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Forest Plan Revision FEIS

Submitted by: __/s/ _____

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Recreation Specialist Report

Introduction

This report evaluates and discloses the potential environmental consequences to the recreation resource that may result with 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

Forest Service Organic Act of 1897: Authorizes the Secretary of Agriculture to promulgate rules and regulations to regulate the use and occupancy of the national forests.

Granger-Thye Act of 1950 - Allows concessionaire fees for recreation facilities to be reduced for work performed to maintain and enhance those facilities.

Multiple-Use Sustained Yield Act of 1960 - States that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes, and authorizes and directs the Secretary of Agriculture to develop and administer the renewable surface resources of the national forests for the multiple use and sustained yield of the products and services obtained there from.

Land and Water Conservation Fund Act of 1964 - Provides a source of funding for the acquisition of land or interest in land for the benefit of all Americans. The main emphases of the fund are recreation and the protection of national natural treasures in the forms of parks and protected forest and wildlife areas.

Service Contract Act of 1965 - Allows concessionaire operation of recreation facilities.

National Trails System Act of 1968 - Establishes a national system of recreation, scenic, and historic trails by designating the initial components of the system and prescribing the methods and standards through which additional components may be added.

National Environmental Policy Act of 1970 - Directs all federal agencies to consider and report the potential environmental impacts of proposed federal actions, and established the Council on Environmental Quality.

National Forest Management Act of 1976 - Requires the provision for multiple use and sustained yield of products and services in accordance with the Multiple-Use, Sustained-Yield Act of 1960, and the coordination of outdoor recreation, range, timber, watershed, wildlife, fish, wilderness, and timber.

Federal Land Policy Management Act of 1976 - Requires public lands to be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition and that will provide for outdoor recreation and human occupancy and use.

The Architectural Barriers Act of 1968 - Requires access to facilities designed, built, altered, or leased with federal funds.

The Rehabilitation Act of 1973, Section 504, as amended - Prohibits discrimination on the bases of a disability.

Executive Order 13443 - Provides direction for the expansion and enhancement of hunting opportunities and the management of game species and their habitat as affected by public land management, outdoor recreation, and wildlife management.

Executive Order 11644 - Provides direction pertaining to the use of off-road vehicles on the public lands.

Title 36 CFR 212 - Provides direction for the administration of the forest transportation system; the designation of roads, trails, and areas for motor vehicle use; and use by over-snow vehicles.

Title 36 CFR 251 - Provides overall direction for land uses, including miscellaneous land uses; special uses (Outfitter/Guides, for example); appeal of decisions relating to occupancy and use of USFS lands; and access to non-Federal lands.

Title 36 CFR 261 - Provides general prohibitions on USFS lands.

Title 36 CFR 291 - Provides direction for the occupancy and use of developed sites and areas of concentrated public use on USFS lands, including admission fees, recreation use fees, and reservation fees.

Title 36 CFR 293 - Provides direction for the administration and use of wilderness and primitive areas on USFS lands.

Title 36 CFR 294 - Provides direction for special areas, including recreation areas.

Title 36 CFR 297 - Provides direction for the administration of Wild and Scenic Rivers under Section 7 of the Wild and Scenic Rivers Act of 1968, which provides for the protection of the free-flowing, scenic, and natural values of rivers designated as components or potential components of the National Wild and Scenic Rivers System from the effects of construction of any water resources project.

FSM 1900 - Provides direction for implementing the National Environmental Policy Act and Council on Environmental Quality regulations.

FSM 2300 - Provides direction for management and planning in relation to recreation, wilderness, and related resources.

FSM 2700 - Provides the legal framework for special uses on USFS lands.

FSM 7300 - Provides direction for planning, development, and managing facilities on USFS lands.

FSM 7400 - Provides direction for administration and managing drinking water systems, waste water systems, effluents, solid waste systems and food services.

FSM 7700 - Provides direction on forest transportation systems and management of motor vehicle use.

FSH 2309.18 - Provides direction for designing, building, and maintaining USFS trails.

FSH 2709.11 - Provides direction for processing and administering special uses.

FSH 7309.11 - Provides direction for managing USFS facilities.

Arizona Revised Statute Title 7 Fish and Game, Chapter 3 - Provides guidance for recreational activities including the taking and transporting of wildlife as well as camping restrictions.

Arizona Revised Statute Title 28 Transportation, Chapter 3 - Provides guidance for traffic and vehicle regulation including off-highway vehicle use.

Methodology and Analysis Process

This analysis describes the existing recreation opportunities on the forests and recreation user trends. It examines 1) changes in recreation opportunities by alternative using Recreation Opportunity Spectrum (ROS) mapping, 2) changes in the amount of land suitable for future consideration of motorized and non-motorized recreation by alternative, and 3) the consequences of allowing or not allowing motorized cross-country travel.

ROS was mapped for each alternative based on the current ROS class, management area emphasis, and other land uses (i.e., eligible and suitable wild and scenic river corridors). ROS classes are described in Appendix A. These map layers were created using the forests' Geographic Information System (GIS).

The quantification of lands suitable for future consideration of motorized and non-motorized recreation in Alternative A was conducted by adapting Tables 10 and 11from Chapter 4 of the proposed plan and applying the management area guidance found in the 1987 plan to the applicable GIS data. Alternatives B, C, and D acreages were determined by applying the suitability criteria from Chapter 4, Tables 10 and 11, of the proposed plan to the applicable GIS data (see Appendices B and C).

Assumptions

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

- Recreation demand on the Apache-Sitgreaves NFs is tied to population changes in the major metropolitan areas of Arizona. Approximately 70 percent of the forests' Arizona visitors are from the Phoenix and Tucson metropolitan areas (Kocis et al. 2002).
- It is anticipated and assumed that recreational use across all alternatives will continue to increase at rates similar to those documented across the nation. As such, the capacity for recreational resources will ultimately be limited by the quality of the recreation opportunity. Since demands and use are expected to increase, additional analysis may be warranted at some point in the future.

- The recreation use data in this report is from the 2001 National Visitor Use Monitoring (NVUM) survey. An additional survey was conducted in 2007, but the survey sample size was deemed too small to be statistically accurate.
- In spite of the large expanse of undeveloped area available for dispersed recreation use (both motorized and non-motorized), not every acre is suitable for every use.
- The majority of summer recreation use on the Apache-Sitgreaves NFs occurs in the ponderosa pine, wet mixed conifer, and dry mixed conifer forests.
- Most dispersed camping occurs within close proximity of forest system roads, lakes, and streams.
- Recreation users would be displaced by mechanical vegetation treatments for several years because of the need to pile and burn slash after treatment. Mechanical treatments would also remove more trees than the prescribed fires.
- ROS assumptions
    - All acreage figures are approximate. They were calculated using the most current data available in the Apache-Sitgreaves NFs' Geographic Information System (GIS) databases.
    - Alternative A is based on the Existing Condition ROS map compiled by District Recreation staffs in 2008; which is based on hand-drawn maps from 1987 planning effort, GIS data from a 1995 ROS update, and then current information. This map is available in the Plan Set of Documents.
    - Alternatives B, C, and D are based on the Desired Conditions ROS map created by District Recreation staffs in 2008. These maps are available in the Plan Set of Documents.
    - The following stratification was used to assign ROS classes to Recommended Wilderness Management Area:
        - stand alone recommended wilderness 10,000 acres or larger = Primitive
        - stand alone recommended wilderness less than 10,000 acres = Semi-Primitive Non-Motorized
        - existing Wilderness and adjacent recommended wilderness combined are 10,000 acres or larger = Primitive
        - existing Wilderness and adjacent recommended wilderness combined are less than 10,000 acres = Semi-Primitive Non-Motorized
- All projects implemented on the forests will require a site-specific assessment of the potential impacts to natural resources and recreation opportunities and settings. The Recreation Opportunity Spectrum (ROS) class and plan suitability will guide the design and implementation of management activities.
- None of the alternatives has specific objectives to construct new motorized or non-motorized trails during the life of the plan. New trail proposals would be considered through project-level planning. The environmental consequences of new motorized or non-motorized trails would be identified and analyzed at the project-level.
- The acres shown as suitable for future consideration of motorized use areas and motorized trail development do not reflect site-specific resource concerns such as slope, soils, heritage resources, etc. that would be addressed in project-level analyses.

- The acres shown as suitable for future consideration of mechanized and non-motorized travel do not reflect site-specific resource concerns such as slope, soils, heritage resources, etc. that would be addressed in project-level analyses.
- Visitors to the forests have different preferences for their recreation setting and the activities in which they want to participate. These differences and preferences range from highly intensive uses that have lasting effects on resources to benign uses that are barely discernible on the ground. Recognizing the differences in user preferences, the primary goal of managing outdoor recreation is to provide an environment or opportunity in which visitors can have a satisfying experience, while protecting the natural and cultural resources integral to that experience. Because user preferences are so diverse, it is assumed that not all user preferences can be accommodated on every acre of the Apache-Sitgreaves NFs.
- Any new recreation development and maintenance of existing recreation facilities and trails will be constrained by future budgets and may be affected by changing Forest Service and Apache-Sitgreaves NFs priorities.
- Following finalization of the revised plan, the Public Motorized Travel Management Plan will be completed and the Motorized Vehicle Use Map (MVUM) will be printed. These documents will implement the Travel Management Rule (36 CFR § 212) and prohibit motorized cross-country use except where designated or authorized.

Revision Topics Addressed in this Analysis

This analysis addresses the revision topic "Managed Recreation." It quantifies the changes in recreation opportunities by alternative using Recreation Opportunity Spectrum (ROS) mapping and identifies the acres of lands suitable for future consideration of motorized and non-motorized recreation by alternative.

Indicators include:

- Acres in each ROS class by alternative
- Acres suitable for future consideration of new motorized areas by alternative
- Acres suitable for future consideration of new motorized trail development by alternative
- Acres suitable for future consideration of mechanized travel by alternative
- Acres suitable for non-motorized travel by alternative

Summary of Alternatives

A summary of alternatives, including the key differences among alternatives, is outlined in the Environmental Impact Statement.

Description of Affected Environment (Existing Condition)

Recreation Opportunities

Recreation use has increased steadily throughout the history of the national forests. Over the past few decades, the growth in recreation in the Nation has been extraordinary. For example,

participation in camping increased from about 13 million people in 1960 to almost 58 million people in 1994/1995 (Cordell et al. 2004). Between 2000 and 2007, the total number of recreation activity days increased approximately 25 percent (Cordell et al. 2008). The activities of viewing and photographing birds, day hiking, backpacking, off-highway motor vehicle (OHV) driving, walking outdoors, and canoeing/kayaking have seen the greatest growth in the last two decades (Cordell et al. 2009). A survey conducted in 2006 identified the top five outdoor recreation activities that Arizonans participate in: 1) play a sport: baseball, football, soccer; 2) on your feet activity: hike, backpack, jog; 3) drive for pleasure, sightseeing; 4) ride a bicycle, mountain bike, or horse; and 5) visit a park, natural or cultural feature (Arizona State Parks 2007).

In Arizona, where more than 42 percent of the land base is managed by federal agencies for public use, the population increased about tenfold from 1940 to more than 5 million people in 2000. In 2005, the state's population had increased to more than 6 million. The proportion of Arizonans living in urban areas has changed. In 1900, less than 20 percent of the state's population lived in an urban setting; in 2000, more than 88 percent of Arizona residents lived in urban settings. The makeup of the state's population is expected to change with an increasing proportion of elderly and a decreasing number of children under the age of eighteen. The demographic makeup of Arizona is becoming more diverse; although predominantly white, the second largest segment is Hispanic.

The forests receive approximately 2 million visitors per year, 93 percent are from Arizona (U.S. Forest Service 2006). Approximately 70 percent of the Arizona visitors are from the Phoenix and Tucson metropolitan areas, 19 percent are from counties that make up the forests (Apache, Coconino, Greenlee, and Navajo), and 4 percent are from counties adjoining the forests (Graham and Gila) (Kocis et al. 2002). The majority of all forest visitors are male (approximately 73 percent) and predominantly white (estimated at 89 percent). Spanish, Hispanic, or Latino visitors make up approximately 8 percent of total visits, while Native American and Asian users each comprise only about 0.8 percent of visits. About 21 percent of users are under the age of 16, while relatively few visitors are between 16 and 30 or over 70 years old. An estimated 63 percent of visitors are between the ages of 31 and 70 (Kocis et al. 2002).

The forests' visitors, including those that view wildlife, hunt, and fish, contribute significantly to the economic well-being of the surrounding areas. The forests' contribution to the local economy from the recreation and wildlife economic contribution areas is approximately 69 percent of the local jobs and 68 percent of the local labor income (Forest Service 2009a). Additional social and economic information can be found in the Socioeconomic Resources Report (Forest Service 2014b) and the Economic and Social Sustainability Assessment (Forest Service 2009a).

Nearly all forest visitors, regardless of their reasons for visiting the forests, use the motorized transportation system to reach their destination. Visitors to the Apache-Sitgreaves NFs access the forests on a variety of State and Federal Highways. U.S. Highway 60 and State Highways 87 and 260 are the primary routes from the Phoenix metropolitan area. State Highways 77, 277, and 377 and U.S. Highways 180 and 191 provide access from Interstate 40 to the north. Access from New Mexico to the east is via U.S. Highways 60 and 180. U.S. Highway 191 traverses the entire length of the Apache NF from north to south. State Highway 260 crosses the forests from the Mogollon Rim to Eagar.

The Apache-Sitgreaves NFs offer a wide array of dispersed, developed, motorized, and non-motorized recreation opportunities. Visitors come to the forests to engage in a variety of activities

(Table 1). The primary recreation activities are "relaxing and escaping the heat," fishing, hiking, OHV use, viewing natural features and wildlife, camping, driving for pleasure, and picnicking and large group gatherings. Other activities are listed in Table 1. A majority of these activities occurs in the ponderosa pine, wet mixed conifer, and dry mixed conifer forests, which make up approximately 46 percent of the Apache-Sitgreaves NFs. Visitors use the forests as a place to stay overnight more than any other forest in the National Forest System (NFS) (Stynes and White 2005). Outfitters and guides, under permit by the Forest Service, operate on the forests and provide services to the recreating public.

Table 1. Percent Participation in Activities and Primary Activities of Apache-Sitgreaves NFs' Recreation Visitors (Kocis et al. 2002)

Activity	Percent Participation (more than one activity could be checked)	Percent Who Indicated as Primary Activity
General-relaxing, escaping noise and heat	84.2	41.3
Viewing natural features (scenery) on NFS lands	79.3	3.5
Viewing wildlife on NFS lands	73.5	1.0
Hiking or walking	62.2	8.7
Driving for pleasure on roads	53.3	3.2
Fishing-all types	50.5	19.6
Picnicking and day gatherings in developed sites	47.8	1.5
Camping in developed sites	35.7	7.2
Gathering mushrooms, berries, firewood, etc.	27.6	0.2
Primitive camping	19.4	3.3
Visiting nature center or visitor information services	18.3	0.5
Resorts and cabins on NFS lands	13.7	0.0
Bicycling, including mountain bikes	11.5	0.3
Off-highway vehicle travel	11.3	4.0
Visiting historic and prehistoric sites	11.0	0.1
Other non-motorized activities (swimming, sports)	6.9	0.9
Motorized water travel (boats, jet skis)	6.8	0.2
Non-motorized water travel (canoe, raft)	6.4	0.0
Nature study	4.8	0.0
Backpacking and camping in unroaded areas	4.0	0.1
Horseback riding	3.4	0.4
Hunting-all types	3.0	1.3
Other motorized land/air activities (plane, other)	1.1	0.0

Activity	Percent Participation (more than one activity could be checked)	Percent Who Indicated as Primary Activity
Downhill skiing or snowboarding	0.1	0
Snowmobile travel	0	0
Cross-country skiing, snowshoeing	0	0

The forests are known for their backcountry opportunities including Mount Baldy, Escudilla, and Bear Wallow Wilderness areas, the Blue Range Primitive Area, and over 300,000 acres of Inventoried Roadless Areas.

Visitors are drawn to the abundant water on the Apache-Sitgreaves NFs, a unique feature in the arid Southwest. The Apache-Sitgreaves NFs have over 30 lakes and reservoirs and more than 1,000 miles of rivers and perennial streams, more than can be found on any other southwestern national forest.

Over 35 percent of Arizonans participate in outdoor winter recreation activities (Arizona State Parks 2007). The Apache-Sitgreaves NFs are a destination for winter activities including snow play, snowmobiling, ice fishing, cross-country skiing, and sledding. In 2001, it was estimated that 0.1 percent of forest visitors used designated snowmobile routes and 1.5 percent used snow play areas during their visits (Kocis et al. 2002). Availability of winter recreation fluctuates from year-to-year, depending on weather and associated snow levels.

Recreation Opportunity Spectrum

Recreation opportunities on the forests are identified and managed through the Recreation Opportunity System (ROS). A recreation opportunity is defined as "the availability of a real choice for a user to participate in a preferred activity in a preferred setting, in order to realize desired experiences" (U.S. Forest Service 1982). The Recreation Opportunity Spectrum (ROS) is a method used to categorize, evaluate, and monitor settings and opportunities based on the natural, managerial, and social environments. Six ROS classes currently apply to NFS lands: Primitive, Semi-Primitive Non-Motorized, Semi-Primitive Motorized, Roaded Natural, Rural, and Urban (U.S. Forest Service 1982). These classes are described in Appendix A.

An ROS inventory is helpful in establishing baseline condition for recreation settings. It is a management tool used in forest and other broad-scale planning. ROS can be used to show the general effects of alternatives to recreation settings and opportunities over broad classes (U.S. Forest Service 2009b). Figure 1 below shows a generalization of the spectrum and its components.

Another way to look at ROS is through the differences in the types of activities and facilities visitors can expect to find in each setting. For example, ATV riding would be an appropriate activity in Semi-Primitive Motorized through Rural ROS classes, but would not be consistent with Primitive or Semi-Primitive Non-Motorized settings. Activities such as horseback riding or hiking may be acceptable in all ROS classes, but the trails available could vary greatly with the ROS class. Paved trails would not be found towards the Primitive end of the spectrum, but could be common at the more developed end.

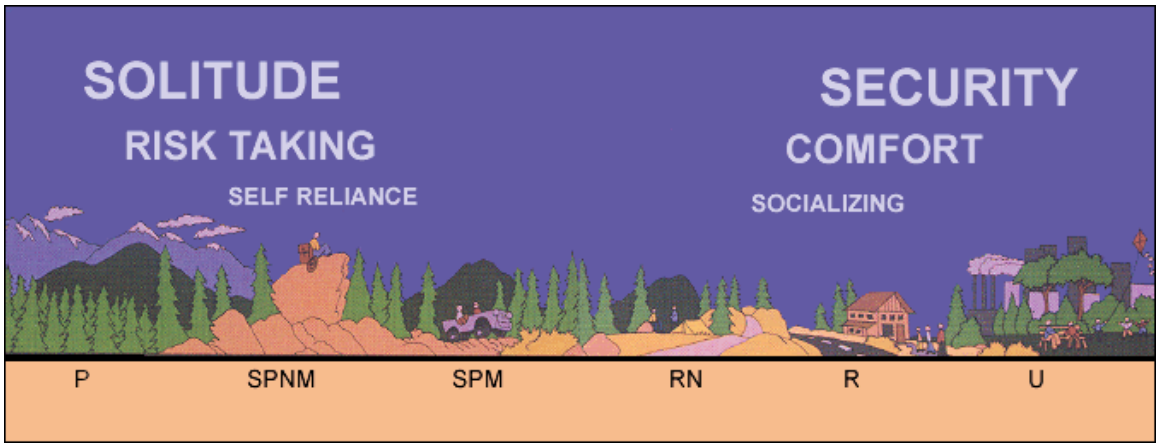

Figure 1. The Recreation Opportunity Spectrum (U.S. Forest Service 1990)

Dispersed Recreation

Dispersed recreation is where visitors are spread over relatively large areas, especially in the ponderosa pine, wet mixed conifer, and dry mixed conifer forests on the Apache-Sitgreaves NFs. Some examples of dispersed recreation are hunting, fishing, camping, hiking, sightseeing, driving for pleasure, snowmobiling, cross-country skiing, wildlife viewing, and picnicking. Where facilities (e.g., trailheads, fishing sites, scenic overlooks) are provided, access and protection of the environment are the focus rather than the comfort or convenience of visitors. Visitors to the Apache-Sitgreaves NFs participate in a variety of dispersed recreation activities. There are over 150 dispersed recreation facilities on the forests (U.S. Forest Service 2011).

Developed Recreation

Developed recreation refers to areas where the Forest Service provides facilities for concentrated public use. There are over 120 developed recreation sites on the Apache-Sitgreaves NFs (Table 2). There are 58 developed campgrounds, offering single family, multi-family, and large group campsites. Over 35 percent of forest visitors use developed campgrounds (Kocis et al. 2002). Concessionaires, under contract to the Apache-Sitgreaves NFs, operate most of the developed campgrounds. The forests also partner with Arizona State Parks, Arizona Game and Fish Department, and the City of Show Low to operate Fools Hollow Lake. Other developed recreation opportunities include picnic areas, boating ramps, and visitor centers.

Table 2. Types and Numbers of Developed Recreation Sites on the Apache-Sitgreaves NFs (U.S. Forest Service 2011)

Developed Recreation Site Type	Number of Sites
Boating Site	22
Cabin	1
Campground (Single Family)	51
Campground (Group)	7
Day Use Area	7
Dump Station	2

Developed Recreation Site Type	Number of Sites
Horse Camp	1
Interpretive sites, including two visitor centers	13
Organization Site	4
Picnic Site (Single Family)	12
Picnic Site (Group)	1

Forest managers are challenged to maintain existing recreational facilities while providing for human health and safety and protecting the natural resources in the light of declining budgets. In 2007, the forests completed a recreation facility analysis to present the tasks needed over the next 5 years to bring the forests' developed recreation facilities into alignment with the financial resources available to operate and maintain them to standard. A $2 million backlog of deferred recreation facility maintenance[1] was identified (U.S. Forest Service 2007). Recently, American Recovery and Reinvestment Act-funded projects have helped to reduce this maintenance backlog.

Non-motorized Recreation

Non-motorized recreational activities include hiking, mountain bike riding, horseback riding, wildlife viewing, picnicking, hunting, fishing, recreational shooting, cross-country skiing, snowshoeing, and snow play. Approximately 64 percent of Arizonans use non-motorized trails; while 58 percent use them for the majority of their recreational trail time (Arizona State Parks 2009). There are approximately 1,000 miles of non-motorized trails designated for hiking, horseback riding, mountain biking, and cross-country skiing on the Apache-Sitgreaves NFs. There are also over 3,000 miles of roads closed to motor vehicle use on the forests available for non-motorized recreation.

Motorized Recreation

Motorized recreation involves the use of highway legal vehicles, motorcycles, all-terrain vehicles (ATVs and UTVs), and snowmobiles. Around 2,900 miles of roads and trails are open for public or administrative motorized use (see Infrastructure Specialist Report, U.S. Forest Service 2014b, for more information). Summers, holidays, and hunting seasons generally have the highest volumes of motor vehicle traffic. Approximately 80 percent of the forests' lands are currently open for motorized cross-country use (U.S. Forest Service 2010a).

The number of off-highway vehicles (OHVs) used in Arizona has risen dramatically. Almost 500,000 households within the State have at least one OHV. Furthermore, as many as 30,000 new ATVs and motorcycles are purchased annually (U.S. Forest Service 2008, Arizona State Parks 2009).

In December 2005, the Forest Service issued regulations at the national level, known as the Travel Management Rule (TMR). The TMR was developed in response to the increasing effects

[1] Deferred maintenance is the postponing of repairs or maintenance due to the lack of financial resources, which results in a decline of the condition or value.

of OHV recreation and the potential for OHV use to adversely affect forest and grassland resources. One of the primary purposes of the TMR is to designate roads, trails, and areas where motorized vehicle use can occur and to eliminate motorized cross-country travel on all national forests. The designation of specific routes, trails, and areas for motorized vehicle travel on the Apache-Sitgreaves NFs will not be considered during forest plan revision. It will be addressed in separate analysis through future project-level decisionmaking, including implementation of the TMR.

Special Designations

There are several areas identified to protect their unique qualities that also provide recreation opportunities. These special designations on the Apache-Sitgreaves NFs include scenic byways, national recreation trails, wilderness, primitive area, and eligible and suitable wild and scenic rivers. Scenic byways and national recreation trails are discussed below. Information on wilderness and primitive areas and eligible and suitable wild and scenic rivers can be found in their respective specialist reports.

Scenic Byways

Three scenic byways (Figure 2) pass through the Apache-Sitgreaves NFs: Coronado Trail National Scenic Byway, From the Desert to Tall Pines Scenic Road, and White Mountain Scenic Road.

In September 2005, the 120-mile Coronado Trail National Scenic Byway, which follows U.S. Highway 191, was designated by the Federal Highway Administration. This route has been a national forest byway and Arizona State scenic byway since 1989 and traverses the Springerville, Alpine, and Clifton Ranger Districts. The byway winds its way from the town of Clifton, to the top of the Mogollon Rim, and through the communities of Alpine and Nutrioso. Vegetation types change with altitude; starting with the Sonoran Desert at the southern end, spruce-fir forest on the Mogollon Rim, and piñon-juniper woodlands at the northern end. There are spectacular views of mountains and rugged country along the entire byway.

The From the Desert to Tall Pines Scenic Road has been a national forest scenic road and Arizona State scenic byway since 1996. Approximately 3 miles (Navajo County road 512) of this 67-mile scenic road are on the Black Mesa Ranger District. Dense ponderosa pine forests lined this portion of the scenic road from the Mogollon Rim to State Highway 260 until the 2002 Rodeo-Chediski Fire burned to the eastern edge of the road.

The 123-mile White Mountain Scenic Road has been an Arizona State scenic byway since 1992 and a national forest byway since 1989. This byway is partially located on the Springerville Ranger District and includes State Highways 260, 261, 273, and 373. This byway crosses much of the high elevation grasslands on the forests. These rolling plains are interrupted by forested knolls. Mount Baldy provides a backdrop for the byway.

National Recreation Trails

The forests have four national recreation trails (NRTs): Blue Ridge, General George Crook, Eagle, and Escudilla (Figure 2); all were administratively designated in 1979. NRTs provide a variety of outdoor recreation opportunities and are accessible from urban areas.

The Blue Ridge NRT (trail #107), located on the Lakeside Ranger District, is approximately 9 miles long. The trail climbs the west side of Blue Ridge Mountain (7,650 feet in elevation) through a mixture of pines, junipers, and many varieties of wildflowers. The mountain itself is a volcanic remnant and provides scenic panoramas from the summit.

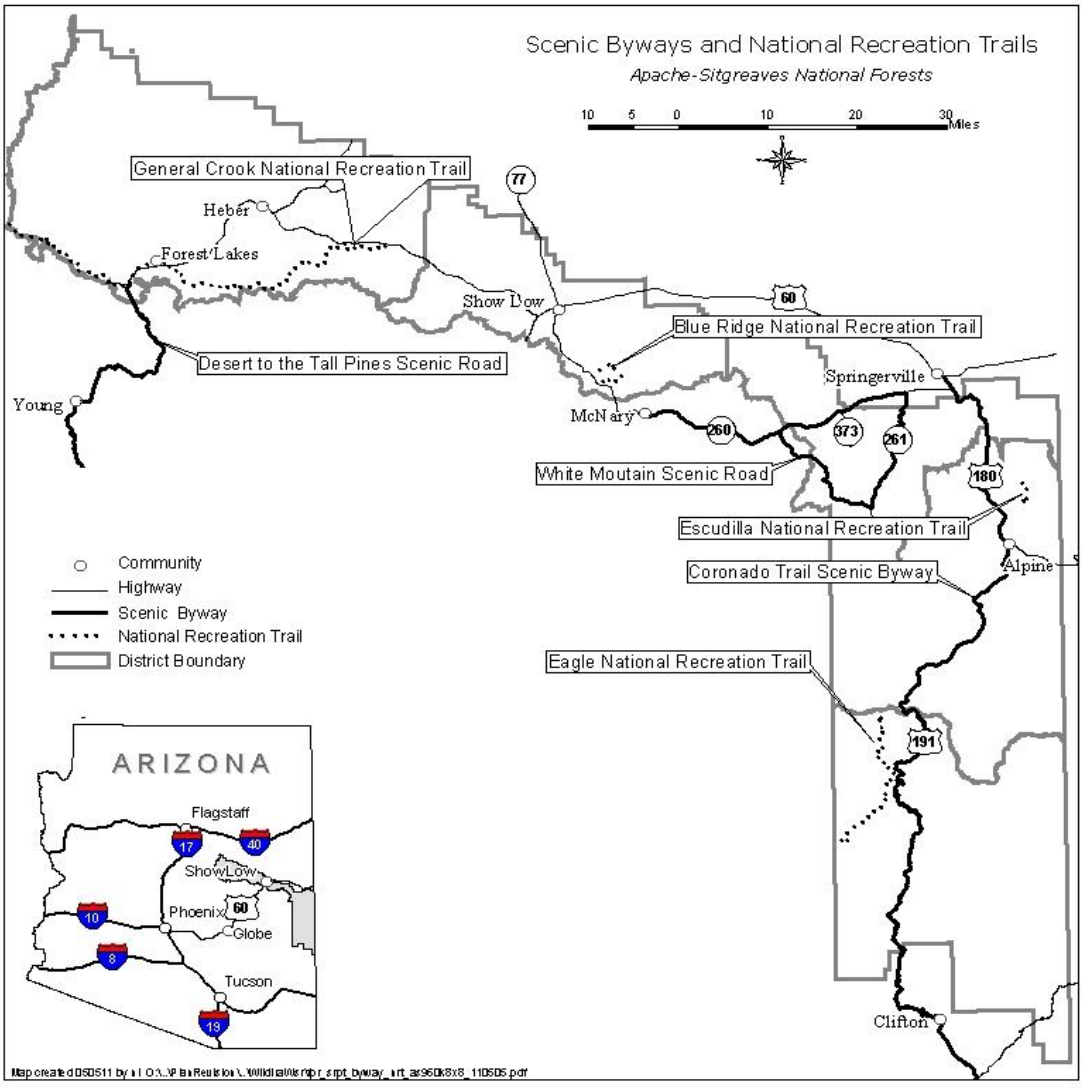

Figure 2. Scenic Byways and National Recreation Trails on the Apache-Sitgreaves NFs

Fifty-eight miles of 114 mile-long General George Crook NRT (trail #140), are located in the Black Mesa and Lakeside Ranger Districts. The trail is part of the route used by General George Crook to deliver supplies to outposts including Fort McDowell, Fort Verde, Camp Reno, Fort Apache, and Camp San Carlos. This route became one of the first major roads in Arizona and was used for decades as a supply and communications route. The original blazes can still be seen on the ponderosa pines lining the trail, as well as occasional traces of homesteads. The trail is popular with equestrians, mountain bikers, and hikers.

Eagle NRT (trail #79), located on the Clifton Ranger District, is approximately 28 miles long. The northern end of the trail begins on the Mogollon Rim at about 9,000 feet elevation and descends over 4,000 feet through a variety of vegetation types (mixed conifer to riparian) to its southern trailhead adjacent to the Eagle Creek road. The trail traverses several canyons, each with its own unique scenery and vegetation.

Escudilla NRT (trail #308), located on the Alpine Ranger District, is approximately 3 miles long. The trail ascends Arizona's third highest mountain and is located in Escudilla Wilderness. The trail designation predates the wilderness designation. Forest Service policy discourages national recreation trails in designated wilderness (FSM 2353.51 (3)).

Wallow Fire

In May and June of 2011, the Wallow Fire burned over 438,000 acres on the Apache NF and adjoining ownerships. The Wallow Fire affected dispersed recreation opportunities, developed campgrounds, and the transportation system. Flooding, rock slides, and fallen and burned trees affected, and will continue to affect, roads, trails, signs, and dispersed campsites within the burn area. There was minimal fire damage to developed campground structures, but some could be affected by future flooding. Many roads, trails, areas, and developed campgrounds were administratively closed to the public because of safety concerns. While most have been reopened, some remain closed because of hazards. Falling trees will remain a safety concern for years to come in the moderate to high severity fire areas.

Landscapes along the northern portion of the Coronado Trail National Scenic Byway and most of the White Mountain Scenic Road are within the Wallow Fire perimeter. The Escudilla NRT and the northern 2 miles of the Eagle NRT are also within the fire perimeter.

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.

Recreation Opportunities

The Recreation Opportunity Spectrum (ROS) class acreages for each alternative are summarized in Table 3 and shown in Figure 3. The Urban (U) class, although used in Alternative A, is not appropriate on NFS lands because it represents settings usually found in cities and towns. There are no Urban class acres in Alternatives B, C, and D. Roaded Modified (RM) recreation opportunities in Alternatives B, C, and D are found mostly along Forest Road 300 on the Sitgreaves NF and reflect the designated dispersed camping and more highly managed recreation opportunities found there.

Table 3. Acres and Percent of the Forests in Each ROS Class by Alternative

ROS Class	Alternative A acres (percent)	Alternative B acres (percent)	Alternative C acres (percent)	Alternative D acres (percent)
Urban (U)	104 (0%)	0 (0%)	0 (0%)	0 (0%)
Rural (R)	32,853 (2%)	42,530 (2%)	43,333 (2%)	41,058 (2%)
Roaded Modified (RM)	0 (0%)	9,682 (< 1%)	9,682 (< 1%)	7,149 (< 1%)
Roaded Natural (RN)	686,435 (34%)	603,887 (30%)	645,056 (32%)	539,491 (27%)
Semi-Primitive Motorized (SPM)	614,520 (30%)	575,572 (29%)	662,116 (33%)	527,725 (26%)
Semi-Primitive Non-Motorized (SPNM)	452,486 (22%)	487,747 (24%)	422,932 (21%)	279,050 (14%)
Primitive (P)	228,954 (11%)	295,934 (15%)	232,233 (12%)	620,879 (31%)
TOTAL	2,015,352	2,015,352	2,015,352	2,015,352

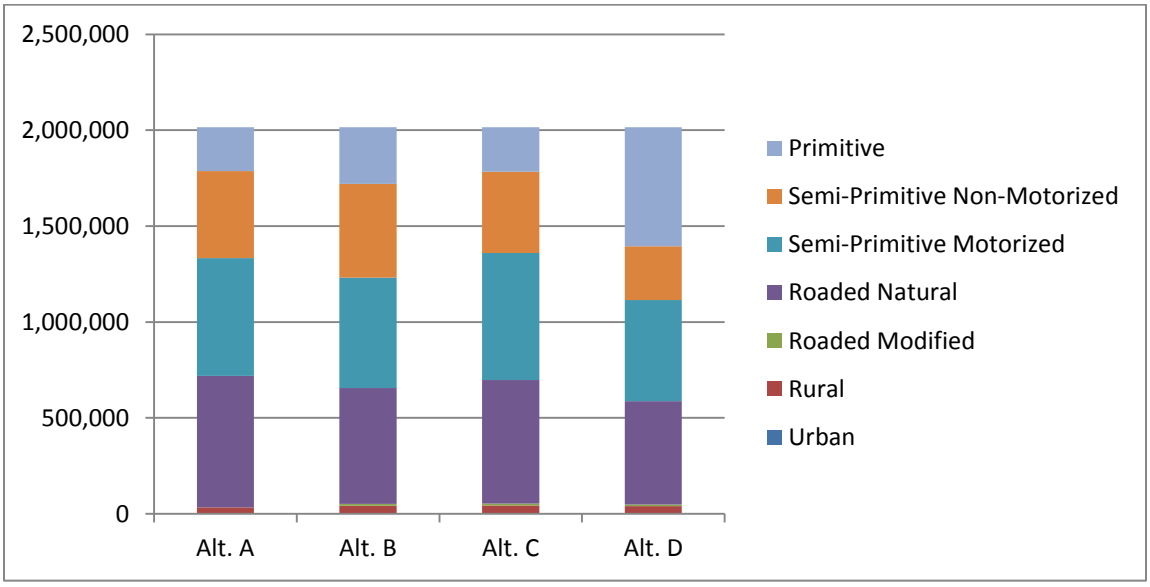

Figure 3. Acres of ROS Class by Alternative

The effect of the changing recreation emphasis by alternative is reflected in the ROS classes. The major ROS emphases in all alternatives are for Roaded Natural, Semi-Primitive Motorized, and Semi-Primitive Non-Motorized recreation opportunities. Alternatives A and C would provide most acres available for motorized recreation opportunities (Rural through Semi-Primitive Motorized). Alternative B would provide a mix of recreation opportunities, with more non-

motorized recreation opportunities (Semi-Primitive Non-Motorized and Primitive) than Alternatives A and C. Alternative D would provide the most non-motorized recreation opportunities (Primitive and Semi-Primitive Non-Motorized), while maintaining over 1 million acres (over half of the forests) in the Roaded Natural and Semi-Primitive Motorized classes.

Most Semi-Primitive Non-Motorized acres in Alternatives A, B, and C are found on the Clifton Ranger District or are located elsewhere on the forests and are generally not accessible to motorized recreation. In Alternative D, many of these SPNM acres across the forests are recommended for wilderness and would provide Primitive recreation opportunities.

It is expected that as the recreation emphasis changes with each alternative, the type of user attracted to the forests would change or current visitors may move to other areas where their desired recreation opportunities are available. In Alternative A**,** there is a mix of motorized, non-motorized, developed, and dispersed recreation opportunities. This mix would continue into Alternative B, but cross-country motorized travel would not be allowed. With a greater emphasis on motorized and developed recreation opportunities in Alternative C, there could be a shift toward users to who prefer motorized recreation activities and/or developed recreation. There would also be decreases in non-motorized and dispersed recreation opportunities that could displace users to other areas or result fewer users who prefer those types of recreation. Alternative D, with a greater emphasis on non-motorized and dispersed recreation opportunities, may attract those who prefer non-motorized and/or dispersed recreation activities, while not encouraging those with motorized/developed preferences. In Alternatives C and D, users may be displaced and may look to recreate in other locations off the Apache-Sitgreaves NFs or may "stay home" (Kocis et al. 2002).

Effects of Management Activities on Recreation

Under all alternatives, management activities, especially mechanical vegetation treatments, may affect recreation users by displacing them from the treated areas. Displacement could affect both developed and dispersed users. For developed recreation, there could be a short-term closure of a campground displacing users to other developed sites or long-term displacement if the developed site character is no longer what a recreationist desires. For example, thinning trees in a campground may reduce vegetative screening between campsites, which may affect the sense of privacy.

For dispersed recreation, short-term displacement could result from the presence of logging equipment or slash piles prior to and shortly after burning. Longer-term dispersed displacement could result from changes to a dispersed campsite or use area. For example, an area would generally be more open and a campsite may be visible if within sight of a road. The loss of vegetative screening between a dispersed campsite and a main road (maintenance level 3 or 4) would probably result in increases in dust and noise and decreases in privacy.

Prescribed fires and wildfires would also displace recreation users. However, this displacement could be of an intermediate length, because users may not return to an area for several months after burning or until some vegetation has regrown.

Mechanical vegetation treatments and the use of wildland fire would displace both motorized and non-motorized recreation users. Areas where these treatments are occurring are usually closed for public safety. Displacements would be similar to those described above. The length of

displacement would vary by treatment type, amount of slash and debris piles, vegetation regrowth after prescribed fire, and scenic quality.

Dispersed Recreation

Dispersed recreation on the Apache-Sitgreaves NFs during the high-use summer season occurs mostly in the ponderosa pine, wet mixed conifer, and dry mixed conifer forested potential natural vegetation types (PNVTs), which are the primary emphasis for vegetation treatments. Under Alternative A, mechanical and wildland fire treatments in these forest types average about 16,000 acres per year. A mix of mechanical and wildland fire treatments would occur in Alternative B and would average approximately 19,600 acres per year. Alternative C would emphasize mechanical treatments over wildland fire; treatments would average about 30,000 acres per year, mostly in the ponderosa pine forested PNVT. Wildland fire would be the major vegetation treatment in Alternative D; treatments would average approximately 28,000 acres per year in the forested PNVTs listed above and in Table 4.

Table 4. Average Annual Acres Treated in Ponderosa Pine, Wet Mixed Conifer, and Dry Mixed Conifer Forested PNVTs by Alternative (Vegetation Specialist Report, U.S. Forest Service 2014c)

PNVT	Treatment Type	Alternative A	Alternative B	Alternative C	Alternative D
Ponderosa Pine	Mechanical	7,119	6,289	13,341	5,434
	Wildland Fire	3,150	6,300	5,614	12,679
Wet Mixed Conifer	Mechanical	2,147	1,900	4,023	1,640
	Wildland Fire	950	1,900	1,725	3,824
Dry Mixed Conifer	Mechanical	1,808	1,584	3,388	1,380
	Wildland Fire	800	1,663	1,525	3,381
Total	Mechanical	11,074	9,773	20,752	8,454
	Wildland Fire	4,900	9,863	8,864	19,884
Grand Total	**Mechanical and Wildland Fire**	**15,974**	**19,636**	**29,616**	**28,338**

Because the majority of the proposed vegetation treatments would occur in areas used for dispersed recreation, dispersed recreationists, especially campers, would be affected more than developed recreation users. On an average annual acres treated basis (Table 4), dispersed users would be displaced the most under Alternatives C and D and the least under Alternative A. However, long-term displacement effects would be greater under Alternative C because of the higher proportion of mechanical treatments.

It is not anticipated that winter recreation users would be displaced because treatments generally occur during the non-winter months, the short-term slash and burn piles may be covered by snow, and winter users usually stay in overnight facilities off the forests. Thinned areas may attract winter recreationists because of the openness.

Developed Recreation

All alternatives would provide a wide range of recreation opportunities across the Apache-Sitgreaves NFs; however, the emphasis varies by alternative. All alternatives emphasize the maintenance of existing recreation infrastructure or facilities. Alternative A identifies 1,665 acres as a management area for developed recreation sites; these acres are not mapped. Alternatives B, C, and D include the High Use Developed Recreation Area (HUDRA) Management Area (16,549 acres). This management area contains areas with high levels of recreation use and concentrated use areas where facilities have been constructed to accommodate large numbers of people (e.g., Big Lake Recreation Area). These areas are large enough to allow for construction of additional facilities.

Alternative A emphasizes developed recreation with the addition of new facilities. Alternative B proposes a balance of motorized and non-motorized opportunities, with the possible construction of dispersed facilities, such as trails and interpretive sites. Alternative C places a greater emphasis on motorized recreation and developed facilities. Motorized recreation opportunities would be improved with the development of trails and interpretive sites. New developed recreation facilities could be constructed in the HUDRA Management Area. Alternative D focuses on non-motorized and dispersed recreation opportunities that require minimal facilities. Under all alternatives, any new recreation facility would be further considered in site-specific, project-level analyses that would consider other resources, including, but not limited to, soil, vegetation, water, heritage, and wildlife.

Alternatives A and C would provide the most opportunities for developed and/or motorized recreation, while Alternative D would provide the least. Alternative B would provide moderate opportunities for developed and/or motorized recreation.

Although maintenance of the existing recreation infrastructure and reduction of the deferred maintenance backlog (by 10 percent within the planning period) are components of all alternatives, there are different consequences by alternative. This hinges on the assumption that funding for recreation facilities and their maintenance does not vary by alternative. Under Alternatives A and C it would be difficult to achieve the deferred maintenance objective because Alternative A focuses on the development of new facilities and Alternative C emphasizes developing new facilities and/or enhancing existing facilities in HUDRA Management Area. If funds are spent on new and/or enhanced facilities, then maintenance of existing facilities could be further deferred. Alternative B should meet the deferred maintenance backlog objective because new facility development would be limited. Alternative D would meet the objective with its minimal new construction emphasis.

Non-motorized Recreation

Acres suitable for future consideration of non-motorized recreation are shown in Appendix C (Tables 12, 13, 14, and 15) and summarized in Table 5. Alternative A is based on management area direction in the 1987 plan. Alternatives B, C, and D are based on suitability criteria found in Table 11 in Chapter 4 of the proposed plan. The suitable acres in Alternatives B, C, and D vary because of different allocations of land to management areas and management area direction. Mechanized and non-motorized suitability would be further refined in site-specific, project-level analyses that would consider other resources including, but not limited to, soil, riparian, water, heritage, and wildlife.

There would be no effects to non-motorized recreation from implementation of any of the alternatives. As shown in Table 5 and Figure 4, the entire forests are suitable for non-motorized travel under all alternatives. Approximately 85 percent of forests are suitable for future consideration of mechanized travel (e.g., mountain bikes) in all alternatives. Alternative A could provide the most mechanized travel opportunities, while alternatives B, C, and D could provide fewer (2 to 3 percent less) opportunities.

Table 5. Acres Suitable for Future Consideration of Mechanized and Non-motorized Travel by Alternative

	Alternative A[2] (acres)	Alternative B (acres)	Alternative C (acres)	Alternative D (acres)
Mechanized Travel[1]	1,748,869 (87%)	1,688,649 (84%)	1,696,532 (84%)	1,705,034 (85%)
Non-motorized Travel	2,015,352 (100%)	2,015,352 (100%)	2,015,352 (100%)	2,015,352 (100%)

[1] Acres suitable for future consideration of mechanized travel are estimated as the entire forest minus those management areas not suitable, wild eligible or suitable river corridors, and riparian areas.

[2] No riparian area acres were used in calculating Alternative A acreages for mechanized travel. There is no direction in the 1987 plan that limits their use for mechanized travel.

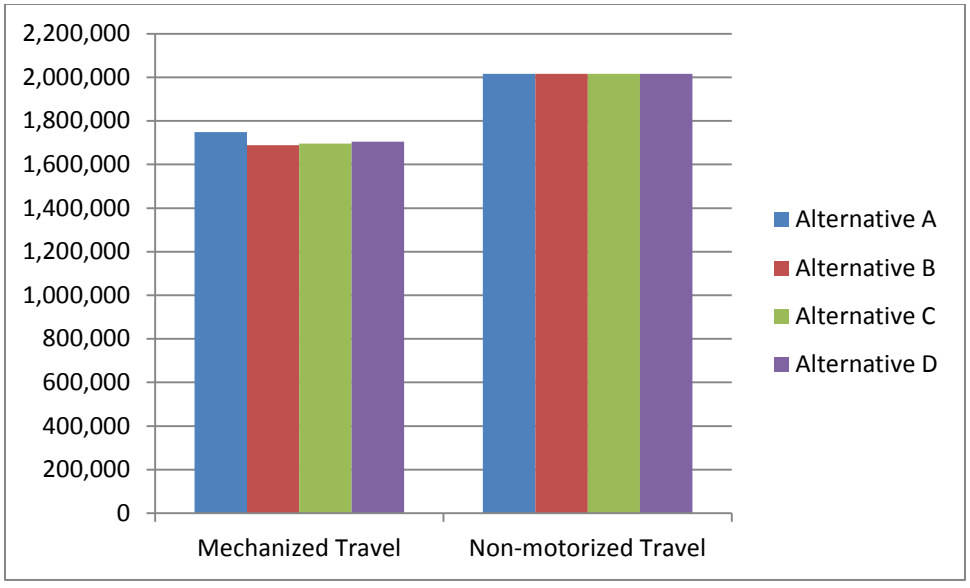

Figure 4. Acres Suitable for Future Consideration of Mechanized Travel and Non-motorized Travel by Alternative

Motorized Recreation

Table 6 displays areas suitable and not suitable for motorized travel. Motorized travel is defined as movement using machines that use a motor, engine, or other nonliving power sources other than a vehicle operated on rails or a wheelchair or mobility device, including one that is battery powered, designed solely for the use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area. Certain vehicles and uses are exempted from the suitability determination (Executive Order 11644**)**.

Table 6. Suitability of Motorized Travel on the Apache-Sitgreaves NFs

Area	Motorized Travel	
	Suitable	Not Suitable
On designated roads, designated trails, or designated motorized areas	X	
Off of designated roads, designated trails, or designated motorized areas		X

Motorized travel would be limited to a system of designated roads, trails, and areas in all alternatives after the completion of the TMR planning process. This process was almost completed before the Wallow Fire.

Acres suitable for future consideration of new motorized recreation development by alternative are summarized in Table 7 and shown in Figure 5. Appendix B contains more detail on the potentially suitable acres. Alternative A (Table 8 in Appendix B) is based on management area direction in the 1987 plan. Alternatives B, C, and D (Tables 9, 10, and 11 in Appendix B) are based on Table 10 in Chapter 4 of the proposed land management plan, which defines whether or not a management area is suitable for future consideration of a variety of motorized uses. Wild and scenic river corridors and riparian areas have been included in the acreage calculations. Areas with high concentration of archeological or historic sites and sacred sites or American Indian Traditional Cultural Properties are not quantifiable and are not included. Although not shown in Appendix B, Inventoried Roadless Areas (IRAs) are considered as not suitable for new motorized areas, roads, or trails and are included in the calculations. The motorized use suitability would be further refined in site-specific, project-level analyses that would consider other resources, including, but not limited to, soil, riparian, water, heritage, and wildlife.

Table 7. Acres and Percent Suitable for Future Consideration of New Motorized Areas and Trails by Alternative

	Alternative A[3] acres (percent)	Alternative B acres (percent)	Alternative C[4] acres (percent)	Alternative D acres (percent)
New Motorized Areas[1]	1,423,242 (71%)	1,243,316 (62%)	1,572,507 (78%)	1,095,135 (54%)
New Motorized Trails[2]	1,444,430 (72%)	1,273,822 (63%)	1,619,298 (80%)	1,123,081 (56%)

[1] Acres suitable for future consideration of new motorized areas are estimated as the entire forest minus those management areas not suitable, eligible and suitable river corridors, riparian areas, and IRAs. Acres associated with Special Orders that restrict motorized recreation use are not included.

[2] Acres suitable for future consideration of new motorized trails are estimated as the entire forest minus

those management areas not suitable, wild river corridors, riparian areas, and IRAs. Acres associated with Special Orders that restrict motorized recreation use are not included.

[3] No riparian area acres were used in calculating Alternative A acreages. There is no direction in the 1987 plan that limits their use for new motorized areas or motorized trails.

[4] No IRA acres were used in calculating Alternative C acreages. Alternative C considers forest management without the IRAs.

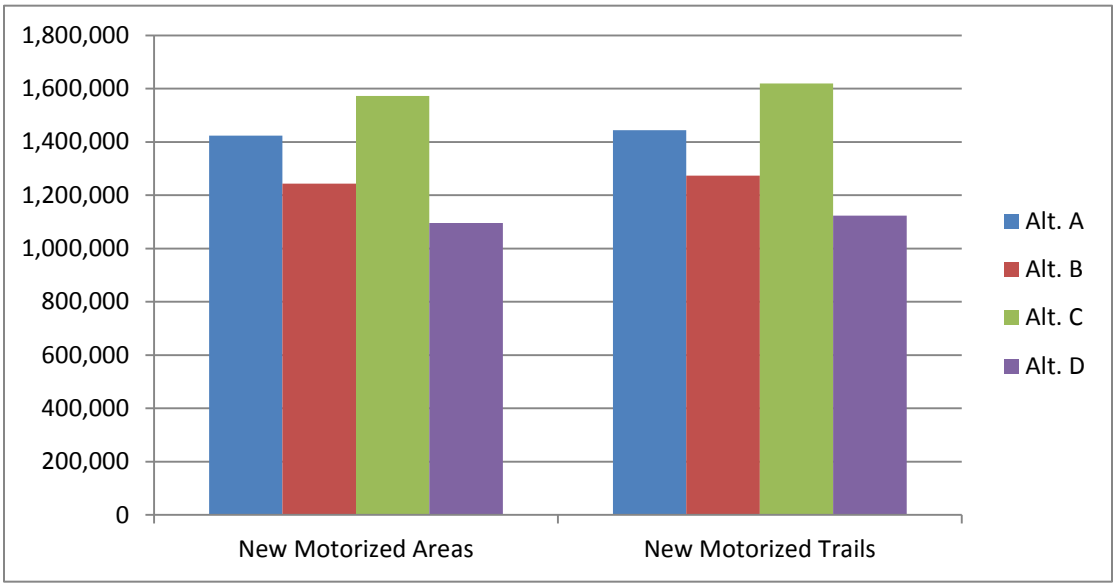

Figure 5. Acres Suitable for Future Consideration of New Motorized Areas and Trails by Alternative

Under all alternatives, over half of the forests could be suitable for future consideration of new motorized areas and trails. The most land could be suitable in Alternatives A and C, while the least could be suitable in Alternative D. Alternatives with higher suitable acres could provide additional forest access for motorized users that, in turn, could discourage non-motorized use in those areas. Should new motorized areas and trails be implemented, site-specific effects to resources could occur, but should be mitigated through the use of standards, guidelines, and best management practices.

Motorized cross-country travel

Alternative A would continue to allow motorized cross-country travel (until the Travel Management Rule is implemented). The effects of continuing this use are described below.

> **Transportation**-The current forest transportation system was originally designed to provide for administrative and public access to NFS lands and did not limit non-highway legal vehicle use. Motorized cross-country travel would not be managed or addressed.
>
> **Recreation**-Increased motorized cross-country travel from a growing user population would result in more resource damage, more conflicts with other forest users, higher noise levels, additional user-created routes, and new dispersed camping locations, especially in or near riparian areas. Non-motorized visitors could be displaced by noise and conflicts with motorized hunters and recreationists to other parts of the forests and to areas that are closed to motorized cross-country travel.

Scenic Resources-Unmanaged motorized cross-country travel has the potential to adversely affect scenic quality through resource damage (e.g., vegetation crushing, soil erosion). This is especially important in locations where physical impacts should be subordinate to the natural landscape (Visual Quality Objective (VQO)-Retention and VQO-Partial Retention). Unauthorized routes would continue to be used and their numbers could rise in all VQO areas with increasing recreational use of the forests. Because unauthorized use is not managed and is likely to increase, the overall scenic quality would decline.

Vegetation-Motorized cross-country travel directly impacts vegetation and increases soil erosion and sedimentation. Resource damage could occur in all vegetation types, especially riparian areas. Motorized cross-country travel has the potential to transport non-native, invasive plant species seeds throughout the forests, thereby greatly expanding the extent of their occurrence.

Soil & Watershed-Motorized cross-country travel would increase the potential for erosion, reduce soil productivity due to compaction and erosion, destroy vegetative cover and natural ground litter, damage riparian areas, increase sediment in streams and water bodies, and change surface flow. Cross-country motorized travel also destroys biological soil crusts. Streambank damage could occur at vehicle crossings and along streams in recreation areas. Surface water quality could be reduced from sedimentation, increased turbidity, introduction of motor vehicle fluids from spills and leaks, and direct contact of vehicles with streams and water bodies.

Wildlife-Motorized cross-country travel improves access to areas and may result in wildlife mortality (e.g., illegal shooting, vehicular collision); may influence wildlife behavior, survival, reproduction, and distribution of species; and may alter habitats.

Rare Plants-Motorized cross-country travel may damage or kill individual plants.

Fisheries-Growing cross-country motorized use increases the potential impacts to streams and fish from erosion and sedimentation. This use directly damages riparian and aquatic habitats and fish life stages when their mobility is limited. These uses indirectly affect downstream habitat primarily through increased sediment and decreased water quality.

Cultural Resources-Unrestricted motorized access to remote sites increases the potential for vandalism, including illegal excavation (looting), damage or destruction to extant standing architecture or rock art, and collection of surface artifacts. Motorized use may remove vegetation that protects and covers archaeological materials. When cultural materials are exposed, the more decorative artifacts and collectable historic objects may disappear through illegal collecting.

Alternatives B, C, and D would eliminate motorized cross-country travel. Motorized travel would be limited to designated roads, trails, and areas after completion of the travel management planning process. Eliminating motorized cross-country travel would benefit many natural resources, as described below.

Transportation-Motor vehicle use would only be allowed on roads, trails, and areas designated for motorized use. This would make it easier for forest users to understand

where they can travel with motor vehicles. Not having motor vehicles on unauthorized user-created routes would reduce safety concerns.

Recreation-Eliminating motorized cross-country travel would have beneficial effects to soils, water, vegetation, fish, wildlife, and cultural resources. There could be some displacement of motor vehicle users to lands outside the Apache-Sitgreaves NFs where cross-country travel may be allowed.

Scenic Resources-Additional impacts to scenic integrity from motorized cross-country travel would be prevented. Unauthorized routes would revegetate and scenic integrity would improve.

Vegetation-Plants and their habitats would benefit from reduced disturbance. The potential to spread non-native, invasive plant species seeds across the forests would be reduced.

Soil & Watershed-Erosion and sediment transport would be reduced as disturbed areas revegetate. Less sediment would reduce maintenance needs of road-related structures (culverts) and improve downstream aquatic habitats. Better watershed conditions would reduce peak flows and promote better infiltration and ground water recharge.

Wildlife-Less motorized access may reduce disturbance, mortality (e.g., fewer collisions), habitat fragmentation and modification, and may improve habitat security and quality.

Rare Plants-By reducing where motor vehicles are allowed, plant habitat quality would improve by minimizing vehicular crushing and invasive plant introductions.

Fisheries-Potential impacts and disturbance to fish species, riparian and aquatic habitats, and hydrologic conditions would be reduced.

Cultural Resources-The potential to disturb cultural resources would be reduced because fewer lands would be open to motor vehicle use, resulting in a beneficial effect to cultural resources. The adverse effects to remote cultural sites from motorized cross-country travel would be reduced and, in some areas, stopped.

Under all alternatives, motorized travel would be limited to a system of designated roads, trails, and areas after completion of the travel management planning process to implement the Travel Management Rule.

Special Designations

No new scenic byways or NRTs are proposed in any alternative. These two special designations would be managed to protect the values for which they were designated. However, there would be no effects from removing the NRT designation from the Escudilla trail, as proposed in Alternatives B, C, and D, because it is within a designated wilderness. The trail would continue to receive heavy use during the summer and fall because of the area's popularity. The use of this trail is one issue that would be addressed in a wilderness management plan for Escudilla Wilderness.

Relationship of Short-Term Uses and Long-Term Productivity
Short- and long-term effects are discussed in the sections above.

Cumulative Environmental Consequences

The cumulative effects analysis area for recreation is the Coconino NF, the Tusayan and Williams Districts on the Kaibab NF, the Payson and Pleasant Valley Ranger Districts on the Tonto NF (U.S. Forest Service 2010b), and other federal and state-managed lands within a 20-mile radius of the Apache-Sitgreaves NFs. This large area was selected because of on-going and proposed activities on neighboring national forests (i.e., Four Forest Restoration Initiative), adjacent state lands (i.e., recreation permits, types of recreation limited), and neighboring Indian reservations (i.e., recreation permits, types of recreation limited).

The Four Forest Restoration Initiative (4FRI) covers the Apache-Sitgreaves NFs, the Coconino NFs, and portions of the Kaibab and Tonto NFs with the goal of restoring forest ecosystems along the Mogollon Rim. The effort is focused on thinning and prescribed burning in 2.4 million acres of ponderosa pine and dry mixed conifer forests. Up to 50,000 acres may be thinned and/or prescribed burned per year for 20 years, a total of 1 million acres (U.S. Forest Service 2010b). As previously discussed, much of the summer recreation on national forest lands occurs in these forested PNVTs. Because of the extent of the proposed activities, in addition to other ongoing vegetation treatments on the Apache-Sitgreaves NFs under all alternatives, there would be cumulative effects to recreation. Recreation users of the forests, especially dispersed users, could be displaced to areas beyond the national forests in Arizona, to forest lands in other states, or to lands managed by other agencies. It is also possible that forest users may choose to no longer recreate beyond their home area (Kocis et al. 2002). This could result in losses in revenues to communities within or adjacent to the four 4FRI national forests.

Under all alternatives, cumulative effects to recreation could also result from other agencies' management of their lands. In particular, permits are required for recreational use of surrounding Indian Reservations and state trust lands. A fee is charged for the permit and only limited recreation activities are allowed. The fee and the limitations on types of recreation could both negatively and positively affect recreation use on the Apache-Sitgreaves NFs. Those recreation users unwilling or unable to pay a fee would use the forests rather than reservation or state lands. Also, those users whose preferred activities are not allowed on adjoining lands would select to visit the forests. Conversely, those users seeking a different recreation opportunity would pay the fee to visit the lands surrounding the forests. For example, a camper wishing a dispersed recreation opportunity without the presence of ATVs may opt to pay for and visit the Fort Apache Indian Reservation, because the White Mountain Apache Tribe does not allow the use of ATVs on their lands.

The Arizona Department of Transportation (ADOT) 2014-2018 Five-Year Transportation Facilities Construction Program lists projects on or in the vicinity of the Apache-Sitgreaves NFs. These planned projects consist of pavement rehabilitation, shoulder widening, and other heavy maintenance projects. None of these projects would increase or decrease access to the Apache-Sitgreaves NFs. In all alternatives, these road improvements could facilitate increases in forest visitors since the driving times from the urban areas of Phoenix and Tucson would decrease. As use increases, compliance with regulation could be come a greater challenge as visitors often compete for limited space and resources. Especially vulnerable are semi-primitive and primitive

settings, which emphasize solitude, challenge, risk, unmodified natural environments, and minimal encounters and/or signs of other users.

Adaptive Management

The development of management plans for the High Use Developed Recreation Area Management Area, other important recreation sites, and heavily used dispersed areas could provide for adaptive responses to changing recreation use levels and activities.

Other Planning Efforts

2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) (Arizona State Parks 2007)

Arizona Trails 2010: A Statewide Motorized and Non-Motorized Recreational Trails Plan (Arizona State Parks 2009)

Revisions of the Coconino National Forest and Prescott National Forest land management plans.

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Appendix A - ROS Classes

Recreation opportunity spectrum (ROS) – A framework for defining the types of outdoor recreation opportunities the public might desire and identifies that portion of the spectrum a given national forest area might be able to provide. The broad classes are:

Primitive (P) – Characterized by essentially unmodified natural environment. Interaction between users is very low and evidence of other users is minimal. Essentially free from evidence of human-induced restrictions and controls. Motorized use within the area is generally not permitted. Very high probability of experiencing solitude, closeness to nature, tranquility, self-reliance, and risk.

Semi-Primitive Non-Motorized (SPNM) – Characterized by a predominantly natural or natural-appearing environment. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on site controls and restrictions may be present, but are subtle. Motorized use is generally not permitted. High probability of experiencing solitude, closeness to nature, tranquility, self-reliance, and risk.

Semi-Primitive Motorized (SPM) – Characterized by a predominantly natural or natural-appearing environment. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on site controls and restrictions may be present, but are subtle. Motorized use is generally permitted. Moderate probability of experiencing solitude, closeness to nature, tranquility, self-reliance, and risk.

Roaded Natural (RN) – Characterized by a predominantly natural-appearing environment with moderate evidence of the sights and sounds of other humans. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate but with evidence of other users prevalent. Resource modification and utilization practices are evident but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities. Opportunity to affiliate with other users in developed sites but with some chance for privacy.

Roaded Modified (RM) – Characterized by substantially modified natural environment except for campsite. Roads and management activities may be strongly dominant. There is moderate evidence of other users on roads. Conventional motorized use is provided for in construction standards and design of facilities. Opportunity to get away from others, but with easy access.

Rural (R) – Characterized by substantially modified natural environment. Resource modification and utilization practices are to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate densities are provided far away from developed sites. Facilities for intensified motorized use and parking are available. Opportunity to observe and affiliate with other users is important, as is convenience of facilities.

Urban (U) – Characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Resource modification and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans on-site are predominant. Large numbers of users can be expected, both on-site and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site. Opportunity to observe and affiliate with other users is very important, as is convenience of facilities.

Appendix B - Motorized Travel Suitability

(from U.S. Forest Service. 2013. Apache-Sitgreaves National Forests Proposed Land Management Plan, Chapter 4 Suitability)

The following tables display acres that are suitable and not suitable for future consideration of new motorized areas, roads, motorized trails, or temporary road construction.

Motorized travel is defined as movement using machines that use a motor, engine, or other nonliving power sources other than a vehicle operated on rails or a wheelchair or mobility device, including one that is battery powered, that is designed solely for the use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area.

A **motorized area** is one that has been designated for motor vehicle use.

NFS roads and trails are roads and trails that the Forest Service determines are necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.

NFS motorized trails are divided into two categories, greater than 50 inches and less than 50 inches, to accommodate a variety of vehicles.

Temporary roads are roads necessary for emergency operations or are authorized by contract, permit, lease, or other written authorization, and they are not a NFS road or trail and not included in a forest transportation atlas. Temporary roads are obliterated or rehabilitated following the completion of the activity for which they were built.

Alternative A

Motorized travel suitability was not addressed in the 1987 plan. In order to compare Alternative A to Alternatives B, C, and D, Table 10 in Chapter 4 of the proposed land management plan was adapted to estimate the acres suitable for new motorized uses (Table 8). The numbers in the “not suitable” column reflect management area direction and the presence of Inventoried Roadless Areas (IRAs) and eligible or suitable wild and scenic river corridors. All wild and scenic river corridor acres are used in the New Motorized Areas category, while only the wild river corridor acres are used in the other categories. Motorized vehicle use is not suitable in wild river corridors. All acreages are from GIS. The total “not suitable” acres are subtracted from the total forest acres (2,015,352) to determine the acres “suitable” for each use.

Areas with high concentration of archeological or historic sites and sacred sites or American Indian Traditional Cultural Properties are not quantifiable and are not included in the acres “not suitable” column.

The Developed Recreation Sites Management Area is not included in the table because these areas were not mapped. The Research Natural Areas Management Area acres do NOT include the proposed Escudilla Research Natural Area (RNA). Those acres are included in the Escudilla Wilderness Management Area because the proposed RNA is completely within the wilderness.

Alternatives B, C, and D

Table 10 in Chapter 4 of the proposed land management plan was used to estimate the acres suitable in Alternatives B, C, and D for new motorized uses (Tables 9, 10, and 11). The numbers in the "not suitable" column reflect management area direction and the presence of IRAs, eligible or suitable wild and scenic river corridors, and riparian areas. All wild and scenic river corridor acres are used in the New Motorized Areas category, while only the wild river corridor acres are used in the other categories. Motorized vehicle use is not suitable in wild river corridors. There are no IRAs in Alternative C. All acreages are from GIS. The total "not suitable" acres are subtracted from the total forest acres (2,015,352) to determine the acres "suitable" for each use.

Areas with high concentration of archeological or historic sites and sacred sites or American Indian Traditional Cultural Properties are not quantifiable and are not included in the acres "not suitable" column.

The riparian area acres are from the 2012 GIS Potential Natural Vegetation Type (PNVT) coverage. The acreage used includes wetland/cienega riparian areas and cottonwood-willow, montane willow, and mixed broadleaf deciduous riparian forests. The GIS coverage does not include all meadows on the forests or areas along ephemeral drainages.

Table 8. Alternative A - Suitability for Future Consideration of New Motorized Areas, Road and Motorized Trail Construction, and Temporary Roads on the Apache-Sitgreaves NFs

Management Area	New Motorized Areas		NFS Roads and NFS Motorized Trails > 50"		NFS Motorized Trails < 50"		Temporary Roads	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
Forest Land	865,473	66,923	865,473	59,411	865,473	59,411	865,473	59,411
Woodland	766,495	237,267	766,495	230,944	766,495	230,944	766,495	230,944
Grasslands	52,409	3,035	52,409	1,348	52,409	1,348	52,409	1,348
Riparian	42,645	12,251	42,645	9,698	42,645	9,698	42,645	9,698
Water	4,071	27	4,071	2	4,071	2	4,071	2
Escudilla Demonstration Area	4,898	325	4,898	325	4,898	325	4,898	325
Sandrock	26,596	25,133	26,596	24,896	26,596	24,896	26,596	24,896
Research Natural Areas	1,587	153	1,587	5	1,587	5	1,587	5
Black River	6,804	5,956	6,804	5,939	6,804	5,939	6,804	5,939
Chevelon Canyon	10,643	10,643	10,643	10,643	10,643	10,643	10,643	6,639
West Fork Black River	9,066	6,533	9,066	4,415	9,066	4,415	9,066	4,415
East and West Forks Little Colorado River	1,927	1,126	1,927	558	1,927	558	1,927	558

Management Area	New Motorized Areas		NFS Roads and NFS Motorized Trails > 50”		NFS Motorized Trails < 50”		Temporary Roads	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
Blue Range Primitive Area and Additions	199,505	199,505	199,505	199,505	199,505	199,505	199,505	199,505
Bear Wallow Wilderness	11,234	11,234	11,234	11,234	11,234	11,234	11,234	11,234
Escudilla Wilderness	5,157	5,157	5,157	5,157	5,157	5,157	5,157	5,157
Mount Baldy Wilderness	6,842	6,842	6,842	6,842	6,842	6,842	6,842	6,842
Subtotal	2,015,352	592,110	2,015,352	570,922	2,015,352	570,922	2,015,352	566,918
Acres Suitable	**1,423,242**		**1,444,430**		**1,444,430**		**1,448,434**	

Table 9. Alternative B - Suitability for Future Consideration of New Motorized Areas, Road and Motorized Trail Construction, and Temporary Roads on the Apache-Sitgreaves NFs

Management Area	New Motorized Areas		NFS Roads and NFS Motorized Trails > 50"		NFS Motorized Trails < 50"		Temporary Roads	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
General Forest	1,224,071	57,723	1,224,071	42,837	1,224,071	42,837	1,224,071	42,837
Community-Forest Intermix	60,564	1,529	60,564	1,529	60,564	1,529	60,564	1,529
High Use Developed Recreation Area	16,549	16,549	16,549	929	16,549	929	16,549	929
Energy Corridor	2,547	2,547	2,547	78	2,547	2,547	2,547	78
Wild Horse Territory	18,761	828	18,761	828	18,761	828	18,761	828
Wildlife Quiet Area	50,173	50,173	50,173	50,173	50,173	50,173	50,173	900
Natural Landscape	404,802	404,802	404,802	404,802	404,802	404,802	404,802	325,078
Recommended Research Natural Area	7,814	7,814	7,814	7,814	7,814	7,814	7,814	7,814
Research Natural Area	261	261	261	261	261	261	261	261
Primitive Area	199,502	199,502	199,502	199,502	199,502	199,502	199,502	199,502
Recommended Wilderness	7,074	7,074	7,074	7,074	7,074	7,074	7,074	7,074
Wilderness	23,234	23,234	23,234	23,234	23,234	23,234	23,234	23,234
Subtotal	2,015,352	772,036	2,015,352	739,061	2,015,352	741,530	2,015,352	610,064
Acres Suitable	**1,243,316**		**1,276,291**		**1,273,822**		**1,405,288**	

Table 10. Alternative C - Suitability for Future Consideration of New Motorized Areas, Road and Motorized Trail Construction, and Temporary Roads on the Apache-Sitgreaves NFs

Management Area	New Motorized Areas		NFS Roads and NFS Motorized Trails > 50"		NFS Motorized Trails < 50"		Temporary Roads	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
General Forest	1,599,357	103,818	1,599,357	72,647	1,599,357	72,647	1,599,357	72,647
Community-Forest Intermix	60,564	1,529	60,564	1,529	60,564	1,529	60,564	1,529
High Use Developed Recreation Area	16,549	16,549	16,549	929	16,549	929	16,549	929
Energy Corridor	2,547	2,547	2,547	74	2,547	2,547	2,547	74
Wild Horse Territory	18,761	828	18,761	828	18,761	828	18,761	828
Wildlife Quiet Area	44,373	44,373	44,373	44,373	44,373	44,373	44,373	864
Natural Landscape	35,408	35,408	35,408	35,408	35,408	35,408	35,408	4,191
Recommended Research Natural Area	7,814	7,814	7,814	7,814	7,814	7,814	7,814	7,814
Research Natural Area	261	261	261	261	261	261	261	261
Primitive Area	199,502	199,502	199,502	199,502	199,502	199,502	199,502	199,502
Recommended Wilderness	6,982	6,982	6,982	6,982	6,982	6,982	6,982	6,982
Wilderness	23,234	23,234	23,234	23,234	23,234	23,234	23,234	23,234
Subtotal	2,015,352	442,845	2,015,352	393,581	2,015,352	396,054	2,015,352	318,855
Acres Suitable	**1,572,507**		**1,621,771**		**1,619,298**		**1,696,497**	

Table 11. Alternative D - Suitability for Future Consideration of New Motorized Areas, Road and Motorized Trail Construction, and Temporary Roads on the Apache-Sitgreaves NFs

Management Area	New Motorized Areas		NFS Roads and NFS Motorized Trails > 50"		NFS Motorized Trails < 50"		Temporary Roads	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
General Forest	1,068,718	48,613	1,068,718	36,287	1,068,718	36,287	1,068,718	36,287
Community-Forest Intermix	58,610	1,513	58,610	1,513	58,610	1,513	58,610	1,513
High Use Developed Recreation Area	16,549	16,549	16,549	929	16,549	929	16,549	929
Energy Corridor	2,550	2,550	2,550	78	2,550	2,550	2,550	78
Wild Horse Territory	18,761	828	18,761	828	18,761	828	18,761	828
Wildlife Quiet Area	59,379	59,379	59,379	59,379	59,379	59,379	59,379	1,323
Natural Landscape	77,119	77,119	77,119	77,119	77,119	77,119	77,119	27,083
Recommended Research Natural Area	5,957	5,957	5,957	5,957	5,957	5,957	5,957	5,957
Research Natural Area	261	261	261	261	261	261	261	261
Primitive Area	199,502	199,502	199,502	199,502	199,502	199,502	199,502	199,502
Recommended Wilderness	484,712	484,712	484,712	484,712	484,712	484,712	484,712	484,712
Wilderness	23,234	23,234	23,234	23,234	23,234	23,234	23,234	23,234
Subtotal	2,015,352	920,217	2,015,352	889,799	2,015,352	892,271	2,015,352	781,707
Acres Suitable	**1,095,135**		**1,125,553**		**1,123,081**		**1,233,645**	

Appendix C - Recreation Suitability

(from U.S. Forest Service. 2013. Apache-Sitgreaves National Forests Proposed Land Management Plan, Chapter 4 Suitability)

The following tables display acres that are suitable and not suitable for future consideration of mechanized and non-motorized travel for each alternative.

Mechanized travel (mechanical transport) is defined as movement using any contrivance over land, water, or air, having moving parts, that provides a mechanical advantage to the user and that is powered by a living or nonliving power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs when used as necessary medical appliances. It also does not include skis, snowshoes, rafts, canoes, sleds, travois, or similar primitive devices without moving parts.

Non-motorized travel (not including mechanized travel) is defined as movement not relying on machines that use a motor, engine, or other nonliving power source (e.g., walking, canoeing, horseback riding).

Alternative A

Recreation suitability was not addressed in the 1987 plan. In order to compare Alternative A to Alternatives B, C, and D, Table 11 in Chapter 4 of the proposed land management plan was adapted to estimate the acres suitable for mechanized and non-motorized travel (Table 12). For mechanized travel (mechanical transport), the numbers in the "not suitable" column reflect management area direction and the presence of eligible or suitable wild river corridors. Mechanized travel is not suitable in wild river corridors. All acreages are from GIS. The total "not suitable" acres are subtracted from the total forest acres (2,015,352) to determine the acres "suitable" for each type of travel.

The Developed Recreation Sites Management Area is not included in the table because these areas were not mapped. The Research Natural Areas (RNA) acres do NOT include the proposed Escudilla RNA. Those acres are included in the Escudilla Wilderness Management Area because the proposed RNA is completely within the wilderness.

Table 12. Alternative A - Suitability for Future Consideration of Mechanized and Non-motorized Travel on the Apache-Sitgreaves NFs

Management Area	Mechanized Travel		Non-motorized[2] Travel	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
Forest Land	865,473	8,133	865,473	0
Woodland	766,495	13,895	766,495	0
Grasslands	52,409	1,314	52,409	0
Riparian	42,645	4,724	42,645	0
Water	4,071	2	4,071	0
Escudilla Demonstration Area	4,898	0	4,898	0
Sandrock	26,596	1,329	26,596	0
Research Natural Areas	1,587	5	1,587	0
Black River (Mainstem)	6,804	4,127	6,804	0
Chevelon Canyon	10,643	5,244	10,643	0
West Fork Black River	9,066	4,415	9,066	0
East & West Forks Little Colorado River	1,927	558	1,927	0
Blue Range Primitive Area & Additions	199,505	199,505	199,505	0
Bear Wallow Wilderness	11,234	11,234	11,234	0
Escudilla Wilderness	5,157	5,157	5,157	0
Mount Baldy Wilderness	6,842	6,842	6,842	0
Subtotal	2,015,352	266,484	2,015,352	0
Acres Suitable	**1,748,868**		**2,015,352**	

Alternatives B, C, and D

Table 11 in Chapter 4 of the proposed land management plan was used to estimate the acres suitable in Alternatives B, C, and D for mechanized and non- motorized uses (Tables 13, 14, and 15). For mechanized travel (mechanical transport), the numbers in the "not suitable" column reflect management area direction and the presence of eligible or suitable wild river corridors and riparian areas. Mechanized travel is not suitable in wild river corridors. All acreages are from GIS. The total "not suitable" acres are subtracted from the total forest acres (2,015,352) to determine the acres "suitable" for each type of travel.

[2] Does not include mechanized travel.

The riparian area acres are from the 2012 GIS Potential Natural Vegetation Type (PNVT) coverage. The acreage used includes wetland/cienega riparian areas and cottonwood-willow, montane willow, and mixed broadleaf deciduous riparian forests. The GIS coverage does not include all meadows on the forests or areas along ephemeral drainages.

Table 13. Alternative B - Suitability for Future Consideration of Mechanized and Non-motorized Travel on the Apache-Sitgreaves NFs

Management Area	Mechanized Travel		Non-motorized[2] Travel	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
General Forest	1,224,071	42,676	1,224,071	0
Community-Forest Intermix	60,564	1,529	60,564	0
High Use Developed Recreation Area	16,549	929	16,549	0
Energy Corridor	2,547	39	2,547	0
Wild Horse Territory	18,761	828	18,761	0
Wildlife Quiet Area	50,173	8,656	50,173	0
Natural Landscape	404,802	34,161	404,802	0
Recommended Research Natural Area	7,814	7,814	7,814	0
Research Natural Area	261	261	261	0
Primitive Area	199,502	199,502	199,502	0
Recommended Wilderness	7,074	7,074	7,074	0
Wilderness	23,234	23,234	23,234	0
Subtotal	2,015,352	326,703	2,015,352	0
Acres Suitable	**1,688,649**		**2,015,352**	

Table 14. Alternative C - Suitability for Future Consideration of Mechanized and Non-motorized Travel on the Apache-Sitgreaves NFs

Management Area	Mechanized Travel		Non-motorized[2] Travel	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
General Forest	1,599,357	72,647	1,599,357	0
Community-Forest Intermix	60,564	1,529	60,564	0
High Use Developed Recreation Area	16,549	929	16,549	0
Energy Corridor	2,547	39	2,547	0
Wild Horse Territory	18,761	828	18,761	0
Wildlife Quiet Area	44,373	864	44,373	0
Natural Landscape	35,408	4,191	35,408	0
Recommended Research Natural Area	7,814	7,814	7,814	0
Research Natural Area	261	261	261	0
Primitive Area	199,502	199,502	199,502	0
Recommended Wilderness	6,982	6,982	6,982	0
Wilderness	23,234	23,234	23,234	0
Subtotal	2,015,352	318,820	2,015,352	0
Acres Suitable	**1,696,532**		**2,015,352**	

Table 15. Alternative D - Suitability for Future Consideration of Mechanized and Non-motorized Travel on the Apache-Sitgreaves NFs

Management Area	Mechanized Travel		Non-motorized[2] Travel	
	MA Acres	Acres Not Suitable	MA Acres	Acres Not Suitable
General Forest	1,068,718	35,121	1,068,718	0
Community-Forest Intermix	58,610	1,513	58,610	0
High Use Developed Recreation Area	16,549	929	16,549	0
Energy Corridor	2,550	39	2,550	0
Wild Horse Territory	18,761	828	18,761	0
Wildlife Quiet Area	59,379	919	59,379	0
Natural Landscape	77,119	1,577	77,119	0
Recommended Research Natural Area	5,957	5,957	5,957	0
Research Natural Area	261	261	261	0
Primitive Area	199,502	199,502	199,502	0
Recommended Wilderness	484,712	40,438	484,712	0
Wilderness	23,234	23,234	23,234	0
Subtotal	2,015,352	310,318	2,015,352	0
Acres Suitable	**1,705,034**		**2,015,352**	