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November 21, 2022

Ref: 8ORA-N

Ronald Hecker, District Ranger
Ashland Ranger District
Custer Gallatin National Forest
P.O. Box 168
Ashland, Montana 59003

Dear District Ranger Hecker:

The U.S. Environmental Protection Agency Region 8 has reviewed the U.S. Department of Agriculture Forest Service October 2022 Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the South Otter Landscape Restoration and Resiliency Project (South Otter) in the Ashland Ranger District of the Custer Gallatin National Forest (Forest). In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), we are providing comments. These comments convey important questions or concerns that we recommend addressing during the NEPA process.

The project area is approximately 318,800 acres in size (292,000 acres of National Forest System lands with the remaining acreage on privately owned lands) located approximately six miles south of Ashland, Montana. The entire project area is within the Ashland Geographic Area as defined by the 2022 Custer Gallatin National Land Management Plan (LMP). The goals of the project are to improve forest resiliency in ponderosa pine forested areas, provide for biological and structural diversity, reduce fuel loads and the risk of large-scale catastrophic wildfire, and improve or maintain big game wildlife habitat while refreshing structurally diverse forested areas and native grasslands. The Forest Service identified four treatment types that include non-commercial thinning, commercial thinning, prescribed burning, and reforestation. Approximately 168 miles of temporary roads are proposed along with 18 miles of previously closed routes that would be reconstructed to facilitate vegetation treatments. The Forest Service plans to close temporary roads within three years of project completion as well as decommission 25 miles of existing roads post-project implementation.

The EA tiers to the 2022 LMP that includes forestwide and geographic area desired conditions, goals, objectives, standards, and guidelines. The EA identifies management actions along with design features to address on-the-ground conditions that would be determined at the time of implementation and proposes actions to move the landscape towards the LMP's desired conditions. According to the EA, this approach would result in a more flexible, efficient, and effective process to achieve desired outcomes or conditions considering the potential of elapsed time between the decision and project implementation. The EA references various project timelines that can range from 10 to 30 years.

The EPA's review of the information provided in the EA identified one overarching concern. It appears the Forest Service is implementing a programmatic-like (vs. site-specific) approach and analysis that

would authorize multiple treatment types/actions separated temporally and spatially across 318,800 acres without requiring future, site-specific project NEPA analyses. We recognize the Forest Service's concern that existing conditions can change over time, which is further complicated by a dynamic climate, particularly when potentially looking ahead 30 years. The EA provides information such as maps that include resource areas across the South Otter project area and a general overview of locations for prescribed fire and timber stand improvement treatment opportunities. We support the Forest Service's proposed public outreach and coordination, including tribal consultation, for future project activities that are outlined in the Implementation Plan (Appendix C), although we note that this would be conducted outside of the NEPA process. For a more complete and accurate effects analysis, we recommend the Forest Service develop this project as a programmatic NEPA document that commits to tiered, site-specific NEPA analyses. Programmatic documents are useful in examining planning-level proposals when project-level details are not available. This approach would also provide opportunities for public involvement and comment on the impacts and benefits of individual treatment projects within the NEPA process. Given that the site-specific project-level information and analysis are incomplete, and the potential for water quality, air quality and ecological impacts, it is unclear how the EA and FONSI will ensure significant impacts will be avoided for this project over the life of the project implementation period.

We appreciate the opportunity to provide recommendations for this NEPA planning document and enclosed are our detailed comments for your consideration. These comments are intended to facilitate the decision-making process and we thank you for considering our input. If we may provide further explanation of our comments, please contact me at (303) 312-6155 or mccoy.melissa@epa.gov, or Melanie Wasco of my staff at (303) 312-6540 or wasco.melanie@epa.gov.

Sincerely,

MELISSA MCCOY

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Date: 2022.11.21 17:29:14 -07'00'

Melissa W. McCoy, Ph.D.
Manager, NEPA Branch
Office of the Regional Administrator

Enclosure

Enclosure – EPA Comments on the Custer Gallatin National Forest South Otter EA/FONSI

Site Specificity and Programmatic NEPA

According to the available information in the EA, the Forest appears to be using a condition-based management approach for the South Otter project. The EA lacks site-specific evaluations of existing conditions, analyses of impacts, and mitigation measures. Instead, the Forest proposes to use best management practices, project design features, marking steps, and an implementation plan to identify and manage each individual treatment and logging area. Given this information, we were unable to evaluate the likelihood that significant effects will be avoided for the EA and FONSI. NEPA requires a "hard look" at potential environmental impacts of a proposed action and public disclosure of those impacts prior to implementation. The impacts associated with the proposed action will vary based on site-specific conditions, including: vegetation community composition, soil-types, slopes, proximity to residences, proximity to aquatic resources, proximity to Class I and Class II airsheds, road construction needs, road maintenance status, volume and type of material burned, equipment used, volume of truck traffic, sensitive species habitat, etc., and those site-specific conditions are varied across the South Otter landscape.

Although conditions vary throughout the planning area, and so impacts would be expected to vary as well, the EA does not contain the actual locations of the timber sales and harvest units or where the temporary roads will be built and therefore it cannot disclose, analyze, or describe the localized impacts that can potentially occur. Individual treatment project design and impact assessment will occur post-FONSI, years or decades after the public comment period on this EA. This lack of site-specificity hampers informed decision-making and meaningful public participation on the individual treatment projects as part of the NEPA process, both important for understanding the potential for significant impacts and determining mechanisms for avoiding them.

As previously mentioned, the EA states that a landscape-based approach towards desired conditions would result in a more flexible, efficient, and effective process over the period of project implementation and references various project timelines. For example, page 22 of the EA states that the project's direct and indirect effects were analyzed over the planning period of 10 to 15 years, page 33 mentions a 20-year implementation period, and page 51 discusses proposed treatments over the next 20 to 30 years. We recommend the Forest Service clarify the project timeline so that it is consistent throughout the NEPA document. The Council on Environmental Quality (CEQ) NEPA regulations anticipated the need for a deft approach to an ever-changing landscape. Those regulations allow for a programmatic NEPA analysis to define the overall landscape-scale strategy and sideboards of the program, and for quicker and more efficient site-specific project analyses tiered to it. A programmatic analysis followed by tiered site-specific NEPA analyses would be consistent with CEQ's regulations and would be expected to speed the consideration and implementation of individual treatments while providing the "hard look" and required opportunity for public review and input under NEPA. Also, the long-term nature of the project (potentially up to 30 years) is a major cause of the concern that conditions, and therefore impacts of individual projects, could change with time, especially as the climate continues to change. Our recommendation to treat this EA as a programmatic document and carry out site-specific analyses in tiered NEPA documents would ensure that those impacts are evaluated, disclosed, and informed by public engagement.

Aquatic Resources

Floodplains, wetlands, riparian areas, and springs were resources eliminated from detailed discussion within the EA. The EA states that the wetland mapping layer developed by the Montana Natural Heritage Program (2014) was used for the analysis and indicated there are 160.4 acres of mapped wetlands and 1,428.9 acres of mapped riparian areas with the project area (EA, p. 8; South Otter: Water Quality and Aquatics Effects Analysis, p. 18). Executive Order (EO) 11990 and EO 11988 are cited in the EA, stating that the proposed action will be consistent with both EO requirements to preserve and enhance the natural and beneficial values of wetlands and avoid adverse impacts to wetlands, and to the extent possible, avoid any long and short-term adverse impacts to floodplains. Riparian management zone width requirements, project design features, and best management practices are also referenced as protective measures with more detail included in the Water Quality and Aquatics Effects Analysis. The EA concludes that effects to these resources would be non-existent or negligible, with one "rare" exception of a "minor, short-term, localized disturbance in the unlikely event" a temporary road would be routed through a wetland area (EA, p. 9). This is an example of a project-level design detail that is unknown at this time and could cause adverse impacts to aquatic resources.

Although we support protective measures, the EA relies heavily on design features, riparian management zone buffers, and best management practices (BMPs) to protect wetland and riparian areas across a varied landscape with multiple resource considerations and concerns. The magnitude of effects is uncertain on a localized scale specific to the individual treatment areas, treatment types, associated activities, road construction, time of year the activities occur, aquatic resources present and the condition of those resources, etc. Considering that the most recent National BMP Monitoring Report Summary (2015) indicated BMPs are often failing important aspects of compliance and effectiveness,[1] we recommend that the NEPA document discuss the planned monitoring of project design features and BMPs to prevent significant impacts to wetland and riparian resources (see also *Inspection and Enforcement of Design Features* further below in this letter). Although evaluating the effectiveness of BMPs at the landscape level can be useful, we recommend also doing so during site-specific NEPA review. We recommend the Forest prepare tiered site-specific NEPA documents for each treatment area prior to project implementation that provide inventories and maps of existing surface waters, including wetlands that are protected under EO 11990, and any available information on acreages and channel lengths, habitat types, values, conditions, and functions of these waters. This information, coupled with a site-specific impacts analysis, will promote meaningful public participation, and therefore, well-informed decision-making.

Fen Wetlands

Based upon available information there are potentially fen wetlands in the project area. The water quality specialist report states there are 160.4 acres of mapped wetlands in the project area, and the EA mentions fens in its riparian management zones and wetland design features (Water Quality and Aquatics Effects Analysis, Table 3), but fens are not included in the aquatic effects analysis nor is there a map showing their locations in reference to planned activities. Fens are groundwater-fed, peat-forming wetlands that often host rare plants and animals. Fens also provide important ecological and hydrological functions by improving water quality in headwater streams, sequestering carbon, and providing base flows to streams during late summer and/or drought periods. Fen wetlands rely on permanently saturated soil conditions

[1] *See* https://www.fs.usda.gov/biology/resources/pubs/watershed/FS-1070BMP_MonitoringSummaryReport2015_reduced.pdf

which slows the decomposition of organic material, and therefore fen communities are very sensitive to hydrologic alterations. With accumulation of peat occurring at rates between 4 and 16 inches per 1,000 years, these ecosystems are generally considered to be irreplaceable. The U.S. Fish and Wildlife Service (USFWS) designated fen wetlands a Resource Category 1, which is habitat that is considered unique and irreplaceable on a national basis or at the ecoregion level.[2] Further underlining the uniqueness and importance of fens in Montana, the U.S. Army Corps of Engineers revoked the use of Nationwide Permits in peatlands/fen-type wetlands to protect this unique wetland type.

When fen hydrology is disturbed and peat is exposed to aerobic conditions (e.g., due to a change or elimination of groundwater flow paths) soil microbes shift from anerobic respiration to aerobic respiration and begin to consume the organic matter within the soils. Oxidation of the organic soils can permanently alter groundwater flow paths and hydro-physical properties of the soil such that restoration relies on the development of new peat material above the impaired soils. Restoration of fens is therefore both an extremely lengthy and challenging process. The USFWS's Region 6 fen protection policy states, *"Therefore, onsite or in-kind replacement of peat wetlands is not thought to be possible. Furthermore, at present there are no known reliable methods to create a new fully functional fen or to restore a severely degraded fen."* Mitigation for fen impacts is not possible on regulatory time scales, therefore impacts to fens are irretrievable.

Because fens develop over thousands of years, have unique ecological values and are irreplaceable, the EPA considers any temporary or permanent impact to fens or to their groundwater source to be a "significant" impact under NEPA. We recommend the NEPA document include a description and the acreage of fens within the planning area and the potential direct and indirect impacts to fens and their groundwater supply that could result from the project. Additionally, and in accordance with the CWA Section 404 regulatory program, we strongly recommend that the alternatives analysis include requirements to avoid and minimize both direct and indirect impacts to these effectively irreplaceable resources. CWA Section 404 serves to direct impacts away from waters of the U.S., including wetlands and other aquatic sites, and no activity shall be permitted if there is a practicable alternative which would have less adverse impact on the aquatic ecosystem (40 CFR § 230.10). It is important to note that compliance with the 404(b)(1) guidelines may involve the use of different screening criteria for alternatives as compared to NEPA, particularly related to the regulatory definitions of practicability versus reasonable (40 CFR § 230.10(a)(4)). Incorporating 404 permitting considerations into the NEPA alternatives analysis can reduce both time and effort by avoiding the need to supplement the NEPA documents with additional information.

Water Quality

The Forest used the Water Erosion Prediction Project (WEPP) runoff and erosion model for sediment analysis either using various project scenarios entailing potential road configurations and hillslope characteristics, or in the case of prescribed burning, using all identified hillslopes within the currently proposed sale areas over a 20-year period. Depending on the project activity, sediment sources connected to streams and floodplains would be identified and additional sediment modeling may be employed if warranted at the project level. The EA concluded that the water quality assessment found that the primary pollutant of sediment expected to be produced by project activities would have no measurable effect on

[2] fws.gov/policy/501fw2.html

stream morphology, beneficial uses of surface water, aquatic organisms, or aquatic habitat. We recognize that the modeling conducted thus far may provide some indication of project-level impacts and recommend that details of the modeling runs, including model inputs and assumptions, be made available to the public, such as on the project website. We support conducting additional modeling if warranted when more project-specific information is known and recommend carrying out such modeling and evaluation of the effectiveness of BMPs through site-specific NEPA review.

According to the USFS' Watershed Classification Interactive Map Viewer, watershed conditions are classified as functioning at risk within the project area. It is not clear if modeling accounted for the impaired function of these watersheds, and the EA does not discuss the causes of these impaired functions. Depending on the causes of these conditions, the cumulative effects of project activities could be of greater consequence in watersheds with impaired function. This lack of specificity in the analysis makes it difficult to evaluate if significant impacts will be avoided and is an example of why site-specific NEPA analyses are valuable. It will be important to ensure this project will avoid causing or contributing to exceedance of water quality standards, which would be considered a "significant" impact under NEPA.

Air Quality

The EA does not include an implementation plan that identifies the timing and specific locations for the prescribed treatment types and actions. Without a plan for implementation of the project that describes the location and intensity of activity, it is not possible to ascertain the level of impacts that could occur to a given resource. We recommend that the NEPA document, or future site-specific NEPA documents, include an implementation plan for the prescribed treatments. Since prescribed fire is the primary treatment proposed in the EA, air quality is a key resource area for analysis in the NEPA documentation due to impacts that could result from the action. The current analysis presents emission factors rather than estimated emissions. We recommend updating the NEPA document to include annual emissions over the life of the project to achieve the stated treatment goals. Additionally, we recommend that the NEPA document estimate, or at a minimum acknowledge, the other pollutants associated with fire (e.g., NO_x, CO, SO_2, Pb, hazardous air pollutants, and greenhouse gases (GHG)). These recommendations will assist in framing the impact of the project, especially since the emission factors for Alternative B from prescribed burning plus Alternative B from wildfire post-treatment seem to indicate the potential for higher emissions with implementation of the project if wildfire is experienced on the landscape (see Air Quality Effects Analysis, pp. 7-8).

We note that there is an error in the National Ambient Air Quality Standards (NAAQS) table provided in the EA and air quality report. We recommend correcting the NAAQS table to be consistent with 40 CFR Part 50. EPA provides a table of the NAAQS available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Climate Change

The EA states that "The activities proposed are the same activities that have been carried out on the Custer Gallatin National Forest and other national forests for many years and for which the effects of those activities are well understood" (EA, p. 1). Although these treatment activities such as thinning and prescribed fire may have been implemented in years past, we are experiencing an ever-changing landscape due in part to the effects of climate change. Page 3 of the EA discusses a need in the project

area to restore ponderosa pine ecosystems towards a more heterogeneous forested landscape to be more resilient to stressors including climate change. Although this is identified as part of the project need, it does not appear the EA analysis considers climate change effects and landscape changes over the life of the project. One of the potential environmental impacts of project activities may stem from changes in water temperature associated with sedimentation and channel widening, which could be further exacerbated by climate change. Drought, intense precipitation events, fires, insects, and new invasive species could alter the landscape on the Forest. Changing climactic conditions could affect future snowpack conditions, hydrologic connectivity, sediment delivery, floodplain function, and risk to sensitive water resources including wetlands. Increasing temperatures and prolonged drought conditions can lead to increasing ozone levels and carbon dioxide concentrations from tree mortality, affecting air quality.

CEQ has issued guidance regarding the consideration of GHG emissions and climate change in NEPA analysis, *Final Guidance for Federal Departments and Agencies on the Consideration of Greenhouse Gas (GHG) Emissions and the Effects of Climate Change in NEPA Reviews* (August 1, 2016). We recommend utilizing this and more recent resources on the impacts of climate change, including the Fourth National Climate Assessment,[3] EPA's Climate Change Indicators,[4] and the Fifth Assessment Report of the Intergovernmental Panel on Climate Change,[5] to analyze and discuss the direct, indirect, and cumulative climate-related impacts associated with the proposed action, including GHG emissions and the ways in which climate change may exacerbate environmental effects and health impacts associated with the proposed action. This guidance provides a reasonable approach for analysis of GHG emissions, opportunities to reduce those emissions, analysis of climate impacts on the planning area, and climate change adaptation strategies. The NEPA.gov website[6] includes a non-exhaustive list of GHG accounting tools available to agencies.

Additionally, the EA tiered to the Custer Gallatin Land Management Plan (LMP), which includes a qualitative carbon storage and sequestration (CSS) analysis that concluded the LMP would not significantly, adversely, or permanently affect carbon storage. The EA states that because this analysis documents that the project would have a negligible and inconsequential effect on carbon cycling, it has been dismissed from further analysis. In an open letter to Congress, over 100 climate and forest scientists warned "logging in U.S. forests emits 723 million tons of uncounted CO_2 into our atmosphere each year—more than 10 times the amount emitted by wildfires and tree mortality from insects combined. Greenhouse gas emissions from logging in U.S. forests are now comparable to the annual CO_2 emissions from U.S. coal burning, and annual emissions from the building sector. Logging conducted as commercial "thinning," under the rubric of fire management, emits about three times more CO_2 than wildfire alone."[7] We recommend the Forest conduct a quantitative project-level carbon storage and sequestration analysis for the South Otter project for inclusion in the NEPA documentation. This analysis should consider the direct and indirect GHG emissions associated with the proposed action, including logging truck trips and downstream GHG emissions associated with transportation and milling of timber.

[3] https://nca2018.globalchange.gov/
[4] https://www.epa.gov/climate-indicators
[5] https://archive.ipcc.ch/report/ar5/syr/
[6] https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html
[7] *See* https://johnmuirproject.org/wp-content/uploads/2021/11/ScientistLetterOpposingLoggingProvisionsInBBB_BIF4Nov21.pdf

The EPA recommends the NEPA document include a discussion of reasonably foreseeable climate change impacts in the planning area—such as changes in precipitation patterns, hydrology, vegetation distribution in respective watersheds, and temperature. This could help inform the development of measures to improve the resilience of the Forest's resources. Climate considerations in the NEPA document should include how the shifting baseline of climate may alter the resilience of the forest as affected by each of the future treatments, how it may influence the significance of impacts in various resource areas over time, and its impact on the effectiveness of design features and BMPs. We recommend utilizing this evaluation to develop adaptation strategies including design features, monitoring, and mitigation to protect Forest resources.

Consistent with Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad* (January 27, 2021), we recommend the Forest include management actions to provide for diverse, healthy ecosystems that are resilient to climate stressors; require effective mitigation and encourage voluntary mitigation to offset the adverse impacts of projects or actions; reduce greenhouse gas emissions from authorized activities to the lowest practical levels; identify and protect areas of potential climate refugia; reduce barriers to plant migration; use pollinator-friendly plant species in restoration and revegetation projects; and consider project design (e.g., road construction) to mitigate potential structural impacts associated with extreme weather events. We also recommend discussing actions to improve the Forest's ability to adapt to changing environmental conditions, such as selecting resilient native species for replanting. This should anticipate the effects rising temperatures may have on soil moisture levels, seeds/seedlings growth, the vulnerability of specific species under projected climate conditions in the short and longer term, and any anticipated shift of forest species to more suitable range elevations.

Inspection and Enforcement of Design Features

The EA provides some information in the Implementation Plan regarding proposed fieldwork that occurs outside of the NEPA process to determine such things as location-specific conditions and refinements to activity design elements. The Implementation Plan discusses a step to review recent monitoring results, such as from the LMP monitoring and the Forest's Implementation and Effectiveness monitoring, that could result in project adaptations. Project monitoring is also to occur during and following project implementation; however, the monitoring frequency for the majority of resource categories is not defined, nor the timing of corrective actions. If the effects described in this EA are dependent upon adhering to the design features and BMPs, there is a potential for significant impacts if these measures aren't implemented or implemented properly. This is apparent from the most recent National BMP Monitoring Report Summary (2015), in which only about one third of the road BMPs were found to be properly implemented.[8] The 2015 Report also rated the relative effectiveness of each BMP, and approximately half of the road BMPs were rated marginally effective or not effective. Therefore, to ensure a FONSI is supported, we recommend the Implementation Plan for the proposal include additional information such as monitoring frequencies and timeframes for corrective action. As part of this information, we recommend including what entity will be executing the mitigation, inspection schedules, documentation procedures, and accountability processes. We also recommend discussing the process that will be applied if monitoring budgets fall short of the need for this project. Typically, lack of monitoring would automatically trigger a more conservative treatment area and/or set of mitigation measures. With these considerations in mind, we recommend the NEPA document include the following information for each

[8] *See* https://www.fs.usda.gov/biology/resources/pubs/watershed/FS-1070BMP_MonitoringSummaryReport2015_reduced.pdf

mitigation measure:

- A description of the required mitigation and its expected effectiveness.
- Designation of the entity responsible for implementing the mitigation.
- A detailed plan for monitoring of the mitigation measures to ensure timely and correct implementation as well as timely maintenance.
- Identification of funding sources and the process to be applied if budgets fall short.

The Implementation Plan states that adaptive management allows new science and learning to inform the adjustment of treatments during implementation within the scope of the completed NEPA analysis, and if more substantial treatment changes are required to attain predicted outcomes toward desired conditions, the treatments may need to be altered under a subsequent NEPA analysis. If adaptive management practices will be utilized, we recommend the Implementation Plan include the following information:

- Specific environmental thresholds which would trigger action.
- Management alternatives and mitigation measures that would be implemented should a threshold be exceeded, and timeframes for corrective action.
- An evaluation procedure for determining the effectiveness of the implemented mitigation and further measures to take in cases of ineffectiveness.
- A description of the mechanisms for the public disclosure of monitoring data, its analysis, and related management decisions.