

May 30, 2018

GMUG National Forests
Attn: Forest Plan Revision Team
2250 S. Main Street
Delta, CO 81416

Submitted electronically via email to gmugforestplan@fs.fed.us

Re: GMUG Scoping Comments – Climate Change and Carbon Sequestration

Dear Forest Plan Revision Team,

Thank you for the opportunity to comment on the Grand Mesa, Uncompahgre, and Gunnison (GMUG) National Forests' preliminary needs for change and scoping document. This comment letter focuses on climate change, which the undersigned organizations are deeply concerned about. Climate change is already negatively affecting Colorado's ecosystems, wildlife, and communities, and future impacts will likely increase in severity. This poses an enormous threat to the state and the GMUG in particular, and demands thoughtful consideration throughout the forest plan revision process and in project-level environmental analyses.

Notably, the 2012 Forest Planning Rule requires the Forest Service to account for climate change during every stage of the plan revision process; the Rule also includes requirements specific to carbon sequestration.¹ In addition, Forest Service policies and guidance recognize the importance of the agency proactively addressing climate change.² It is critical for the GMUG to follow through on the agency's demonstrated commitment to effectively address climate change during the plan revision process and at the project level.

Below, we provide recommendations for how the GMUG can proactively address climate change in its scoping document and key needs for change. We provide high-level suggestions for addressing climate change on the GMUG and identify opportunities for the GMUG to reduce its contribution to climate pollution through carbon sequestration and strategies to reduce greenhouse gas emissions (GHGs) from operations on the forest.

I. Climate Change Should be Included as a Stand-Alone Key Need for Change

We recommend that the GMUG include climate change as a stand-alone key need for change in the scoping document. This is necessary to ensure that the GMUG adequately accounts for climate impacts, adaptation, resilience, and mitigation throughout the forest plan revision process. Although the scoping document identifies climate change as a *component* of one of the overarching key needs for change, this provision falls far short of what is needed to effectively address climate change on the GMUG. Specifically, the scoping document states that the plan will:

Provide for Ecological Sustainability

¹ These requirements are summarized in Appendix I (climate change) and Appendix II (carbon sequestration).

² See Appendix III for an overview of Forest Service climate policies and guidance.

Maintain or restore ecological integrity; air, soil and water; and riparian areas, taking into account stressors such as wildland fire, insect and disease, and changes in climate.

... Consider direction that takes into account a changing climate, including adaptive responses to impacts of climate change (i.e., more frequent and larger disturbance events). The focus should be on maintaining ecosystem resiliency in order to continue to provide multiple uses and ecosystem services.³

We agree that the GMUG should promote ecosystem resilience, which will help the GMUG adapt to and recover from climate-related stressors such as drought, wildfires, insect infestations, and heavy rainfall. The challenges of climate change, however, demand a more proactive and comprehensive approach than the adaptation-focused approach suggested in the scoping document. For example, the scoping document is notably silent regarding opportunities for the GMUG to help mitigate climate change by establishing practices that reduce GHGs from operations in the forest. Mitigation is a critical aspect of climate action and should be addressed in the GMUG's revised forest plan.

We understand that the preliminary key needs for change are high-level and represent major themes. While we agree that providing for ecological sustainability is a key need for change that should drive the GMUG forest plan revision—and that addressing climate change will contribute to this goal—we believe the all-encompassing nature of climate change, which affects virtually every aspect of forest management to some degree, warrants the inclusion of climate change as a stand-alone key need for change. Indeed, it is hard to think of a more high-level, major issue that affects forest management on the GMUG.

Including climate change as a key need for change would help ensure that the GMUG fully integrates climate considerations throughout the forest plan revision process as intended in the 2012 Rule. If climate change is deprioritized and only considered through an adaptive lens as a means to promote ecological sustainability, the GMUG will fail to do what is necessary to prepare the forests for the impacts of climate change and mitigate the forests' contribution to the problem. Such a lost opportunity would needlessly increase the GMUG's vulnerability to climate change and should be avoided by placing climate considerations front and center throughout the plan revision process.

II. Recommended Language for a Climate-Specific Key Need for Change

We believe a climate-focused key need for change must explicitly address climate impacts, adaptation, resilience, and mitigation, and should identify how the GMUG plans to incorporate them into the plan revision process. We offer the following language as a suggestion:

Address Climate Change through Adaptation, Resilience, and Mitigation Measures

Prepare for the impacts of climate change by increasing ecological resilience and the adaptive capacity of forest ecosystems and wildlife, and reduce the forests' contribution to greenhouse gas emissions by increasing carbon sequestration and reducing emissions from operations on the forest.

Plan direction will take climate change into account, including adaptive responses.

³ Grand Mesa, Uncompahgre, and Gunnison National Forests, *Forest Plan Revision: Scoping*, 4-5 (Mar. 2018).

Specific and enforceable plan components will facilitate climate adaptation, resilience, and mitigation by: (1) increasing the forests' ecological resilience and ability to adapt to climate change; (2) maintaining or increasing carbon sequestration to the extent feasible and consistent with other management objectives; (3) requiring greenhouse gas emissions reductions from operations on the forests, including facilities management, energy use and development (including coal mining and oil and gas operations), and transportation, and will establish specific goals and monitoring requirements;⁴ and (4) requiring project-level environmental analyses to assess the project's impact on climate change (using the social cost of carbon or another equally rigorous, scientifically supported metric), and impacts of climate change on the project.

We believe this suggested language strikes an appropriate balance between specificity and flexibility. Climate change impacts, such as increased temperatures, droughts, and wildfires, are foreseeable within the life of the revised forest plan, and the GMUG can and should prepare for them. Taking actions that will increase the forests' adaptive capacity and resilience to climate change is essential to ensure that the forests can withstand and adapt to these impacts to the extent possible. In addition, it is important for the GMUG to lead by example and reduce the forests' contribution to climate change by reducing GHGs from forest operations and by maintaining, and where feasible, increasing long-term carbon storage on the GMUG. Requiring the social cost of carbon or another equally rigorous, scientifically supported methodology to be used for estimating individual projects' contribution to climate change will help the GMUG assess the impacts of project-level decisions on climate change and enable the GMUG to reduce the forests' overall contribution to climate pollution.

III. Conclusion

Thank you for the opportunity to provide comments on the GMUG's preliminary key needs for change and scoping document. We encourage the GMUG to incorporate climate change into the scoping document as proposed above, and believe that prioritizing climate change in this manner is essential to ensure that the GMUG adequately prepares for climate impacts and reduces the forests' contribution to the problem. We look forward to providing additional resources and suggestions on climate change and carbon sequestration as the GMUG moves forward with the plan revision.

Respectfully submitted,

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⁴ See the Forest Service National Climate Roadmap, summarized in Appendix III, for suggestions.

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Appendix I: Climate Change in the 2012 Planning Rule

The 2012 Forest Planning Rule⁵ requires the Forest Service to account for climate change throughout the forest plan revision process. The planning framework itself is designed “to create a responsive planning process that informs integrated resource management and allows the Forest Service to adapt to changing conditions, including climate change, and improve management based on new information and monitoring.”⁶

Assessment. During the assessment phase, the Forest Service must identify and evaluate “[s]ystem drivers, including . . . climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.”⁷

Plan Components. Climate change must also be incorporated into plan components. For example, plans must provide for ecological sustainability by “including plan components to maintain or restore structure, function, composition, and connectivity, taking into account . . . [s]ystem drivers, including . . . climate change.”⁸ Climate change is also incorporated into the concept of multiple use, and must be considered in developing plan components for integrated resource management.⁹

Monitoring. The 2012 Rule recognizes the importance of monitoring climate impacts after the plan has been finalized:

Each plan monitoring program must contain one or more monitoring questions and associated indicators addressing each of the following: . . . Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.¹⁰

The preamble to the 2012 Rule explained that “requirements to include questions and associated indicators to monitor measurable changes on the plan area related to climate change and other stressors was retained in the final rule, because it is important to track changing conditions.”¹¹

The Forest Service carefully considered the issue of climate change and incorporated climate considerations throughout the 2012 Rule. It is clear that the agency considered climate a critical issue that national forests must address during the plan revision process. The thoroughness with which the Forest Service addressed climate change in the 2012 Rule is evidenced by the lengthy “response to the issue of climate change” provided in the rule’s preamble:

Consideration of changing conditions including climate in planning is not new to the Forest Service. The Climate Change Resource Center has been developed as a reference for Forest Service resource managers and decision makers who need

⁵ 36 C.F.R. Part 219.

⁶ 36 C.F.R. § 219.5(a).

⁷ 36 C.F.R. § 219.6(b)(3).

⁸ 36 C.F.R. § 219.8(a)(1)(iv).

⁹ 36 C.F.R. § 219.10(a)(8).

¹⁰ 36 C.F.R. § 219.12(a)(5)(vi).

¹¹ 77 Fed. Reg. 21162, 21232 (Apr. 9, 2012).

information and tools to address climate change in planning and project implementation on NFS lands. For more than 20 years, Forest Service scientists have been studying and assessing climate change effects on forests and rangelands. Forest Service Research and Development provides long term research, scientific information, and tools that can be used by managers and policymakers to address climate change impacts to forests and rangelands. Climate change-related activities are carried out within research stations covering the whole country. In 2009, the Agency issued guidance for climate change considerations to provide the Agency with the support needed to incorporate climate change into land management planning and project-level NEPA documentation. Recent plan revisions include consideration of climate change.

Modified Alternative A [the 2012 Rule] incorporates a strategic framework for adaptive management: assess conditions on the ground using readily available information, build plan components recognizing that conditions may be changing, and monitor to determine if there are measurable changes related to climate change and other stressors on the plan area.

Under Modified Alternative A, responsible officials will identify and evaluate information relevant to understanding ecological conditions and trends and to forming a baseline assessment of carbon stocks. Plans will include plan components to maintain or restore ecological integrity, so that ecosystems can resist change, are resilient under changing conditions, and are able to recover from disturbance. Modified Alternative A also requires monitoring measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area. Taken together, the planning framework and these requirements will ensure that information related to climate change will be addressed in a consistent and strategic fashion.

Modified Alternative A is consistent with and complements the Agency's climate change National Roadmap and Performance Scorecard, the Watershed Condition Framework and ecological restoration and sustainability policies. The climate change roadmap directs national forests and grasslands to develop climate change vulnerability assessments and identifies monitoring strategies. Elements in the scorecard will help the Agency to determine whether assessments and monitoring are being developed in a way that will help inform decisionmaking at the unit level. The scorecard includes requirements that complement or are complemented by requirements in Modified Alternative A. The climate change roadmap and scorecard are available online at <http://www.fs.fed.us/climatechange/advisor/>.

The national watershed condition framework (WCF) approach uses an annual outcome-based performance system to measure progress toward improving watershed condition on NFS lands. The WCF improves the way the Forest Service approaches watershed restoration by targeting the implementation of integrated suites of activities in those watersheds that have been identified as priorities for restoration. A short description of the framework is discussed in Chapter 3 of the final PEIS under watershed protection and a Forest Service publication is available at http://www.fs.fed.us/publications/watershed/Watershed_Condition_Framework.pdf.

Modified Alternative A capitalizes on existing Agency work such as the baseline carbon assessments conducted under the Climate Change Scorecard, the assessment

and monitoring conducted under the Watershed Condition Framework, and the monitoring of climate change indicators occurring in the Forest Inventory and Analysis program, by ensuring integration of these activities into the land management planning process.

In selecting Modified Alternative A, the Department considered the present capability of the Agency to address climate change in planning. The Department also considered existing Agency policy on climate change and the ways in which the different alternatives could be integrated effectively with those policies. The Department concludes that the requirements for addressing climate change in the final rule can be carried out on all NFS units.¹²

The 2012 Rule and its preamble clearly indicate that climate change is a major issue that must be fully accounted for in forest plan revisions. These provisions make it clear that the Forest Service must carefully consider climate change and incorporate it into every stage of the forest plan revision process, including the assessment phase, plan components, and monitoring.

¹² *Id.* at 21176.

Appendix II: Carbon Sequestration in the 2012 Planning Rule

The 2012 Forest Planning Rule also includes requirements related to carbon sequestration.

The Rule both directly and implicitly requires the Forest Service to consider carbon sequestration in the forest planning process. During the initial assessment phase, the Rule requires the Forest Service to include a “[b]aseline assessment of carbon stocks.”¹³ The preamble to the final rule explains what this entails:

The final rule requires that the responsible official use existing information to do a baseline assessment of carbon stocks. Carbon stocks are the amount of carbon stored in the ecosystem, in living biomass, soil, dead wood, and litter. This requirement was included in response to public comments to ensure that information about baseline carbon stocks is identified and evaluated before plan revision or development, and to link this phase to the requirements of the Forest Service Climate Change Roadmap and Scorecard. The Department’s expectation is that this information would be generated via implementation of the Roadmap and Scorecard prior to planning efforts on a unit, and that the assessment phase would use that information to meet the direction in § 219.6(b)(4). The Forest Service has developed a National Roadmap and Performance Scorecard for measuring progress to achieve USDA strategic goals (USDA Forest Service 2010d, 2010j). The roadmap describes the Agency’s strategy to address climate change and the scorecard is an annual reporting mechanism to check the progress of each NFS unit.¹⁴

The preamble further notes that the Forest Service changed this requirement from the proposed rule to “lead to a more comprehensive assessment of carbon stocks (as opposed to [only] carbon stored in above ground vegetation) earlier in the planning process.”¹⁵

The 2012 Rule also requires the Forest Service to identify the “[b]enefits people obtain from the [National Forest Service] planning area (ecosystem services)” in the assessment phase.¹⁶ The Rule defines “ecosystem services” as the benefits that ecosystems provide to humans, including the “long term storage of carbon” and “climate regulation.”¹⁷

Plans must provide for ecosystem services by including “plan components, including standards or guidelines . . . to provide for ecosystem services . . . in the plan area.”¹⁸ Because the 2012 Rule identifies carbon sequestration as an ecosystem service, the Forest Service must include plan components that address carbon sequestration in the planning area. Such plan components could, for example, include standards or guidelines to maintain, increase, or maximize the long-term storage of carbon in soils, vegetation, and wetlands in the planning area.

Appendix III: U.S. Forest Service Climate Policies and Guidance

¹³ 36 C.F.R. § 219.6(b)(4).

¹⁴ 77 Fed. Reg. 21162, 21200 (Apr. 9, 2012).

¹⁵ *Id.* at 21229.

¹⁶ 36 C.F.R. § 219.6(b)(7).

¹⁷ 36 C.F.R. § 219.19.

¹⁸ 36 C.F.R. § 219.10(a).

In addition to the 2012 Planning Rule, the Forest Service has consistently recognized the importance of proactively addressing climate change. Numerous agency publications and guidance materials emphasize the need to effectively manage national forests and grasslands to increase their resilience to climate impacts and other stressors, using the principles of adaptive management.

Forest Service policies and guidance recognize the importance of reducing the agency's environmental footprint and reducing emissions from operations on Forest Service lands. The Forest Service National Climate Roadmap includes climate mitigation strategies, including a commitment to reduce GHG emissions "through more prudent consumption in facilities, fleet, and other operations."¹⁹ Specific strategies include:

- Incorporating and maintaining long term programs, practices, tools, and policies that integrate sustainable consumption principles throughout the organization by removing barriers and promoting the use of efficient appropriate technologies, and behavior changes.
- Institute a culture that emphasizes education, rewards positive actions, and recognizes achievements that reduce our environmental footprint in long lasting ways.
- Integrate sustainable consumption activities into daily decisions, habits, planning and operations.
- Increase leadership capacity and day-to-day capabilities to implement sustainable consumption patterns at and between all levels of the organization.

Navigating the Climate Change Performance Scorecard furthermore notes that a number of sustainable operations requirements are legally required under the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007.²⁰ This guidance observes:

To fulfill the Forest Service's obligation to present and future generations, our land stewardship mission must be strategically integrated with practices that reduce our resource consumption. Instituting a culture of sustainable consumption by integrating environmental footprint reduction principles into all our programs, practices, and policies will help us to reach our goals.²¹

The Forest Service also recognizes the importance of establishing practices that help mitigate climate change by reducing atmospheric levels of GHG emissions. For example, the Forest Service Global Change Research Strategy states that forests "play an important role in reducing the buildup of greenhouse gases in the atmosphere by sequestering carbon."²² In the research strategy, USFS commits to identifying best management practices that will increase carbon sequestration while supporting ecosystem health.²³

The Forest Service National Roadmap for Responding to Climate Change also addresses the importance of climate change adaptation and mitigation in our national forests. It identifies

¹⁹ *USFS National Roadmap for Responding to Climate Change*, 21 (2010) [hereinafter *Roadmap*].

²⁰ *Navigating the Climate Change Performance Scorecard*, 42 (2011).

²¹ *Id.*

²² *The Forest Service Global Change Research Strategy, 2009-2019*, 5 (2009).

²³ *Id.*

several adaptive management strategies the Forest Service will use, including building resistance to climate-related stressors, increasing ecosystem resilience, and when necessary, facilitating large-scale ecological transitions.²⁴ The Roadmap notes a connection between mitigation and adaptation, stating that healthy, resilient forest ecosystems are better able to store carbon.²⁵

Carbon sequestration is the primary mitigation strategy of the Forest Service, which has committed to “[p]romoting the uptake of atmospheric carbon by forests and the storage of carbon.”²⁶ The Roadmap identifies the following actions that the Forest Service is taking to promote carbon storage:

- Actively managing carbon stocks in forests, grasslands, and urban areas over time by doing the following:
 - Rapidly reforesting land damaged by fires, hurricanes, and other disturbances, consistent with land management objectives.
 - Conserving working forests and grasslands.
 - Providing technical assistance for programs designed to enhance carbon sequestration potential through afforestation, reforestation, and practices that increase and maintain productivity and ecosystem health.
 - Encouraging cities to retain green space and to plant and maintain trees.
 - Using available tools to understand the impacts of management actions on carbon stocks and fluxes.²⁷

The Climate Roadmap also directs the Forest Service to “work with partners to sustain or increase carbon sequestration and storage in forest and grassland ecosystems.”²⁸ There are limits to the ability to increase carbon sequestration on Forest Service land while achieving other management goals (such as fuel reduction programs to prevent uncharacteristically severe wildfires), and the Roadmap therefore states that the Forest Service should consider tradeoffs as it develops management strategies to achieve the agency’s carbon sequestration goals consistent with other agency objectives.

The Forest Service also developed a Climate Change Performance Scorecard that each National Forest must complete annually. Scorecard element #9 concerns carbon sequestration. Each National Forest must determine whether “information relevant to the Unit level [has] been developed and synthesized to assess carbon stocks and the influence of land management activities and disturbances on potential changes in carbon stocks.”²⁹ A detailed handbook, *Navigating the Scorecard*, was developed to assist Forest Service officials in determining whether they are meeting the Scorecard objectives. The handbook further elaborates on the importance of managing national forests to effectively promote carbon sequestration:

Our nation’s forests and grasslands play a critical role in storing carbon and helping to reduce the amount of greenhouse gases that are released into the atmosphere. We as an Agency continue to play a strong role in helping to mitigate greenhouse gas emissions by

²⁴ *Roadmap* at 19-20.

²⁵ *Id.* at 21.

²⁶ *Id.*

²⁷ *Id.* at 24.

²⁸ *Id.* at 21.

²⁹ *The Forest Service Climate Change Performance Scorecard* (2011).

conserving and restoring forest and grassland ecosystems . . . Being a “carbon literate” Agency means understanding how carbon storage varies across the landscape and how disturbances and management actions have affected carbon stocks in the past and may affect them in the future. This understanding is even more critical when climate change may exacerbate stressors, creating even more carbon losses in some ecosystems.³⁰

These Forest Service policies and guidance materials recognize the crucial role that the agency plays in safeguarding our national forests’ ability to sequester carbon on a long-term basis, and generally commits the Forest Service to addressing climate change by improving the sustainability of its operations.

³⁰ *Navigating the Climate Change Performance Scorecard*, 40 (2011).