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February 11, 2021

Ref: 8ORA-N

Ronald E. Hecker, District Ranger
Custer Gallatin National Forest
Ashland Ranger District
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 January 2021 public scoping notice to prepare an Environmental Assessment (EA) for the South Otter Landscape Restoration and Resiliency Project in the Custer Gallatin National Forest, Ashland Ranger District. In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), we are providing scoping comments. These comments convey important questions or concerns that we recommend be addressed during the NEPA process.

The project is intended to improve forest resiliency in ponderosa pine forested areas, provide for biological and structural diversity, reduce the risk of largescale catastrophic wildfire, and reduce fuel loads in existing forested stands. The proposed project may include: 1) treatment of up to 293,000 acres of forested and non-forested areas with prescribed fire; 2) approximately 22,660 acres of commercial thinning with regeneration patches and seed trees; 3) 4,655 acres of improvement cuts; and 4) approximately 296 miles of motorized system trails to be added to the National Forest System roads inventory; no permanent roads would be constructed. The project implementation period could span over 10-20 years with an expected six to twelve specific projects treating an estimated average of 8,000 to 12,000 acres to be completed annually.

The Forest Service indicates that this project proposal falls within 36 Code of Federal Regulations (CFR) 218, subpart B, Provisions Specific to Project-Level Proposals Not Authorized Under Healthy Forests Restoration Act and would be analyzed under an Environmental Analysis, which we interpret to mean an Environmental Assessment (EA). Should the Responsible Official determine that there may be significant environmental effects, the scoping notice states that an Environmental Impact Statement (EIS) would be prepared.

Key Topics the EPA Recommends the USFS Address through the NEPA Process

Given the considerable size and duration of the project, as well as the miles of motorized system trails authorized for administrative use for access during project activities that will be added to the National Forest System roads inventory and open to all vehicles, it will be important to provide a robust impact analysis in order to support a Finding of No Significant Impact (FONSI). Our comments and recommendations are intended to assist in the NEPA process as the Forest conducts the impacts analysis

and develops project design features, best management practices (BMPs) and monitoring plans to determine whether a FONSI or EIS would be prepared as referenced in the scoping notice. There are several important topics associated with this type of project that we recommend including in the scope of the NEPA document, including:

- Area management objectives for high severity wildfire risk, public and infrastructure safety, and forest regeneration and restoration;
- Range of alternatives for reaching the management objectives, and a discussion of the science supporting the ability of each alternative or project action to meet the objective;
- Resource objectives and site-specific baseline conditions, including pest and disease status and trends, vegetation cover and condition, soil conditions, watershed conditions, water quality, sediment loads, wetland and riparian health, wildlife and fish population and habitat health and trends, and air quality;
- Site-specific impacts on these baseline resource conditions that would likely result from project activities associated with each alternative and a comparative assessment of how each alternative will affect attainment of resource objectives in the Forest Plan;
- Site-specific ecological history, including bark beetle, disease, and wildfire histories;
- Management history, including vegetative treatments, invasive species control, grazing and prescribed burns;
- Monitoring plan that will be used to assess how well the selected alternative addresses concerns associated with each resource category determined to be significant through scoping.

Based on the preliminary information available, our initial areas of interest for the South Otter Landscape Restoration and Resiliency Project NEPA document include: (1) aquatic resources; (2) air quality; and (3) adaptive management and monitoring. Our detailed comments are enclosed. We recommend the NEPA document disclose the impacts associated with each alternative on environmental resources in a manner that will allow for the decision-maker to effectively plan to reduce potential impacts to such resources to the greatest extent possible.

We appreciate the opportunity to provide comments at this early stage of the NEPA process. These comments are intended to facilitate the decision-making process; thank you for considering our input. If we may provide further explanation of our comments, please contact me at (303) 312-6540 or wasco.melanie@epa.gov, or Phil Strobel, the NEPA Branch Chief, can be reached at (303) 312-6704.

Sincerely,

Melanie Wasco
NEPA Branch
Office of the Regional Administrator

Enclosure

EPA'S SCOPING COMMENTS
SOUTH OTTER LANDSCAPE RESTORATION AND RESILIENCY PROJECT

Aquatic Resources

The EPA considers the protection of aquatic resources to be among the most important issues to be addressed in any NEPA analysis for vegetation management activities. Most treatments contemplated under the proposed action have the potential to adversely impact aquatic resources, including surface waters, wetlands, streams, riparian areas, and their supporting hydrology. It is recommended that the NEPA document includes the following water resource information:

Existing Conditions. Existing resource conditions provide the basis for an effective analysis of potential impacts. Therefore, we recommend the NEPA document includes the following baseline water resource information (see additional information in sections below):

- A map and summary of project area waters, including streams, tributaries, lakes, springs and wetlands. It would be helpful if the summary identified high resource value waterbodies and their designated beneficial uses (e.g., agriculture, fisheries, drinking water, recreation);
- Watershed conditions, including vegetation cover and composition, soil conditions, and areas not meeting desired future conditions;
- Surface water information, including available water quality data in relation to current standards, stream functional assessments, stream channel and stream bank stability conditions, sediment loads and aquatic life. There are various approaches to gather such data that may include using the Bank and Nonpoint Source Consequences of Sediment (BANCS) Method to assess bank stability conditions, nearby USGS gauges or performance routine grab samples (e.g. ISCO samplers) to determine baseline sediment loads at relevant locations, as well as EPA's Rapid Bioassessment Protocol;
- Types, functions and acreage of wetlands, riparian areas, and springs;
- A map and list of Clean Water Act (CWA) impaired or threatened waterbody segments within or downstream of the project area, including the designated uses of the waterbodies and the specific pollutants of concern. The Montana Department of Environmental Quality (DEQ) can identify or validate any CWA Section 303(d) listed waterbodies potentially affected by the project; and
- Generalized maps depicting the location of sensitive groundwater resources such as sole source aquifers (available from the EPA Sole Source Aquifer website at https://www.epa.gov/dwssa), municipal watersheds, source water protection zones (available from MDEQ, see comment below), sensitive aquifers, superficial aquifers, and recharge areas.

Water Quality Data. Water quality data for the streams and lakes of the analysis area provide important information to guide management for this project, as well as a baseline for future monitoring of impacts and evaluation of potential influence on downstream water quality. We recommend the NEPA document provide a summary of available information and monitoring data on water quality for the project area, including parameters such as total nitrogen, total phosphorus, total suspended solids, temperature and those of interest for impaired waterbodies downstream of the project area. Identification of any significant gaps in data may be helpful in developing a project monitoring plan.

Public Drinking Water Supply Sources. The proposed treatments and activities could potentially impact sources of public drinking water. For example, road construction is a major source of sediment in forests. Sediment can adversely impact water quality by increasing turbidity, plugging filters and other treatment systems, and increase cost of water treatment. Suspended sediment can also carry chemical pollutants, such as phosphates, pesticides and hydrocarbons into surface water and groundwater. States have conducted source water assessments for groundwater and surface water sources of public drinking water supplies. The EPA recommends that the NEPA document include a map, appropriate for public dissemination, showing the generalized locations of all source water assessment and protection areas associated with public drinking water supplies. Preliminary information about public drinking water sources in specific states can be obtained at: https://www.epa.gov/enviro/sdwis-search. Maps may be available from MDEQ, or the EPA upon request. Please note that more specific maps, available from the respective states, should be utilized by the USFS when locating project activities. Please contact the MDEQ Source Water Protection Program Manager, Eric Sivers, at (406) 444-4806 or Esivers@mt.gov, for more information. We also recommend that the NEPA document include an assessment of potential project impacts or benefits, design criteria and mitigation options for protecting these high value drinking water resources from potential project impacts.

Potential Impacts to Wetlands. We recommend that the NEPA document include a description of the impacts that may result from project activities to wetlands and associated springs. Such impacts may include functional conversion of wetlands (e.g., forested to shrub-scrub); changes to supporting wetland hydrology (e.g., snow melt patterns, sheet flow, and groundwater hydrology); and wetland disturbance. If impacts are anticipated, we also recommend that the NEPA document describe how the USFS intends "to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands" as described in Executive Order (EO) 11990, Protection of Wetlands, including how wetlands will be identified and avoided, and how unavoidable impacts would be minimized and mitigated.

Discharge of dredged or fill material into waters of the United States, including wetlands, is regulated under CWA Section 404. This permit program is administered jointly by the U.S. Army Corps of Engineers (Corps) and the EPA. Please consult with the Corps to determine the applicability of CWA Section 404 permit requirements to wetlands that would be impacted by the project activities and to ensure appropriate minimization measures are applied to avoid adverse impacts to wetlands.

We recommend avoiding impacts to aquatic resources that are considered "difficult to replace" under the EPA's and the Corps' Final Rule for Mitigation for Losses of Aquatic Resources [33 CFR Parts 325 and 332; 40 CFR Part 230 (73 FR 19594, April 10, 2008)]. The rule emphasizes the need to avoid and minimize impacts to these "difficult-to-replace" resources and requires that any compensation be provided by in-kind preservation, rehabilitation, or enhancement to the extent practicable. We recommend restoration plans require that soil profiles and hydrology are re-established as much as possible to the original state. In addition, the EPA recommends the USFS consider the mitigation rule to protect aquatic resources even when a CWA Section 404 permit is not required.

To ensure that wetlands are protected, it may be necessary to consider exclusion of temporary roads and skid trail construction and vegetation treatments in areas where wetlands or riparian areas would be adversely impacted. The EPA recommends the USFS reduce impacts through the use of BMPs and adaptive management strategies to protect sensitive soils, wetlands, riparian areas, meadows, stream

crossings, and critical habitat. Region 8 has reviewed technical and policy literature and existing state regulatory policies and requirements developed for water resource setbacks. To avoid the potential for project activities to impact aquatic resources (including the potential to contribute to Water Quality Standards violations, see below), we recommend providing a buffer for attenuating sediment runoff. We recommend buffer widths of at least 100 feet for steep slopes (5%-15%) and buffer width additions with each 1% increase of slope (e.g., 10 feet for each 1% of slope greater than 15%) in order to reduce sedimentation and maximize wildlife habitat and diversity. These setback distances are likely to be protective of water resources in most circumstances. The EPA recognizes that the USFS may adjust setback distances during project implementation to reflect site-specific conditions, including the use of larger buffers to protect sensitive aquatic resources.

Fen Wetlands. Fen wetlands provide important hydrological and water quality functions by improving water quality in headwater streams and may support rare assemblages of aquatic invertebrates. They also provide critical ecological functions such as providing base flows to streams during late summer and/or drought periods. The EPA recognizes fen-type wetlands as ecologically critical in that they provide local and regional biodiversity. The U.S. Fish and Wildlife Service (USFWS) designated fen wetlands a Resource Category 1 with respect to the USFWS Peatland Mitigation Policy. The mitigation goal of USFWS Resource Category 1 is no loss of habitat values and the Peatland Mitigation Policy places the protection and avoidance of fen wetlands as a priority during CWA Section 404 reviews. Further underlining the uniqueness and importance of fen wetlands in Montana, the U.S Army Corps of Engineers revoked the use of the majority of Nationwide Permits in peatlands/fen-type wetlands to protect this unique wetland type. In the EPA's view, these wetland ecosystems are, for all practical purposes, non-renewable and irreplaceable.

Based on available information, there are potentially fen wetlands in the project area, which may indicate the presence of high-functioning wetlands. Fen communities are very sensitive to hydrologic alterations and restoration is extremely challenging once function has been impaired. Due to the slow rate of accumulation of peat in fens, these ecosystems are generally considered to be irreplaceable. We recommend that the NEPA document include a description and the spatial extent of fens within the project area as well as a description of potential impacts that could occur from proposed project activities. Additionally, in accordance with the goal of no overall net loss of the nation's remaining wetland base for the Section 404 regulatory program, we strongly recommend that project design criteria include requirements to avoid both direct and indirect impacts to these highly valued resources.

Potential Impacts to Impaired Waterbodies. Based upon the most recent EPA-approved CWA Section 303(d) list for Montana (2018) there are two 303(d) listed rivers located downstream from the proposed project area. These are important to note as the proposed activities conducted upstream from the watershed may further impact these systems. We recommend the USFS: (a) analyze potential impacts to impaired waterbodies within and/or downstream of the project area, and (b) coordinate with MDEQ if there are identified potential impacts to impaired waterbodies (in order to avoid causing or contributing to the exceedance of water quality standards).

Where a TMDL exists for impaired waters, pollutant loads should comply with the TMDL allocations for point and nonpoint sources. Where new loads or changes in the relationships between point and nonpoint source loads are created, we recommend that the USFS work with MDEQ to revise TMDL documents and develop new allocation scenarios that ensure attainment of water quality standards.

Where TMDL analyses for impaired waterbodies within, or downstream of, the project area still need to be developed, we recommend that proposed activities in the drainages of CWA impaired or threatened waterbodies be either carefully managed to prevent any worsening of the impairment or avoided altogether where such impacts cannot be prevented. For projects that would take place in watersheds with streams not meeting desired future conditions, we recommend including a provision that would require actions to improve riparian, stream and water quality conditions such as road and trail relocations, culvert improvements, road maintenance activity, or new BMPs to reduce sediment loads.

Soil Disturbance and Vegetation Changes. The potential environmental impacts of project activities may stem from vegetation loss, accelerated soil loss, bank erosion, soil compaction, increased surface storm flow, reduced stream base flows from decreased infiltration to groundwater, and changes in water temperature associated with shade loss or channel widening. Based on the USFS's experience with the proposed types of project activities in the analysis area, we recommend the NEPA document include an assessment of each alternative's potential impacts and benefits to aquatic resources that may stem from the drivers listed above, including impacts to water quality, stream and wetland processes, and fish populations and habitat.

Roads and Skid Trails. Although no new permanent roads would be constructed for this project, some existing roads and motorized trails would be maintained or reconstructed for access during project activities. Approximately 296 miles of motorized system trails open to all vehicles would be added as coincident administrative routes under this project. Based on available information, there are potential sediment concerns in the project area. We recommend the NEPA document include a map showing project area waters and identifying the existing road networks as well as a discussion of foreseeable construction, reconstruction, maintenance, storage and decommissioning activities by alternative. We recommend that the NEPA document summarize similar past and ongoing activities, including watershed improvement projects such as culvert upgrades.

To reduce adverse impacts to watersheds, the EPA recommends minimizing road construction and density, as well as locating roads and skid trails to limit impacts to surface waters. We recommend that the NEPA document discuss design criteria and BMPs that will be followed to prevent negative effects to soil and water resources. For your consideration, we provide the EPA's general recommendations to protect aquatic resources from road and skid trail impacts, as follows:

- Locate roads and skid trails away from streams and riparian areas;
- Locate roads and skid trails away from steep slopes, landslide prone areas, and erosive soils;
- Minimize the number of stream crossings;
- Construct unavoidable stream crossings during periods of low flow to avoid fish spawning and incubation periods, and/or dewater relevant stream segments prior to construction;
- Provide adequate drainage and erosion control to avoid routing sediment to streams;
- Use bottomless or textured bottom culverts if possible;
- Design features to allow for natural drainage patterns;
- Consider decommissioning or rehabilitation at an equal or greater rate than new construction to prevent increases in overall watershed impacts; and
- Develop a monitoring plan and schedule to assess the effectiveness of road decommissioning after project completion.

Beetle Epidemic. The presence and handling of beetle-killed trees has the potential to impact public water supplies if it leads to organic loading of area waterbodies that are sources of drinking water. Organic matter interacts with disinfectants used in the drinking water treatment process to form disinfection byproducts, which are a human health concern. Organic loading may also decrease oxygen levels leading to the release of metals such as arsenic, manganese, and iron from sediments. We recommend the NEPA document assess the potential for organic loading impacts to drinking water supplies associated with municipal watersheds.

Project Design Criteria, Mitigation and Monitoring. The project proposes various vegetative treatments to attain specific desired conditions over the course of 10-20-years. These project features emphasize the need for specific project design criteria, mitigation and monitoring measures to reduce the potential for water resource impacts. The inspection, maintenance and adjustment of BMPs will help protect groundwater and surface water resources. Mitigation measures to consider include the following:

- Use existing landing locations and roads when reasonable;
- Minimize landing size and design for proper drainage;
- Require re-vegetation of all disturbed areas with native seed mix within the same growing season of disturbance, and monitor re-vegetation efforts for five years to ensure success;
- Require special protections, such as buffer zones, for high quality riparian and wetland resources including springs and fens;
- Specify steps to protect any range improvements from vegetation treatment activities;
- Monitor resource conditions where treatments are proposed adjacent to high value water resources; and
- Monitor the breakdown of hydrophobic soils following prescribed burns.

Air Quality

Examples of potential air emissions associated with the proposed project activities include air pollutants from prescribed burning, diesel emissions from heavy equipment, emissions from idling equipment, emissions from vehicles traveling on paved and unpaved roads and re-entrained dust. The EPA recommends that the NEPA document evaluate whether project activities could affect air quality and what measures may be needed to mitigate any significant impacts. It appears that the project area may be near towns, including the Lame Deer PM_{10} nonattainment area, the Northern Cheyenne Indian Reservation a CAA Class I area, and Class II areas with sensitive resources. In addition to the health-based National Ambient Air Quality Standards (NAAQS) that protect ambient air quality, the CAA provides Class I Areas special protection for air quality and air quality related values (AQRVs), including visibility. The EPA's air quality assessment recommendations for the NEPA document are listed below.

Existing Conditions. We recommend that the USFS characterize existing air quality conditions to set the context for evaluating project impacts, including identification of:

- Sensitive receptors in the vicinity (such as population centers, nonattainment areas, Class I areas and Class II areas with sensitive resources);
- Airshed classifications and monitored baseline conditions (design values) for each criteria

pollutant and each relevant AQRV at nearby population centers and available monitoring locations; and
- Any regional concerns in the area (e.g., PM_{10} issues in the area, seasonal wildfire smoke).

Such data are available from EPA's Air Quality System (AQS), EPA's Air Data web-interface (https://www.epa.gov/outdoor-air-quality-data), the MDEQ, IDEQ, and/or through the Interagency Monitoring of Protected Visual Environments (IMPROVE) monitoring network for AQRVs (http://vista.cira.colostate.edu/Improve/). Decision-makers will need to understand baseline conditions in an effort to ensure project activities, when combined with air quality impacts from non-project sources, do not adversely impact the NAAQS or AQRVs such as visibility.

Impacts of Prescribed Fire. The proposed project includes the use of prescribed burning. While we recognize that prescribed fire is a valuable tool that can have ecological benefits over other treatment techniques, these burn activities have the potential to cause periodic degradation of air quality and visibility. We realize the individual burn plans prepared for this project would quantify expected emissions. We recommend that the NEPA document provide an estimate of the annual acreage and total acreage proposed for prescribed fire management, as well as a qualitative discussion of the types of pollutants expected to be generated. We also recommend exploring all opportunities to reduce the total tonnage of forest material that requires prescribed burning. This may reduce air impacts as well as reduce the level of greenhouse gas (GHG) released to the atmosphere; however, we understand that there are circumstances when prescribed burning is environmentally beneficial for other resource areas that must be considered.

We support prescribed fire design criteria and monitoring requirements including: (1) incorporation of the Interagency Prescribed Fire Planning and Implementation Procedures Guide (July 2017) into the site-specific burn plans designed for each prescribed burn conducted under this project, and (2) public notification of pending burns. We also recommend that the USFS consult with the MDEQ for any coordination necessary related to burns, modeling, mitigation, or other measures required under State regulations or the State Implementation Plan to address CAA requirements.

It is unclear whether pile burning will be proposed as a secondary fuels treatment. We recommend the NEPA document describe any potential short-term air quality impacts associated with this treatment type if it will be utilized. For an example estimation of $PM_{2.5}$ emissions associated with pile burns, please refer to the Kootenai National Forest Starry Goat Project Draft EIS (see the Air Quality section, p. 113), or to the Black Hills National Forest's Calumet Project Draft EIS (see the Fire and Fuels Section, p. 159). We understand from discussions with other Forests that pile burning can be covered by a forest-wide programmatic Burn Plan. We also recommend that the NEPA document include a discussion of the Burn Plan process, as well as: (1) whether the Custer Gallatin National Forest develops such plans for pile burns, and (2) if pile burns would be subject to the same process that is utilized for prescribed fire treatments as described in the Interagency Prescribed Fire Planning and Implementation Procedures Guide (July 2017). In some circumstances it may be appropriate to utilize equipment such as air curtain destructors (ACDs) to reduce smoke generation and promote full combustion of slash material.

General Conformity Requirements. The project area is proximal to the Lame Deer PM_{10} nonattainment area. Under the CAA General Conformity requirements, federal agencies must work with state, tribal

and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality attainment or maintenance plans that have been approved by the EPA into the applicable state or tribal implementation plan (or federal implementation plan where applicable). Section 176(c)(4) of the CAA established the General Conformity provisions, which play an important role in helping States and Tribes improve air quality in those areas that do not meet the NAAQS or to maintain the NAAQS. In response to section 176(c)(4) of the CAA, the EPA promulgated General Conformity requirements in 40 CFR Part 93, Subpart B - "Determining Conformity of General Federal Actions to State or Federal Implementation Plans," which includes sections 40 CFR 93.150 through 93.165. We also note that Montana's general conformity rules were approved by EPA in 2002; Administrative Rules of Montana 17.8.1401 and 17.8.1402; 67 Federal Register 62392 (October 7, 2002). However, subsequent regulatory updates to 40 CFR Part 93, Subpart B have not as of this date been accounted for in Montana's incorporation by reference (IBR) of Subpart B. Therefore, it is necessary for USFS to comply with the current requirements of 40 CFR Part 93, Subpart B (see https://www.epa.gov/general-conformity).

We encourage the USFS to evaluate potential General Conformity requirements by determining whether any emission generating activities resulting from the project will occur within the above nonattainment area based on the legal descriptions of the areas. Please refer to 40 CFR 81.327 that identifies Lame Deer within Rosebud County. The MDEQ's boundary maps also are available to help inform your analysis. See the MDEQ website: http://deq.mt.gov/Air/airquality/Planning/AirNonattainment. If traffic will access and support the project area by passing through the Lame Deer nonattainment area, then it may be necessary to assess those emissions in the context of General Conformity for PM_{10} and its precursors. Based on your findings, we also recommend that the NEPA document provide either a negative declaration regarding General Conformity or if General Conformity is applicable, a discussion regarding how General Conformity will be addressed.

If the USFS determines that the provisions of General Conformity apply to any part of the project activities and emissions, please be advised that additional steps will be necessary before a USFS-approved or authorized "federal action" can be conducted in those areas under the EA. Specifically, the CAA and Montana's General Conformity regulation requires that the USFS conduct a General Conformity applicability analysis, and conformity determination as appropriate, for any project emissions from federal actions that will occur within the nonattainment area. We encourage the USFS to review Montana's General Conformity regulation, and EPA guidance documents, and training materials found at: https://www.epa.gov/air-quality-implementation-plans/approved-air-quality-implementation-plans-region-8 and https://www.epa.gov/general-conformity. The EPA has assisted other federal agencies with understanding the General Conformity requirements and exploring options to address General Conformity as appropriate. We are available to provide additional discussions with you to help in your understanding of the applicable federal and state General Conformity requirements.

Other Considerations

Adaptive Management Strategy and Monitoring Plan. It is uncertain if this proposed will utilize an adaptive management strategy. In its January 14, 2011 guidance on the appropriate use of mitigation in environmental assessments and environmental impact statements under NEPA, the Council of Environmental Quality noted that adaptive management can help an agency take corrective action if mitigation commitments originally made in NEPA and decision documents fail to achieve projected

environmental outcomes and there is remaining federal action. To ensure the USFS achieves desired environmental outcomes while also protecting other resources, the EPA recommends the NEPA document identify the features of an effective adaptive management plan for this project, including the following:

- Decision tree with clear objectives to guide future decisions;
- Specific decision thresholds with identified indicators for each impacted resource;
- Targets that specify a desired future condition;
- Trends specifying a desired change relative to the current condition;
- Monitoring plan with protocols to assess whether thresholds are being met; and
- Firm commitment to use monitoring results to modify management actions as necessary.

The EPA recommends the NEPA document describe how and with what resources the USFS will conduct the essential monitoring necessary under an adaptive management plan to ensure the project is meeting objectives and mitigating impacts as predicted. It may be reasonable to consider provisions for reducing treatment acreage or omitting specific locations if unanticipated resource impacts occur or monitoring does not indicate progress toward desired conditions.

We recommend the monitoring plan be included in the NEPA document to allow opportunity for public input. We further recommend the monitoring plan include details regarding the timing of monitoring for water quality. Timely monitoring is particularly important given the high resource value and broad scale of the project area. In addition, we recommend discussion of the general timing of adaptive management implementation and effectiveness monitoring. A firm commitment to effectiveness monitoring is desirable given that adaptive management cannot be employed without the full implementation of its associated monitoring schedule. Given the extended timeframe for this project, the inclusion of requirements for an interdisciplinary team to have scheduled reviews of the adaptive management feedback loop would provide the opportunity for timely assessment of whether thresholds are being met and any need for specific actions if thresholds are not being met.

We also support a strong adaptive management and monitoring program that facilitates ongoing treatment effectiveness, as well as quick reaction to newly discovered insect and/or disease concerns, through the use of a decision tree based on affected acreage, location, site characteristics, and consultation with specialists. We recommend that the NEPA document specify both positive and negative potential impacts of each adaptive management technique proposed, as well as the general timing of implementation (with shorter timeframes considered if undesirable results are encountered).

We recommend development of an expansive list of adaptive management options to address situations where monitoring does not indicate progress toward desired conditions. For example, it may be necessary to require larger buffers than usual around wetlands, streams and lakes during treatments. In addition, if chemical application will be used, plans may need to consider rainfall forecasts, topography near surface water, soil infiltration capacity, amount of ground cover and chemical persistence and mobility.

General Mitigation Information. We recommend the proposed action include identification of appropriate mitigation where impacts are expected. Where impacts are not avoidable, we recommend

that an explanation be provided as to why these impacts are necessary to make the project feasible. With these considerations in mind, we recommend the NEPA document include the following information:

- Designation of the entity responsible for implementing the mitigation;
- A defined monitoring plan;
- Specific management decision points based upon protecting the minimum desired environmental conditions (thresholds) in the project area, which would trigger action;
- Management alternatives and mitigation measures that would be implemented should a threshold be exceeded;
- Identification of funding sources;
- Mechanisms for public disclosure of the analysis and management decisions; and
- Specific temporal milestones to meet rehabilitation standards.

Special Status Species. Since the planning area may contain numerous special status species, including Endangered Species Act-listed threatened species, early coordination with the USFWS on this NEPA document will be very important. Documentation of USFWS's consultation and recommendations for design criteria, mitigation, monitoring, and adaptive management strategies will be a valuable addition to the NEPA document.

Environmental Justice. It appears that the project area may be proximal to minority or low-income populations. Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," applies to federal agencies that conduct activities that substantially affect human health or the environment. Consistent with this order, if applicable the EPA recommends the NEPA analysis for the project include the following:

- Identification of any minority, low-income and tribal communities within the geographic scope of the impact area, including the sources of data and a description of the methodology and criteria utilized. The EPA recommends comparing census block group percentages (if available, or, at a minimum, census tract data) for below poverty and minority populations with the state average, and conducting the following steps outlined below if a block group percentage is greater than the state average. The EPA does not recommend use of higher thresholds.

- A detailed assessment of environmental justice and other socioeconomic concerns for any environmental justice communities, to the extent information is available, including:
    - A discussion of the potential environmental impacts of management area decisions on the health of these communities, including air quality and water quality impacts.
    - An evaluation of the socio-economic impacts to the local communities, including the potential for any additional burden placed on local communities' abilities to provide necessary public services and amenities.
    - A determination of whether there may be disproportionately high and adverse impacts on the identified communities.

- Mitigation measures to reduce any disproportionate adverse impacts. We recommend involving the affected communities in developing the measures. The EPA recognizes the need for early involvement of the local communities and supports the meaningful participation of community representatives in the NEPA process.