



Rio Grande National Forest's Supervisor's Office
Attn: Forest Plan Revision
1803 W. Highway 160
Monte Vista, CO 81144

Via e-mail: rgnf_forest_plan@fs.fed.us

October 28, 2016

Dear Rio Grande Planning Team,

Please accept the following comments on the on formal scoping for the forest plan revision for the Rio Grande National Forest (RGNF) and accompanying environmental impact statement (EIS). For this submission, we have reviewed the Notice of Intent to Prepare an Environmental Impact Statement (NOI; 81 Fed Reg 62,706 et seq., September 12, 2016) and the Proposed Action (PA) document available on the RGNF's revision website. We are excited to be participating in this plan revision process and the opportunity to develop the management vision for and direction of the Rio Grande National Forest, a true gem in the National Forest System.

The Wilderness Society (TWS) represents more than 700,000 members and supporters who share our mission to protect wilderness and inspire Americans to care for our wild places. Since our founding in 1935, TWS has worked closely with diverse interests who care about the future of our national forests. TWS provides scientific, economic, legal, and policy guidance to land managers, communities, local conservation groups, and state and federal decision-makers. In doing so, TWS hopes to ensure the best management of our public lands. Our members and supporters nationwide and, in particular, the 19,221 members and supporters in Colorado are deeply interested in forest planning as it pertains to the conservation, restoration, and protection of wildlands, wildlife, water, recreation and the ability to enjoy public lands for inspiration and spiritual renewal.

We appreciate all the hard work that the staff on the Rio Grande National Forest is putting into the plan revision process. We look forward to continuing working with you as the forest plan revision process moves forward. Thank you for considering these comments. If you have questions, please do not hesitate to contact me to discuss.

With regards,

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I. Introduction

The RGNF is one of the gems in the National Forest System. It has spectacular scenery, majestic mountain peaks, and beautiful rivers and wetlands. With nearly one million acres of roadless and undeveloped land in this forest, the forest is integral to maintaining biodiversity and naturalness in the Southern Rockies ecosystem. Its vast landscapes attract people from the local communities and afar to fish, mountain climb, rock climb, hike, hunt, bike and drive for pleasure. Headwaters to the famous Rio Grande, its namesake, it provides precious water to southern Colorado and New Mexico. In these comments, we provide detailed comments on places that deserve recognition for their conservation values, including those that should be recommended for wilderness, or established as another type of administrative conservation designation. We provide detailed information on these areas, and how if designated they would contribute to the region’s biodiversity, water resources, scenery, and outdoor recreation. In addition, we offer comments on select topics that affect the forest’s wildness. These include motorized recreation, transportation, and vegetation & fire management. For these topics, we offer a concise summary of the policy framework, identify significant issues, offer recommendations for

the environmental analysis, and, in some cases, even offer specific plan components that we think are necessary and useful for meeting the sustainability, diversity, and integrated resource management provisions in the planning rule. Lastly, we offer some general thoughts on the construction of the proposed action and plan components.

II. Designated Areas

The planning rule requires the Rio Grande National Forest (RGNF) to determine whether, where, and how to establish (or recommend for establishment) conservation areas as part of the plan revision. These types of conservation areas include, but are not limited to, lands recommended for wilderness designation¹, eligible Wild and Scenic rivers², and other designated areas.³ While the first two categories of designated areas are proscribed by the Wilderness Act and Wild and Scenic River Acts, respectively, the last category is purposely broad and intended to apply to other areas or features within the planning area that have unique and special character or purpose.⁴

Evaluating and then recommending/establishing areas for conservation designations is one of the most important aspects of the plan revision process. First, it presents a rare opportunity to provide administrative protection to some of the most spectacular and ecologically important undeveloped lands on our national forests. These areas provide clean drinking water, habitat for imperiled wildlife, physical, mental, and spiritual renewal for millions of Americans, and a buffer to the impacts of climate change. Second, recommending/establishing conservation designations is an important and necessary mechanism to achieve the substantive provisions of the planning rule.⁵ These include: maintaining and restoring aquatic and terrestrial integrity⁶; facilitating connectivity within and across landscapes so that wildlife have room to roam⁷; maintaining the diversity of plant and animal species⁸; contributing to the recovery of federally listed threatened and endangered species⁹; conserving proposed and candidate

¹ 36 CFR 219.7(c)(2)(v)

² 36 CFR 219.7(c)(2)(vi)

³ 36 CFR 219.7(c)(2)(vii)

⁴ 36 CFR 219.19. The planning rule defines a designated area as “An area or feature identified and managed to maintain its unique special character or purpose.” Designated areas can be created by statute or through an administrative process including the development or revision of a plan. “Administratively designated areas are experimental forests, research natural areas, scenic byways, botanical areas, and significant caves.”

⁵ The planning rule guides the development of plans that: “will guide management of [National Forest System] lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future.” 36 C.F.R. § 219.1(c).

⁶ 36 CFR §§ 219.8(a)(1)-(3)

⁷ 36 CFR §§ 219.9(a)

⁸ 36 CFR §§ 219.9

⁹ 36 CFR §§ 219.9(b)

species¹⁰; maintaining a viable population of each species of conservation concern within the plan area¹¹; and connecting people to nature and the outdoors.¹²

We are excited about the possibility of additional conservation areas on the RGNF. In the sections that follow, we discuss each type of designated areas. For each, we offer our recommendations for additional designations and suggest approaches for analyzing the implications of each in the draft EIS. The RGNF is one of the wildest in the southern Rockies and even in the National Forest System. By designating deserving places, the RGNF can preserve the status quo and ensure long-term protection from predictable and unforeseen threats.

A. Recommended Wilderness Areas

Wilderness provides a very high level of protection to federal lands. The RGNF is required to evaluate areas that may be suitable for wilderness, analyze qualifying areas in the various alternatives in the environmental impact statement (EIS), and recommend in the plan decision some, none, or all of the qualifying areas for wilderness designation.¹³ The RGNF found 68 polygons that may be suitable for wilderness¹⁴ and published a preliminary evaluation of their wilderness character in July 2016. The preliminary wilderness evaluation scored a number of potential wilderness polygons as high or moderately high. See Wilderness Recommendation Process, Preliminary Evaluation Results.¹⁵ This result affirms that the RGNF has remarkable wild lands that deserve serious consideration for wilderness recommendation in the plan revision.¹⁶

Wilderness lands offer an array of ecological and social benefits. Wilderness areas are places where natural processes operate, and thus provide refuge for species, promote biodiversity, and contribute to landscape connectivity. Chapter 15 of the Assessment Report affirms this, stating:¹⁷

“[D]esignated wilderness and roadless areas can support important ecological roles including a strong emphasis on the conservation of biodiversity. In the Rocky Mountain Region, designated wilderness areas provide habitats for numerous elements of biological diversity which in practice has a strong species-based focus on rare aquatic and terrestrial plants and animals, federally listed threatened and endangered species, Forest Service sensitive species, and examples of unique or uncommon plant communities. Increasing the size of current designated

¹⁰ *Id.*

¹¹ *Id.*

¹² 36 CFR § 219.8(b)(6)

¹³ FSH 1909.12, chapter 70 proscribes this process.

¹⁴ Pursuant to FSH 1909.12, chapter 70, section 71

¹⁵ Available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd521710.pdf.

¹⁶ In the letter submitted by The Wilderness Society et al on September 6, 2016, we recommended that the RGNF revisit some of the ratings of areas with less than high rankings as some of them appeared to be in error (the letter without full appendices is attached in Appendix A).

¹⁷ Chapter 15 at 20.

wilderness areas is also an important option that can help support biological diversity and protect habitat for rare and endangered plant and animal species.

Numerous assessments stress the importance of wilderness and roadless areas for native fish stocks. Most of these assessments do not differentiate between wilderness and roadless, rather combine the two into the “unroaded” category. These assessments find that current strongholds (most secure and robust populations) are dependent on wilderness and roadless areas. Given the protection of roadless and wilderness, some of our strongest populations for native fishes are in wilderness and other “unroaded” areas of our National Forest System lands...

...Wilderness areas also provide a variety of other off-site benefits including ecosystem services such as watershed protection, water filtering, carbon sequestration, nutrient cycling and fish/wildlife habitat. Wilderness plays a significant role and contribution to the conservation of species or biological diversity.

Social benefits of wilderness include mental and physical wellness, spiritual and aesthetic appreciation, self-enlightenment, family/social improvement, character-building, and therapeutic services.¹⁸ Economic benefits derive from both non-market ecosystem services and direct market services. In general, wilderness has a positive effect on local economies. As the Assessment Report documents:¹⁹

It is a misunderstanding that wilderness creates economic costs for local communities. This idea is often embodied in the 'jobs vs. environment' argument suggesting that there is an inherent tradeoff between economic prosperity and strong environmental protection. In fact, wilderness areas protect the environment and have a positive effect on local economics because they benefit local businesses and their employees, create revenue through recreation dollars, increase property values, and provide invaluable ecosystem services to nearby cities.

Because of these numerous benefits, Americans like wilderness and favor additional Wilderness and conservation designations. In the letter submitted by The Wilderness et al on April 13, 2015, we provided evidence of public support nationally and regionally for additional wilderness.²⁰ The Assessment Report also rightly notes that the public recognize the values and benefits of Wilderness:²¹

Public opinion surveys have helped us define the benefits and values of wilderness. Overall, compared to previous decades, more people consider the various direct and indirect benefits of wilderness increasingly important. Recent data from the National Survey on Recreation and the Environment consistently rate protecting air quality, water quality, wildlife habitat, unique wild plant and animal species, and bequest to future generations as the top five most important benefits of wilderness (Cordell et al. 2005). Most Americans, whether urban or rural, also ascribe high importance to six additional benefits:

¹⁸ See http://www.wilderness.net/toolboxes/documents/50th/Wilderness_SocialBenefits.pdf.

¹⁹ Chapter 15 at 22.

²⁰ Letter submitted by The Wilderness Society et al on April 13, 2015 at 14.

²¹ *Ibid.* at 21.

- the scenic beauty of wild landscapes,
- the knowledge that wilderness is being protected (existence value),
- the choice to visit wilderness at some future time (option value),
- the opportunity for wilderness recreation experiences,
- preserving nature for scientific study, and
- spiritual inspiration (Cordell et al. 2008).

The RGNF currently has four large wilderness core areas that provide remarkable scenery, recreation, and protection for species that live in higher elevations. The lands in between these cores – which are often situated in lower elevations and less protected ecosystems, would benefit hugely from protective status. Recommending a subset of these unprotected lands for wilderness would further build out a wildlands network providing for long-term connectivity across the landscape, protection of under-protected ecosystems, and long-term biodiversity.

1. The Wilderness Society’s top priorities for Recommended Wilderness in the revised plan

The Wilderness Society, working in close cooperation with the San Luis Valley Ecosystem Council, Rocky Mountain Wild, Defenders of Wildlife, Colorado Mountain Club, Western Environmental Law Center, and the Quiet Use Coalition, identified 16 top priority areas for wilderness recommendations in the plan revision process. We identified the areas based on their wilderness characteristics²² including their value to biodiversity, ecosystem representation, and connectivity, as well as their role in the region’s history and traditions. We delineated the boundaries of the proposed areas to eliminate conflicts with non-conforming uses such as motorized and mechanized recreation and to avoid non-federal land as much as possible. See Figure 2 for a map of our wilderness recommendations.

- a. Wilderness recommendations are supported by best available science

We utilized best available science in identifying and evaluating the ecological values of all the RGNF’s chapter 70 inventory polygons including these areas. First, we conducted an analysis in July 2016 to calculate at both the forest and national scales the current representation in Wilderness of the ecosystems on the RGNF, and what it would take to bring the ecosystem representation to 20% across the national forest.²³ Our results are presented in Appendix B and summarized here.

Our analysis shows that a significant number of Chapter 70 wilderness inventory areas on RGNF contain high proportions of inadequately represented ecosystem types at both the forest-level and national scales (See Appendix B, Tables 1 & 2; Maps 2 & 3). Cumulatively, we found that underrepresented ecosystems cover nearly 50% of the wilderness inventory areas on both forest-level and national scales. On the forest-level, severely under-represented ecosystem types (<5%) cover over 25% of the

²² Wilderness characteristics are 1) 5,000 acres or greater generally, 2) outstanding opportunities for solitude or unconfined primitive recreation, 3) naturalness, and 4) supplemental values (e.g., scenic, ecological, cultural).

²³ See Woodley et al. 2012. The International Convention on Biological Diversity recommends that at least 17% of the world’s terrestrial areas be conserved by 2020).

wilderness inventory areas. All the wilderness inventory units contain at least one underrepresented ecosystem, with some units showing over 90% areal coverage of these ecosystems.

In many instances, the addition of one wilderness inventory unit would elevate specific ecosystems into adequate representation on the forest level (See Appendix B, Table 4). For example, the addition of unit 3.f would elevate the Rocky Mountain Subalpine-Montane Mesic Meadow ecosystem into adequate representation. A total of 8 other ecosystems could be elevated into adequate representation with the addition of one wilderness inventory unit. If all the final wilderness inventory units were added into wilderness, 14 underrepresented ecosystems would be adequately represented on the forest level.

At the forest level, our analysis found that only 11 of the 31 ecosystem types found on the Rio Grande are adequately represented (See Appendix B, Table 3, Tabs 1 & 2; Map 3). In total, under-represented ecosystem types span over 43% of the forest area and approximately 788,000 acres. Ecosystem types with less than 5% representation at the forest level comprise over 23% of the entire Rio Grande, while ecosystem types with less than 10% representation at that scale cover 27% of the forest.

The story is similar at the national scale, with a total of 21 inadequately represented ecosystem types covering over 41% and 742,000 acres of the Rio Grande (See Appendix B, Table 3, Tab 3; Map 2). Further, only 6% of these under-represented ecosystems are protected in wilderness nationally.

Notably, two of the most prevalent ecosystems on the Rio Grande are under-represented both at the forest and national levels (See Appendix B, Table 3, Tabs 2 & 3). The Southern Rocky Mountain Montane-Subalpine Grassland covers over 191,000 acres of the forest, yet only 3.4% of the ecosystem is protected as wilderness. The Rocky Mountain Aspen Forest and Woodland spans 209,000 acres on the Rio Grande, only 28,000 of which are protected in the forest's wilderness.

Second, in coordination with Defenders of Wildlife and Rocky Mountain Wild, we calculated a biodiversity score for each of the Chapter 70 Wilderness inventory polygons. We used a methodology developed by Rocky Mountain Wild called the Assessment of Biological Impact (ABI). The ABI is a GIS tool that combines spatial data and a relational database containing information about species status for the purpose of screening proposed development projects and informing land use plans. We used species occurrence and other data from Colorado Natural Heritage Program, Colorado Department of Parks and Wildlife, the US Forest Service, and others (see Table 1). With these data, we applied a weighting system to rank at-risk species based on guidance from Wisdom et al. (2001), Wiens et al. (2008), and Joseph et al. (2009). Acknowledging our variables were somewhat subjective, we employed three factors to assign species ranks: 1) level of vulnerability,²⁴ 2) sensitivity to management actions, and 3) relative contribution of the Forest to species' viability.

²⁴ Based on federal protection status under the U.S. Endangered Species Act, NatureServe global and state rank, Forest Service Region 2 Sensitive Species designation, Colorado state endangered species designation, and Colorado State Wildlife Action Plan (CO-SWAP) conservation need rank.

The species, their status, and ranking are shown in the spreadsheets for fauna and flora in Table 2. Tier one species were given a weight of 3, Tier two species were given a weight of 2, and Tier three species were given a weight of 1. Each polygon was then assigned a total score calculated by adding the weighted scores of the species known to occur within the polygon, and the results are displayed on a map (see Figure 1). Please note that for this analysis, we used wilderness inventory polygons that were calculated by The Wilderness Society before the RGNF calculated their polygons. While these polygons are very similar to those calculated by the RGNF they are not exactly the same. Also, the identification code for the polygons used in our analysis do not match the identification coded assigned by the RGNF to their wilderness inventory polygons.

Third, in evaluating the benefits of connectivity of the wilderness inventory polygons, we qualitatively looked at how well polygons would contribute to a more robust wildlands network – that is, to what degree the polygons contribute to connecting and expanding existing protected areas.²⁵ We also reviewed a report recently published by New Mexico’s Natural Heritage Program, a division of the Museum of Southwestern Biology and the University of New Mexico, entitled “Wildlife Doorways” in which the Program compiled and evaluated the wildlife connectivity data for the Upper Rio Grande Landscape that encompasses Northern New Mexico and Southern Colorado including the southern portion of the RGNF.²⁶ The report identifies numerous wildlife movement zones in the region, and recommends particular “wildlife doorways” and “focal areas” that agencies should ensure are managed for wildlife to facilitate regional wildlife movement. The report is attached in Appendix C.

The report begins with the recognition that “[s]pecies do not recognize jurisdictional boundaries as they move through landscapes, and over large multi-jurisdictional areas, the ecological, economic, social, and political issues become more complex with commensurate potential for larger impacts.”²⁷ Using several different data sources on wildlife movement patterns, the report identifies nine “wildlife movement focal areas” and in turn identifies 21 “wildlife doorways” where movement patterns cross jurisdictional boundaries.²⁸ Focal areas are tiered according to the number of different agencies or Forest Service units involved in each area.²⁹ Each “wildlife doorway” is “rectangular with the widest dimension along the jurisdictional boundary.” To function successfully, wildlife doorways must bridge planning and management across agencies.³⁰

“[A]t a given doorway mutually agreed upon, management options can be explored beginning at the boundary and then extended away in both directions in a consistent fashion to ensure that the focal movement area remains as functional as possible. The wildlife doorways provide a starting point for agencies and other cooperators to collaboratively pinpoint wildlife

²⁵ For a discussion of the values of protected areas networks, see for example Aycrigg et al. 2013.

²⁶ We encourage you to reach out to Rayo McCollough at University of New Mexico’s Natural Heritage Program for more information on their connectivity work in the upper Rio Grande landscape. Mr. McCollough’s email is rayo@unm.edu.

²⁷ Appendix C at 2.

²⁸ *Ibid.* Id. at 3.

²⁹ *Ibid.* Id. at 8.

³⁰ *Ibid.* Id. at 10-11.

connectivity needs and then build off of these doorways and across the larger wildlife movement area to identify effective management strategies to facilitate connectivity.”

b. The environmental effect of our wilderness recommendations

This set of wilderness additions achieves more than 20% wilderness representation on the Rio Grande NF for every ecosystem type on the forest over 1,000 acres except for pinyon-juniper woodland, which ends up at 15% representation. With the inclusion of Special Interest Area designations for several wilderness inventory units that are discussed in the next section, the 20% threshold is exceeded for all ecosystem types. The recommendations increase habitat protection for priority conservation species including lynx, boreal toad, Rio Grande cutthroat trout, Gunnison sage-grouse, and Uncompahgre fritillary butterfly. The recommendations provide enhanced protection for most key landscape connectivity areas, including Poncha Pass and Wolf Creek Pass lynx linkages, the Cochetopa Hills segment of the Continental Divide, the Rio Grande/Gunnison/Animas headwaters, and wildlife corridors connecting to New Mexico.

c. Potential overlap of our wilderness recommendations and areas appropriate for mechanical thinning.

We wanted to evaluate in general the potential overlap of our wilderness recommendations with places where mechanical thinning may be appropriate. To do this, we applied methods derived from North et al. (2015) to determine the extent of “operable” land across the forest. Following North, we removed from the land base: 1) designated wilderness, 2) Colorado Roadless Areas, 3) steep ground >35% slope, and 4) remaining areas farther than 1000 feet from existing roads.³¹ Use of machinery is prohibited in wilderness and impractical on steep slopes and far from roads (without prohibitively expensive new road construction that would be contrary to Forest Service policy designed to down-size the forest road system). Finally, we removed lands covered with vegetation types where mechanical thinning is an inappropriate restoration mechanism to arrive at the “restorable” acres.

We separately calculated the Wildland Urban Interface delineating half mile buffers around communities, and only excluding from the WUI upper tier Colorado Roadless Areas and hardened acres (e.g., concrete, structures). Finally, we overlaid our recommended wilderness areas over the resulting available operable/restorable timber base to assess overlap. Our analysis methods and results are provided in Appendix D. Our analysis found that there are:

- 4,090 operable and restorable acres in our Recommended Wilderness areas;
- 29,136 operable acres in our Recommended Wilderness areas; and
- 135,893 acres in the WUI, 11,213 acres of which are restorable vegetation types.

³¹ Our analysis used all Maintenance Level 1-5 roads. It is important to note that many of these roads were identified as unneeded in the travel analysis process. Had the results of the travel analysis process been available in GIS format, we would not have used those roads identified as unneeded when conducting our analysis.

d. Summary of our wilderness recommendations

We summarize the recommendations here by ranger district, and provide detailed descriptions of the areas (including their wilderness and ecological values), detailed maps, and supporting data in Appendix E.

Saguache Ranger District

Antora Meadows (27,700 acres)

- Adds one of the largest acreages to ecosystem representation at forest level for < 5% ecosystem types, primarily lodgepole pine, but also significant aspen forest/woodland and grassland.
- High species conservation score that includes Rio Grande cutthroat trout conservation population; habitat for lynx, wolverine, and Mexican spotted owl.
- Key piece in landscape connectivity, helping fill the largest gap in protected areas in the Southern Rockies between La Garita Wilderness on south and Collegiates and Sangres to north. Significant portion of Cochetopa Hills roadless complex, one of the largest remaining unprotected roadless areas in Colorado.
- Significant trail system with looping opportunities and connections to CDNST.
- Low conflict with no interior motorized trails other than system trail 764 which is apparently unused and unmaintained.
- Upper Tier Colorado Roadless Area, located in Saguache County.
- Western boundary would be PSCO gas pipeline, eastern boundary extent of inventory area (over to FDR 861 generally).

Elkhorn (15,800 acres)

- Important landscape connectivity link near Poncha Pass.
- Adds large acreages to ecosystem representation at forest level for < 5% ecosystem types, including lodgepole pine, significant aspen forest/woodland and some grassland and ponderosa pine.
- Moderate species conservation score, with potential habitat for lynx and wolverine.
- Low conflict with no motorized trails.
- Upper Tier Colorado Roadless Area, located in Saguache County.

Saguache Creek (Four Mile Creek–Taylor Canyon) (27,100 acres)

- Largest contribution to ecosystem representation at forest level for any of roadless area for < 5% ecosystem types, with 15,000 acres of grasslands and ponderosa pine.
- Potential habitat for lynx and Mexican spotted owl.
- Important piece in landscape connectivity, helping fill the largest gap in protected areas in the Southern Rockies between La Garita Wilderness on south and Collegiates and Sangres to north.
- Diverse ecosystem ranging from grasslands/ponderosa to spruce, and 7 miles of Saguache Creek eligible wild river.

- Significant recreation opportunities highlighted by Saguache Creek trail and other non-motorized trails.
- Upper Tier Colorado Roadless Area, located in Saguache County.

Sangre de Cristo addition Crestone area (Kit Carson Peak, Cotton Creek) (23,300 acres)

- Adds over 6,000 acres to ecosystem representation at federal level for < 5% ecosystem types and twice that at forest level, particularly for pinyon-juniper woodland and riparian forests.
- Includes potential extensions of Mill Creek and Deadman Research Natural Areas.
- Provides for topographically continuous boundary along lower slopes of the Sangres by slotting corner of acquired Baca Grant parcel into wilderness.
- Contains well-known primitive recreation destinations such as 14,000-foot Kit Carson Peak and Challenger Point.
- Adjacent to National Park Service recommended wilderness in Great Sand Dunes expansion.
- Low conflict with no motorized trails, in Saguache County.

Sangre de Cristo addition north end (Butterfly Creek-Miller Creek) (4,100 acres)

- Adds to ecosystem representation at forest level for < 5% ecosystem types, particularly grasslands and oak shrublands.
- Potential habitat for lynx and Mexican spotted owl, some use by Gunnison sage grouse.
- Vicinity of Poncha Pass lynx linkage area.
- Non-motorized trails, in Saguache County.

Sawlog (17,900 acres)

- Includes large acreages of ecosystem representation at forest level for < 5% ecosystem types, particularly grasslands, ponderosa pine, and aspen/woodlands.
- High species conservation score with Rio Grande cutthroat trout conservation population; documented used by lynx.
- Low conflict with no interior motorized trails.
- Upper Tier Colorado Roadless Area, located in Saguache County.

Divide Ranger District

La Garita addition west side – Wason Park (22,000 acres)

- Adds 5,000 acres to ecosystem representation at forest level for < 5% ecosystem types, specifically grasslands.
- Bighorn sheep migration route.
- Expands wilderness to encompass additional 8 miles of Continental Divide, protecting south/east side of the Divide to its crest.
- Increases size of existing wilderness by 15%.
- Provide trailheads nearest to Creede into La Garita Wilderness.
- Non-motorized trails.

- Upper Tier Colorado Roadless Area, in Mineral County.

La Garita additions east side – Lake Fork, Wannamaker Creek, Deep Creek (14,700 acres)

- Adds several thousand acres to ecosystem representation at forest level for < 5% ecosystem types, particularly grasslands.
- Documented lynx use, wolverine habitat, Rio Grande cutthroat trout.
- Expands wilderness to encompass additional 3 miles of Continental Divide, protecting east side of the Divide to its crest (Lake Fork addition).
- Non-motorized trails in Middle Fork, Wannamaker Creek, and Deep Creek that lead to La Garita Wilderness boundary.
- Upper Tier Colorado Roadless Area, in Saguache County.

Pole Creek Mountain & Sheep Mountain (24,800 acres)

- Significant landscape connectivity link filling gap amidst encircling protected areas at headwaters of Rio Grande, Lake Fork Gunnison, and Animas rivers. Adjacent to other agency recommended wilderness – GMUG draft 2006 proposed Carson wilderness and BLM proposed Handies Peak wilderness.
- Modest contribution to ecosystem representation at forest level for < 5% ecosystem types, potentially for grasslands.
- Highest species conservation score with one of few known Uncompahgre fritillary populations, high use by lynx, two potential RNAs for only known global occurrences of stonecrop gilia, wolverine habitat.
- Significant backcountry recreation use on CDNST/Colorado Trail, and interconnected trail system over the Divide into non-mechanized trails on the GMUG.
- Can avoid motorized trail conflicts with boundary modification to create distinct Pole Creek Mountain unit and adjacent Sheep Mountain unit to west.
- Upper Tier Colorado Roadless Area, located in Hinsdale and San Juan counties.

Weminuche addition – Snowshoe Mountain (34,300 acres)

- Adds 6,000 acres to ecosystem representation at forest level for < 5% ecosystem types, particularly grasslands and dry mixed conifer forest.
- Highest species conservation score with high use by lynx, boreal toads.
- Landscape connectivity link between Weminuche and La Garita wildernesses.
- Largest unprotected roadless area adjacent to Weminuche wilderness.
- Non-motorized trails including Deep Creek just outside Creede, which would create a wilderness trailhead nearest to a surrounding community into the Weminuche Wilderness.
- Upper Tier Colorado Roadless Area, in Mineral County.

Conejos Peak Ranger District

North Fork Rock Creek (16,500 acres)

- Northeast portion of Bennet Mountain roadless area consists primarily of North Fork Rock Creek.
- Adds to ecosystem representation at forest level for < 5% ecosystem types, particularly grasslands, ponderosa pine, pinyon-juniper, dry mixed conifer forest.
- Includes potential habitat for lynx, Mexican spotted owl, wolverine.
- Non-motorized trails, and provides for a protected wilderness experience in a landscape otherwise devoted largely to motorized recreation.
- Upper Tier Colorado Roadless Area, in Conejos County.

Sangre de Cristo addition – Blanca Peak (4,200 acres)

- Southern end of the Sangre de Cristos, beyond Como Lake.
- Adds to ecosystem representation at forest level for < 5% ecosystem types, particularly grasslands, ponderosa pine, and pinyon-juniper woodland.
- Includes two popular fourteeners – Blanca Peak and Little Bear Peak.
- Overlaps Blanca Peak traditional cultural property of significance to native peoples.
- In Alamosa County.

South San Juan addition – Adams Fork-Three Forks (2,700 acres)

- High species conservation score with high use by lynx, wolverine habitat.
- Non-motorized trails leading to wilderness boundary.
- Upper Tier Colorado Roadless Area, in Conejos County.

South San Juan addition – Elk Creek (3,200 acres)

- Expands ecosystem representation by including robust stands of ponderosa pine, grasslands.
- Connectivity enhancement as lynx movement corridor to New Mexico.
- Incorporates first 4 miles of the non-motorized Elk Creek Trail from the trailhead into adjacent wilderness.
- Upper Tier Colorado Roadless Area, in Conejos County.

2. The RGNF should analyze a broad range of alternatives in the Draft EIS.

The analysis of alternatives under NEPA is the “heart” of an EIS.³² An agency must “[r]igorously explore and objectively evaluate all reasonable alternatives” to a proposed action.³³ Consistent with NEPA’s basic policy objective to protect the environment, this includes more environmentally protective

³² 40 C.F.R. § 1502.14

³³ *Id.* § 1502.14(a); see also 42 U.S.C. § 4332(2)(E) (agencies must “study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources”).

alternatives.³⁴ The “touchstone” of the inquiry is “whether an EIS’s selection and discussion of alternatives fosters informed decision-making and informed public participation.”³⁵

The RGNF in the Draft EIS, therefore, should include a broad range of wilderness recommendations across the alternatives with one or more alternatives, including the preferred alternative, recommending all or almost all of the qualifying areas for wilderness. Analyzing a broad range will enable a robust analysis of the trade-offs and impacts associated with recommending most (if not all) of the inventoried areas.³⁶ In addition to analyzing at least one alternative that recommends all or nearly all qualifying wilderness inventory areas for wilderness, the RGNF should also analyze at least one alternative that includes all the areas recommended by The Wilderness Society in this letter. Both of these suggested alternatives are reasonable and will foster informed public participation and decision-making.

3. The RGNF in the Draft EIS should analyze how each alternative contributes to ecological and aquatic integrity, and climate change adaptation.

In the Draft EIS, the RGNF should analyze how the alternatives representing a broad range of wilderness recommendations contributes to ecological and aquatic integrity and the diversity of plant and animal species. Indicators of these outcomes include, but are not limited to, representation of under-represented ecosystems, protection of areas with high biodiversity, and protection of areas important to connectivity. It should also evaluate how well each alternative prepares the RGNF to adapt to a rapidly changing climate by, for instance, providing for a connected network of wild lands in which species can move without major impediments to and through a variety of ecosystems (including aquatic).³⁷

4. Management of recommended wilderness areas

The 2012 planning rule requires that the plan include plan components for recommended wilderness areas that “protect and maintain the ecological and social characteristics that provide the basis for their

³⁴ . 40 C.F.R. § 1500.2(e) (agencies must “[u]se the NEPA process to identify and assess reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment”); see also, e.g., *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1121-22 (9th Cir. 2002) (citing cases), abrogated on other grounds by *The Wilderness Soc’y v. U.S. Forest Serv.*, 630 F.3d 1173, 1178-80 (9th Cir. 2011) (en banc). “The existence of a viable but unexamined alternative renders an [EIS] inadequate.” *Mont. Wilderness Ass’n v. Connell*, 725 F.3d 988, 1004 (9th Cir. 2013) (quotations and citation omitted).

³⁵ *Id.* at 1005 (quotations and citation omitted).

³⁶ See, e.g., Council on Environmental Quality, *NEPA’s Forty Most Asked Questions*, 46 Fed. Reg. 18,026 (Mar. 23, 1981) (“When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90, or 100 percent of the Forest to wilderness.”). This approach conforms with the 9th Circuit Court of Appeals decision in *California v. Block*, 690 F.2d 753, 765, 768-69 (9th Cir. 1982) (despite considering an alternative that allocated 100% of inventoried roadless areas to wilderness, “it was unreasonable for the Forest Service to overlook the obvious alternative of allocating more than a third of the RARE II acreage to a Wilderness designation”).

³⁷ For a discussion of the values of protected areas networks, see for example Aycrigg et al. 2013. Also see pages 13-14 of Appendix F.

suitability for wilderness designation.” To comply with this direction, we request that RGNF establish a standard that would manage areas recommended for wilderness exclusively for non-motorized and non-mechanized uses. We request that RGNF categorize recommended wilderness areas in the primitive or semi-primitive non-motorized ROS classifications.

5. Qualifying areas not recommended for wilderness should be assigned protective management prescriptions

Some wilderness inventory areas will not be recommended for wilderness in the plan revision. These inventoried-but-not-recommended lands will be a mix of Colorado Roadless Area (CRA) and non-CRA lands; they constitute a set of lands within the RGNF that are categorized as unroaded for the purposes of the wilderness inventory and are largely undeveloped. We request that the Forest Service assign these lands to MAs or GAs that will maintain their unroaded character. Doing so will preserve the status quo while assuring that through the life of the plan these lands will continue to provide key ecosystem services. More specifically, maintaining or restoring unroaded and undeveloped natural lands provide numerous ecological benefits that align with the substantive requirements of the 2012 planning rule. They safeguard biodiversity, enhance ecosystem representation, facilitate connectivity (Loucks et al. 2003; USDA 2001; Crist and Wilmer 2005; Wilcove 1990; The Wilderness Society 2004; Strittholt and Dellasala 2001; DeVelice and Martin 2001), and provide high quality water, soil, and air resources (Anderson et al. 2012; Dellasala et al. 2011); and protect drinking water sources. They also serve as ecological baselines to facilitate better understanding of our impacts to other landscapes (Arcese and Sinclari 1997). All of these functions contribute to enhancing the RGNF’s capacity to adapt to climate change. Appendix F (Pages 13-14 in the section entitled *Benefits of Roadless Areas and Roadless Area Networks to Climate Change Adaptation*) provides an in-depth description of the values of unroaded and undeveloped lands.

It only makes sense to assign the inventoried-but-not-recommended lands to a combination of designated areas (see the next section) and the MA (or GA) to which CRAs are assigned. This will retain the undeveloped character of these areas and the ecosystem and ecological benefits that they provide. Plan components should include an objective to obliterate unneeded, closed, temporary, or unauthorized roads within the areas; a guideline that assigns areas that are currently non-motorized a semi-primitive/primitive non-motorized ROS setting; and a desired condition that heralds the lands for their undeveloped character, contribution to biodiversity and landscape connectivity, quality outdoor recreation and learning opportunities.

B. Designated areas other than recommended wilderness or wild & scenic rivers

The 2012 Planning Rule requires plans to “[i]dentify existing designated areas [other than recommended wilderness and eligible Wild and Scenic Rivers], and determine whether to recommend any additional areas for designation.”³⁸ The rule defines designated area broadly as “[a]n area or feature identified and managed to maintain its unique special character or purpose.”³⁹ Areas designated through the forest

³⁸ 36 C.F.R. § 219.7(c)(2)(vii)

³⁹ *Id.* § 219.19

planning process have traditionally included research natural areas (RNAs) and special interest areas such as botanical, geological, scenic, zoological, paleontological, historical, or recreational areas.⁴⁰ The intent behind the requirement is to “[r]ecommend areas where doing so would help carry out the distinctive role and contributions of the plan area in the broader landscape or contribute to achieving desired conditions for the plan area.”⁴¹ Plans “must include plan components, including standards or guidelines, to provide for . . . [a]ppropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.”⁴²

Collectively, the requirement to consider a suite of conservation-oriented designations presents an important opportunity to identify the most special and unique places on our national forests and create a network of inter-connected protected areas that will help forests achieve the overarching ecological sustainability, species diversity, sustainable recreation, and climate change adaptation goals of the 2012 planning rule. Indeed, the best available scientific information demonstrates that designated and connected conservation reserve systems are critically important in conserving biological diversity and ecological processes and in mitigating system stressors. See Pages 13 and 14 of Appendix F (describing ecological benefits of protected natural areas). Special designations provide an opportunity to address unmet ecological goals such as protection and enhancement of habitat connectivity and ecosystem representation. Because of their high conservation value, the Forest Service should consider for other special designation areas suitable for inclusion in the National Wilderness Preservation System that it chooses not to recommend for wilderness designation, as discussed above.

1. The Wilderness Society’s recommendations for other designated areas (special interest areas)

The Wilderness Society, in coordination with other conservation organizations including the San Luis Valley Ecosystem Council and Defenders of Wildlife among others, recommend for designation in the plan revision five designated areas (other than recommended wilderness or wild and scenic rivers; heretofore referred to as special interest areas). We summarize the recommendations here, and provide detailed descriptions of the special interest areas (SIA) including their unique purpose or special character, detailed maps, recommended management, and supporting data in Appendix G. See Figure 3 for a map showing our recommended SIAs and wilderness areas.

Blanca Peak Special Interest Cultural Area (4,300 acres)

- Protection of traditional cultural values as detailed in the Areas of Tribal Importance Assessment.
- Outstanding scenic and recreational values owing to fourteeners and alpine terrain.

Chama Basin Watershed Protection Area (22,900 acres)

⁴⁰ See FSH 1909.12, ch. 20, § 24 – Exhibit 01

⁴¹ *Id.* § 24(1)(b)

⁴² 36 C.F.R. § 219.10(b)(1)(vi)

- The Chama River is the largest contributor to Rio Grande flows and New Mexico municipal water supplies.
- Application of priority watershed concept.
- Protection from future mineral leasing and extraction.

Spruce Hole/Osier/Toltec Landscape Connectivity (Zoological) Area (39,500 acres)

- Provides crucial habitat connectivity for wide-ranging, large game species moving between Rio Grande NF and Carson NF/Rio Grande del Norte NM.
- Overlaps identified Colorado roadless areas (Spruce Hole) and eligible wild and scenic rivers (Rio de los Pinos).

Summer Coon La Ventana Geologic Special Interest Area (22,400 acres)

- An expansion of existing Elephant Rocks SIA to incorporate the natural arch as well as features of the Summer Coon volcanic area.
- Protection of traditional cultural values as detailed in the Areas of Tribal Importance Assessment.

Wolf Creek Pass Linkage Landscape Zoological Area (22,300 acres)

- Most complex management landscape on the Rio Grande National Forest would benefit from special attention.
- Emphasizes what is routinely described as the most important lynx corridor in Southern Rockies.
- Includes portions of Trout Mountain CRA to north, Fox Mountain CRA to south.

2. The Wilderness Society supports Trout Unlimited’s concept of Rio Grande Cutthroat Trout Conservation Areas.

Trout Unlimited is proposing the establishment of conservation areas for the special purpose of conserving Rio Grande Cutthroat Trout. See Trout Unlimited’s proposal in their letter submitted October 28, 2016. We support this concept for the Carnero Creek Trout Conservation Area, Jim Creek and Torsido Creeks Trout Conservation Area, and the Sangre de Cristo Trout Conservation Area. We also draw your attention to the recently published draft Flathead National Forest revised plan in which the agency proposed a Conservation Watershed Network.⁴³ This approach might be a viable mechanism for protecting and restoring important trout bearing streams.

Carnero Creek (55,020 acres)

Carnero Creek is a stronghold for native Rio Grande Cutthroat Trout, with populations inhabiting (or formerly inhabiting) portions of the North, Middle, and South Forks. Carnero Creek possesses outstanding recreational and scenic values, and high quality water resources such as wetlands and

⁴³ See Flathead National Forest Draft Revised Plan, Pages 20-22 and Appendix E, Available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd502201.pdf.

riparian zones. The proposed Carnero Creek Rio Grande Cutthroat Trout Area covers the entire drainage of Carnero Creek that falls within the Forest, with the exception of four private inholdings.

- Contains 357 km of streams, 77% of which are designated by Colorado Parks and Wildlife as critical habitat for Rio Grande Cutthroat Trout. Within this critical habitat, 11.3 km of the Middle Fork, and 22.7 km of the South Fork are currently occupied. The North Fork was estimated to have 13 km of occupied habitat prior to the drought of 2011 and 2012, which may have resulted in those populations being extirpated. All of the populations in the proposed area are considered to be genetically pure conservation populations, with less than 1% of foreign genes detected (USFWS 2014).
- Contains 552 mapped wetlands from the National Wetlands Inventory, totaling about 1,240 acres (2.25% of the proposed SIA). The majority of these wetlands are associated with Carnero Creek and its tributaries, and consist of freshwater emergent wetlands, freshwater ponds, and freshwater forested/scrub shrub wetlands.
- Contains one Proposed Conservation Area (PCA) identified by the Colorado Natural Heritage Program (CNHP). This is the Carnero Creek PCA, identified for high biodiversity significance, and covers about 15,880 acres, or about 28% of the proposed SIA.

Jim Creek and Torsido Creeks (9,660 acres)

Jim Creek and Torsido Creeks are strongholds for native Rio Grande Cutthroat Trout, with populations inhabiting the main stems and most tributaries. Both Jim and Torsido Creeks possess outstanding recreational and scenic values, and high quality water resources such as wetlands and riparian zones. The proposed Jim Creek and Torsido Creek Rio Grande Cutthroat Trout Area covers the entire drainage of both creeks that falls within the Forest.

- Contains about 58 km of streams, 63% of which are designated by Colorado Parks and Wildlife as critical habitat for Rio Grande Cutthroat Trout. Within this critical habitat, 10.2 km of the Jim Creek, and 10.4 km of the Torsido Creek are currently occupied, though some of this occupied habitat occurs off of the Forest. All of the populations in Jim Creek are considered to be genetically pure conservation populations, with less than 1% of foreign genes detected. Populations in Torsido Creek have not been tested, but are suspected to also be unaltered conservation populations (USFWS 2014).
- Contains 51 mapped wetlands from the National Wetlands Inventory, totaling about 53 acres (0.5% of the proposed SIA). The majority of these wetlands are associated with Jim and Torsido Creeks and their tributaries, and consist of freshwater emergent wetlands, freshwater ponds, and freshwater forested/scrub shrub wetlands.
- Contains two PCAs identified by the CNHP. The Jim Creek and Torsido Creek PCAs are both identified as having moderate biodiversity significance (CNHP level B4). These two PCAs cover about 3,570 acres, or about 37% of the proposed area.

Sangre de Cristo Trout Conservation Area (31,733 acres)

The Sangre de Cristo Mountains are unique in their geographic location, and therefore the biodiversity which for which they provide habitat. Many of the headwater streams harbor populations of Rio Grande Cutthroat trout, and the area provides for amazing recreational and scenic values. The proposed Sangre de Cristo Rio Grande Cutthroat Trout Area covers several drainages which originate from the ridgeline of the mountain chain flowing west, and located within the Forest boundary. While the proposed area contains 378 km of streams, the populations within these streams have not been assessed for genetic purity, and Colorado Parks and Wildlife has not defined any critical habitat for Rio Grande Cutthroat Trout in this area. Thus, this proposed area represents restoration, reintroduction, and climate refuge potential for Rio Grande Cutthroat Trout. Current populations in this area, and future populations which might be reintroduced, will increase the resiliency of this species in the region.

- Contains 27 mapped wetlands from the National Wetlands Inventory, totaling about 21 acres (0.06% of the proposed SIA). The majority of these wetlands are associated with the many drainages leaving the mountains, and consist of freshwater emergent wetlands and freshwater ponds.
- Contains 13 PCAs identified by the CNHP. Dimick Gulch, Spanish Creek, Cottonwood Creek, Deadman Creek (all CNHP level B2); Valley View, Cotton Creek, Rito Alto Peak, South Crestone Creek, Willow Creek, Head of Spanish Creek (all CNHP level B3); Garner Creek Spring, Peanut Lake Ridge (all CNHP level B4), and Great Sand Dunes (CNHP level B1). These 13 PCAs cover about 5,660 acres, or about 18% of the proposed area.

The Wilderness Society supports Trout Unlimited's concept of Rio Grande Cutthroat Trout Conservation Areas because these areas represent current and potential strongholds for the Cutthroat Trout. Conserving entire watersheds is an important and possibly necessary conservation measure to ensure long-term viability of the Rio Grande Cutthroat Trout in the context of a warming and changing climate (USFWS 2014). The management prescriptions for these areas should include: no mineral leasing and recommendation for withdrawal from mineral location, prioritization of removing unneeded roads and trails (system, unauthorized or temporary); application and monitoring of best management practices for water; no new road construction unless it improves riparian and aquatic health; strict water quality and riparian health standards which are measureable and incorporated into the Forest Monitoring Plan; and the establishment of no ground disturbance buffers around streams and wetlands unless activities' primary purpose is to improve riparian and aquatic health.

3. The draft EIS should analyze a broad range of alternatives relative to designated areas and analyze how each alternative contributes to ecological and aquatic integrity, and climate change adaptation.

The RGNF in the Draft EIS should include a broad range of SIA recommendations across the alternatives with one or more alternatives, including the preferred alternative, recommending all the proposed areas discussed above. Analyzing a broad range will enable a robust analysis of the trade-offs and impacts associated with recommending the proposed areas. In the Draft EIS, the RGNF should analyze how the alternatives representing a broad range of SIA recommendations contributes to ecological and aquatic integrity and the diversity of plant and animal species. Indicators of these outcomes include, but are not

limited to, representation of under-represented ecosystems, protection of areas with high biodiversity, and protection of areas important to connectivity. It should also evaluate how well each alternative prepares the RGNF to adapt to a rapidly changing climate by, for instance, providing for a connected network of wild lands in which species can move without major impediments to and through a variety of ecosystems (including aquatic).

4. Research Natural Areas

a. Policy Framework

One type of designated area that the Forest Service is expected to address in the land management planning process is Research Natural Areas (RNAs).⁴⁴ Forest Service policy requires each forest to establish and periodically amend, primarily through additions, RNAs that achieve the eight objectives listed in FSM 4063. Two of these objectives are “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” and “[p]reserves and maintains genetic diversity, including threatened, endangered, and sensitive species.”⁴⁵

In identifying potential RNAs, the Forest Service is supposed to establish a Regional RNA Committee to “identify the need for Research Natural Areas on National Forest System lands and to ensure that prospective areas are identified in the forest planning process.”⁴⁶ In addition, the Forest Service is required to “cooperate with universities, private and professional organizations, and State and other public agencies to establish.... a national network of Research Natural Areas....”⁴⁷ In selecting and establishing RNAs, Forest Service policy directs that RNAs should be “large enough to provide essentially unmodified conditions within their interiors which are necessary...to protect the ecological processes, features, and/or qualities for which the Research Natural Areas were established.”⁴⁸ The policy also emphasizes that “landscape-scale RNAs that incorporate several ecosystem elements are ideal, where feasible.”⁴⁹ Proposed areas, to the degree possible, should be free from major human disturbance for the past 50 years, and should, where possible, encompass entire small drainages because they are easier to delineate and protect, and because they better maintain the interrelationships of terrestrial and aquatic systems.⁵⁰

⁴⁴ FSM 4063.03 (“The selection and establishment of Research Natural Areas within the National Forest System primarily emerges from continuing land and resource management planning and associated environmental analyses (FSM 1920 and FSM 1950). Forest plans shall include analysis of, and recommendations for, the establishment of proposed Research Natural Areas.”)

⁴⁵ FSM 4063.02.

⁴⁶ FSM 4063.04(b)(2).

⁴⁷ FSM 4063.03.

⁴⁸ FSM 4063.1.

⁴⁹ *Ibid.*

⁵⁰ FSM 4063.2.

Lastly, plan components for recommended RNAs are required to maintain the recommended designated area 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.”⁵¹

b. Identifying, evaluating, and establishing RNA candidates

In order to comply with current policy on RNAs, the Forest Service in the planning process should identify the need for additional RNAs on the RGNF in coordination with academics, NGOs, state agencies, etc., using the established objectives of the RNA system at Forest Service Manual (FSM) 4063.02 as criteria:

- (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.

Chapter 15 of the Assessment Report suggests that the RGNF intends to take another look at how well the RNA system meets these criteria, and whether additional areas are warranted (emphasis added):⁵²

“The Colorado Natural Areas Program identified seven potential research natural areas on the Rio Grande National Forest and provided detailed reports for each candidate research natural area. The reports include descriptions, distinguishing features, and acreage by vegetation cover types (see FEIS Appendix D). Six of the seven research natural areas identified by Colorado Natural Areas Program have been administratively designated as research natural areas in our current Forest Plan. We may identify a potential need to administratively designate the seventh research natural area in the revised Forest Plan. *We also may need an update to the 1994 potential research natural area candidate inventory to determine if, based on changed conditions or new information, we should consider additional areas as potential candidate research natural areas.*”

In doing so, the RGNF should identify opportunities to establish RNAs that are large enough to provide for unmodified conditions and processes in the area’s core, and, to the degree possible, landscape-scale

⁵¹ FSM 4063.02.

⁵² Chapter 15 of the Assessment Report, Page 13.

RNAs that incorporate several ecosystem elements, as directed in the Manual and by the principles of conservation biology. Protecting as RNAs several adjacent intact habitats enables the protection and study of the individual systems and their interactions. Further, redundant areas may be necessary to maintain a range of study areas and sufficient population sample sizes.⁵³ In addition, the RGNF should use the ecosystem representation information presented in Appendix B to inform this effort.

Climate change presents a special challenge, with the potential for ecosystem boundaries and characteristics to shift within relatively short timeframes. In recommending RNA designations, the RGNF must take into account the possible effects of climate change on the existing RNA and recommended RNAs by, for instance, making RNA boundaries larger to give ecosystems and species room to adapt. The Forest Service should create landscape-scale RNAs when possible that protect multiple and proximal intact ecosystems as well as protect zones between RNAs to enable plant and animal species migration. The RGNF in the Draft EIS should analyze and disclose the effect of climate change on the proposed RNA system and explain how the RGNF is meeting its substantive responsibilities for establishing an RNA system that achieves the identified objectives under each alternative.

Lastly, we recommend that the plan include a forest-wide goal that states:

A network of Research Natural Areas represents the full diversity of ecosystems and ecological variability found across the forest and region. The network is designed to absorb predicted dynamics due to climate change. Individual RNAs are large enough to ensure interior areas and the processes that define them remain unmodified. As much as possible, they are designed at the landscape scale to incorporate multiple ecosystems and ecological situations. The network has adequate redundancy to ensure that ecosystems in different life phases can exist. For instance, ecosystems may be represented in a pre-burnt, recently burnt, and decades-old burnt condition to maximize protection of natural diversity and research opportunities. Redundant areas may also be necessary to maintain a range of study areas and sufficient population sample sizes. The RNA network serves to preserve and maintain biological diversity, and as a research laboratory and educational sites, a baseline for measuring long-term ecological change, reference areas for the study of natural ecological processes including disturbance, and control areas for comparing results from manipulative research.

III. Landscape Connectivity and Wildlife Corridors

The 2012 planning rule provides an exciting opportunity to affirmatively plan and manage for connectivity as a landscape-scale conservation strategy, informed by the best available scientific information. The planning rule provides an approach to maintaining and restoring connectivity, both within Forest Service planning boundaries as well as broader landscapes, for the purposes of improving

⁵³ Spatial redundancy of ecological subsystems is desired for purposes of experimentation and replication. Redundancy of subsystems or components of an ecosystem is also important to conservation planning. Redundancy can reduce the likelihood that elements (e.g., species, rare habitats) will be lost as a result of stochastic events or other stressors.

ecological integrity at multiple scales, sustaining wildlife populations and species, and facilitating climate change adaptation. We urge the RGNF to incorporate these concepts in its forest plan, particularly in the context of the larger landscape of federal lands that are adjacent to the RGNF that are also undergoing land management planning. These include the Carson National Forest, Santa Fe National Forest, Grand Mesa-Uncompahgre-Gunnison National Forest, and the Rio Grande del Norte National Monument.

A. Background

Properly designed networks of wildlife corridors represent one of the best strategies to mitigate the negative impacts of habitat fragmentation and help wildlife species adapt to climate change. Strategies that seek to maintain or restore connectivity between protected or otherwise intact natural areas are now considered critical to biodiversity conservation (Hilty et al. 2006, Taylor et al. 2006). Conservation scientists have now long agreed that “the preponderance of evidence is that corridors almost certainly facilitate travel by many species” (Beier and Noss 1998). Many analytical frameworks for prioritizing specific habitat corridors to preserve landscape connectivity have been formulated (e.g., Bunn et al. 2007, Compton et al. 2007, Carroll et al. 2011, McRae et al. 2008, Walker & Craighead 1997), and this area of conservation science continues to see intense growth. Although the particulars of wildlife response to climate change are largely unknown (Root 2003, Travis 2003, Jarema et al. 2009), establishment of landscape connectivity via corridors is the most frequently cited strategy for combating the impacts of climate change on biodiversity (Heller & Zavaleta 2009).

Designing, designating and protecting wildlife corridors should be a part of RGNF’s land management planning in order to mitigate the compounding and simultaneous impacts of habitat fragmentation and climate change. The information provided in Appendix H addresses the ecological justification for corridor science as an essential component of land management. There are three main areas of justification for structuring land management around corridors and habitat connectivity: maintenance of ecosystem function; preserving wildlife movement patterns and the resource availability these patterns facilitate; and mitigating the effects of climate change on species and ecosystems. The information provided in Appendix H represents the best available science, which the 2012 planning rule requires the agency to utilize.⁵⁴

Managing for connectivity is a required element in the 2012 planning rule. The Forest Service is required to include plan direction, including standards and guidelines, to maintain and restore connectivity of terrestrial and aquatic ecosystems and watersheds, taking into account stressors such as climate change, for the purpose of achieving ecological integrity⁵⁵ and species diversity.⁵⁶ In addition, the rule requires the agency to consider “habitat and habitat connectivity” when providing for integrated resource management.⁵⁷ The preamble of the planning rule adds more clarity, recognizing that providing

⁵⁴ 36 C.F.R. § 219.3 (agency “shall use the best available scientific information to inform the planning process” and “shall document how [that] information was used to inform the assessment”).

⁵⁵ 36 C.F.R. § 219.8(a).

⁵⁶ 36 C.F.R. § 219.9(a)(1)

⁵⁷ 36 C.F.R. § 219.10(a)

corridors in order to connect habitat may be necessary to maintain viable populations of at-risk wildlife within the planning area.⁵⁸ The Forest Service’s final planning directives offer further guidance. When developing plan components that maintain and restore ecological integrity, planning staff should consider “[e]cological connectivity at multiple temporal and spatial scales that would provide landscape linkages facilitating the exchange of resources and the movements of species across the broader landscape....”⁵⁹ Planners should consider plan components that are “designed to facilitate ecosystem adaptation to the effects of stressors” and “to limit the ability of stressors to impact ecosystem integrity.”⁶⁰

Connectivity supporting wildlife migration and dispersal, movement of species in response to climate change, and other landscape-level ecological processes requires looking outside of the planning area and working with adjacent land managers and private landowners. The preamble of the planning rule states that an objective of the planning rule is to “[e]nsure planning takes place in the context of the larger landscape by taking an ‘all-lands approach’.”⁶¹ The rule also requires the Forest Service to coordinate its planning efforts with equivalent planning efforts of other federal agencies.⁶² The planning directives echo and reinforce the regulatory direction, stating “ “plan components must consider habitat and habitat connectivity (§ 219.10 (a)(1)) and...[o]pportunities to coordinate with neighboring landowners to link open spaces and take into account joint management objectives where feasible and appropriate.”⁶³

The Forest Service and US Fish and Wildlife Service (USFWS) recognize that protecting and connecting undeveloped areas is an important action agencies can take to enhance climate change adaptation. For example, the Forest Service’s National Roadmap for Responding to Climate Change establishes that

⁵⁸ Forest Service Planning Rule Preamble, 77 Fed. Reg. 21,217 (Monday, April 9, 2012).

⁵⁹ FSH 1909.12, ch. 20 § 23.11(b)(2)(b).

⁶⁰ FSH 1909.12, ch. 20 § 23.11(b)(4) (a) and (b).

⁶¹ 77 Fed. Reg. 21,164. (April 9, 2012). Several sections of the rule support the all-lands approach for cross-jurisdictional wildlife connectivity:

- 36 CFR § 219.5(a)(1)) requires assessments to evaluate conditions, trends, and sustainability “in the context of the broader landscape.”
- 36 CFR § 219.8(a)(1)(ii) and (iii) recognizes that sustainability depends in part on how the plan area influences and is influenced by “the broader landscape.”

⁶² We call attention to the following four coordination provisions in the rule that we believe are particularly relevant to providing for landscape level connectivity across administrative boundaries:

- 36 CFR § 219.4 (b)(1) requires units to coordinate land management planning with the equivalent and related planning efforts of other Federal agencies and State governments.
- 36 CFR § 219.4 (b)(2)(ii) and (iii) require units to review the planning and land use policies of other government entities, requires that this review consider the compatibility and interrelated impacts of these plans and policies as well as opportunities to contribute to joint objectives, and requires that the results of the review be displayed in the EIS.
- 36 CFR § 219.9(b)(2)(ii) requires coordination with other land managers having management authority over lands relevant to populations of species of conservation concern.
- 36 CFR § 219.10(a)(4) requires units to consider opportunities to coordinate with neighboring landowners to link open spaces and take into account joint management objectives where feasible and appropriate.

⁶³ FSH 1909.12, ch. 20 § 23.23(m).

increasing connectivity and reducing fragmentation are short- and long-term actions the agency should take to facilitate adaptation to climate change.⁶⁴ Similarly, the Climate Adaptation Strategy adopted by a partnership of governmental agencies and spearheaded by USFWS calls for creating an ecologically-connected network of conservation areas.⁶⁵

Agency policies and direction recognize that an important way to provide for connectivity is to establish wildlife corridors. The preamble to the planning rule notes that for some species, “[maintaining viable populations of at-risk wildlife] may mean providing a corridor or corridors to connect habitat.”⁶⁶ The Forest Service’s Strategic Framework for Responding to Climate Change specifically recognized that wildlife corridors should be developed to facilitate the migration of wildlife for sustaining biodiversity within the landscape.⁶⁷ The USFWS’s strategic plan for responding to climate change notes that using linkages and well-placed corridors will be an important strategy to enhance connectivity between habitat blocks in order to facilitate movement of fish and wildlife species responding to climate

⁶⁴ Forest Service, FS-957b, *National Roadmap for Responding to Climate Change* at 26 (2011), available at <http://www.fs.fed.us/climatechange/advisor/roadmap.html>.

⁶⁵ See National Fish, Wildlife and Plants Adaptation Partnership, *Climate Adaptation Strategy* at 55-59 (2012), available at <http://www.wildlifeadaptationstrategy.gov/strategy.php>. Relevant goals and strategies include:

Goal 1: Conserve habitat to support healthy fish, wildlife, and plant populations and ecosystem functions in a changing climate.

Strategy 1.1: Identify areas for an ecologically-connected network of terrestrial, freshwater, coastal, and marine conservation areas that are likely to be resilient to climate change and to support a broad range of fish, wildlife, and plants under changed conditions.

Strategy 1.2: Secure appropriate conservation status on [high priority areas] to complete an ecologically-connected network of public and private conservation areas that will be resilient to climate change and support a broad range of species under changed conditions.

Strategy 1.4: Conserve, restore, and as appropriate and practicable, establish new ecological connections among conservation areas to facilitate fish, wildlife, and plant migration, range shifts, and other transitions caused by climate change.

⁶⁶ Forest Service Planning Rule Preamble, 77 Fed. Reg. 21,217 (Monday, April 9, 2012).

⁶⁷ Available at <http://www.fs.fed.us/climatechange/documents/strategic-framework-climate-change-1-0.pdf>. See page 4.

change.⁶⁸ In recent plan decisions, both the Forest Service⁶⁹ and the BLM⁷⁰ have followed the guidance offered in these strategic climate change plans and established wildlife corridors.

⁶⁸ The USFWS's climate change strategy is published in a report titled *Rising to the Urgent Challenge: Strategic Plan for Responding to Accelerating Climate Change*. The strategy establishes a basic framework within which the Service will work to help ensure the sustainability of fish, wildlife, plants and habitats in the face of climate change. The strategy contains seven goals, grouped in three categories: Adaptation (four goals), Mitigation, (two goals), and Engagement (one goal). The third goal in the adaptation category is to "plan and deliver landscape conservation actions that support climate change adaptations by fish and wildlife of ecological and societal significance." A core objective to achieving this goal is to promote habitat connectivity and integrity (Objective 3.2). For this objective, the USFWS notes that using linkages and well-placed corridors will be an important strategy to enhance connectivity between habitat blocks in order to facilitate movement of fish and wildlife species responding to climate change. Strategy available at: <http://www.fws.gov/home/climatechange/pdf/CCStrategicPlan.pdf>.

⁶⁹ Many of the Forest Service's recent land management and travel plans incorporate language regarding the protection of wildlife corridors. The Bridger-Teton NF amended its Land and Resource Management Plan to protect an important part of the Pronghorn Migration Corridor (also known as the Path of the Pronghorn) (USDA Forest Service 2008). The amendment designated the Pronghorn Migration Corridor and required that "all projects, activities, and infrastructure authorized in the designated Pronghorn Migration Corridor will be designed, timed and/or located to allow continued successful migration of the pronghorn that summer in Jackson Hole and winter in the Green River basin" (*ibid.*). In the Gallatin NF Travel Plan FEIS, the plan specifically has a goal of "providing for wildlife movement and genetic interaction (particularly grizzly bear and lynx) between mountain ranges" at specific passes and areas (Ament and Meiklejohn 2009). The Kootenai-Idaho Panhandle NF and the Shoshone NF Land Management Plans includes plan direction, including standards, guidelines, and objectives, that will ensure linkages between lynx habitat is preserved. The Northwest Forest Plan, a joint effort that involved both Forest Service and BLM, deals explicitly with connecting old-growth forests using corridors that contain elements of old growth forest and provide connectivity for focal species.

⁷⁰ The BLM incorporated the protection of important wildlife corridors in multiple recent draft and final resource management plans. Two of the four Dillon RMP and FEIS alternatives included recognition of wildlife corridors and Alternative B suggested that "wildlife migration/dispersal corridors that provide connectivity for special status species such as lynx, grizzly bear, and wolf (as well as wildlife in general) would be managed to reduce conflicts between listed species and land use authorizations and activities" (Dillon Proposed RMP, 2006, p. 30). Alternative C in that RMP went further stating that BLM would manage corridors to reduce conflict "that may limit the effectiveness of the corridor by increasing habitat fragmentation, creating physical barriers, or potentially increasing mortality." (Dillon Proposed RMP, 2006, p. 31). As a way to address the challenges with managing and protecting priority wildlife, the Lower Sonoran RMP identifies "priority habitats" in the planning area. These areas contain designations for wildlife habitat areas as well as wildlife movement corridors that connect important wildlife habitat. The Final EIS for the RMP provides the following explanation:

Priority habitats are large areas that encompass wildlife habitat areas (WHAs) and wildlife movement corridors. Connection between these habitat patches is important to provide wildlife the ability to move along elevation gradients and between habitat areas. As climate conditions change, wildlife must be able to adapt by expanding or contracting according to the needs of their lifecycles. Therefore, it is necessary to maintain corridors of undisturbed vegetation that connect to other undisturbed habitat areas (Lower Sonoran/Sonoran Desert National Monument Final EIS at 2-76).

In the Pinedale Record of Decision (ROD) and RMP, the BLM specifically designated and protected an important wildlife corridor as an Area of Critical Environmental Concern (ACEC). The BLM designated the Trapper's Point ACEC with the specific goal to "preserve the viability of the big game migration bottleneck, cultural and historic resources, and important livestock trailing use." (Pinedale ROD/RMP, 2008, p. 2-56). In addition, the recently-released Draft RMP amendment for Utah's St. George Field Office evaluates the Bull Valley Mountains Multi-Species Management Area to protect crucial habitat and migration corridors for mule deer, other wildlife species,

The Western Governors Association recognized the need for land managers to identify and protect wildlife corridors in the western United States. In February 2007, the WGA approved Policy Resolution 07-01, titled “Protecting Wildlife Migration Corridors and Crucial Wildlife Habitat in the West.” The central provision of this resolution called for “science-based policy recommendations to ensure healthy natural landscapes for flourishing wildlife populations.”⁷¹ Based on this provision, the WGA started the Wildlife Corridors Initiative, whose main objective was to develop a tool for policy makers to integrate wildlife corridors into their land management plans.⁷²

Building on the WGA’s formal recognition of the need to identify and protect wildlife corridors, the secretaries of the U.S. Department of the Interior, U.S. Department of Agriculture, U.S. Department of Energy, and the WGA signed a memorandum of understanding (MOU) regarding wildlife corridors on June 15, 2009. Pursuant to the MOU, the departments mutually agreed to:⁷³

[E]ndeavor to assist the WGA in the efforts of the Western Governors’ Wildlife Council, working in coordination with their member states, to create state-based decision support systems that develop, coordinate, make consistent and integrate quality data about wildlife, corridors, and crucial habitat across landscapes.

The purpose of the decision support systems was to “inform relevant decision-makers at all levels of government” about wildlife corridors. Pursuant to the MOU, the federal departments, and their respective agencies are now committed to work towards identification and protection of important wildlife corridors in coordination with the WGA Wildlife Council.

The Forest Service has the authority to use a variety of protective designations and management areas to carry out its mandate to maintain and restore connectivity. These tools include: recommending areas (that are important to wildlife, preserve under-represented habitats, or provide key landscape connections between habitats and elevations) for wilderness⁷⁴ and managing these areas accordingly; designating RNAs or zoological areas (which could be called for example landscape linkages or wildlife connectivity areas)⁷⁵; or establishing a management or geographic area.⁷⁶ The Forest Service could also design a mosaic of contiguous areas that consists of existing designated areas, areas recommended for designation (e.g., special interest areas, and appropriately protective management and geographic areas

and diverse predators in multiple alternatives. Draft St. George Field Office RMPA at 45 and Table 2-71. The 87,031-acre area would be managed as a priority biological conservation area, with robust management prescriptions in place to protect wildlife habitat and corridors. *Id.*

⁷¹ Western Governor’s Association. 2008. WGA wildlife corridors initiative. <http://www.westgov.org/wildlife-corridors-and-crucial-habitat>.

⁷² *Id.*

⁷³ US Departments of the Interior, Agriculture, Energy and Western Governor’s Association. Memorandum of Understanding. June 15, 2009

⁷⁴ See 36 CFR 219.7(c)(2)(v)

⁷⁵ See 36 CFR 219.7(c)(2)(v); FSM 4063; FSH 1909.12, chapter 20, Section 24; FSM 2372

⁷⁶ See 36 CFR 219.7(d)

to protect landscape scale corridors, or establish a special interest area that function like an overlay zone.⁷⁷ The advantage of an overlay designation is that it ensures the application of consistent plan components. Where plan components of underlying management, geographic, or other designated areas differ, the more protective components apply.

B. The Wilderness Society's Recommendations for Wildlife Corridors

As discussed in the preceding section on Designations, we have identified two specific wildlife corridors (zoological areas) on the RGNF – the Wolf Creek Linkage and the Spruce Hole/Osier/Toltec Landscape Linkage – and recommended plan components that would facilitate landscape permeability. See descriptions for these areas, including documentation of best available science, proposed boundaries, and recommended plan components in Appendix G. Also see Figures 6a and 6b that show mapped and modeled wildlife corridors in the Spruce Hole/Osier/Toltec Landscape Linkage. We posit that establishing the corridors will contribute to the recovery of federally listed species (e.g., Canada lynx), and enhance species viability within the RGNF and across the larger landscape by enabling dispersal. It will also enhance the climate adaptation capacity of the RGNF and surrounding region. The RGNF may also choose to establish additional wildlife linkages as a management area; we proposed the Wolf Creek and Spruce Hole/Osier/Toltec Landscape Linkages as Designated Areas because their importance to dispersal in the larger region requires specific management direction. The special purpose for which the linkages would be designated is to facilitate regional wildlife movement.

Connectivity is inherently a landscape level ecological process that extends beyond administrative boundaries. Several federal land management planning processes are currently underway that are proximal to the RGNF. These include the Carson National Forest, Santa Fe National Forest, Grand Mesa-Uncompahgre-Gunnison National Forest and the Rio Grande del Norte National Monument. We urge the RGNF to prioritize connectivity, a required element in the rule, as a keystone issue in its coordination efforts with these other planning efforts.

Management direction for wildlife corridors that accommodate large carnivores and ungulates need protective plan components that enable landscape permeability. Best available science shows that maintaining low road densities on the order of less than 1mi/square mile is important⁷⁸, as is minimizing habitat disturbance by limiting ground disturbing activities.⁷⁹ The management direction recommended in the proposed linkage area descriptions reflect this direction.

⁷⁷ Areas can overlap one another, so, for instance, it could be possible to draw a wildlife corridor designated area (e.g., zoological areas) or a geographic areas that overlap other management or geographic areas. See FSH 1909.12, chapter 20, Section 24.1(2) (“Mapping may show the designated area as a management area, geographic area or as part of a separate overlay specifically to show location of designated areas.”)

⁷⁸ See Roads Lit. Review, Appendix F, pages 7-9. Note that we intend the term “road density” to refer to the density all roads within national forests, including system roads, closed roads, non-system roads administered by other jurisdictions (private, county, state), temporary roads and motorized trails. See Appendix X, Attachment 2 for a detailed explanation of this issue.

⁷⁹ See Appendix H to this letter.

- C. The Forest Service must address connectivity and corridors in its plan revision, analyze the significant impacts associated with the connectivity under NEPA.

As described in the Background subsection above, the substantive requirements of the 2012 planning rule require meaningful plan direction on wildlife connectivity. This direction is echoed by Forest Service guidance, USFWS reports, and WGA. NEPA obligates the RGNF to take a hard look at the reasonably foreseeable direct, indirect, and cumulative environmental impacts of its decision-making, including “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health.”⁸⁰ Hence, the RGNF must be sure to analyze and disclose the consequences of its alternatives on wildlife movement, landscape permeability, and related aspects of climate adaptation, making sure to consider direct, indirect, and cumulative impacts within the forest and the greater region.⁸¹

IV. Fire Zoning

For some time now (see Aplet and Wilmer 2006, Aplet and Wilmer 2010), The Wilderness Society has advocated for an approach to fire planning first described by Arno and Brown in 1989 wherein fire suppression is focused where it produces the greatest benefit and wildfire is used to restore plant community structure and fire regimes where safe. Arno and Brown’s three-zone fire management strategy segregated landscapes into a wilderness fire zone, a “residential zone” (i.e., wildland-urban interface or WUI), and a zone in between where fuels should be managed through forestry. Aplet and Wilmer (2010) expanded on this idea to argue for restoration forestry beyond the WUI and a dramatic expansion of the wilderness fire zone to include all areas sufficiently distant from communities that fire is not an immediate concern.

We are encouraged, therefore, to see such a three-zone approach incorporated into the Proposed Action. We agree with the basic concept that there are parts of the forest where managing wildfire to meet resource objectives is less constrained and other parts where natural resources and communities are at higher risk, where fuel reduction efforts should be targeted. We are also encouraged to see the use of wildfire to meet resource objectives extended beyond wilderness and roadless areas. Between communities and wilderness are vast areas that research has shown can benefit from wildfire under less-than-extreme conditions. We agree that it is the area outside of wilderness and roadless areas where ecological restoration to restore fire-resilient forest structure in ponderosa pine and dry mixed conifer forest should be focused so that fire may be welcomed back into the forest instead of suppressed.

⁸⁰ 40 C.F.R. § 1508.8.

⁸¹ *Marble Mountain Audubon Society v. Rice*, 914 F.2d 179, 182 (9th Cir. 1990). (The U.S. Court of Appeals for the Ninth Circuit held that the Forest Service failed to adequately and appropriately consider the possible impacts on a biological corridor in its EIS, and must take into account wildlife corridors in forest management plans. In reaching this conclusion, the court also reasoned that an EIS must contain a “significant discussion of the corridor issue” and provide a “study or supporting documentation” for the conclusion that a corridor will not be significantly harmed.)

We are baffled, however, as to why the Proposed Action does not present these zones as a mapped feature. The benefit of designating these zones in advance of a wildfire is to know where they are when a fire starts so that appropriate action can be taken. Mapping these zones is a relatively simple exercise that starts with the location of the WUI and designates zones outwardly from there. In the attached Figure 4, we have mapped the WUI, the lands more than five miles from the WUI, and the intervening lands where restoration of a fire-resilient forest structure is appropriate. This approach differs somewhat from the approach described in the Proposed Action in that it does not restrict the fire use emphasis zone to roadless and wilderness areas. In mapping the FRB-RP zone, we encourage you to identify the more remote places in the zone as appropriate to emphasize wildfire use, rather than simply to allow it. Unless these places are designated for wildfire use, incident commanders are unlikely to allow fires to burn, even when safe to do so.

V. General Forest Management

We note with alarm that the Proposed Action describes “aggressively diversifying stand age classes and structure, seral stage, and habitat classes” on the forest. The only discussion of vegetation treatment focuses on the salvaging of approximately 2,500 acres of dead spruce per year until commercial value is lost. This is troubling on several fronts. First, it is not at all clear how salvaging dead trees will diversify the forest. At best, it will result in the establishment of one 10- to -20-year-old cohort on less than three percent of the forest. Worse, it is not clear that salvage logging will result in the achievement of desired conditions (habitat conditions “similar to those that result from natural disturbances...”) any better than natural recovery. In addition to “capturing the value of dead trees,” the only justification for intervention is to “begin to restore the habitat,” but no scientific justification has been provided to show that salvage logging will aid in the restoration process, and the scientific literature suggests that salvage logging does not aid forest recovery and may rob the forest of integral habitat features (Lindenmayer et al, 2008). Perhaps most disappointing of all is that this action is being proposed without any assessment of the condition of the area being proposed for harvest. We are told only that “many areas affected by spruce beetle have 80-100% mortality of mature Engelmann spruce,” but we are not told how much of the forest is in this condition or what the structure of the un-killed trees is or what the prognosis is for recovery without intervention. We recommend that the Forest abandon this aspect of the Proposed Action, which does not help achieve desired conditions, and limit logging in the spruce-fir forest to the removal of hazard trees from alongside roads, campgrounds, and other highly visited areas. Just tackling hazard trees will certainly meet the 2,500 acre projected annual treatment acreage.

This situation contrasts sharply with the situation in the dry mixed-conifer forest, where some science supports intervention to restore resilient forest structure. On Figure 5, we have identified ponderosa pine and dry mixed-conifer forests on the RGNF that are appropriate for restoration and accessible to mechanical equipment (i.e., general forest areas on slopes less than 35 percent and within 1000 feet of existing roads). The identification protocol follows that of North et al. (2015) and shows that almost 50,000 acres of dry forest are available for restoration treatment, which would help achieve desired conditions and meet the acreage expectations of the entire timber program over the life of the plan. Combining that total with the 15,000-30,000 acres of hazardous dead spruce existing within a couple of

tree lengths of roads should more than fulfill the timber sale expectations of the forest. We recommend that the Forest Service focus its tree removal efforts on restoring dry forests where accessible and rely on wildfire to diversify forest structure in the spruce-fir zone.

In general, we are disappointed in the overall quality of the proposed desired conditions statements, which are vague, weak, and unmeasurable, especially without a baseline inventory of conditions. Without specific, measurable desired condition statements and an inventory of current conditions, it will be impossible to determine whether management is successful. In characterizing desired conditions, we specifically recommend against using the facile “habitat structural stage” comparison against “NRV” utilized in the Assessment. Such an approach fails to account for critical spatial aspects of forest structure and grossly oversimplifies forest dynamics. It also fails to account for the full range of historical variability by distilling historical conditions down to a single vector of structural stages. Such an approach is inappropriate for setting desired conditions for forests. Instead, we recommend that desired conditions reflect a richer and more realistic characterization of historical conditions, such as those described in RMRS-GTR-310 (Reynolds et al. 2014) for dry forests of the Southwest. Rather than rely on desired conditions downloaded from the Landfire website, the forest should assess current conditions and model the future forest based on a realistic projection of forest growth over time, given the variability in stand conditions following beetle attack and projected changes to the climate. Research by Veblen et al. (1991) and Derderian et al. (2015) indicates that spruce-fir forests in northern Colorado maintained considerable residual structure following beetle outbreaks and can be expected to return to a complex historical structure within a few decades.

The RGNF in the Draft EIS should take a hard look at forest management, and, in particular, needs to analyze and disclose the impacts of the proposed alternatives on the undeveloped character of wilderness inventory units, aquatic systems (especially from roads, temporary or otherwise), and lynx and other forest obligate species. The Draft EIS should include a range of forest management alternatives, including our suggested scheme of restricting forest management to hazard tree removal around roads and recreation facilities, and on dry forests with slopes less than 35% and within 1000 feet of an existing road. The Draft EIS must disclose the amount of timber that would be harvested under each alternative, in what management areas or zones it would be located, and what the outcome to soil, water, recreation, air, ecosystem services, and species will result. Further, the Draft EIS must evaluate and disclose how “aggressive diversification” will contribute to the ecological conditions necessary to promote threatened and endangered species recovery, proposed species conservation, and species of conservation concern persistence, as required. And, of course, the Draft EIS must document how the Best Available Science supports its conclusions.

VI. Transportation System

We are happy to see that the Need for Change document identified a need to “Revise the current plan to include management direction that ensures sustainable infrastructure related to recreation, forest

health, and habitat connectivity”.⁸² In this section, we review the scientific and regulatory framework for managing roads on the RGNF, and then recommend plan components.

A. Background and Regulatory Framework

1. *The best available scientific information shows that the forest road system is economically and environmentally unsustainable.*

The RGNF provides a range of significant environmental and societal benefits, including clean air and water, habitat for myriad wildlife species, and outdoor recreation opportunities for millions of visitors and local residents each year. The forests’ extensive and decaying road systems, however, pose a principle threat to their ability to provide critical environmental, ecosystem, and recreation services into the future. Nationwide, the national forests contain over 370,000 miles of system roads (excluding tens of thousands of additional miles of unclassified, non-system, temporary, and user-created roads). That is nearly eight times the length of the entire U.S. Interstate Highway System. Much of the system is in a state of serious disrepair: as of 2015, the national forest road system had a nearly 3-billion-dollar maintenance backlog.⁸³

The stories on the RGNF is similar. The RGNF has 2,819 miles of system roads and 301 miles of motorized system trails in the forest.⁸⁴ Seventy-one percent of these road miles are high clearance or stored (closed to motorized use) while only 29% can be accessed by passenger vehicles.⁸⁵ According to a recent RGNF analysis of the road system, there are 1,093 miles of roads that are low benefit and low risk, and 194 miles of roads that are high risk and low benefit; the recommended minimum necessary road system pursuant to 36 CFR 212.5(b)(1) consists of 779 (30%) miles of passenger vehicle roads, 722 miles of open high clearance roads (28%), and 1,093 miles (42%) of stored roads.⁸⁶ The analysis identifies 255 miles (139 ML 1 roads and 86 ML2 roads, 9% of current system) of unneeded roads for decommissioning.⁸⁷

While well-sited and maintained roads provide important services to society, the adverse ecological and environmental impacts associated with the Forest Service’s massive and deteriorating road system are well-documented. Those adverse impacts are long-term, occur at multiple scales, and often extend far beyond the actual “footprint” of the road. The attached literature review (see Appendix F) surveys the

⁸² Need for Change, Version 2, July 2016 available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd514178.pdf, page 5.

⁸³ USDA Forest Service 2015.

⁸⁴ USDA Forest Service, 2015. “Rio Grande National Forest Forest-wide Travel Analysis Process Report.” Rio Grande National Forest, October 2015. Report and attachments are at <http://www.fs.usda.gov/detailfull/riogrande/landmanagement/projects/?cid=fseprd484850&width=full>. Note that these numbers do not align with figures provide on Page1 of chapter 11 of the Assessment Report, which says that there are 2,244 miles of Forest Service system roads, and approximately 1,298 miles of Forest Service system trails, respectively.

⁸⁵ TAR, page 1.

⁸⁶ *Id.*, Page 36.

⁸⁷ *Id.*, page 36.

extensive and best-available scientific literature (including the Forest Service’s General Technical Report, Gucinski et al. 2001, synthesizing the scientific information on forest roads) on a wide range of road-related impacts to ecosystem processes and integrity on National Forest lands.

For example, erosion, compaction, and other alterations in forest geomorphology and hydrology associated with roads seriously impair water quality and aquatic species viability.⁸⁸ Roads disturb and fragment wildlife habitat, altering species distribution, interfering with critical life functions such as feeding, breeding, and nesting, and resulting in loss of biodiversity.⁸⁹ Roads also facilitate increased human intrusion into sensitive areas, resulting in poaching of rare plants and animals, human-ignited wildfires, introduction of exotic species, and damage to archaeological resources.⁹⁰

Climate change intensifies the adverse impacts associated with roads. For example, as the warming climate alters species distribution and forces wildlife migration, landscape connectivity becomes even more critical to species survival and ecosystem resilience.⁹¹ Climate change is also expected to lead to more extreme weather events, resulting in increased flood severity, more frequent landslides, altered hydrographs, and changes in erosion and sedimentation rates and delivery processes.⁹² Many National Forest roads, however, were not designed to any engineering standard, making them particularly vulnerable to these climate alterations. And even those designed for storms and water flows typical of past decades may fail under future weather scenarios, further exacerbating adverse ecological impacts, public safety concerns, and maintenance needs (USDA Forest Service 2010).

These road-related impacts are of significant concern on the RGNF. For instance, the forest assessments recognize that high road densities have fragmented certain habitat types, and degraded the integrity of aquatic ecosystems.⁹³ Roads are a source of sediment on the forests – a problem that is exacerbated by the massive maintenance backlog – and a significant barrier to aquatic connectivity.⁹⁴ In the context of the impact of roads and trails on watershed health, the RGNF has ranked 74% and 7% of the 6th level HUC watersheds, respectively, as at risk or impaired.⁹⁵ Eighty-one out of 166 6th level HUC’s have road/motorized trail densities over one mile per square mile,⁹⁶ a widely used threshold over which large carnivores and other wide-ranging species suffer ill-effects from human disturbance and

⁸⁸ See Roads Lit. Review, Appendix F

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.* See also USDA Forest Service 2011a (National Roadmap for Responding to Climate Change recognizes importance of reducing fragmentation and increasing connectivity to facilitate climate change adaptation).

⁹² *Id.*

⁹³ See RGNF Assessment Report Chapters 1 and 3 (Terrestrial) at 5; 14 (roads need attention in riparian areas); 17 (“the roads associated with these activities, even temporary ones, can negatively impact the forest and its ecosystems”); 24; and 34.

⁹⁴ See RGNF Assessment Report, Appendix to Chapters 1 and 3 (Aquatic) at 17 (“[R]oads can profoundly contribute to the diminution and degradation of native aquatic and wetland ecosystems by altering natural drainage area. In addition, roads have facilitated the consumptive use and in some cases, extirpation, of indigenous plants and animals by human beings.”)

⁹⁵ Assessment Report, Chapter 2, Page 87.

⁹⁶ See Appendix to Travel Analysis Report, *supra*, entitled Road Density Map available at <http://www.fs.usda.gov/detailfull/riogrande/landmanagement/projects/?cid=fseprd484850&width=full>.

fragmentation⁹⁷, and 788 roads have moderate to high watershed risks.⁹⁸ Roads are also a key risk factor to numerous threatened and endangered species and potential species of conservation concern.⁹⁹

The RGNF has an annual road maintenance budget of \$688,860 and an annual maintenance need of \$9.558 million, or said another way, the RGNF receives funding to maintain 7.8% of its road system. Even if the RGNF implemented its recommended minimum road system reducing its annual road maintenance need to \$8,257,200, it still would only be able to maintain a paltry 8.3% of its road system. Inadequate maintenance leads to resource impacts, particularly to water resources, and eventually leads to health and safety risks to forest staff and the visiting public.¹⁰⁰ The RGNF has deferred maintenance costs of \$33,379,483 and \$6,616,145 for roads and trails, respectively.

2. Regulatory framework

The 2012 planning rule requires forest assessments to address forest infrastructure, including “recreational facilities and transportation and utility corridors.”¹⁰¹ As the Forest Service directives governing the assessment recognize, “[i]nfrastructure within the plan area can have a substantial impact on social, cultural, economic, and ecological conditions both within the plan area and in the broader landscape.”¹⁰² Given the extensive and decaying nature of the Forest Service road system and its significant aggregate impacts on landscape connectivity, ecological integrity, water quality, species viability and diversity, and other forest resources and ecosystem services, a robust assessment of transportation infrastructure is necessary to ensure the forest plan revision complies with the relevant substantive provisions of the 2012 planning rule and other regulatory requirements. To provide necessary context for the Forest Service’s assessment of transportation infrastructure, those legal obligations are described briefly below and in more detail in Appendix I.

To address the Forest Service’s unsustainable and deteriorating road system, “subpart A” of the Travel Management Rule is designed to shrink the size of the system. It requires each forest to conduct “a science-based roads analysis,” generally referred to as a “travel analysis process” or “TAR.”¹⁰³ Based on

⁹⁷ See Roads Lit. Review, Appendix F

⁹⁸ See Appendix to Travel Analysis Report, *supra*, entitled Aquatics Rankings, available at <http://www.fs.usda.gov/detailfull/riogrande/landmanagement/projects/?cid=fseprd484850&width=full>.

⁹⁹ See Roads Lit. Review, Appendix F

¹⁰⁰ The Assessment Report’s Chapter 11 affirms the challenges to achieving a fiscally sustainable roads system, stating that “...with aging infrastructures and continued budget decreases, maintenance to a desirable standard is difficult. The deferred maintenance backlog will continue to increase and this trend is not sustainable. The deferred maintenance is a safety issue for the public and the employees of the Rio Grande.” See Assessment Report Chapter 11, Page 8.

¹⁰¹ 36 C.F.R. § 219.6(b)(11).

¹⁰² FSH 1909.12, ch. 10, § 13.13.

¹⁰³ 36 C.F.R. § 212.5(b)(1); see also Memorandum from Joel Holtrop to Regional Foresters *et al.* re Travel Management, Implementation of 36 CFR, Part 212, Subpart A (Nov. 10, 2010); Memorandum from Leslie Weldon to Regional Foresters *et al.* re Travel Management, Implementation of 36 CFR, Part 212, Subpart A (Mar. 29, 2012); Memorandum from Leslie Weldon to Regional Foresters *et al.* re Travel Management Implementation (Dec. 17, 2013) (outlining expectations related to travel analysis reports).

that analysis, forests must “identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands.”¹⁰⁴ Forests must then “identify the roads . . . that are no longer needed to meet forest resource management objectives and that, therefore, should be decommissioned or considered for other uses, such as for trails.”¹⁰⁵ .¹⁰⁶ Forests are directed to do this at a scale of the 6th HUC watershed or larger and undertake appropriate NEPA review.¹⁰⁷ “The MRS for the administrative unit is complete when the MRS for each subwatershed has been identified, thus satisfying Subpart A.”¹⁰⁸

The substantive ecological integrity and ecological and fiscal sustainability provisions of the 2012 planning rule complement and reinforce the requirements of subpart A of 36 CFR 212. For example, forest plans must include standards and guidelines that maintain or restore healthy aquatic and terrestrial ecosystems, watersheds, and riparian areas, and air, water, and soil quality, taking into account climate change and other stressors.¹⁰⁹ Plans also must implement national best management practices (BMPs) for water quality; ensure social and economic sustainability, including sustainable recreation and access and opportunities to connect people with nature; and provide for “[a]ppropriate placement and sustainable management of infrastructure.”¹¹⁰ As documented in more detail below and in the literature review attached as Appendix 4, the adverse environmental and fiscal impacts associated with existing transportation infrastructure (e.g., erosion, compaction, sedimentation and impairment of water quality, fragmentation of wildlife habitat, interference with feeding, breeding, and nesting, spread of invasive species) directly implicate these substantive requirements.

In terms of climate change, Executive Order 13,653 requires agencies to take various actions aimed at making “watersheds, natural resources, and ecosystems, and the communities and economies that depend on them, more resilient in the face of a changing climate.”¹¹¹ Agencies must develop and implement adaptation plans that “evaluate the most significant climate change related risks to, and

¹⁰⁴ 36 C.F.R. § 212.5(b)(1) (further defining the minimum road system as that “determined to be needed [1] to meet resource and other management objectives adopted in the relevant land and resource management plan . . . , [2] to meet applicable statutory and regulatory requirements, [3] to reflect long-term funding expectations, [and 4] to ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance”).

¹⁰⁵ 36 C.F.R. § 212.5(b)(2).

¹⁰⁶ *Id.* § 212.5(b)(2).

¹⁰⁷ Memorandum from Leslie Weldon to Regional Foresters et al. re Travel Management, Implementation of 36 C.F.R., Part 212, Subpart A (Mar. 29, 2012). For instance, Watershed Restoration Action Plans developed under the Watershed Condition Framework should include essential projects that implement TAR recommendations, and every project at the scale of the 6th HUC watershed or greater that implicates the road system should include in its purpose and need statement identification of the MRS and unneeded roads for decommissioning and implementation of actions identified in the TAR.

¹⁰⁸ *Id.*

¹⁰⁹ 36 C.F.R. § 219.8(a)(1)-(3).

¹¹⁰ 36 C.F.R. §§ 219.8(a)(4), 219.8(b), 219.10(a)(3).

¹¹¹ *Id.* § 3.

vulnerabilities in, agency operations and missions in both the short and long term, and outline actions . . . to manage these risks and vulnerabilities.”¹¹²

The Forest Service’s 2014 climate adaptation plan recognizes that the wide range of environmental and societal benefits provided by our national forests “are connected and sustained through the integrity of the ecosystems on these lands.”¹¹³ The plan highlights USDA’s 2010-2015 Strategic Plan Goal 2 of “[e]nsur[ing] our national forests . . . are conserved, restored, and made more resilient to climate change, while enhancing our water resources.”¹¹⁴ With respect to transportation infrastructure specifically, the plan recognizes that, “[w]ith increasing heavy rain events, the extensive road system on NFS lands will require increased maintenance and/or modification of infrastructure (e.g. larger culverts or replacement of culverts with bridges).”¹¹⁵ The adaptation plan points to a number of actions to address these risks. For example, the plan highlights the 2012 Planning Rule as a mechanism to ensure that “National Forest System . . . land management planning policy and procedures include consideration of climate change.” *Id.*¹¹⁶ The final directives to the planning rule echo the importance of designing plan components “to sustain functional ecosystems based on a future viewpoint” and “to adapt to the effects of climate change.”¹¹⁷

The Council on Environmental Quality (CEQ) also recently reinforced the importance of integrating climate change into land management planning processes in its final guidance on addressing climate change in NEPA reviews. The guidance acknowledges that “[c]limate change is a fundamental environmental issue, and its effects fall squarely within NEPA’s purview.”¹¹⁸ The guidance goes on to recognize the increased vulnerability of resources including transportation infrastructure, due to a changing climate, and clarifies that NEPA requires agencies to analyze proposed actions and alternatives in the context of climate change, including the vulnerability of particular resources including transportation infrastructure, and to consider opportunities for climate adaptation and resilience. *Id.* § III(B).

3. Existing plan direction is inadequate to comply with regulatory requirements.

Existing plan direction for the RGNF does not meet the substantive requirements of subpart A or the 2012 Planning Rule. Specifically, the current plans do not offer direction on identifying or achieving a

¹¹² *Id.* § 5(a)

¹¹³ USDA Forest Service 2014.

¹¹⁴ *Id.* USDA’s updated FY2014-FY2018 Strategic Plan retains Goal 2.

¹¹⁵ *Id.*

¹¹⁶ *Id.* See also 36 C.F.R. § 219.8(a)(1)(iv) (ecosystem integrity plan components must take into account stressors including climate change, and the ability of ecosystems to adapt to change); *id.* § 219.6(b)(3) (forest assessments must “[i]dentify and evaluate existing information relevant to the plan area for . . . the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change”); *id.* § 219.5(a) (planning framework designed to allow the Forest Service “to adapt to changing conditions, including climate change”); *id.* § 219.12(a)(5)(vi) (monitoring programs must address “[m]easurable changes on the plan area related to climate change and other stressors”).

¹¹⁷ FSH 1909.12, ch. 20, § .23.11

¹¹⁸ Council on Environmental Quality, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*, § I, 81 Fed. Reg. 51,866, (Aug. 5, 2016).

minimum road system, removing unneeded system roads, or otherwise promoting sustainable transportation infrastructure that helps maintain and restore ecological integrity. Moreover, current plan direction does not address the role of climate change, which likely will be dominant in road management decision-making over the life of the revised plans.

4. *The Forest Service must address the road system in its plan revision.*

a. *The substantive requirements of the 2012 Planning Rule require meaningful plan direction on roads.*

The substantive requirements of the 2012 Planning Rule require the Forest Service to comprehensively address the road system in its plan revision. Given the significant aggregate impacts of that system on landscape connectivity, ecological integrity, water quality, species viability and diversity, and other forest resources and ecosystem services, the Forest Service cannot satisfy the rule's substantive requirements without providing management direction for transportation infrastructure. As described above, plans must provide standards and guidelines to maintain and restore ecological integrity, landscape connectivity, water quality, and species diversity. 36 C.F.R. § 219.8(a). Those requirements simply cannot be met absent integrated plan components directed at making the road system considerably more sustainable and resilient to climate change stressors. Plan components should “reflect the extent of infrastructure that is needed to achieve the desired conditions and objectives of the plan” and “provide for a realistic desired infrastructure that is sustainable and can be managed in accord with other plan components including those for ecological sustainability.”¹¹⁹

Plan components also must ensure fiscal sustainability.¹²⁰ As described above, the maintenance backlog on the RGNF is significant and forecasted to continue growing. As with ecological integrity and sustainability, the Forest Service cannot satisfy its mandate to achieve fiscal sustainability absent plan components that remedy the unwieldy size and decaying nature of the road system. Recommended plan components to satisfy these substantive mandates and achieve a sustainable minimum road system are discussed in subsection B, below.

More generally, the revised plan is the logical and appropriate place to establish a framework for management of the forest road system. Plans “provide[] a framework for integrated resource management and for guiding project and activity decisionmaking.”¹²¹ Plans allow the Forest Service to comprehensively evaluate the road system in the context of other aspects of forest management, such as restoration, protection and utilization, and fiscal realities, and to integrate management direction accordingly. Plans also provide and compile regulatory direction at a forest-specific level for compliance with the Clean Water Act, Clean Air Act, Endangered Species Act, and other federal environmental laws

¹¹⁹ *Id.* § 23.231(1)(b); *see also id.* § 23.231(2)(a) (desired condition for roads “should describe a basic framework for an appropriately sized and sustainable transportation system that can meet [identified access and other] needs”).

¹²⁰ 36 C.F.R. § 219.8(b); *see also id.* § 219.1(g) (plan components generally must be “within . . . the fiscal capability of the unit”); FSH 1909.12, ch. 20, § 23.231(1)(c) (same).

¹²¹ 36 C.F.R. § 219.2(b)(1); *see also id.* § 219.15(e) (site-specific implementation projects, including travel management plans, must be consistent with plan components).

relevant to the road system and its environmental impacts.¹²² And plans allow forest managers and the public to clearly understand the management expectations around the road system and develop strategies accordingly. With frequent turnover in decision-making positions at the forest level, a plan-level management framework for the road system and transportation infrastructure is particularly critical. Moreover, with climate change anticipated to necessitate forest-wide upgrades and reconfigurations of transportation infrastructure, it is especially important that plans provide direction for identifying and achieving an environmentally and fiscally sustainable road system under future climate scenarios.

Lastly, the Forest Service does not have another planning vehicle to direct long-term and forest-wide management of the road system and to ensure compliance with current policy and regulatory direction. Travel Management Plans (TMPs) under subpart B of 36 C.F.R. part 212 are not a substitute for the integrated direction for transportation management that land management plans must provide. The main purpose of TMPs is to designate roads, trails, and areas that are open to motorized travel – not to achieve a sustainable transportation system, decommission unneeded roads, or otherwise meet the ecological restoration mandates of the 2012 Planning Rule.

b. The plan revision should address subpart A.

Complementing the substantive requirements of the 2012 Planning Rule, subpart A requires each National Forest to identify its minimum road system (MRS), as well as unneeded roads for decommissioning or conversion to other uses.¹²³ As explained above, the MRS must, among other things, reflect long-term funding expectations.¹²⁴ Completion of the TAR is a crucial first step in achieving compliance with subpart A, but forests then must utilize that analysis to identify the MRS and unneeded roads for decommissioning and implement those decisions in order to achieve compliance with subpart A.

The plan revision is the appropriate place to ensure that subpart A's requirements will be met over the next 10 to 15 years, and to set standards and guidelines for achieving an environmentally and fiscally sustainable MRS through decommissioning or repurposing unneeded roads and upgrading the necessary portions of the system. With forest plans determining the framework for integrated resource management and “an appropriately sized and sustainable transportation system,” direction for identifying and achieving that MRS belongs in the forest plan.¹²⁵ Indeed, the regulatory history of the Roads Rule makes clear that the Forest Service intended that forest plans would address subpart A compliance. In response to comments on the proposed Roads Rule, the Forest Service stated:

The planning rule provides the overall framework for planning and management of the National Forest System. The road management rule and policy which are implemented through the planning process must adhere to the sustainability, collaboration, and science

¹²² See *id.* § 219.1(f) (“Plans must comply with all applicable laws and regulations . . .”).

¹²³ 36 C.F.R. § 212.5(b)(1)-(2).

¹²⁴ *Id.* § 212.5(b)(1).

¹²⁵ See FSH 1909.12, ch. 20, § 23.231(2)(a)

provisions of the planning rule. For example, under the road management policy, national forests and grasslands must complete an analysis of their existing road system *and then incorporate the analysis into their land management planning process.*

66 Fed. Reg. at 3209 (emphasis added).

If the revised plans do not provide plan direction towards achieving a sustainable MRS, it is unlikely that the Forest Service will satisfy the requirements of subpart A during the life of the plans (as evidenced by the lack of direction in the existing plans and the inability of forests to achieve environmentally and fiscally sustainable road systems to date). Forest managers and the public need forest-specific direction on how to achieve the desired MRS and ensure its sustainability in the face of climate change, all within realistic fiscal limitations of the unit. The purpose of a forest plan is to provide that direction, and it would be arbitrary for the Forest Service to fail to do so in its plan revision. At the very least, the revised plan must include standards and guidelines that direct compliance with subpart A within a reasonable timeframe following plan adoption.

Recommended plan components to satisfy the requirements of subpart A are provided in subsection C, below.

c. The Forest Service must analyze the significant impacts associated with the road system under NEPA.

In addition to the requirements of the 2012 Planning Rule and subpart A, NEPA requires the Forest Service to analyze its road system as part of the forest plan revision process. The EIS must analyze in depth all “significant issues related to [the plan revision].”¹²⁶ Management of the forest road system and its significant environmental impacts on a range of forest resources undoubtedly qualifies as a significant issue that must be analyzed in the plan revision EIS.¹²⁷

A robust NEPA analysis of the forest road system and its environmental and social impacts is especially critical in the context of climate change. As the Council on Environmental Quality’s (CEQ) recent final guidance on addressing climate change in NEPA analyses recognizes,

Climate change can make a resource, ecosystem, human community, or structure more susceptible to many types of impacts and lessen its resilience to other environmental impacts apart from climate change. This increase in vulnerability can exacerbate the effects of the proposed action....Such considerations are squarely within the scope of NEPA and can inform decisions on whether to proceed with, and how to design, the proposed action to eliminate or mitigate impacts exacerbated by climate change. They

¹²⁶ 40 C.F.R. § 1501.7.

¹²⁷ NEPA analysis as part of a previous travel management planning process under subpart B does not satisfy the Forest Service’s duty to comprehensively analyze the impacts of its road system in the EIS for the plan revision. As explained above, the purpose of the TMP is to designate existing roads and trails available for off-road vehicle use, not to identify and provide a framework for a sustainable road system.

can also inform possible adaptation measures to address the impacts of climate change, ultimately enabling the selection of smarter, more resilient actions.

CEQ Climate Change NEPA Guidance, § III(B)(2). Thus, the guidance clarifies that NEPA requires agencies to analyze proposed actions and alternatives in the context of climate change, including the vulnerability of resources such as transportation infrastructure, and to consider opportunities for climate adaptation and resilience. *Id.* § III(B).

Importantly, adequate analysis of the forest road system cannot be provided in a piecemeal fashion under other, individual resource topics in the EIS. That approach would preclude comprehensive analysis of the significant impacts associated with the road system and could result in fragmented and conflicting management direction that fails to satisfy the substantive mandates of the 2012 Planning Rule and subpart A.

B. Recommended Plan Components to Achieve an Ecologically and Fiscally Sustainable Road System

The plan components of the revised forest plans should integrate a variety of approaches to satisfy the substantive mandates of the 2012 Planning Rule and subpart A. The following recommendations are based on the Forest Service's current roads policy framework and relevant legal requirements, which are described above, on the best available science, which is summarized in the attached literature review (Appendix F) and which the Forest Service is required to utilize under the 2012 Planning Rule, and on examples of road plan components from existing forest plans (see non-comprehensive compilation attached in Appendix J).

Moving towards an environmentally and fiscally sustainable minimum road system requires removal of unneeded roads (both system and non-system) to reduce fragmentation and the long-term ecological and maintenance costs of the system. Reconnecting islands of unroaded forest lands is one of the most effective actions land managers can take to enhance forests' ability to adapt to climate change. The Wilderness Society 2014. To that end, the revised plans should prioritize reclamation of unauthorized and unneeded roads in roadless areas (both Inventoried Roadless Areas under the 2001 Roadless Area Conservation Rule and newly inventoried areas under the Chapter 70 process), important watersheds, and other sensitive ecological and conservation areas and corridors.

In addition to creating a connected network of un-roaded and lightly-roaded lands, the plans should address roads-related impairment of watersheds, as identified by the Watershed Condition Framework roads and trails indicator and section 303(d) of the Clean Water Act, 33 U.S.C. § 1313(d). The revised plan should prioritize removal of unneeded and unauthorized roads in watersheds functioning at risk or in an impaired condition, or that contain 303(d) segments impaired by sediment or temperature associated with roads. More generally, the plan must implement national best management practices (BMPs) for water quality, 36 C.F.R. § 219.8(a)(4),¹²⁸ and plan components should integrate BMPs into

¹²⁸ See also USDA Forest Service 2012 (National Best Management Practices for Water Quality).

management direction aimed at reducing the footprint and impacts of the forest road systems and ensure they are effective in doing so.

A sustainable road system also requires maintenance and modification of needed roads and transportation infrastructure to make them more resilient to extreme weather events and other climate stressors. See Exec. Order 13653, §§ 1, 3, 5(a) (agency tasked with enhancing resilience and adaptation to climate change impacts). Plan components should direct that needed roads be upgraded to standards able to withstand more severe storms and flooding by, for example, replacing under-sized culverts and installing additional outflow structures and drivable dips. The Wilderness Society 2014; see also FSH 1909.12, ch. 20, § 23.231(2)(b)(1) (plan components may include road improvement objectives for culvert replacement or road stabilization). Plan components should also prioritize decommissioning of roads that pose significant erosion hazards or are otherwise particularly vulnerable to climate change stressors, and should address barriers to fish passage. See FSH 1909.12, ch. 20, § 23.21(2)(b)(1) (plan components may include decommissioning objectives).

In addition to reducing fragmentation and enhancing climate change adaptation, adoption of road density thresholds for important watersheds, migratory corridors and other critical wildlife habitat, and general forest matrix is one of the most effective strategies for achieving an ecologically sustainable road system. The Wilderness Society 2014 (pages 6-8 and Attachment 2 summarize best available science on road density thresholds for fish and wildlife). Indeed, there is a direct correlation between road density and various markers for species abundance and viability. *Id.*; see also FSH 1909.12, ch. 10, § 12.13 & Ex. 01 (identifying road density as one of the “key ecosystem characteristics for composition, structure, function, and connectivity” used to assess the “status of ecosystem conditions regarding ecological integrity”). Plan components should incorporate road density thresholds, based on the best available science, as a key tool in achieving a sustainable minimum road system that maintains and restores ecological integrity. See FSH 1909.12, ch. 20, § 23.231(2)(a) (desired condition for road system may describe desired road density for different areas). In doing so, it is critical that the density thresholds apply to all motorized routes, including closed, non-system, and temporary roads, and motorized trails. The Wilderness Society 2014 (Attachment 2 describes proper methodology for using road density as a metric for ecological health).

A sustainable road system must also be sized and designed such that it can be adequately maintained under current fiscal limitations. See FSH 1909.12, ch. 20, § 23.231(1)(c) (plan components for road system “must be within the fiscal capability of the planning unit and its partners”). Inadequate road maintenance leads to a host of environmental problems. The Wilderness Society 2014. It also increases the fiscal burden of the entire system, since it is much more expensive to fix decayed roads than maintain intact ones, and it endangers and impedes access for forest visitors and users as landslides, potholes, washouts and other failures occur.

To integrate the approaches described above and satisfy the substantive mandates of the 2012 Planning Rule and subpart A, we recommend the following plan components and elements, which are supported by best available science, as the building blocks of a framework for sustainable management of forest roads and transportation infrastructure:

1. *Desired Future Condition is an appropriately sized and environmentally and fiscally sustainable minimum road system that facilitates enjoyable visitor experiences and forest programs.*

The Forest Service's current roads management policy framework is generally aimed at shrinking the agency's vast and decaying road system and its associated adverse environmental and social impacts to create a streamlined, efficient, and sustainable system. Accordingly, the desired future condition for transportation infrastructure should include a well-maintained and appropriately sized system of needed roads that is fiscally and environmentally sustainable and provides for safe and consistent access for the utilization, administration, and protection of the forest. That forest road system is designed and maintained to withstand future storm events associated with climate change, to prioritize passenger vehicle access to major forest attractions, and to integrate with road systems on adjacent lands. The road system reflects long-term funding expectations. Unneeded roads, including system, temporary, and non-system roads, are decommissioned and reclaimed as soon as practicable to reduce environmental and fiscal costs. Reclamation efforts are prioritized in roadless and other ecologically sensitive areas to enhance ecological integrity and connectivity and to facilitate climate change adaptation. The system meets road density thresholds, based on the best available science, for all motorized routes in important watersheds and wildlife habitat, migratory corridors, and general forest matrix, and for relevant threatened and endangered species and species of conservation concern. Road construction, reconstruction, decommissioning, and maintenance activities are designed to minimize adverse environmental impacts. Passenger vehicle roads are maintained to standard to ensure reliable access to popular developed recreation sites. Best management practices are in place on all system roads, monitored regularly for effectiveness, and modified as needed based on monitoring.

2. *Objectives provide a concise, measurable, and time-specific statement of a desired rate of progress towards achieving a sustainable minimum road system.*
 - a. Over the life of the plan, decommission and naturalize all unneeded roads (e.g., those identified as likely not needed for future use in the Travel Analysis Report (TAR)). Decommission at least 5% of roads identified as unneeded each year. Within 10 years of plan approval, decommission unneeded roads with the most benefit in achieving an ecologically and fiscally sustainable transportation network (e.g., roads posing a high risk to forest resources, roads in inventoried roadless areas and other ecologically sensitive areas, etc.).
 - b. Over the life of the plan, implement the minimum road system (pursuant to 36 C.F.R. § 212.5(b)).
 - c. Within 10 years of plan approval, address all roads within at-risk and impaired watersheds with poor or fair ratings for the Watershed Condition Framework (WCF) roads and trails indicator, and within watersheds contributing to sediment or temperature impairment under section 303(d) of the Clean Water Act.

3. *Standards ensure that roads do not impair ecological integrity and otherwise satisfy the substantive requirements of the 2012 Planning Rule and subpart A.*
 - a. To ensure ecological integrity and species viability, establish density standards based on the best available science for all motorized routes:
 - i. In important watersheds, wildlife habitat, migratory corridors, and general forest matrix; and
 - ii. For relevant species or resources present on the forest, including but not limited to threatened and endangered species and species of conservation concern.
 - b. Within 3 years of plan adoption, the forest shall identify its minimum road system and an implementation strategy for achieving that system that is consistent with forest plan direction and relevant regulatory requirements.
 - c. The forest shall identify and update as necessary its road management objectives for each system road and trail.
 - d. With respect to temporary roads, the forest shall:
 - i. Within 5 years of plan approval, establish a publicly available system for tracking temporary roads that includes but is not limited to the following information: road location, purpose for road construction, the project-specific plan required below, year of road construction, and projected date by which the road will be decommissioned. Within 10 years of plan approval, all temporary roads will be reflected in the tracking system.
 - ii. All temporary roads will be closed and rehabilitated within two years following completion of the use of the road.
 - iii. Over the life of the plan, all unaddressed temporary roads will be decommissioned and naturalized.
 - e. All roads, including temporary roads, will comply with applicable and identified Forest Service best management practices (BMPs) for water management. Implement BMP monitoring to evaluate BMP effectiveness and identify necessary modifications to address deficiencies.
 - f. With respect to riparian management zones, the forest shall:
 - i. Establish widths for riparian management zones around all lakes, springs, perennial and intermittent streams, and open-water wetlands.
 - ii. Ensure that all management practices and project-level decisions with road-related elements in riparian management zones do not cause detrimental changes in water quality or fish habitat.
 - g. Watershed restoration action plans address road-related impacts identified in the TAR.
4. *Guidelines are designed to achieve a sustainable minimum road system*
 - a. The forest shall make annual progress toward achieving the minimum road system and motorized route density standards.
 - b. Project-level decisions with road-related elements implement TAR recommendations and advance implementation of the minimum road system and motorized route density standards.

- c. Routes (unauthorized, temporary, non-system, and system) identified for decommissioning and naturalization through the TAR or other processes will be closed, decommissioned, and reclaimed to a stable and more natural condition as soon as practicable.
 - d. Prioritize road decommissioning and naturalization to enhance landscape connectivity and ecological integrity based on:
 - i. Effectiveness in reducing fragmentation, connecting un-roaded and lightly-roaded areas, and improving stream segments, with a focus on inventoried roadless areas, important watersheds, and other sensitive ecological and conservation areas and corridors;
 - ii. Benefit to species and habitats;
 - iii. Addressing impaired or at-risk watersheds;
 - iv. Achieving motorized route density standards;
 - v. Enhancement of visitor experiences; and
 - vi. Cost-effectiveness and feasibility, including opportunities to incorporate road decommissioning work into other forest projects.
 - e. Prioritize maintenance of needed routes based on:
 - i. Providing passenger vehicle access;
 - ii. Storm-proofing needs and opportunities (e.g., relocating roads away from water bodies, resizing or removing culverts, etc.);
 - iii. Restoring aquatic and terrestrial habitats and habitat connections; and
 - iv. Increasing resilience.
5. *Monitoring program ensures progress toward Desired Future Condition using monitoring questions/indicators such as:*
- a. Percentage of passenger car roads with a safety condition rating of good.
 - b. Percentage of unneeded road miles decommissioned and reclaimed within inventoried roadless areas or areas with identified wilderness characteristics (in FSH 1909.12, chapter 70, section 72), critical habitat, or other area with recognized conservation values.
 - c. Percentage of subwatersheds with an identified minimum road system.
 - d. Percentage of subwatersheds with an implemented minimum road system.
 - e. Percentage of roads addressed in subwatersheds with a “poor” WCF roads and trails indicator, and in watersheds contributing to sediment or temperature impairment under section 303(d) of the Clean Water Act.
 - f. Miles/percentage of roads identified as likely not needed for future use in the TAR or other processes that have been decommissioned.
 - g. Miles of road improved or maintained to meet BMP guidelines.

Recommendations: Consistent with subpart A and the substantive requirements of the 2012 Planning Rule, the final plans should provide a suite of plan components aimed at achieving an ecologically and fiscally sustainable transportation system over the life of the plans. Recommended plan components are

included in the preceding subsection. The Forest Service also must analyze the significant ecological and fiscal impacts associated with the forest road systems in the EIS. Adequate NEPA analysis and plan direction on the road system will necessarily require a supplemental DEIS.

VII. Management of Over-Snow Vehicle Use

Under the newly promulgated subpart C of the Forest Service’s travel management regulations, 36 C.F.R. part 212, each national forest with adequate snowfall must designate and display on an “over-snow vehicle use map” a system of routes and areas where over-snow vehicle (OSV) use is permitted based on protection of resources and other recreational uses.¹²⁹ OSV use outside the designated system is prohibited.¹³⁰ Implemented correctly, the rule presents an important opportunity to enhance quality recreation opportunities for both motorized and non-motorized winter users, protect wildlife during the vulnerable winter season, and prevent avoidable damage to vegetation, air and water quality, and other resources. It is important that the forest plans provide a good framework for management of OSV use and for subsequent winter travel management planning under the new regulation.

A. Background and regulatory framework

1. Executive order minimization criteria

Executive Orders 11644 and 11989 require federal land management agencies to plan for ORV use (including snowmobiles) based on protecting resources and other uses.¹³¹ When designating areas or trails available for ORV use, agencies must locate them to¹³²:

- (1) minimize damage to soil, watershed, vegetation, or other resources of the public lands;
- (2) minimize harassment of wildlife or significant disruption of wildlife habitats; and
- (3) minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands.

The Forest Service codified these “minimization criteria” in subparts B and C of its travel management regulations.¹³³ The agency has struggled, however, to properly apply the criteria in its travel management decisions, leading to a suite of federal court cases invalidating Forest Service travel management plans.¹³⁴ Collectively, these cases confirm the Forest Service’s substantive legal obligation

¹²⁹ 36 C.F.R. § 212.81

¹³⁰ *Id.* § 261.14.

¹³¹ Exec. Order No. 11,644, 37 Fed. Reg. 2877 (Feb. 8, 1972), *as amended by* Exec. Order No. 11,989, 42 Fed. Reg. 26,959 (May 24, 1977).

¹³²¹³² *Id.* § 3(a)

¹³³ 36 C.F.R. §§ 212.55, 212.81(d)

¹³⁴ *See WildEarth Guardians v. U.S. Forest Serv.*, 790 F.3d 920, 929-32 (9th Cir. 2015); *Friends of the Clearwater v. U.S. Forest Serv.*, No. 3:13-CV-00515-EJL, 2015 U.S. Dist. LEXIS 30671, at *37-52 (D. Idaho Mar. 11, 2015); *The Wilderness Soc’y v. U.S. Forest Serv.*, No. CV08-363-E-EJL, 2013 U.S. Dist. LEXIS 153036, at *22-32 (D. Idaho Oct. 22, 2013); *Cent. Sierra Envtl. Res. Ctr. v. U.S. Forest Serv.*, 916 F. Supp. 2d 1078, 1094-98 (E.D. Cal. 2013); *Idaho Conservation League v. Guzman*, 766 F. Supp. 2d 1056, 1071-74 (D. Idaho 2011).

to meaningfully apply and implement – not just identify or consider – the minimization criteria when designating *each* area and trail, and to show in the administrative record how it did so. As the Ninth Circuit recently held, “[w]hat is required is that the Forest Service document how it evaluated and applied [relevant] data on an area-by-area [or route-by-route] basis with the objective of minimizing impacts as specified in the [Travel Management Rule].”¹³⁵ To satisfy its substantive duty to minimize impacts, the Forest Service must apply a transparent and common-sense methodology for meaningful application of *each* minimization criterion to *each* area and trail being considered for designation. That methodology must include several key elements, including gathering and applying site- and resource-specific information to minimize both site-specific and landscape-scale impacts, providing meaningful opportunities for public participation, incorporating the best available scientific information and best management practices (BMPs) for minimizing impacts to particular resources, and accounting for predicted climate change impacts and available resources for monitoring and enforcement.¹³⁶

2. Area designations under a closed unless designated open approach

The Forest Service’s substantive duty to minimize impacts associated with OSV use applies to both area and trail designations. Minimization of impacts associated with OSV area allocations is particularly important because the OSV rule permits the Forest Service to designate larger areas open to cross-country travel than in the summer-time travel planning context. The rule, however, requires that designated areas be “discrete,” “specifically delineated,” and “smaller . . . than a ranger district.”¹³⁷ Accordingly, the Forest Service must specifically delineate discrete areas where cross-country travel is

¹³⁵ *WildEarth Guardians*, 790 F.3d at 931. See also *id.* at 932 (“consideration” of the minimization criteria is insufficient; rather, the agency “must apply the data it has compiled to show how it designed the areas open to snowmobile use “with the objective of minimizing” impacts). Importantly, efforts to *mitigate* impacts associated with a designated OSV system are insufficient to fully satisfy the duty to *minimize* impacts, as specified in the executive orders. See Exec. Order 11644, § 3(a) (“Areas and trails shall be *located* to minimize” impacts and conflicts.). Thus, application of the minimization criteria should be approached in two steps: first, the agency locates areas and routes to minimize impacts, and second, the agency establishes site-specific management actions to further reduce impacts. Similarly, the Forest Service may not rely on compliance with the relevant forest plan as a proxy for application of the minimization criteria because doing so conflates separate and distinct legal obligations. See *Friends of the Clearwater*, 2015 U.S. Dist. LEXIS 30671, at *46 (“Merely concluding that the proposed action is consistent with the Forest Plan does not . . . satisfy the requirement that the Forest Service provide some explanation or analysis showing that it considered the minimizing criteria and took some action to minimize environmental damage when designating routes.”).

¹³⁶ See generally The Wilderness Society, *Achieving Compliance with the Executive Order “Minimization Criteria” for Off-Road Vehicle Use on Federal Public Lands: Background, Case Studies, and Recommendations* (May 2016) (Exhibit VII.1). The Journal of Conservation Planning recently published a literature review and BMPs for OSV management that provide guidelines, based on peer-reviewed science, for OSV designation decisions and implementation actions that are intended to minimize impacts to water quality, soils, vegetation, wildlife, and other recreational uses. Switalski 2016. The Forest Service’s National Core BMP Technical Guide also includes relevant BMPs, such as imposing minimum snow depth and season of use restrictions; using applicable best practices when constructing winter trailheads, parking, and staging areas; and using suitable measures to trap and treat pollutants from over-snow vehicle emissions in snowmelt runoff or locating staging areas at a sufficient distance from waterbodies to provide adequate pollutant filtering. USDA Forest Service 2012. The 2012 Planning Rule requires plans to implement these practices. 36 C.F.R. § 219.8(a)(4).

¹³⁷ 36 C.F.R. § 212.1 (definition of “area”)

permitted. And, as described above, the Forest Service must locate any such areas to *minimize* resource damage and recreational use conflicts. As the Ninth Circuit recently held, the Forest Service must “apply the minimization criteria to *each area* it designate[s] for snowmobile use” and “provide a . . . granular minimization analysis to fulfill the objectives of Executive Order 11644.”¹³⁸ Importantly, the agency “cannot rely upon a forest-wide reduction in the total area open to snowmobiles as a basis for demonstrating compliance with the minimization criteria,” which are “concerned with the effects of each particularized area.”¹³⁹ The agency is “under an affirmative obligation to actually show that it aimed to minimize environmental damage when designating . . . areas.”¹⁴⁰ Proper application and implementation of the minimization criteria almost certainly would not result in designation of open areas even close to the size of a ranger district, as sensitive resources and other recreational uses adversely affected by OSV use would most likely be present throughout the area.

Proper designation of areas in compliance with subpart C and the minimization criteria will require most national forests to undergo a paradigm shift in OSV management. In general, forests have allocated vast areas as open to cross-country OSV travel largely by default. According to data obtained by Winter Wildlands Alliance through a 2014 request under the Freedom of Information Act, approximately 94 million acres – or about 60% of national forest lands that receive regular snowfall – are currently open to OSV use, while only about 30 million acres outside of designated wilderness (where motorized use is prohibited by statute) are closed to that use.¹⁴¹ Subpart C, however, specifically rejects this default “open unless designated closed” approach, and instead requires the Forest Service to “designate” specific areas and trails for OSV use (consistent with the minimization criteria), and prohibits OSV use outside of the designated system.¹⁴² In other words, subpart C requires forests to make OSV designations under a consistent “closed unless designated open” approach.

To satisfy these legal requirements, the Forest Service must look closely at each forest and designate as open only those discrete, delineated areas that are appropriate for cross-country OSV use and minimize environmental damage and conflicts with other recreational uses. Open areas should have easily enforceable boundaries using topographic or geographic features such as ridgetops, highways, or watershed boundaries. All other areas that are not determined to be appropriate for open designation then must be closed (or limited to designated routes), thus moving the forest into a “closed unless designated open” management regime.

3. Trail designations

¹³⁸ *WildEarth Guardians*, 790 F.3d at 930-31

¹³⁹ *Id.* at 932

¹⁴⁰ *Id.* (quotations and citations omitted)

¹⁴¹ Winter Wildlands Alliance, *Winter Recreation on National Forest Lands: A Comprehensive Analysis of Motorized and Non-Motorized Opportunity and Access*, p. 4 & Fig. 3 (2015), available at <http://winterwildlands.org/wp-content/uploads/2015/06/2015-Winter-Rec-Report.pdf>.

¹⁴² See 36 C.F.R. §§ 212.80(a), 212.81(a), 261.14

As with area designations, the Forest Service must locate any designated routes to *minimize* resource damage and conflicts with other recreational uses. Under the plain terms of the ORV executive orders, the Forest Service must apply the minimization criteria to *all* trails designated for OSV use – even if those trails are located in areas of the forest that would be designated as open to cross-country OSV use. When designated and placed on a map, trails focus the impacts of OSV use to those locations and generally increase the number of OSV users visiting the area. This is particularly true of groomed trails within areas otherwise open to cross-country travel. Groomed trails are desirable for traveling faster and further into remote areas. In addition, grooming often results in widening the footprint of the trail, which wheeled motorized vehicles may then use in summer, resulting in additional impacts and conflicts.

4. Adequate snowpack

The new OSV rule requires designation of areas and routes for OSV use “where snowfall is adequate for that use to occur.”¹⁴³ Particularly with climate change leading to reduced and less reliable snowpack, low-elevation and other areas that lack regular and consistent snowfall should not be designated for OSV use. Closing those areas is necessary to comply with the plain language of the subpart C regulations and with the executive order minimization criteria.

To account for variable snowpack and ensure that OSV use occurs only where and when snowfall is adequate, minimum snow depth restrictions are an important tool to further minimize impacts associated with OSV area and trail designations. The best available science shows that minimum snow depths should be at least 18 inches for cross-country travel and 12 inches for travel on groomed trails.¹⁴⁴ These depths are generally sufficient to minimize impacts to water quality, soils, and vegetation and to buffer for variable snow conditions (e.g., while a shaded trailhead may have 12 inches of snow, south-facing slopes further up the trail may have little or no snow). The Forest Service should also address its plans to enforce minimum snow depth restrictions, including protocols for monitoring snow depths, communicating conditions with the public, and implementing emergency closures when snowpack falls below the relevant thresholds. Minimum snow depths measurements should be taken at established locations that are representative of varying snow depths based on factors such as wind, orientation, slope, tree cover, etc. and depths should be reported regularly on the forest website and posted at popular access points.

In addition, forests should clearly identify season of use restrictions based on wildlife needs, water quality considerations, average snow depth figures, and other relevant information, with those restrictions serving as bookends, and minimum snow depth requirements providing an additional limitation on use.¹⁴⁵

¹⁴³ 36 C.F.R. § 212.81(a)

¹⁴⁴ Switalski 2016

¹⁴⁵ 36 C.F.R. § 212.81(a) (OSV rule permits agency to designate areas or trails by “time of year” to tailor designation decisions to account for snowfall patterns).

5. Existing decisions

Upon public notice, subpart C permits the Forest Service to grandfather previous decisions made with public involvement that restrict OSV use to designated areas and routes. 36 C.F.R. § 212.81(b). Prior to grandfathering existing winter travel management decisions by adopting them on an OSV use map, however, the Forest Service must ensure that those decisions were subject to the executive order minimization criteria and other relevant legal requirements.

Most critically, previous decisions must have been subject to the minimization criteria, and the administrative records for the decisions must demonstrate that the agency applied the criteria when making any OSV area or route designations. If the previous decisions were not subject to the minimization criteria, the Forest Service may not adopt them on its OSV use map.

Similarly, the Forest Service may not adopt previous decisions that rely on an “open unless designated closed” policy or fail to designate discrete open areas. The Forest Service also must ensure that previous decisions are not outdated. Older decisions likely did not account for the increased speed, power, and other capabilities of current OSV technology, which allow OSVs to travel further and faster into the backcountry and to access remote areas that were previously inaccessible. Older decisions also may not account for new scientific information on sensitive wildlife and other forest resources and how they are affected by OSV use. They may not account for current recreational use trends and increasing conflict between motorized and non-motorized winter backcountry users. And they may not account for the current and predicted impacts of climate change, which is, among other things, reducing and altering snowpack and increasing the vulnerability of wildlife and other resources to OSV-related impacts. Without this information, the Forest Service cannot demonstrate how those previous decisions minimize impacts based on current circumstances and science.

B. Creating a Framework for OSV Management in the Forest Plan

Forest planning is the appropriate place to consider the significant impacts associated with OSV use and to provide a sustainable recreation framework for managing this use. This is particularly important given the ecological and social impacts from OSV use. Providing this sort of programmatic framework will assist the RGNF in satisfying its subpart C obligations through subsequent implementation-level winter travel planning.

The final plan should provide a programmatic framework for management of OSV use and subsequent implementation-level winter travel planning that will designate particular areas and routes based on the minimization criteria and other relevant regulatory requirements. To provide for sustainable winter recreation, the final plans should include, at a minimum:

- An objective that implementation-level subpart C planning will be completed within three years of forest plan approval;

- A standard setting a minimum snow depth of 18 inches for cross-country OSV travel, consistent with the best available scientific information;
- Additional suitability determinations for OSV use that address both legal suitability and practical suitability based on terrain, snowpack, wildlife habitat, and other conditions that impact OSV travel;
- Winter-specific ROS classifications; and
- Clear statements that subsequent area and route designations will be consistent with suitability determinations and winter ROS classifications, but that all suitable, motorized areas will not necessarily be open to OSV use; instead, the forests will designate discrete open areas and trails within those areas that are located to minimize resource impacts and conflicts with other recreational uses.

In addition, the impacts of OSV use on forest resources and recreational experiences and opportunities must be meaningfully analyzed in the EIS.

VIII. Summer motorized travel management

Since subpart B of the travel management rule was promulgated, the RGNF chose not to conduct travel planning and instead to publish a motor vehicle use map (MVUM) depicting current designations. This included some areas open to cross-country driving for the purpose of retrieving game. At that time, the RGNF said it intended to conduct travel management planning but after it published its MVUM and stopped cross-country driving. We are presuming that the forest still intends to take on travel planning, and therefore request that the RGNF include overarching framework direction in its land management plan to guide subsequent mid-level travel planning.

As discussed above in the transportation section, the Travel Management Rule subpart A obligates the RGNF to develop a travel analysis report (TAR) to recommend a Minimum Road System (MRS) and unneeded roads for decommissioning. Once this is done, which it is for the RGNF, the RGNF must then go forth expeditiously to implement the recommended changes in its TAR through large-scale (6th level HUC or larger) proposals and associated NEPA processes. See Appendix I for a detailed description of the relevant regulatory framework.

Subpart B of the Travel Management Rule requires the RGNF to restrict wheeled motorized vehicle travel to a system of designated roads, trails and areas, and, at the deciding officer's discretion allow "limited use of motor vehicles within a specified distance of certain designated routes, and if appropriate within specified time periods, solely for the purposes of dispersed camping or retrieval of a downed big game animal by an individual who has legally taken that animal."¹⁴⁶ This exception is supposed to be used sparingly.¹⁴⁷

¹⁴⁶ 36 C.F.R. § 212.51(b)

¹⁴⁷ *Preamble for the TMR*, 70 Fed. Reg. 68,264, 68,285 (Nov. 9, 2005). ("The Department expects the Forest Service to apply this provision sparingly.... to avoid undermining the purposes of the final rule and to promote consistency in implementation. See also Forest Service Manual 7703.11(4). ("Apply the provision for big game retrieval and

Finally, Executive Orders 11644 and 11989 require that the RGNF locate ORV trails and areas to minimize impacts to forest resources and other uses, as discussed in the section on OSVs above.

The final plan should provide a programmatic framework for management of wheeled motorized use and subsequent implementation-level wheeled travel planning based on relevant regulatory requirements. This includes, at a minimum:

- Suitability determinations for summer ORV use that address both legal suitability and practical suitability based on terrain, wildlife habitat, and other conditions that impact ORV travel;
- ROS classifications;
- Clear statements that subsequent area and route designations will be consistent with suitability determinations and ROS classifications, but that all suitable, motorized areas will not necessarily be open to ORV use; instead, the forests will designate discrete open areas and trails within those areas that are located to minimize resource impacts and conflicts with other recreational uses;
- Elimination of driving off the designated system to retrieve game.

To this last point, most forests in the system disallow driving off the designated system to retrieve game, recognizing the resource impacts that might result and the difficulty that it causes for forest staff to enforce the travel management rule. If the RGNF persists in allowing driving off the designated system to retrieve game, it must in the Draft EIS analyze the impacts on forest resources and sustainable recreation and show in the record how it complied with the Executive Orders' minimization criteria.

IX. Plan Components and Structure of the Proposed Action

We appreciate that the Proposed Action (PA) starts with an explanation of how the plan will be structured. Land Management Plans are much easier to understand, especially to the general public, if they utilize narratives to explain approaches and strategies. We also appreciate the cross-walking of management areas from the existing plan to the proposed action.

We are concerned, however, that the plan components are not structured appropriately to conform with the definitions in the planning rule, and as such will not provide the necessary direction and accountability. We describe our concerns and recommendations below for several types of plan components. Plan components are the heart of the forest plan in that they enable rule purposes and requirements to be met. While the overall architecture of a plan is important, a plan will be evaluated on the degree that its plan components effectively meet the rule's purposes. Further, it is important to provide a suite of plan components for specific resources; in doing so, the plan will establish what the future condition is (desired conditions, goals), how it will get there (objectives), management constraints

dispersed camping sparingly, after conducting travel analysis and appropriate site-specific environmental analysis and public involvement.”)

(standards and guidelines), along with an understanding of where specific activities are appropriate to take place (suitability).

Goals. The planning rule defines a goal as a “broad statement of intent, other than desired conditions, usually related to process or interaction with the public.”¹⁴⁸ It does not suggest that goals are to “provide umbrella statements that all other direction would tier to” (PA, p. 7). Instead, plan direction should tier to the requirements of the planning rule. The three goals proposed in the PA appear to be loose interpretations of planning rule requirements. For example, the goal to “protect and restore watershed health, water resources, and the systems that rely on them” is found in Section 219.8 of the planning rule. Similarly the goal to “maintain and restore sustainable, resilient ecosystems” essentially alludes to the Planning Rule’s requirement to maintain or restore the ecological integrity of ecosystems (219.8).

The goals provided do not meet the definition of plan components provided in the directives. For example they essentially “repeat Agency policies applicable to all National Forest System units” and are not “written clearly and with clarity of purpose and without ambiguity so that a project’s consistency” with them can be easily determined.¹⁴⁹

We are also concerned with the substance of the proposed goals. The planning rule presents broad purposes for forest plans: “Plans will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.” The planning rule’s intention was to reinforce the notion that social and economic well-being are dependent on ecological sustainability. The PA’s goals, however, downplay the dominance of ecological sustainability over the other purposes. Further, the goals are a mix of concepts that would be better expressed as objectives, management strategies (not a plan component but still can be included in plan direction), and desired future conditions.

We recommend that the RGNF re-craft the goals using the direction provided in the directives, for example by describing a “state between current conditions and desired conditions” or “overall desired conditions of the plan area that are also dependent on conditions beyond the plan area or Forest Service authority.”

Desired Conditions. Desired conditions are really important plan components because they describe the condition that the agency is trying to achieve over the life of the plan. They are difficult to construct, but when thoughtfully crafted establish a strong foundation for development of other plan components.

¹⁴⁸ 36 C.F.R. § 219.7(e)(2)

¹⁴⁹ FSM 1909.12 Chapter 20, 22.1

They also provide a clear way to communicate to the public the agency's management direction and vision.

To be effective, desired conditions need to be clear and specific enough so that progress toward their achievement to be determined. The desired conditions offered in the PA are often vague (making it hard to evaluate progress toward achievement), and often are not outcome based descriptions but rather "to do" statements. Given the structure of the 2012 planning rule that establishes that projects are acceptable if they do not foreclose the opportunity to maintain or achieve desired conditions over the long term, it is really important to have relatively specific, outcome based desired condition statements.

The Handbook provides further clarity:

"The set of desired conditions for plan revision must cover ALL the requirements for a plan set out at 36 CFR 219.8 through 219.11 – to provide for sustainable ecosystems with ecological integrity, in the context of multiple-use management" (FSH 1909.12 Chapter 20, 22.11, emphasis in original).

So for example rather than "biological diversity" there would be a set of desired conditions for "ecological sustainability" (219.8). This would include desired conditions for key characteristics of ecological integrity for each terrestrial and aquatic ecosystem in the plan area, and watersheds. There will also be a set of desired conditions for ecological conditions necessary for at-risk species, which may overlap those provided for ecological integrity. The draft plan should list all desired conditions for integrity and those necessary for at-risk species so that it is clear how planning rule requirements are being met. Such a format also allows the reader to understand that the needs of at-risk species will be met through plan components for integrity or through species specific plan components.

We recommend that the RGNF craft its desired conditions to meet the aforementioned direction. Doing so will provide a much stronger foundation for the other plan components.

Objectives. Objectives are also very important (and under-utilized) plan components. Objectives essentially communicate priorities and specific actions that the agency will undertake over the life of the plan. Just like desired conditions, they can be a great tool for communicating what the agency intends to do to achieve the desired conditions. Several of the objectives offered in the PA are not effective because they are more akin to management approaches than measurable actions tied to specific desired conditions. An example of this is objective GF5 that states "Use appropriate and authorized tools...to meet resources objectives." Again, we recommend that the RGNF craft its objectives so that they are a reasonable set of actions to achieve specific desired conditions over the life of the plan.

Geographic areas. The Planning Rule defines geographic areas as "spatially contiguous land areas." The directives point out that geographic areas are "large areas" "based on place, while management areas are based on purpose" (FSH 1909.12 Chapter 20, 22.21). The PA does not use geographic areas as described in the planning rule; instead the geographic areas as constructed are really umbrella management areas.

We have found that using geographic areas as they were intended can be effective in communicating a forest plan through places and makes it easier for the public to understand how distinct provinces within the national forest will be managed. We encourage the RGNF to craft the current geographic areas as management areas (under which can be placed sub-management areas), and to consider establishing geographic areas where it makes sense. Note that geographic, management areas, and designated areas can overlap.

Suitability. The proposed action does not appear to provide suitability of lands as a plan component. Suitability should be established for winter and summer motorized recreation (as discussed earlier in this letter) and grazing. It should be based both on legal constraints and ecological, geologic, and physiographic constraints.

Standards and Guidelines. The proposed action states that the “Forest Plan will present standards and guidelines prescribed in the 2012 Planning Rule” and recognizes that they are needed to achieve desired conditions (p. 35). It is somewhat difficult to provide comment on the desired conditions as stand-alone plan components, knowing that each will need to be supported by other plan components. However at this stage it is important to point out that there are perils associated with relying too heavily on desired conditions. For example, the requirement for consistency with desired conditions is inherently much more flexible than for mandatory standards (36 CFR 219.15(d)(1)), and potentially allows no progress whatsoever to be made towards achieving them. Recognizing that such outcome-oriented plan components alone would not provide sufficient certainty, the Planning Rule indicates that mandatory standards and/or guidelines that act as constraints on projects be used where needed “to meet applicable legal requirements. We urge the RGNF to craft the necessary amount of standards and guidelines to assure progress towards the desired conditions, provide clarity to managers and the public, and provide necessary safeguards to resources.

X. Conclusion

The RGNF has a remarkable opportunity to assure the long-term future of the water and wildlife on the national forest, and establish a plan that provides robust ecosystem services to local communities and the American people. We hope that the RGNF will seriously consider establishing new conservation designations that will conserve iconic places and important landscape elements. We look forward to working with RGNF and other stakeholders to craft an exemplary plan.

XI. LITERATURE CITED

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XII. List of Attachments

Table 1. Data Sources for Biodiversity Analysis of Wilderness Inventory Areas

Table 2. List of Priority Species Used in Biodiversity Analysis of Wilderness Inventory Units, Rio Grande National Forest

Figure 1. Assessment of Biodiversity for Wilderness Inventory Polygons Developed by Defenders of Wildlife and Rocky Mountain Wild, May 2016 ,Rio Grande National Forest, Colorado

Figure 2. Map of The Wilderness Society’s Wilderness Recommendations

Figure 3. Map of The Wilderness Society’s Recommendations for Conservation Designations

Figure 4. Landscape-Scale Fire Management on the Rio Grande National Forest

Figure 5. Opportunities for Mechanical Forest Restoration and Fuels Reduction in the Community Fire Protection Zone, Rio Grande National Forest

Figure 6a and b. Northern Taos Plateau Wildlife Movement Management Area

XIII. List of Appendices

Appendix A - Letter submitted by The Wilderness Society et al on September 6, 2016 on the Preliminary Wilderness Evaluation (without appendices)

Appendix B – Ecosystem Representation Analysis Methods and Results

Appendix C – Report by New Mexico Natural Heritage Program entitled *Wildlife Doorways Supporting Wildlife Habitat Connectivity Across Borders in the Upper Rio Grande Watershed*

Appendix D – Methods for Identifying Areas on the Rio Grande National Forest that are Restorable and Operable for Mechanical Treatment

Appendix E – Descriptions of Areas Recommended for Wilderness by The Wilderness Society

Appendix F - Transportation Infrastructure and Access on National Forests and Grasslands: A Literature Review Developed by The Wilderness Society

Appendix G - Descriptions of Special Interest Areas Recommended by The Wilderness Society

Appendix H -Ecological Justification for Corridor Science as an Essential Component of Land Management

Appendix I – Regulatory Framework for Managing a Forest Transportation System

Appendix J - Examples of road plan components from existing National Forest Land Management Plans