwood Pass area. This area is the Colorado Roadless Area of the same name, covering approximately 3900 acres. It is bordered by the South San Juan Wilderness on the south, west, and north sides, and by FSRs 243 and 380 on the east side. It would easily qualify for wilderness except for over-snow vehicle use.

The area consists of rolling tundra and alpine grassland, as well as some spruce and fir forests interspersed with aspen stands. It is a high use area for lynx, a threatened species. It also provides habitat for bighorn sheep, black bear, marten (occurrence documented), mule deer and elk. See USDA Forest Service, 2001, at 52.

A closed road and old clearcut have revegetated and are not substantially noticeable. There are no private inholdings in the area.

Red Mountain Creek. This is the Red Mountain Colorado Roadless Area, consisting of approximately 4100 acres. The Weminuche Wilderness borders the Red Mountain area on its south and east sides and part of the west side. The border for the remainder of the west side is near FSR 523. Private property forms most of the northern border. The area is a narrow valley with steep side slopes.

An ATV track goes up the valley to a cabin operated by the Division of Parks and Wildlife to administer a trans-basin water diversion. Other than that, the area appears natural, with intact, functioning ecosystems. Lynx presence has been documented. The area provides good opportunity for backcountry hunting for deer, elk, and moose. See USDA Forest Service, 2001, at 41.

Continental Divide National Scenic Trail corridor. A special management area is needed for this corridor. The corridor for the Continental Divide National Scenic Trail (CDNST) traverses a long border area with the GMUG and San Juan NFs. Direction for travel management is needed on this section of the CDNST. Forest Service policy requires establishment of a management area for the Trail. FSM 2353.44b (1). The RGNF should coordinate with the two adjacent NFs to develop a unit plan for the Trail, especially with the GMUG, as it has also begun its plan revision. Unit plans are required by agency policy at FSM 2353.44(b)(2).

Bicycles should not be allowed on the section of the CDNST that runs through the GMUG and Rio Grande NFs southwest of Saguache Park, where it might be difficult or impossible to keep bikes out of the La Garita Wilderness.

See our detailed recommendations for the CDNST Corridor management area in Appendix 8.

VII. MANAGEMENT OF PROTECTED AREAS AND THOSE RECOMMENDED FOR PROTECTION

All activities in designated or recommended areas must conserve the characteristics that make the areas eligible for designation. Plans must contain components that provide:

> (iv) Protection of congressionally designated wilderness areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation.
>
> (v) Protection of designated wild and scenic rivers as well as management of rivers found eligible or determined suitable for the National Wild and Scenic River system to protect the values that provide the basis for their suitability for inclusion in the system.
>
> (vi) Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

219.10(b)(1).

Any area recommended for wilderness or wilderness study designation is not available for any use or activity that may reduce the wilderness potential of an area. FSM 1923.03 (3).

For wild, scenic, and recreational river segments found eligible or suitable, the Directives dictate interim management. See FSH 1909.12, section 84.3. And unlike the time-limited protection in the Wild and Scenic Rivers Act for legislatively mandated river studies,

> Forest Service-identified eligible and suitable rivers must be protected sufficiently to maintain free flow and outstandingly remarkable values unless a determination of ineligibility or non-suitability is made.

Ibid.

The RGNF should especially manage the Rio de los Pinos for designation under the Wild and Scenic Rivers Act. Note that the 9-11 miles of this river in New Mexico that are closest to Colorado have been found eligible for scenic designation. See the Environmental Assessment for Amendment 11 to the Carson National Forest Plan, Appendix B at 20[14]. Also, 4-5 miles of tributaries, including the Osier Fork from its boundary with the Tierra Amarilla Grant to the Colorado state line, are eligible for recreational designation. Ibid. The Osier Fork enters the Rio de los Pinos in Colorado.

Note that both segments referenced above have numerous outstandingly remarkable values. Ibid. It is likely that these values also occur along the portions of these rivers in Colorado.

See section V of our Alternative for a detailed discussion on stream segment eligibility under the Wild and Scenic Rivers Act.

Non-wilderness and non-wild-scenic river designated areas and those proposed for such designation must be managed to retain the values for which they are designated or proposed. See FSH 1909.12 section 24.2 (2). Some special areas may need a unique management area prescription to ensure that this requirement is met. Special areas must not be available for: oil and gas leasing, commercial logging, or locatable mineral entry. New public motorized use should be prohibited unless impacts from this and related uses (like camping and picnicking) can be minimized and do not adversely affect the values for which any area is established or proposed. At a minimum, these areas should have a protective management prescription similar to management area 3.3, Backcountry in the current management plan, with additional

[14] This amendment was approved January 26, 2002.

prohibitions on locatable mineral entry and oil-gas leasing, and limitations on motorized use, all as needed to protect values for which the area is designated.

All designated areas with an existing or expected high level of human use should be monitored to ensure that the effects of such use do not damage the characteristics for which the area is designated. This may especially be relevant to high-use areas in wilderness, such as portions of the Sangre de Cristo Wilderness. Plan components should identify triggers that would instigate limits on use and/or restorative efforts, and require that damaged areas be restored.

Research Natural Areas must be protected, by regulation:

> Research natural areas will be retained in a virgin or unmodified condition except where measures are required to maintain a plant community which the area is intended to represent. Within areas designated by this regulation, occupancy under a special use permit shall not be allowed, nor the construction of permanent improvements permitted except improvements required in connection with their experimental use, unless authorized by the Chief.

36 CFR 251.53. This is reinforced by policy:

> Research Natural Areas may be used only for Research and Development, study, observation, monitoring, and those educational activities that do not modify the conditions for which the Research Natural Area was established.

FSM 4063.03. There is further direction for management of RNAs at FSM 4063.3.

VIII. PROTECTING WATERSHEDS

The Planning Directives state: "[t]he Interdisciplinary Team should develop plan components to address conditions in priority watersheds". FSH 1909.12, section 22.31.

Watersheds identified per 219.7(f)(1)(i) as a priority for maintenance or restoration should be in a special management area prescription or other protective designation(s), with standards and guidelines as needed, that will ensure that no actions will be allowed which would create or exacerbate poor watershed conditions or unduly delay recovery of any watersheds to robust condition. This MA or designated area(s) should also provide guidance for restoring watersheds that are in less than robust condition.

The primary focus should be on protecting and improving watersheds in class III, functioning impaired. However, watersheds rated class II, functioning at risk, cannot be ignored, as they could deteriorate further. Thus some class II watersheds may need to be identified as priority. The revised plan should use an existing rating system or develop a new one to help prioritize watersheds and plan for restorative actions where needed.

Protect riparian areas. Riparian areas, or those immediately adjacent to water bodies, are extremely important for a wide variety of ecological and other functions. The Planning Rule requires the following:

> *Riparian areas.* (i) The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of riparian areas in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account:
>
> (A) Water temperature and chemical composition;
> (B) Blockages (uncharacteristic and characteristic) of water courses;
> (C) Deposits of sediment; (D) Aquatic and terrestrial habitats;
> (E) Ecological connectivity;
> (F) Restoration needs; and
> (G) Floodplain values and risk of flood loss.
>
> (ii) Plans must establish width(s) for riparian management zones around all lakes, perennial and intermittent streams, and open water wetlands, within which the plan components required by paragraph (a)(3)(i) of this section will apply, giving special attention to land and vegetation for
> approximately 100 feet from the edges of all perennial streams and lakes.
>
> (A) Riparian management zone width(s) may vary based on ecological or geomorphic factors or type of water body; and will apply unless replaced by a site-specific delineation of the riparian area.
>
> (B) Plan components must ensure that no management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that seriously and adversely affect water conditions or fish habitat shall be permitted within the riparian management zones or the site-specific delineated riparian areas.

36 CFR 219.8(a)(3).

The plan must have whatever components are necessary, including standards, to ensure protection of riparian areas and all of their functions. This should include a minimum distance from streams, wetlands, lakes, and any other water bodies near which ground disturbing activities, including livestock grazing, are allowed. Components should also be formulated to encourage restoration of riparian areas that have been damaged, e. g., by abusive or neglectful livestock grazing practices, or illegal travel-way construction or use. As part of the identification of priority watersheds required by the planning rule and discussed above, riparian areas in need of restoration can be identified and prioritized.

The Forest Service has federal reserved water rights for many streams on the RGNF. These flows will help protect watersheds, but may be insufficient in extended drought periods. In any case, other plan components will be necessary to ensure protection of watersheds.

Streams with Rio Grande cutthroat trout (RGCT) of high genetic quality (i. e., 90 percent or more pure) must be protected. The following streams likely have such populations: the East Tributary of the Middle Fork and the West Tributary of San Francisco Creek, West Alder Creek, Medano Creek, Lake Fork of the Conejos River, Rio de los Pinos, Osier Creek, and the South and Middle Forks of Carnero Creek. See FWS, 2014, Appendix C, Table C 14.

Many watersheds on the RGNF have a sizable number of diversion structures. See Assessments 1 and 3 Aquatic, Appendix 1 at 6. These structures "can seriously reduce instream habitat and migration for aquatic biota, nutrient transport, sediment movement and water quality (including temperature)…". Id. at 4. However, there are opportunities to restore stream connectivity and habitat for species like RGCT:

> Working cooperatively with private and public water and private diversion owners could increase effective connected habitat by modifying existing structures to allow passage, design new structures to do the same, and negotiate stream releases to benefit identified important habitats rather than eliminating them from consideration. The success of the USDA Forest Service to modify road crossings of streams to improve connectivity has been highly successful, resulting in thousands of miles of streams allowing fish and other organisms to move to different habitats.

Id. at 7. We strongly recommend that the revised plan have a component to encourage and prioritize such efforts.

Protect wetlands. Wetlands are areas of high ecological importance. They need to be protected to retain their ecological values. The plan components composed to protect riparian areas can also be used to protect wetlands, but additional components might be necessary to ensure adequate protection of wetlands.

Wetlands are an essential habitat on the planet, providing ecosystem goods and services as well as habitat for biodiversity. Approximately 25% of remaining wetlands in the lower 48 are on public lands. Lewis, 1995. As of 2008, there were 422 species listed as threatened or endangered under the US Endangered Species Act (ESA) occurring or impacted by events occurring on Forest Service Lands (USFS, 2008 http://www.fs.fed.us/biology/tes/). This is 31% of all species listed under the ESA as of 2008. Within aquatic species this includes 12 listed amphibians (52% of US total) and 92 fishes (66% of US total). In arid climates, such as western North America, wetlands are less prevalent on the landscape than in humid climates, and therefore are extremely important to wetland dependent biodiversity. Brinson and Malvarez, 2002. For example, up to 90% of species are dependent upon wetland and riparian zones in this region. Lemly et al, 2016.

In the West alpine wetlands support a large diversity and rarity of plant assemblages (Cooper, 1996), and also provide ecosystem services of water storage, carbon sequestration, and nutrient cycling. Fen wetlands, of which many of these alpine wetlands are, represent an irreplaceable habitat type due to their slow development in the west, which is especially vulnerable (USFS Fen Policy, 2002, described below).

Fens especially must receive a high level of protection. They often have unique plant communities. They take thousands of years to form, so any that are damaged or destroyed from abuse or any kind of uninformed management are essentially lost forever. See USDA Forest Service, 1998, at 31.

Note that Region 2 of the Forest Service has a Fen Policy, dated March 19, 2002, which states, in part:

> Because the rate of [organic soil] accumulation is so slow, these ecosystems are essentially irreplaceable. …
>
> This means that the goal is no loss of existing habitat value, and that every reasonable effort should be made to avoid impacting these habitats. Mitigation for loss of fens is problematic, as there are no known methods to create new functional fens.

Emphasis added.

A study done locally (Hall and Gallensky, 2016) developed a process to identify important wetlands on the Rio Grande National Forest. See Appendix 10.

A November 3, 2015 Presidential Memorandum, requiring natural resource agencies to develop an approach for avoidance, minimization and compensatory mitigation of impacts to natural resources stated:

> [each agency's] approach should also recognize that existing legal authorities contain additional protections for some resources that are of such irreplaceable character that minimization and compensation measures, while potentially practicable, may not be adequate or appropriate, and therefore agencies should design policies to promote avoidance of impacts to these resources.
>
> Large-scale plans and analysis should inform the identification of areas where development may be most appropriate, where high natural resource values result in the best locations for protection and restoration, or where natural resource values are irreplaceable.

80 Fed Reg 68744, November 6, 2015.

Section 2(d) of the Memorandum, ibid., defined irreplaceable as follows:

> "Irreplaceable natural resources" refers to resources recognized through existing legal authorities as requiring particular protection from impacts and that because of their high value or function and unique character, cannot be restored or replaced.

The Colorado Natural Heritage Program has recently completed a report documenting fens on the RGNF. See Smith et al, 2016. This report notes the "high number of likely fens in Elk Creek, Headwaters of the Alamosa River and Ute Creek". Id. at 22.

The planning team should use the information in this report to design appropriate forest-wide standards and guidelines and apply protective management area prescriptions as needed to locations with fens to ensure these irreplaceable resources are conserved.

IX. TIMBER MANAGEMENT

Suitability. The National Forest Management Act and the Planning Rule both require determination of lands that are suitable for timber production. 16 U.S.C. 1604(g)(2)(A) and 36 CFR 219.11(a), respectively. In this alternative, all protected areas, including all roadless areas, are not suitable for timber production. Also unsuitable are areas over 35 percent slope, slopes with high ratings for soil erosion or slope failure, forested wetlands, and land within 100 feet of streams and other water bodies

Cutting methods. The following cutting methods are allowable:

Englemann spruce and subalpine fir: individual tree and group selection. Groups should generally be no more than one-quarter acre.

Lodgepole pine: shelterwood and irregularly-shaped clearcuts of no more than five acres.

Aspen: irregularly shaped clearcuts, generally less than 5 acres except up to 10 acres where regenerating a whole clone is desirable. Aspen should not be cut just because it has some conifer invasion. The current acreage of stands dominated by aspen on the RGNF does not need to be retained, as this acreage may reflect the large number of fires occurring between roughly 1870 and 1910[15], resulting in a possible historic high for aspen coverage on the RGNF. As the FEIS for the 1997 plan states:

…aspen-dominated stands were probably at historically high levels in the mid-1900s.

Id. at 3-167. Thus under normal circumstances, some loss of aspen acreage could be expected over time (but see below), and should be accepted if it occurs.

With the death of overstory Englemann spruce from spruce bark beetle attacks, mixed stands of spruce-fir and aspen will trend toward aspen, and existing aspen stands will expand into areas formerly containing live spruce. This means that aspen acreage will probably increase over time. As Assessments 1 and 3 noted at p. 9:

> As fire disturbance is compounded increasingly more with insect outbreak and climate change it is predicted aspen will become increasingly prevalent in subalpine systems. (citation omitted)

Currently there is no commercial market for aspen wood in Colorado or nearby. We have not seen evidence that sudden aspen decline (SAD) is significantly affecting aspen stands on the RGNF.

Therefore, there is no need to cut aspen on the RGNF.

Ponderosa pine: individual tree and group selection. Groups should be no more than about one-quarter acre. Stands that are demonstrated, after examination, to have an unnaturally high

[15] It is our understanding that there were numerous natural and human-caused fires during this period, an era that featured mass infiltration by European-based descendants. Fires were set by both these settlers and indigenous peoples.

stocking density due to fire suppression may be thinned. However, most or all of the larger trees in these stands, at least the ones likely pre-dating the onset of fire suppression, must be retained.

Mixed conifers, which includes any combination of two or more conifer tree species, except stands containing only Englemann spruce and/or subalpine fir, which is covered above: individual tree and group selection. Groups should be no more than about one-quarter acre.

Rotation age. If any stands are treated with even-aged management (i. e., using clearcut, shelterwood, or seed tree cutting methods), rotation ages, or the minimum ages at which the trees must reach before cutting occurs, must be established. NFMA requires that "prior to harvest, stands of trees… shall generally have reached the culmination of mean annual increment of growth" (16 U. S. C. 1604(m)), which is the peak growth rate, usually measured on a decadal basis.

Tree growth on most of the RGNF is relatively slow due to cold temperatures and low (and often erratic) precipitation. Thus rotation ages should be developed based on local data rather than from yield tables developed from data gathered elsewhere. Generally, minimum rotation ages should be as follows, subject to adjustment after review of local long-term growth rate data: 120 years for aspen and lodgepole pine, 180 years for ponderosa pine, and 200 years for mixed conifers.

It is unlikely there will be enough mature live Englemann spruce trees, if any, to cut, due to bark beetle mortality, so no rotation age need be set for that species. Subalpine fir trees are generally not harvested commercially because of their very low wood product value. Also, these are the only mature trees remaining in the subalpine zone due to bark beetles killing most of the spruce. Thus fir should be retained. Thus subalpine fir should not be cut commercially, even if a commercial use is found. If this species is cut commercially via even-aged methods, rotation age should be at least 225 years.

Spruce bark beetle mortality. Stands should not be cut just because they contain, or are even dominated by, standing dead and/or dying Englemann spruce that have been killed by spruce bark beetle and/or other mortality agents. Standing dead trees provide some wildlife cover (such as hiding cover for deer and elk and "other" habitat for lynx). When trees fall to the ground, they provide habitat for various species, including lynx denning habitat and marten denning and foraging habitat. Most stands with dead spruce trees will be part of lynx habitat. See further discussion in section V above.

Therefore dead spruce should generally not be cut except where it poses possible threats to people and infrastructure. This would include areas near: power lines, campgrounds, picnic

grounds, trailheads, and immediately adjacent to private land that contains structures where Firewise or defensible space measures have been, or will soon be, undertaken to reduce fire risk and hazard. Distance for clearing dead trees from near roads, power lines, and other infrastructure should be no more than the height of the tallest tree plus 10 percent.

Old growth. Due to the widespread spruce bark beetle attacks, the landscape will be deficient in older trees, and is much more open than prior to beetle attack Thus there is much less late successional forest than historically. See Assessment 1 and 3 at 16-18 and 35. Therefore, retaining older trees of other species, such as Douglas-fir, subalpine fir, ponderosa pine, and lodgepole pine is very important. Any remaining stands that meet the description of old growth or are likely to do so within the next 50 years should be retained. The areas that have the best chances for growing into old growth structure should be designated old growth recruitment areas.

Snag and down dead log retention. It is very important to retain adequate snags (standing dead trees) and down dead logs. Snags should be left in clumps, where available, and be well distributed across each stand where they occur. Overall, there will be plenty of Englemann spruce snags due to the bark beetle outbreak, but retained snags must still be well distributed. Snags of other species other than Englemann spruce must be retained and be well distributed across the landscape.

All soft snags (i. e., those with some signs of internal rot) should be retained except where they are a safety hazard for public use or infrastructure.

Down dead should also be well distributed. The largest snags and down dead logs should be retained. The current Plan standard does not state any size requirement for downed logs. (See Plan at III-13, Table III-1).

According to one study, the ideal amount of coarse woody debris (diameter three inches and greater) for stands of cool Douglas-fir and subalpine fir is about 10-30 tons per acre, provided that no more than 5 tons of this is in small diameter material (less than three inches). See Brown at al, 2003.

There are plenty of snags and future down dead in stands dominated by dead spruce. However, it is important to retain standing and down dead in salvage sales, as it is easy to remove almost all standing dead and existing and future down dead during implementation of such projects. Retained snags should not be isolated in open areas, such as after salvage logging, as they will easily blow down. To reduce this blowdown, retain snags in clumps in stands where they are mixed with live trees, where possible.

Retain and protect understories. With large-scale mortality of Englemann spruce and the difficulty of regenerating spruce, it is more important than ever to retain any existing live trees during any logging. Logging operations must be designed to minimize damage to any live trees, especially small conifers that help form lynx foraging habitat. See section V above.

Future reforestation of many areas hit by bark beetle mortality depends to a considerable degree on retention of existing small live trees. Planting can be done, but it is expensive. Given this expense, the percentage of area now dominated by dead spruce that could be planted is fairly small. Also, planting success is not at all guaranteed, as planted spruce trees often die. Therefore, the more reforestation that can be accomplished with existing regeneration, the better.

Biomass. There is an effort to develop one or more industrial facilities that could use material taken from the RGNF for biomass. Biomass could be anything from firewood to chips, pellets, and material of almost any size that would be used as fuel to produce electricity and/or heat.

At this time, it does not appear that such an industry is economically viable. A recent study showed that with a 50-mile haul distance, it would cost any biomass producer about $75 per ton to obtain raw material, but processors are willing to pay only about $30-40 per ton. Webb and Pitts, 2014, at 14-15. Also, a producer would need to obtain about 149 tons per working day, which would require treating at least nine acres per day. Ibid. This means 16.5 tons per acre would be removed. Assuming this acreage was treated every working day, about 2250-2300 acres would be treated per year.

On some sites, the 16.5 tons removed might comprise 50 percent or more of the tree biomass present. This level and intensity of treatment would likely be ecologically and/or socially unsustainable given the need for forested wildlife habitat, snag retention, watershed protection, down wood retention, and retention of scenic resources and recreational opportunity.

Biomass could potentially use very small diameter material. If so, some logging slash could be used. However, there is a danger that too much material would be removed from various locations to supply the biomass industry, leaving too little small and coarse woody debris behind to provide important ecological functions, such as protecting the soil and slowly decaying into new soil. See discussion on retention of snags and down dead wood above.

Estimates of how much sawtimber and other wood products might be produced must be made. See FSH 1909.12 sections 64.32, 65.1. These quantities should not be objectives in the plan. With budgets and natural events unpredictable, conditions are too uncertain to make predictions of the Projected Timber Sale Quantity and the Projected Wood Sale Quantity into obtainable objectives.

X. FIRE. Fire is a very important natural process. It is one of nature's disturbance agents, by which vegetation and wildlife habitat are maintained and or changed.

Under the Planning Rule, the Responsible Official must consider "[w]ildland fire and opportunities to restore fire adapted ecosystems" when developing components for ecological sustainability and ecosystem integrity. 36 C.F.R. 219.8(a)(1)(v).

The revised plan should encourage efforts to restore fire to its rightful role in the RGNF's ecosystems, to the extent this can be done safely. Full restoration of this process will generally not be possible due to the presence of human infrastructure, which needs protection from fire. However, fire can be restored in some parts of the RGNF, such as in the larger protected areas.

It is most important to re-establish fire in the lower elevations, generally below 9000 feet or so, where it was relatively common (fire return interval no more than 50-100 years or so) before the onset of human fire suppression. It will be these areas that have experienced the greatest change from fires being suppressed over more than a century. These areas will generally be in grasslands, shrublands, pinyon-juniper woodlands, ponderosa pine forests, and maybe some aspen and mixed conifer stands. Conversely, the higher altitude spruce-fir forests have seen the least change, if any, from fire suppression.

To address naturally caused fires (and perhaps some human-caused ones), the plan should zone the RGNF by areas where: a) fires should generally be allowed to burn. These will usually be the higher-elevation areas where fires are infrequent and pose less risk to humans than fires in other locations. b) prescriptions are to be developed to establish the conditions under which fires should be allowed to burn. c) fires will be suppressed under all conditions. The latter areas will generally be in the wildland-urban interface areas, where most fires threaten human lives, property, safety, and/or other infrastructure.

Prescribed, or deliberately set, fire should be used to restore or maintain natural ecological conditions. This would include burning in aspen, ponderosa pine, and grasslands/shrublands under the proper conditions, i. e., when the risk of fires escaping prescription is low, but that the target vegetation is dry enough to burn and accomplish the objectives of the burn.

Fire use (formerly called "prescribed natural fire") should also be used under appropriate conditions. Natural, and some human-caused, ignitions can be allowed to burn under specific conditions. When those conditions area exceeded, e. g., when wind velocity gets too high, humidity is very low, and/or fire approaches wildland-urban interface areas, fires would be suppressed.

XI. GRAZING OF DOMESTIC ANIMALS

Note that under the final Directives issued for the 2012 Plan Rule, information gathered for the assessment must include:

3. The capability and productivity of the plan area to support grazing activity.
4. The impacts of grazing on ecological integrity and species diversity.

FSH 1909.12, section 13.32.

The assessment and EIS should determine the suitability of lands for livestock grazing. Note that this is expressly allowed by the Planning Directives. See FSH 1909.12 section 23.23d 2(c).

The following areas must not be suitable for grazing:

--steep slopes (more than 40 percent or so)
--riparian areas, except for pass-through
--bighorn sheep habitat
--wetlands and other frequently saturated areas.
--vegetatively unproductive areas incapable of producing significant forage for livestock
--lands with important botanical features, such as threatened, endangered, candidate, proposed, or local concern species, or rare plant communities, where livestock grazing could d reduce populations of these species or prevent their recovery to full viable populations.

The plan should have maximum forage utilization standards to prevent over-grazing. In upland areas, this should not exceed 40 percent of the annual growth. In riparian areas, it should not exceed 15 percent.

Range management should focus on improving the condition of allotments in unsatisfactory condition and preventing deterioration of ranges in any condition. Each allotment should be managed to attain the potential natural community of vegetation[16] or a locally identified desired plant community. A desired condition should be to have all allotments in satisfactory condition or higher, and that all allotments in less than satisfactory condition have an upward trend. Monitoring of range condition should occur annually on each active allotment. Un-grazed areas are needed as control sites to compare with areas grazed.

[16] The potential natural community is the structure and composition of vegetation that would exist in the absence of repeated or intensive human disturbances.

The revised plan must contain standards and guidelines that protect riparian areas and native plant communities, especially any threatened, endangered, and sensitive species, and species of conservation concern.

Domestic sheep must be kept out of areas where native (bighorn) sheep reside or migrate, to avoid disease transmission. FSH 1909.12, section 23.23(d) 1e, requires measures to "avoid or mitigate th[e] risks" of interaction between wild and domestic sheep..

A plan standard should require that one or more riders be with stock at all times when on national forest land. This is especially important in the portions of allotments with riparian areas, to ensure that animals do not congregate or linger there and damage the ecosystems or reduce water quality.

Because the economics of livestock grazing indicate a decreased demand for this activity, currently vacant allotments and ones that become vacant should be not be restocked, and should be restored to a natural ecological condition. The RGNF should develop a plan to permanently retire grazing permits by finding public and private mechanisms to purchase these permits and then send the list of purchasable allotments to Congress for approval.

When a grazing permit is scheduled for renewal, the RGNF should involve the public in an analysis, documented in an environmental assessment, about the condition of the resources (soils, water quality, vegetation composition, presence of invasives, etc.) on the corresponding allotment(s), and whether it is more in the public interest to retire the allotment from livestock grazing or to allow such grazing to continue. Two or more permits and allotments can be grouped into one EA, or if required, an environmental impact statement.

XII. OIL AND GAS LEASING AVAILABILITY

See our comments of April 15, 2016, pp. 10-11, and our scoping comments of October 28, 2016 at section XII for a full discussion of this issue. Again, we recommend that the RGNF undertake this analysis as part of the plan revision to ensure that potential impacts from plan implementation, especially cumulative and reasonably foreseeable ones, are all disclosed in the plan revision EIS.

The following areas should not be available for leasing: all roadless areas, especially upper tier ones; alpine areas; designated and proposed special areas, including research natural areas; eligible and designated wild river corridors; wetlands; priority watersheds; developed recreation sites, including trailheads; big game winter range; deer and elk calving/fawning grounds; bighorn sheep lambing grounds; lynx linkage areas; and any designated critical habitat for ESA-listed

species (either currently designated critical habitat or any that is designated during the life of the revised plan).

XIII. SUITABILITY OF LANDS FOR RENEWABLE ENERGY DEVELOPMENT

Please see our scoping comments of October 28, 2016, section XVII, for a detailed discussion of this issue.

The following areas must not be suitable for renewable energy development: all protected areas and those proposed for any protective designation[17], big game winter range, calving and fawning grounds, bighorn sheep lambing grounds, wetlands, riparian areas, campgrounds, trailheads, and alpine areas with no existing road access.

XIV. SOME TRAVEL MANAGEMENT ISSUES NEED TO BE ADDRESSED.

We recognize that the revised plan will not make decisions about which individual routes will be open to what uses and when. NOI at 62708. However, the current policy allowing off-route use of motor vehicles to retrieve game taken during hunting seasons is an important forest-wide issue that needs to be addressed in the plan revision, so plan components can later be applied to areas and routes during travel management. We detailed the myriad of problems with this policy and it application and effects in our April 15, 2016 comments at 14-15 and 24-30. They are attached as an appendix to our scoping comments of October 28, 2016.

Also, over-snow vehicles (OSV) must be regulated, per the OSV rule, issued January 28, 2015 (80 Fed Reg 4500 et seq.). OSV use must be prohibited or at least limited in the areas with the highest quality lynx habitat, and in other important lynx habitat, such as linkages.

Bicycles, also need to be regulated. Bike use must not be allowed cross-country, i. e., off of designated roads and trails.

See more detailed discussion in our scoping comments of Oct. 28, 2016.

XV. INVASIVE SPECIES

[17] This includes eligible wild, scenic, and recreational rivers and recommendations for wilderness, research natural areas, and special areas.

The revised plan should have desired conditions, objectives, standards, and guidelines for monitoring and fighting invasive plant species, and preventing additional introduction and spread of these species. Alternatively, it could incorporate a previous plan for controlling these species, if that plan is not outdated[18]. We recommend the following for top treatment priority:

-- any population of a non-native species not previously observed on the RGNF;

-- small populations, new or old, of any invasive species; and

-- rapidly spreading populations of any size and any species.

The RGNF should consider a wide variety of treatment methods, but herbicides should not be used unless necessary to achieve desired conditions. For example, most small populations could be treated with non-chemical methods. Aerial application of herbicides must not be approved, as such application inevitably causes drift of chemicals into non-target areas, with undesirable results likely.

A plan standard should require monitoring, and to the extent practicable, eradication, of all weeds in areas prior to ground disturbing activities or projects. It should also require monitoring and follow-up eradications for at least two full growing seasons after project completion.

Plan components or a separate plan for control of invasive species should include non-plant species, such as exotic mussels.

XVI. MONITORING

Please see our scoping comments of October 28, 2016, section XVIII for additional discussion of monitoring. Monitoring is extremely important, as it is the means by which the RGNF can determine if desired conditions and objectives are being met, and if changes in management might be needed.

The Planning Rule requires each monitoring plan to have monitoring questions based on the plan components, and indicators, which are the means of "testing relevant assumptions and measuring management effectiveness and progress toward achieving or maintaining the plan's desired conditions or objectives. 219.12(a)(2). Each indicator must have a trigger that states what degree or amount of change would identify a need for further evaluation of impacts and/or to change management. Without triggers, monitoring might just become a collection of data. The public

[18] For example, a plan for invasive species control would be out of date if new species have since invaded the RGNF or if acreage of infestation of any non-natives has substantially increased since the plan was approved.

deserves to know approximately how much change can occur before a change in management may be needed. Triggers should be quantitative when possible, but qualitative triggers are better than none at all.

Each forest plan must have a monitoring plan, which in turn must have questions and indictors that address "[t]he status of focal species to assess the ecological conditions required under § 219.9." 219.12(a)(5)(iii). The following species should be focal species for our Alternative:

--Beaver (*Castor canadensis*)
--Canada lynx (*Lynx canadensis*)
--Rio Grande Cutthroat Trout (*Oncorhynchus clarkii virginalis*)
--Hairy woodpecker (*Picoides vallosus*)
--Brown Creeper (*Certhia americana*)
--Northern Goshawk (*Accipiter gentilis*)

See Appendix 9 for a full discussion of why these species should be focal species for the RGNF plan revision. Some plant species should also be chosen as focal species.

It is important to do broad-scale monitoring. The strategy for this needs to be developed by the Regional Office in conjunction with the four national forests that border the RGNF. See 219.12(b)(2). With the GMUG having begun its plan revision, now would be a good time to develop the broad-scale monitoring strategy. Note that the Planning Rule requires that this strategy be developed "as soon as practicable". 219.12(c)(2).

Items of broader-scale monitoring must include the movement of wildlife species such as lynx, marten, goshawk, black bear, deer, elk, moose, and bighorn sheep.

XVII. CLIMATE CHANGE

Addressing climate change will be necessary to ensure resiliency and integrity of ecosystems. See our Scoping comments of October 28, 2016 for more detail.

XVIII. ECONOMICS

The importance to the local communities and the region of non-consumptive activities must be emphasized in the analysis of social and economic impacts of this Alternative. The availability of high quality recreation for hiking, backcountry skiing, hunting, fishing, bird-watching, etc. attracts many people to the planning area and provides a major economic benefit.

See section XX of our scoping comments for additional discussion on economics.

REFERENCES

Brinson, M. M., & Malvárez, A. I., 2002. Temperate freshwater wetlands: types, status, and threats. Environmental conservation, 29(02), 115-133.

Brown, James K., Elizabeth D. Reinhardt, and Kylie A. Kramer, 2003. Coarse Woody Debris: Managing Benefits and Fire Hazard in the Recovering Forest. Rocky Mountain Research Station**,** General Technical Report RMRS-GTR-105. July, 2003

CLCAS, 2013. Canada lynx conservation assessment and strategy. 3rd edition. Interagency Lynx Biology Team: USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. 128 pp.

Cooper, D. J., 1996. Water and soil chemistry, floristics, and phytosociology of the extreme rich High Creek fen, in South Park, Colorado, USA. Canadian Journal of Botany, 74(11), 1801-1811.

DOW, 2005a. Lynx (*Lynx canadensis*) Use of the Wolf Creek Pass Area along Highway 160, Mineral County, Southwestern Colorado. Tanya Shenk for the Colorado Division of Wildlife (now the Division of Parks and Wildlife), February, 2005.

DOW, 2005b. General Locations of Lynx (Lynx canadensis) Reintroduced to Southwestern Colorado from February 4, 1999 to February 1, 2005. Prepared by Tanya Shenk for the Colorado Division of Wildlife (now the Division of Parks and Wildlife), April, 2005.

FWS, 2014. Species Status Assessment Report for the Rio Grande Cutthroat Trout. U. S. Fish and Wildlife Service, Region 2, Albuquerque, NM, August, 2014.

Hall, Aaron and Alison Gallensky, 2016. A portable GIS analysis for identifying important wetland resources on public lands: a case study of the Rio Grande National Forest. Unpublished draft report.

Lemly, J., Long, L., Smith, G., & Sueltenfuss, J., 2016. National wetland inventory mapping of the Arkansas Headwaters Subbasin.

Lewis, W. M., 1995. Wetlands: characteristics and boundaries: Natl Academy Pr.

Muldavin, Esteban, and Rayo McCollough, 2016. Wildlife Doorways: Supporting Wildlife Habitat Connectivity Across Borders in the Upper Rio Grande Watershed. Natural Heritage New Mexico and University of New Mexico, Albuquerque, March, 2016.

Olson, D.M. & Dinerstein, E. (1998). The global 200: A representation approach to conserving the Earth's most biologically valuable ecoregions. Conserv. Biol., 12, 502-515.

Smith et al, 2016. Smith, Gabrielle, Joanna Lemly, Pam Smith, and Bernadette Kuhn, 2016. Fen Mapping for the Rio Grande National Forest. Colorado Natural Heritage Program, Colorado State University, Fort Collins, Colorado, April, 2016.

Southern Rockies Ecosystem Project (SREP), Wildlands Project, and Denver Zoo, 2003. Southern Rockies Wildlands Network Vision: A Science-based Approach to Rewilding the Southern Rockies. July, 2003. Available at: https://drive.google.com/file/d/0B-naW3GOu_dTR2xvQWloUTIxcEE/view

USDA Forest Service, 1998. Peatlands on National Forests of the Northern Rocky Mountains: Ecology and Conservation. Rocky Mountain Research Station, General Technical Report RMRS-GTR-11, July, 1998.

USDA Forest Service, 2001. Rio Grande National Forest Roadless Area Profiles. September 12, 2001.

Webb, James, and Molly Pitts, 2014. Rio Grande Basin Watershed Health and Forest Biomass Opportunities Evaluation. Prepared for RWEACT (Rio Grande Watershed Emergency Action Coordination Team) December 2014.

Wildlife Society, The, 2016. Canada Lynx Persist In Spruce Beetle Impacted Forests, Research Shows. Available at: http://wildlife.org/canada-lynx-persist-in-spruce-beetle-impacted-forests-research-shows/ Accessed October 10, 2016.

APPENDICES

(These will be sent separately)

1. Management Disparities Across Administrative Boundaries

2. The Wilderness Society comments on draft Assessment 15, January 29, 2016, at Appendix 2 (begins on p. 25 of the file)

3. Wildlife Doorways: Supporting Wildlife Habitat Connectivity Across Borders in the Upper Rio Grande Watershed

4. Comments on Preliminary Wilderness Evaluation. Previously submitted on September 6, 2016.

5. Recommendations for New and Expanded Wilderness Areas. This was appended to the comments submitted on September 6, 2016. The wilderness recommendations begin at p. 100 of the file.

6. Recommendations for Research Natural Areas

7. Recommendations for Designated Areas (Special Interest Areas)

8. Continental Divide National Scenic Trail (CDNST) Corridor Management Area (MA)

9. Focal Species Recommendations