

# **Apache-Sitgreaves National Forests Wilderness Evaluation Report**

West Chevelon Canyon Potential Wilderness  
PW-03-01-003

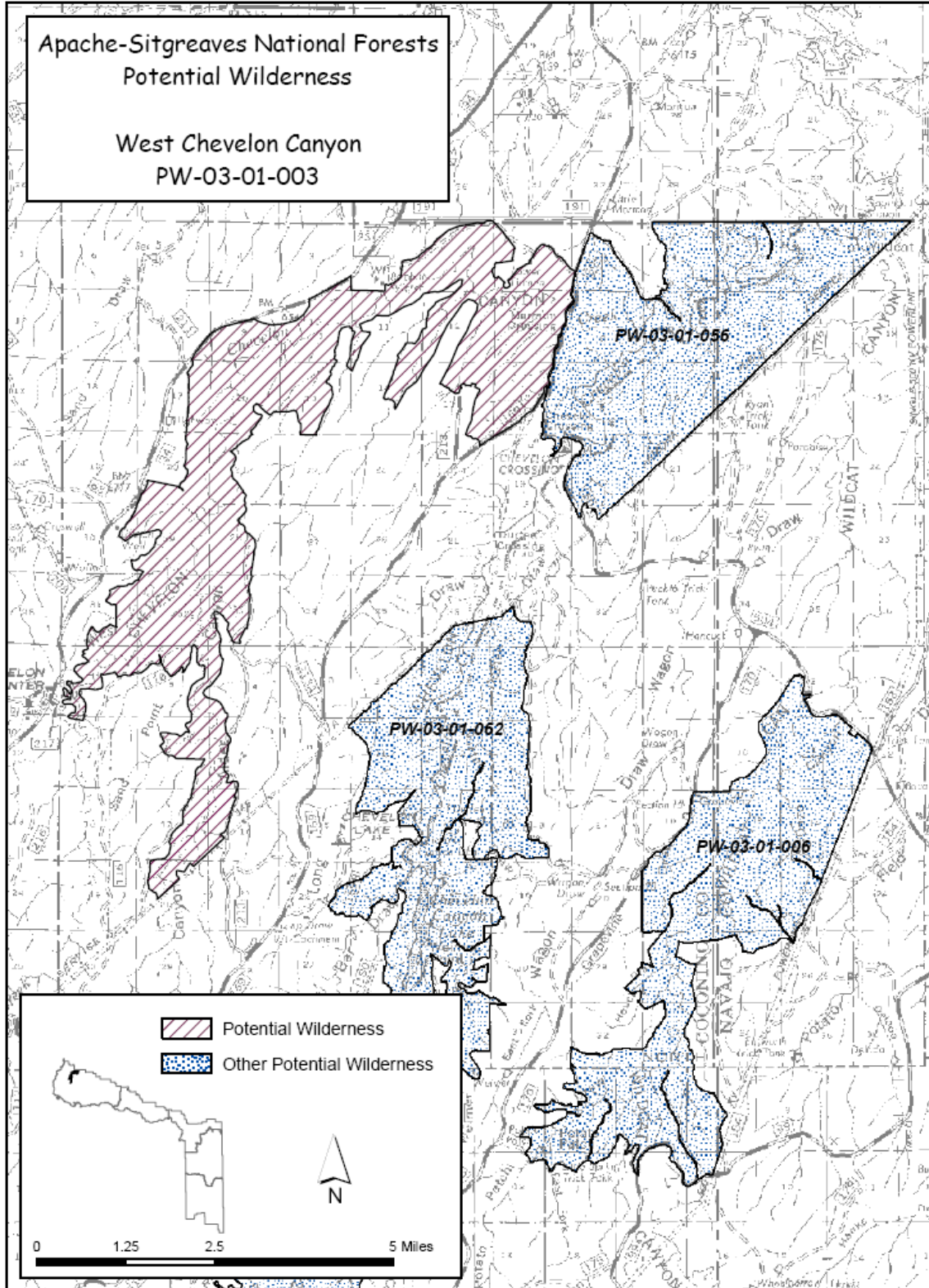
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Apache-Sitgreaves National Forests  
Potential Wilderness

West Chevelon Canyon  
PW-03-01-003



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*Map created June 2009 by etreiman.*

## *Introduction*

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As part of the Forest Plan Revision process for the Apache-Sitgreaves National Forests (ASNFs), the Forest Service has prepared this Wilderness Evaluation Report for the West Chevelon Canyon 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 just one of many special area designations that the Forest Service considers during plan revision, but it is one of only three special area evaluations that are mandatory. 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 non-wilderness recommendation.

The ASNFs will use this report to determine whether or not to make a preliminary administrative recommendation for wilderness designation for the West Chevelon Canyon 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

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<b>Name</b>	West Chevelon Canyon
<b>Number</b>	PW-03-01-003
<b>Acres</b>	9,493
<b>Ranger District</b>	Black Mesa
<b>History (if applicable)</b>	N/A
<b>Location, Vicinity, and Access</b>	<p>West Chevelon Canyon potential wilderness is located in the western part of the ASNFs in Arizona. It is located in Coconino County, approximately 30 miles south of Winslow, 26 miles northeast of Payson, and 59 miles west-northwest of Show Low.</p> <p>The West Chevelon Canyon potential wilderness can be accessed from Forest Roads (FR) 504, 169, and 34. Vehicle access to the general area is good.</p>
<b>Geography and Topography</b>	<p>The potential wilderness is located on the Mogollon Plateau, which drains north into the Little Colorado River. The area includes West Chevelon and West Alder Canyons with elevations ranging from 6,100 feet at Mormon Crossing to 7,200 near the southern end.</p>
<b>Surroundings</b>	<p>The West Chevelon Canyon potential wilderness boundary follows a combination of forest roads<sup>1</sup>, activity areas, terrain features, a power line corridor, and private land. FR 504 separates this area from Chevelon Canyon North potential wilderness (PW-03-01-056) to the east. One piece of private land adjoins the north boundary of West Chevelon Canyon potential wilderness (T 14 N, R 14 E, section 2).</p>
<b>Special Designation</b>	<p>Motor vehicle use is currently restricted within West Chevelon Canyon.</p>
<b>Vegetation</b>	<p>A mosaic of vegetative communities is found within West Chevelon Canyon potential wilderness. Vegetation varies with elevation, aspect, and slope. West Chevelon and West Alder Canyons pass through ponderosa pine forest, in the southern portions of the potential wilderness, which grades into piñon-juniper woodland in the northern portions. 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.</p>

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<sup>1</sup> 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 34, 169, 213, 213C, 213F, 213H, 213I, 213L, 213M, 213R, 213T, 213T1, 213W, 213X, 213Y, 213Z, 504, 716A, 9116F1, 9116I, 9116M, 9219, 9422H, 9423G1, 9423G2, 9423G, 9423G3, 9623, 9627, 9627A, 9631, 9644, 9644A, 9644B, 9648, 9648A, 9648B, 9631D, 9651, and 9651A. Roads that end at the potential wilderness boundary are not listed.

**Appearance and Key Attractions** The primary scenic features are primitive, steep-walled, and twisting canyons, with cliffs rising as much as 300 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.

## **CURRENT USES**

**Recreation** There is 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 within the area. The Long Draw OHV Loop Trail borders the area in several locations. There are no non-motorized trails within the area. Most of the area has recreation emphases of Semi-Primitive Non-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. Two threatened Mexican spotted owl protected activity centers are found within the potential wilderness. Native speckled dace and the threatened Little Colorado spinedace are currently found in West Chevelon Creek.

**Range** Cattle grazing occurs on the uplands on the east side of the potential wilderness in the Chevelon Canyon Allotment. There are 9.5 miles of fence: 6.7 miles of allotment boundary and 2.8 miles of interior fence.

**Water** All drainages are intermittent, including West Chevelon and Alder Creeks. There are two stock tanks within the potential wilderness.

**Forest Products** The uplands of the potential wilderness are part of the Black Mesa Ranger District winter/spring firewood area. It is used regularly by residents of Winslow, Holbrook, and, to a lesser extent, Flagstaff and the Navajo and Hopi reservations for firewood cutting. There has been a significant die-off of juniper and piñon.

**Special Uses** Arizona Public Service (APS) has a right-of-way (ROW) for a 345 kV power line that borders the southern end of the potential wilderness. Vegetation in the full 600-foot wide ROW is/will be cleared. Also, the existing forest plan was recently amended by the West-wide Energy Corridor Study to allow expansion of this energy corridor to a total width of 3,500 feet.

**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.

**Heritage Resources** Isolated hunting camps and rock art from the Mogollon culture are found in the potential wilderness.

**Fire** Sixteen fires (most smaller than 1 acre and the largest approximately 1,248 acres) occurred between 1971 and 2008. Most were caused by lightning.

## Capability Evaluation

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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

The potential wilderness is essentially natural and the diversity of vegetation and wildlife species is a key feature. Vegetation types include piñon-juniper woodland 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, northern goshawk, and common black-hawk. Little Colorado spinedace were recently reintroduced into West Chevelon Creek. 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.

#### Undeveloped

##### High (canyons)

##### Low (uplands)

Canyons - There is little evidence of human activity within the canyons. There are no trails.  
Uplands- Scattered evidence of human activity in the uplands includes fences, stock tanks, and user-created travel routes.

#### Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

##### High (canyon)

##### Low (uplands)

Canyon - The winding canyon, difficult access, and remoteness contribute to the outstanding opportunities for solitude found in the canyons. 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, hunting, wildlife viewing, backpacking, and hunting.  
Uplands - Solitude may be reduced because of the sights and sounds of the power line corridor to the east and motor vehicle use on boundary roads and user-created travel routes. Recreation opportunities are limited primarily to the canyons.

### Special Features and Values

#### Medium

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, common black-hawk, Chiricahua leopard frog, and Little Colorado spinedace.

### Manageability

#### High (canyons)

#### Low (uplands)

Canyons - The canyons would be manageable as wilderness because of their isolation, terrain, limited access, and lack of resource conflicts.

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. User-created travel routes are associated with firewood 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 forest, control of motor vehicle use would continue to be difficult.

### OVERALL CAPABILITY

#### Medium to High (canyons)

#### Medium (uplands)

### Potential Boundary Changes

One potential boundary change was identified; it would increase manageability and enhance wilderness characteristics, by reducing the amount of uplands included in the potential wilderness. The boundary change would remove several narrow “fingers” that extend south from the eastern portion of the potential wilderness.



## Availability Evaluation

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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.

### Summary

#### Water Yield

**High**

The area is of value for some water yield. No impoundments are planned or needed.

#### Habitat Management

**High**

No habitat management needs have been identified for wildlife or aquatic animals.

#### Aquatic Restoration

**High**

No aquatic restoration activities are planned for West Chevelon Creek.

#### Vegetation Restoration

**Medium**

The vegetation is mostly piñon-juniper woodland and grasslands. Conditions in the uplands are departed from historic conditions. A significant die-off of juniper and piñon has created continuous ground fuels that will burn rapidly under the right conditions, if future fuel reduction activities are not undertaken.

#### Public Access Needed

**High**

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

#### Land Use Authorizations

**Low**

Land use authorizations include grazing permits and structures, firewood 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. Firewood cutting is, and would continue to be, permitted and requires motorized vehicles and equipment. Additional energy transportation facilities could affect the southern end of the potential wilderness, should proposals be submitted.

#### Adjacent Non-FS Lands

**Medium**

There is one piece of private land adjacent to the northern boundary.

#### Minerals

**High**

There is a low potential for future mineral uses.

**OVERALL AVAILABILITY**

**Low** - Additional energy transportation structures could be installed within the expanded corridor.

## Need Evaluation

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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 non-wilderness areas that provide opportunities for unconfined outdoor recreation or preservation of certain ecosystem characteristics. The following summarizes the information found in Appendix D. Individual factors are rated in this summary but are not in Appendix D. Appendix D presents only an overall rating.

### 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.

#### Low

There are adequate wilderness opportunities in the vicinity of West Chevelon Canyon potential wilderness. Within 100 miles of this potential wilderness there are 949,664 wilderness acres. Within 100 miles of Flagstaff, there are 66,462 potential wilderness acres on the ASNFs and 687,395 wilderness acres. Within 100 miles of Phoenix, there are 61,549 potential wilderness acres on the ASNFs and 1,684,972 wilderness acres.

**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.

#### Medium

According to the 2001 National Visitor Use Monitoring study, approximately 38,000 people visited the three Wilderness areas on the ASNFs. Most of this use was concentrated in the two smaller, more easily accessed Wilderness areas, Mount Baldy and Escudilla. Visitor use in Mount Baldy is locally considered high, while visitor use in Escudilla is considered moderate to high. Use in Bear Wallow Wilderness is lighter because it is less easily accessed and slightly larger. Wilderness users on the ASNFs are predominantly male, white or Hispanic/Latino, between the ages of 31 and 60, and live in the Phoenix and Tucson areas.

Approximately 70 percent of the Arizona visitors to the ASNFs are from the Phoenix (58 percent) and Tucson (11 percent) metropolitan areas. Populations in these areas have increased much faster than in the more rural areas. Visitors from the four counties where the ASNFs 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 ASNFs.

It can be assumed that with increasing populations and improved transportation features, wilderness use on the ASNFs would continue to increase, especially in those areas where the trailheads are easily accessed.

Surrounding National Forests (Coconino, Coronado, Gila, and Tonto) all have much higher numbers of wilderness visits than the ASNFs. Use on the Coconino, Coronado, and Gila is high, while use on the ASNFs and Tonto is medium.<sup>2</sup>

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<sup>2</sup> This is based on use categories developed by the Forest Service Wilderness Advisory Group, with low use defined as 0-10,000 visits, medium as 10,001 – 30,000 visits, and high being greater than 30,000 visits. Total wilderness

Regionally, increased demand for additional wilderness in both Arizona and New Mexico should be anticipated based on population growth from 1990 to 2000, which far exceeded the national growth rate. Assuming Arizona continues to grow at a rate much higher than the national rate; visits to wilderness will continue to increase. Arizona, in particular, could benefit from additional wilderness.

Public demand increases with proximity to six population centers: Flagstaff, Phoenix, Tucson, Santa Fe, Taos, and Albuquerque. Wilderness recommendations should be considered within 100 miles of those cities to provide for that demand. Some additional public demand for wilderness in the Southwestern Region will occur from people moving to rural communities near the National Forests.

Nationwide, Wilderness represents 17 percent of all federal agency acres. In the Southwestern Region, 13 percent of the Forest Service lands are Wilderness. Only 6 percent of the federal acres in northeast Arizona are wilderness acres. For wilderness acres in the Southwestern Region to be at the national average would require the addition of about 1 million acres.

**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 adequate nonwilderness lands on or near the ASNFs that could provide unconfined outdoor recreation experiences. Within 100 miles of the Flagstaff, there are 310,343 acres of Inventoried Roadless Areas (IRA). Additionally, there are 285,599 acres managed for Semi-Primitive recreation on the ASNFs. Many of these acres overlap with IRAs and potential wilderness.

Within 100 miles of Phoenix, there are 354,977 acres of IRAs. Additionally, there are 457,285 acres managed for Semi-Primitive recreation on the ASNFs. Many of these acres overlap with IRAs and potential wilderness.

**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.

**Low**

The ASNFs have identified 11 Threatened and Endangered Species, 45 sensitive animal species, and 21 sensitive plant species that occur or are found on the forests. None of these species require a primitive wilderness environment to survive. However, some (Mexican gray wolf, for example) would benefit from reduced disturbance and human encounters.

**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**

There is little opportunity for management to increase the capacity of the established wilderness areas on the ASNFs. Both Mount Baldy and Escudilla Wilderness areas are heavily used, are less than 10,000 acres, are easily accessed by motor vehicles, and have limited trail systems. Encounters with other wilderness visitors in both areas are high. No management changes have been identified for Bear Wallow Wilderness because the use is much lighter and spread throughout the area and there are more trails.

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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.

**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.

**Medium**

This potential wilderness contains one underrepresented landform: 3,689 acres of Coconino Plateau woodland and one underrepresented ecosystem: 5,273 acres of piñon-juniper woodland.

**OVERALL NEED**

**Low to Medium**, but contains one underrepresented landform and one underrepresented ecosystem

*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 would be diminished by management activities in the uplands. Obvious signs of activities would cause the uplands to be removed from potential wilderness.  No management activities are expected within West Chevelon Canyon. It is anticipated that the wilderness character of the canyon 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
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 prescribed fire or wildland fire for resource benefit, 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. Prescribed fire, wildland fire for resource benefit, and wildland fire 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
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
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.
Heritage Resources	Heritage resources are already protected by law. Exclusion of ground-disturbing activities lessens threats to known and unidentified heritage resources. Fewer sites or resources may be identified.	Heritage 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.
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.

RECOMMENDATION		
	WILDERNESS	NONWILDERNESS
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 firewood cutting would be permitted. Only firewood 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, 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.
Fire	Wilderness designation does not preclude the use of prescribed fire or wildland fire for resource benefit. 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.
<b>SOCIAL AND ECONOMIC EFFECTS</b>		
	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.

RECOMMENDATION		
	WILDERNESS	NONWILDERNESS
	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.
	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*

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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 100<sup>th</sup> 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 ASNFs, 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 ASNFs 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 ASNFs 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 ASNFs 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 and Ratings

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### 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 the 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 this potential wilderness. West Chevelon and West Alder Creeks are intermittent. There are no known impoundments on these creeks.

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, 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:** **High** - Biological diversity is high 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, northern goshawk, and common black-hawk. Little Colorado spinedace, a threatened species, were recently reintroduced into West Chevelon Creek.

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, 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 West Chevelon 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 canyon 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:** **High** (canyon) - There is little evidence of human activity within the canyons. There are no developed trails in the potential wilderness.

**Low** (uplands) - Scattered evidence of human activity in uplands includes fences, stock tanks, and user-created travel routes.



### **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** (canyon) - The winding canyon, difficult access, and remoteness contribute to the opportunities for solitude found in the canyons in this potential wilderness.

**Low** (uplands) - Solitude may be reduced in the upland areas because of the sights and sounds of the power line to the east and motor vehicle use on boundary roads and 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, hunting, 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** - The 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 several Mexican spotted owl PACs in the southern ends of the potential wilderness. There is also habitat for Chiricahua leopard frogs. Little Colorado spinedace, a threatened species, were recently reintroduced into West Chevelon Creek.

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

### 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 isolation, limited access, and lack of resource conflicts.  
**Low to Medium** (uplands) - Because of the lack of physical barriers in the uplands, there could be some difficulty in 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 and a forest order that restrict such use.

**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 routes are associated with firewood cutting, hunting, and motorized recreation.

**Overall Manageability: High** (canyons)

**Low** (uplands)

## Appendix C: Availability Evaluation and Ratings

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### 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.

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

2. Areas needing management for wildlife or aquatic animals that MIGHT conflict with wilderness management.

Low - Intense management (motorized equipment: helicopters, chainsaws, broadcast burning) and frequent entries (= or <5 yrs).

Medium - Management requires helicopters but no motorized equipment on the ground and frequency is generally less than 10 years.

High - Low management requirements with no motorized equipment required to meet objectives and infrequent entries.

**Rating: High** - No management needs have been identified for wildlife or aquatic animals.

3. Area needing active aquatic restoration activities.

Low - The majority of watershed needs attention.

Medium - Site-specific improvements needed.

High - Properly functioning with no or little restoration activities needed.

**Rating: High** - No restoration activities are planned for West Chevelon Creek.

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.

Low - The need for vegetation restoration is a higher priority and requires long-term management and mechanized or motorized equipment.

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).

High - The area needs little vegetative restoration.

**Rating: Medium** - Mainly piñon-juniper woodland and grasslands. Conditions in the uplands are departed from the historic condition and restoration of grasslands has been identified as a Forest Plan Revision objective. A significant die-off of juniper and piñon has created continuous ground fuels that will burn rapidly under the right conditions if future fuel reduction activities are not undertaken.

5. Areas having such unique characteristics or natural phenomena that general public access should be developed to facilitate public use and enjoyment.

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).

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** - Fences that run through this area vary in age and condition. Grazing permittee and Forest Service need access to these fences to check and repair them. If new fencing is required a variety of motorized vehicles may be needed. Chain saws may be needed to brush the fence line or to cut fallen trees off of or out of fences. Stock tanks would also need periodic cleaning. There is a potential for additional energy transportation facilities near the southern end of the potential wilderness as part of the West-wide Energy Corridor, but there have been no proposals yet. Firewood cutting is, and would continue to be, permitted. Firewood 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.

High - No inholdings and no non-federal lands adjacent to potential wilderness.

Medium - No inholdings but adjacent lands may be private.

Low - Inholdings exist.

Rating: **Low** - There is one piece of private land adjacent to the northern boundary.

Forest Service control to prevent development of irresolvable, incompatible use that would lessen wilderness character and potential is LOW. The incompatible uses would-be firewood cutting and illegal motor vehicle use off-road for recreation and hunting, and future widening of the existing power line corridor.

Although off-road vehicle use will be prevented when the travel management rule is implemented on the forest, enforcement effort in this area will be minimal due to its remoteness and lower priority. This use would lessen the wilderness character.

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.

**Rating: High**

***Overall Availability:* Low** - Additional energy transportation structures could be installed within the expanded corridor.

## Appendix D: Need Evaluation

*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 100 miles of PW-03-01-003. The total acreage of these areas is 949,664 acres. The Forest Service (FS) manages 23 of these areas, the Bureau of Land Management (BLM) manages 5, and the National Park Service (NPS) manages 1.

Potential Wilderness	Wilderness Area within 100 Miles	Wilderness Acreage	Distance from Potential Wilderness	Managing Agency
PW-03-01-003	White Canyon	6,981	100	BLM
PW-03-01-003	Needle's Eye	6,277	101	BLM
PW-03-01-003	Fishhooks	1,516	105	BLM
PW-03-01-003	Superstition	158,920	83	FS
PW-03-01-003	Bear Wallow	139	103	FS
PW-03-01-003	Four Peaks	60,487	73	FS
PW-03-01-003	Salt River Canyon	32,035	65	FS
PW-03-01-003	Sierra Ancha	18,198	54	FS
PW-03-01-003	Salome	18,688	53	FS
PW-03-01-003	Mount Baldy	7,627	88	FS
PW-03-01-003	Hells Canyon	9,841	99	BLM
PW-03-01-003	Mazatzal	248,858	54	FS
PW-03-01-003	Hellsgate	38,845	35	FS
PW-03-01-003	Hassayampa River Canyon	4,618	103	BLM
PW-03-01-003	Castle Creek	24,477	87	FS
PW-03-01-003	Pine Mountain	18,656	59	FS
PW-03-01-003	Cedar Bench	16,585	57	FS
PW-03-01-003	Fossil Springs	10,754	41	FS
PW-03-01-003	West Clear Creek	26,291	39	FS
PW-03-01-003	Granite Mountain	9,850	98	FS
PW-03-01-003	Woodchute	5,790	76	FS
PW-03-01-003	Munds Mountain	17,997	50	FS
PW-03-01-003	Wet Beaver	6,721	43	FS
PW-03-01-003	Petrified Forest	52,058	61	NPS
PW-03-01-003	Sycamore Canyon	58,818	69	FS
PW-03-01-003	Red Rock-Secret Mountain	50,312	62	FS
PW-03-01-003	Kendrick Mountain	8,200	79	FS
PW-03-01-003	Kachina Peaks	18,857	67	FS
PW-03-01-003	Strawberry Crater	11,268	65	FS
	TOTAL	949,664		

There are 26 Wilderness areas and 687,395 wilderness acres within 100 miles of Flagstaff, Arizona. There are 7 potential wilderness areas and 66,462 potential wilderness acres on the ASNFs within 100 miles of Flagstaff (only acres within 100 miles are shown; actual and potential wilderness areas may be larger).

There are 44 Wilderness areas and 1,684,972 wilderness acres within 100 miles of Phoenix, Arizona. There are 6 potential wilderness areas and 61,549 potential wilderness acres on the ASNFs within 100 miles of Phoenix (only acres within 100 miles are shown; actual and potential wilderness areas may be larger).

<b>Population Center</b>	<b>Wilderness Area within 100 Miles</b>	<b>Wilderness Acres within 100 Miles</b>	<b>Potential Wilderness within 100 Miles</b>	<b>Potential Wilderness Acres within 100 Miles</b>
Flagstaff	Salome	12,662	PW-03-01-011	4,913
	Sierra Ancha	3,508	PW-03-01-005	9,421
	Hells Canyon	9,841	PW-03-01-006	6,972
	Hassayampa River Cyn	12,672	PW-03-01-062	6,585
	Mazatzal	248,858	PW-03-01-056	6,673
	Castle Creek	24,477	PW-03-01-003	9,493
	Hellsgate	38,845	PW-03-01-001	22,405
	Pine Mountain	18,656	TOTAL	66,462
	Cedar Bench	16,585		
	Fossil Springs	10,754		
	West Clear Creek	26,291		
	Granite Mountain	9,850		
	Wet Beaver	6,721		
	Upper Burro Creek	11,426		
	Woodchute	5,790		
	Munds Mountain	17,997		
	Apache Creek	5,435		
	Red Rock-Secret Mtn	50,312		
	Juniper Mesa	7,575		
	Sycamore Canyon	58,818		
	Petrified Forest	9,409		
	Kachina Peaks	18,857		
	Kendrick Mountain	8,200		
	Strawberry Crater	11,268		
	Saddle Mountain	41,815		
	Kanab Creek	773		
	TOTAL	687,395		
Phoenix	Apache Creek	5,435	PW-03-01-056	6,673
	Aravaipa Canyon	19,790	PW-03-01-003	9,493
	Arrastra Mountain	123,379	PW-03-01-006	6,972
	Big Horn Mountains	21,444	PW-03-01-062	6,585
	Castle Creek	24,477	PW-03-01-001	22,405
	Cedar Bench	16,585	PW-03-01-005	9,421
	Eagletail Mountains	100,511	TOTAL	61,549
	Fossil Springs	10,754		
	Four Peaks	60,487		



<b>Population Center</b>	<b>Wilderness Area within 100 Miles</b>	<b>Wilderness Acres within 100 Miles</b>	<b>Potential Wilderness within 100 Miles</b>	<b>Potential Wilderness Acres within 100 Miles</b>
	Granite Mountain	9,850		
	Harcuvar Mountains	25,465		
	Harquahala Mountains	22,559		
	Hassayampa River Cyn	12,672		
	Hells Canyon	9,841		
	Hellsgate	38,845		
	Hummingbird Springs	30,038		
	Juniper Mesa	7,575		
	Kofa	29,451		
	Mazatzal	248,858		
	Munds Mountain	17,997		
	Needle's Eye	6,277		
	North Maricopa Mountains	61,157		
	Organ Pipe Cactus	60,659		
	Pine Mountain	18,656		
	Pusch Ridge	56,743		
	Rawhide Mountains	18,240		
	Red Rock-Secret Mtn	50,312		
	Saguaro	13,861		
	Salome	18,688		
	Salt River Canyon	32,035		
	Sierra Ancha	18,198		
	Sierra Estrella	14,746		
	Signal Mountain	13,125		
	South Maricopa Mtns	58,963		
	Superstition	158,920		
	Sycamore Canyon	58,818		
	Table Top	34,696		
	Tres Alamos	8,034		
	Upper Burro Creek	27,153		
	Upper Burro Creek	8,918		
	West Clear Creek	26,291		
	Wet Beaver	6,721		
	White Canyon	6,981		
	Woodchute	5,790		
	Woolsey Peak	64,977		
	TOTAL	1,684,972		

*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 National Forests (ASNFs) users visited the three wilderness areas on the forest. This figure is similar to other non-urban forests in the Southwestern Region. More urban forests (Cibola and Coronado) reported approximately 25 percent of their users visited wilderness areas.

Most of the wilderness use on the ASNFs 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 as wilderness.

Approximately 70 percent of the Arizona visitors to the ASNFs 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 ASNFs 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 ASNFs.

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

#### Item 2

The ASNFs include three designated wilderness areas, the nation's sole 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 ( $\pm 56$  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.

### **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 100 miles 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 under-represented with five percent fewer wilderness acres as compared with the representation nationally. Additionally, all quadrants in Arizona and New Mexico are under-represented with the exception of the southwest and southeast quadrants in Arizona. The most under-represented 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.

*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.*

There are 28 Inventoried Roadless Areas (IRAs) and 310,343 IRA acres within 100 miles of Flagstaff and 37 IRAs and 354,977 IRA acres within 100 miles of Phoenix (only acres within 100 miles are shown; actual IRAs may be larger). There is one proposed NPS wilderness within 100 miles of Flagstaff.

Within 100 miles of Flagstaff and on the ASNFs, there are 250,203 acres managed for Semi-Primitive Motorized (SPM) recreation and 33,396 acres managed for Semi-Primitive Non-Motorized (SPNM) recreation. Many of these acres overlap with IRAs and potential wilderness.

Within 100 miles of Phoenix and on the ASNFs, there are 140,290 acres managed for SPM recreation and 33,396 acres managed for SPNM recreation. Many of these acres overlap with IRAs and potential wilderness.

<b>Population Center</b>	<b>Inventoried Roadless Area within 100 miles</b>	<b>IRA Acres within 100 Miles</b>	<b>National Forest</b>
Flagstaff	Arnold Mesa	248	Tonto
	Arnold Mesa	12,271	Prescott
	Ash Creek	7,654	Prescott
	Barbershop Canyon	1,310	Coconino
	Black Canyon	10,672	Prescott
	Blind Indian Creek	26,815	Prescott
	Boulder	40,310	Tonto
	Boulder Canyon	4,548	Coconino
	Cherry Creek	11,357	Tonto
	Chevelon Canyon	5,567	Apache-Sitgreaves
	Cimarron Hills	5,297	Coconino
	Coconino Rim	7,212	Kaibab
	East Clear Creek	1,611	Coconino
	Fritsche	14,178	Prescott
	Grief Hill	12,521	Prescott
	Hackberry	17,864	Coconino
	Hackberry	913	Prescott
	Hellsgate	6,163	Tonto
	Jacks Canyon	2,855	Coconino
	Leonard Canyon	3,068	Apache-Sitgreaves
	Lime Creek	42,516	Tonto
	Lower Jacks Canyon	776	Coconino
	Mazatzal	16,922	Tonto
	Muldoon	5,815	Prescott
	Padre Canyon	9,423	Coconino
	Pine Mountain Wilderness Contiguous	6,510	Tonto
	Pine Mountain Wilderness Contiguous	3,126	Prescott
	Salome	2,928	Tonto
	Sheridan Mountain	15,740	Prescott
	Sierra Ancha Wilderness Contiguous	7,778	Tonto
	Walker Mountain	6,375	Coconino

Population Center	Inventoried Roadless Area within 100 miles	IRA Acres within 100 Miles	National Forest
	TOTAL	310,343	
Phoenix	Arnold Mesa	12,271	Prescott
	Arnold Mesa	248	Tonto
	Ash Creek	7,654	Prescott
	Barbershop Canyon	1,310	Coconino
	Black Canyon	10,672	Prescott
	Black Cross	5,959	Tonto
	Blind Indian Creek	26,815	Prescott
	Boulder	40,310	Tonto
	Boulder Canyon	4,548	Coconino
	Catalina St. Pk. Roadless Area	950	Coronado
	Cdo Wsa	1,954	Coronado
	Cherry Creek	11,357	Tonto
	Chevelon Canyon	5,567	Apache-Sitgreaves
	Cimarron Hills	5,297	Coconino
	East Clear Creek	1,611	Coconino
	Fritsche	14,178	Prescott
	Goldfield	15,239	Tonto
	Grief Hill	12,521	Prescott
	Hackberry	913	Prescott
	Hackberry	17,864	Coconino
	Hellsgate	6,163	Tonto
	Horse Mesa	9,136	Tonto
	Jacks Canyon	2,855	Coconino
	Leonard Canyon	3,068	Apache-Sitgreaves
	Lime Creek	42,516	Tonto
	Lower Jacks Canyon	776	Coconino
	Lower Romero WSR	10	Coronado
	Mazatzal	16,922	Tonto
	Middle Romero WSR	60	Coronado
	Muldoon	5,815	Prescott
	Oracle Roadless	22,354	Coronado
	Picacho	4,963	Tonto
	Pine Mountain Wilderness Contiguous	6,510	Tonto
	Pine Mountain Wilderness Contiguous	3,126	Prescott
	Salome	2,928	Tonto
	Santa Teresa	494	Coronado
	Sheridan Mountain	15,740	Prescott
	Sierra Ancha Wilderness Contiguous	7,778	Tonto
	Upper Romero Wsr	150	Coronado
	Walker Mountain	6,375	Coconino
	TOTAL	354,977	

*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.*

The ASNFs have identified 11 Threatened and Endangered Species, 45 sensitive animal species, and 21 sensitive plant species that occur or are found on the forests. None of these species require a primitive wilderness environment to survive. However, some (Mexican gray wolf, for example) would benefit from reduced disturbance and human encounters.

*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 ASNFs, all on the Apache side. 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 demand could be accommodated without management changes.

*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)<sup>3</sup> to determine the underrepresented landforms and ecosystem types in Wilderness within Region 3.

The following landforms within the White Mountains-San Francisco Peaks-Mogollon Rim ecoregion section (where the ASNFs are located) are underrepresented in Wilderness in the region: Burro Mountains Oak-Juniper Woodland, Coconino Plateau Woodland, and San Francisco Peaks Coniferous Forest. Only Burro Mountain Oak-Juniper Woodland and Coconino Plateau Woodland are found on the ASNFs.

The following ecosystem types are underrepresented in Wilderness in the region: Desert Communities, Great Basin/Colorado Plateau Grassland, Great Plains Grassland, Piñon-Juniper Woodland, Sagebrush Shrubland, and Semi-desert Grassland. Only Great Basin Grassland, Piñon-Juniper Woodland, and Semi-desert Grassland are found on the ASNFs.

This potential wilderness contains one underrepresented landform, 3,689 acres of Coconino Plateau Woodland, and one underrepresented ecosystem, 5,273 acres of Piñon-Juniper Woodland.

**Overall Need:** no rating given, but contains one underrepresented landform and one underrepresented ecosystem

#### UNDERREPRESENTED LANDFORMS

Potential Wilderness	Name	Acreage	Acres of Burro Mountains Oak-Juniper Woodland	Acres of Coconino Plateau Woodland
PW-03-01-001	Leonard Canyon	22,405		7,171
PW-03-01-003	West Chevelon Canyon	9,493		3,689
PW-03-01-011	Black Canyon	4,913		4,911
PW-03-01-053	Cold Spring Mountain	17,541	1,878	
PW-03-01-054	Hells Hole	15,524	15,439	
PW-03-01-056	Chevelon Canyon North	6,673		6,612
PW-03-01-057	Coal Creek	5,698	370	
PW-03-01-058	Big Lue Mountains	5,222	4,932	

<sup>3</sup> 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.

**UNDERREPRESENTED ECOSYSTEMS**

Potential Wilderness	Name	Acreage	Acres of Great Basin Grassland	Acres of Piñon-Juniper Woodland	Acres of Semi-Desert Grassland
PW-03-01-001	Leonard Canyon	22,405		9,245	
PW-03-01-003	West Chevelon Canyon	9,493		5,273	
PW-03-01-006	Wildcat Canyon South	6,972	5	993	
PW-03-01-011	Black Canyon	4,913	819	3,963	
PW-03-01-040	Mother Hubbard	2,656		922	
PW-03-01-041	Campbell Blue	9,445		0.1	
PW-03-01-042	Nolan	7,841		333	
PW-03-01-049	Hot Air/Salt House	76,127			5,743
PW-03-01-050	Sheep Wash	7,965			1,259
PW-03-01-051	Painted Bluffs	44,106			6,896
PW-03-01-052	West Blue/San Francisco	160,013			33,081
PW-03-01-053	Cold Spring Mountain	17,541			4,790
PW-03-01-054	Hells Hole	15,524			4,856
PW-03-01-056	Chevelon Canyon North	6,673	2,244	4,372	
PW-03-01-057	Coal Creek	5,698			1,027
PW-03-01-058	Big Lue Mountains	5,222			1,172
PW-03-01-060	Centerfire	15,268		503	
PW-03-01-062	Chevelon Lake	6,585		596	
PW-03-01-063	Milk Creek	5,387	400	2,039	
PW-03-01-067	Sunset	30,365			17,755
PW-03-01-068	BRW Recommendation	166,588		1,604	9,471
PW-03-01-069-1	BRWPR Exclusion 1	2,553			90
PW-03-01-069-2B	BRWPR Exclusion 2b	6,958			3,404
PW-03-01-069-3	BRWPR Exclusion 3	4,665			304
PW-03-01-069-4	BRWPR Exclusion 4	10,404			2,032