Apache-Sitgreaves National Forests Wilderness Evaluation Report

Wildcat Canyon South Potential Wilderness

PW-03-01-006

October 2012

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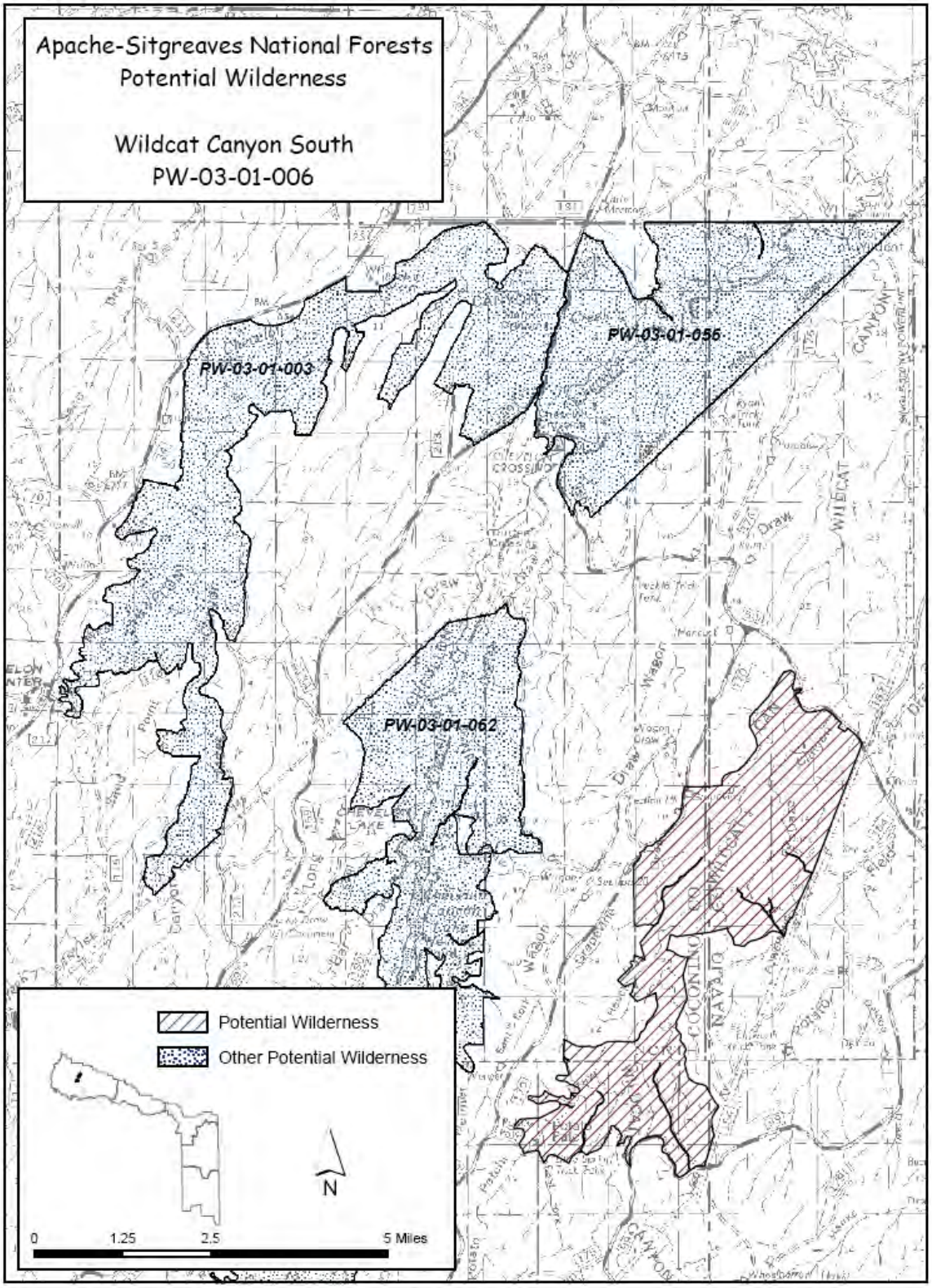

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Introduction

As part of the Forest Plan Revision process for the Apache-Sitgreaves National Forests (Apache-Sitgreaves NFs), the Forest Service has prepared this Wilderness Evaluation Report for the Wildcat Canyon South potential wilderness.

Purpose
The Forest Service must evaluate all lands possessing wilderness characteristics for potential wilderness during plan revision. Completion of a potential wilderness inventory and evaluation is an essential step in the plan revision process. Wilderness is one of many special area designations the Forest Service considers during plan revision; it is one of three mandatory special area evaluations. If an area is recommended for wilderness designation, then the revised plan would contain desired conditions, objectives, guidelines, and/or standards that would protect its wilderness characteristics.

The Process
The wilderness evaluation process began with an inventory of potential wilderness, which includes areas of federal land over 5,000 contiguous acres and other areas that meet the criteria in FSH 1909.12, Chapter 70, Section 71, and then determined if those areas meet the definition of wilderness. Once a list of potential wilderness areas was created, each area was evaluated for capability, availability, and need. These evaluation factors are described in the introduction to each evaluation step and in Appendix A. This report summarizes the wilderness capability, availability, and need evaluations based on the best available information. This report also presents the potential effects of a wilderness or nonwilderness recommendation.

The Apache-Sitgreaves NFs will use this report to determine whether or not to make a preliminary administrative recommendation for wilderness designation for the Wildcat Canyon South potential wilderness. The Responsible Official's (Regional Forester) recommendation will be documented in the final revised Plan and the Environmental Impact Statement Record of Decision. Public comments on this report will be accepted and considered throughout the plan revision process. If a potential wilderness is recommended for wilderness, the recommendation will receive further review by the Chief of the Forest Service and the Secretary of Agriculture. If the Chief of the Forest Service intends to move forward with a wilderness recommendation, the Forest Service will complete a detailed analysis of the trade-offs and impacts in accordance with the National Environmental Policy Act, including further public review and comment. Ultimately, only Congress has the authority to designate wilderness.

Background

Name	Wildcat Canyon South
Number	PW-03-01-006
Acres	6,972
Ranger District	Black Mesa
History (if applicable)	N/A
Location, Vicinity, and Access	The Wildcat Canyon South potential wilderness is located in the western part of the Apache-Sitgreaves NFs in Arizona. It is located in Coconino and Navajo Counties, approximately 45 miles west-northwest of Show Low. It can be accessed from State Highway 260 and Forest Road (FR) 504.
Geography and Topography	The potential wilderness is located on the Mogollon Plateau, which drains north into the Little Colorado River. The area includes Wildcat and Daze Canyons with elevations ranging from less than 6,500 feet at the FR 504 crossing to over 7,000 feet on the uplands.
Surroundings	The Wildcat Canyon South potential wilderness boundary follows a combination of forest roads[1], activity areas, terrain features, and a power line corridor. There are no private lands within or adjacent to Wildcat Canyon South potential wilderness.
Special Designation	The proposed Wildcat Research Natural Area (RNA) is located in the northwest corner of the potential wilderness.
Vegetation	A mosaic of vegetation communities is found within Wildcat Canyon South potential wilderness. Vegetation varies with elevation, aspect, and slope. Wildcat and Daze Canyons pass through ponderosa pine forest in the southern portion of the potential wilderness, which grades into piñon-juniper woodland and Great Basin grassland in the northern portion. The steep-walled canyons create complex environmental conditions with associated vegetation including dry mixed conifer forest. The cottonwood-willow riparian forest along the stream channels consists primarily of box elder, ash, narrowleaf cottonwood, willow, Gambel oak, rose, wild grape, and poison ivy. Small benches or sand and gravel bars are found near the mouths of side canyons and support a variety of grasses, herbaceous ground cover, and low shrubs
Appearance and Key Attractions	The primary scenic features are primitive, steep-walled, and twisting canyons with cliffs rising as high as 200 feet above deep pools in the stream channels. The vegetation diversity along the stream corridors adds to the scenic quality of the area. The natural beauty, wildlife, and remoteness of the area are the primary attractions.

[1] Roads may be bounded on one or both sides by the potential wilderness. Where a road is bounded on both sides, a non-potential wilderness corridor or "cherrystem" surrounds the road. Forest roads include 99, 122B, 154, 154A, 170, 170B, 170W, 504, 9521F, 9521J, 9521M, 9521O, 9522, 9522D, 9522E, 9522F, 9522G, 9537A, 9537C, 9537I, 9537K, 9537L, and 9538O. Roads that end at the potential wilderness boundary are not listed.

CURRENT USES

Recreation	There is very little recreation activity due to the remoteness. Current recreation activities are primarily hunting, hiking, backpacking, OHV use, and viewing scenery and wildlife. There are no developed recreation sites or trails within the area. Most of the area has recreation emphases of Semi-Primitive Motorized and Roaded Natural.
Wildlife	Large wildlife species found in the area include elk, mule deer, black bear, and mountain lion. Small animals and birds also inhabit the area. Several Mexican spotted owl (threatened) protected activity centers are found within the potential wilderness. Sensitive wildlife species include bald eagle, American peregrine falcon, and common black-hawk.
Range	Cattle and sheep grazing occur in the area in the Long Tom and Wildcat Allotments. There are approximately 4.7 miles of fence: 1.6 miles of allotment boundary, 2.3 miles of interior fence, and 0.8 miles of RNA fence. There are also 0.5 miles of pipeline in the potential wilderness.
Water	Wildcat Canyon is an intermittent drainage. Side drainages are either intermittent or ephemeral. There are five stock tanks, one undeveloped spring, and one trick tank/guzzler within the potential wilderness.
Forest Products	Some fuelwood cutting occurs in the uplands.
Special Uses	A dual 500 kV power line right-of-way parallels the eastern boundary.
Minerals	As of 4/18/2009, there are no mining claims, mineral districts, mineral withdrawals, or coal, oil, gas, or geothermal leases in the potential wilderness.
Cultural Resources	Isolated hunting camps and rock art from the Mogollon culture are found in the potential wilderness.
Fire	Forty fires (most smaller than ¼ acre and the largest approximately 6,262 acres) occurred between 1970 and 2008. The majority were caused by lightning. The 2009 Durfee Fire burned about a third of the potential wilderness.

Capability Evaluation

Wilderness capability describes the basic characteristics that make the area appropriate and valuable for wilderness designation, regardless of the area's availability or need. Five factors are used to determine capability: naturalness, level of development, opportunities for solitude or primitive and unconfined recreation, special features, and the ability of the Forest Service to manage the area as wilderness. The first four factors consider how the current conditions of the potential wilderness fit the definition of wilderness. Manageability is slightly different because it evaluates features of the area that would make it more or less difficult to manage as wilderness, such as size, shape, and juxtaposition to external influences. The following summarizes the information found in Appendix B.

Summary

Natural

High-canyons and uplands

The potential wilderness is essentially natural and the diversity of vegetation and wildlife species is a key feature. Vegetation types include piñon-juniper woodland, Great Basin grassland, and cottonwood-willow riparian, ponderosa pine, and dry mixed conifer forests. The potential wilderness provides habitat for Mexican spotted owl, bald eagle, American peregrine falcon, and common black-hawk. There are no perennial streams, known impoundments, or water quality concerns. Mullein and yellow sweetclover, non-native plants, may be found along area roads, but there are no records of the plants within the potential wilderness. Other non-native species may be present, but no surveys have specifically been conducted in the area. The night sky is not affected by light pollution because there are no nearby population centers. The Durfee Fire did not affect the burned area's wilderness character because wildfire is considered a natural ecological process.

Undeveloped

Medium-canyons and uplands

There is some evidence of human activity including some fences, water developments, and user-created travel routes. There are no trails.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

High-canyons
Medium-uplands

Canyons - There are outstanding opportunities for solitude because of the winding canyons and difficult access. There are also outstanding opportunities for primitive and unconfined recreation because of the area's remoteness, dense canyon vegetation, and lack of trails. Recreation opportunities include hiking, photography, wildlife viewing, backpacking, and hunting.

Uplands - Solitude in the uplands may be affected by the sights and sounds of the power line along the east boundary and motor vehicles on the west boundary road, several roads bounded on both sides by the potential wilderness, and user-created travel routes. Recreation opportunities are limited primarily to the canyons.

Special Features and Values

Medium-canyons and uplands

Special features and values include sandstone and limestone canyon walls, trees and lush undergrowth along the drainage, potential for ecological and cultural research, and habitat for Mexican spotted owl, bald eagle, American peregrine falcon, and common black-hawk.

Manageability

High-canyons
Low-uplands

Canyons - The canyons would be manageable as wilderness because of their limited access and lack of resource conflicts. There is no motor vehicle use in the canyons because of the terrain.

Uplands - It would be very difficult to manage the uplands as wilderness because of the rolling terrain, lack of physical barriers to motor vehicle use, easy access to the area, and many boundaries that follow roads. There are also several roads that are bounded on both sides by the potential wilderness. User-created travel routes are associated with fuelwood cutting, hunting, and motorized recreation. Although motor vehicle use will generally not be allowed off designated roads and trails when the travel management rule is implemented on the forests, control of motor vehicle use would continue to be difficult.

OVERALL CAPABILITY

High-canyons

Medium-uplands

Potential Boundary Changes

No boundary changes have been identified for this potential wilderness.

Availability Evaluation

Availability criteria indicate the availability of a potential wilderness for wilderness designation by describing other resource and land use potentials for the area. Availability examines the potential impact of designating an area as wilderness to both the current and future land uses and activities. In essence, it is a summary of the trade-offs between wilderness and other uses. The following summarizes the information found in Appendix C. The letters below in parenthesis refer to the following required considerations: **a**. recreation, including tourism; **b**. wildlife species, populations, and management needs; **c**. water availability and use; **d**. livestock operations; **e**. timber; **f**. minerals; **g**. cultural resources; **h**. authorized and potential uses; and **i**. management considerations including fire, insects, disease, and presence of non-Federal lands.

Summary

Water Yield (c)

High

The area is of some value for water yield, but the stream is intermittent with occasional perennial pools. No impoundments are planned or needed.

Habitat Management (b)

Low

Management needs for sensitive wildlife habitats include mechanical treatments to reduce fire hazard and improve wildlife habitat through creation of openings and release of browse species. There is no time frame for treatment.

Aquatic Restoration (b)

High

No specific aquatic restoration treatments have been identified for the watershed.

Vegetation Restoration (e, h, i)

Low

Ponderosa pine forests in this area are severely departed from their historic conditions and are in need of mechanical thinning and prescribed burning to reduce fire hazard. There is no time frame for treatment.

Public Access Needed (a, g)

High

There are no unique characteristics that would require developed public access.

Land Use Authorizations (d, h, i)

Low to Medium

Land use authorizations include grazing permits and structures, fuelwood permits, and nearby rights-of-way. Grazing permittees and the Forest Service need motorized access to check, repair, and replace fences and to clean out stock tanks. Fuelwood cutting is, and would continue to be, permitted and requires motorized vehicles and equipment.

Adjacent Non-FS Lands (i)
High
There are no inholdings or non-federal lands adjacent to the potential wilderness.
Cultural Resources (g)
High
There are no known sites needing stabilization. Motorized vehicle access to any TCPs or sacred sites is not needed.
Minerals (f)
High
There is a low potential for future mineral uses.
OVERALL AVAILABILITY
High

Need Evaluation

The evaluation criteria below indicate how the potential wilderness might fit into the National Wilderness Preservation System, which includes all wilderness areas in the United States. Need is considered at the regional level and must incorporate public participation. The criteria used to evaluate need include consideration of other wilderness and nonwilderness areas that provide opportunities for unconfined outdoor recreation or preservation of certain ecosystem characteristics. The following summarizes the information found in Appendix D.

Summary

Factor 1 - The location, size, and type of other wildernesses in the general vicinity and their distance from the proposed area. Consider accessibility of areas to population centers and user groups. Public demand for wilderness may increase with proximity to growing population centers.

Medium

There are significant wilderness lands (over 2.5 million acres) on the Apache-Sitgreaves NFs and within a 100-mile radius of Wildcat Canyon South potential wilderness and the forests. There are less than 1 million acres of Wilderness within a 100-mile radius of Flagstaff. There are more than 1 million acres of Wilderness within a 100-mile radius of Phoenix.

Factor 2 - Present visitor pressure on other wildernesses, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.

High

The potential wilderness would respond to a need for additional wilderness based on projected population increases, high use in two of the three Wilderness areas on the forests, underrepresentation of northeast Arizona in the National Wilderness Preservation System, and its location within a 100-mile radius of Flagstaff and Phoenix.

Factor 3 - The extent to which nonwilderness lands on the NFS unit or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.

Low

There are significant nonwilderness lands (over 5.4 million acres) available for unconfined outdoor recreation outside of designated Wilderness and the Blue Range Primitive Area on the Apache-Sitgreaves NFs and within a 100-mile radius of the forests. There are also significant nonwilderness lands available within a 100-mile radius of Flagstaff (over 2.1 million acres) and Phoenix (over 1.8 million acres).

Factor 4 - The need to provide a refuge for those species that have demonstrated an inability to survive in less than primitive surroundings or the need for a protected area for other unique scientific values or phenomena.

Medium

There is one Forest Planning Species that would benefit from primitive surroundings.

Factor 5 - Within social and biological limits, management may increase the capacity of established wildernesses to support human use without unacceptable depreciation of the wilderness resource.

Medium

Of the three wilderness areas on the Apache-Sitgreaves NFs, only Bear Wallow Wilderness could accommodate some increased use without affecting wilderness resources.

Factor 6 - An area's ability to provide for preservation of identifiable landform types and ecosystems. Consideration of this factor may include utilization of Edwin A. Hammond's subdivision of landform types and the Bailey-Kuchler ecosystem classification. This approach is helpful from the standpoint of rounding out the National Wilderness Preservation System and may be further subdivided to suit local, subregional, and regional needs.

Low

Two underrepresented ecosystems (cottonwood-willow riparian forest and dry mixed conifer forest) occur across 17 percent of the potential wilderness. There are no underrepresented landforms.

OVERALL NEED

Medium

Effects of Recommendations

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
Wilderness Characteristics	**EFFECTS ON WILDERNESS RESOURCES AND VALUES**	
Natural Undeveloped Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation Special Features and Values	Wilderness characteristics would be maintained and protected. The area would remain natural and generally undeveloped. Outstanding opportunities for solitude or primitive and unconfined recreation would continue to be present. Any existing special features and values would be protected.	Wilderness characteristics in the uplands would be diminished by management activities. Obvious signs of activities would cause the uplands to be removed from potential wilderness. Minimal management activities are expected within the canyons. It is anticipated that the wilderness character of the canyons would remain.
Resource/Use	**EFFECTS ON OTHER RESOURCES AND USES**	
Soils	Long-term soil productivity may increase because the acreage is generally not available for management activities. Shorter-term risks to soil productivity may be increased until fire-adapted ecosystems (especially ponderosa pine) are restored. Soil erosion risk would be reduced.	The natural functions of watersheds could be affected by activities. The threat of soil erosion from associated motorized uses and land-disturbing activities would increase with the degree of use. However, mitigation would be required. Compaction from recreation uses in popular areas would likely continue. Treatments may reduce soil loss by reducing the risk of uncharacteristic wildfire.

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
Water Quality and Quantity	The natural functions of watershed systems would be maintained. The risk of human-caused alterations, other than fire, affecting the watershed condition would be primarily limited to localized recreation activities. There could be short-term risks to watersheds until fire-adapted ecosystems (especially ponderosa pine) are restored. Water quality would more likely be affected by management outside of wilderness.	Water quality could be affected by management activities. However, mitigation would be required to reduce effects to water quality. Management activities could be conducted to increase water yield. Treatments may reduce sedimentation by reducing the risk of uncharacteristic wildfire.
Air Quality	There would be no direct effects to air quality specifically from wilderness designation. Wilderness designation would not preclude the use of planned or unplanned ignitions to accomplish specific resource objectives, which may result in short-term air quality impacts.	There may be some short-term direct effects to air quality from fugitive dust from product removal and smoke from slash disposal. Planned or unplanned ignitions could result in short-term air quality degradation.
Wildlife Habitat	Wilderness designation would provide greater protection for wildlife and wildlife habitat. Wildlife would not be harassed by motorized uses and habitat fragmentation would be minimized. Repair and replacement of existing wildlife improvements may be allowed, but new improvements and habitat enhancements would be rare and would be authorized only to protect and improve management of the wilderness resource.	Vegetation treatments may result in a greater mosaic of habitat types and associated species diversity. Opportunities to restore and/or manipulate habitat would be available. There could be some wildlife harassment from motorized use. Fragmentation and loss of habitat from road construction may occur with increased activities.
Aquatic Restoration	Natural processes would primarily affect aquatic species and their habitat. Motorized and mechanized travel and many management activities would not be allowed. Natural events and climatic variation would influence sedimentation, riparian vegetation, and nutrient cycles. Opportunities to do riparian area restoration may be precluded.	Natural processes that affect aquatic habitats would be interrupted to a degree commensurate with activities. Motorized uses, road construction, and other land-disturbing activities may increase sedimentation and potentially adversely affect riparian habitat and nutrient cycles. However, the use of BMPs would mitigate most effects.

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
Vegetation	Natural ecological succession would be allowed to continue and, over time, restore ecological conditions. Levels of insect infestation and disease could reach endemic levels as ecological systems move toward their historic ranges of variability. Dispersal of non-native plants would generally be limited to trail systems and river corridors. Plant diversity would be slow to change, but would move towards a dominance of mature trees and late successional habitats.	Natural ecological succession could be interrupted by activities associated with other resource management objectives. Incidents of insects and disease would still occur, but would be more aggressively prevented or managed through vegetation treatment practices. The ability to detect and treat infestations would be greater than in wilderness and thus infestations could be prevented or contained earlier. Plant diversity would depend on the management objectives for the area.
Insects and Disease	Forest stands would be more likely to be over-mature and provide areas suitable for insect and disease outbreaks. Insect or disease control would not be permitted unless necessary to prevent unacceptable damage to resources on adjacent lands or unnatural loss to the wilderness resource from exotic pests. When necessary, control measures would have the least adverse effect on wilderness.	Response to insect and disease outbreaks would be more direct and rapid. A range of control and treatment options would allow more flexibility in containing outbreaks.
Non-Native Species	Non-native plants may be treated by grubbing or with chemicals when they threaten lands outside wilderness or when they are spreading within the wilderness, provided there are no serious adverse impacts on wilderness values.	All options to address non-native plants would be available, including no treatment, hand pulling, herbicides, and biological control. Motorized and mechanized equipment can be used.

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
Recreation	Recreation use is managed to minimize the evidence of human use and provide outstanding opportunities for solitude and primitive recreation. Only primitive, non-mechanized access and recreation activities are permitted. Only those facilities required for the safety of users and protection of wilderness resources are provided. The use of mechanized tools for trail construction and maintenance would be restricted. In many cases, wilderness designation has elevated an area's visibility to the public, increasing its popularity and recreation use. Increased use can result in increased damage to trails and other resources, as well as reduced opportunities for solitude and other wilderness values.	Activities can reduce the primitive or semi-primitive recreational character through altered recreation settings, experiences, and access. The sights and sounds of human presence are usually increased by activities. Recreationists seeking a primitive or semi-primitive experience would choose not to visit such an area. Activities may also provide greater recreational access and more motorized and mechanized recreation experiences would be available.
Visual Quality	Visual quality would be protected because ground-disturbing activities would be extremely limited. The Scenic Integrity Objective would be Very High. The long-term scenic characteristics would be representative of how the landscape would appear if relatively unaffected by human activity.	The Scenic Integrity Objective would range from Low to High. There would be a greater potential for landscapes to show obvious signs of human activities. Scenic Integrity Objectives would constrain or modify activities to mitigate adverse effects to scenic resources, especially in areas seen from major recreation facilities and Scenic Byways.
Cultural Resources	Cultural resources are already protected by law. Exclusion of ground-disturbing activities lessens threats to known and unidentified cultural resources. Fewer sites or resources may be identified.	Cultural resources are already protected by law. Project-level inventories associated with ground disturbing and other activities may increase identification of previously unknown sites or resources. Mitigation measures would be applied at the project level.

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
Special Use Authorizations	Structures and other developments would be limited to those actually needed for management, protection, and use of the wilderness for the purposes for which the wilderness was established.	Special use authorizations would be allowed, subject to suitability.
Range	Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans.	Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations.
Forest Products	Wilderness would be removed from the suitable timber base. No timber sales or fuelwood cutting would be permitted. Only fuelwood collection incidental to recreation would be allowed.	Timber production may be allowed, subject to suitability, law, policy, and regulation. Forest products, commercial and non-commercial, could be a byproduct of the restoration treatments.
Minerals	The area would be withdrawn from further mineral entry and leasing. Mineral development is possible in areas with valid existing rights. Consistent with the valid existing rights, operating plans would incorporate reasonable terms and conditions for the protection of the wilderness character, and provide for restoration as near as practicable of the disturbed lands promptly upon abandonment of operations.	These lands would be open to oil, gas, geothermal, and mineral development except where specifically withdrawn or restricted for other purposes. Although a full range of activities and methods may be allowed and employed, developments and activities would be mitigated to reduce adverse impacts to other resources.
Special Designations	Wilderness designation would increase the number and diversity of areas within the Southwestern Region and the National Wilderness Preservation System. There would be no effects to other special designations - the most restrictive management would apply.	The opportunity to recommend additional wilderness within the Southwestern Region would be foregone at this time. There would be no effects to other special designations. Any restrictions associated with other special designations could affect management activities.

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
Fire	Wilderness designation does not preclude the use of planned or unplanned ignitions to accomplish specific resource objectives. Mechanical treatments and timber harvest would not be allowed, which may increase the risk of uncharacteristic wildfires. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).	The risk of uncharacteristic wildfires would be reduced because of the opportunities to treat mechanically and harvest timber. The full range of suppression tactics and management approaches would be available for use.
	SOCIAL AND ECONOMIC EFFECTS	
	Local population numbers, income, or employment would generally not be affected.	Local population numbers, income, or employment would not be affected unless major mineral activity occurs.
	Costs related to the maintenance of range facilities could increase because of limitations on methods.	There would be no increased costs associated with the construction and maintenance of range facilities.
	Timber production revenues would be foregone, if any commercial stands are suitable and harvestable.	Revenues and jobs from timber production could increase, if any commercial stands are suitable and harvestable.
	Local lifestyles would not be affected unless major mineral activity occurs.	Local lifestyles would not be affected unless major mineral activity occurs.
	Revenues associated with mineral development would be foregone, because the lands would be withdrawn from mineral entry.	Revenues could be generated, if minerals are found and developed.
	Wilderness is recognized as contributing to healthy economies and healthy lifestyles. Direct benefits are derived from primitive recreation and as a “quality-of-life” factor to attract new businesses and residents. The wilderness characteristics/values that attract visitors to the area would be maintained.	Management activities would contribute to local lifestyles and healthy economies. The wilderness characteristics/values that attract visitors to wilderness would be affected.

	RECOMMENDATION	
	WILDERNESS	**NONWILDERNESS**
MANAGEMENT DIRECTION	**Manage to protect and maintain wilderness characteristics**	**Manage for multiple use, ecosystem restoration, and social and economic values**
	Ecosystem services (natural processes such as the air and water purification functions of undisturbed lands) would be protected and maintained.	Ecosystem services could be decreased with increased activities.
	Opportunities for primitive recreation and public awareness of the values associated with wilderness, including spiritual and natural qualities, would be increased.	Opportunities for primitive recreation would decrease. Opportunities for semi-primitive and more developed recreation could increase.

Appendix A: Wilderness Evaluation Process

The following is summarized from Forest Service Handbook 1909.12, Chapter 70. This process is used by the Forest Service to determine whether there are areas that could be recommended for wilderness designation by Congress. The process includes three steps: an inventory of potential wilderness areas, an evaluation of the potential wilderness areas, and a determination if a recommendation will be pursued for any potential wilderness areas.

Inventory of Potential Wilderness Areas

The first step in the evaluation of potential wilderness is to identify and inventory all areas within National Forest System Lands that satisfy the definition of wilderness found in the 1964 Wilderness Act.

Areas identified through this process are called potential wilderness areas. This inventory of potential wilderness is not a land designation. It is completed with the express purpose of identifying all lands that meet the criteria for being evaluated for wilderness suitability and possible recommendation to Congress for wilderness designation.

The inventory of areas relies on local knowledge and judgment regarding unique, site-specific conditions of each area being considered. The boundaries of areas for the potential wilderness inventory should facilitate easy on-the-ground identification.

Inventory Criteria

Areas qualify for inclusion in the potential wilderness inventory if they meet the statutory definition of wilderness and meet either criteria 1 and 3 or criteria 2 and 3 below.

1. Areas contain 5,000 acres or more.
2. Areas contain less than 5,000 acres, but meet one or more of the following criteria:
   a. Can be preserved due to physical terrain and natural conditions.
   b. Self-contained ecosystems, such as an island, that can be effectively managed as a separate unit of the National Wilderness Preservation System.
   c. Contiguous to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.
3. Areas do not contain forest roads (36 CFR 212.1) or other permanently authorized roads, except as permitted in areas east of the 100th meridian (sec. 71.12).

Areas may be included in the potential wilderness inventory even though they include the types of areas or features listed in FSH 1909.12, 71.11.

On the Apache-Sitgreaves NFs, GIS was used to identify those areas that met the inventory criteria. Site-specific information was gathered from Ranger District (District) personnel to provide background information, identify features not shown in GIS, and determine where the Region 3 criteria on roaded areas, fingers, and extrusions should be applied.

Evaluation of Potential Wilderness Areas

An area recommended for wilderness must meet the tests of capability, availability, and need. In addition to the inherent wilderness quality it possesses, an area must provide opportunities and experiences that are dependent upon or enhanced by a wilderness environment. The ability of the Forest Service to manage the area as wilderness is also considered.

Capability

The capability of a potential wilderness is the degree to which an area contains the basic characteristics that make it suitable for wilderness recommendation without regard to its availability for or need as wilderness. The following characteristics are considered in evaluating a potential wilderness area:

1. Natural - an area is substantially free from the effects of modern civilization and generally appears to have been affected primarily by the forces of nature.
2. Undeveloped - the degree to which an area is without permanent improvements or human habitation.
3. Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation - the capability of the area to provide solitude or primitive and unconfined types of recreation. This includes a wide range of experiential opportunities. Solitude is the opportunity to experience isolation from sights, sounds, and the presence of others from developments and evidence of humans.
4. Special Features and Values - an area is capable of providing other values such as those with ecologic, geologic, scientific, educational, scenic, historical, or cultural significance.
5. Manageability - the ability to manage an area as wilderness as required by the Wilderness Act and how boundaries affect manageability of an area.

Responses to the capability questions were drafted at the Apache-Sitgreaves NFs Supervisors Office and reviewed by District personnel. Any changes were incorporated into the capability evaluation.

If an area is found to not be capable of being wilderness (a rating of Low), it is not carried forward into the Availability Evaluation.

Availability

Areas determined to meet wilderness capability requirements are considered potentially available for wilderness designation. The determination of availability is conditioned by the value of and need for the wilderness resource compared to the value of and need for other resources. Other resource potential including current use and potential future use is analyzed for the various resources involved.

Constraints and encumbrances on lands may also govern the availability of lands for wilderness. The degree of Forest Service control over the surface and subsurface of the area is also considered. The Forest Service should have sufficient control to prevent development of incompatible uses that would negatively affect wilderness character and potential.

Responses to the availability questions were drafted by at the Apache-Sitgreaves NFs Supervisors Office and reviewed by District personnel. Any changes were incorporated into the availability evaluation.

Need

The need for an area to be designated as wilderness is determined through an analysis on a regional basis by evaluating such factors as the geographic distribution of areas and representation of landforms and ecosystems to which it contributes to the overall National Wilderness Preservation System. This need is demonstrated through a public involvement process, including public input to the evaluation report.

A set of GIS models, information papers, and analyses were provided by the Southwestern Regional Office. This information was synthesized at the Apache-Sitgreaves NFs Supervisors

Office and reviewed by District personnel. Any changes were incorporated into the need evaluation.

Documentation of Potential Wilderness Areas

Draft wilderness evaluation reports were developed for each potential wilderness; each report includes summaries of the capability, availability, and need assessments. The draft reports were made available for public comment in June 2009. Public comments were incorporated and information on the potential effects of wilderness and nonwilderness recommendations was added to the final evaluation reports. The effects of nonwilderness recommendation may be split to reflect nonwilderness, lands with roadless character, or primitive area categories.

Appendix B: Capability Evaluation Worksheet

Capability Characteristics

Natural

1. Presence of non-native species.
   High - Non-native species are not evident.
   Medium - Non-native species are evident in isolated spots.
   Low - Non-native species are common or scattered throughout the area.

   Rating: **Medium to High** - Mullein and yellow sweetclover, non-native plants, may be found along roads near the area, but there are no GIS records of the plants within the potential wilderness. Yellow sweetclover may have been used for erosion control along roads in the past. Other non-native species may be present, but no surveys have specifically been conducted in the area.

2. Rivers within the potential wilderness are in free-flowing condition.
   High - Rivers within the area are considered free-flowing.
   Medium - Some rivers have impoundments or other issues that affect their free-flowing character.
   Low - Rivers within the potential wilderness are seasonal or heavily impacted by impoundments.

   Rating: **High** - There are no perennial rivers in the potential wilderness. Wildcat Canyon is intermittent. All other drainages are ephemeral. There are no known impoundments.

3. Quality of night-sky as affected by light pollution.
   High - The night sky is clear with little to no interference from light pollution.
   Medium - Some stars are visible and there is moderate degradation from light pollution.
   Low - Few stars are visible at night and the presence of light pollution is evident.

   Rating: **High** - There are no nearby population centers and the lights from Heber/Overgaard and Forest Lake Estates are not visible from the area.

4. Presence of pollutants that degrade water.
   High - All rivers/streams have been sampled and there are no water quality issues.
   Medium - There are no known water quality issues within the area but the not all rivers/streams have been sampled.
   Low - There are rivers within the area that are listed on the State Impaired Waters List (303d).

   Rating: **Medium** - Because the streams are intermittent or ephemeral, they have not been sampled. There are no known water quality issues.

5. Area provides elements of biological diversity and naturalness including unique habitats, TES or rare plants and wildlife.

High - Has critical or unique habitats and diverse ecological conditions.
Medium - Has a mix of habitats and ecological conditions.
Low - Has limited ecological conditions and habitats.

Rating: **Medium** - Biological diversity is moderate and essentially natural. The potential wilderness provides habitat for threatened wildlife species including Mexican spotted owl. Sensitive wildlife species include bald eagle, American peregrine falcon, and common black-hawk.

6. Area contains a variety of natural resources including a variety of tree species and structures. Intermingled grasslands or meadows, numerous recreation opportunities, diversity of wildlife habitats, and wildlife, etc.

High - Diverse amount of natural resources.
Medium - Mixed amount of natural resources.
Low - Limited amount of natural resource diversity.

Rating: **High** - Diversity of natural vegetation and wildlife species are key natural features. Vegetation types include piñon-juniper woodland, Great Basin grassland, cottonwood-willow riparian forest, ponderosa pine forest, and dry mixed conifer forest. The potential wilderness also contains small areas of old ponderosa pine and other conifers in southern Wildcat Canyon. Hiking, hunting, wildlife viewing, photography, and backpacking are some of the available recreation opportunities. Wildlife species and habitat are diverse because the varied topographic, soil, and vegetative conditions within the canyons combine with permanent water (pools) to provide habitat for numerous wildlife species.

Undeveloped

7. Area has current or past evidence of human activity.

High - Little or no evidence of human activity.
Medium - Unnoticeable or unobjectionable human activity.
Low - Obvious evidence of human activity.

Rating: **Medium** - There is some evidence of human activity including some fences, water developments, and user-created travel routes. There are no developed trails in the potential wilderness.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

8. Area provides physically and mentally challenging recreation opportunities that promote adventure and self-reliance.

High - Most of the area provides challenging recreation opportunities.
Medium - Some parts of the area have the potential for challenging recreation opportunities.
Low - Few parts of the area can provide challenging recreation opportunities.

Rating: **High** - The area presents challenging recreation opportunities because of its remoteness and dense canyon vegetation. The lack of formal trails increases the level of challenge.

9. Opportunity to experience solitude and isolation from human activities while recreating in the area.
High - Significant feeling of being alone or remote from civilization.
Medium - Feeling of being alone is possible but signs of civilization are likely.
Low - Little opportunity of feeling alone.

Rating: **High** (canyons) - The winding canyons and difficult access contribute to the opportunities for solitude found in the canyons in this potential wilderness.
Low (uplands) - Solitude in the uplands may be affected by the sights and sounds of the power line along the east boundary and motor vehicle traffic on the west boundary road, on the several roads bounded on both sides by the potential wilderness, and on user-created travel routes.

10. Opportunity to engage in primitive and unconfined recreation such as backpacking, kayaking, hunting, fishing, etc.
High - There are many opportunities for engaging in primitive recreation.
Medium - There are some opportunities for engaging in primitive recreation.
Low - There are few to no opportunities to engage in primitive recreation.

Rating: **Medium** - There are opportunities for hiking, photography, wildlife viewing, backpacking, and hunting in the area, but they are limited primarily to the canyons. There are no trails through the area.

Special Features and Values

11. Area contains outstanding or distinct features like rock formations, panoramic views, etc.
High - Many distinct features or few but exceptional features.
Medium - Some distinct features.
Low - One or no distinct features.

Rating: **Medium** - Wildcat Canyon's simplistic beauty is based on its orange, white, and gray sandstone and limestone components. The lush undergrowth and towering tree canopy characterize the area's beauty. The deep V-shaped canyon is more apparent in the lower canyon as are sandstone formations.

12. Area has potential for scientific research, environmental education, or historic/cultural opportunities.
High - Good potential for two or more types of these opportunities.
Medium - Potential for one type of opportunity.
Low - Little or no potential for this type of opportunity.

Rating: **Medium** - The potential exists for scientific research because of the ecological characteristics in the area. There are probably a number of archaeological sites within the potential wilderness, but no formal surveys have been conducted.

13. Area contains unique or rare species of plants and/or animals.
High - Area has several unique or rare plants and/or animals.
Medium - Area has a few unique or rare plants and/or animals.
Low - Area has no unique or rare plants and/or animals.

Rating: **Medium** - There are Mexican spotted owl PACs throughout the potential wilderness.

Manageability

14. Ability to manage the area for wilderness character, including distance and influence from outside activities; opportunity to access the area; and resource conflicts or encumbrances.

High - Isolated from areas of activity; controlled or limited access; no encumbrances or resource conflicts.

Medium - Somewhat isolated from areas of activity; adequate access opportunities; some resource conflicts and/or encumbrances.

Low - Areas of activity are nearby; many access opportunities; many resource conflicts and/or encumbrances.

Rating: **High** (canyons) - The canyons would be manageable as wilderness because of their limited access and lack of resource conflicts.

Low (uplands) - Because of the lack of physical barriers in the uplands, it would be difficult to managing motor vehicle use. Much of the boundary follows roads and activity areas, which are generally accessible to all motorized vehicles. Although motor vehicle use will generally not be allowed off designated roads and trails when the travel management rule is implemented on the forest, control of motor vehicle use would continue to be difficult.

15. Motorized use within the area.

Yes - Has motorized vehicle use.

No - Does not have any motorized vehicle use.

Rating: **No** (canyons) - There is no motorized vehicle use in the canyons because of the terrain.

Yes (uplands) - Much of the potential wilderness includes rolling upland areas around the canyons. Roads and activity areas generally delineate the potential wilderness; there are few physical barriers that limit motorized vehicle use in the uplands. User-created travel routes are associated with fuelwood cutting, hunting, and motorized recreation. There are also several roads that are bounded on both sides by the potential wilderness.

Overall Capability: **High** (canyons)
Medium (uplands)

Appendix C: Availability Evaluation Worksheet

The letters below in parenthesis refer to the following required considerations: **a**. recreation, including tourism; **b**. wildlife species, populations, and management needs; **c**. water availability and use; **d**. livestock operations; **e**. timber; **f**. minerals; **g**. cultural resources; **h**. authorized and potential uses; and **i**. management considerations including fire, insects, disease, and presence of non-Federal lands.

Availability Characteristics

1. Areas that are of high value for water yield or on-site storage where installation and maintenance of improvements may be required. (**c**)

High - No impoundment needed.
Medium - Minor improvements will have an effect.
Low - Identified impoundment that will have an effect on wild characteristics.

Rating: **High** - The area is of some value for water yield, but the stream is intermittent with occasion perennial pools. No impoundments are planned or needed.

2. Areas needing management for wildlife or aquatic animals that MIGHT conflict with wilderness management. (**b**)

High - Low management requirements with no motorized equipment required to meet objectives and infrequent entries.
Medium - Management requires helicopters but no motorized equipment on the ground and frequency is generally less than 10 years.
Low - Intense management (motorized equipment, helicopters, chainsaws, broadcast burning) and frequent entries (= or <5 yrs.).

Rating: **Low** - Management needs for sensitive wildlife habitats include mechanical treatments to reduce fire hazard and improve wildlife habitat through creation of openings and release of browse species. There is no time frame for treatment.

3. Area needing active aquatic restoration activities. (**b**)

High - Properly functioning with no or little restoration activities needed.
Medium - Site-specific improvements needed.
Low - The majority of watershed needs attention.

Rating: **High** - No specific treatments have been identified for the watershed.

4. Area needing active vegetative restoration activities due to specific species survival (such as White Bark Pine restoration) or identifiable fuel reduction activity to reduce the risk of uncharacteristic wildfire or known areas of severe insect infestation that will lead to heavy tree mortality. (**e, h, i**)

High - The area needs little vegetative restoration.
Medium - Areas needing high intensity management activities for a short time period (< or = 5 years). These areas could be available for wilderness after those activities are completed (like fuel reduction activities). Some intense restoration work over small areas could be accomplished without conflicting with wilderness management (species conservation work not requiring motorized equipment).
Low - The need for vegetation restoration is a higher priority and requires long-term management and mechanized or motorized equipment.

Rating: **Low** - Ponderosa pine forests in this area are severely departed from their historic conditions and are in need of mechanical thinning and prescribed burning to reduce fire hazard. There is no time frame for treatment.

5. Areas having such unique characteristics or natural phenomena that general public access should be developed to facilitate public use and enjoyment. (**a, g**)

High - Does not exist or minimal development will be provided.
Medium - Requires minor development or improvement that does not qualify as a developed recreation site but is a higher development level than is normally found within wilderness.
Low - Has a developed recreation site or features that warrant construction of a developed recreation site.

Rating: **High** - There are no unique characteristics that would require developed public access.

6. Lands committed through contracts, permits or agreements that would be in conflict with wilderness management (some minor permitted uses may be still be allowed). (**d, h, i**)

High - Current authorizations do not conflict with potential wilderness.
Medium - Current authorization(s) but can be terminated or there is long-term authorization or commitment but does not require motorized equipment for access or maintenance.
Low - Currently exists, must be retained (long-term commitments), and requires motorized equipment for access or maintenance.

Rating: **Low to Medium** - Allotment fences that run through this area vary in age and condition. The grazing permittee and Forest Service need access to these fences to check and repair them. Various mechanical tools would be needed to complete fence maintenance. Stock tanks, if located within the area, would also need periodic cleaning. Fuelwood cutting is, and would continue to be, permitted. Fuelwood cutting requires motorized vehicles and equipment.

7. Forest Service has sufficient control to prevent development of irresolvable, incompatible use that would lessen wilderness character and potential. (**i**)

High - No inholdings and no non-federal lands adjacent to potential wilderness.
Medium - No inholdings but adjacent lands may be private.
Low - In-holdings exist.

Rating: **High** - There are no inholdings or non-federal lands adjacent to the potential wilderness.

The following information is considered in Capability questions 14 and 15 and Availability question 6: Forest Service control to prevent development of irresolvable, incompatible use that would lessen wilderness character and potential is moderate. The incompatible uses would be fuelwood cutting and illegal motor vehicle use off-road for recreation and hunting, and future possible widening of the existing power line corridor. Although off-road vehicle use would be illegal when the travel management rule is implemented on the forests, enforcement in this area could be difficult due to the fairly level terrain the uplands and the existing network of hunting and fuelwood roads. The existence and possible continued illegal use of these roads would reduce the wilderness character and potential.

8. Cultural resource sites that may need stabilization are present. Motorized vehicle access to Traditional Cultural Properties (TCP) or scared sites is needed. (**g**)

High - No cultural resources stabilization and/or motorized vehicle access needed.
Medium - Minor stabilization and/or motorized vehicle access needed.
Low - Extensive stabilization of cultural resources needed or motorized vehicle access required.

Rating: **High** - There are no known sites in the area needing stabilization. Motorized vehicle access to any TCPs or sacred sites is not needed.

9. Mineral potential was evaluated using the *R3 Plan Revision Guidance: Minerals Information Related to the Evaluation of Potential Wilderness and Research Natural Areas*. This guidance uses several databases to consider the presence and status of mining claims, mineral leases, and mineral districts. Based on the information contained in the above databases, and as described in the Background section of this evaluation, there is low mineral potential for this potential wilderness. (**f**)

Rating: **High**

Overall Availability: **High**

Appendix D: Need Evaluation Worksheet

Additional information for Factors 1, 3, 4, and 6 can be found in the Wilderness Need Evaluation Tables document.

Factor 1 - The location, size, and type of other wildernesses in the general vicinity and their distance from the proposed area. Consider accessibility of areas to population centers and user groups. Public demand for wilderness may increase with proximity to growing population centers.

There are 29 Wilderness areas within a 100-mile radius of PW-03-01-006. The total acreage of these areas is 971,114 acres. The Forest Service (FS) manages 24 of these areas, the Bureau of Land Management (BLM) manages 4, and the National Park Service (NPS) manages 1.

Potential Wilderness	Wilderness Area within a 100-mile Radius	Wilderness Acreage	Distance from PW	Managing Agency
PW-03-01-006	White Canyon	6,981	90	BLM
	Needle's Eye	6,277	90	BLM
	Fishhooks	11,400	98	BLM
	Superstition	158,920	75	FS
	Bear Wallow	11,113	96	FS
	Four Peaks	60,487	65	FS
	Salt River Canyon	32,035	55	FS
	Salome	18,688	45	FS
	Sierra Ancha	18,198	44	FS
	Hells Canyon	9,841	99	BLM
	Mount Baldy	7,627	78	FS
	Escudilla	5,210	100	FS
	Castle Creek	24,477	89	FS
	Mazatzal	248,858	53	FS
	Hellsgate	38,845	30	FS
	Pine Mountain	18,656	61	FS
	Cedar Bench	16,585	61	FS
	Fossil Springs	10,754	45	FS
	West Clear Creek	26,291	45	FS
	Granite Mountain	9,850	102	FS
	Woodchute	5,790	84	FS
	Munds Mountain	17,997	58	FS
	Wet Beaver	6,721	51	FS
	Petrified Forest	52,058	60	NPS
	Sycamore Canyon	58,818	78	FS
	Red Rock-Secret Mtn	50,312	72	FS
	Kachina Peaks	18,857	79	FS
	Kendrick Mountain	8,200	91	FS
	Strawberry Crater	11,268	77	FS
	TOTAL	971,114		

Existing Wilderness and Primitive Areas on the Apache-Sitgreaves NFs

Wilderness Lands on the Apache-Sitgreaves NFs		
Type	**Number**	**Acres***
Wilderness	3	23,233
Primitive Area	1	180,007
TOTAL	4	203,240
* from DEIS for the ASNFs Land Management Plan.		

The following table summarizes information found in the Wilderness Need Assessment Tables document. Only acres within the listed radius are shown; actual areas may be larger.

Wilderness and Potential Wilderness within a 100-mile Radius of . . .				
. . .	**Number of Wilderness**	**Wilderness Acres**	**Number of PW on ASNFs**	**PW acres on ASNFs**
Apache-Sitgreaves NFs	46	2,355,715	-	-
Flagstaff	26	687,395	7	66,463
Phoenix	44	1,677,625	6	61,550

Rating criteria:

There are significant wilderness lands (over 2.5 million acres) on the Apache-Sitgreaves NFs and within a 100-mile radius of this potential wilderness and the forests. Because demand for wilderness is generally greater near population centers, potential wilderness within a 100- or 130-mile radius of a population center where there are less than 1 million acres of Wilderness within that radius is rated as **Medium**. Potential wilderness within a 100- or 130-mile radius of a population center where there are more than 1 million acres of Wilderness in that radius is rated as **Low**. Potential wilderness more than 100 or 130 air miles from a population center is rated as **Low**.

Rating: **Medium**

Factor 2 - Present visitor pressure on other wildernesses, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.

Item 1

Each Federal agency that manages wilderness collects and reports visitor use information differently. The Forest Service reports wilderness use by each national forest, not each wilderness. The National Park Service collects backcountry visitor use only for overnight stays. The Bureau of Land Management reports use for each wilderness.

According to the 2001 National Visitor Use Monitoring study, approximately two percent of the Apache-Sitgreaves NFs users visited the three wilderness areas on the forests. This figure is similar to other non-urban forests in the Southwestern Region. More urban forests (Cibola and Coronado NFs) reported approximately 25 percent of their users visited wilderness areas.

Most of the wilderness use on the Apache-Sitgreaves NFs is concentrated in the two smaller wilderness areas, Mount Baldy and Escudilla. These areas are each less than 10,000 acres, are easily accessible by motor vehicles, and have limited trail systems. Visitor use in Mount Baldy is considered high with use concentrated on two of the three trails. Visitor use in Escudilla is considered moderate to high with use

concentrated on one trail. Encounters with other wilderness visitors in both areas are high. Use in Bear Wallow Wilderness is lighter because it is less accessible and is slightly larger. There are no accurate use figures for the Blue Range Primitive Area, which is managed almost like wilderness.

Approximately 70 percent of the Arizona visitors to the Apache-Sitgreaves NFs are from the Phoenix and Tucson metropolitan areas. Populations in these areas have increased much faster than in the more rural areas. Visitors from the four counties where the Apache-Sitgreaves NFs are located account for another 20 percent. In general, there has been no to moderate population growth in these counties. Recently, there have been major highway improvements between Phoenix and the Apache-Sitgreaves NFs.

It can be assumed that with increasing populations and improved transportation features, wilderness use would continue to increase in those wilderness areas on the Apache-Sitgreaves NFs that are easily accessible to the recreating public.

Item 2

The Apache-Sitgreaves NFs include three designated wilderness areas, the nation's only remaining primitive area, and 322,000 acres of inventoried roadless areas. Users of designated wilderness areas fit a profile similar to other forests' users: 1) they are predominantly male (81 percent), 2) white (91 percent) or Hispanic/Latino (6 percent), 3) between the ages of 31 and 60, and 4) often travel from the Phoenix and Tucson areas. NVUM data suggest that roughly 45,000 wilderness visits were made during fiscal year 2001 although the error rate on this data is very high (± 56 percent) because of the relatively low number of visitors interviewed (Kocis et al. 2002). There are no use figures specific to the Blue Range Primitive Area or the inventoried roadless areas.

Surrounding national forests (Coconino, Coronado, Gila, and Tonto NFs) all have much higher numbers of wilderness visits than the Apache-Sitgreaves NFs. Use on the Coconino, Coronado, and Gila NFs is high, while use on the Apache-Sitgreaves NFs and Tonto NF is medium.[2]

Regional Demand for Wilderness

1. Increased demand for additional wilderness in both Arizona and New Mexico should be anticipated based on population growth during the period of 1990 to 2000, which exceeded the national growth rate.
2. Assuming Arizona continues to grow at a rate greatly outpacing the national rate (predicted to be about 3 times the national rate), the number of visits to existing wilderness will continue to increase, and Arizona in particular could benefit from additional wilderness.
3. Demographics related to visitor race and ethnicity will affect the rate of increase in wilderness visits in the Southwestern Region. Even though the faster growing racial/ethnic groups have relatively low participation rates, wilderness use is still expected to increase because of the overall population growth rate.
4. Public demand increases with proximity to six population centers: Flagstaff, Phoenix, Tucson, Santa Fe, Taos, and Albuquerque. Consider wilderness recommendations within a 100-mile radius of those cities to provide for that demand.
5. Some additional public demand for wilderness in the Southwestern Region will occur from the influx of people moving to communities in the vicinity of the national forests.
6. In terms of geographic distribution of wilderness, the Southwestern Region is underrepresented with five percent fewer wilderness acres as compared with the representation nationally.

[2] This is based on use categories developed by the Forest Service Wilderness Advisory Group, with low use defined as 0 to 10,000 visits, medium as 10,001 to 30,000 visits, and high being greater than 30,000 visits. Total wilderness use for a forest from NVUM was divided by the number of wilderness areas the forest is lead for, to get an average amount of use per wilderness.

Additionally, all quadrants in Arizona and New Mexico are underrepresented with the exception of the southwest and southeast quadrants in Arizona. The most underrepresented quadrants are southeast and northwest New Mexico and northeast Arizona, which are at 6 percent or less in the number of wilderness acres (compared with total federal wilderness acres).

7. Desirability of the scenic mountainous settings available in the rural communities within and adjacent to national forests in the Southwestern Region will attract new retirees and others, further contributing to a growth in wilderness visitation.

Rating criteria:

Based on projected population increases, high use in two of the three wilderness areas on the forests, and the underrepresentation of northeast Arizona in the National Wilderness Preservation System, those potential wilderness areas within a 100- or 130-mile radius of a population center are rated as **High**. All other potential wilderness areas are rated as **Medium**.

Rating: **High**

Factor 3 - The extent to which nonwilderness lands on the NFS unit or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.

The following tables summarize information found in the Wilderness Need Assessment Tables document. Only acres within the listed radius are shown; actual areas may be larger. The Recreation Opportunity System (ROS) acres are for National Forest System lands only. No ROS information was available for the Gila NF. Many of the ROS acres overlap designated Wilderness and IRAs.

Like Wilderness Lands on the Apache-Sitgreaves NFs		
Type	**Number**	**Acres**
Inventoried Roadless Area	17	321,949
ROS-Primitive		228,954
ROS-Semi-Primitive Non-Motorized		452,486
TOTAL ACRES		1,003,389

Like Wilderness Lands within a 100-mile Radius of the Apache-Sitgreaves NFs		
Type	**Number**	**Acres**
Inventoried Roadless Area	85	1,571,867
BLM Wilderness Study Area	17	279,320
NPS proposed wilderness	1	116,769
ROS-Primitive		833,442
ROS-Semi-Primitive Non-Motorized		1,697,112
TOTAL ACRES		4,498,510

Like Wilderness Lands within a 100-mile Radius of Flagstaff		
Type	**Number**	**Acres**
Inventoried Roadless Area	28	310,346
BLM Wilderness Study Area	0	0
NPS proposed wilderness	1	692,154
ROS-Primitive		338,707
ROS-Semi-Primitive Non-Motorized		804,719
TOTAL ACRES		2,145,926

Within a 100-mile radius of Flagstaff **and** on the Apache-Sitgreaves NFs, there are 33,396 acres managed for Semi-Primitive Non-Motorized recreation. Many of these acres overlap IRAs.

Like Wilderness Lands within a 100-mile Radius of Phoenix		
Type	**Number**	**Acres**
Inventoried Roadless Area	37	354,975
BLM Wilderness Study Area	0	0
NPS proposed wilderness	0	0
ROS-Primitive		353,671
ROS-Semi-Primitive Non-Motorized		1,097,733
TOTAL ACRES		1,806,379

Within a 100-mile radius of Phoenix **and** on the Apache-Sitgreaves NFs, there are 25,551 acres managed for Semi-Primitive Non-Motorized recreation. Many of these acres overlap IRAs.

Rating criteria:

There are significant nonwilderness lands (over 5.4 million acres) available for unconfined outdoor recreation outside of designated Wilderness and the Blue Range Primitive Area on the Apache-Sitgreaves NFs and within a 100-mile radius of the forests. Therefore, all potential wilderness areas are rated as **Low**.

Rating: **Low** - There are also significant nonwilderness lands available within a 100-mile radius of Flagstaff (over 2.1 million acres) and Phoenix (over 1.8 million acres).

Factor 4 - The need to provide a refuge for those species that have demonstrated an inability to survive in less than primitive surroundings or the need for a protected area for other unique scientific values or phenomena.

Forest Planning Species (FPS), as determined for Forest Plan Revision, were reviewed to determine if there were species on the Apache-Sitgreaves NFs that require primitive surroundings (natural conditions and low human disturbance) to survive. The Forest Planning Species list includes 30 mammals, 22 birds, 6 reptiles and amphibians, 13 fish, 12 invertebrates, and 25 plants. This list includes Endangered Species Act endangered, threatened, and candidate species; Southwestern Region sensitive species; and other species of interest. Only the endangered, threatened, candidate, and sensitive species are considered in this evaluation.

Through coordination with the planning wildlife and fisheries staff, it was determined that there are no endangered, threatened, candidate, or sensitive species that require primitive surroundings. However,

there are 2 mammals, 7 birds, 6 reptiles and amphibians, 13 fish, 2 invertebrates, and 1 plant that would benefit from primitive surroundings.

Additional information on species that would benefit from primitive surroundings can be found in the Wilderness Need Evaluation Tables document.

Rating criteria:

High - Species or habitat for species that require primitive surroundings are present.
Medium - Species or habitat for species that would benefit from primitive surroundings are present.
Low - Neither species or habitat for species that require or would benefit from primitive surroundings are present.

There are no FPS on the forests that require primitive surroundings. Each potential wilderness has at least one FPS or has habitat for at least one FPS that would benefit from primitive surroundings. Therefore, all areas receive a **Medium** rating.

Rating: **Medium** - There is one FPS that would benefit from primitive surroundings.

Factor 5 - Within social and biological limits, management may increase the capacity of established wildernesses to support human use without unacceptable depreciation of the wilderness resource.

There are three Wilderness areas on the Apache-Sitgreaves NFs, all on the Apache NF. Two, Mount Baldy and Escudilla, are less than 10,000 acres, are easily accessible by motor vehicles, and have limited trail systems. Visitor use in Mount Baldy is considered high with use concentrated on two of the three trails. Visitor use in Escudilla is considered moderate to high with use concentrated on one trail. Encounters with other wilderness visitors in both areas are high. For these two areas there are limited management opportunities to accommodate additional use. The third wilderness, Bear Wallow, is slightly larger, is more difficult to access, and has five trails. Visitor use is considered low. Here, additional use could be accommodated without affecting the wilderness.

Rating criteria:

High - Management of all wilderness areas on the forests could not increase capacity without further affecting the wilderness resource.
Medium - Management of one or more wilderness areas on the forests could increase capacity without further affecting the wilderness resource.
Low - Management of all wilderness areas on the forests could increase capacity without affecting the wilderness resource.

Because use in Bear Wallow Wilderness is relatively low, this wilderness could accommodate some increased use without affecting wilderness resources. Therefore, all potential wilderness areas are rated as **Medium**.

Rating: **Medium**

Factor 6 - An area's ability to provide for preservation of identifiable landform types and ecosystems. Consideration of this factor may include utilization of Edwin A. Hammond's subdivision of landform types and the Bailey-Kuchler ecosystem classification. This approach is helpful from the standpoint of rounding out the National Wilderness Preservation System and may be further subdivided to suit local, subregional, and regional needs.

The Southwestern Regional Office used the process outlined in Loomis and Echohawk (1999)[3] to determine the underrepresented landforms and ecosystem types in Wilderness within Region 3.

The following underrepresented landforms (ecoregion subsection) are found on the Apache-Sitgreaves NFs: Burro Mountains oak-juniper woodland, Coconino Plateau woodland, and White Mountains scarp woodland-coniferous forest.

The following underrepresented ecosystems (PNVTs) are found on the Apache-Sitgreaves NFs: cottonwood-willow riparian forest (CWRF), dry mixed conifer forest (DMCF), interior chaparral (IC), Madrean pine-oak woodland (MPOW), mixed broadleaf deciduous riparian forest (MBDRF), montane willow riparian forest (MWRF), montane/subalpine grasslands (MSG), spruce-fir forest (SFF), wet mixed conifer forest (WMCF), and wetland/cienega riparian areas (WCRA). The wet mixed conifer forest PNVT is used as a proxy for the aspen forest/woodland ecosystem because most of the aspen on the Apache-Sitgreaves NFs is found in this PNVT.

Tables detailing the acres of underrepresented landforms and ecosystems can be found in the Wilderness Need Evaluation Tables document.

Rating criteria:

High - Underrepresented ecosystems and landforms occur across 67 percent or more of the potential wilderness.

Medium - Underrepresented ecosystems and landforms occur across 34 to 66 percent of the potential wilderness.

Low - Underrepresented ecosystems and landforms occur across 33 percent or less of the potential wilderness.

Rating: **Low** - Underrepresented ecosystems occur across 17 percent of the potential wilderness. This potential wilderness contains two underrepresented ecosystems: cottonwood-willow riparian forest and dry mixed conifer forest. There are no underrepresented landforms.

***Overall Need*: Medium**

[3] Loomis, John and Echohawk, J. Chris. 1999. Using GIS to identify under-represented ecosystems in the National Wilderness Preservation System in the USA. *Environmental Conservation*. 26 (1): 53–58.