



United States Department of Agriculture

Need for Change Statements for Management Direction under the Existing 1986 Forest Plan

Gila National Forest, New Mexico



Forest Service

Gila National Forest

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Cover Photo: Spur Fire in Catron County, New Mexico. Photo by US Forest Service.

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Introduction

The Gila National Forest's current land and resource management plan (forest plan) is 30 years old. The Forest is in the process of developing a revised plan that will guide how the Forest will be managed in the future. An assessment report "Assessment Report of Ecological/Social/Economic Sustainability Conditions and Trends" providing information on the "state of the Forest," including conditions, trends and risks to sustainability, was finalized in March 2017 and is available at <http://go.usa.gov/h88k>. Using the assessment, Gila National Forest (NF) staff and stakeholders have identified what needs to change in the current forest plan in order to continue supporting the multiple use-sustained yield mandate under which the Forest Service functions.

A "need for change" describes a strategic change to the current forest plan necessary to address issues identified in the assessment report. The question to be answered in developing need for change statements is:

What strategic current plan direction needs to be revised to address conditions, trends and risks to sustainability?

Need for change statements form the bridge between the identification of resource conditions and trends in the assessment and the development of the revised forest plan by presenting where and how the revised forest plan needs to be different from the current plan. These statements provide focus for the second phase of planning – the development of the revised plan – where plan components are created to help ensure management meets desired conditions for each resource.

The document starts with a description of a forest plan, what it contains, and how the need for change statements might influence plan contents. Stakeholder input has informed revisions to the draft need for change statements. The Forest released the draft need for change document in October 2016 to the public and other stakeholders for feedback. Community meetings were held in communities surrounding the Forest (including Las Cruces) in late October to early November 2016 to discuss assessment key findings, collaborate to determine needs for change to the current plan, and continue the dialogue between the Forest and nearby residents, users, and interested individuals. The final needs for change will be summarized in the *Federal Register* along with a notice of intent to prepare an environmental impact statement for developing a revised forest plan. During this process, a revised forest plan and environmental impact statement (including alternatives) will be developed based on the needs for change. There may be additional plan direction that needs to be developed in response to stakeholder collaboration in the plan revision phase.

What is a Forest Plan?

A forest plan provides broad, strategic direction for management of National Forest System lands and the resources contained within those lands. A plan is developed through an ongoing public process, relies on the best available scientific information, local and native knowledge and provides a framework for integrated resource management. A plan does not authorize projects or activities, commit the Forest Service to take action, or regulate uses by the public; in other words, no site-specific decisions are made in a forest plan. A plan must comply with, but should not repeat existing laws, regulations or program management policies, practices or procedures that are already contained in the Forest Service Directive System. Future projects and activities must carry out and/or comply with plan direction, and are the means by which the plan is implemented.

A forest plan consists of components that will be developed from the need for change statements and guide future project and activity decision-making. These components are:

Desired conditions: These are the specific, achievable social, economic and ecological conditions on the Forest, or a portion of the Forest that management wants to maintain or move toward. They are described in terms specific enough to allow for progress toward their achievement. Desired conditions are what drive the plan. All project-level management activities should be aimed at the achievement of these conditions for those resources in the area where the project is located. They help define a vision for the National Forest in the future.

Objectives: These are concise, measurable, and time-specific statements of a desired rate of progress toward desired conditions and should be based on reasonably foreseeable budgets. Objectives and the strategies used to accomplish them can be thought of as tools to prioritize project activities and serve as mileposts along the road to desired conditions.

Standards: These are mandatory constraints on project and activity decision-making and can be thought of as the rules of operation for project development.

Guidelines: These are also constraints on project and activity decision-making, but may be replaced by something that is equal or better in terms of meeting the intent of the guideline. In other words, the intent of the guideline is a mandatory constraint, but departure of from the letter of the guideline may occur given the intent is met.

Suitability of lands: Specific lands within a planning area may be identified as suitable, or not, for various uses or activities based on the desired conditions applicable to those lands. The National Forest Management Act requires every plan to identify those lands that are not suitable for timber production. Other suitability analyses may be conducted but are not required.

A forest plan applies only to those lands within the National Forest System and identifies where plan components apply. Plan components will apply forest-wide, to certain parts of the forest (management or geographic areas), or to land of specific character such as riparian areas. Every plan must identify management or geographic areas and may utilize existing designated areas, or those recommended for designation when identifying those areas.

In addition to plan components, the forest plan must also include other content which will be linked to need for change statements. This other content includes:

Priority watersheds: Every plan must identify watersheds that are impaired or otherwise at risk, and as such, are a priority for maintenance or restoration.

Roles and contributions: Every plan must describe the roles and contributions of the plan area to ecological, social and economic sustainability within the broader landscape.

Monitoring program: Every plan must include a monitoring program. Monitoring information enables the responsible official to determine if a change in plan components or other plan content may be needed.

Proposed and possible actions: Every plan must describe proposed and possible actions that may occur within the plan area during the life of the plan. Examples include livestock grazing, timber harvesting, prescribed/managed fire, and aquatic habitat restoration among other actions.

Optional content

Forest plans may also include optional content such as existing conditions, explanatory narrative, management approaches, goals, and other sources of information. These sources are important in designing project and activities to achieve desired conditions, but do not offer direction. Existing conditions and explanatory narrative provide background information and a brief sense of history, as well as a context for desired conditions.

Management approaches describe an approach or strategy to achieve desired conditions. Management approaches are not direction, but describe a suggested approach or strategy to achieve desired conditions. They may describe context, intent, priorities, partnership opportunities or coordination activities, needs for surveys, inventories or assessments, or approaches to risk and uncertainty. Unlike plan components, management approaches can be updated as science and technology advance and do not require a plan amendment to change.

Goals are optional plan components that are broad statements of intent, other than desired conditions, usually related to process or interaction with the public. Goals are expressed in broad, general terms, but do not include completion dates.

Other sources of information include existing laws, regulations, policies, memorandums of understanding and regional and/or national Forest Service guidance.

Changes Needed Throughout the Plan

The Forest Service is a multiple-use and sustained yield agency as mandated by the Multiple-use Sustained Yield Act of 1960 and the National Forest Management Act of 1976. The mandate is not exclusive to a single resource or use, and the sustained yield principle applies to all multiple-uses for which the national forests and grasslands are administered. Recreation, timber, range, water, and wildlife, fish, plant, and cultural resources on the Gila National Forest (NF) contribute to the maintenance of social cultures and long-standing traditions, connect people to the land and contribute to the quality of life for many.

The ability of the Gila NF to continue contributing the social and economic benefits associated with recreation and tourism, ranching, hunting, timber, fuelwood and other forest products desired by local communities, families and the visiting public is determined by the ability of Forest management to balance these and other multiple-uses in a changing economic environment, with the capacity of the Forest ecosystems and watersheds to sustain yields in a changing climate. Primary demands for uses on the Forest include livestock grazing, fuelwood harvest, timber and recreation. The current Forest Plan describes the Forest's economic contributions in terms of potential yields and projected demands and the differences that existed between the two based on the science, methods, technologies, and local infrastructure, contractors and markets that existed at the time. However, many advances in scientific understanding, methods and technology have occurred since that time, including advances in climate science. Local capacities and markets have changed as well. These factors indicate a need to:

1. Develop a desired condition to recognize and improve the Forest's role in contributing to local economies through recreation and tourism, timber and forest products, livestock grazing, and other multiple-use related activities and products while balancing these uses with available resource capacity and emerging opportunities.
2. Include management approaches throughout the plan as appropriate that consider the capacity of infrastructure, contractors and markets when planning towards desired conditions.

The successful implementation of this forest plan requires good working relationships between the Gila NF and all stakeholders. With the challenges presented by downward trends in Forest budgets and staffing levels, strong relationships are not a convenience, but a requirement in order to care for the land and serve the people. Some relationships are good or improving, while others need work to overcome contentious histories. The Forest does not always capitalize on partners who are willing to help. For example, stakeholder involvement is not reaching its potential for the recreation resource, resulting in missed opportunities for positive interactions and outcomes. The Forest also struggles to reach all stakeholders, which challenges relationships. Poor relationships are costly because they can lead to wasted time and energy through the planning process, misperceptions and miscommunications about the Forest's intentions and actions, and ultimately negative impacts on resource management. While the Forest Plan cannot provide direction beyond the scope of managing resources on the Gila NF, allowing flexibility for fluctuations in Forest budgets and better relationships and additional partners may be part of the strategies that help achieve desired resource conditions, and therefore there is a need to:

3. Include management approaches throughout the plan as appropriate that utilize collaboration with stakeholders, partnerships and volunteer opportunities as a management option to strengthen relationships and to promote movement toward desired conditions. This includes but is not limited to local, state, and federal agencies, local and tribal governments, elected officials, local communities, interested individuals, businesses, permittees, recreation and forest user groups, fire safety and community protection groups, environmental and conservation

organizations, users with historic ties to the forest, volunteer and stewardship groups, educators, and youth groups. This also includes management approaches that encourage working with neighboring land managers to implement projects at a scale that improves landscape scale connectivity across mixed ownerships where natural systems, such as watersheds and wildlife corridors, span multiple administrative boundaries.

4. Develop management approaches that can strategically leverage and streamline processes for engaging partners and volunteers during project implementation and monitoring.
5. Create management approaches that emphasize public education about the Gila NF's diverse ecological, social, and economic resources, the multiple-use sustained yield philosophy, public laws and regulations, shared use ethics, and management strategies.
6. Prepare desired conditions and management approaches aimed at connecting people – particularly youth and underserved populations – with public lands and nature.

Forest plans provide strategic management direction and must be consistent with all applicable laws, regulations and policies, but not repetitive of those requirements. As such, there is a need to:

7. Remove components that are redundant with existing laws, regulations and Forest Service policy where possible. These should be incorporated by specific reference, which will allow the plan to be up to date with the most recent versions without amendments.

Restoration projects are more likely to contribute to ecological sustainability, and therefore the sustainability of the social and economic systems which depend on the ecosystem services provided by the Forest, if those projects consider ecological relationships. The current Forest Plan imposes internal management boundaries (i.e., current management areas), often with different management direction, which artificially fragments the landscape within the Forest boundary and creates artificial complexities to landscape scale restoration project design and implementation signaling a need to:

8. Reevaluate the number, arrangement, and boundaries related to current forest plan management areas, and base new ones on ecological boundaries such as ecological response units (ERUs)¹.
9. Include plan direction that provides for adaptive management. There is also a need for plan components to be more strategic than prescriptive and for increased usage of management approaches based on best available science and monitoring.

The purpose of monitoring and evaluation is to determine if our management is meeting conditions and objectives laid out by the Forest Plan. The monitoring plan has not been amended for quite some time, and it is out of date with current science and trends in resources. Since monitoring is an essential component of adaptive management, these problems make it difficult to determine if resource management as described by the plan is working as desired, and there is a need to:

10. Develop a monitoring program that collects relevant data, tracks progress toward desired conditions, distributes information consistently, and allows for a responsive adaptive management program with available resources, and uses updated terminology and methodologies especially for air quality, facilities, fire/fuels, lands, timber, and wilderness monitoring elements.

¹ The assessment of terrestrial and riparian ecosystem condition was stratified using the ERU classification system, which is a grouping of sites that are each similar in plant species composition, succession patterns, and disturbance regimes. See the Assessment Report for more details.

Ecological Changes

The ecological integrity and ability of ecosystems and watersheds on the Gila NF to sustain the ecosystem services that provide for multiple uses were analyzed in detail in the assessment report using relevant, best available science. The following discussions related to upland vegetation; soil, watershed, riparian ecosystems and water resources; air quality; wildlife, fish and plants; and restoration approaches and tools provide a summary of the most pertinent information from the assessment that inform the ecological need for change with regard to the current Forest Plan.

Upland Vegetation

The cumulative effects of past management, combined with current management actions and inactions, have contributed to the departure and/or maintenance of departure from what is known about the past range of variability, also known as the natural range of variation, in conditions of many key ecosystem characteristics analyzed in the assessment. Past fire suppression and historic overgrazing have contributed to altered fire regimes and other ecological processes, and increased risk of undesirable fire behavior and effects in some ecosystems and many watersheds on the Forest by altering fuel types, amounts and distributions. Legacy issues remain evident in many places on the Forest as evidenced by woody vegetation encroachment into grasslands, infill of forest and woodland openings, increased tree densities within forest and woodland patches, altered distributions of vegetation structural states and species composition, and decreases in soil stability, hydrologic and nutrient cycling functions. In some places on the Forest, herbaceous (grasses and forbs) productivity remains below its ecological potential; this condition may be long-term depending on the degree of soil loss that has occurred and the status of current disturbance regimes. Other historic and/or contemporary factors also influence ecological conditions on the Forest to varying degrees and extents (either positively, negatively or both), including but certainly not limited to: drought and climate change; roads and trails; non-fire vegetation management and fuelwood gathering; invasive species; recreation; and uncharacteristic fire behavior and effects such as those experienced during the 2012 Whitewater Baldy Complex and 2013 Silver Fire.

While current management, under the Gila NF's 1986 Forest Plan, has realized improvements over historic conditions, departure from the natural range of variation persists in many cases, perhaps indicating that the Forest's ecosystems and species are not as resilient or sustainable as they could be. This in turn poses risks to, or has implications for social, economic and cultural resilience and sustainability. Trends in ecological conditions are more difficult to determine, given the scientific data that is or isn't available, but are more informative to determining what management direction is and isn't working. Where trends are able to be assessed, the continuation of current management maintains current resource conditions and is moving some ecosystems and/or characteristics further away from what is known about the natural range of variation. These trends assume the current climatic regime persists into the future; however, climate change is a reality that adds uncertainty and complexity to land management and one the Gila NF's strategic management direction will need to address.

The scientific information available to describe the natural range of variation in the distribution of vegetation structural states does not adequately consider or reflect the Gila NF's position within the geographic range of many Ecological Response Units (ERUs), or the topographic, geomorphic, geologic and soil diversity within the ERUs on the Forest. These factors strongly influence the local expression of a given structural state and species composition. As the information describing the natural range of variability does not consider these factors, the assessment may describe a higher degree of departure

than actually exists. Nevertheless, most of the Forest's Ecological Response Units (ERUs) exhibiting moderate or high departures from the natural range of variability in the distribution of structural states, patch size, and vegetation species composition indicating a need to:

11. Develop desired conditions regarding vegetation structure, composition, and function, as well as objectives, standards, guidelines and management approaches that will promote ecological restoration, support ecological resilience, and minimize risks.
12. Develop desired conditions, standards, guidelines, and management approaches to better promote the restoration and maintenance of native herbaceous vegetation, limit woody species encroachment/infill and non-native invasive plant establishment.

While management strategies that focus on restoring structure and composition of vegetative communities may increase system resiliency, restoring ecological processes such as fire is key to system sustainability. Prescribed fire and wildfires managed primarily for resource benefit are projected to increase with the continuing emphasis on landscape scale restoration of frequent fire ecosystems. In general, prescribed fire has minor and relatively short-term negative effects on watershed condition as severities are typically lower than those associated with wildfires. Over the long term, lower severity surface fire, either naturally ignited or prescribed can have positive effects as it reduces the risk of larger, more severe wildfires. However, efforts to restore the historic fire regime face challenges associated with altered fuel characteristics, climate change and operational, budget, policy and political constraints. Restoring the natural role of fire may not be desirable everywhere in the Wildland Urban Interface (WUI) as reducing both immediate and long-term risks to human life and property that may be posed by fire are the primary concerns.

While fire has been and will remain the most important management tool in supporting sustainable, frequent fire ecosystems in the face of climate change, accounting for natural, site specific variability in forest structure and fire frequency may become increasingly important given projections of larger and more frequent wildfires as climate change progresses. The current Forest Plan does not adequately recognize the connections between the resources impacted by fire, whether positive or negative, nor does it adequately provide for an integrated resource approach to fire management, consider climate change, or allow the necessary flexibility that may be required to restore the natural role of fire particular to each ERU. The current Forest Plan is also largely silent on post-fire management activities, other than emergency stabilization, despite the fact that effects to soil and watershed condition are cumulative. There is a need to:

13. Update current plan direction to better support an integrated resource approach to increase flexibility for the restoration and maintenance of fire as an ecological process while addressing firefighter and public safety and health concerns, especially in the Wildland Urban Interface (WUI).
14. Develop plan direction that recognizes the natural role of fire and its use as a management tool to help achieve desired conditions appropriate to both frequent and infrequent fire ERUs across the landscape.
15. Develop plan direction that allows for the flexibility to manage naturally ignited fires to meet land management objectives based on weather and site-specific conditions (e.g. fuel conditions, topography, safety concerns and values). These objectives may include the use of fire to reduce fuel accumulations, reduce the risk of future undesirable fires, improve wildlife habitat and range conditions, and improve watershed and overall forest health.

16. Update plan direction to address vegetation structure in within the Wildland Urban Interface (WUI), since these areas may have different desired conditions than non-WUI areas.

While extended drought and fire weather, rather than past fire suppression or current fire management, were the primary drivers behind the 2012 Whitewater Baldy Complex and 2013 Silver Fire, the Spruce-Fir Forest and Mixed Conifer with Aspen ERUs are departed for the largest number of key characteristics, and many watersheds across the Forest are not functioning properly.

Most of the Spruce-Fir Forest and Mixed Conifer with Aspen occur within designated wilderness, are least affected by legacy issues and are not subject to management activities other than fire. These ERUs typically experience infrequent, stand replacement fire, but departures in the distribution of structural states and patch size suggest that recent extents of stand replacement fire were uncharacteristic for these systems, also leading to departures in soil stability, hydrologic and nutrient cycling functions. They also have the highest vulnerability to climate change, with the lowest uncertainty regarding that vulnerability of all ERUs on the Forest. Although these ERUs comprise just three percent of the Forest, they have significant ecological value in terms of the overall biodiversity of the Gila NF and provide habitat for several endemic and/or at-risk plant species. These conditions further illustrate the previous ecological need for change statements and relate to a concern about old growth raised through public participation. There are many definitions of old growth, but all commonly refer to tree age, tree size, and structural features. A controversy regarding the definition of old growth concerns whether it must be undisturbed by humans or whether there can be some level of human modification. Nonetheless, from an ecosystem function viewpoint, there may be little difference between a completely undisturbed old-growth forest and a previously disturbed but fully restored old-growth forest. Social values are at the heart of many old growth controversies, however ecological perspectives must be taken into account if new policies are to lead to successful management for creating and sustaining old growth. To promote and sustain old growth, long-term management strategies are needed to develop dynamic landscape populations of old growth that are able to withstand wildfire, parasites, diseases, human disturbances, and climate change. Therefore, there is a need to:

17. Consider landscape dynamics of old growth populations when replacing current plan direction with the revised plan content identified in statement 11.

Soil, Watershed, Riparian Ecosystems and Water Resources

All ecosystem and watershed components are interconnected by natural processes and are thus affected by both historic and current management actions or inactions that influence those processes. Both natural and human-caused disturbances have and are impacting upland vegetation, but also soil, riparian areas, aquatic habitat and aquatic communities.

Seventy percent of watersheds (5th level) are considered Functioning at Risk with respect to the rangeland vegetation condition indicator, 23 percent Functioning Properly and 7 percent Impaired Function. Livestock grazing has been excluded along much of the Gila and San Francisco Rivers, as well as some springs, seeps and wet meadows. Many riparian areas associated with smaller stream systems continue to support livestock grazing. The negative impacts of livestock under current management are substantially less than under historic management in both uplands and riparian areas. In the northern portion of the Forest, large elk herds contribute to herbivory impacts.

Although wildfires are a natural disturbance, the uncharacteristic extents of stand replacement fire in recent years are having a significant impact on watershed and soil health, water quality, water quantity, riparian function and aquatic habitat. Increased rates of soil erosion, downstream sedimentation, alterations to stream channel shape and function, reductions in infiltration and groundwater recharge, and altered timing, duration and magnitude of streamflow are all consequences.

Eighty-three percent of the Spruce-Fir Forest and 96 percent of the Mixed Conifer with Aspen are currently Impaired or Unsatisfactory with respect to soil condition, and nineteen percent of watersheds are Impaired Function for soil productivity and erosion solely attributable to these post-fire effects. This nineteen percent of watersheds are also Functioning at Risk or Impaired Function with respect to forest cover. Forest cover is important for hydrologic function and soil stability as it is a critical component of hydrologic function. There are also negative long-term implications for streamflow and groundwater recharge as increased potential evaporation and sublimation as well as shorter duration of the snow pack at higher elevations are likely given the uncharacteristic extents of stand replacement fire.

While watershed recovery will occur, the amount of time it takes for watersheds to stabilize depends on fire severity and extent, soils, topography, geology, vegetative species present pre-fire, post-fire treatments and management activities, and precipitation patterns. Some changes in watershed response may be expected long-term, depending on the extent and magnitude of soil loss. Subsurface soil layers have different hydrologic properties than topsoil and typically have lower infiltration capacities, which has implications for the amount of plant available water, streamflow and groundwater recharge. Subsurface soil layers are also lower in productivity. Where erosion reduces the total volume of soil, there is also a reduction in water holding capacity.

Soils are a non-renewable resource. Sustainable soil management may warrant heightened concern in the Southwestern climatic regime, as precipitation and temperature patterns restrict the rate of soil formation. Accelerated soil loss can have significant impacts on ecosystems and watersheds, as can soil compaction. Sixty eight percent of watersheds are Functioning at Risk or Impaired Function with respect to soil condition. The current Forest Plan does provide for some reduction in or mitigation of negative impacts to the soil resource, such as slope restrictions, but does not provide adequate measures for reducing or mitigating compaction or for the retention of coarse woody debris sufficient to maintain nutrient cycling function and long-term soil productivity. Better understanding and integration of vegetation, soil, watershed, and fire management strategies and objectives, as well as consistent, efficient and effective monitoring designed to document outcomes and assess the effectiveness of management actions relative to key soil characteristics would be beneficial to both ecosystems and watersheds; therefore there is a need to:

18. Develop desired conditions, standards, guidelines, and management approaches to restore, maintain and sustainably manage soil stability, hydrologic and nutrient cycling functions (aka soil condition) for both ecosystem and watershed health.

With few exceptions, the current scientific understanding is that natural fire frequency and severity in riparian areas are less than surrounding uplands. Fires occur less often and at lower severity largely because of higher fuel moisture, soil moisture and relative humidity. While many riparian plant species may re-sprout after fire (and flood) in some regions and circumstances, willows are the only species that have been observed to re-sprout after fire with any reliability on the Gila NF. Riparian species experience mortality even with low severity fire.

Post-fire flooding events have also reduced shade over water by reducing riparian canopy cover which aids in regulating stream temperatures. While the Forest has seen a relatively quick recovery response in the riparian ecosystems that contain willow species, there are long-term implications for riparian and aquatic habitats, water quality and quantity associated with the magnitude and extent of stream channel erosion and sedimentation which has altered channel shape and function and thereby surface and groundwater connections. Approximately 25 percent of the Forest's stream channels and riparian areas have experienced these changes, including 77 percent of the Willow-Thinleaf Alder and 66 percent of the Arizona Alder-Willow. Concerns about the risk of future uncharacteristic wildfires in watersheds with higher than natural fuel loading and departure from the historic fire regime remain.

While riparian ecosystems are defined by change and are adapted to disturbance, human alterations such as water diversion, roads and trails, and in some areas, recreational use and grazing by wild ungulate and livestock have negatively impacted overstory and understory species composition, vegetative groundcover, streambank stability, water quality, aquatic habitat quality and connectivity, and have provided potential avenues for the establishment of non-native and invasive species. Riparian ecosystems provide habitat for a whole host of species, but disturbances can alter habitat conditions or completely disconnect suitable habitat for species. While road and trail density, maintenance and proximity to water can and are having negative effects on water and water dependent resources, they are a critical fire management tool and facilitate multiple-uses.

Approximately 60 and 61 percent of watersheds are Functioning at Risk or Impaired Function with respect to riparian vegetation condition and aquatic habitat respectively. Springs, seeps, and other wetlands are centers of high productivity, wildlife activity, and biological diversity in arid landscapes. The ecological health of these resources is important for ecosystem sustainability; however, there is limited information on their distribution, characteristics, and condition on the Forest. These factors indicate a need to:

19. Develop desired conditions, standards, guidelines, and management approaches to inventory, restore, maintain and sustainably manage riparian areas, including those associated with springs, seeps and wetlands.

As evidenced by these watershed indicator ratings and others contained in the assessment report, management under current plan direction does not adequately recognize the connections and interrelationships between ecosystems, and water and sediment regimes which indicates a need to:

20. Develop plan direction that better recognizes the connections and interrelationships of ecosystems and watershed condition and facilitates integration of their management.
21. Develop desired conditions, standards, guidelines, and management approaches to restore, maintain and sustainably manage watershed condition.

With the number of watersheds that are Functioning at Risk or Impaired Function overall, and those that may be Functioning Properly overall but are Functioning at Risk or Impaired Function with respect to one or more indicators, there is also a need to prioritize those watersheds for maintenance or restoration. This prioritization is identified as a necessary process and is specified in the Forest Service directives as required content of the revised plan.

Watershed conditions are not the only factor influencing water and water dependent resources on the Forest. Drought is also having considerable impact on water, water dependent resources, multiple-uses and wildfire risk. Since 2000, streamflow gage data indicates a drying trend where average streamflow

has decreased in the winter and spring months, peak snowmelt runoff is occurring earlier, the snowmelt runoff period is decreasing and the duration of late spring-early summer low flow periods is increasing. These changes have enormous ecological and socio-economic implications. Changes expected with the progression of climate change include an increase in the frequency, severity and duration of droughts, reductions in snow pack, and changes in the timing, frequency, magnitude and duration of precipitation.

Water is necessary for the existence of all life and is required to support both ecological function and multiple-uses. The Forest does not manage or influence the allocation or use of water. That authority is held by the State of New Mexico. However, the Forest does manage watersheds, streams, and springs that are important to both surface and groundwater which provides public water supplies.

Even without considering climate change, more water has been allocated to users in the Southwest than is available. The increased severity and duration of drought predicted as a result of climate change could very well lead to increased demand and decreased water availability in streams, springs, lakes and earthen tanks on the Forest. This would likely alter patterns of use by livestock and wildlife, and reduce carrying capacity. Groundwater supply is expected to decline as the vast majority of groundwater withdrawals in the State are in excess of recharge rates. There has been an observed increase on the Forest over the last several years in wells that need to be deepened because they are no longer producing sufficient water. As patterns of water availability are primarily driven by climate patterns, including natural cycles of drought, there is a need to:

22. Develop adaptive management approaches for water dependent resources and multiple-uses.

Additionally, the Forest has obtained water rights through the pathways and procedures required by the State of New Mexico that provide for uses designated by the State. The Forest will likely apply for or purchase additional water rights in the future, continuing to adhere to the pathways and procedures required by the State of New Mexico, to provide water for multiple uses on the Forest or at Forest facilities located in communities nearby. The 1986 Forest Plan contains guidance on the Forest's water rights and uses, including guidance on the number of new wildlife habitat and range developments and maintenance of existing developments that may be either unrealistic or inadequate for the future given the status of water rights in a given basin, or limitations associated with budgets or other resources. Future developments should be driven by resource needs that may change due to climatic influences. The plan also contains guidance on the maintenance of existing watershed structures which aid the Forest in providing favorable conditions of water flow. Some water rights have been granted via the establishment of the federal reservation. The Forest will continue to use these federally reserved rights for the purposes granted under the Organic Act.

While Forest management has no ability to control or influence cycles of drought, climate change, water allocation or water use, there remains a need to:

23. Update plan direction and develop management approaches to sustainably manage water resources via enhancing adaptation by anticipating and planning for disturbances from intense storms; reducing watershed vulnerability by maintaining and restoring resilient ecosystems; increasing water conservation and planning for reductions in upland water supplies; and avoiding actions that exacerbate drought effects.

Air Quality

Air quality and the values dependent on air quality on the Gila NF are generally in good condition or are improving as most pollutants are decreasing. However, visibility and ambient air quality conditions associated with particulate matter are expected to continue to have episodic periods of very high levels as a result of wildfires and increases in airborne dust due to the effects of climate change. Also, impacts from emissions along the US-Mexico border are a significant concern which is associated with significant uncertainty. There is also not enough scientific information specific to the Gila NF on which to base an understanding of how atmospheric deposition might impact Forest ecosystems. The vegetation and watershed needs for change statements and compliance with existing law, regulation and policy relevant to air quality are the means by which the Forest may be able to influence air quality and its impacts, both on and off Forest.

With regard to air quality and related resources and values, the Gila NF's current Forest Plan (1986) contains components that are redundant with existing law, regulation and policy, which is recognized in the needs for change statement #7. Additionally, the 1986 plan uses or references specific scientific methods and/or technologies of measuring air quality and/or air quality effects on water quality, Gila trout habitat, riparian and terrestrial resources, and visibility that may or may not be compatible with current scientific understanding. There may be more current, efficient and effective means supporting air quality and air quality related values through Forest management.

Wildlife, Fish, and Plants

The Gila NF is home to hundreds of animal and plant species, some of which are found only on the Gila NF. For a few species, changing land use patterns outside of the Forest have reduced potential habitat availability and increased the species' reliance on Gila NF managed lands. At-risk species were evaluated in the assessment report for the Gila NF and include federally recognized threatened, endangered, proposed, and candidate species, as well as potential species of conservation concern (SCC). Criteria for identifying potential species of conservation concern include that 1) the species is native and known to occur in the plan area, and that the 2) best available scientific information indicates a substantial concern about the species' capability to persist over the long term in the plan area. A total of 66 at-risk species were identified, 15 federally recognized (six endangered, seven threatened, two proposed threatened) and 51 SCC. The most at-risk species were associated with features such as cliff/talus/rock/soils/snags (33 species), Riparian (35 species), Mixed Conifer with Aspen (15 species), Mixed Conifer-Frequent Fire (14 species), and Ponderosa Pine Forest (12 species) ERUs. Restored, resilient, and connected habitats with an emphasis on ecological conditions that support these species are necessary to maintaining species diversity across the Forest. The Gila NF will continue to work toward the recovery of all species while still ensuring the multiple use of forest resources.

Wildlife and fish resources are also important for the utilitarian and commodity-oriented uses they provide. The Forest supports habitat for legally fished and hunted species managed by the New Mexico Department of Game and Fish and birdwatching with three important bird areas designations. Plants are important to cultural and traditional uses such as Christmas tree cutting, fuelwood gathering, and gathering forest products for medicinal and ceremonial use. Finally, wildlife related activities especially hunting, fishing, wildlife viewing and associated outfitter guide services on the Forest have important contributions to local and regional economies. There is a need to:

24. Develop desired conditions and standards and guidelines that support ecological conditions that contribute to the conservation and recovery of federally recognized species, as well as maintain viable populations of species of conservation concern and other native species.
25. Develop standards and guidelines that allow for managing toward terrestrial, riparian and aquatic habitat and population connectivity for terrestrial and aquatic species movement across the landscape, while allowing for the restoration of the range of native species.

Restoration Approaches and Tools

It is clear and has been stated previously that many ecosystems and watersheds on the Forest are in need of restoration. Fire is an important tool, but it is not the only tool available to facilitate restoration. Mechanical and manual vegetation treatments, in conjunction with wildfires managed primarily for resource benefit, are expected to occur more often and over larger areas with the continuing emphasis on landscape scale restoration. At present, only a small percentage of most ecological types are treated (for example via thinning or prescribed burning) annually on the Forest, which limits the effectiveness of restoration activities.

In the past, mechanical and manual non-fire vegetation treatments (including thinning by timber or fuelwood harvest, pushing, chaining, mastication and others) have been conducted with intended outcomes related to reductions in fuels and wildfire risk, wildlife habitat and forest health restoration, watershed protection, and increased herbaceous vegetation production. Fuels treatments and wildfire risk reduction are particularly important in the Wildland Urban Interface (WUI). Treatment success has been variable and is influenced by pre-treatment vegetation composition and structure, soil characteristics, site specific climatic conditions, and weather during treatment implementation. Decreases in canopy cover as a result of treatment have often produced increases in canopy cover and/or stems per acre of shade intolerant, re-sprouting species such as evergreen oak and alligator juniper. Adaptive management strategies are necessary to efficiently and effectively maintain restoration treatments to ensure an ecological trajectory towards desired conditions.

In the coming years, other stressors such as invasive species may compound the challenge to effectively restore ecosystem resiliency. Invasive species can include non-native plants, aquatic species, and other animals such as feral hogs. While there are not documented feral hogs on the Gila NF, there exists the potential for them to arrive and cause issues as they do in other areas of the state. The State of New Mexico considers feral hogs to be unprotected and are actively trying to eradicate them in several areas. Efforts will be made to eradicate feral hogs if they are documented to occur within the Gila NF. Although non-native invasive plant species are not yet well established on the Gila NF, as compared to other southwestern forests, the current and future presence of these species is of concern. Potential harmful effects include, but are not limited to interrupted upland and riparian forest succession and changes in wildfire frequency, behavior and effects. Both physical treatment (i.e., hand-pulling) and herbicide treatments are tools employed by the Forest to eradicate or control invasive species, but existing NEPA, including the current Forest Plan NEPA, only provides for the use of herbicides on a limited number of non-native species in certain areas. Vegetation changes associated with climate change are expected to be species specific, making it difficult to determine what future threats might be posed by invasive plant species. Potential future water developments that alter natural streamflow may promote invasive plant species in riparian areas.

While the current Forest Plan does include language reminiscent of integrated pest management, it stops short of providing for the full range of available tools to manage both native and non-native species contributing to current and potential future ecological departures. In particular, it does not adequately recognize or provide for appropriate use of herbicide as a means to reduce or mitigate negative impacts to the soil and watershed resource resulting from multiple mechanized entries that may be necessary to address native re-sprouting species and maintain restoration treatments. There is a need to:

26. Update plan direction regarding integrated pest management and provide plan direction on the use of pesticides for restoration.
27. Develop standards and guidelines to address the presence of nonnative species by encouraging the removal of existing populations, limiting the introduction and spread of new populations while promoting the characteristic composition and condition of native species.

Social, Cultural and Economic Changes

In the previous section, the Gila NF has identified several risks to ecological integrity and sustainability, which may impact the Forest's ability to contribute to some of the social, cultural and economic benefits desired and enjoyed by people in local communities, surrounding areas and visitors to the area. The following discussions related to recreation, designated areas, range, timber and special forest products, infrastructure, cultural and historic resources, areas of tribal importance, traditional and cultural ways of life, lands, and energy and minerals provide a summary of the most pertinent information from the assessment that inform the social, cultural, and economic need for change with regard to the current Forest Plan.

Recreation

The Gila NF features a unique and diverse range of recreational opportunities. Opportunities for solitude, either as part of a wilderness experience, or even when pursuing more developed recreation experiences is one of the strengths of the Gila NF. Over the lifetime of the current Gila Forest Plan, the general trend shown has been an increase in the demand for, and an increase in the diversity of types of, recreational opportunities, including permitted recreation special uses. However, without the availability of more recent visitation data beyond the 2006 and 2011 National Visitor Use Monitoring (NVUM) surveys, it is difficult to know what effects recent events such as wildfires or current economic conditions may have to current visitation numbers. Many in-demand recreation opportunities also have limited availability on lands adjacent to the Forest. There are a total of 1,927 miles in the forest trail system, including 193 miles of newly designated motorized trails and 861 miles of wilderness trails. However, because of limited funds many trails receive infrequent maintenance, and may be difficult to locate and follow in their current condition, especially with the effects of recent wildfires and post-fire flooding.

“Recreation special uses” include events, services, or recreation activities authorized under a special use permit to be provided by private individuals, businesses, or other organizations on National Forest public lands. Often these permitted special uses fill a demonstrated public recreation need that the Forest recreation program lacks the resources or capacity to provide. One popular example of a recreation special use is permitted hunting outfitter/guides.

Challenges to the recreation program include more frequent, uncharacteristically severe wildfires, post-fire flooding, drought, insects and disease, and an increasing backlog of deferred maintenance for recreation facilities and trails. These impacts negatively affect the quality of recreation settings, opportunities, seasons of use, and visitor experiences. The Gila NF is currently in the process of updating the Scenery Management System and Recreation Opportunity Spectrum classification, which will contribute to future planning processes. Management of Forest recreation and special uses opportunities with stagnant or declining budgets, limited staffing, conflicting user group demands, and resource impacts will continue to be a challenge showing there is a need to:

28. Develop desired conditions, standards, guidelines and management approaches to address the long-term sustainability, changing trends in demands, and intended use of recreation infrastructure, trails, and facilities.
29. Update existing and develop new desired conditions, standards, and guidelines for management of recreation activities and permitted special uses that occur in areas that are sensitive or at risk of resource degradation due to high visitation.

30. Include guidelines and management approaches to implement public education and to anticipate demand and minimize conflicts between uses.
31. Update existing desired conditions, standards, guidelines and management approaches to emphasize the importance of scenery and recreation opportunity effects when planning projects across all Forest program areas.
32. Create desired conditions, standards, guidelines, and management approaches for cave management, backcountry river use, and rockclimbing since these activities are not addressed in the current Forest Plan.
33. Update plan direction for administration of the special uses program to be aligned with current National, Regional, and Forest policy direction.
34. Prepare desired conditions, standards, and guidelines to balance consideration of special uses requests with impacts to natural and cultural resources, wilderness character, and other forest users.

Designated Areas

Designated areas on the Gila NF represent identified exceptional areas that have distinct or unique characteristics warranting special designation. Designated areas have specific management objectives to maintain their unique characteristics and are important ecologically and socially for the exceptional values they offer. The Gila NF manages 254 miles of the Continental Divide National Scenic Trail according to direction provided in the 2009 CDNST Comprehensive Plan. The CDNST Comprehensive Plan addresses development of land and resource management prescriptions, and specific direction for consistency is provided by the Recommended Forest Plan Components approved in August 2016 by the Regional Foresters of the four Forest Service regions the trail passes through.

The Gila National Forest holds a unique distinction internationally among designated areas, as it is the location of the world's first designated wilderness, and regionally because of its three large wilderness areas in relatively close proximity together totaling over 790,000 acres. Popular wilderness uses include hiking, backpacking, equestrian use, hunting, and fishing. The majority of permitted outfitter/guide use of all types (including, but not limited to hunting, fishing, equestrian, and backpacking) on the Gila NF currently occurs within designated wilderness areas, and these uses are expected to grow, particularly the demand for hunting for trophy elk. Current outfitter/guide permittees have expressed concern that increasing numbers of permittees may be unsustainable within the Gila Wilderness, and have expressed support for conducting a capacity analysis to inform future program administration.

During the plan revision process, the Forest is required to conduct an inventory and evaluation for lands that may be suitable for inclusion in the National Wilderness Preservation system, and inventory of eligibility of rivers for potential inclusion in the Wild and Scenic Rivers System. Both of these designations may only be made statutorily, through legislation passed by Congress. Other potential special designations (e.g. botanical, geological areas and research natural areas) will also be further considered and evaluated in the Forest plan revision process. There is a need to:

35. Update desired conditions, standards, guidelines and management approaches for managing existing or potential new designated areas to maintain desired character and values unique to each area.

36. Update plan direction for the Continental Divide National Scenic Trail (CDNST) to follow the management policy and direction outlined in the 2009 Continental Divide National Scenic Trail Comprehensive Plan and to adapt desired conditions and standards from the Regional Foresters' CDNST plan revision considerations policy letter issued August 2016.
37. Update current standards and guidelines for completing permitted outfitter/guide use capacities within wilderness to inform management decisions in light of changing social and environmental conditions, and to continue to maintain alignment with National, Regional, and Forest policy direction.

Range

Review of past and current range analysis, watershed condition rating outcomes and professional judgement indicates that the majority of rangeland vegetation on the Gila NF is in fair condition with stable to upward trends. There are also rangeland areas within the Forest rated as good and poor condition. Woody species encroachment, climate change, drought, and invasive species may affect the long-term ability of the Gila NF to sustain the productivity of rangelands. Grassland openings on the Gila NF are being encroached upon by woody species such as juniper and piñon and ponderosa pine reducing the amount of understory forage for livestock and wildlife. Climatic conditions continue to challenge livestock operations and land management requiring more intense and adaptive strategies in order to address these effects. Since the relatively wet 1980s, generally decreasing trends in precipitation and increasing trends in temperature have led to decreases in forage production and water availability and reliability. These trends are likely to continue with climate change, which increases the importance of effective monitoring and adaptive management. Although the Gila NF is not currently inundated by invasive species, occurrences are documented, and further invasive species establishment and spread is possible due to disturbances.

These issues affecting rangeland sustainability are of concern for many communities adjacent to the Forest for whom ranching is a way of life. Future management that focuses on the restoration and maintenance of ecological integrity is required to address these sustainability issues. The Forest has utilized adaptive management to work with permittees to adjust authorized livestock numbers to sustain forage during drought, and subsequent restocking to permitted numbers once conditions have improved. Wildfire can provide long term benefits to maintaining the ecological integrity of grasslands and preventing woody species encroachment. However, fire management activities do pose short-term management challenges as the herbaceous vegetation providing forage is also the resource providing the fine fuels necessary to carry fire, which may make it necessary to rest areas from grazing before prescribed fire activities. Other challenges include the need to rest areas from grazing after fire or mechanical treatments to provide for forage recovery, resulting in the need to find other pastures or allotments to graze. In addition, the presence of species listed as threatened or endangered under the Endangered Species Act, especially Mexican wolf occupied areas, present similar management challenges such as reducing wolf-livestock conflicts. Increased management flexibility is necessary to address these challenges and there is a need to:

38. Update plan direction for livestock management that incorporates increased flexibility and adaptive management in order to restore and maintain ecological integrity of rangelands.

Timber and Special Forest Products

The Gila NF's primary contribution of timber and forest products is to local communities around the Forest for logs, firewood, and other forest products. An increase in forest restoration projects will be vital to help sustain forest and watershed health, reduce potential for uncharacteristic wildfire, and improve or maintain wildlife habitat. An increased emphasis on landscape scale restoration projects should allow for the continued ability to meet the demand of the public, including local mills which operate in or adjacent to the planning area, within the capability of the resource. A new timber suitability analysis is the only suitability analysis required by the Forest Service directives for plan revision. The timber suitability analysis process involves identifying lands not suitable for timber production based on legal and technical factors and those lands that either suited or not suited for timber production based on compatibility with desired conditions and objectives contained in the revised plan, and therefore there is a need to:

39. Update timber suitability determinations consistent with updated plan desired conditions.

Infrastructure

The ability of the Gila NF to continue to maintain current facilities and infrastructure is at risk of being unsustainable due to limited funding. This has led to an increasing amount of deferred maintenance. Examples of different facilities include administrative buildings, recreation buildings, communication structures, lookout towers, airstrips, remote cabins, range and wildlife developments, roads and trails.

Roads and trails across the Forest are important for access and fire management, and facilitate multiple-uses, but have potential negative ecological impacts. Road density is an issue in some watersheds, but maintenance is a much larger issue across the Forest. The Gila NF is currently unable to keep pace with the maintenance of its transportation system given current road maintenance funding levels. The Forest has worked with local county agencies to clarify jurisdictional issues associated with roads passing through the Gila NF. The end result is a transfer of nearly 400 miles of National Forest System roads to Catron and Grant counties. The Forest recently published its first Motorized Vehicle Use Map (MVUM) showing 3,334 miles of National Forest System roads open for motorized use by the public. There are an additional 329 miles of routes designated for administrative use or by written authorization only and 908 miles of closed National Forest System roads. The Forest is currently maintaining approximately 300 miles of these roads annually.

The current Forest Plan does provide direction regarding roads, some of which may no longer be applicable or is redundant given the implementation of the Travel Management decision, or possible given the recent declines in budgets. Additionally, forest plan direction only provides consideration of ecological impacts from roads associated with wildlife habitat, and does not consider effects to soil, watershed or water quality. Moving forward, the Forest will need to address the prioritization process on which roads it maintains annually and which closed roads are no longer needed so they can be decommissioned. The Forest has relocated some roads away from floodplains, perennial stream channels, and riparian areas when opportunities and funding have allowed to reduce resource concerns and reoccurring maintenance, and will continue to look for future opportunities. There is a need to:

40. Develop plan direction and management approaches to ensure sustainable infrastructure (e.g., roads, trails, recreation and administrative facilities, range developments, airstrips, etc.) while being adaptive to budgets and resource needs (demand for services, activities, types of facilities).

41. Provide plan direction and management approaches for the maintenance prioritization process of the Gila's National Forest System roads.
42. Update plan direction and management approaches for decommissioning of unneeded roads that accounts for budgets/resource needs and constraints, but that also involves affected stakeholders.

Cultural and Historic Resources

The Gila National Forest contains archaeological resources that demonstrate human occupation and use for approximately the past 12,000 years. The occupation and use of the Forest by American Indians has occurred for the past 12,000 years; the Forest is an important place and linked to the traditional cultures of Pueblo and Athabaskan people in surrounding areas. Occupation and use of the Forest by Euro-Americans and other peoples from the Old World occurred over the past 400 years. As a result the Gila NF includes the locations of numerous historic properties and traditional cultural properties (TCPs).

Archeological site densities vary from five or fewer to over 25 sites per square mile with only about 12% of the Forest inventoried to an acceptable standard. Properties and sites are vulnerable to degradation by both natural processes (i.e., erosion and high severity wildfire), and human processes (i.e., recreation and construction related to land development), which affect their physical integrity and intrinsic cultural value. Historic properties are the major source of information regarding the history of human occupation of the plan area. In addition, the cultural importance of the land itself and the connection of local communities to that land are important parts of their cultural identities. These factors indicate a need to:

43. Update plan direction to stabilize, preserve, interpret, and protect historic and sensitive properties (e.g., archaeological sites, historic structures, and traditional cultural properties).
44. Prepare plan direction that recognizes the inherent value and sensitivity of traditional cultural properties, while maintaining the security of information about such sites.
45. Develop desired conditions in the plan to address the alignment of cultural resource management objectives with other land and resource management objectives.

Areas of Tribal Importance

The Gila National Forest maintains government to government relationships with 10 federally recognized tribes (based in New Mexico, Arizona, Oklahoma, and Texas), and routinely consults with these tribes on policy development, plans, and projects, programs, or activities proposed on the Forest that have a potential to affect tribal interests or natural or cultural resources of importance to the tribes. Lands managed by the Gila National Forest have been used, and continue to be used by many tribes, for a variety of traditional, cultural, and religious activities. Places and properties valued and used by the tribes for a variety of purposes have been identified on every District of the Gila National Forest.

Conditions and trends that are influencing tribal use of the Forest and impacting areas of tribal importance include: (1) changes in adjacent land ownership and development of private lands affecting access, (2) degradation of forest health and watershed conditions affecting plant collections and degrading the condition of sacred places, (3) changing technologies and development interfering with traditional ceremonies, and (4) recreation use contributing to conflicts with traditional practitioners. However, within these challenges there is also room for optimism. Despite being located a significant distance from tribal populations, programs are being established by tribes with Forest participation, which bring youth

onto the Forest to reconnect with traditional lands. Landscape restoration provides an opportunity for tribes and the Forest Service to work together towards common goals. The Forest strives to build and strengthen relationships with tribes and hear and incorporate tribal input into a broad range of activities, and therefore there is a need to:

46. Update plan direction on giving consideration to the value and importance of areas that may be identified as a sacred site or part of an important cultural landscape by tribes (also see Land Status and Ownership, Use and Access section below).
47. Develop management approaches that include opportunities for integrating Forest management with tribal needs through shared stewardship.

Traditional and Cultural Ways of Life

For many years, the lands of the Forest have provided economic, social, and religious value to Native Americans, Hispanics, and Anglo-American traditional communities. The span of these diverse uses include fuelwood and its importance for heating homes and cooking, the tradition and economic importance of grazing, hunting for subsistence and cultural purposes, maintaining acequias, and gathering forest products for ceremonies. The continued use and access to the Forest for these purposes contributes greatly to the continuation of local culture and tradition, and therefore there is a need to:

48. Provide plan direction for historic and contemporary cultural uses, including both economic and noneconomic uses for tribes and for those traditional communities not considered under tribal relations (i.e., traditional Hispanic and Anglo communities).

Land Status and Ownership, Use and Access

The Lands program faces challenges keeping up with increasing demands on its services; including access issues (in general and to private inholdings), encroachment of structures and improvements from adjacent private land onto National Forest System land, title claims, evolving requests for communication sites, the growing Wildland Urban Interface (WUI) area, completing property boundary surveys, and fragmentation.

The current 1986 Forest Plan allows for the adjustment of landownership for resource management goals. Acquisition of private parcels can be helpful in achieving a desired Forest landownership pattern that supports resource management goals, addresses fragmentation, and reduces future management costs. Conversely, the sale or disposal of Forest land can assist communities in moving toward community objectives such as area for expansion or other municipal purposes. However, the 1986 Forest Plan is overly prescriptive in prioritization of parcels for landownership adjustment.

Since 1990, radio and wireless technology has evolved at an extraordinary rate. Lack of cell phone service in certain areas is an issue affecting safety, visitor and potential resident perceptions, and economic development. Because of the rapid pace of technological advancement and the high economic value that communication sites represent, it is necessary to re-evaluate how to best serve administrative and commercial needs, while also protecting natural and cultural resource objectives.

Residential development has increased adjacent to many Forest boundaries, and adjacent at-risk communities in the wildland-urban interface have responded to the threat of uncharacteristic wildfire by developing community wildfire protection plans. A trending loss of access to Gila National Forest System lands has developed as a result of many new private landowners restricting public access across their property to National Forest System lands. The Gila NF desires to acquire road rights-of-way where

possible to provide adequate access for public (e.g. recreation) and administrative use. There is a need to:

49. Develop plan direction related to Forest Service land acquisitions, disposals, and exchanges that are not covered by the existing Forest Plan.
50. Prepare plan direction for the authorization, location, and inspection of current and future communication site infrastructure because there is an increasing demand on the Forest for these services.
51. Create plan direction that is more flexible to changes in technology and can be responsive to future needs and changes in communication site demand.
52. Include management approaches for the resolution of existing and prevention of new encroachment cases on the Forest.
53. Formulate plan direction that encourages the protection of existing public access and the acquisition of new public access opportunities to National Forest lands.

Energy and Minerals

The public desires to know the policies and regulations concerning personal collecting of rocks, minerals and gold ore from the Forest as this information has been disseminated in an ambiguous or uneven way in the past. More internal Forest Service training and communication on this subject was suggested by stakeholders to improve the accuracy and consistency of responses to public inquiries so there is a need to:

54. Include management approaches for education and communication of policies regarding recreational mining and non-commercial rock and mineral specimen collection activities.

Glossary

Adaptive Management - Adaptive management is the general framework encompassing the three phases of planning: assessment, plan development, and monitoring (36 CFR 219.5). This framework supports decision-making that meets management objectives while simultaneously accruing information to improve future management by adjusting the plan or plan implementation. Adaptive management is a structured, cyclical process for planning and decision-making in the face of uncertainty and changing conditions with feedback from monitoring, which includes using the planning process to actively test assumptions, track relevant conditions over time, and measure management effectiveness.

Assessment - For the purposes of the Forest Plan Revision, an assessment is the identification and evaluation of existing information to support land management planning. Assessments are not decision-making documents, but provide current information on select topics relevant to the plan area, in the context of the broader landscape (36 CFR 219.19).

At-risk species - A term used in land management planning to refer to, collectively, the federally recognized threatened, endangered, proposed, and candidate species and species of conservation concern within a plan area.

Connectivity - Ecological conditions that exist at several spatial and temporal scales that provide landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long distance range shifts of species, such as in response to climate change (36 CFR 219.19).

Designated area - An area or feature identified and managed to maintain its unique special character or purpose. Some categories of designated areas may be designated only by statute and some categories may be established administratively in the land management planning process or by other administrative processes of the Federal executive branch.

Disturbance - Any relatively discrete event in time that disrupts ecosystem, watershed, community, or species population structure and/or function and changes resources, substrate availability, or the physical environment (36 CFR 219.19).

Disturbance regime - A description of the characteristic types of disturbance on a given landscape; the frequency, severity, and size distribution of these characteristic disturbance types; and their interactions (36 CFR 219.19).

Ecological conditions - The biological and physical environment that can affect the diversity of plant and animal communities, the persistence of native species, and the productive capacity of ecological systems. Ecological conditions include habitat and other influences on species and the environment. Examples of ecological conditions include the abundance and distribution of aquatic and terrestrial habitats, connectivity, roads and other structural developments, human uses, and invasive species (36 CFR 219.19).

Ecological integrity - The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence (36 CFR 219.19).

Ecological Response Unit (ERU) – Vegetation type concepts and map units that combine themes of site potential, or potential natural vegetation, historic disturbance regimes and natural succession. Site potential is a term used to describe the characteristic ecological conditions at the latest successional state, resulting from the interactions among climate, soil and vegetation over time.

Ecosystem services - Benefits people obtain from ecosystems.

Functioning Properly – A condition class of the Watershed Condition Classification. For more information on the Watershed Condition Classification please refer to page 205 of the Gila NF’s assessment report. As applied to the rangeland vegetation indicator, this term means that rangelands reflect native or desired nonnative plant composition and cover at near-natural levels as defined by the site potential.

Functioning at Risk - A condition class of the Watershed Condition Classification. For more information on the Watershed Condition Classification please refer to page 205 of the Gila NF’s assessment report. As applied to the rangeland vegetation indicator, this term means that rangelands reflect native or desired nonnative plant composition and cover with slight to moderate deviation compared to natural levels as defined by the site potential.

Geographic Range – The area within which a particular ecosystem or species can be found.

Geomorphic – of or relation to the form or shape of the landscape and other natural features of the earth’s surface.

Historic Property – The term "historic property" is defined in the NHPA (National Historic Preservation Act) as: "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register"; such term includes artifacts, records, and remains which are related to such district, site, building, structure, or object.

Impaired Function - A condition class of the Watershed Condition Classification. For more information on the Watershed Condition Classification please refer to page 205 of the Gila NF’s assessment report. As applied to the rangeland vegetation indicator, this term means that rangelands reflect native or desired nonnative plant composition and cover that are greatly reduced or unacceptably altered compared to natural levels as defined by the site potential.

Indian Sacred Site – a "sacred site" retains the same meaning as provided in Executive Order 13007; that is " ... any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." Within this document, this term also refers more broadly to those sites that could in the future be so identified. Such sacred sites may also be eligible for the National Register of Historic Places as historic properties of religious and cultural significance to Indian tribes.

Multiple use - The management of all the various renewable surface resources of the NFS so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions;

that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19).

Natural range of variation (NRV). - Those ecosystem conditions that pre-date European settlement. This timeframe is considered a sufficiently long enough to include the full range of variation in conditions produced by dominant natural disturbance regimes such as fire and flooding, as well as short-term variation and cycles in climate (FSH 1909.12, zero code, sec. 05). The variation of ecological characteristics and processes over scales of time and space that are appropriate for a given management application.

Rangeland Vegetation Indicator – One of twelve indicators of watershed condition utilized in the Watershed Condition Classification. This indicator addresses impacts to soil and water relative to the vegetative health of rangelands. For more information on the Watershed Condition Classification please refer to page 205 of the Gila NF's assessment report.

Resilience - The ability of an ecosystem and its component parts to absorb, or recover from the effects of disturbances through preservation, restoration, or improvement of its essential structures and functions and redundancy of ecological patterns across the landscape.

Restoration, ecological. - The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions (36 CFR 219.19).

Riparian Areas - Three-dimensional ecotones [the transition zone between two adjoining communities] of interaction that include terrestrial and aquatic ecosystems that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at variable widths (36 CFR 219.19).

Risk - A combination of the likelihood that a negative outcome will occur and the severity of the subsequent negative consequences (36 CFR 219.19).

Species of conservation concern - A species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the Regional Forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area (36 CFR 219.9(c)).

Sustainability - The capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For the purposes of the land management planning regulation at 36 CFR part 219 “ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity; “economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and “social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities (36 CFR 219.19).

Traditional Cultural Property (TCP) - A property or site that is eligible for inclusion on the National Register of Historic Places because of its association with cultural practices or beliefs of a living community that are rooted in that community's history and because of its importance to maintaining the cultural identity of that community.

Watershed - Watersheds are defined by the topographic extent of an area that drains to a single point in a stream or river system. Watersheds are cataloged using a uniform hierarchical system developed by the United States Geological Society (USGS) where the United States is divided and subdivided into successively smaller hydrologic units. There are six levels of hydrologic units: region (1st level), subregion (2nd level), basin (3rd level), subbasin (4th level), watershed (5th level) and subwatershed (6th level).