United States Department of Agriculture

Forest Service

Southwestern Region

Scenic Resources Specialist Report, May 2014

Forest Plan Revision FEIS

Submitted by: __/s/_____
Evelyn Treiman
Natural Resource Specialist (Recreation)
Apache-Sitgreaves National Forests
May 2014

Contents

List of Tables

Scenic Resources Specialist Report

Introduction

This report evaluates and discloses the potential environmental consequences to scenic resources that may result from the adoption of a revised land management plan. It examines, in detail, four different alternatives for revising the 1987 Apache-Sitgreaves National Forests (Apache-Sitgreaves NFs) land management plan (1987 plan).

Relevant Laws, Regulations, and Policy that Apply

The Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528 (note)) - authorizes and directs the Secretary of Agriculture "to develop and administer the renewable surface resources of the National Forests" with "harmonious and coordinated management of the various resources . . . 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."

National Environmental Policy Act of 1969 (NEPA) - NEPA states that it is the "continuing responsibility of the Federal Government to use all practicable means to assure for all Americans, aesthetically and culturally pleasing surroundings." Therefore, NEPA mandates agencies to develop methodologies for scenery management of "aesthetically and culturally pleasing surroundings" that are capable of being put into practice, even if they are not currently in use. NEPA also requires "a systematic and interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts into planning and decision-making which may have an impact on man's environment." To accomplish this, numerous federal laws require all Federal land management agencies to consider scenery and aesthetic resources in land management planning, resource planning, project design, implementation, and monitoring. These Federal laws include the following:

Wilderness Act (1964) - The act dictates that Wilderness is an area of Federal land that will be managed to retain its primeval character and influence. It is protected and managed so as to preserve its natural condition and the imprint of man's work must be substantially unnoticeable.

Wild and Scenic Rivers Act (1968) - The outstandingly remarkable scenic values of rivers eligible or suitable to be included in the system must be carefully managed. Any management activities that could negatively impact the scenic resources should not be conducted.

National Trails System Act (1968) - This act states that trails should be established within scenic areas and along historic travel routes of the Nation, which are often more remotely located.

Environmental Quality Act (1970) - This act sets forth a national policy for the environment which provides for the enhancement of environmental quality.

Forest and Rangeland Renewable Resources Planning Act (1974) - This act provides direction to conduct aesthetic analysis and assess the impacts on aesthetics for timber harvesting. It also provides the framework for natural resource conservation.

National Forest Management Act (1976) - This act provides direction that the preservation of aesthetic values is analyzed at all planning levels. Part 219.21 requires that the visual resource shall be inventoried and evaluated as an integrated part of evaluating alternatives in the forest planning process, addressing both the landscape's visual attractiveness and the public's visual expectation.

Public Rangelands Improvement Act (1978) - This act declares that "unsatisfactory conditions on public rangelands reduce the value of such lands for recreational and aesthetic purposes."

The Intermodal Surface Transportation Efficiency Act of 1991 (23 U.S.C. 101 (note)) - directs the establishment of a national scenic byways program with designation criteria to include consideration of scenic beauty. It further recommends that designated travelways have operation and maintenance standards which include "strategies for . . . protecting and enhancing the landscape and view corridors surrounding such a highway."

36 CFR part 219, subpart A, National Forest System Land and Resource Management Planning - includes requirements for consideration, treatment, and protection of intangible resources such as scenery and aesthetics.

36 CFR part 251, subpart B, Special Uses- includes requirements for permittees or holders to minimize damage to scenic and aesthetic values.

36 CFR part 223, Sale and Disposal of National Forest System Timber - includes requirements for protection of environmental quality and for minimizing adverse effects on, or providing protection for and enhancing, other National Forest System resources.

36 CFR part 297, Wild and Scenic Rivers - includes requirements for the protection of scenic and natural values from the effects of any water resources project.

36 CFR, part 293, Wilderness -- Primitive Areas - includes requirements for scenic use, preservation and protection of wilderness character, and promotion and perpetuation of specific values including solitude and inspiration.

36 CFR part 228, subpart A, Locatable Minerals - includes requirements for harmonizing mineral operations with scenic values (sec. 228.8), and protecting scenic values when approving access to those operations (sec. 228.12).

36 CFR part 254, Landownership Adjustments - includes requirements for protecting aesthetic values on lands involved in these transactions.

Forest Service Manual 2300 - Recreation, Wilderness, and Related Resource Management; Chapter 2380 - Landscape Management.

Agriculture Handbook 701 (Vol. 2, Ch. 1 in the National Forest Landscape Management Series), "Landscape Aesthetics: A Handbook for Scenery Management". 1995.

Methodology and Analysis Process

The provisions of the 1982 planning rule require the Forest Service to complete an inventory of scenic resources. For this analysis, the TEAMS Enterprise Unit of the Forest Service completed the scenic inventory of the Apache-Sitgreaves NFs in 2009. A summary of the inventory process

is found in Appendix A, while a detailed methodology is presented in the inventory report (Spencer and Klee 2009). TEAMS conducted the inventory using the Scenery Management System (SMS) process outlined in Agriculture Handbook 701 (U.S. Forest Service 1995). The TEAMS unit created a composite scenery base map in Geographic Information System (GIS) format, which represents the existing scenic conditions on the forests.

The forest plan revision team used this map in 2010 to recommend scenic integrity levels (SIL) by management area. Other resource features that could affect scenic integrity were identified and SILs were recommended. When a decision is made on the forest plan, the SILs will become the Scenic Integrity Objectives (SIO) and will be used to manage the scenic resources over the life of the new forest plan. This analysis looks at the SILs by alternative to determine the effects to scenic resources as variations in management activities and areas occur.

Assumptions

In the analysis for this resource, assumptions include the following:

- All acreage figures are approximate. They were calculated using the most current data available in the Apache-Sitgreaves NFs' GIS databases.
- Scenic integrity objectives are implemented at the project level by setting the acceptable level of alteration to the characteristic landscape, based on the importance of the landscape. Mitigation measures will be developed and applied at the project level.
- Roads that are bounded on two sides by the Wilderness Management Area or the Recommended Wilderness Management Area (SIL of Very High) are assigned a SIL of High.
- Where Inventoried Roadless Areas (IRAs) extend beyond the Recommended Wilderness Management Area in Alternatives B and D, the size, physical location, presence of roads, and type of timber or vegetation management activity (if any) are considered before a SIL was assigned to the area. The information on timber and vegetation management activities is from in the GIS activities database that was used for the wilderness inventory/evaluation process. (This database was frozen at the time the wilderness inventory process was initiated.) If an IRA overlays a Wild and Scenic River area (corridor), the most restrictive SIL is assigned.
- When a decision is made on the land management plan, the scenic integrity levels (SILs) will become the scenic integrity objectives (SIOs) and would be used to manage the scenic resources over the planning period. This analysis looks at the SILs by alternative to determine the effects to scenic resources as variations in management activities and management areas occur.
- In May and June of 2011, the Wallow Fire burned over 538,000 acres on the Apache NF and adjoining ownerships. Many trees in the forested areas were killed, while others are likely to die. Flooding and increased erosion have occurred and will continue for several years. Aspen regeneration is expected across much of the burned area, which may result in more widespread fall color displays. The Wallow Fire does not change the proposed scenic integrity levels (and objectives) because they are tied to management areas and resource features.

Revision Topics Addressed in this Analysis

Scenic Resources is included in the "Managed Recreation" revision topic.

The indicator for Scenic Resources is the acceptable level of alteration to the landscape in a management area as measured by the acres of each Scenic Integrity Level (SIL) in each management area.

Summary of Alternatives

A summary of alternatives, including the key differences among alternatives, is outlined in the Environmental Impact Statement. In general, changes in desired scenic conditions vary in response to the changes in management areas across the alternatives.

Description of Affected Environment (Existing Condition)

The Apache-Sitgreaves NFs contain some of the most scenic landscapes in the State of Arizona, ranging from rugged canyons to rolling hills and grasslands to conifer forests. Scenic resources contribute to visitor satisfaction and enjoyment of the forests. Very popular visitor activities include viewing natural features, landscapes, and wildlife (Kocis et al. 2002).

Existing Landscapes

The Apache-Sitgreaves NFs lie within the White Mountains-San Francisco Peaks-Mogollon Rim ecoregion section. This ecoregion section is located on the Colorado Plateau in central and east-central Arizona and west-central New Mexico. Geomorphic processes active in this section involve recent volcanism; including basaltic lava flows, cinder cone eruptions, and volcanic ash. Major landforms include mountains, plains, plateaus, and hills. Elevations on the forests range from 3,600 feet to over 11,000 feet.

Precipitation ranges from 20 inches to over 32 inches annually, with more than half of the precipitation falling during the winter. Winters are cold with the growing season ranging from less than 50 days to 110 days.

Plant communities vary with ponderosa pine and Gambel oak on warm and dry sites; white fir and Douglas-fir on cool, moist sites; and Engelmann spruce, blue spruce, and subalpine fir or corkbark fir on the coldest, wettest sites.

Historically, fires occurred naturally in ponderosa pine forests about every 2 to 17 years, but now occur less frequently because of fire suppression and other management activities. This has led to thicker forests and increased fuel loads, resulting in a less resilient ecosystem and an increased risk of uncharacteristic wildfire. Current land uses include a wide variety of recreation activities, grazing, and fuels reduction.

The Apache-Sitgreaves NFs can generally be divided into three landscapes: high plateau, volcanic highlands, and below the Mogollon Rim (Figure 1). The Mogollon Rim, a 2,000-foot escarpment, is a dominant feature across the forests.

<u>High Plateau</u>
Most of the Sitgreaves NF is included in the High Plateau. This broad, rolling landscape extends from Leonard Canyon on the west to the Show Low area on the east and extends north from the

Mogollon Rim. Large stands of ponderosa pine, mixed conifers, and aspen cover the southern portion of this area, while piñon-juniper woodlands and grasslands blanket the northern band. This elevated plain provides spectacular vistas, both north and south, especially along Forest Road 300 and State Highway (SH) 260. This rolling landscape is dissected by rugged, steep-walled sandstone and limestone canyons that drain north to the Little Colorado River. There are essentially no roads in the canyons; however, a road network covers the uplands and provides access for motorized and non-motorized recreation.

Developed recreation opportunities are plentiful, especially in the Woods Canyon Lake, Willow Springs Lake, and Fool Hollow Lake areas. An abundance of snow in the winter months provides opportunities for snowshoeing, cross-country skiing, and snowmobiling. This area is a favorite of both summer and winter recreationists because it is less than 2 hours from the Phoenix metropolitan area. Outside the developed recreation areas, the landscape has been, and continues to be, a favorite spot for traditional activities such as camping, hunting, fishing, and firewood and piñon nut gathering. State Highway 260 is the primary east-west transportation corridor, while SHs 77, 277, and 377 provide access to the north and U.S. Highway 60 provides access to the south and east. Two major energy corridors cross this landscape. Most of the area south of SH 260 was burned during the 2002 Rodeo-Chediski Fire and is currently in a state of transition with remnant burned snags and new vegetative growth. The towns of Show Low and Pinetop-Lakeside, near the eastern edge, are the residential, commercial, and tourist hub of the Apache-Sitgreaves NFs. Most forest visitors to the eastern portion of this landscape participate in day-use recreation activities and return to their urban accommodations at night.

Volcanic Uplands

East of Show Low, the landscape transitions into the Volcanic Uplands with volcanic peaks, basalt flows, cinder cones, and vast high-elevation grasslands. This landscape continues east to the New Mexico state line and south to the Mogollon Rim. High mountains and river canyons are prominent features of the landscape. Vegetation includes piñon-juniper woodlands, grasslands, ponderosa pine and mixed conifer forests, aspen, lush riparian areas, and the forests' largest concentration of spruce-fir forest. The headwaters of several major Arizona rivers, including the Little Colorado, Black, Blue, and San Francisco, are found in this landscape. Mount Baldy and Escudilla Mountain dominate the landscape in the northern portion of this area.

Two scenic byways, the Coronado Trail National Scenic Byway and the White Mountain Scenic Road, provide motorized corridors for viewing vegetation, wildlife, and landforms that combine to provide some of the most spectacular scenery on the forests. Viewing fall colors and wildlife, such as elk and eagles, are major activities. Residents of the communities of Greer, Alpine, Nutrioso, Springerville, and Eagar consider this area their backyard and participate in traditional activities such as hunting, fishing, and firewood gathering.

Recreationists participate in an array of activities such as camping, hiking, biking, OHV riding, cross-country skiing, and snowmobiling. Developed campgrounds and dispersed campsites are destinations for many visitors who seek relief from hot desert temperatures. All three Wilderness areas on the forests can be found here: Mount Baldy, Bear Wallow, and Escudilla. Water is a primary draw for recreationists with popular sites including Big Lake, Lee Valley Reservoir, and the East and West Forks of the Black River. State Highway 260 and U.S. Highway 60 are the primary east-west transportation corridors, U.S. Highways 180 and 191 provide access from the north, southeast, and south.

Below the Mogollon Rim

Below the Mogollon Rim, the landscape is drier and harsher with rugged topographic features. Elevations range from 9,200 feet on the Mogollon Rim to 3,600 feet on the San Francisco River. Unique rock formations, steep canyons, mesas, and broad valleys characterize the landscape. Vegetation changes with elevation, ranging from ponderosa pine and mixed conifer forests on the Mogollon Rim through pine-oak woodlands and chaparral to semi-desert grasslands in the south. Riparian forests are found along the major rivers and creeks. Wildlife viewing abounds with opportunities to see bighorn sheep, coatimundi, and rare birds such as peregrine falcon, wintering bald eagle, and common black-hawk.

There are few roads in this area, but non-motorized trails are plentiful. Most recreationists enjoy dispersed activities such as camping, hiking, horseback riding, hunting, birding, and OHV riding. Most of the Blue Range Primitive Area is in this landscape. The Blue River, San Francisco River, and Eagle Creek are the major waterways. This landscape contains extensive archaeological remnants of the Mogollon culture, the native people that lived here thousands of years ago. Present-day residents have strong ties to the land and use the forests in traditional ways including ranching and guiding big game hunts. U.S. Highway 191 is the primary north-south transportation corridor, while SH 78 provides access to U.S. Highway 191 from the east.

Wallow Fire

In May and June of 2011, the Wallow Fire burned over 438,000 acres on the Apache NF and adjoining ownerships. Wildfire is considered a natural ecological process. Most of the Volcanic Uplands and a portion of Below the Mogollon Rim in the East Eagle Creek and upper Blue River drainages were affected. Many trees in the forested areas were killed, while others are likely to die. Flooding and increased erosion has occurred and will continue for several years. Aspen regeneration is expected across much of the burned area, which may result in more widespread fall color displays. The Wallow Fire does not change the proposed scenic integrity levels (and objectives) because they are tied to management areas and resource features.

Current Management

The Apache-Sitgreaves NFs currently manage scenic resources with the Visual Management System (VMS), which was adopted by the Forest Service in 1974. This system was used to derive Visual Quality Objectives (VQO) for all lands within the Apache-Sitgreaves NFs. VQOs are based on three factors: (1) the variation of a landscape; (2) the level of concern visitors have for scenic quality while viewing the landscape from certain areas or routes; and (3) the distance viewers are from the landscape or a feature on the landscape, such as a road (U.S. Forest Service 1974).

Three variety classes identify the scenic quality of the natural landscape being viewed. Class A (Distinctive) refers to areas where features of landform, vegetation patterns, water forms, and rock formations are of unusual or outstanding visual quality. They are usually not common in the character type. Class B (Common) refers to those areas where features contain variety in form, line, color, and texture or combinations thereof, but which tend to be common throughout the character type and are not outstanding in visual quality. In comparison, Class C (Minimal) refers to areas whose features have little variety in form, line, color, or texture. Class C includes all areas not found under Classes A and B.

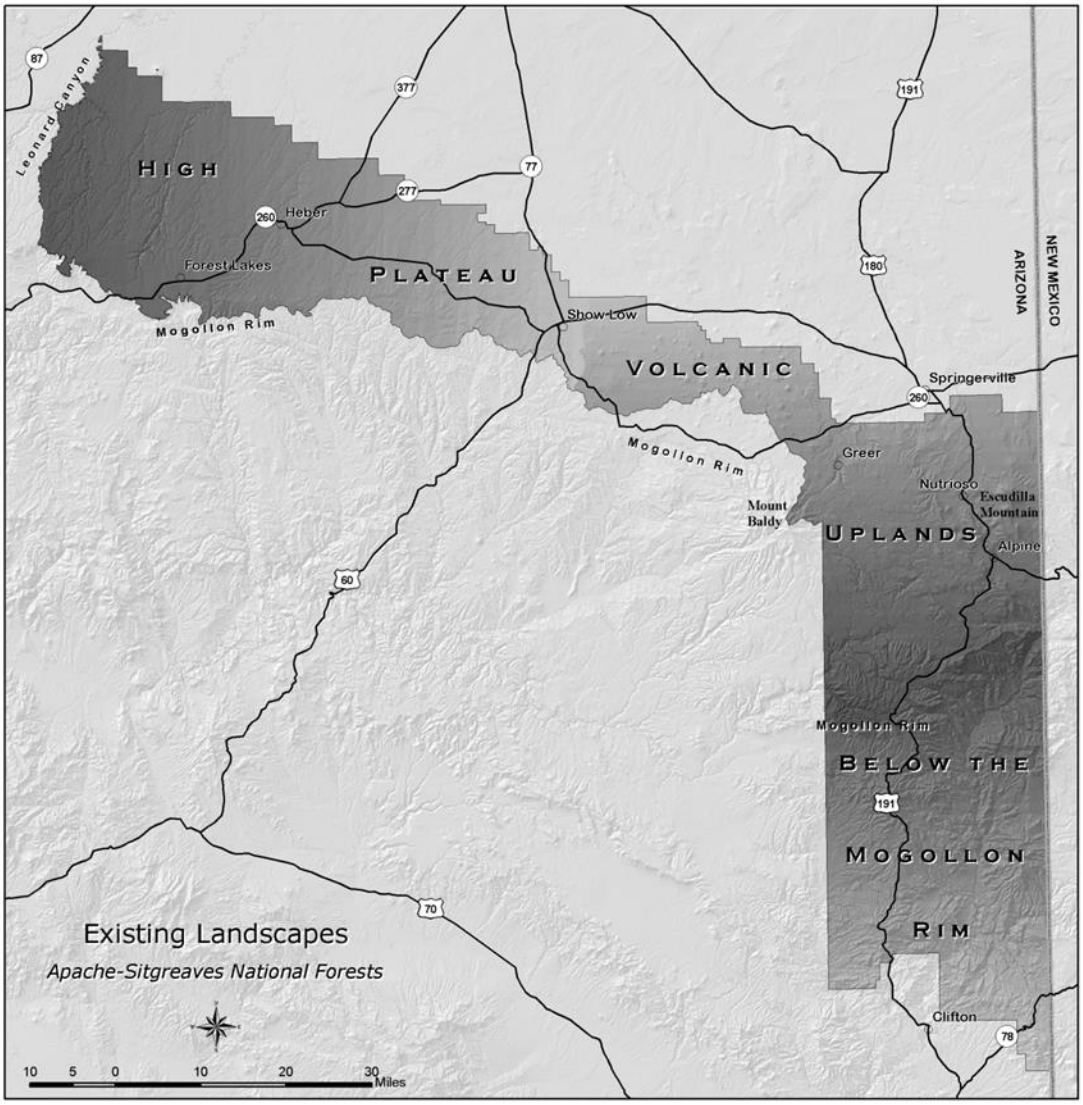

Figure 1. Existing Landscapes on the Apache-Sitgreaves NFs

The level of concern or sensitivity visitors have while viewing national forests is determined by those traveling through the forests on developed roads and trails or who are using areas such as campgrounds and visitor centers, and recreating at streams and lakes. These levels are ranked from "1" to "3," with "1" reflecting the highest sensitivity and "3" the lowest sensitivity.

Landscapes are also analyzed by identifying viewpoints where people would be expected to have high concern for scenic quality. On the forests, this includes the Mogollon Rim Scenic Overlook on the Black Mesa Ranger District, the Blue Vista Scenic Overlook on the Clifton Ranger District, the developed recreation sites at Big Lake on the Springerville Ranger District, the three scenic byways, and designated wilderness. Under VMS, areas that are seldom seen generally have a lower sensitivity level. Distance zones are developed to describe the landscape being viewed. The three distance zones are foreground, middleground, and background. Foreground is the area

within ¼ to ½ mile of the observer, middleground extends from the foreground to 3 to 5 miles from the observer, and background extends beyond the middleground to the horizon.

Management direction is provided in the 1987 plan for the five VQOs, ranging from allowing almost no change to the landscape to allowing many types of changes. The VQOs are preservation, retention, partial retention, modification, and maximum modification. Table 1 shows the current VQO acreages by management area.

Preservation (P) - Provides for ecological changes only.

Retention (R) - Management activities are generally not evident to the casual visitor.

Partial Retention (PR) - In general, management activities may be evident but must be subordinate to the characteristic landscape.

Modification (M) - Management activities may dominate the characteristic landscape, but must at the same time, utilize naturally established form, line, color, and texture. Man's activities should appear as natural occurrences when viewed from foreground or middleground.

Maximum modification (MM) - Management activities may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background. When viewed as foreground or middle ground, they may not appear to completely borrow from naturally established form, line, color, or texture. Alterations may also be out of scale or contain detail which is incongruent with natural occurrences as seen in foreground or middle ground.

Table 1. Acres of Visual Quality Objectives by Management Area (Alternative A)

Management Area	Preservation VQO (acres[1])	Retention VQO (acres)	Partial Retention VQO (acres)	Modification VQO (acres)	Maximum Modification VQO (acres)
Forest Land	0	294,326	500,826	23,394	17,742
Woodland	0	82,040	235,509	281,811	11,665
Riparian	0	5,224	1,646	0	0
Grasslands	0	69,826	78,074	90,525	5,601
Developed Recreation Sites	0	1,665	0	0	0
Mount Baldy Wilderness	7,079	0	0	0	0
Blue Range Primitive Area and Additions	187,410	0	0	0	0
Escudilla Demonstration Area	0	10,460	412	0	0
Research Natural Areas	0	1,641[2]	0	0	0
Water	0	3,072	890	0	0

Management Area	Preservation VQO (acres[1])	Retention VQO (acres)	Partial Retention VQO (acres)	Modification VQO (acres)	Maximum Modification VQO (acres)
Bear Wallow Wilderness	11,080	0	0	0	0
Escudilla Wilderness	5,200	0	0	0	0
Black River (Mainstem)	0	6,751	225	200	0
West Fork Black River	0	3,365	100	0	0
Chevelon Canyon	0	9,734	823	977	0
East and West Forks Little Colorado River	0	2,360	0	0	0
Sandrock	0	0	17,474	8,563	0
TOTAL	210,769	490,464	835,979	405,470	35,008

[1] 1987 plan management area acres. 2,901 unassigned acres in Research Natural Areas and Black River (Mainstem) were assigned to the Retention VQO. 100 unassigned acres in Grasslands were assigned to the Modification VQO.

[2] Does not include 909 acres of the recommended Escudilla Mountain RNA.

Note: Acreages in this table are from the 1987 plan and do not agree with the acreages used to calculate motorized travel and recreation suitability in the Recreation Specialist Report.

Future Management

The Forest Service updated the Visual Management System at the national level to the Scenery Management System (SMS) (U.S. Forest Service 1995). SMS incorporates computerized mapping technology and applies elements and objectives at the project level to incorporate the existing and desired landscape character. SMS is also adaptive and responds to changing ecological conditions.

The Apache-Sitgreaves NFs will transition to SMS upon completion of the forest plan revision process. Table 2 shows the relationship between Visual Quality Objectives (VQOs) and Scenic Integrity Objectives (SIOs).

Table 2. Crosswalk between Visual Management System and Scenery Management System

Visual Quality Objective (VQO) from VMS	Degree of Landscape Alteration	Scenic Integrity Objective (SIO) from SMS
Preservation (P)	Unaltered	Very High (VH)
Retention (R)	Appears Unaltered	High (H)
Partial Retention (PR)	Slightly Altered	Moderate (M)
Modification (M)	Moderately Altered	Low (L)
Maximum Modification (MM)	Heavily Altered	Very Low (VL)

Management direction is provided in the proposed plan for the five SIOs, ranging from allowing almost no change to the landscape to allowing many types of changes. The SIOs are described below:

Very High (VH) - Refers to landscapes where the valued landscape character "is intact" with only minute, if any, deviations. The existing landscape character and sense of place is expressed at the highest possible level.

High (H) - Refers to landscapes where the valued landscape character "appears intact". Deviations may be present, but must repeat form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.

Moderate (M) - Refers to landscapes where the valued landscape character "appears slightly altered." Noticeable deviations must remain visually subordinate to the landscape character being viewed.

Low (L) - Refers to landscapes where the valued landscape character "appears moderately altered." Deviations begin to dominate the valued landscape character being viewed, but they borrow valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed. They should not only appear as valued character outside the landscape being viewed, but compatible or complimentary to the character within.

Very Low (VL) - Refers to landscapes where the valued landscape character "appears heavily altered." Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed. However, deviations must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.

Environmental Consequences of Alternatives

The land management plan provides a programmatic framework that guides site-specific actions but does not authorize, fund, or carryout any project or activity. Because the land management plan does not authorize or mandate any site-specific projects or activities (including ground-disturbing actions), there can be no direct effects. However, there may be implications, or longer-term environmental consequences, of managing the forests under this programmatic framework.

The existing VQOs would become SIOs in Alternative A, but acreages would need to be adjusted to reflect new mapping techniques and changes in land ownership. Table 1 shows the existing VQO acres for each Alternative A management area. Table 3 shows the desired Scenic Integrity Levels (SIL) for each management area in Alternatives B, C, and D. Other resource features that may affect management area SILs are listed with their desired SILs. SILs range from Very High (VH-unaltered) to Very Low (VL-heavily altered) and define the acceptable levels of landscape alteration, as it relates to scenic resources.

Table 3. Desired Scenic Integrity Levels (SIL) by Management Area (Alternatives B, C, and D)

Management Area/Resource	Subset	SIL*
General Forest		M to H
Community-Forest Intermix		L to M
High Use Developed Recreation Area		within - L to M
		views from - M to H
Energy Corridor		VL
Wild Horse Territory		L to H
Wildlife Quiet Area		M to H
Natural Landscape	undeveloped areas	H to VH
	developed sites, campgrounds, roads, etc.	M to H
Research Natural Area	Phelps Cabin	H to VH
	Botanical Area	H outside WSR corridor
Recommended Research Natural Area	Thomas Creek	M
	Corduroy	H outside WSR corridor
	Three Forks	H outside WSR corridor
	Lower Campbell Blue	H outside WSR corridor
	Sandrock	H outside WSR corridor
Primitive Area		VH
Wilderness		VH
Recommended Wilderness		VH
Other resource features which may affect management area SILs		
Scenic Byways		H in foreground
National Recreation Trails		H to VH in immediate foreground (0-300 feet)
Wild and Scenic Rivers (WSR)	Wild	VH
	Scenic	M to H
	Recreational	L to M
montane/subalpine grasslands		H to VH
lakes		M to H
Mogollon Rim vistas		H to VH
large cinder/gravel pits		L
communication sites		L to M

*VH=very high, H=high, M=moderate, L=low, and VL=very low

When the above SILs are applied to the management areas in Alternatives B, C, and D, the acreages shown in Table 4 are the result. In some cases, there may be SIL acres shown that are outside the range identified for a management area. This is the result of applying the SILs for the other resource features. For example, VH SIL acres are shown for the General Forest Management Area in Alternatives B, C, and D and reflect the presence of wild river corridors and montane/subalpine grasslands in this management area.

Those management areas where there are acreage changes in SILs across the alternatives are General Forest, Community-Forest Intermix, Wildlife Quiet Area, Natural Landscape, Recommended Research Natural Area, and Recommended Wilderness. There is no to minimal change in SIL acres across the alternatives for the remaining management areas.

Table 4. Acres of Desired Scenic Integrity Levels by Management Area and Alternative

Alt (s)	Very High SIL (acres)	High SIL (acres)	Moderate SIL (acres)	Low SIL (acres)	Very Low SIL (acres)
GENERAL FOREST					
B	38,368	372,204	813,289	211	
C	62,357	605,711	931,080	211	
D	32,957	328,093	707,459	210	
COMMUNITY-FOREST INTERMIX					
B & C	306	4,967	55,108	183	
D	306	4,421	53,701	183	
HIGH-USE DEVELOPED RECREATION AREA					
B, C, & D	4,301	7,524	4,724		
ENERGY CORRIDOR					
B & C			57		2,490
D			57		2,492
WILD HORSE TERRITORY					
B, C, & D		397	18,364		
WILDLIFE QUIET AREA					
B	853	20,840	28,480		
C	853	21,000	22,520		
D	1,428	22,870	35,082		
NATURAL LANDSCAPE					
B	32,071	375,603	128		
C	3,850	31,558			
D	530	76,526	63		
RECOMMENDED RESEARCH NATURAL AREA					
B & C	2,289	5,026	499		

Alt (s)	Very High SIL (acres)	High SIL (acres)	Moderate SIL (acres)	Low SIL (acres)	Very Low SIL (acres)
D	1,696	4,260			
RESEARCH NATURAL AREA					
B, C, & D	49	211			
PRIMITIVE AREA					
B, C, & D	199,502				
RECOMMENDED WILDERNESS					
B	7,074				
C	6,982				
D	484,712				
WILDERNESS					
B, C, & D	23,234				

The SIL acreages for each alternative are summarized in Table 5 and shown in Figure 2.

Table 5. Acres of Scenic Integrity Level by Alternative

Scenic Integrity Level (SIL)	Alt A (VQO acres)	Alt B (acres)	Alt C (acres)	Alt D (acres)
Very High	210,769	305,047	303,723	748,716
High	490,464	786,773	676,394	444,302
Moderate	835,979	920,648	1,032,351	819,449
Low	405,470	394	394	393
Very Low	35,008	2,490	2,490	2,492
TOTAL	1,977,690	2,015,352	2,015,352	2,015,352

Note: Alternative A acres are from the 1987 plan. These acres do not include any changes in land tenure (NFS lands acquired or disposed of) or in mapping techniques.

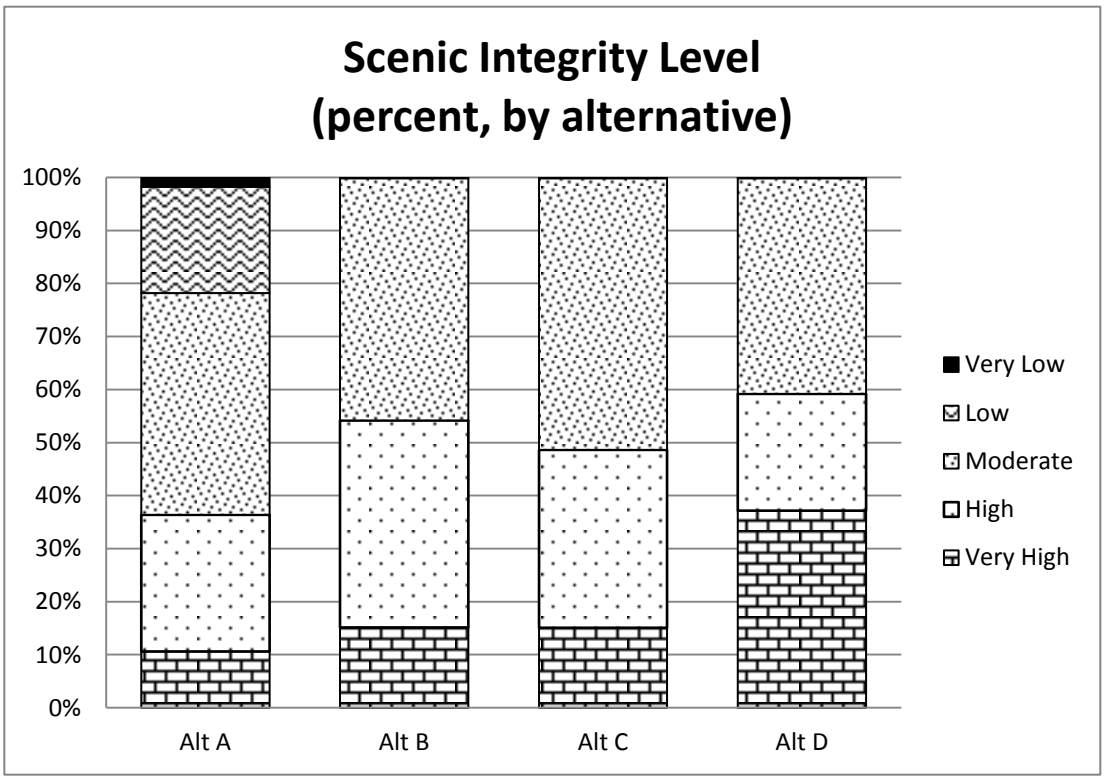

Figure 2. Percent of Scenic Integrity Level by Alternative

As shown in Table 5 and Figure 2, Alternative A represents a range of all SIL classes with an emphasis on Moderate scenic integrity. Alternative B shows more emphasis on Moderate to High scenic integrity, while Alternative C's focus is on Moderate scenic integrity, with some emphasis on High scenic integrity. Alternative D emphasizes Moderate and Very High scenic integrity. The SILs will become SIOs in the final plan.

Alternative Discussions

Consequences of Alternative A, the "no action" alternative. Continuation of the use of the Visual Management System (VMS) and Visual Quality Objectives (VQOs) would be contrary to current Forest Service policy. VMS is not an adaptive system and does not respond to changing ecological conditions as SMS does. Overall, scenic resources would be maintained at a lower scenic integrity than Alternatives B, C, and D, because of the greater acreage in the Very Low, Low, and Moderate VQOs. The forests would convert to SMS under Alternative A.

Consequences common to all action alternatives. All SIOs are applied at the project level. If needed, they may be refined at this level. The action alternatives reflect a greater emphasis on scenic quality, with fewer acres in the Low and Very Low SILs. There is minimal change in acreage for the Low and Very Low SILs in Alternatives B, C, and D. There is also no to minimal change in SIL acreages (Table 4) for the following management areas across the alternatives: High Use Developed Recreation Area, Energy Corridor, Wild Horse Territory, Research Natural Area, Wilderness, and Primitive Area.

Consequences of each alternative.
Figure 2 shows the percent of each Scenic Integrity Level (SIL) by alternative. Because the Low and Very Low SILs do not vary in Alternatives B, C, and D, the following discussion focuses on the Moderate, High, and Very High SILs.

Alternative A would mange scenic resource under a mix of SILs with an emphasis on Low, Moderate, and High scenic integrity. In general, the forests would be managed for natural-appearing landscapes. However, this alternative would allow the most landscape alterations or deviations.

Alternative B would manage scenic resources under a mix of SILs with an emphasis on Moderate to High scenic integrity. In general, the Apache-Sitgreaves NFs would be managed for natural-appearing, intact landscapes with the exception of the Energy Corridor Management Area. Minor landscape alterations would be allowed except on the Very High SIL acres. Comparable acres are managed for Very High SIL under Alternatives B and C. Slightly more land would be managed under the High SIL in Alternative B than in Alternative C. Slightly less land would be managed under the Moderate SIL than in Alternative C.

Alternative C would manage scenic resources under a mix of SILs with an emphasis on Moderate scenic integrity. In general, the forests would be managed for natural-appearing, intact landscapes, but slightly more landscape alterations or deviations would be allowed than in Alternative B. A majority of the acres would be managed under the Moderate SIL. Less acreage in the Very High SIL reflects the alternative's emphasis on mechanical vegetation treatments and developed/motorized recreation.

Alternative D would manage scenic resources under a mix of SILs with an emphasis on Very High and Moderate scenic integrity. This reflects the emphasis on managing more intact landscapes and the increased acreage of lands in the Recommended Wilderness Management Area. Less acreage in the High and Moderate SILs also reflects the alternative's emphasis on primitive and semi-primitive recreation opportunities and the use of wildland fire as a vegetation management tool.

General Effects of Activities on Scenic Resources

Management activities affect scenic resources by altering the appearance of what is seen in the landscape. Short-term scenic effects from management activities are usually considered in terms of degree of visual contrast with existing or adjacent conditions. The scenic landscape can be changed over the long-term or cumulatively by the alteration of the visual character. Management activities which result in visual alterations that are inconsistent with the assigned SIO, even with mitigation, impact scenic resources. Management actions on the Apache-Sitgreaves NFs that have the greatest potential to affect scenic resources are vegetation management (including timber harvest and insect and disease control), energy corridor rights-of-way, prescribed fire, and wilderness recommendations. Other management activities on the Apache-Sitgreaves NFs that could affect scenic resources are fire suppression, recreation facilities, and wildlife habitat management, but these are expected to be site-specific and similar under all alternatives.

Alternative A vegetation management activities would occur primarily in the Forest Land, Woodland, Grasslands, and Escudilla Demonstration Area Management Areas. These activities may occur under limited circumstances in the Riparian, Developed Recreation Sites, Black River

(Mainstem), West Fork Black River, Chevelon Canyon, and East and West Forks Little Colorado River Management Areas. Forest Service mechanical vegetation treatments in Alternatives B, C, and D would occur primarily in the General Forest, Community-Forest Intermix, Wild Horse Territory, and Wildlife Quiet Area Management Areas and, therefore, would occur in areas with mostly High and Moderate SILs. Prescribed burning in Alternative B, C, and D could occur in any management area.

Vegetation and Fuels Management

Under all alternatives, the short-term effects related to vegetation and fuels management activities may decrease scenic quality (e.g., slash piles from mechanical treatments before prescribed fire). However, long-term effects should increase scenic integrity by restoring ecosystem functions. Short-term negative effects to scenic resources would be the greatest under Alternative C, which would treat more acres mechanically and potentially reconstruct more road miles than Alternatives A, B, or D.

Vegetation and fuels management have a high potential to alter the landscape and affect scenic resources. Activities typically reduce scenic integrity in the short-term because of the associated slash prior to prescribed fire, stumps, and landing and road construction. In the long-term, treatment activities may maintain or enhance scenic integrity, scenic stability, and the ability to resist insects, disease, and uncharacteristic wildfire. Consequently, treated areas may appear moderately to highly altered for longer periods of time, depending upon the treatment and mitigation measures implemented.

Under all alternatives, treatments would include thinning, cutting, and wildland fire in most of the PNVTs (see Table 6 for acreages by alternative and the Vegetation Specialist Report for details). Selective tree cutting could enhance scenic resources in the long term, because it may result in more open park-like groves of trees, enhance structural and species diversity, improve spatial distribution, create vistas, reduce susceptibility to high-severity wildfire, and restore meadows and grasslands. Aspen cutting may result in openings with short-term negative elements (including stumps, slash, crushed trees, landings, disturbed soil and ground vegetation, and roads). In the longer term, these openings should regenerate into highly valued stands of aspen.

Table 6. Average Annual Acres of All Vegetation Treatments by Alternative (Vegetation Specialist Report, U.S. Forest Service 2014b)

Treatment Type	Alternative A (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)
Mechanical	12,182	19,590	23,997	15,953
Wildland Fire	6,844	28,929	12,855	48,926
Total	**19,026**	**48,519**	**36,852**	**64,879**

Fuels reduction efforts (e.g., mechanized thinning) may result in short-term decreases in scenic quality because of cut vegetation, slash, and disturbed soils. Planning for scenic elements and adherence to design criteria would minimize short-term impacts and reap long-term benefits, thereby meeting scenic integrity objectives. Fuels reduction activities should result in more resilient forest conditions, which should be better able to resist uncharacteristic wildfires.

Management efforts to control insect infestations and diseases that include removal of infected trees and buffer areas often appear as clearcutting to forest visitors. These impacts can occur in areas of high scenic value (e.g., along scenic routes) and may reduce scenic quality.

Energy Corridors

Energy corridor rights-of-way (ROW) have a high potential to affect scenic resources for a long duration. Cleared ROWs and utility structures contrast and may be incongruent with existing landscapes. Cleared ROWs generally contrast highly with the surrounding landscape. All alternatives have similar effects from energy corridors ROWs.

Fire

All alternatives propose wildland fire for multiple objectives. Drifting smoke, blackened vegetation, and charred tree trunks would be the primary effects to scenic resources. Blackened vegetation usually lasts a short time, but charred trees may be evident for many years. Low-intensity wildfire and prescribed fires have the potential to alter the appearance of the planning area, but could help restore or enhance scenic integrity and ecological conditions. For example, repeated prescribed fire over time in ponderosa pine forests produce the desired condition of stands with open understories, which allow views farther into the landscape. Conversely, uncharacteristic wildfires may alter scenic integrity and result in additional effects to scenic resources from fire suppression (e.g., fire line construction) or post-fire salvage logging (e.g., road construction or reconstruction).

The general effects of wildland fire would be the same under all alternatives. Each alternative does vary in the acreage that could be treated with wildland fire (see Table 6 above). Overall, based on average treatment objectives, Alternative D would apply wildland fire to the most acres, followed by Alternatives B, C, and A with fewer acres treated, respectively. Alternatives D and B would use more moderate and/or high severity fire to thin areas than Alternatives C and A. This would result in more trees killed by fires and could alter the appearance of treated areas.

Wilderness

Management of designated wilderness and maintenance of wilderness characteristics in the Primitive Area and Recommended Wilderness Management Areas would result in landscapes that appear natural, are intact, and are unmodified by management activities, because these lands are managed for Very High scenic integrity. Vegetation and fuels management activities would be limited to the use of wildland fire. The effects to scenic resources from wildland fire are discussed above.

Alternative D has the most acres in Wilderness, Primitive Area, and Recommended Wilderness Management Areas that would be managed for Very High SIL and would provide the greatest scenic resources protection and maintenance. Alternatives A, B, and C have the fewest acres in these management areas (Very High SIL) and would provide lower overall levels of scenic resources protection.

Cumulative Environmental Consequences

The cumulative effects analysis area for scenic resources is all Federal, State, and tribal lands within a 20-mile radius of the Apache-Sitgreaves NFs. This area was selected because of ongoing and proposed activities on neighboring national forests (i.e., Four Forest Restoration Initiative), adjacent state and Bureau of Land Management (BLM) lands (i.e., renewable energy development, energy corridor developments, juniper treatments), and neighboring American Indian reservations (i.e., vegetation treatments).

Mechanical vegetation treatments are planned or proposed for much of the land within the cumulative effects analysis area. This, combined with the planned or proposed treatments on the Apache-Sitgreaves NFs in all alternatives, could result in cumulative effects to scenic resources. More of the landscape, in the short-term, would appear to be moderately to slightly altered until the longer-term scenic integrity objective is achieved. Differing scenic objectives by the managing agencies may result in contrasting landscapes, especially near or along administrative boundaries. For example, one agency may prefer a forested landscape with regularly spaced trees, while another may favor trees in groups or clumps with openings between them.

Renewable energy and energy corridor developments are of particular concern along and north of the Apache-Sitgreaves NFs and within and adjacent to existing energy corridors. These would be more permanent landscape modifications. Should solar panel arrays and additional wind farms be developed there may be dramatic changes to the existing landscape from the physical structures. These types of energy developments would also require additional transmission lines to connect to existing energy corridors and could result in the creation of new energy corridors or expansion of existing energy corridors.

Adaptive Management

Analysis of site-specific scenic integrity objectives, and any site-specific adjustments or changes, would allow for adaptive management.

Other Planning Efforts

In general, there are no scenic resources conflicts with other land use plans or policies for vegetation management. Actual development of wind and solar energy on private, state, and BLM lands north of the forests would not conflict with the proposed forest management plan. However, ancillary facilities (e.g., energy corridors) associated with energy development may conflict with the Scenic Integrity Objectives in the proposed plan.

References

Kocis, S. M., D.B.K. English, S.J. Zarnoch, R. Arnold, and L. Warren. 2002. National Visitor Use Monitoring Results: Apache-Sitgreaves National Forests. Report prepared for U.S. Forest Service, Region 3.

Spencer, J. and C. Klee. 2009. Scenery Management System Inventory Report, Apache-Sitgreaves National Forests. TEAMS Enterprise Unit.

U.S. Forest Service. 1974. Agriculture Handbook Number 462. National Forest Landscape Management, Volume 2, Chapter 1, The Visual Management System. U.S. Government Printing Office: Washington, D.C. 47 pp.

U.S. Forest Service. 1995. Agriculture Handbook Number 701. Landscape Aesthetics, A Handbook for Scenery Management. Washington, D.C.

U.S. Forest Service. 2008. Apache-Sitgreaves NFs DRAFT Geographic Area Landscape Character. electronic document.

U.S. Forest Service. 2013. Apache-Sitgreaves National Forests, Proposed Land Management Plan. Southwestern Region. Springerville, Arizona.

U.S. Forest Service. 2014a. Recreation Specialist Report. Forest Plan Revision DEIS. Springerville, Arizona.

U.S. Forest Service. 2014b. Vegetation Specialist Report. Forest Plan Revision DEIS. Springerville, Arizona.

U.S. Forest Service. 2014c. Wild and Scenic Rivers Specialist Report. Forest Plan Revision DEIS. Springerville, Arizona.

U.S. Forest Service. 2014d. Wilderness Resources and Inventoried Roadless Areas Specialist Report. Forest Plan Revision DEIS. Springerville, Arizona.

Appendix A - Scenery Management System Process

Overview of the Scenery Management System Process

The SMS process involves identifying scenic components as they relate to people, mapping these components, and assigning a value for aesthetics. These geo-spatial analyses provide information to planning teams to assist them in making a decision relative to scenic resources as a part of ecosystems and at project levels and in determining the trade-offs related to forest plan management scenarios.

The **Landscape Character Description** portrays the visual and cultural image of a geographic area. It consists of the physical, biological, and cultural attributes that make each landscape identifiable or unique. The description includes the valued attributes of the landscape, important elements of the social environment, environmental regimes, and disturbance regimes. The Landscape Character Description provides the frame of reference for defining the Scenic Attractiveness Classes. Apache-Sitgreaves NFs staff developed Landscape Character Descriptions for the forests (U.S. Forest Service 2008). These are included in the Affected Environment section below.

Existing Scenic Integrity (ESI) indicates the degree of intactness and wholeness of the landscape. For example, a landscape with very minimal visual disruption is considered to have high ESI. Existing Scenic Integrity is expressed and mapped in terms of Very High, High, Moderate, Low, Very Low, and Unacceptably Low.

Scenic Attractiveness Classes are developed to determine the relative scenic value of lands within a Landscape Character area. The three scenic attractiveness classes are Class A-Distinctive, Class B-Typical, and Class C-Indistinctive. The landscape elements of landform, vegetation, rocks, cultural features, and water features are considered when determining these classes.

Landscape Visibility is composed of two parts: 1) human values as they relate to the relative importance of various scenes and 2) the relative sensitivity based on distance from an observer. This importance is expressed as a concern level. Sites, travel ways, special places, and other areas are assigned a concern level value of 1, 2, or 3 to reflect the relative high, medium, or low importance. Apache-Sitgreaves NFs staff familiar with public values relating to scenic resources identified and mapped the concern levels for travel ways, including water routes.

Seen Areas and Distance Zones were mapped only from concern level 1 travel ways to determine the relative sensitivity of scenes based on their distance from an observer. These distance zones are identified as:

Foreground – up to ½ mile from observer

Middleground – ½ to 4 miles from the observer

Background – 4 miles from the observer to the horizon

Scenic Classes: Using the data gathered and mapped for scenic attractiveness, landscape visibility (seen areas/distance zones), and concern level areas, a numerical Scenic Class value was

assigned to the forests' lands. The ratings indicate the scenic value of landscape areas, regardless of existing scenic integrity. Mapped scenic class values are used to compare the value of scenery with the value of other resources.

Forest staff determined concern levels, which were then incorporated into a geo-spatial format or GIS (Geographic Information System). Staff from the TEAMS Enterprise Unit then created the following maps in GIS with review by forest specialists: concern level areas, visibility analysis for concern level 1, scenic classes, existing scenic integrity analysis, and composite scenery base map.

Concern Levels

The Apache-Sitgreaves NFs assumed that all lands on the forests have important aesthetic values to the public. Therefore, there was no need to establish concern levels along all roads and trails or to run a visibility analysis for the entire Forest to see what parts of the Forest are visible from which roads or trails. Representatives from various resource staff areas assisted in the identification of concern levels for the Forest's travel routes and use areas. This data was placed on maps and used to create a GIS layer for the geo-spatial analysis.

Concern level 1 generally includes all seen areas from primary and secondary travel routes, use areas, and water bodies where the forest visitors have a high interest in scenic qualities. This includes, but is not limited to, specially designated areas such as Wilderness, eligible and suitable wild and scenic rivers with scenery as an outstandingly remarkable value, and scenic byways.

Concern Level 2 generally includes all seen areas from primary and secondary travel routes, use areas, and water bodies where the forest visitors have a moderate interest in scenic qualities or low interest in scenic qualities if the area receives moderate to high use. This generally comprises the majority of the forests' lands.

Concern Level 3 areas apply to all other travel routes and use areas not listed above. This would also apply to lands that are managed to sustain major disturbances, such as mining.

Visibility Analysis for Concern Level 1 Travel ways

A visibility analysis was done for all travel ways assigned a concern level 1. The resulting viewsheds depict the seen areas from the concern level 1 travel ways.

Existing Scenic Integrity

The existing scenic integrity (ESI) is a snapshot in time of the existing condition of the landscape. It is a result of the implementation of the 1987 plan. The ESI indicates the degree of intactness and wholeness of the landscape character. Conversely, ESI is a measure of the degree of visible disruption of the natural landscape character. A landscape with very minimal visual disruption is considered to have high ESI. Those landscapes having increasingly incompatible relationships among scenic attributes are viewed as having diminished existing scenic integrity.

Existing scenic integrity levels were determined for the Apache-Sitgreaves landscapes using the following elements in GIS: timber activities, utility corridors, designated wilderness, inventoried roadless areas, Recreation Opportunity Spectrum (ROS), and historic forest openings. NAIP (National Agricultural Imagery Program) aerial imagery from 2005 was used as a reference to

identify landscape changes not found in the above GIS layers. All Existing Scenic Integrity levels were rated from an aerial view.

Very High existing scenic integrity was assigned to designated Wilderness, natural openings, and areas with natural changes that appear unaltered and express the highest possible level of intactness. These areas include a primitive and natural sense of place.

High existing scenic integrity was assigned to primitive Recreation Opportunity Spectrum areas outside of designated wilderness, eligible and suitable wild river corridors, eligible and suitable scenic river corridors where scenery is an outstandingly remarkable value, areas that have been managed for single-tree selection and old growth management, and inventoried roadless areas. These areas are natural appearing, the landscape appears intact, and deviations from the landscape character are not evident.

Moderate existing scenic integrity was assigned to the timber management activities listed below, recreation developments, special use permit areas, grazing activities including stock driveways, and portions of the transportation system where the forest landscape has been slightly altered. Timber management activities identified in this category include shelterwood preparation cuts, shelterwood final removal cuts, pre-commercial thinning, sanitation cuts and salvage, group selection cuts, fuel treatments, and piling of activity fuels.

Low existing scenic integrity was assigned to areas with the following timber treatments: shelterwood cut, seed tree preparation cut, commercial thinning, pre-commercial thinning-strip, salvage cut, overstory removal cut, seed tree final cut, fuel breaks, compacting and crushing fuels, and partial removal cut.

Very Low existing scenic integrity ratings were assigned to utility corridors, gravel pits and other surface mining activities, and patch and stand clear-cut timber harvest units with unnaturally appearing shapes and edges and/or an extensive network of roads. These areas may strongly dominate the valued landscape character and borrow little from valued attributes. The area burned by the Rodeo-Chediski fire was also rated very low because this stand-replacing fire is considered to be outside the historic range of variability.

No areas were assigned **Unacceptably Low** existing scenic integrity ratings because no extremely altered areas, that would need rehabilitation, were found on the forests.

Scenic Attractiveness

Scenic Attractiveness is the primary indicator of the intrinsic scenic beauty of a landscape and of the positive responses it evokes in people. It helps determine landscapes that are valued for scenic beauty. Scenic attractiveness indicates varying levels of inherent beauty of the landscape character, regardless of existing conditions.

Scenic attractiveness ratings were developed for the GIS mapping exercise. These include:

Class A – *Distinctive* landscapes are areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Class B – *Typical* landscapes are areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide ordinary or common scenic quality.

These landscapes have generally positive, yet common attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Class C – *Indistinctive* landscapes are areas where landform, vegetation patterns, water characteristics, and cultural features have low scenic quality. Often water and rock form of any consequence are missing in class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Scenic Classes

Scenic classes represent the relative landscape value by combining Distance Zone, Concern Levels, and Scenic Attractiveness inventories. Scenic classes are used during the forest planning process to compare the value of scenery with the value of other resources, such as timber, wildlife, recreation, etc. Approximately 65 percent of the Apache-Sitgreaves NFs has high public value, 35 percent has moderate public value, and less than 1 percent has a low public value.

Composite Scenery Base Map

A composite scenery base map was produced by combining the scenic class and existing scenic integrity inventories. This map shows the existing condition of the Forest in terms of the SMS and is a starting point for determining scenic integrity levels. The SMS values derived from the composite scenery base map were used to develop suggested Scenic Integrity Levels (SIL).

Proposed Scenic Integrity Levels

The Forest Plan Revision team recommended Scenic Integrity Levels (SIL) for each management area (Table 3). In many cases, a range of SILs is recommended for the management area. Other resource features (e.g., eligible/suitable wild and scenic rivers, scenic byways) that could affect SILs were also identified. SILs range from Very Low to Very High.

Management areas for each alternative were combined with the Composite Scenery Base Map to show the recommended SILs for each management area. These SILs were applied to the management areas and other resources features in GIS to obtain acreages by SIL for the forests and management areas for each alternative. The management area SILs were adjusted to reflect the other resources features. A GIS map showing the proposed SILs was developed for each alternative.

Once a final plan alternative is adopted, the Scenic Integrity Levels become Scenic Integrity Objectives (SIO) that are to be used to manage the scenic resources. A map depicting the SIOs will be part of the final plan.