



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

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Ref: 8ORA-N

Mike Richardson,
Acting Forest Supervisor
Ashley National Forest
Attn: Forest Plan Revision
355 N. Vernal Avenue
Vernal, UT 84078

Dear Acting Supervisor Richardson:

The U.S. Environmental Protection Agency Region 8 has reviewed the U.S. Department of Agriculture Forest Service (USFS) September 10, 2019 notice of intent (NOI) for the EIS that is being prepared for the proposed revision of the Forest Plan for the Ashley National Forest (ANF). The following comments were prepared in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and in anticipation of our review of the EIS under Section 309 of the Clean Air Act.

The USFS intends to prepare the ANF Forest Plan consistent with the 2012 USFS Planning Rule and will replace the existing 1986 ANF Forest Plan. The proposed action is programmatic in nature and will guide forest management decisions for the next 15-20 years by determining forest-wide and geographic area desired conditions, goals, objectives, standards, and guidelines, as well as suitability of lands for specific multiple uses. A monitoring program also will be proposed.

During the ANF's assessment phase of its forest planning process the EPA provided comments regarding existing resource conditions in letters on March 17, 2017, and August 18, 2017. We appreciate the inclusion of several of our comments into the 2017 Assessment Report. Though the Report may already address some of the following comments, we feel it is vital to reiterate important topics associated with forest planning that we recommend for discussion in the Draft EIS, including:

- Baseline conditions of soils, watersheds, water quality, sediment loads, wetland and riparian health, vegetation cover (including pest and disease status and trends), wildlife and fish population/habitat health and trends, and air quality (as described in our 2017 letters);
- Resource objectives for the above resources;
- Impacts on the baseline resource conditions that would likely result from management actions associated with each alternative and a comparative assessment of how each alternative will affect attainment of resource objectives;
- Best management practices for water quality protection; protection of riparian areas and wetlands; reduction of impacts from roads, trails and grazing; and maintenance and restoration of watershed health to achieve water quality that fully supports beneficial uses of surface waters in cooperation with State/EPA Total Maximum Daily Loads (TMDL) development and implementation efforts;

- Strong monitoring, mitigation, and if needed, adaptive management programs, in support of watershed analysis and evaluation of BMP effectiveness and watershed restoration success; and
- BMPs and design criteria to reduce air quality impacts from forest management activities and other development that may occur within ANF.

Based on preliminary information, our initial areas of interest for the Draft EIS focus on identifying potential impacts and mitigation measures related to (1) water resources, including wetlands; (2) air quality; (3) environmental justice; and (4) monitoring. We recommend that the Draft EIS discuss the direct, indirect and cumulative 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 while providing for the Forest's multiple uses. Our detailed recommendations are attached in the enclosure of this letter for your consideration.

We appreciate your consideration of our comments at this early stage of the process. These comments are intended to help ensure a thorough assessment of the project's environmental impacts, adequate public disclosure, and an informed decision-making process. If further explanation of our comments is desired, please contact me at (303) 312-6500 hubner.matt@epa.gov or my supervisor Philip Strobel at (303) 312-6704 strobel.philip@epa.gov.

Sincerely,



Matt Hubner
NEPA Branch

Enclosure

ENCLOSURE – Detailed Comments

(1) Water Resources, Including Wetlands

Existing Conditions: During the ANF's assessment phase of its planning process, the EPA provided March 17, 2017 and August 18, 2017, letters regarding existing resource conditions. From reviewing the 2017 final Assessment Report and technical reports, we observed discussions that addressed some of our comments, such as providing detailed maps and identifying data gaps (e.g. identifying the need to utilize most-recent Integrated Report assessment data). Though, outside of Watershed Condition Framework analyses, we note that the Assessment Report and Scoping Proposal remain mostly qualitative. Therefore, we are reiterating several comments for consideration as the USFS develops the Draft EIS.

We recommend gathering and providing additional information for the EIS phase of the forest plan revision process, including recent quantitative data and updated maps as appropriate for the following issues (see the sections below for additional detail):

- Included with any updated maps and summaries of planning area waters, it would be helpful if the summaries identified high resource value water bodies and their designated beneficial uses (e.g., agriculture, fisheries, drinking water, recreation);
- 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;
- Types, functions and acreage of wetlands, riparian areas, and springs;
- Additional available groundwater information, including quality and location of aquifers; and
- Using the most recent EPA-approved lists, a map of water body segments classified by the Utah Department of Environmental Quality (UDEQ) or the Wyoming Department of Environmental Quality (WDEQ) as water quality impaired or threatened under the Clean Water Act (CWA) Section 303(d); water bodies considered not impaired by each respective state; and water bodies that have not yet been assessed by the states for impairment status. We also recommend that a table be provided to identify the designated uses of water bodies and the specific pollutants of concern, where applicable. The UDEQ and WDEQ can identify and validate any CWA Section 303(d) listed waterbodies in the planning area. As of the date of these comments, the most recent EPA-approved 303(d) lists for Utah and Wyoming are dated 2016

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

Impaired Water Bodies: Where a TMDL exists for impaired waters in the area of potential impacts, 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 UDEQ and WDEQ to revise TMDL documents and develop new

allocation scenarios that ensure attainment of water quality standards. Where TMDL analyses for impaired water bodies within, or downstream of, the planning area still need to be developed, we recommend that proposed activities in the drainages of CWA impaired or threatened water bodies be either carefully managed to prevent any worsening of the impairment or avoided altogether where such impacts cannot be prevented.

Groundwater: The 2017 Assessment Report includes a qualitative discussion of groundwater sources in the planning area and indicates groundwater provides domestic and public water supply in the analysis area. The 2017 Air, Soil and Watershed Technical Report does provide greater detail on groundwater and aquifers in the area. However, due to the importance of groundwater quality and their connectivity with other water resources, we reiterate our previous comments for consideration in development of the Draft EIS.

Shallow aquifers are more susceptible to contamination because a contaminant introduced at the surface may more rapidly enter the system, and there is less intervening soil to adsorb the contaminants before they reach the groundwater. Shallow aquifers also commonly exchange flows with surface-water features, such as streams and lakes, and may supply groundwater to support wetlands and wildlife. In addition, there is the potential that future projects may include oil and gas wells that pass through aquifers. Since projects will tier to the Forest Plan EIS, we recommend the USFS include a map of other groundwater resources and a discussion to include the following the following topics, as appropriate:

- Identification of major aquifers, and their physical and chemical characteristics;
- Location and extent of groundwater recharge areas;
- Characterization of source water protection zones for public water systems;
- Location of shallow and sensitive aquifers that are susceptible to contamination from surface activities, including alluvial aquifers along streams and rivers; and
- Location of existing and potential (i.e., those that can reasonably be used in the future) underground sources of drinking water (USDW).¹

Please include available groundwater quality information and identify which shallow aquifers are sources for public water systems, domestic wells or stock wells. We also recommend identifying any public water systems in the planning area with water quality violations or with requirements for increased frequency of monitoring for contaminants. The UDEQ and WDEQ are good sources of information concerning aquifers. Dan Hall manages the Groundwater Protection Section at the UDEQ and can be reached at (801) 536-4356 or dhall@utah.gov. Lily Lee is the Groundwater Section Manager at the WDEQ and can be reached at (307) 777-7072 or lily.lee@wyo.gov.

If shallow aquifers are present and could be impacted by future USFS-authorized project activities, then we recommend that the Draft EIS include appropriate standards and guidelines to address siting of management areas and facilities to protect vulnerable resources. For example, latrines and fuel tanks should be sited a minimum of 50 feet away from water wells. We also recommend that the USFS require

¹ In general, this includes aquifers with a concentration of total dissolved solids (TDS) less than 10,000 mg/L and with a quantity of water sufficient to supply a public water system. Aquifers are presumed to be USDWs unless they have been specifically exempted or if they have been shown to fall outside the definition of USDW (e.g., $\geq 10,000$ mg/L TDS).

best management practices (BMPs) such as: establishing proper equipment and vehicle fueling and maintenance practices; providing well-maintained toilets, including secondary containment pans under portable toilets where possible; inspecting vehicles, equipment and storage tanks regularly for leaks; and developing a spill plan. We note that several of the management measures and design criteria contained in the USFS's National Core BMP Technical Guide and the Watershed Conservation Practices Handbook may provide a co-benefit of protecting shallow aquifers.

Public Drinking Water Supply Source Characterization: In order to ensure that public drinking water supply sources (e.g., surface water sources, including groundwater under the direct influence of surface water (GWUDISW) sources, and groundwater sources) are protected from potential impacts associated with USFS-authorized activities in the planning area, it is important to identify where these sources are located. Therefore, the EPA recommends that the USFS include a map depicting municipal supply watersheds² and source water protection areas for public water supply wells and surface water intakes (streams, rivers and reservoirs) in accordance with State data security requirements. We also recommend identifying reservoirs that are drinking water sources and an analysis of potential impacts to drinking water sources. You may contact Kate Johnson, UDEQ, at (801) 536-4206 or katej@utah.gov for access to the state data portal map of the Source Water Protection Zones for Public Water Supplies in the planning area. You may contact Kim Parker at Wyoming Department of Environmental Quality at (307) 777-6128 or kim.parker@wyo.gov for this information in Wyoming.

Setback Distances: The Energy Resources Technical Report (as part of the 2017 Assessment Report) qualitatively discusses stipulations and allocations applicable to fluid minerals leasing. The Region 8 Office of Water Protection developed the following water resource setback recommendations based on a review of technical and policy literature, a review of existing state regulatory policies and requirements, and a survey of setback practices across federal land management units. This analysis revealed that a range of setback requirements and practices are currently employed. Region 8 selected setback distances based on this analysis and on best professional judgement informed by EPA's experience in spill response and remediation and knowledge of watershed processes. The recommendations include greater setback distances for critical water resources such as drinking water sources and smaller setbacks for less critical resources such as ephemeral waters. To avoid the potential for project activities to contribute to Water Quality Standards violations and to provide a buffer for attenuating or remediating spills and sediment runoff, we recommend the USFS include the following no surface occupancy (NSO) setbacks in the Draft EIS. These setback distances are likely to be protective of Planning Area water resources in most circumstances. The EPA recognizes that the BLM may adjust setback distances during project permitting to reflect site-specific conditions.

- Minimum 100-foot NSO setback from slopes greater than 30%;
- Minimum 500-foot NSO setback for flowing waters (rivers and streams) or 100-year floodplain, whichever is greater;
- Minimum 500-foot NSO setback for lakes, ponds and reservoirs, wetland and riparian areas and springs;
- Minimum 750-foot NSO setback for CWA Section 303(d) impaired waters;

² Forest Service Manual (FSM2542) defines Municipal Supply Watersheds to include: "surface supply watersheds, sole source aquifers, and the protection zones around wells and springs."

- Minimum 1,000-foot NSO setback for state or federally designated exceptional waters;
- Minimum 100-foot NSO setback for intermittent and ephemeral streams; and
- NSO within ACECs or other valued areas where important aquatic resources may be impacted.

As noted in the 2017 Energy Resources Technical Report, the USFS has the responsibility to determine appropriate stipulations for the RMP which can include stipulated setbacks from sensitive resources that can help prevent impacts to those resources. We recognize that each federal land unit has unique attributes that may cause the USFS to apply different stipulations than those recommended here. Those attributes could include topography, soil stability, percent vegetative cover, precipitation patterns, mineral resource characteristics, or uniquely important resources.

Wetlands: We recommend that the Draft EIS include a description of the impacts to wetlands and associated springs that may result from management activities. 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 Draft EIS 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 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. For future USFS activities authorized under the Forest Plan, please consult with the Corps to determine the applicability of CWA Section 404 permit requirements to wetlands that would be impacted in the planning area 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 to the greatest extent possible, it may be necessary to consider exclusion of certain activities, e.g., road construction and vegetation treatments, in management areas where wetlands or riparian areas would be adversely impacted. We support the use of BMPs and well-defined adaptive management strategies to protect sensitive soils, wetlands including fens, riparian areas, meadows, stream crossings, and critical habitat. Riparian habitat buffer zones can prevent adverse impacts to streams and riparian areas. The EPA recommends the Forest Plan include standards and guidelines to protect these valuable resources.

Special Consideration for Fen Wetlands: The Assessment Report and Scoping Proposal include a qualitative discussion of wetlands, including the presence of fen wetlands in the planning area. As noted in these documents, 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.

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, the U.S Army Corps of Engineers carefully assesses and scrutinizes instances in which the use of Nationwide Permits are sought such that the unique wetland type peatlands/fens are protected. We recommend that the Draft EIS include a description, acreage, and maps of any fens within the planning area.

Erosion and Sediment Load Analysis: Erodible soils may represent a source of pollutants in the planning area. Increased sediment from surface disturbance may degrade water quality in receiving streams and may represent a significant source of pollutants when mobilized by natural and human-caused soil disturbances. Depending on a host of variables including soil characteristics, industrial operations, condition of roads and trails, and topography, associated runoff from future USFS-authorized activities could introduce sediments as well as salts, selenium, heavy metals, nutrients and other pollutants into surface waters.

We recommend providing a map of fragile soils, such as those with elevated levels of salinity or selenium and those prone to erosion, in the planning area. Because sediment loading may already be a concern and future USFS-authorized activities could result in new surface disturbance that may enable erosion, it is important to provide baseline information about this issue. The 2017 Assessment Report includes a discussion of land type associations (LTAs) and soil conditions in the planning area. We recommend that the Draft EIS provide a quantitative estimate of erosion rates. For example, erosion rates can be calculated using the Water Erosion Prediction Project (WEPP) model, a web-based interface developed by the U.S. Department of Agriculture, Agricultural Research Service, which can be accessed at <http://www.ars.usda.gov/Research/docs.htm?docid=18084&pf=1>. We recommend that the USFS consider using this model or another appropriate model that would be applicable to this planning area.

Roads and Trails: The 2017 Assessment Report discusses some instances where forest roads may follow streams or flood plains, and their potential impacts to water resources. We recommend that the USFS include a map identifying the existing forest roads and trails network along with planning area waters. It would be helpful to note current and foreseeable construction, reconstruction, maintenance, storage, decommissioning, and watershed improvement activities, where such activities are positively or negatively affecting known roads and trails impacts to water resources.

For your consideration, we provide the EPA's general recommendations to protect aquatic resources from road impacts: locate roads away from streams and riparian areas; locate roads away from steep slopes, landslide prone areas, and erosive soils; minimize the number of road stream crossings; construct unavoidable road stream crossings during periods of low flow to avoid fish spawning and incubation periods, or dewater relevant stream segments prior to construction; provide adequate road drainage and erosion control to avoid routing sediment to streams; use bottomless or textured bottom culverts if possible; design roads to allow for natural drainage patterns; and consider road decommissioning or rehabilitation at an equal or greater rate than new road construction to prevent increases in overall

watershed impacts. We note that several of these measures are contained in the USFS's National Core BMP Technical Guide and the Watershed Conservation Practices Handbook.

Livestock Grazing: Grazing management and practices have the potential to impact soil and water resources through 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 grazing in the planning area, we recommend the Draft EIS include an assessment of each alternative's potential impacts and benefits to aquatic resources that may stem from grazing impacts to water quality, stream and wetland processes, and fish populations and habitat.

We recommend that the Forest Plan include standards and guidelines to protect vulnerable resources from potential grazing impacts. We support the development of BMPs to be utilized and refined during future site-specific analyses, including adaptive management and mitigation and monitoring measures to reduce the potential for aquatic resource impacts. Inspection, maintenance and adjustment of BMPs will help protect groundwater and surface water resources. We recommend that the Draft EIS include a list of potential mitigation measures that may be required in future site-specific analyses. Such measures may include special buffer zones for high quality riparian and wetland resources (e.g., springs and fens) and management to limit deposition of animal waste in and adjacent to water bodies (e.g., protecting or repairing existing exclusions, providing upland water developments, and developing new range improvements to discourage congregation near water bodies).

Further, since range improvements (e.g., water developments, spring enclosures, fencing, and corrals) are generally designed and constructed in a manner that protects aquatic resources from adverse impacts associated with livestock grazing, we recommend the Draft EIS address how range improvements will be protected from impacts associated with future activities such as vegetation management, prescribed fire, recreation use and road construction that may be authorized under the Forest Plan.

Potential Impacts of 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. For more information, see Mikkelsen, K et al. 2013, 'Bark beetle infestations affect water quality in the Rocky Mountains of North America' GWF Discussion Paper 1306, Global Water Forum, Canberra, Australia. We recommend the Draft EIS provide an assessment of the potential for organic loading impacts to drinking water supplies associated with these municipal watersheds.

(2) Air Quality

Air quality information is an important component of the forest plan revision given the proximity of Clean Air Act (CAA) Class I Areas (e.g. Flat Tops and Mount Zirkel Wilderness Areas, Arches and Canyonlands National Parks) as well as Class II Areas with sensitive resources such as Dinosaur National Monument. In addition to the health-based National Ambient Air Quality Standards (NAAQS) that protect ambient air quality, the CAA provides Class I Areas with special protection for air quality and air quality related values (AQRVs), including visibility.

The 2017 Assessment Report includes a discussion of current air quality conditions in and near the planning area; sensitive receptors in the vicinity; airshed classifications; trends in air quality; and nearby emission sources. The Draft Assessment Report utilized data from the 2011 EPA national emissions inventory, and we agree with the authors of the Air, Water, and Soil Resources Report that the most-recent national emissions inventory should be used for the remaining steps of the forest plan revision process. The most current National Emission Inventory data is available at <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>. Additionally, the EPA recommends including a quantitative emissions inventory for air pollution sources in the planning area where possible. An understanding of baseline conditions is needed to ensure that future USFS-authorized forest management activities, when combined with air quality impacts from other sources, do not adversely impact the NAAQS or AQRVs such as visibility.

Vegetation Management and Timber Harvesting Activities: Air quality may be negatively impacted by emissions from heavy diesel equipment utilized for removal and thinning of trees, idling trucks used for transportation of wood products, and re-entrained dust generated from USFS-authorized activities. If proposed management areas will allow substantial vegetation management and harvesting activities over the planning horizon, then we recommend the Draft EIS include a qualitative discussion of air emissions that may result from foreseeable harvesting and thinning of trees and associated activities. Road dust control and limiting truck idling and using newer lower emitting equipment are among the measures available to manage localized impacts.

Prescribed Fire: Prescribed fire is a valuable tool that can have ecological benefits over other treatment techniques. Prescribed fire activity has the potential to cause periodic degradation of air quality and AQRVs. We realize the individual burn plans prepared for future prescribed fire activities would quantify expected emissions. We recommend that the Draft EIS provide an estimate of the foreseeable acreage to be proposed for prescribed fire management, as well as an estimate of predicted emissions (or at least a qualitative discussion of the types of pollutants expected to be generated) that may result from such burn-related treatments as well as the air quality benefits of reduced wildfire scope and intensity that may be provided through use of prescribed fire.

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; and (2) public notification of pending burns. We also recommend that the USFS consult with the UDEQ and WDEQ for any modeling, mitigation, or other measures required under state regulations or the State Implementation Plan to address CAA requirements.

Oil and Gas Development: The 2017 Assessment Report provides a discussion of past and present oil and gas activity on the ANF, the status of existing leases, and the availability of the forest for leasing. The Assessment Report indicates that the existing 1997 leasing decision for the South Unit is obsolete. The ANF intends to begin a new leasing analysis following the completion of a new Forest Plan. We recommend that the Draft EIS include estimates of reasonably foreseeable development (RFD) for the area, which would include development considered by the 2012 ROD and Master Development Plan for oil and gas development in the ANF South Unit. Without more detail on an updated RFD, it will be difficult to identify the appropriate level of air quality analysis for oil and gas activity for the duration of the Forest Plan and to what extent existing analysis may still be relevant. We would like to reiterate our recommendation from our 2017 letters that prior to the issuance of the Draft EIS the EPA would be very

willing to have discussions with the USFS regarding the air quality impact analyses.

(3) Environmental Justice

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. The 2017 Assessment Report and Scoping Proposal include a socioeconomic analysis and demographic information for the planning area, including minority and low-income populations, employment, income, and poverty. The Draft Assessment Report includes comparisons of census block group percentages for minority and below poverty populations with state and national averages. The information suggests there are very low populations of minority and low-income individuals in the planning area, with unemployment rates below the national average and incomes close to the state and national averages. However, Uintah and Duchesne Counties have Native American populations higher than state and national averages. We recommend the USFS discuss any disproportionately high and adverse human health and environmental impacts on these populations, as well as any plans for incorporating environmental justice concerns into the forest plan revision process. Further we recommend identification of 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.

(4) Monitoring and Adaptive Management

The Scoping Proposal notes that the proposed action will include a monitoring plan. The Assessment Report identifies monitoring needs related to several resource areas, e.g., air, soil, and water resources and adaptive management practices. We support these identified needs as the foundation of the USFS’s monitoring plan. In addition, we recommend that the proposed monitoring plan include metrics to assess water quality data gaps in order to provide a baseline for future monitoring of impacts and evaluation of potential influence on downstream water quality. We also recommend monitoring the effectiveness of road closures, range improvements and revegetation in protecting aquatic resources. We support enhanced monitoring of resource conditions adjacent to high value water resources to ensure timely adjustment of BMPs, adaptive management practices and informed management decisions. Finally, we recommend the Draft EIS identify the features of an effective monitoring plan and adaptive management practices that may be expected for future activities, including the following:

- Decision tree with achievable and measurable objectives to provide accountability and guide future decisions;
- Specific decision thresholds with identified indicators for each impacted resource;
- Targets that specify a desired future condition;
- Firm commitment to implement and fund a monitoring plan with protocols to assess whether thresholds are being met;
- Firm commitment to use monitoring results to modify management strategies as necessary; and
- Designated timeframes for completion of necessary management modifications

Other Considerations

Mineral Resources: Mining activities have the potential to impact air quality, water quality,

groundwater, groundwater dependent ecosystems, and other ecosystem functions. According the 2017 Assessment Report, there are significant mineral resources in portions of the planning area. We recommend that the Draft EIS summarize the processes that are underway to inventory historic mines for public safety hazards and environmental impacts, including water quality impairment, associated with the occurrence and extraction of these resources. We recommend the Draft EIS include standards and guidelines to minimize water quality impacts from future projects that may disturb mining waste and workings. We also recommend that the Draft EIS identify priority areas for remediation, if necessary.