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Region

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# Prescott National Forest

## Potential Wilderness Area Evaluation Report

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As part of the forest plan revision process, the Prescott National Forest (Prescott NF) is required to undergo an assessment of areas that meet the criteria for potential wilderness. We followed the wilderness evaluation process as outlined in Forest Service Handbook 1909.12, Chapter 70. This process consists of three steps: identification of potential areas, evaluation of potential areas, and recommendation of potential areas. This document covers the second step in the process, the evaluation of the potential areas. The recommendations that result from this evaluation will be included in the Prescott NF revised forest plan. All three steps in the process are outlined in more detail below.

## Identification of Potential Wilderness

From the Handbook:

*The first step in the evaluation of potential wilderness is to identify and inventory all areas within National Forest System (NFS) lands that satisfy the definition of wilderness found in section 2(c) of the 1964 Wilderness Act.*

- FSH 1909.12 Chapter 71

The conditions for meeting the first step of the process on the Prescott NF are:

1. The area must be at least 5,000 acres in size **or** meet at least one of the following conditions:
  - 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. Adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.
2. The area must not contain forest roads (36 CFR 212.1) or other permanently authorized roads.

Twenty-nine areas, listed in appendix A, were determined to meet these conditions. These areas range in size from less than 1,000 acres to over 32,000 acres. Some of the areas that were first identified during the 1979 Roadless Area Review and Evaluation (RARE II) process, and then again during the 2001 Roadless Area Conservation Rule, were carried forward to this evaluation. One area identified in the inventory, Hackberry PW-03-09-017\*, was not carried forward in the evaluation process on the Prescott NF, because it is adjacent to the Hackberry PW-03-04-026 area on the Coconino National Forest and was included in their Potential Wilderness Evaluation. Sycamore Canyon C PW-03-09-027 spans the boundary between the Prescott NF and the Kaibab National Forest. The entire parcel was analyzed by the Prescott NF in this evaluation.

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\* PW – potential wilderness, 03 – Southwestern Region, 09 – Prescott National Forest, 017 – the number of the potential wilderness area. This numbering scheme was developed by the Southwestern Regional Office (Forest Service 2007).

## Evaluation of Potential Wilderness

### Capability

*The capability of a potential wilderness is the degree to which that area contains the basic characteristics that make it suitable for wilderness recommendation without regard to its availability for or need as wilderness.*

- FSH 1909.12 Chapter 72.1

During this stage, the twenty-eight Potential Wilderness Areas (PWAs) that were carried forward were evaluated for their capability. The PWAs were rated on fifteen criteria, and a composite score for each area was calculated. Six of the criteria, related to naturalness, solitude, special values, and manageability, were deemed to have greater significance for wilderness capability and were weighted accordingly. Miles of existing motorized trail were also considered and factored into the ratings as a component of manageability. These criteria were developed by the Southwestern Region Wilderness Evaluation Working Group for use in the Forest Service Southwestern Region (Arizona and New Mexico). They are listed in appendix B, along with an explanation of the scoring process.

Eight of the twenty-eight PWAs were not considered for further evaluation, because they scored below the 75% threshold needed to proceed to the availability and need assessments. These areas are listed in appendix C, and a breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”. All of the PWAs that scored greater than 75% were analyzed for both availability and need—there were no further eliminations during those stages of the process.

### Availability

*All National Forest System lands determined to meet wilderness capability requirements are considered potentially available for wilderness designation. However, 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.*

- FSH 1909.12 Chapter 72.2

During this step, the remaining twenty PWAs were analyzed to determine their potential for other resource uses such as timber, grazing, or minerals. The availability of an area for wilderness designation is based on the opportunity cost (or trade-offs) involved in managing the area for wilderness character. Wilderness management imposes restrictions on the use of motorized equipment in the wilderness, on motorized and mechanized travel within the wilderness, and on the construction of new roads. Additionally, some management actions require the approval of the regional forester before they can be implemented in designated wilderness.

In some areas, the management of a particular resource or program may benefit from the wilderness restrictions. In that case, the availability for wilderness designation is rated high with regard to the resource. However, if the wilderness restrictions negatively affect management of a resource, then the area is rated low for availability with regard to the resource. Often wilderness

designation has a mixed impact on other resources, both positive and negative effects. If there is no net positive or net negative impact, or if the balance between the positive and negative effects is unclear, the availability is rated as medium.

To determine the overall availability rating of a PWA, each resource area was scored—one point for a high rating, zero points for a medium rating, and minus one point for a low rating. If a PWA had a total of five or more points, out of a possible nine points, it received an overall availability of high. Areas with three or four points received a medium, and those that had one or two points received a low.

## **Need**

*Determine the need for an area to be designated as wilderness through an analysis of the degree to which it contributes to the overall National Wilderness Preservation System. ... Deal with “need” on a regional basis and evaluate such factors as the geographic distribution of areas and representations of landforms and ecosystems.*

- FSH 1909.12 Chapter 72.3

The need assessment rated the PWAs on seven factors that considered the size, type, and location of existing wilderness areas in the region; the existing and expected demand for wilderness and unconfined recreation opportunities; and the need for areas that represent aspects or types of wilderness experience that are under-represented in the Southwestern Region. These factors are listed in appendix D.

The need assessment was done using a previously established protocol completed by the Southwestern Regional Office and does not take into account local factors associated with the communities of Prescott and the Verde Valley communities.

## **Recommendation of Potential Wilderness**

This document, the Potential Wilderness Evaluation, will be used by the leadership of the Prescott NF to determine if any of the candidate areas will be forwarded to the regional forester (the deciding official) for consideration. The forest supervisor’s recommendations to the regional forester will be documented in the proposed revised Prescott NF Land Management Plan (also known as the forest plan), and public comments will be accepted and considered throughout the plan revision process. There are no recommendations contained within this document, only analysis.

All of the PWAs recommended by the regional forester will receive further review by the Chief of the Forest Service. If the Chief intends to move forward with a wilderness recommendation, the Forest Service will complete a detailed analysis of the trade-offs in accordance with the National Environmental Policy Act. Although the chief can recommend areas for inclusion in the National Wilderness Preservation System, it takes an act of Congress to designate a wilderness area.

# Apache Creek A

## Description

### Acres, Location, Landforms

The Apache Creek A PWA covers 1,975 acres\* due east of the existing Apache Creek Wilderness in the Santa Maria Mountains, approximately 32 miles northwest of Prescott. It lies completely within the upper-most reaches of the Verde River watershed, in the Central Mountains Transition Zone Geographic Province. The entire unit has a westerly aspect and contains a number of small drainages. These drainages flow into Apache Creek from the top of the watershed divide with Gravers Wash. Elevations in the PWA range from 5,300 feet in the northern portion of the unit up to 6,000 in the south. Large granite boulders, sandy washes, and remnant scatters of Tepeats Sandstone, marking the 1.2 billion year old Great Unconformity, can be found throughout.

### Vegetation

Piñon pine and juniper, interspersed with mature stands of ponderosa pine in the drainages, comprise the majority of the vegetation in the unit. The most significant vegetation type is the riparian habitat along Apache Creek. This diverse riparian community consists of Arizona black walnut, Fremont cottonwood, velvet ash, cattails, coyote willow, and Gooding willow.

### Surroundings, Land Ownership, and Boundaries

The unit is completely within Federal ownership. The northern boundary of the unit adjoins private land for 1.5 miles, while the eastern boundary follows Forest Road (FR) 95A, which separates Apache Creek A PWA from Bald Mountain PWA. The remainder of the unit is adjacent to the existing Apache Creek Wilderness to the west.

### Access, Current Uses, and Attractions

Visitors access this unit from Williamson Valley Road (County Road 5) to FR 95, through either Camp Wood or the Walnut Creek area. There are currently three non-motorized trails inside and around the unit: Upper Graber Wash Trail #9906, Lower Graber Wash Trail #9904, and the Apache Creek Trail #9905. Access to these trails is via FR 95A and 95B, which have received little to no maintenance over the last ten years, and are currently passable only by specialized off-road vehicles. Most visitors use these rugged old roads to form loop trips with the above-mentioned trails.

Primary recreation use in the area includes hunting, trail running, hiking, horseback riding, and backpacking. Birding, wildlife viewing, and cultural resource exploration also occur in smaller numbers. The primary attractions for visitors are the perennial waters of Apache Creek and the amazing scenery in the area. The surrounding area provides excellent opportunities for vehicle-based dispersed camping.

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\* Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

## **Capability**

### **Naturalness**

**Rating:** High

There is a high degree of naturalness in this unit due to the perennial nature of Apache Creek and the associated vegetation and wildlife. Apache Creek can grow from a collection of small pools and dry sections of streambed to a small river, 50 feet wide, during intense storms. There is one small six-foot tall dam on Apache Creek that is completely silted in and has no significant affect on the free flowing nature of the creek. It is also substantially unnoticeable to the average visitor and is a potential historic feature. The mix of plant and animal species associated with riparian, ponderosa pine, chaparral, and piñon-juniper vegetation communities contribute to the high biological diversity in the Apache Creek A PWA. Overnight visitors enjoy beautiful views of the solar system with little to no impact from urban light pollution. It is assumed that the water quality is good, as there are no pollutant sources upstream.

### **Undeveloped**

**Rating:** High

The only improvements in this unit are the small dam mentioned above and an old corral at the junction of trails #9905 and #9906. This corral is very old and in disrepair, but it is still in use as a place for equestrian users to stop for lunch while completing the loop trail in and around this unit. These structures are substantially unnoticeable and are compatible with wilderness protection due to their historic nature.

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

**Rating:** High

This unit by itself and in combination with the existing Apache Creek Wilderness has outstanding opportunities for solitude and primitive and unconfined recreation as described in the Wilderness Act. The presence of bear tracks on the trail and raptors in the riparian corridor present the visitor with an outstanding natural experience. The topography from the top of the ridge to the bottom of the creek in the unit prevents the visitor from being aware of other visitors and screens the presence of outside sights and sounds. Hiking is the predominate use in this unit and often times it is used as an easy overnight backpacking experience. Equestrian users also enjoy the area, as it has available water for horses. There are many opportunities for visitors to explore off-trail and find challenge in the large granite boulders and thick vegetation in some of the drainages.

### **Special Features and Values**

**Rating:** High

This unit has tremendous supplemental values associated with Arizona's Central Mountains Transition Zone Geographic Province. Ecologically, the presence of water and riparian vegetation makes this area a refuge for wildlife and provides connectivity to other habitats for many game and non-game species. These include mule deer, elk, black bear, mountain lion, javelina, quail, and many other bird species. Apache Creek contains lowland leopard frog, which is on both the Forest Service Southwestern Region Sensitive Species and Arizona Game and Fish Wildlife of Special Concern lists. Another Southwestern Region Sensitive Species, Arizona toad, is also known to occur in this unit.

This area has unique geologic features, marking the Great Unconformity between the granitic basement rocks and the sedimentary rocks of the Colorado Plateau, that have value for scientific research and for the educational opportunities that they provide. There are excellent views across to Juniper Mesa that show which sedimentary layers lay above the Apache Creek area before they eroded away. The diversity of tree species here also makes it an excellent place to learn tree identification.

Finally, there is a variety of cultural resources in the area, ranging from historic to prehistoric sites over 1,000 years old, adding educational, scientific, and cultural values to the list of special features.

### **Manageability**

**Rating: High**

This unit was rated high for manageability as there is no motorized use occurring in the area, and the adjacent Forest Road 95A would make an easy boundary to manage. The north and west sides of the unit are adjacent to private land and existing wilderness. The private land also borders the existing wilderness and additional wilderness adjacent to it would not significantly change management, as the topography limits other uses.

According to guidance from the Southwestern Regional Office (Forest Service 2007), some consideration can be given to closure of roads to improve the wilderness character of an area. In this instance, the closure of Forest Road 95A and Forest Road 95B would allow an expansion of Apache Creek Wilderness by over 10,000 acres, including the Bald Mountain PWA, the Apache Creek Adjacent A PWA, and a portion of the Hyde Mountain PWA. These three units are currently separated by FR95A and FR95B, which are in poor repair and very difficult to traverse other than by foot, horse, or motorcycle.

### **Overall Capability**

**Rating: High**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Apache Creek A PWA rates a high for overall capability to support wilderness character and provide a wilderness experience as it scored 55 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

### **Availability**

#### **Recreation**

**Rating: High**

Recreation in the Apache Creek A PWA is generally compatible with wilderness designation. The three trails in the unit are non-motorized, and the primary recreation opportunities are hunting, trail running, hiking, horseback riding, and backpacking. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Apache Creek PWA.



**Wildlife****Rating: High**

In general, wilderness designation could have both positive and negative effects on wildlife management. Positive effects include prohibiting the development of future roads or motorized trails that could lead to further habitat fragmentation and disruption of travel for some wildlife species. Restrictions on motorized use could cause negative impacts by limiting options for implementing vegetative treatments for wildlife habitat, watershed improvement for aquatic habitat and fuels reduction for habitat protection. In Apache Creek A, designation as wilderness would not noticeably change or add to the situation for most wildlife; however, it would help maintain an area of less disturbance to nesting habitat for nearby northern goshawk. This was considered a net benefit, and the Apache Creek A PWA was rated high for this resource.

**Water****Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Apache Creek A PWA.

**Livestock****Rating: Medium**

Apache Creek A has an earthen tank included in the buffer for FR95A, and an existing silt retention structure that would require maintenance. The impacts to grazing should be minimal, as the Wilderness Act contains provisions for the continuation of grazing where it pre-dates wilderness designation. However, the use of needed motorized equipment to access and maintain improvements would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

**Timber****Rating: Medium**

When combined with the adjacent Apache Creek B, Bald Mountain, and Juniper Mesa PWAs, this entire area could provide approximately 3,688 hundred cubic feet (CCF) of merchantable timber in the ponderosa pine vegetation type every 30-50 years. However, Apache Creek A contains less than 10 percent of the ponderosa pine acres in this combined area. If designated as wilderness, the Forest Service would lose access to this merchantable timber along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Apache Creek A PWA.

**Minerals****Rating: High**

There are no known patented mining claims within the Apache Creek A PWA. There are also no known abandoned mines, adits, and quarries within the area. There are no indications that wilderness designation for the Apache Creek A PWA would cause any conflicts with minerals management.

**Cultural resources****Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the PWAs has had comprehensive archaeological inventories, every area is expected to have prehistoric sites, and most will have had historic use in some fashion. The Apache Creek and Bald Mountain areas contain sites, but very little survey work has been done. There are no specific cultural resources issues concerning the Apache Creek A PWA being designated as wilderness.

**Land Use****Rating:** High

Although the area is bordered by private land to the north, there are no indications that wilderness designation for the Apache Creek A PWA would cause any conflicts with the special use permit or land management programs.

**Fire****Rating:** High

Wilderness designation for the Apache Creek A PWA would have little effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

**Overall Availability****Rating:** High

The Apache Creek A PWA was rated high for availability in six resource areas, and medium in three. There were no resource areas rated low. The total availability score was six and Apache Creek A received an overall availability rating of high.

**Need****Factor # 1****Rating:** Low

**The location, size, and type of other wilderness areas 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 41 designated wilderness areas within a 100-mile radius of the Apache Creek A PWA. They range in size from 5,000 to 250,000 acres, total over 1.3 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests; the Bureau of Land Management; and the US Fish and Wildlife Service. The closest of these is the adjacent Apache Creek Wilderness to the west. Three of the areas are

between 95 to 100 miles away, and the average distance to designated wilderness is about 70 miles.

Most Wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness areas with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, and Flagstaff all fall within the 100-mile radius of Apache Creek A PWA, but the Phoenix area does not. Apache Creek A PWA is closer than the average distance for wilderness from Prescott and the Verde Valley, but slightly farther (73 miles versus 59 miles) than the average distance from Flagstaff.

Apache Creek A PWA was rated low on this factor. While it is closer than average from Prescott, it is farther than average from the underserved Flagstaff area and over 100 miles from Phoenix. It is also adjacent to the Apache Creek Wilderness and less than 5 miles south of the Juniper Mesa Wilderness.

## **Factor # 2**

**Rating:** Low

### **Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,300 to 5,700 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

Apache Creek A PWA was rated low on this factor. Currently, there is low use in existing wilderness areas on the Prescott National Forest, and Apache Creek A is adjacent to the existing Apache Creek Wilderness. Although the additional wilderness acreage would move the Southwestern Region closer to the national average, Apache Creek A is poorly located to serve anticipated increased public demand from Phoenix and Flagstaff (Forest Service 2009b).

**Factor # 3**

**Rating:** Low

**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that are classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4**

**Rating:** Medium

**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.**

There were no species identified in the Apache Creek A PWA that require less than primitive surrounding to survive. Four sensitive species were identified in the area that might benefit from primitive surroundings: northern goshawk, Arizona toad, lowland leopard frog, and speckled dace.

**Factor # 5****Rating:** Low**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low Wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Rating:** Medium**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Apache Creek A PWA contains 286 acres of Ponderosa Pine-Evergreen Oak, and less than 60 acres of Mixed Broadleaf Deciduous Riparian Forest. There was no Coconino Plateau Woodland identified within the Apache Creek A PWA.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Apache Creek area was specifically mentioned in two comments of support and one comment opposed to wilderness from a permittee who grazes an allotment within the Apache Creek A PWA. The Arizona Wilderness Coalition expressed strong support for the designation of Apache Creek A and B PWAs as wilderness, noting that they are their number one choice for expanding an existing wilderness on the Prescott NF. Another permittee who grazes an allotment within the proposed area has expressed strong

opposition to wilderness designation for both of the Apache Creek PWAs. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor # 7”.

## **Overall Need**

**Rating: Low**

The Apache Creek A PWA was rated medium for need in two factors and low in four factors for a combined score of four out of eighteen. There were no factors rated high. Apache Creek A received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Apache Creek A PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Apache Creek Wilderness. The ecological and scientific values associated with the presence of water and riparian vegetation would be maintained and many species of wildlife would benefit from the preservation of primitive surroundings, including four sensitive species. Apache Creek A PWA would also contribute acreage of two ecosystems (Ponderosa Pine-Evergreen Oak and Mixed Broadleaf Deciduous Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on Apache Creek A; the three trails in the unit are non-motorized and bicycle use is not prevalent. However, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. As noted above, designation as wilderness would help maintain an area of less disturbance to nesting habitat for nearby northern goshawk. Three other sensitive species were identified in the area that might benefit from primitive

surroundings: Arizona toad, lowland leopard frog, and speckled dace. 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.

Although the natural functions of watershed systems would be maintained, the majority of the vegetation in Apache Creek A PWA is classified as piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Apache Creek A PWA contains an earthen tank included in the buffer for FR95A, and an existing silt retention structure; the use of motorized equipment to access and maintain these improvements would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 350 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims, abandoned mines, adits, or quarries within the Apache Creek A PWA.

The Apache Creek A PWA area contains cultural sites, but very little survey work has been done. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for Apache Creek A PWA does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. The prohibition on timber harvest may increase the risk of uncharacteristic wildfires, however, there are no planned mechanical treatments in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that Apache Creek A PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors are already passing through the area to access the existing Apache Creek Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

The economic impact from the withdrawal of mineral rights is also expected to be minimal as there is no known history of mineral extraction in the area.

More substantial impacts may be expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to merchantable timber and firewood collection areas within Apache Creek A.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Apache Creek A PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If Apache Creek A PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

#### *Effects on wilderness characteristics and values*

If Apache Creek A PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Apache Creek A, this could mean vegetation treatments in the piñon-juniper or riparian and watershed improvement projects to restore or maintain habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Apache Creek A PWA could help to restore



vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

In a non-wilderness area, mechanical vegetation treatments would be allowed. The acres of suitable timber in Apache Creek A PWA could be proposed for treatment or harvest under future management decisions. Suitable sections of the area could also be open for commercial or public firewood cutting.

Apache Creek A PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes, although as noted above, there is no known history of mineral extraction in the area.

Known cultural sites in Apache Creek A PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across 1,500 acres of piñon-juniper and almost 350 acres of ponderosa pine. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Apache Creek A PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Apache Creek A PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

## **Apache Creek B**

### **Description**

#### **Acres, Location, Landforms**

The Apache Creek B PWA is 3,813 acres,<sup>\*</sup> located immediately west of the existing Apache Creek Wilderness in the Santa Maria Mountains and approximately 32 miles northwest of Prescott. It is within the upper-most reaches of the Verde River watershed, in the Central Mountains Transition Zone Geographic Province. The unit includes all of Turkey Creek, a tributary to Walnut Creek, and Apache Springs, a valuable water source for cattle and wildlife. Elevations range from 7,000 feet in the southern portion of the unit to 5,500 in the north. The geology ranges from granite to Tepeats sandstone, with tertiary basalts capping the higher peaks.

#### **Vegetation**

The higher elevations are dominated by stands of ponderosa pine with an understory of Gambel oak, but the majority of the vegetation is piñon pine and juniper interspersed with stands of mature ponderosa pine in the drainages.

#### **Surroundings, Land Ownership, and Boundaries**

The unit is completely within Federal ownership. The eastern boundary of the unit is adjacent to the existing Apache Creek Wilderness. The northern boundary of the unit adjoins private land and a short stretch of Walnut Creek Road (County Road 125), while the western boundary follows Forest Roads 9 and 19.

#### **Access, Current Uses, and Attractions**

Primary access to this unit is along FR 9 and County Road (CR) 125 through the Walnut Creek area. The LO Ranch Trail #9903 is the only trail within the unit. It is 2.8 miles long and non-motorized. There is no public access to either end of this trail, because it starts on private land and ends on Forest Road 150A, which is only accessible by crossing private land. The trail has been unsigned and unmaintained for over a decade.

Recreation use in the area includes hunting, hiking, horseback riding, backpacking, birding, and wildlife viewing. A primary attraction for visitors to this area is the opportunity for off-trail exploration of a very remote, unvisited part of the forest. There is rumored to be an old ranch trail that leads from Apache Creek to Two Lion Tank. There are four dirt tanks in this unit, and the presence of water makes hunting a popular activity here.

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<sup>\*</sup> Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

## **Capability**

### **Naturalness**

**Rating:** High

There is a high degree of naturalness in this unit due to its remote nature. Invasive plant species have not been noted in the area, although the inventory is incomplete. All of the drainages are dry; none of them supports perennial water. There are four earthen stock tanks inside the unit related to grazing operations, but they do not significantly affect the flow of water in the watershed. The biodiversity of this area is average and can be attributed to the change in elevation across the unit. Overnight visitors enjoy beautiful views of the stars with little to no impact from urban light pollution.

### **Undeveloped**

**Rating:** High

There are about 10 acres of juniper treatments in the northern portion of the unit that are substantially unnoticeable and are returning to a natural condition. There are four earthen stock tanks for grazing operations inside the unit, but these are small, substantially unnoticeable to the common visitor, and a common occurrence in southwestern wilderness areas.

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

**Rating:** High

Apache Creek B PWA, by itself and in combination with the existing Apache Creek Wilderness, has outstanding opportunities for solitude and primitive and unconfined recreation as described in the Wilderness Act. The topography, from the top of the ridge to the bottom of the creek, prevents the visitor from being aware of other visitors and screens the presence of outside sights and sounds. Hiking is the primary activity of visitors to this unit. Equestrian users also enjoy this unit, as it has available water for horses. There are many opportunities for visitors to explore off-trail and find challenge in the large granite boulders and thick vegetation in some of the drainages.

### **Special Features and Values**

**Rating:** Medium

Ecologically, the presence of water in the dirt tanks and the proximity of Apache Creek and Walnut Creek outside the unit make this area a refuge for wildlife, and provide connectivity between habitats for many game and non-game species. These include mule deer, elk, black bear, mountain lion, javelina, quail, and many other bird species. This area also has unique geologic features marking the Great Unconformity between the granitic basement rocks and the sedimentary rocks of the Colorado Plateau. These geologic features have value for scientific research and for the educational opportunities that they provide. There are excellent views across to Juniper Mesa that show which sedimentary layers lay above the Apache Creek area before they eroded away. The geology in this area is a significant contributor to the recharge of the Big Chino Aquifer, which helps maintain flows in Walnut Creek and the Verde River.

Similar to the Apache Creek A PWA, there is a variety of cultural resources in the area, ranging from historic to prehistoric, adding educational, scientific, and cultural values to the list of special features.

**Manageability****Rating: Medium**

Forest Road 150A is an old road that is cherry-stemmed into the unit. This road is used by the grazing permittee for maintenance of earthen stock tanks and does not have any public access, as it originates on private land. In the last decade, visits to the area have found the road almost impassable by vehicles due to vegetation and erosion. There is no legitimate motorized recreation use occurring in the area, and the adjacent Forest Road 9 on the north boundary would be easy to manage due to the steep slope above the road. Forest Road 19 leads to Pine Top Mountain and is part of the southern boundary. Rugged basalt rocks prevent off-road vehicular travel, making this another easy boundary to manage. On the north and east sides the area is adjacent to private land and existing wilderness. The private land also borders the existing wilderness and additional wilderness adjacent to it would not significantly change management, as the topography limits other uses.

**Overall Capability****Rating: Medium**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Apache Creek B PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 49 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

**Availability****Recreation****Rating: High**

Recreation in Apache Creek B PWA is generally compatible with wilderness designation. There is one trail in the unit and it is non-motorized and all but abandoned. The primary recreation opportunities are hunting, hiking, horseback riding, backpacking, birding, and wildlife viewing. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Apache Creek B PWA.

**Wildlife****Rating: High**

In general, wilderness designation could have both positive and negative effects on wildlife management. Positive effects include prohibiting the development of future roads or motorized trails that could lead to further habitat fragmentation and disruption of travel for some wildlife species. Restrictions on motorized use could cause negative impacts by limiting options for implementing vegetative treatments for wildlife habitat, watershed improvement for aquatic habitat and fuels reduction for habitat protection. Similar to Apache Creek A PWA, designation of the Apache Creek B PWA as wilderness would not noticeably change or add to the situation for most wildlife; however, it would help maintain an area of fewer disturbances to nesting habitat for nearby northern goshawk. The reduction of disturbance to the goshawk nesting habitat was determined to be a net benefit and Apache Creek B was rated high for this resource.

**Water****Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Apache Creek B PWA.

**Livestock****Rating: Medium**

Apache Creek B PWA has a well and an earthen tank included in the buffer for FR150A. There are also three additional earthen tanks, and their associated access roads, that would require maintenance. The impacts to grazing should be minimal, as the Wilderness Act contains provisions for the continuation of grazing where it pre-dates wilderness designation. However, the use of needed motorized equipment to access and maintain improvements would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

**Timber****Rating: Low**

When combined with the adjacent Apache Creek A, Bald Mountain, and Juniper Mesa PWAs, this entire area could provide approximately 3,688 hundred cubic feet (CCF) of merchantable timber in the ponderosa pine vegetation type every 30-50 years. If designated as wilderness, the Forest Service would lose access to this merchantable timber along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Apache Creek B PWA.

**Minerals****Rating: High**

There are no known patented mining claims within the Apache Creek B PWA. There are also no known abandoned mines, adits, and quarries within the area. There are no indications that wilderness designation for the Apache Creek B PWA would cause any conflicts with minerals management.

**Cultural resources****Rating: Medium**

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. The Apache Creek and Bald Mountain PWAs contain sites, but very little survey

work has been done. There are no specific cultural resources issues concerning the Apache Creek B PWA being designated as wilderness.

## **Land Use**

**Rating:** High

Although the PWA adjoins private land to the north, there are no indications that wilderness designation for the Apache Creek B PWA would cause any conflicts with the special use permit or land management programs.

## **Fire**

**Rating:** High

Similar to Apache Creek A PWA, wilderness designation for the Apache Creek B PWA would have little effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

## **Overall Availability**

**Rating:** High

The Apache Creek B PWA was rated high for availability in six resource areas and medium in two resource areas. It was rated low for availability with regard to Timber. The total availability score was five, and Apache Creek B PWA received an overall availability rating of high.

## **Need**

### **Factor # 1**

**Rating:** Low

**The location, size, and type of other wilderness areas 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 42 designated wilderness areas within a 100-mile radius of the Apache Creek B PWA. They range in size from 5,000 to 250,000 acres, total over 1.3 million acres and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests; the Bureau of Land Management; and the US Fish and Wildlife Service. The closest of these is the adjacent Apache Creek Wilderness to the east. There are two areas 95 to 100 miles away, and the average distance to designated wilderness is about 70 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, and Flagstaff all fall within the 100-mile radius of Apache Creek B PWA, but the Phoenix area does not. Apache Creek B PWA is closer than the

average distance for wilderness from Prescott, about average for the Verde Valley, and slightly farther (76 miles versus 59 miles) than the average distance from Flagstaff.

Apache Creek B PWA was rated low on this factor. While it is closer than average from Prescott, it is farther than average from the underserved Flagstaff area and over 100 miles from Phoenix. It is also adjacent to the Apache Creek Wilderness and less than 5 miles south of the Juniper Mesa Wilderness.

## **Factor # 2**

**Rating:** Low

### **Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Apache Creek B PWA was rated low on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, and Apache Creek B PWA is adjacent to the existing Apache Creek Wilderness. Although the additional wilderness acreage would move the Southwestern Region closer to the national average, Apache Creek B PWA is poorly located to serve anticipated increased public demand from Phoenix and Flagstaff (Forest Service 2009b).

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

**Factor # 3****Rating:** Low**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4****Rating:** Medium**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.**

There were no species identified in the Apache Creek B PWA that require less than primitive surrounding to survive. Four sensitive species were identified in the area that might benefit from primitive surroundings: northern goshawk, Arizona toad, lowland leopard frog, and speckled dace.



**Factor # 5****Rating:** Low**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Rating:** Medium**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Apache Creek B PWA contains 775 acres of Ponderosa Pine-Evergreen Oak, and less than 85 acres of Interior Chaparral. There was no Coconino Plateau Woodland identified within the Apache Creek B PWA.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Apache Creek area was specifically mentioned in two comments of support but was not specifically mentioned in any comments opposed to wilderness. The Arizona

Wilderness Coalition expressed strong support for the designation of Apache Creek A and B PWAs as Wilderness, noting that they are their number one choice for expanding an existing Wilderness on the Prescott NF. A permittee who grazes an allotment within the proposed area has expressed strong opposition to wilderness designation for both of the Apache Creek PWAs. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

**Rating: Low**

The Apache Creek B PWA was rated medium for need in two factors and low in four factors for a combined score of four out of eighteen. There were no factors rated high. Apache Creek B PWA received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Apache Creek B PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Apache Creek Wilderness. The ecological and scientific values associated with the presence of water in the dirt tanks and the proximity of Apache Creek and Walnut Creek outside the unit would be maintained and many species of wildlife would benefit from the preservation of primitive surroundings, including four sensitive species. Apache Creek B PWA would also contribute acreage of two ecosystems (Ponderosa Pine-Evergreen Oak and Interior Chaparral) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on the Apache Creek B PWA; the one trail in the unit is non-motorized and all but abandoned, and bicycle use is not prevalent. However, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. As noted above, designation as wilderness would help maintain an area of less disturbance to nesting habitat for nearby northern goshawk. Three other sensitive species were identified in the area that might benefit from primitive surroundings: Arizona toad, lowland leopard frog, and speckled dace. 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.

Although the natural functions of watershed systems would be maintained, the majority of the vegetation in the Apache Creek B PWA is classified as piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Apache Creek B PWA contains a well and an earthen tank included in the buffer for FR150A, and three additional earthen tanks and their associated access roads; the use of motorized equipment to access and maintain these improvements would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 1,000 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims, abandoned mines, adits, or quarries within the Apache Creek B PWA.

The Apache Creek B PWA area contains cultural sites, but very little survey work has been done. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for the Apache Creek B PWA does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. The prohibition on timber harvest may increase the risk of uncharacteristic wildfires, however, there are no planned mechanical treatments in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that Apache Creek B PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors are already passing through the area to access the existing Apache Creek Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

The economic impact from the withdrawal of mineral rights is also expected to be minimal as there is no known history of mineral extraction in the area.

More substantial impacts may be expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to merchantable timber and firewood collection areas within the Apache Creek B PWA.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Apache Creek A would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If Apache Creek B PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Apache Creek B PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include timber harvesting, mechanical vegetation treatments, developed recreation facilities, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Apache Creek B PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Apache Creek B PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Apache Creek B PWA, this could mean vegetation treatments in the piñon-juniper or riparian and watershed improvement projects to restore or maintain habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Apache Creek B PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

In a non-wilderness area, mechanical vegetation treatments would be allowed. The acres of suitable timber in Apache Creek B PWA could be proposed for treatment or harvest under future management decisions. Suitable sections of the area could also be open for commercial or public firewood cutting.

Apache Creek B PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes, although as noted above, there is no known history of mineral extraction in the area.

Known cultural sites in Apache Creek B PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across 2,500 acres of piñon-juniper and over 1,000 acres of ponderosa pine. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Apache Creek B PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of

grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Apache Creek B PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

## **Arnold Mesa**

### **Description**

#### **Acres, Location, Landforms**

The Arnold Mesa PWA is 20,815 acres and is due west of the existing Cedar Bench Wilderness. The entire unit has a westerly aspect as it tilts away from the Verde Rim escarpment, and it lies almost entirely within the Agua Fria River Watershed. It consists of basalt-capped mesas and rugged drainages that run into the Agua Fria River from the top of the watershed divide between the Agua Fria and Verde Rivers. Elevations range from 6,100 feet in the northern portion of the unit down to 4,200 in the south. There are numerous springs and livestock waters nestled in the canyons between Arnold Mesa and Yellow Jacket Mesa.

#### **Vegetation**

The primary plant communities in this area are semi-desert grassland interspersed with stands of juniper and mesquite in the dry wash bottoms. Riparian vegetation is present in association with the many springs in the canyons, and catclaw, prickly pear and agave are common species found throughout the unit. The presence of open grassland forage and numerous water sources make this unit valuable habitat for pronghorn antelope. The grasslands are highly adapted to fire, which is sometimes ignited by dry lightning storms prior to the start of the summer monsoon rains.

#### **Surroundings, Land Ownership, and Boundaries**

The unit is completely within Federal ownership and does not border any private land. All of the boundaries on the north, west, and south follow roads or section lines between roads. The eastern boundary is adjacent to the existing Cedar Bench Wilderness.

#### **Access, Current Uses, and Attractions**

Primary access to this unit is via Forest Roads 732, 68D, or 68G. There four non-motorized trails in the PWA, totaling approximately 5 miles: Squaw Peak Trail #518, Arnold Trail #510, Chasm Creek Trail #164, and the Chalk Tank Trail #506. Primary recreational uses in the area include hunting, hiking, horseback riding, and backpacking. Birding, wildlife viewing, and cultural resource exploration also occur in smaller numbers. Visitors are attracted to the hunting opportunities of Arnold Mesa and the amazing scenery in the area. The surrounding area outside the unit provides excellent opportunities for vehicle-based dispersed camping. Livestock grazing and associated management activities are one of the primary uses in the area.

### **Capability**

#### **Naturalness**

**Rating:** High

This unit consists of semi-desert grasslands interspersed with juniper and stands of mesquite in the dry wash bottoms. In central Arizona, this ecosystem type is one of the most endangered due to loss from development. These grasslands provide forage and fawning habitat for pronghorn antelope, foraging habitat for raptors, and habitat for yellow-billed cuckoo, a Forest Service

Southwestern Region Sensitive Species. The Arnold Mesa PWA generally appears natural with no inventoried invasive weeds. There are no major impoundments on springs and it is assumed that water quality is good, although no samples have been taken. Overnight visitors enjoy beautiful views of the solar system with little impact to the night sky directly above the unit, although the lights of Phoenix can be seen reflecting in the sky to the south.

### **Undeveloped**

**Rating:** High

The only improvements in the area are livestock related fences and earthen stock tanks, both of which are compatible with wilderness protection. Otherwise, the unit generally appears natural with the imprint of people substantially unnoticeable.

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

**Rating:** High

This unit provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, wildlife viewing, and bird watching. The PWA contains few trails, but for the more adventurous, cross-country travel is possible by foot and horseback. Visitors can link together a weeklong backpacking trip using this unit and the adjacent Cedar Bench Wilderness. Hunting is probably one of the most popular activities for this unit, as the area has excellent glassing opportunities from hilltops overlooking open grasslands and opportunities to blind hunt on isolated water sources.

Considering the size of this unit in combination with Cedar Bench Wilderness, solitude is not difficult to find in the many drainages and on the hilltops.

### **Special Features and Values**

**Rating:** High

One of the most significant ecological benefits of wilderness protection for this unit would be the connectivity it would provide between core habitats. Arnold Mesa PWA consists of rolling juniper grasslands, and protection of the area as wilderness, when combined with Cedar Bench Wilderness, would provide a contiguous 37,000-acre unit with a wide range of habitats inside.

There are three Forest Service Southwestern Regional Sensitive Species present in Arnold Mesa, yellow-billed cuckoo, lowland leopard frog, and longfin dace, and one species of interest, Torrey's milkvetch. Torrey's milkvetch was identified during a survey completed in 2009 by the organization Southwest Botanical Research.

Visitors to this unit experience the wide-open views stretching to the Bradshaw Mountains to the west, the San Francisco Peaks to the north, and the Mazatzal Mountains to the southeast.

There is a variety of cultural resources in the area, ranging from historic to prehistoric sites over 1,000 years old, adding educational, scientific, and cultural values to the list of special features.

### **Manageability**

**Rating:** Medium

Arnold Mesa potential wilderness has eight cherry-stemmed roads totaling approximately 8.5 miles. Four of these are under ¼ mile each, and the remaining four are longer than 1 mile. The manageability of this unit was determined to be medium because of the interior access provided



by these roads. Motorized use on 5 miles of the 8.5 miles is limited to off-highway vehicles (OHVs) less than 50 inches in width. Motorized access for the southern portion of the unit is blocked by private property across which the Forest Service does not have an easement.

### **Overall Capability**

**Rating: High**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Arnold Mesa PWA rates a high for overall capability to support wilderness character and provide a wilderness experience as it scored 53 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

### **Availability**

#### **Recreation**

**Rating: High**

Although the Arnold Mesa PWA is over 20,000 acres, recreation use is limited because easy access to the southern portion of the area is blocked by private land. This includes access to two of the four non-motorized trails in the unit, which can only be reached through the Cedar Bench Wilderness. The primary recreation activities that do occur, hunting, hiking, horseback riding, and backpacking, generally are compatible with wilderness. Hunting is allowed in wilderness, although motorized access and game retrieval are not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Arnold Mesa PWA.

#### **Wildlife**

**Rating: Medium**

The watershed lies above Gila chub critical habitat in Sycamore Creek and wilderness designation would maintain limited soil disturbance in the area above this habitat. In addition, designation would preclude the development of future roads or motorized trails that cause habitat fragmentation and disrupt travel corridors for some wildlife species. However, restrictions on motorized use could cause negative impacts by limiting options for vegetation and fuels treatments. Limiting these options could limit opportunities for pronghorn habitat improvement and watershed improvement for listed fish species such as Longfin dace and Gila chub.

#### **Water**

**Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time, however, such designation may extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Arnold Mesa PWA.

#### **Livestock**

**Rating: Low**

Arnold Mesa has a number of grazing improvements currently located within the potential wilderness. These include at least eight earthen stock tanks, one pipeline, and the associated

access. Some of the improvements are adjacent to the eight cherry-stemmed roads in the area (FR9606D, FR9709M, FR528, FR68E, FR9601U, FR9650H, FR9601F, and FR9602D) and are included in the associated buffers around these roads. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

### **Timber**

**Rating:** Medium

There is no direct conflict between timber management and wilderness designation in the Arnold Mesa PWA. However, wilderness designation would restrict the ability to use mechanical methods to reduce tree density for the benefit of other functions such as wildlife habitat (antelope) and rangeland. Designation would also restrict the opportunities for fuelwood harvest in the Arnold Mesa PWA.

### **Minerals**

**Rating:** High

There are no known patented mining claims within the Arnold Mesa PWA. There are also no known abandoned mines, adits, and quarries within the area. There are no indications that wilderness designation for the Arnold Mesa PWA would cause any conflicts with minerals management.

### **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the PWAs has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. Site densities in the Arnold Mesa and Pine Mountain areas are high, but there are few large sites. This would indicate that it was an area where native peoples hunted and gathered, but did not stay for long periods. There is evidence of early historic use in the Arnold Mesa PWA as evidenced by the Wales Arnold Place, a cabin site dating from the 1880s. There are no specific cultural resources issues concerning the Arnold Mesa PWA being designated as wilderness.

### **Land Use**

**Rating:** High

There are no indications that wilderness designation for the Arnold Mesa PWA would cause any conflicts with the special use permit or land management programs.

**Fire****Rating:** Medium

The Arnold Mesa PWA is being considered for treatments that would improve pronghorn antelope habitat. Treatments would focus on areas with less than 25% slope, and entail cutting trees and brush, followed by prescribed burning. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be required for aerial ignition operations.

**Overall Availability****Rating:** Medium

The Arnold Mesa PWA was rated high for availability in four resource areas, and medium in four resource areas. It was rated low for availability with regard to Livestock. The total availability score was three, and Arnold Mesa received an overall availability rating of medium.

**Need****Factor # 1****Rating:** Medium

**The location, size, and type of other wilderness areas 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 37 designated wilderness areas within a 100-mile radius of the Arnold Mesa PWA. They range in size from 5,000 to 250,000 acres, total just under 1.3 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the adjacent Cedar Bench Wilderness to the east. There are three areas 95 to 100 miles away, and the average distance to designated wilderness is about 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million acres. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of Arnold Mesa PWA. It is closer than the average distance for wilderness from Prescott and the Verde Valley, about average from Flagstaff, and slightly farther (62 miles versus 54 miles) than the average distance from Phoenix.

Arnold Mesa PWA was rated medium on this factor. It is closer than average from Prescott and the Verde Valley and about average from the underserved Flagstaff area. It is also well within a 100-mile radius from Phoenix. However, it is adjacent to the Cedar Bench Wilderness area and less than 10 miles northeast of the Pine Mountain Wilderness.

**Factor # 2****Rating:** Medium**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Arnold Mesa PWA was rated medium on this factor. Currently there is low use in existing wilderness areas on the Prescott NF, and Arnold Mesa is adjacent to the existing Cedar Bench Wilderness. The location of the Arnold Mesa PWA would allow it to serve future demand for wilderness from the Phoenix and Flagstaff areas in addition to local demand from Prescott and the Verde Valley (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

**Factor # 3****Rating:** Low**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

#### **Factor # 4**

**Rating:** Medium

**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.**

There were no species identified in the Arnold Mesa PWA that require less than primitive surrounding to survive. Three sensitive species were identified in the area that might benefit from primitive surroundings: western yellow-billed cuckoo, longfin dace, and lowland leopard frog.

#### **Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new

trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6**

**Rating: High**

**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Arnold Mesa PWA contains over 2,200 acres of Interior Chaparral, less than 70 acres of Mixed Broadleaf Deciduous Riparian Forest, and an insignificant amount of Willow Riparian Forest (5 acres). There was no Coconino Plateau Woodland identified within the Arnold Mesa PWA.

**Factor # 7**

**Public review and comment on potential wilderness areas.**

The Arnold Mesa area was specifically mentioned in two comments of support and six comments opposed to wilderness, including a letter from the permittees who graze the allotments within the Arnold Mesa PWA. The Arizona Wilderness Coalition expressed strong support for the designation of the Arnold Mesa PWA as wilderness. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D "Factor #7".

**Overall Need**

**Rating: Medium**

The Arnold Mesa PWA was rated high for need in one factor, medium in three factors, and low in two factors for a combined score of nine out of eighteen. Arnold Mesa

received an overall need rating of medium. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Arnold Mesa PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Cedar Bench Wilderness. The ecological value associated with the connectivity it provides between core habitats would be maintained and many species of wildlife would benefit from the preservation of primitive surroundings, including three sensitive species. Arnold Mesa PWA would also contribute acreage of two ecosystems (Interior Chaparral and Mixed Broadleaf Deciduous Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. Recreation use in the Arnold Mesa PWA is limited because easy access to the southern portion of the area is blocked by private land. Two of the four non-motorized trails in the unit can only be reached through the Cedar Bench Wilderness, and bicycle use is not prevalent. Wilderness designation for the area would have little effect on current recreation users, however, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. The watershed lies above Gila chub critical habitat in Sycamore Creek and wilderness designation would maintain limited soil disturbance in the area above this habitat. Three sensitive species were identified in the area that might benefit from primitive surroundings: western yellow-billed cuckoo, longfin dace, and lowland leopard frog. 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.

Although the natural functions of watershed systems would be maintained, about 25 percent of the vegetation in the Arnold Mesa PWA is classified as semi-desert grassland, a vegetation type

that has been determined to be severely departed from its desired state and is closely associated with impaired soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. As previously noted, the Arnold Mesa PWA has a number of grazing improvements currently located within its boundaries, including at least eight earthen stock tanks, one pipeline, and the associated access. Some of the improvements are adjacent to the cherry-stemmed roads in the area and are included in the associated buffers around these roads, thus the use of motorized equipment for access and maintenance would not be an issue. The use of motorized equipment to access and maintain the improvements located within the wilderness would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. This would have little effect on the Arnold Mesa PWA as it contains no land deemed suitable for timber production. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims, abandoned mines, adits, or quarries within the Arnold Mesa PWA.

The density of cultural sites in the Arnold Mesa PWA is high, but there are few large sites. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation does not preclude the use of wildland fire for the benefit of the resource, however, Arnold Mesa PWA is being considered for treatments that would improve pronghorn antelope habitat. Treatments would entail cutting trees and brush, followed by prescribed burning. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be required for aerial ignition operations. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that Arnold Mesa PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors already have to pass through Cedar Bench Wilderness for access. Thus, its economic impact from outdoor recreation is expected to be minimal.



The economic impacts from the withdrawal of mineral rights and the prohibition on timber cutting are also expected to be minimal as there is no known history of mineral extraction in the area and no suitable timber land.

More substantial impacts may be expected from the restrictions and prohibitions associated with livestock grazing. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Arnold Mesa would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If Arnold Mesa PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

#### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Arnold Mesa PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Arnold Mesa PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

#### *Effects on non-wilderness resources and uses*

If Arnold Mesa PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities, although this option would be unlikely due to access issues. New road construction to improve access is also unlikely as much of the Arnold Mesa PWA overlaps with the Arnold Mesa Inventoried Roadless Area.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Arnold Mesa PWA, this could mean vegetation treatments in the piñon-

juniper or grasslands to improve pronghorn habitat or riparian and watershed improvement projects to restore or maintain habitat for the Gila chub and longfin dace.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Arnold Mesa PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

Arnold Mesa PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes, although as noted above, there is no known history of mineral extraction in the area.

Known cultural sites in Arnold Mesa PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and perform prescribed burns. This fuel reduction and prescribed burning could be implemented across 10,000 acres of piñon-juniper and over 8,000 acres of grassland. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Arnold Mesa PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Arnold Mesa PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values,

biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

## **Ash Creek**

### **Description**

#### **Acres, Location, Landforms**

The Ash Creek PWA is 16,086 acres and is located in the Black Hills on the Verde Ranger District. This area is characterized by rugged topography, thick vegetation, and small canyons with little water. Elevation within the unit ranges from 4,900 feet at the mouth of Ash Creek to 7,000 feet on Kendall Peak. This 2,000-foot change allows users to experience a variety of microhabitats and vegetation variations within the unit.

Ash Creek is in the Central Mountains Geographic Province, beneath the Colorado Plateau and above the Basin and Range. This unit is part of the massive landform, locally referenced as Mingus Mountain that separates the Verde Valley from the Bradshaw Mountains and the Prescott Basin. This large geographic feature is a fault block range that separated from the sedimentary layers of the Colorado Plateau. This unit is entirely within the upper reaches of the Agua Fria watershed

#### **Vegetation**

The varied terrain provides an abundance of microhabitats on north and south facing slopes and in shaded canyons. In the lower elevations, the vegetation is primarily interior chaparral. Upon traveling up in elevation, one can see the change to ponderosa pine and mixed juniper-oak woodland that is indicative of the Transition life zone. Small pockets of Douglas fir can be found in the PWA, and there are riparian areas in the canyons that support a variety of hardwoods, including quaking aspen, boxelder, and cottonwood. These pockets of deciduous vegetation offer beautiful views during the fall as the leaves begin to change color.

#### **Surroundings, Land Ownership, and Boundaries**

The unit is completely within Federal ownership and it borders private or state land in five locations. All of the boundaries follow roads or section lines between roads. The northeastern boundary is adjacent to the Black Canyon PWA, separated by Forest Road 132.

#### **Access, Current Uses, and Attractions**

Primary access to this area is via Forest Road 132. Backpacking, camping, hunting, photography, wildlife viewing, bird watching, and horseback riding are all activities that can, and do, occur in this unit. Visitors can find endless opportunities for exploration; the rugged, chaparral terrain creates a very memorable and unique hiking experience. These areas are especially prized for hunting elk, deer, turkey, and javelina.

There are 7 miles of trail in the Ash Creek unit: the Ash Creek Trail #9705, Ash Canyon Trail #539, and the motorized Grapevine Gulch Trail # 9708. The most significant feature in this area is Ash Creek, which has flowing water or pools most of the year.

## **Capability**

### **Naturalness**

**Rating:** High

Ash Creek PWA generally appears natural and has no significant populations of invasive species. The creek is free flowing with no impoundments. Visitors to the unit can enjoy dark night skies, as the canyons help keep out light pollution. It is assumed that the water quality is good, as there are no pollutant sources upstream, although no sampling has occurred. There is a higher than normal level of biodiversity within this unit primarily due to the presence of lowland leopard frog habitat in Ash Creek. The northern portion of the area contains northern goshawk habitat. Both the lowland leopard frog and the northern goshawk are on the Forest Service Southwestern Region Sensitive Species list.

### **Undeveloped**

**Rating:** High

The only improvements in the area are a few livestock related fences and earthen tanks, both of which are compatible with wilderness protection. Visitors may also find remnants of previous small-scale historic mining operations. Otherwise, the unit generally appears natural with the imprint of people substantially unnoticeable.

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

**Rating:** High

This unit provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, wildlife viewing, and bird watching. There are a few trails to facilitate use in this unit. Opportunities for solitude abound as none of the trails receive high levels of use and visitors are expected to carry maps and know how to use them.

### **Special Features and Values**

**Rating:** High

There are a few distinct features in this unit, including the perennial Ash Creek and the interesting geology found throughout the unit. This includes a high density of natural springs that is unique in this area; there are over twenty springs within this 16,000-acre unit. The Ash Creek unit is adjacent to the Mingus Springs Camp, which uses the area to introduce the concepts of ecology and natural history to its participants.

There is northern goshawk and lowland leopard frog habitat within the unit, and both are Forest Service Southwestern Region Sensitive Species. There are also a variety of cultural resources in the area, ranging from historic to pre-historic sites over 1,000 years old, adding educational, scientific, and cultural values to the list of special features. The local history associated with Mingus Mountain; the mines of Jerome; and the mule, wagon, and railroads leading to Prescott, adds to the cultural value of the area.

### **Manageability**

**Rating:** Medium

Ash Creek PWA has three cherry-stemmed roads, one of these is under ¼ mile, and together they total approximately three and a half miles. Approximately 5 miles of the boundary line is adjacent to private land, but the remainder of the unit boundary is on national forest land and is made up of roads, natural features, and section lines. Managing the unit as wilderness would not be difficult.

due to the rugged terrain and limited access. There are very few range improvements requiring motorized access, further reducing the potential conflicts.

### **Overall Capability**

**Rating: Medium**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Ash Creek PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 49 out of a possible 57 points.

Although it rated high in four of five aspects, it lost points due to the presence of the motorized Grapevine Gulch Trail # 9708. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

### **Availability**

#### **Recreation**

**Rating: Medium**

In addition to wilderness compatible opportunities such as backpacking, camping, hunting, photography, wildlife viewing, bird watching, and horseback riding, Ash Creek also provides opportunity for all-terrain vehicle (ATV) use on the Grapevine Gulch Trail. Were the area to be designated as wilderness, motorized use on this two-mile trail would be prohibited.

#### **Wildlife**

**Rating: Medium**

Designation of the Ash Creek PWA as wilderness would limit options for implementing vegetative treatments for fuels reduction, thus increasing the threat of catastrophic fire to northern goshawk foraging habitat and a goshawk post fledgling area. Although mechanical treatment methods would not be allowed, prescribed fire can be used for fuels reduction in wilderness, and designation would prohibit the development of future roads or motorized trails which could lead to further habitat fragmentation.

#### **Water**

**Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Ash Creek PWA.

#### **Livestock**

**Rating: Medium**

Ash Creek has two earthen stock tanks that would require maintenance and associated access to these improvements. The area is also adjacent to Grapevine Well, an improvement that could be buffered to outside of the potential boundary. The impacts to grazing should be minimal, as the Wilderness Act contains provisions for the continuation of grazing where it pre-dates wilderness designation. However, the use of needed motorized equipment to access and maintain improvements would be based on a rule of practical necessity and reasonableness. Approval for

motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

### **Timber**

**Rating:** Low

The combined Ash Creek and Black Canyon PWAs could provide approximately 3,984 hundred cubic feet (CCF) of merchantable timber in the ponderosa pine vegetation type every 30-50 years. Most of the ponderosa pine vegetation type is located on the western side of the Black Hills in the Ash Creek PWA. If designated as wilderness, the Forest Service would lose access to this merchantable timber along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Ash Creek PWA.

### **Minerals**

**Rating:** High

There are no known patented mining claims within the Ash Creek PWA. There are a few known abandoned mines, adits, and quarries within and adjacent to the area, but it has not been inventoried for Abandoned Mine Lands (AML) features. The Ambassador Mine site is adjacent to the area, but outside of the potential wilderness boundary. There are no indications that wilderness designation for the Ash Creek PWA would cause any conflicts with minerals management.

### **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research, monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

In the Ash Creek and Black Canyon PWAs, archaeological surveys have suggested a good array of prehistoric and historic sites. Smaller prehistoric sites are common in these areas, and they encompass an important resource area for the Yavapai tribe. The historic influence of mining is prevalent as evidenced by the historic community of Cherry. There are no specific cultural resources issues concerning the Ash Creek PWA being designated as wilderness.

### **Land Use**

**Rating:** High

The Ash Creek PWA adjoins private land in a number of locations and has an Arizona Game and Fish trick tank, the Tex Canyon Tank, under special use permit that is included in the buffer for FR 9002Y. Since these are adjacent, but not in the potential wilderness boundary, there are no indications that wilderness designation would cause any conflicts with the special use permit or land management programs.

## **Fire**

**Rating:** Low

The Ash Creek PWA falls within the Black Hills Vegetation Management Plan (BHVMP). Most of this area could be treated with prescribed burns, including some areas that will require aerial ignition by helicopter. In addition, the BHVMP project is proposing a mechanical treatment to create a fuel break along the private property adjacent to the western boundary of the area. There is also approximately 2 miles of a 3-chain wide fuel break/control line within the potential area boundaries that was cut with chainsaw, and the creation of a 6-chain wide fuel break is planned for the spring of 2011. Wilderness designation for the Ash Creek PWA would prohibit the use of mechanical treatments in the future and prevent the use of motorized equipment to maintain the established fuel breaks. Designation would also require special clearance for aerial ignition operations.

## **Overall Availability**

**Rating:** Low

Ash Creek PWA was rated high for availability in three resource areas and medium in four resource areas. It was rated low for availability with regard to Timber and Fire. The total availability score was one, and Ash Creek PWA received an overall availability rating of low.

## **Need**

### **Factor # 1**

**Rating:** High

**The location, size, and type of other wilderness areas 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 35 designated wilderness areas within a 100-mile radius of the Ash Creek PWA. They range in size from 5,000 to 250,000 acres, total just under 1.2 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the Woodchute Wilderness, 10 miles to the north. Three of the areas are 95 to 100 miles away, and the average distance to designated wilderness is about 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of Ash Creek PWA. It is much closer than the average distance for wilderness from Prescott and the Verde Valley, closer than average from Flagstaff and farther (75 miles versus 54 miles) than the average distance from Phoenix.



Ash Creek PWA was rated high on this factor. It is much closer than average from Prescott and the Verde Valley, closer than average from the underserved Flagstaff area, and well within a 100-mile radius from Phoenix. It is also isolated from existing wilderness areas, with the closest, Woodchute, being 10 miles away.

## **Factor # 2**

**Rating: High**

### **Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Ash Creek PWA was rated high on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, but Ash Creek is not adjacent to any existing wilderness. Its location would allow it to serve future demand for wilderness from the Phoenix and Flagstaff areas in addition to local demand from Prescott and the Verde Valley (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

**Factor # 3****Rating:** Low**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4****Rating:** Low**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.**

There were no species identified in the Ash Creek PWA that require less than primitive surrounding to survive. No need for ecological sanctuary was identified.

**Factor # 5****Rating:** Low**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Rating:** High**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Ash Creek PWA contains over 13,600 acres of Interior Chaparral, over 1,600 acres of Ponderosa Pine-Evergreen Oak, and less than 50 acres of Mixed Broadleaf Deciduous Riparian Forest. There was no Coconino Plateau Woodland identified within the Ash Creek PWA.

## **Factor # 7**

### **Public review and comment on potential wilderness areas.**

The Ash Creek PWA was specifically mentioned in three comments of support but was not specifically mentioned in any comments opposed to wilderness. The Arizona Wilderness Coalition expressed strong support for the designation of the Ash Creek PWA as wilderness, noting that it is their number one choice for a new wilderness on the Prescott NF. The permittees for the area are strongly opposed – they just completed the NEPA process for a new Range Allotment Management Plan and wilderness designation was not considered. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

### **Overall Need**

**Rating: Medium**

Ash Creek PWA was rated high for need in three factors, and low in three factors for a combined score of nine out of eighteen. There were no factors rated medium. Ash Creek received an overall need rating of medium. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Ash Creek PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation. The ecological value associated with the perennial Ash Creek and the high density of natural springs would be maintained and many species of wildlife could benefit from the preservation of primitive surroundings. Ash Creek PWA would also contribute acreage of three ecosystems (Interior Chaparral, Ponderosa Pine-Evergreen Oak, and Mixed Broadleaf Deciduous Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. Wilderness designation

for the area would prohibit motorized big-game retrieval and mountain bike use, and discontinue motorized use on the two-mile Grapevine Gulch Trail. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. As noted above, it could increase the threat of catastrophic fire to northern goshawk foraging habitat and a goshawk post fledgling area by limiting options for fuel reduction treatments. 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.

Wilderness designation would help to maintain the natural functions of watershed systems in Ash Creek PWA, where the majority of the vegetation is classified as interior chaparral, a vegetation type that is closely associated with satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Ash Creek PWA contains two earthen stock tanks that would require maintenance; the use of motorized equipment to access and maintain these improvements would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 1,750 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in the ponderosa pine vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims. There are a few known abandoned mines, adits, and quarries within and adjacent to the area, but Ash Creek PWA has not been inventoried for Abandoned Mine Lands (AML) features.

In Ash Creek PWA, archaeological surveys have suggested a good array of prehistoric and historic sites. Smaller prehistoric sites are common in the area, and it encompass an important resource area for the Yavapai tribe. Wilderness designation would have both positive and negative effects on the management of these cultural resources. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation does not preclude the use of wildland fire for the benefit of the resource, however, Ash Creek PWA falls within the Black Hills Vegetation Management Plan (BHVMP). Most of this area could be treated with prescribed burns, including some areas that will require aerial ignition by helicopter. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance

would be required for aerial ignition operations. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. Because Ash Creek would be a separate wilderness area, it could be expected to add about 5,000 additional wilderness visits, based on the average annual visits per wilderness on the Prescott NF (Forest Service 2009c). Its economic impact from outdoor recreation is expected to be minimal.

There are no known patented mining claims in Ash Creek PWA, but it does have a history of mineral extraction and is adjacent to the Ambassador Mine site. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to merchantable timber and firewood collection areas within Ash Creek PWA.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Ash Creek PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If Ash Creek PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Ash Creek PWA could be diminished by incompatible management activities. Reasonably foreseeable examples

include timber harvesting, mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Ash Creek PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Ash Creek PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with the existing motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities, although options could be limited due to access issues. New road construction to improve access is unlikely as much of the Ash Creek PWA overlaps with the Ash Creek Inventoried Roadless Area.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Ash Creek PWA, this could mean vegetation treatments for fuels reduction to decrease the threat of catastrophic fire to northern goshawk foraging habitat and a goshawk post fledgling area.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Ash Creek PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

Ash Creek PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in Ash Creek PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across 600 acres of piñon-juniper, almost 1,750 acres of ponderosa pine, and over 13,500 acres of interior chaparral. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Ash Creek PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Ash Creek PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.



# **Bald Mountain**

## **Description**

### **Acres, Location, Landforms**

The Bald Mountain PWA is 7,662 acres and is located in the Santa Maria Mountains on the Chino Valley Ranger District. This area is characterized by rugged granitic topography, with a dense covering of piñon-juniper and chaparral. Elevation within the unit ranges from 5,400 feet at Gravers Wash up to 6,300 feet in the southern portion of the PWA. Bald Mountain is in the Central Mountains Province, beneath the Colorado Plateau and above the Basin and Range. This unit is primarily granite, with basalt caps in some locations. This unit is entirely within the upper reaches of the Verde River Watershed.

### **Vegetation**

Bald Mountain PWA contains many of the alligator junipers on the forest, as the vegetation is primarily piñon pine and juniper, with stringers of ponderosa pine in the drainages. Hyde Creek and Stringtown Wash both have perennial water and support riparian vegetation, which contributes to the diversity in the unit.

### **Surroundings, Land Ownership, and Boundaries**

The unit is completely within Federal ownership and borders private land on the north for about one and a half miles. The remainder of the boundary is along existing forest roads. The western boundary for this unit is Forest Road (FR) 95A, which divides this unit from the Apache Creek A PWA.

### **Access, Current Uses, and Attractions**

Visitors access the Bald Mountain PWA primarily by following Williamson Valley Road (County Road 5) to FR 95, through either Camp Wood or the Walnut Creek area. The primary recreational uses here include hunting, trail running, hiking, horseback riding, and backpacking. Birding, wildlife viewing, and cultural resource exploration also occur in smaller numbers. Visitors are primarily attracted to the adjacent Apache Creek and Camp Wood areas. The one trail in the unit, Dead Steer Basin Trail #9908, is open for motorized use. Use is low on the trail and it appears to be converted from an old road. The surrounding area outside the unit provides excellent opportunities for vehicle-based dispersed camping.

## **Capability**

### **Naturalness**

**Rating:** High

The Bald Mountain PWA generally appears natural and has no significant populations of invasive species. Visitors to the unit can enjoy dark night skies, as there are no nearby sources of light pollution. It is assumed that the water quality is good, although no sampling has occurred. The area has a moderate degree of biological diversity due to the presence of seeps and springs associated with Hyde Creek and a small parcel (20-40 acres) of northern goshawk habitat.

**Undeveloped****Rating: High**

The only improvements in the area are a few livestock related fences and earthen tanks, which are compatible with wilderness protection. Otherwise, the Bald Mountain PWA generally appears natural with the imprint of people substantially unnoticeable.

**Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation****Rating: High**

The Bald Mountain PWA provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, wildlife viewing, and bird watching. There is one motorized trail in the unit. This trail does not receive a high level of use and there are no developments associated with the use of this trail. Visitors are expected to carry maps and know how to use them. With most of the unit being remote, finding solitude for visitors is not difficult.

**Special Features and Values****Rating: High**

The distinct features in this unit include portions of Gravers Wash, Hyde Creek, and small stands of old growth ponderosa pine that provide valuable information about the fire history of the area. There are also a variety of cultural resources in the area, primarily in the form of pottery scatters and other small signs of prehistoric habitation.

One of the largest supplemental values associated with this unit is its ability to provide adjacent roadless habitat for a variety of game and non-game wildlife. The Bald Mountain PWA, when considered in context with Apache Creek Wilderness and Apache Creek A and B PWAs, has the potential to create a core habitat area of over 20,000 acres.

**Manageability****Rating: Medium**

The primary reason this unit does not rank high for manageability is that it contains about a mile and a half of motorized trail. The remainder of the unit is easily managed to protect the enduring resource of wilderness. According to guidance from the Southwestern Regional Office (Forest Service 2007), some consideration can be given to closure of roads to improve the wilderness character of an area. The closure of FR 95A and FR 95B, and the designation of Apache Creek A PWA and Bald Mountain PWA as wilderness would expand Apache Creek Wilderness by over 9,000 acres. These three units are currently separated by FR95A and FR95B, which are reportedly impassible other than by foot, horse, or motorcycle.

**Overall Capability****Rating: Medium**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Bald Mountain PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 53 out of a possible 57 points. Although it rated high in four of the five aspects, it lost points due to the presence of the motorized Dead Steer Basin Trail #9908. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix"

## **Availability**

### **Recreation**

**Rating:** Medium

As noted above, the primary recreation opportunities in the Bald Mountain PWA include hunting, hiking, and horseback riding. All of these activities are compatible with wilderness designation, subject to motorized restrictions. However, the area also contains just over a mile and a half of motorized trail that would have to be closed or converted to non-motorized use.

### **Wildlife**

**Rating:** High

In general, wilderness designation could have both positive and negative effects on wildlife management. Positive effects include prohibiting the development of future roads or motorized trails that could lead to further habitat fragmentation and disruption of travel for some wildlife species. Restrictions on motorized use could cause negative impacts by limiting options for implementing vegetative treatments for wildlife habitat, watershed improvement for aquatic habitat, and fuels reduction for habitat protection. Wilderness designation for the Bald Mountain PWA would also help minimize disturbance to nesting habitat for northern goshawk. This was considered a net benefit, and Bald Mountain PWA was rated high for this resource.

### **Water**

**Rating:** High

In general, wilderness designation has the potential to improve water quality and quantity over time, however, such designation may extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Bald Mountain PWA.

### **Livestock**

**Rating:** Medium

Wilderness designation would not have a significant impact on livestock management in the Bald Mountain PWA, as the Wilderness Act contains provisions for the continuation of grazing where it pre-dates wilderness designation. The use of needed motorized equipment to access and maintain improvements is allowed, based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities. No issues were identified that would cause conflict with wilderness designation.

### **Timber**

**Rating:** Low

When combined with the adjacent Apache Creek A, Apache Creek B, and Juniper Mesa PWAs, this entire area could provide approximately 3,688 hundred cubic feet (CCF) of merchantable timber in the ponderosa pine vegetation type every 30-50 years. If designated as wilderness, the Forest Service would lose access to this merchantable timber along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Bald Mountain PWA.

**Minerals****Rating: High**

There are no known patented mining claims within the Bald Mountain PWA. There are also no known abandoned mines, adits, and quarries within the area. There are no indications that wilderness designation for the Bald Mountain PWA would cause any conflicts with minerals management.

**Cultural resources****Rating: Medium**

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. The Apache Creek A, Apache Creek B, and Bald Mountain PWAs contain sites but very little survey work has been done. There are no specific cultural resources issues concerning the Bald Mountain PWA being designated as wilderness.

**Land Use****Rating: High**

There are no indications that wilderness designation for the Bald Mountain PWA would cause any conflicts with the special use permit or land management programs.

**Fire****Rating: High**

Wilderness designation for the Bald Mountain PWA would have little effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

**Overall Availability****Rating: High**

The Bald Mountain PWA was rated high for availability in six resource areas, and medium in two resource areas. It was rated low for availability with regard to Timber. The total availability score was five, and Bald Mountain received an overall availability rating of high.

## Need

### Factor # 1

**Rating:** Low

**The location, size, and type of other wilderness areas 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 41 designated wilderness areas within a 100-mile radius of the Bald Mountain PWA. They range in size from 5,000 to 250,000 acres, total over 1.3 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests, the Bureau of Land Management, and the US Fish and Wildlife Service. The closest of these is the adjacent Apache Creek Wilderness to the west. There are two areas 95 to 100 miles away, and the average distance to designated wilderness is about 70 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, and Flagstaff all fall within the 100-mile radius of Bald Mountain PWA, but the Phoenix area does not. It is much closer than the average distance for wilderness from Prescott, closer than average from the Verde Valley, and slightly farther (73 miles versus 59 miles) than the average distance from Flagstaff.

Bald Mountain PWA was rated low on this factor. While it is closer than average from Prescott, it is farther than average from the underserved Flagstaff area and over 100 miles from Phoenix. It is also adjacent to the Apache Creek PWA and less than 10 miles south of the Juniper Mesa Wilderness.

### Factor # 2

**Rating:** Low

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and

approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Bald Mountain PWA was rated low on this factor. Currently there is low use in existing wilderness areas on the Prescott NF, and it is adjacent to the existing Apache Creek Wilderness. Although the additional wilderness acreage would move the Southwestern Region closer to the national average, Bald Mountain PWA is poorly located to serve anticipated increased public demand from Phoenix and Flagstaff (Forest Service 2009b).

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage,

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

#### **Factor # 4**

**Rating:** Medium

**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.**

There were no species identified in the Bald Mountain PWA that require less than primitive surrounding to survive. Four sensitive species were identified in the area that might benefit from primitive surroundings: northern goshawk, Arizona toad, lowland leopard frog, and speckled dace.

#### **Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the Forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

#### **Factor # 6**

**Rating:** High

**An area’s ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland type, Coconino Plateau

Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Bald Mountain PWA contains over 2,100 acres of Ponderosa Pine-Evergreen Oak, 172 acres of Mixed Broadleaf Deciduous Riparian Forest, and 119 acres of Interior Chaparral. There was no Coconino Plateau Woodland identified within the Bald Mountain PWA.

## **Factor # 7**

### **Public review and comment on potential wilderness areas.**

The Bald Mountain PWA was not specifically mentioned in any comments supporting wilderness, but was included in a letter from a permittee who grazes an allotment within the Bald Mountain PWA expressing opposition to wilderness. There were four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

**Rating: Low**

Bald Mountain PWA was rated high for need in one factor, medium in one factor, and low in four factors for a combined score of five out of eighteen. Bald Mountain received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Bald Mountain PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation. The ecological and scientific values associated with its ability to provide adjacent roadless habitat for a variety of



game and non-game wildlife would be maintained and many species of wildlife would benefit from the preservation of primitive surroundings, including four sensitive species. Bald Mountain PWA would also contribute acreage of three ecosystems (Ponderosa Pine-Evergreen Oak, Mixed Broadleaf Deciduous Riparian Forest, and Interior Chaparral) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. Wilderness designation for the area would prohibit motorized big-game retrieval and mountain bike use, and discontinue motorized use on approximately 1.5 miles of motorized trail. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. As noted above, designation as wilderness would help minimize disturbance to nesting habitat for nearby northern goshawk. Three other sensitive species were identified in the area that might benefit from primitive surroundings: Arizona toad, lowland leopard frog, and speckled dace. 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.

Although the natural functions of watershed systems would be maintained, the majority of the vegetation in Bald Mountain PWA is classified as piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. No range improvements were identified within the Bald Mountain PWA that would require the use of motorized equipment to access and maintain.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 2,150 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims, abandoned mines, adits, or quarries within the Bald Mountain PWA .

The Bald Mountain PWA contains cultural sites, but very little survey work has been done. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for Bald Mountain PWA does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. The prohibition on timber harvest may increase the risk of uncharacteristic wildfires, however, there are no planned mechanical treatments in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that Bald Mountain PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors are already in the area to access the existing Apache Creek Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

The economic impact from the withdrawal of mineral rights is also expected to be minimal as there is no known history of mineral extraction in the area.

More substantial impacts may be expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to merchantable timber and firewood collection areas within Bald Mountain PWA .

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Bald Mountain PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

## **Area is managed as non-wilderness**

If Bald Mountain PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Bald Mountain PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include timber harvesting, mechanical vegetation treatments, developed recreation facilities, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Bald Mountain PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Bald Mountain PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with the existing motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Bald Mountain PWA, this could mean vegetation treatments in the piñon-juniper or riparian and watershed improvement projects to restore or maintain habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Bald Mountain PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

In a non-wilderness area, mechanical vegetation treatments would be allowed. The acres of suitable timber in Bald Mountain PWA could be proposed for treatment or harvest under future management decisions. Suitable sections of the area could also be open for commercial or public firewood cutting.

Bald Mountain PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes, although as noted above, there is no known history of mineral extraction in the area.

Known cultural sites in Bald Mountain PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could

increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across 5,200 acres of piñon-juniper, and 2,150 acres of ponderosa pine. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Bald Mountain PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Bald Mountain PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

# **Black Canyon**

## **Description**

### **Acres, Location, Landforms**

The Black Canyon PWA is 9,617 acres located in the Black Hills on the Verde Ranger District. This area is characterized by a large change in elevation, starting from around 6,900 feet and dropping down to 3,500 feet within 6 miles. Black Canyon is in the Central Mountains Province, beneath the Colorado Plateau, and extends down into the Verde Valley. This unit is part of the massive landform that is referred to locally as Mingus Mountain. This large geographic feature is comprised of a fault block range that separated from the sedimentary layers of the Colorado Plateau and gave Black Canyon PWA its dramatic elevation relief. This unit is entirely within the Verde Watershed, draining directly into the Verde River.

### **Vegetation**

The Black Canyon PWA has a variety of life zones, from ponderosa pine stands on the crest of Mingus Mountain to the creosote and mesquite flats of the Verde Valley. In the lower elevations, the vegetation is primarily creosote and mesquite, and as one travels up in elevation, one can see the change to chaparral, juniper, piñon-juniper, ponderosa pine, and even a little bit of mixed conifer indicative of the Transition life zone. There are also small pockets of Douglas fir, found on north facing slopes at the very highest elevations in the unit.

### **Surroundings, Land Ownership, and Boundaries**

Most of the Black Canyon unit is within Federal ownership, with the exception of a 40-acre parcel of private land in the middle. The unit borders private land in four locations, and all of the boundaries follow roads, contours, or section lines between roads. The southwestern boundary is adjacent to the Ash Creek PWA. The unit is close to the towns of Jerome and Cottonwood, and just below the Mingus Mountain Recreation Area

### **Access, Current Uses, and Attractions**

The unit can also be accessed from the top of the area via Forest Road 132 and from the bottom via Forest Road 359, which dead ends at the trailhead for Trail # 114 Black Canyon. Backpacking, camping, hunting, photography, wildlife viewing, bird watching, and horseback riding are all activities that can, and do, occur in this unit. The unit contains at least one technical canyoneering route that requires ropes and route finding skills.

## **Capability**

### **Naturalness**

**Rating: High**

The Black Canyon PWA generally appears natural and has no significant presence of invasive species. Stream flows within the unit are unimpeded, but intermittent. It is assumed that the water quality is good, as there are no pollutant sources upstream, although no sampling has occurred. Visitors to the unit can enjoy a moderate level of dark skies as the unit sits above the towns of

Cottonwood and Jerome. Diversity within this unit is moderate due to the lack of any special status plant or animal species occurring within the area, but it does contain a variety of recreational, ecological, cultural, and scenic resources.

### **Undeveloped**

**Rating:** High

Improvements within this unit are limited, and any existing structures are likely related to historic mining and add to the supplemental values of the area. The unit generally appears natural with the imprint of people substantially unnoticeable.

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

**Rating:** High

This unit provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, hunting, wildlife viewing, scenic vistas, and canyoneering. There are six and a half miles of the Black Canyon Trail # 114 that pass through the unit. Visitors are expected to carry maps and know how to use them. With most of the unit being remote, finding solitude for visitors is not difficult in the canyons, ridges or even hilltops, although visitors can normally see civilization as they look out at the Verde Valley. With dramatic elevation loss and gain as well as some canyoneering in the unit, challenge is not hard to find.

### **Special Features and Values**

**Rating:** Medium

This unit provides dramatic views of the valley and the red rocks of Sedona for visitors inside the unit and has special scenic value for the residents of the Verde Valley who look up at the Black Canyon area from below. This unit provides a variety of environmental educational opportunities for children and adults to learn about subjects such as vegetative life zones and watersheds. The previous mining history and the presence of a variety of cultural sites also contribute to the unit's educational value. In spite of the scenic and educational values, this area was assigned a medium rating because it does not contain any documented rare or endangered species.

### **Manageability**

**Rating:** Medium

Black Canyon PWA has no cherry stems or motorized trails inside the unit and the majority of the boundary line runs along roads or natural features. There are approximately 2 miles of boundary associated with private land and two minor management issues. One issue is that one of the boundary lines runs along a motorized trail; the other issue is a 40-acre parcel of private land inside the unit. Currently, there is no legitimate motorized public access into the unit and therefore no conflict with protection as wilderness. There are very few range improvements requiring motorized access in this unit, further reducing the potential conflicts.

### **Overall Capability**

**Rating:** Medium

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Black Canyon PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 45 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix"

## **Availability**

### **Recreation**

**Rating:** Medium

The recreation opportunities in the Black Canyon PWA, backpacking, camping, hunting, photography, wildlife viewing, bird watching, horseback riding, and canyoneering, are compatible with wilderness designation. However, mountain biking and other forms of mechanized travel are prohibited in wilderness. Wilderness designation for Black Canyon PWA would mean the loss of some mountain biking opportunities in close proximity to the Cottonwood area.

### **Wildlife**

**Rating:** Medium

Black Canyon is potential foraging habitat for Mexican spotted owl and northern goshawk, and wilderness designation would limit options for implementing vegetative treatments for fuels reduction. This would increase the threat of catastrophic fire to the area and to known Mexican spotted owl and northern goshawk habitat located nearby. Although mechanical treatment methods would not be allowed, prescribed fire could be used for fuels reduction in wilderness, and designation would prohibit the development of future roads or motorized trails that could lead to further habitat fragmentation.

### **Water**

**Rating:** High

In general, wilderness designation has the potential to improve water quality and quantity over time, however, such designation may extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Black Canyon PWA.

### **Livestock**

**Rating:** Medium

Most of the Black Canyon PWA is within the Jerome allotment, which is currently not being leased, so wilderness designation would not have a significant impact on livestock management here. The use of needed motorized equipment to access and maintain improvements is allowed, based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities. No issues were identified that would cause conflict with wilderness designation.

### **Timber**

**Rating:** Medium

The combined Ash Creek and Black Canyon PWAs could provide approximately 3,984 hundred cubic feet (CCF) of merchantable timber in the ponderosa pine vegetation type every 30-50 years. However, most of the ponderosa pine vegetation type is located on the western side of the Black Hills in the Ash Creek PWA. If Black Canyon were designated as wilderness, the Forest Service would lose the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks.

**Minerals****Rating: High**

There are no known patented mining claims within the Black Canyon PWA. There are a few known abandoned mines, adits, and quarries within and adjacent to the area. There are no indications that wilderness designation for the Black Canyon PWA would cause any conflicts with minerals management.

**Cultural resources****Rating: Medium**

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

In the Ash Creek and Black Canyon PWAs, archaeological surveys have suggested a good array of prehistoric and historic sites. Smaller prehistoric sites are common in these areas, and they encompass an important resource area for the Yavapai tribe. The historic influence of mining is prevalent as evidenced by the historic community of Cherry. There are no specific cultural resources issues concerning the Black Canyon PWA being designated as wilderness.

**Land Use****Rating: High**

There are no indications that wilderness designation for the Black Canyon PWA would cause any conflicts with the special use permit or land management programs. There is a private in holding, the Nelson property, which is located near Ward Pocket in Black Canyon. There is no right-of-way or developed access to this parcel.

**Fire****Rating: Medium**

The Black Canyon PWA falls within the Black Hills Vegetation Management Plan (BHVMP). Most of this area could be treated with prescribed burns, including some areas that will require aerial ignition by helicopter. Wilderness designation would not interfere with the prescribed burning, but would inhibit the use of mechanical treatments in the future and would require special clearance for aerial ignition operations.

**Overall Availability****Rating: Medium**

The Black Canyon PWA was rated high for availability in four resource areas, and medium in five. There were no resource areas rated low. The total availability score was four, and Black Canyon PWA received an overall availability rating of medium.



## **Need**

### **Factor # 1**

**Rating:** High

**The location, size, and type of other wilderness areas 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 34 designated wilderness areas within a 100-mile radius of the Black Canyon PWA. They range in size from 5,000 to 250,000 acres, total just under 1.2 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests, and the Bureau of Land Management. The closest of these is the Woodchute Wilderness, 10 miles to the north. Four of the areas are 95 to 100 miles away, and the average distance to designated wilderness is about 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of Black Canyon PWA. It is much closer than the average distance for wilderness from Prescott and the Verde Valley, closer than average distance from Flagstaff, and farther (78 miles versus 54 miles) than the average distance from Phoenix.

Black Canyon PWA was rated high on this factor. It is less than 10 miles from most of the Verde Valley, much closer than average from Prescott, closer than average from the underserved Flagstaff area, and well within a 100-mile radius from Phoenix. It is also isolated from existing wilderness areas, with the closest, Woodchute, being 10 miles away.

### **Factor # 2**

**Rating:** High

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and

approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Black Canyon PWA was rated high on this factor. Currently there is low use in existing wilderness areas on the Prescott NF, but Black Canyon is not adjacent to any existing wilderness. Its location would allow it to serve future demand for wilderness from the Phoenix and Flagstaff areas in addition to local demand from Prescott and the Verde Valley (Forest Service 2009b). Public comments from the Verde Valley indicate interest in wilderness designation for the Black Canyon PWA. Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

(BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4**

**Rating:** Low

**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.**

There were no species identified in the Black Canyon PWA that require less than primitive surrounding to survive. No need for ecological sanctuary was identified.

**Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6**

**Rating:** High

**An area’s ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented

ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added for the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Black Canyon PWA contains over 4,400 acres of Interior Chaparral, just over 100 acres of Mixed Broadleaf Deciduous Riparian Forest, and less than 90 acres of Cottonwood Willow Riparian Forest. There was no Coconino Plateau Woodland identified within the Black Canyon PWA.

## **Factor # 7**

### **Public review and comment on potential wilderness areas.**

The Black Canyon PWA was specifically mentioned in eighteen comments of support and four comments opposed to wilderness. The comments of support were primarily from residents of the Verde Valley and included letters from the Jerome Town Council and the Town of Clarkdale. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

**Rating: Medium**

The Black Canyon PWA was rated high for need in three factors, and low in three factors for a combined score of nine out of eighteen. There were no factors rated medium. Black Canyon PWA received an overall need rating of medium. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Black Canyon PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation. The environmental

educational opportunities associated with vegetative life zones and watersheds and the area's mining history and cultural sites would be maintained, and many species of wildlife could benefit from the preservation of primitive surroundings. Black Canyon PWA would also contribute acreage of three ecosystems (Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. Wilderness designation for the area would prohibit existing mountain bike use and future motorized use, including motorized big-game retrieval. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. As noted above, it could increase the threat of catastrophic fire to the area and to known Mexican spotted owl and northern goshawk habitat located nearby by limiting options for fuel reduction treatments. 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.

Wilderness designation would help to maintain the natural functions of watershed systems in Black Canyon PWA, where almost half of the vegetation is classified as interior chaparral, a vegetation type that is closely associated with satisfactory soil conditions on the Prescott NF. However, about 20 percent of the vegetation is classified as piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Most of the Black Canyon PWA is within the Jerome allotment, which is currently not being leased, so wilderness designation would not have a significant impact on livestock management here.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 250 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims. There are a few known abandoned mines, adits, and quarries

within and adjacent to the area, and the historic influence of mining is prevalent as evidenced by the historic community of Cherry.

In Black Canyon PWA, archaeological surveys have suggested a good array of prehistoric and historic sites. Smaller prehistoric sites are common in the area, and it encompass an important resource area for the Yavapai tribe. Wilderness designation would have both positive and negative effects on the management of these cultural resources. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation does not preclude the use of wildland fire for the benefit of the resource, however, Black Canyon PWA falls within the Black Hills Vegetation Management Plan (BHVMP). Most of this area could be treated with prescribed burns, including some areas that will require aerial ignition by helicopter. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be required for aerial ignition operations. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. Because Black Canyon would be a separate wilderness area, it could be expected to add about 5,000 additional wilderness visits, based on the average annual visits per wilderness on the Prescott NF (Forest Service 2009c). Its economic impact from outdoor recreation is expected to be minimal.

There are no known patented mining claims in Black Canyon PWA, but it does have a history of mineral extraction. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to merchantable timber and firewood collection areas within Black Canyon PWA .

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy

lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Black Canyon PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

## **Area is managed as non-wilderness**

If Black Canyon PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Black Canyon PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include timber harvesting, mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Black Canyon PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Black Canyon PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with the existing motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities, although options could be limited due to access issues. New road construction to improve access is unlikely as much of the Black Canyon PWA overlaps with the Black Creek Inventoried Roadless Area.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Black Canyon PWA, this could mean vegetation treatments for fuels reduction to decrease the threat of catastrophic fire to nearby Mexican spotted owl and northern goshawk habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Black Canyon PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

Black Canyon PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in Black Canyon PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across almost 2,000 acres of piñon-juniper, 250 acres of ponderosa pine, and almost 4,500 acres of interior chaparral. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Black Canyon PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Black Canyon PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.



# **Blind Indian Creek**

## **Description**

### **Acres, Location, Landforms**

The 32,338 acre Blind Indian Creek PWA is located in the southwestern portion of the Prescott NF, south of Prescott, north of Wickenburg and west of Crown King. The unit is within the central Bradshaw Mountains and is characterized by rugged topography and very steep slopes. The elevation in the unit ranges from 3,500 to 7,100 feet. The Bradshaw Mountains are composed of a granite core that welded onto the continent 1.8 billion years ago and the soil composition is mixed metamorphosed granite, schist and alluvial sediment. Blind Indian Creek PWA is within the Hassayampa River watershed and significant geologic features in the unit include Horse Mountain, Longfellow Ridge, Maidenhead Canyon and numerous springs that allow for a wide diversity of wildlife in the area.

### **Vegetation**

The vegetation types in this unit range from upland Sonoran desert at the southern reaches of the unit, through interior chaparral and piñon-juniper woodlands in the heart of the unit, to ponderosa pine forest at the highest elevations and in the drainages. Upland Sonoran desert vegetation is uncommon on the Prescott NF, and Blind Indian Creek PWA contains ocotillo on the limestone lakebed deposits of south facing slopes and desert willow and mesquite in the drainages. There are a variety of seeps and springs supporting riparian vegetation across all of the life zones on the unit.

### **Surroundings, Land Ownership, and Boundaries**

The unit is completely within Federal ownership. It borders private land in four locations for a total of about two and a half miles. The remainder of the boundary follows roads or motorized trails.

### **Access, Current Uses, and Attractions**

The primary access route to the Blind Indian Creek PWA is Senator Highway (Forest Road 52), which runs along the entire eastern edge of the unit. Senator Highway is the primary route between the city of Prescott and the community of Crown King and can be accessed from the Mayer/Goodwin area via County Road 177. The western half of the unit follows FR 82A in Crooks Canyon and requires four-wheel drive. The primary use in Blind Indian Creek occurs on six motorized trails, all of which are classified as single-track motorcycle trails.

### **Capability**

#### **Naturalness**

**Rating:** High

Blind Indian Creek PWA generally appears natural and has no significant populations of invasive species. Numerous free flowing springs can be found in the unit. Visitors to the unit enjoy a high level of dark skies as the unit is in the heart of the Bradshaw Mountains separated from cities and

towns by the surrounding topography. It is assumed that the water quality is good, although no sampling has occurred. There is a high level of diversity within this unit due to the large elevation profile. The area also contains habitat for two special status species, Mexican spotted owl and lowland leopard frog, as well as two unique plants, Yavapai claret-cup cactus and netted globecherry. Blind Indian Creek was rated high for naturalness based on the diversity of ecological factors and wildlife habitats, the lack of significant invasive species, and the relative isolation of the area.

### **Undeveloped**

**Rating:** Low

Although a majority of the unit is in a natural condition with limited human disturbance, there is a 171-acre fuel break on Longfellow Ridge. This area is part of the Prescott NF's fire management plan for preventing large catastrophic wildfires from threatening the City of Prescott and the communities directly south of town. This fuel break and the associated management activities in the northern portion of the Blind Indian Creek Potential Wilderness significantly detract from the undeveloped character of the unit.

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

**Rating:** High

This unit provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, hunting, wildlife viewing, scenic vistas, and cross-country bushwhacking. There are fifteen miles of multi-use motorized trail in the unit providing for outstanding opportunities for recreation. The assumption in this analysis is if the unit were to become wilderness, these trails would be managed for non-motorized and non-mechanized travel. The area is remote and the trails are extremely primitive, adding to the challenge associated with use in the area. Visitors are expected to carry maps and know how to use them. Finding solitude is not difficult in the canyons, ridges or even hilltops of this unit due to its remote location.

### **Special Features and Values**

**Rating:** High

This unit has special scenic value from the top of Longfellow Ridge, where a visitor has to try very hard to find evidence of human habitation in the surrounding areas. Natural views extend south to the Bureau of Land Management's Hassayampa River Canyon Wilderness. To the east and west, visitors see the Bradshaw Mountains, and to the north, the south slopes of Mt. Union and Big Bug Mesa. This unit could provide a variety of educational opportunities for both young children and adults to learn about vegetative life zones, watersheds, and cultural history. The Minnehaha Creek area was one of the historic centers of activity during the mining era and Senator Highway along the eastern boundary was the old wagon road from Crown King to Prescott.

### **Manageability**

**Rating:** Low

The manageability of the Blind Indian Creek PWA is compromised by two primary resource conflicts. The first, as described above, is the fire suppression projects that have been implemented in the area and the second is the presence of fifteen miles of motorized trails that have been in use for decades.

**Overall Capability****Rating: Low**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Blind Indian Creek PWA rates a low for overall capability to support wilderness character and provide a wilderness experience as it scored 28 out of a possible 57 points. It rated high on three of the five aspects, but low on the remaining two and it lost additional points due to the motorized trails within the unit. Motorized use has a significant effect on its potential for wilderness designation since motorized equipment is not allowed in wilderness. It was determined that this use is incompatible with wilderness character and that Blind Indian Creek PWA should not receive further evaluation for wilderness designation. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

## **Castle Creek**

### **Description**

#### **Acres, Location, Landforms**

The 4,925 acre<sup>\*</sup> Castle Creek PWA is located in the southern portion of the Prescott NF, southwest of Crown King, north of Black Canyon City and west of the Sunset Point Rest Area on Interstate-17. The unit is within the Agua Fria River watershed in the southern Bradshaw Mountains and is characterized by rugged topography and very steep slopes. The elevation in the unit ranges from 2,800 to 4,200 feet. It shares a boundary with the 25, 215 acre Castle Creek Wilderness to the west and adjoins a 10,000-acre Bureau of Land Management Black Canyon Creek parcel that has been allocated through the BLM's Resource Management Plan as "Manage for Wilderness Character". The Bradshaw Mountains are composed of a granite core and the Castle Creek area is part of the suture zone. This is where the Yavapai Volcanic Arc welded onto the continent, creating a variety of interesting geologic formations related to the compression, twisting, and turning of rocks during this process. Because of this, the Castle Creek area is heavily mineralized.

#### **Vegetation**

The vegetation communities range from Sonoran desert scrub up to dense interior chaparral above 3,400 feet. The steep drainages contain riparian vegetation consisting of velvet ash, desert willow, red willow and Fremont cottonwood. This unit has the classic attributes of the upland Sonoran desert, with palo verde and mesquite trees as well as saguaro and barrel cactus.

#### **Surroundings, Land Ownership, and Boundaries**

Castle Creek PWA unit is completely within Federal ownership. The unit completely surrounds a 20-acre parcel of private land in the northern portion of the unit and bounds a large piece of private land on three sides in the same location. The boundary adjoins the Castle Creek Wilderness on the west side, the national forest boundary on the east.

#### **Access, Current Uses, and Attractions**

Castle Creek PWA is accessed primarily from the community of Cleator, located on the road to Crown King and from the BLM lands in the Black Canyon Creek area. There is trail access from the existing wilderness along the Castle Creek Trail # 239. Attractions in the unit include a 50-foot waterfall on Castle Creek. Immediately adjacent to the unit is a section of the Black Canyon Trail alignment, which is popular with equestrian, hiking, and mountain bike users in the winter months. Quail hunting is also an activity that has been observed in this unit.

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<sup>\*</sup> Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

## **Capability**

### **Naturalness**

**Rating:** High

Castle Creek PWA generally appears natural and has no significant populations of invasive species. Where and when the creek flows, it is free flowing with no impoundments. Visitors to the unit can enjoy a moderate level of dark skies as the unit sits above Black Canyon City and is approximately 60 miles from downtown Phoenix. It is assumed that the water quality is good, although no sampling has occurred. There is a high level of diversity within this unit due to one recorded unique plant species, and it is assumed that the unit does contain habitat for Morafka's desert tortoise and lowland leopard frog. The Castle Creek PWA was rated high for the variety of recreational, ecological, cultural, and scenic resources that it contains.

### **Undeveloped**

**Rating:** Medium

There are very limited improvements within this unit and any old structures or evidence of previous human alteration of the landscape would most likely be related to the historic mining and ranching in the area. The unit generally appears natural, with the imprint of people substantially unnoticeable. FR 684 accesses the unit from the east, but it is a technical four-wheel drive route. It was used to maintain livestock management facilities, but they are no longer used and are in various states of disrepair. It is not included in the Prescott NF Motor Vehicle Use Map, so motorized use of the road is currently prohibited.

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

**Rating:** High

Castle Creek PWA provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, hunting, wildlife viewing, scenic vistas, and canyoneering. There are approximately 2 miles of trail within the unit. Visitors are expected to carry maps and know how to use them. With most of the unit being remote, finding solitude for visitors is not difficult in the canyons, although visitors can catch glimpses of Interstate 17 and even hear it when the wind blows just the right direction. With dramatic elevation loss and gain, as well as some polished canyons in the unit, challenge is not difficult to find.

### **Special Features and Values**

**Rating:** High

Castle Creek PWA has special scenic value for the residents of Black Canyon City and provides for dramatic views from Sunset Point rest area. The previous mining history and presence of a variety of cultural sites lend to the supplemental value of the unit. The ecological value of this unit, when combined with the adjacent protected lands on the BLM and the existing Castle Creek Wilderness, creates a high value landscape. This unit also contains habitat for four sensitive species, giving it a high rating for rare or unique species: Morafka's desert tortoise, Gila monster, lowland leopard frog, and longfin dace.

### **Manageability**

**Rating:** High

Castle Creek PWA has no motorized trails inside the unit. There are approximately 2 miles of its boundary associated with private land, and the remainder its boundary is made up of roads,

natural features, and the forest boundary. Managing the unit as wilderness would not be overly difficult due to the rugged topography, however, there is a 20-acre private in holding that does not have an access road. Currently, there is no legitimate motorized access into the unit and therefore no conflict with protection as wilderness. There are very few range improvements requiring motorized access in this unit, further reducing the potential conflicts.

### **Overall Capability**

**Rating: High**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Castle Creek PWA rates a high for overall capability to support wilderness character and provide a wilderness experience as it scored 51 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

### **Availability**

#### **Recreation**

**Rating: High**

Recreation in the Castle Creek PWA is generally compatible with wilderness designation. There is one non-motorized trail in the unit that crosses over into the existing Castle Creek Wilderness. The primary recreation opportunities are hunting, horseback riding, wildlife viewing, backpacking, and hiking. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Castle Creek PWA.

#### **Wildlife**

**Rating: High**

Castle Creek PWA encompasses habitat for three sensitive species—lowland leopard frog, Gila monster, and Morafka’s desert tortoise. Wilderness designation for this area would maintain the habitat in a less disturbed state. In addition, designation would preclude the development of future roads or motorized trails that cause habitat fragmentation and disrupt travel corridors. However, restrictions on motorized use could cause negative impacts by limiting options for vegetation and fuels treatments.

#### **Water**

**Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time, however, such designation may extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Castle Creek PWA area.

#### **Livestock**

**Rating: High**

Wilderness designation would not have a significant impact on livestock management in the Castle Creek PWA, as the Wilderness Act contains provisions for the continuation of grazing where it pre-dates wilderness designation. The use of needed motorized equipment to access and

maintain improvements is allowed, based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities. No issues were identified that would cause conflict with wilderness designation.

### **Timber**

**Rating:** High

There are no indications that wilderness designation for the Castle Creek PWA would cause any conflicts with forestry or timber management.

### **Minerals**

**Rating:** Low

There are a number of known patented mining claims within the Castle Creek PWA, including a private in holding. There are a few abandoned mines, adits, and quarries shown on the map within and adjacent to the area, but it has not been inventoried for Abandoned Mine Lands (AML) features. There are no valid surface occupancy leases within these areas, but there are active unpatented mining claims in eight sections that overlay the area. There is potential for conflict between minerals management and wilderness designation in the Castle Creek PWA.

### **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. There are no specific cultural resources issues concerning the Castle Creek PWA being designated as wilderness.

### **Land Use**

**Rating:** Medium

Castle Creek PWA area has a number of areas that have been labeled “Federal Energy Regulatory Commission (FERC) withdrawal”. However, it was also subsequently noted that the “FERC withdrawal” had been withdrawn. It is unknown if there is any impact from these withdrawals, or the withdrawal of the withdrawals, on wilderness designation.

### **Fire**

**Rating:** High

Wilderness designation for the Castle Creek PWA would have no effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

## **Overall Availability**

**Rating: High**

Castle Creek PWA was rated high for availability in six resource areas, and medium in two resource areas. It was rated low for availability with regard to Minerals. The total availability score was five, and Castle Creek received an overall availability rating of high.

## **Need**

### **Factor # 1**

**Rating: Medium**

**The location, size, and type of other wilderness areas 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 45 designated wilderness areas within a 100-mile radius of the Castle Creek PWA. They range in size from 5,000 to 250,000 acres, total over 1.6 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the Castle Creek Wilderness to the west. There are four areas 95 to 100 miles away, and the average distance to designated wilderness is about 65 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of Castle Creek PWA. It is closer than the average distance for wilderness from Prescott, the Verde Valley, and Phoenix and farther (77 miles versus 59 miles) than the average distance from Flagstaff.

Castle Creek PWA was rated medium on this factor. While it is closer than average from Prescott, the Verde Valley, and the Phoenix area, it is farther than average from the underserved Flagstaff area. It is also adjacent to the Castle Creek Wilderness.

### **Factor # 2**

**Rating: Medium**

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the



increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Castle Creek PWA was rated medium on this factor. Currently there is low use in existing wilderness areas on the Prescott NF, and Castle Creek PWA is adjacent to the existing Castle Creek Wilderness. The location of Castle Creek PWA would allow it to serve future demand for wilderness from the Phoenix area in addition to local demand from Prescott and the Verde Valley (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that are classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

#### **Factor # 4**

**Rating:** Medium

**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.**

There were no species identified in the Castle Creek PWA that require less than primitive surrounding to survive. Three sensitive species were identified in the area that might benefit from primitive surroundings: lowland leopard frog, Gila monster, and the desert tortoise.

#### **Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new Wilderness to address capacity issues.

**Factor # 6****Rating: High****An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added for the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Castle Creek PWA contains over 1,200 acres of Interior Chaparral and just over 100 acres of Cottonwood Willow Riparian Forest. There was no Coconino Plateau Woodland identified within the Castle Creek PWA.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Castle Creek area was specifically mentioned in two comments of support but was not specifically mentioned in any comments opposed to wilderness. The Arizona Wilderness Coalition expressed strong support for the designation of Castle Creek PWA as wilderness. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D "Factor #7".

**Overall Need****Rating: Medium**

Castle Creek PWA was rated high for need in one factor, medium in three factors, and low in two factors for a combined score of nine out of eighteen. Castle Creek received an overall need rating of medium. More information about the rating process is available in appendix D.

## Effects of Recommendation

### Area is designated as wilderness

If Castle Creek PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Castle Creek Wilderness. The environmental educational opportunities associated with vegetative life zones and the area's mining history and cultural sites would be maintained, and many species of wildlife could benefit from the preservation of primitive surroundings, including four sensitive species. Castle Creek PWA would also contribute acreage of two ecosystems (Interior Chaparral and Cottonwood Willow Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on Castle Creek PWA; there is one non-motorized trail in the unit and bicycle use is not prevalent. However, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. Three sensitive species were identified in the area that might benefit from primitive surroundings: lowland leopard frog, Gila monster, and Morafka's desert tortoise. 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.

Although the natural functions of watershed systems would be maintained, about 40 percent of the vegetation in Castle Creek PWA is classified as semi-desert grassland, a vegetation type that has been determined to be severely departed from its desired state and is closely associated with impaired soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. No range improvements were identified within the Castle Creek PWA that would require the use of motorized equipment to access and maintain.

If designated as wilderness, no timber sales or firewood cutting would be permitted. This would have little effect on Castle Creek PWA as it contains no land deemed suitable for timber production. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, patented mining claims would be grandfathered if in existence prior to wilderness designation. There are a few abandoned mines, adits, and quarries shown on the map within and adjacent to the area, but it has not been inventoried for Abandoned Mine Lands (AML) features.

Castle Creek PWA has not had a comprehensive archaeological inventory, however, it can be reasonably expected to contain prehistoric sites and it is known to contain historic sites related to mining. Wilderness designation would have both positive and negative effects on the management of these cultural resources. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for Castle Creek PWA does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. . It is estimated that Castle Creek PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors are already passing through the area to access the existing Castle Creek Wilderness. Its economic impact from outdoor recreation is expected to be minimal.

Patented mining claims in existence prior to wilderness designation would still be allowed, however the area would be withdrawn from further claims. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of

motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects.

The economic impact from the prohibition on timber harvesting is also expected to be minimal as there are no suitable timber lands in Castle Creek PWA.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Castle Creek PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If Castle Creek PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

#### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Castle Creek PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Castle Creek PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

#### *Effects on non-wilderness resources and uses*

If Castle Creek PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities, although options could be limited due to access issues as the area is situated between the Castle Creek Wilderness and a Bureau of Land Management parcel that is managed for wilderness character.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Castle Creek PWA, this could mean vegetation treatments or prescribed burning in the grasslands or interior chaparral to improve wildlife habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Castle Creek PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and

associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

Castle Creek PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in Castle Creek PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and perform prescribed burns. This fuel reduction and prescribed burning could be implemented across 1,200 acres of interior chaparral and over 1,900 acres of grasslands. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Castle Creek PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Castle Creek PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

## **Cedar Bench**

### **Description**

#### **Acres, Location, Landforms**

These two PWAs, Cedar Bench A and Cedar Bench B, were combined for this description because of their similarities and close proximity. Cedar Bench A PWA (1,932 acres) and Cedar Bench B PWA (602 acres) \* are separated by one four-wheel drive road (FR500) and are located in the far eastern part of the forest, south of Camp Verde and west of the Verde River. They are adjacent to the 14,950-acre Cedar Bench Wilderness to the west. These units are completely within the Verde River Watershed in the southern end of the Verde Valley, and are characterized by steep northeast facing slopes from the Brown Springs Road (FR547) up to the Cedar Bench Wilderness boundary. The elevation in the unit ranges from 3,400 to 5,000 feet. These units are half-way up the Verde Rim, which is the crest between the Verde River and Agua Fria Watersheds. Significant geologic features in the area include tertiary basalts above and below the Verde Rim, and the Verde Formation, a chalky limestone lakebed deposit in the valley. The canyons in this area expose layers more consistent with the Colorado Plateau, such as the Redwall and Martin Limestone and Tepeats Sandstone. At one time, this area was connected to the Colorado Plateau, but has faulted away to create the Verde Valley. In the bottoms of these canyons, visitors find basement rocks, granites, schist, and banded iron formations that were formed before the landmass of Arizona even existed.

#### **Vegetation**

The vegetation consists primarily of piñon-juniper woodland interspersed with chaparral, with larger oaks down in the canyons. In the lowest elevations, ocotillo can be found in isolated pockets on limestone soils. Catclaw acacia and mesquite trees are common just outside the riparian areas, and the boulder-strewn canyons provide suitable conditions for Arizona sycamore and smaller riparian trees such as cottonwood, willow, and ash. These sycamores are able to withstand the intense floods produced in these steep rocky canyons, whereas the classic riparian species normally found in sandy soils do not do as well.

#### **Surroundings, Land Ownership, and Boundaries**

The unit is completely within Federal ownership. On the northern end of the Cedar Bench A PWA, the boundary adjoins private land for a couple hundred yards. On the southern end, the boundary that separates Cedar Bench A and B PWAs is an old four-wheel drive route (FR500) that is used to access livestock facilities. The remainder of the boundaries are along the Brown Springs Road (FR 574), Cedar Bench Wilderness, and FR 9206J, which accesses private land and trail #542.

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\* Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.



## **Access, Current Uses, and Attractions**

Vehicular access to these units is via FR 574, FR500, or FR9206J. Visitors can also walk through this unit on the Chasm Creek Trail #164 for 2 miles before reaching the Cedar Bench Wilderness. The main attraction in Cedar Bench A PWA is the box canyon along Chasm Creek that holds water most of the year. This provides swimming opportunities and excellent birding due to the proximity to the Verde River. Hunting for elk, bear, and deer is also popular in portions of the area. Hunting in this rugged landscape provides unique challenges and rewards for those willing to hike. Horseback riding, wildlife viewing, geology explorations, backpacking, and hiking are popular activities here as well.

## **Capability**

### **Naturalness**

**Rating:** Medium

The Cedar Bench PWAs generally appear natural and have no significant populations of invasive species. The creeks flow with no impoundments and visitors to these PWAs can enjoy a moderate level of dark skies as they sit above Camp Verde. It is assumed that the water quality is good, as there are no pollutant sources upstream, although no sampling has occurred. There is diversity within these units with potential habitat for lowland leopard frog, black hawks, and native fish. Cedar Bench A PWA has a couple miles of Chasm Creek in it and Cedar Bench B PWA shares a boundary with the existing wilderness along Gap Creek. Both of these creeks contain pockets of perennial water and a variety of riparian vegetation species. These PWAs were rated medium for naturalness due to the variety of recreational, ecological, and cultural resources that they contain.

### **Undeveloped**

**Rating:** High

Improvements within these PWAs are limited and any old structures or evidence of previous human alteration of the landscape would most likely be related to the historic ranching in the area. The PWAs generally appear natural, with the imprint of people substantially unnoticeable.

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

**Rating:** High

These units provide a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, hunting, wildlife viewing, scenic vistas, and easy canyoneering. There are approximately 2 miles of trail within the unit. Visitors are expected to carry maps and know how to use them. With most of the unit being remote, finding solitude for visitors is not difficult in the canyons. Although the lights of Camp Verde can be visible at night, most visitors can enjoy a feeling of remoteness from civilization during the day. The low visitation and boulder-strewn creek bottoms provide many opportunities for both challenge and solitude.

### **Special Features and Values**

**Rating:** Medium

These units have scenic value for the residents of Camp Verde and the Verde Valley. The geologic history of these adjacent PWAs provides for excellent educational and scientific opportunities. Gap Creek has been explored by geologists who found Banded Iron formations that were created over 2 billion years ago. These PWAs, the immediate uplands around these areas,

and the adjacent protected lands, present a unique opportunity for protecting riparian and wildlife resources. Although these PWAs contain some outstanding geological features, there are no known rare or unique plants or animals within them.

### **Manageability**

**Rating: High**

Cedar Bench A and B PWAs have no motorized trails and no private land within the boundaries. More than half of the boundary adjoins the existing wilderness, and the other parts of the boundary occur along roads on steep slopes that prevent motorized intrusion. Currently, there is no legitimate motorized recreation access into the PWAs and therefore no conflict with protection as wilderness. There are very few or no range improvements that would require motorized access in this unit, further reducing the potential motorized conflicts.

### **Overall Capability**

**Rating: Medium**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that both the Cedar Bench A and B PWAs rate a medium for overall capability to support wilderness character and provide a wilderness experience. Each of them scored 48 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”

### **Availability**

#### **Recreation**

**Rating: High**

Recreation in the Cedar Bench PWAs is generally compatible with wilderness designation. There is one two-mile, non-motorized trail in Cedar Bench A PWA that crosses over into the existing Cedar Bench Wilderness. The primary recreation opportunities are hunting, horseback riding, wildlife viewing, geology explorations, backpacking, and hiking. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Cedar Bench PWAs.

#### **Wildlife**

**Rating: Medium**

The watershed lies above the habitat for the Verde River Razorback sucker, and wilderness designation would maintain limited soil disturbance in the area above this habitat. In addition, designation would preclude the development of future roads or motorized trails that cause habitat fragmentation and disrupt travel corridors for some wildlife species. However, restrictions on motorized use could cause negative impacts by limiting options for vegetation and fuels treatments. Limiting these options could limit opportunities for watershed improvement for listed fish species such as the Verde River Razorback sucker.

#### **Water**

**Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time, however, such designation may extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on

trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Cedar Bench PWAs.

### **Livestock**

**Rating:** High

Wilderness designation would not have a significant impact on livestock management in the Cedar Bench A and B PWAs, as the Wilderness Act contains provisions for the continuation of grazing where it pre-dates wilderness designation. The use of needed motorized equipment to access and maintain improvements is allowed, based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities. No issues were identified that would cause conflict with wilderness designation.

### **Timber**

**Rating:** Medium

There is no direct conflict between timber management and wilderness designation in the Cedar Bench PWAs. However, wilderness designation would restrict the ability to use mechanical methods to reduce tree density for the benefit of other functions such as wildlife habitat (namely, pronghorn antelope) and rangeland. Designation would also restrict the opportunities for fuelwood harvest in the Cedar Bench PWAs.

### **Minerals**

**Ratings:** Medium & High

There are no known patented mining claims within the Cedar Bench PWAs. There are also no known abandoned mines, adits, and quarries within the area, although it has not been inventoried for Abandoned Mine Lands (AML) features. There is one active unpatented mining claim within Cedar Bench A PWA, near Table Mountain. Consequently, wilderness designation for the Cedar Bench A PWA may have to accommodate an active claim, although it may be possible to do this through a boundary adjustment. Wilderness designation for the Cedar Bench B PWA would not cause any foreseeable conflicts with minerals management. Cedar Bench A PWA was rated medium for this resource due to the uncertainty of accommodating the active claim. Cedar Bench B PWA was rated high because it did not have any conflicts with this resource.

### **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. There are no specific cultural resources issues concerning the Cedar Bench PWAs being designated as wilderness.

## **Land Use**

**Rating:** High

There are no indications that wilderness designation for the Cedar Bench PWAs would cause any conflicts with the special use permit or land management programs.

## **Fire**

**Rating:** Medium

The Cedar Bench PWAs are being considered for treatments that would improve pronghorn antelope habitat. Treatments would focus on areas with less than 25% slope, and entail cutting trees and brush, followed by prescribed burning. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be required for aerial ignition operations.

## **Overall Availability**

**Ratings:** Medium & High

The Cedar Bench A PWA was rated high for availability in four resource areas, and medium in five. There were no resource areas rated low. The total availability score was four and it received an overall availability rating of medium.

The Cedar Bench B PWA was rated high for availability in five resource areas, and medium in four. There were no resource areas rated low. The total availability score was five and it received an overall availability rating of high.

## **Need**

### **Factor # 1**

**Rating:** Medium

**The location, size, and type of other wilderness areas 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 36 designated wilderness areas within a 100-mile radius of the Cedar Bench A and B PWAs. They range in size from 5,000 to 250,000 acres, total over 1.2 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the adjacent Cedar Bench Wilderness to the west. There are five areas 95 to 100 miles away, and the average distance to designated wilderness is about 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of the Cedar Bench A and B PWAs. They are closer than the average distance for

wilderness from Prescott, the Verde Valley, and Flagstaff and farther (65 miles versus 54 miles) than the average distance from Phoenix.

Cedar Bench A and B PWAs were rated medium on this factor. They are closer than average from Prescott, the Verde Valley, and the underserved Flagstaff area, but farther than average from Phoenix. They are also adjacent to the Cedar Bench Wilderness and 10 miles north of the Pine Mountain Wilderness.

## **Factor # 2**

**Rating:** Medium

### **Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Cedar Bench A and B PWAs were rated medium on this factor. Currently there is low use in existing wilderness areas on the Prescott NF, and Cedar Bench A and B are adjacent to the existing Cedar Bench Wilderness. Because they are adjacent, they provide an opportunity to expand the capacity of the Cedar Bench Wilderness to serve future demand for Wilderness from the Phoenix and Flagstaff areas in addition to local demand from Prescott and the Verde Valley (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

**Factor # 3****Rating:** Low**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of National Forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five National Forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4****Rating:** Low**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.**

There were no species identified in the Cedar Bench PWAs that require less than primitive surrounding to survive. No need for ecological sanctuary was identified.

**Factor # 5****Rating:** Low**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low Wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any Wilderness on the Forest, primarily due to ease of access from Prescott, and accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new Wilderness to address capacity issues.

**Factor # 6****Ratings:** Low & Medium**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Region Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added for the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Cedar Bench A PWA contains 264 acres of Interior Chaparral. Cedar Bench B PWA does not contain any acres of Interior Chaparral and only an insignificant amount of Mixed Broadleaf Deciduous Riparian Forest (12 acres). There was no Coconino Plateau Woodland identified within either PWA. Cedar Bench A was rated medium on this factor due to the presence of over 100 acres of Interior Chaparral. Cedar Bench B had no under-represented acres and received a rating of low.

## **Factor # 7**

### **Public review and comment on potential wilderness areas.**

The Cedar Bench area was not specifically mentioned in any comments supporting or opposing Wilderness. There were four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

### **Overall Need**

### **Rating: Low**

The Cedar Bench A PWA was rated medium for need in three factors and low in three factors for a combined score of six out of eighteen. There were no factors rated high. Cedar Bench A received an overall need rating of low.

The Cedar Bench B PWA was rated medium for need in two factors and low in four factors for a combined score of four out of eighteen. There were no factors rated high. Cedar Bench B received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Cedar Bench A PWA or Cedar Bench B PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Cedar Bench Wilderness. The ecological value associated with the immediate uplands around these areas would be maintained and many species of wildlife could benefit from the preservation of primitive surroundings. Cedar Bench A PWA would also contribute acreage of an ecosystem (Interior Chaparral) that is under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on the Cedar Bench PWAs; there is only one two-mile, non-motorized trail in Cedar Bench



A PWA, and bicycle use is not prevalent in either unit. Wilderness designation for the area would have little effect on current recreation users, however, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. The watershed lies above the habitat for the Verde River razorback sucker, and wilderness designation would maintain limited soil disturbance in the area above this habitat. 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.

Although the natural functions of watershed systems would be maintained, about two-thirds of the vegetation in the Cedar Bench PWAs is classified piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. The use of motorized equipment to access and maintain the improvements located within the wilderness would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. This would have little effect on the Cedar Bench PWAs as they contains no land deemed suitable for timber production. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there is one active unpatented mining claim within Cedar Bench A PWA, near Table Mountain. Consequently, wilderness designation for the Cedar Bench A PWA may have to accommodate an active claim, although it may be possible to adjust the boundary to place the claim outside of the wilderness.

The Cedar Bench PWAs have not had a comprehensive archaeological inventory, although they can be reasonably expected to contain prehistoric and historic sites given their proximity to water and mineral resources. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation does not preclude the use of wildland fire for the benefit of the resource, however, the Cedar Bench PWAs are being considered for treatments that would improve pronghorn antelope habitat. Treatments would entail cutting trees and brush, followed by prescribed burning. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be

required for aerial ignition operations. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that the Cedar Bench PWAs would receive little in the way of new visitation if designated as wilderness because many of the visitors are already passing through the area to access Cedar Bench Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

Patented mining claims in existence prior to wilderness designation would still be allowed, with the remaining area withdrawn from further claims. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects.

The economic impact from the prohibition on timber harvesting is also expected to be minimal as there are no suitable timber lands in the Cedar Bench PWAs.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for either of the Cedar Bench PWAs would help to maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If either of the Cedar Bench PWAs were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of the area could be diminished by incompatible management activities. Reasonably foreseeable examples include mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the area. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If either of the Cedar Bench PWAs were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In the Cedar Bench PWAs, this could mean vegetation treatments in the piñon-juniper to improve wildlife habitat or watershed improvement projects to restore or maintain habitat for the razorback sucker.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in the Cedar Bench PWAs could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

The Cedar Bench PWAs would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in the Cedar Bench PWAs would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and perform prescribed burns. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing either of the Cedar Bench PWAs as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of either of the Cedar Bench PWAs for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

## **Connell Mountains**

### **Description**

#### **Acres, Location, Landforms**

The Connell Mountains PWAs contains 9,975 acres of widely varying topography and geology on the Chino Valley Ranger District, southwest of Camp Wood and north of the Sheridan Mountain Roadless Area. Elevations range from 6,416 feet at the summit of Stinson Mountain, down to 5,120 feet in Cottonwood Wash. Cottonwood Wash and Stinson Wash are both intermittent drainages, although the area does contain the headwaters of the Santa Maria River and a number of springs and tanks provide water for local use. The Connell Mountains, along the western edge of the PWA, are the most distinctive feature and they are a part of the Santa Maria Mountains, which form a tentative boundary line between the geographical provinces of the Transition Zone and the Basin and Range.

#### **Vegetation**

Perennial streams and numerous seeps and springs are found throughout this area and provide diversity in flora and fauna. Vegetation types include chaparral in the lower elevations, ponderosa in the higher elevations, and areas of dense riparian vegetation, such as walnut, cottonwood and sycamore, in the drains and stream channels. The ponderosa pines in the area constitute some of the last stands of old growth on the Prescott NF and the area is also well known for monarch alligator juniper which are over 1,200 years old.

#### **Surroundings, Land Ownership, and Boundaries**

The PWA is completely within Federal ownership. The boundary of the PWA was derived from the existing Inventoried Roadless Area (IRA) boundary. In some locations, the PWA boundaries were extended beyond the IRA and moved out to existing roads. The PWA is bounded by Camp Wood Road (County Road 68) to the north, Forest Roads 9879B and 705 to the east, Forest Road (FR) 665 to the south, and FR702 to the west.

#### **Access, Current Uses, and Attractions**

Access to the PWA is via Camp Wood Road (CR68) to FR705 or FR702. There are also three different motorized trails traversing the unit. If the area was eventually designated as wilderness, these trails would become non-motorized and non-mechanized and use would be limited to hiking and horseback riding. Hunting and off-highway vehicle (OHV) riding are the primary recreation uses in the unit. Hunters come looking for large bull elk and mountain lions, while OHV enthusiasts come for a more primitive motorized experience along trails that are rough and far from civilization.

## **Capability**

### **Naturalness**

**Rating:** High

The Connell Mountains PWA generally appears natural and has no significant populations of invasive species. The creeks flow with no impoundments and visitors to the PWA can enjoy a high level of dark skies as it is far from major urban centers. It is assumed that the water quality is good, as there are no pollutant sources upstream, although no sampling has occurred. There is a high level of diversity within this PWA, including five plants that have been categorized as unique, although none are considered sensitive or in need of special management. Some creeks in the PWA contain pockets of perennial water and a variety of riparian vegetation species. The Connell Mountains PWA was rated high for the variety of recreational and ecological resources that it contains.

### **Undeveloped**

**Rating:** High

There are a limited number of improvements within this PWA, and any old structures or evidence of previous human alteration of the landscape is most likely related to current or historic ranching in the area. The PWA generally appears natural, with the imprint of people substantially unnoticeable. This rating does not take into account the presence of approximately twelve miles of motorized trail. If the area were designated as wilderness, these trails would be converted to hiking or horse use.

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

**Rating:** High

This PWA provides a variety of excellent recreation opportunities including hiking, horseback riding, backpacking, hunting, wildlife viewing, and scenic vistas. The area's remoteness is a factor in its abundance of solitude. Human habitation is hard to spot from this unit and allows visitors to have a truly wild experience. There are approximately twelve miles of multi-use trail throughout the unit.

### **Special Features and Values**

**Rating:** Medium

The small stands of old growth ponderosa pine and monarch alligator juniper in this PWA are outstanding features, and there are opportunities for educational and scientific use based on these resources. Four unique plant species have been identified in the area: Arizona groundsel, ciliate rockdaisy, rough draba, and Broadleaf lupine. These plants can only be found in certain areas of Arizona, but all four occur in the Connell Mountains, as can the lowland leopard frog, a Forest Service Southwestern Region Sensitive Species and a species classified by the Arizona Game and Fish Department as Wildlife of Special Concern.

### **Manageability**

**Rating:** Low

The Connell Mountains PWA would be difficult to manage considering the long history of motorized use in the area. This is the largest factor in determining if the PWA could move forward to be evaluated for availability. There are approximately twelve miles of designated multi-use/motorized trails within the PWA.

**Overall Capability****Rating: Low**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Connell Mountains PWA rates a low for overall capability to support wilderness character and provide a wilderness experience as it scored 27 out of a possible 57 points. It rated high on three of the five aspects, but low on manageability and it lost additional points due to the motorized trails within it. Motorized use has a significant effect on its potential for wilderness designation since motorized equipment is not allowed in wilderness. It was determined that this use is incompatible with wilderness character and that the Connell Mountains PWA should not receive further evaluation for wilderness designation. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”.

# **Fritsche**

## **Description**

### **Acres, Location, Landforms**

The Fritsche PWAs, totaling 35,588 acres, are located on the Chino Valley Ranger District, north of Paulden and west of State Highway 89, across from the Drake Cement facility. Fritsche A, C, and D PWAs were separated into three units in the inventory phase because there are roads shown on the current Motor Vehicle Use Map (MVUM) that separate them. However, it has been determined that the map is incorrect and that the boundaries should be reconsidered if the area were recommended as potential wilderness. The Fritsche B PWA is northeast of the Fritsche A, C, and D PWAs and is separated from them by Forest Road 573, which runs up the bottom of Limestone Canyon.

The origins of the name Fritsche are uncertain, but one possibility is that the name was derived from the town of Fritsche located in Big Chino Wash on the west side of Big Black Mesa. It was a community with a post office from 1913 to 1918, but there are no existing remains of this town.

The area is characterized by flat rolling mesas, rugged topography, and narrow limestone-walled canyons. The Fritsche PWAs rest on the dividing line between the Transition Zone and the Colorado Plateau Geographic Provinces. Big Black Mesa is a prominent feature across the units, with elevations that range from 4,800 to 6,082 feet. The most notable geologic feature is Limestone Canyon, the boundary between Fritsche B PWA from the other PWAs to the west. Redwall Limestone is visible throughout the PWAs, especially in Hell Canyon and its tributaries. Here, it is capped by the younger Supai Group, which contains red shale that leaches down onto the Redwall Limestone and gives it its color and name. There are also much younger areas where basalt caps can be found on top of all of the layers.

### **Vegetation**

The piñon-juniper woodland is the dominate ecosystem type in these PWAs, but there are thickets of chaparral, containing manzanita and shrub live oak, on north facing slopes in the higher elevations and grassland stretching out into the Big Chino Valley in the lower elevations. Thickets of Arizona cliffrose and skunk bush are also found throughout the unit, as well as agave, whipple cholla, and prickly pear cactus. Some of the Utah junipers found in these PWAs are quite large and a few ponderosa pines can be found with the riparian vegetation along the bottom of Hell Canyon. There are seven unique plants in the units, including one of special concern. The Tusayan (Western) flame flower is listed as a species of concern under the Endangered Species Act (ESA) and as salvage restricted by the State of Arizona.

### **Surroundings, Land Ownership, and Boundaries**

All of the Fritsche PWAs are completely within Federal ownership. The boundary has been expanded from the existing Inventoried Roadless Area (IRA) boundary, making it larger. The western PWAs, Fritsche A, C, and D, are bordered by Forest Road 573 on the east and private and State land on the north and west. The southern boundary follows four-wheel drive spur roads,



contour lines, and about 3 miles of private land along section lines. Overall, there are five different cherry-stemmed roads, ranging from ½ mile to 3 miles, in Fritsche A, C, and D PWAs.

Fritsche B PWA is bordered by forest roads on all sides but the north. The northern edge is defined by the forest boundary and approximately 2 miles of railroad grade in the northeast corner of the PWA. There are two cherry-stemmed roads in Fritsche B: FR172, which is cherry-stemmed for 4.4 miles into the PWA, and FR9900C, which is cherry-stemmed for 0.8 of a mile. Along the eastern boundary of the PWA, the boundary follows private land for about 1.5 miles.

### **Access, Current Uses, and Attractions**

Access to the PWAs is via State Highway 89 to FR 573 or from Big Chino Road to FR330. A one-mile long non-motorized trail connects the bottom of a canyon to the top of Big Black Mesa. The primary recreational users are hunters of elk, deer, javelina, and quail.

Some visitors use FR573 in Limestone Canyon to view the 30-foot tall historic limestone kiln that was used to make bricks for Jerome during its heyday. An old railroad grade associated with this kiln, remnants of the Santa Fe, Prescott, and Phoenix Railway, winds up the canyon, crossing numerous times from one side to the other. It enters Fritsche B PWA from the south and travels through the unit for 5 or 6 miles, passing three old tanks used for the steam engines of the time. The grade was listed on the National Register of Historic Places in 1994 and visitors exploring the past can see both historic and prehistoric artifacts throughout the PWA.

Other uses in the area include heavy fuel woodcutting and livestock grazing. The top of Big Black Mesa has large Utah juniper trees, making the poaching of live juniper a common occurrence in this area.

### **Capability**

#### **Naturalness**

**Rating:** High

The Fritsche PWAs generally appear natural and have no significant populations of invasive species. Water is uncommon in the area; there are no creeks and few springs or seeps. Water does flow in Hell Canyon during periods of heavy rain or snowmelt and there is enough subsurface water to support riparian vegetation. Visitors to the PWAs can enjoy a high level of dark skies as they are far from major urban centers. There is also a high level of diversity within these PWAs—seven unique plants, one of which is considered sensitive or in need of special management, and another of which might belong to a new taxonomic group. Although the ecological and cultural resources are significant, the variety of resources is limited by the slight change in elevation across these units.

#### **Undeveloped**

**Rating:** Medium

Most of the Fritsche PWAs are undeveloped, and the imprint of people is substantially unnoticeable. However, there are some improvements to provide water in the area - four earthen stock tanks and two Arizona Game and Fish Department trick tanks. There is also a high level of wood cutting, both legal and illegal, that occurs along the roads on Big Black Mesa. This activity has an impact on the wilderness character of the area.

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

**Ratings:** Medium & High

Currently, recreation use consists mainly of hunting, cultural site exploration, and off-highway vehicle (OHV) riding. Opportunities for some other types of recreation are limited; there is only 1 mile of trail and no reliable water sources. However, there are outstanding opportunities for challenge and solitude in the many dry canyons of the area. Fritsche A and B PWAs were rated high for solitude, Fritsche C and D PWAs were rated medium because they are more accessible from Paulden and the Big Chino Valley than Fritsche A and B PWAs.

## **Special Features and Values**

**Ratings:** Medium & High

The special values of the Fritsche PWAs include the natural beauty of the Big Black Mesa escarpment and the benefit that they provide to watershed health. The geography of these PWAs is unique, and provides educational opportunities that are as accessible as the roadside on State Highway 89. The fault that forms the Big Chino Valley marks the point where the Colorado Plateau ends and the Transition Zone begins. From here, the Colorado Plateau extends north to the San Juan Mountains in Colorado and the Uinta Mountains in Utah.

The Redwall Limestone, found here on the surface, forms a 500-foot tall wall half the way down the Grand Canyon. This large chunk of permeable limestone also contributes to the recharge of the Verde River Basin aquifer.

The Fritsche B PWA has special cultural and vegetative resources. The historic railroad and prehistoric sites add significant value for exploration and preserving unique features found nowhere else. The five different unique plants and one species of concern add ecological value for scientific research and possibly even educational purposes associated with these plants and the historic railroad. Hell Canyon is a significant feature, but it is not being rated outstanding as the canyon becomes even more pronounced downstream before its confluence with the Verde River. The Fritsche B PWA was rated higher based on the presence of these additional cultural and biological features.

## **Manageability**

**Ratings:** Low & Medium

The top of Big Black Mesa in Fritsche C and D PWAs would be difficult to manage as wilderness unless the existing roads were closed at points where the topography limits cross-country travel. The cherry-stemmed roads would need special management to ensure that non-wilderness uses such as woodcutting did not extend into the wilderness. There is a long history of legal and illegal wood cutting in the area, and it would be difficult to curtail in the flat juniper woodlands. Fritsche A PWA would also be difficult to manage; however, the existing roads are on the edges of the unit as opposed to splitting the area, as does FR 174 through the center of Fritsche C and D PWAs.

The Fritsche B PWA would be less difficult to manage, as most of the area is strewn with large boulders and the location of existing roads discourages illegal cross-country travel. In addition, unlike the Fritsche PWAs to the west, this area has seen less woodcutting because of its ruggedness. However, the existing Arizona Game and Fish Department wildlife water sources would need to be removed, as they would not be permitted in a designated wilderness area.

The Fritsche A and B PWAs were rated medium on manageability, the C and D PWAs were rated low.

## **Overall Capability**

## **Ratings: Low & Medium**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that the Fritsche A and B PWAs rate a medium for overall capability to support wilderness character and provide a wilderness experience. Fritsche A PWA scored 44 out of a possible 57 points, and Fritsche B PWA scored 47 out of a possible 57 points.

Fritsche C and D PWAs were excluded from further evaluation due to a lack of wilderness character. Each of them scored 39 out of a possible 57 points. Although these areas do support rare plants and animals and the biodiversity and naturalness of these areas were rated high, there is evidence of human disturbance from firewood collection and management issues with illegal firewood collection. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”.

## **Availability**

### **Recreation**

### **Rating: High**

Recreation use in the Fritsche A and B PWAs consists primarily of hunting, cultural site exploration, and off-highway vehicle (OHV) riding. Wilderness designation would have little effect on this OHV use because the roads in the area have been cherry-stemmed outside of the potential wilderness and cross-country travel or travel off the designated routes is already prohibited. They biggest impact would be on motorized use for game retrieval, which would also be prohibited.

### **Wildlife**

### **Rating: Low**

Designation as wilderness would impose restrictions on motorized use that could cause negative impacts by limiting options for vegetation and fuels treatments for habitat improvement. Mechanical vegetation treatment is the most viable option to improve habitat and watershed conditions and to restore a fire-adapted ecosystem in the Fritsche A and B PWAs because there are not enough fine fuels to carry a fire. Designation would also interfere with the maintenance of two wildlife water improvements located in Fritsche B PWA. Motorized access to these trick tanks would be prohibited, as would the use of motorized equipment for maintenance. Depending on the extent of the improvements, they may have to be removed entirely before designation.

### **Water**

### **Rating: High**

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Fritsche A and B PWAs.

**Livestock****Rating:** Medium

Fritsche A PWA has two earthen stock tanks that would require maintenance and the associated access to these improvements. Fritsche B PWA has two earthen tanks included in the buffers for FR172 and FR9900C and two additional earthen tanks with associated access roads that would require maintenance. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

**Timber****Rating:** Low

The Fritsche A and B PWAs could provide approximately 70,000 cords of fuelwood in the piñon-juniper vegetation type every 30-50 years. If designated as wilderness, the Forest Service and the public would lose access to this fuelwood, along with the ability to maintain historic tree density levels through thinning in the piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Fritsche A and B PWAs.

**Minerals****Rating:** High

There are no known patented mining claims within the Fritsche A and B PWAs. There are also no known abandoned mines, adits, and quarries within the area. There are no indications that wilderness designation for the Fritsche A and B PWAs would cause any conflicts with minerals management.

**Cultural resources****Rating:** Low

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. The Fritsche A and B PWAs are of extreme archaeological importance because of their juxtaposition to Big Chino Wash and the Mogollon Rim country to the north. Though we only have minimal data for the Fritsche PWAs, we know that site density is likely to be high. Fritsche B PWA also has a historical 19<sup>th</sup> century railroad grade that is listed on the National Register of Historic Places.

**Land Use****Rating:** Medium

Fritsche A PWA has an Arizona Game and Fish Department trick tank under special use permit that is included in the buffer for FR174A. Fritsche B PWA has two Arizona Game and Fish

Department trick tanks under special use permit that are not buffered along existing roads. Wilderness designation would prohibit motorized access and maintenance associated with these tanks and might require that the improvements be removed altogether.

## **Fire**

**Rating: High**

Wilderness designation for the Fritsche A and B PWAs would have no effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

## **Overall Availability**

**Rating: Low**

The Fritsche A and B PWAs were rated high for availability in four resource areas, and medium in two resource areas. They were rated low for availability with regard to Wildlife, Timber, and Cultural resources. The total availability score for each was one, and they each received an overall availability rating of low.

## **Need**

### **Factor # 1**

**Rating: High**

**The location, size, and type of other wilderness areas 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 36 designated wilderness areas within a 100-mile radius of the Fritsche A PWA and 32 areas within the radius of Fritsche B PWA. They range in size from 5,000 to 250,000 acres, total just over 1.1 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these are the Juniper Mesa Wilderness, which is 20 miles southwest of Fritsche A PWA, and the Woodchute Wilderness, which is 25 miles southeast of Fritsche B PWA. Fritsche A PWA has six areas 95 to 100 miles away, and the average distance to designated wilderness is about 70 miles. Fritsche B PWA has four areas 95 to 100 miles away, with an average distance to designated wilderness of about 65 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, and Flagstaff all fall within the 100-mile radii of Fritsche A and B PWAs, but the Phoenix area does not. They are both much closer than the average

distance for wilderness from Prescott and the Verde Valley, and they are closer than average from Flagstaff.

Fritsche A and B PWAs were both rated high on this factor. They are closer than average from Prescott, the Verde Valley, and the underserved Flagstaff area, but over 100 miles from Phoenix. They are also isolated from existing wilderness areas, with the closest being 20 to 25 miles away.

## **Factor # 2**

**Rating:** Medium

### **Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Fritsche A and B PWAs were rated medium on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, but Fritsche A and B PWAs are not adjacent to any existing wilderness. Their location would allow them to serve future demand for wilderness from the Flagstaff areas in addition to local demand from Prescott and the Verde Valley, but they are poorly located to meet anticipated future demand from Phoenix (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

**Factor # 3****Rating:** Low**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4****Ratings:** Low & Medium**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.**

There were no species identified in the Fritsche A and B PWAs that require less than primitive surrounding to survive. Fritsche A PWA contains a unique botanical area with five sensitive plant species. No need for ecological sanctuary was identified in Fritsche B PWA. Fritsche A PWA was rated medium on this factor due to the presence of sensitive plant species. Fritsche B PWA had no identified sensitive species and received a rating of low.

**Factor # 5****Rating:** Low**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Rating:** High**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Fritsche A PWA contains over 7,100 acres of Coconino Plateau Woodland, and Fritsche B PWA contains over 15,500 acres of it. There were no under-represented ecosystem types identified within either PWA.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Fritsche PWAs were specifically mentioned in two comments of support but was not specifically mentioned in any comments opposed to wilderness. There were also four



general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

## **Ratings: Low & Medium**

Fritsche A PWA was rated high for need in two factors, medium in two factors, and low in two factors for a combined score of ten out of eighteen. Fritsche A PWA received an overall need rating of medium.

Fritsche B PWA was rated high for need in two factors, medium in one factor, and low in three factors for a combined score of eight out of eighteen. Fritsche B PWA received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If either Fritsche A PWA or Fritsche B PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide opportunities for solitude or primitive and unconfined recreation. The unique geological features and the benefits that they provide to watershed health and aquifer recharge would be maintained, and many species of wildlife could benefit from the preservation of primitive surroundings. In addition, Fritsche A PWA also contains a unique botanical area with five sensitive plant species that contributes to its ecological and scientific value. Fritsche A PWA and Fritsche B PWA would both contribute acreage of a landform type (Coconino Plateau Woodland) that is under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. Wilderness designation for the area would have little effect on legal off-highway vehicle (OHV) recreation because the roads in the area have been cherry-stemmed outside of the potential wilderness, and cross-country travel off of designated routes is already prohibited. Bicycle use is not prevalent in either unit, however, hunting is a primary use and the prohibition on motorized use for game retrieval could have a noticeable impact on users. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. Designation would interfere with the maintenance of two wildlife water improvements located in Fritsche B PWA. Motorized access to these trick tanks would be prohibited, as would the use of motorized equipment for maintenance, as wildlife water improvements are not subject to the exceptions for range improvements outlined in the Congressional Grazing Guidelines. New improvements and habitat enhancements would be rare and would be authorized only to protect and improve management of the wilderness resource.

Although the natural functions of watershed systems would be maintained, almost all (84 to 95 percent) of the vegetation in the Fritsche PWAs is classified piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Fritsche A PWA contains two earthen stock tanks that would require maintenance and Fritsche B PWA has two earthen tanks included in the buffers for FR172 and FR9900C and two additional earthen tanks with associated access roads that would require maintenance. The use of motorized equipment to access and maintain these improvements would be allowed, based on a rule of practical necessity and reasonableness.

Neither of the Fritsche PWAs contain lands deemed suitable for timber production, however, the vegetation is suitable for public and commercial fuelwood cutting. If designated as wilderness, no timber sales or firewood cutting would be permitted; only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims, abandoned mines, adits, or quarries within the Fritsche PWAs.

As previously noted, even though Fritsche A and B PWAs have not had comprehensive archaeological inventories, they are expected to contain a high density of cultural sites based on their location. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for Fritsche A and B PWAs does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. There are no plans to construct fuel breaks or control lines by mechanical means in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. Because either of the Fritsche PWAs would be a separate wilderness area, either one could be expected to add about 5,000 additional wilderness visits, based on the average annual visits per wilderness on the Prescott NF (Forest Service 2009c). The economic impact from outdoor recreation is expected to be minimal.

The economic impact from the withdrawal of mineral rights is also expected to be minimal as there is no known history of mineral extraction in the area.

More substantial impacts may be expected from the restrictions and prohibitions associated with livestock grazing. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects.

The economic impact from the prohibition on timber harvesting is also expected to be minimal as there are no suitable timber lands in the Fritsche PWAs. However, it is estimated that Fritsche A and B PWAs could provide approximately 70,000 cords of fuelwood in the piñon-juniper vegetation type every 30-50 years. If designated as wilderness, this could represent a potential future loss of commercial fuelwood sales revenue and revenue from the sale of public firewood cutting permits.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for either of the Fritsche PWAs would help to maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If either of the Fritsche PWAs were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of the area could be diminished by incompatible management activities. Reasonably foreseeable examples include

fuelwood cutting, mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the area. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If either of the Fritsche PWAs were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities, although options in Fritsche A PWA could be limited due to access issues. New road construction to improve access is unlikely as much of the Fritsche A PWA overlaps with the Fritsche Inventoried Roadless Area.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. Mechanical vegetation treatment is the most viable option to improve wildlife habitat in the Fritsche PWAs because there are not enough fine fuels to carry a fire. There would also be no restrictions on the use of motorized equipment to access, repair, install, or maintain wildlife water improvements.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in the Fritsche PWAs could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

The Fritsche PWAs would be open to mineral development except where specifically withdrawn or restricted for other purposes, although as noted above, there is no known history of mineral extraction in the area.

Known cultural sites in the Fritsche PWAs would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing either of the Fritsche PWAs as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of either of the Fritsche PWAs for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

# **Granite Mountain**

## **Description**

### **Acres, Location, Landforms**

The Granite Mountain PWA is 10,386 acres, about seven miles northwest of Prescott on the Bradshaw Ranger District. It is adjacent to the existing 10,000 acre Granite Mountain Wilderness, separated only by non-motorized trails. The entire area is comprised of rugged, small hills of granite, schist, and younger basalt rock sand within the Transition Zone Geographic Province and straddling the watershed divide between the Verde and Santa Maria Rivers. The beautiful granite boulders strewn through the unit add to the significant natural beauty of the area.

### **Vegetation**

This Granite Mountain PWA is thought to contain some of the largest alligator junipers in the world. The vegetation is a combination of piñon-juniper and chaparral vegetation types. The chaparral is comprised of manzanita, mountain mahogany, scrub live oak, Arizona White oak, and emery oak. There are also large patches of prickly pear cactus and agave. The numerous small springs in the washes support cottonwood and velvet ash and at lower elevation in the large washes, walnut is the primary species.

### **Surroundings, Land Ownership, and Boundaries**

The PWA is completely within Federal ownership. The PWA is bordered by forest roads, an active railroad line, motorized trails, private land, and the Granite Mountain Wilderness. There are no cherry-stemmed roads or irregular boundaries, but along the western, northern, and eastern sides, there are approximately 7 miles of boundary along private land.

### **Access, Current Uses, and Attractions**

Access to the PWA is via County Road 66 to FR40, the Tin Trough Springs Trail #308 off Williamson Valley Road (County Road 5), or Little Granite Mountain Trail #37 off Iron Springs Road. Trail use is the primary activity in the area as there are 16 miles of non-motorized trail within the PWA and another 20 miles in the immediate vicinity. Horseback riding is the most popular, with hiking, and mountain biking occurring as well. A fair amount of dispersed camping occurs in and around the unit, but very little backpacking, as most campers stay near their vehicles. Opportunities for bird watching, wildlife viewing, educational activities, and hunting deer and javelina are also found in the area.

The PWA is actively grazed and there are numerous spring and earthen tanks throughout the unit. There are almost 11 miles of existing road inside the PWA that are not slated for closure, but were not included in the Motor Vehicle Use Map. Off-highway vehicles and full size vehicles still use many of these roads for hunting, camping, woodcutting, and access to existing trails.

## **Capability**

### **Naturalness**

**Rating:** Medium

The Granite Mountain PWA generally appears natural and has no significant populations of invasive species. The springs and creeks are free flowing, when there is water, and it is assumed that the water quality is good, although no sampling has occurred. Visitors to the PWA experience a moderate level of dark skies, as the unit is not far from Prescott, Chino Valley, and the Williamson Valley area. There is only a moderate level of diversity within this PWA, as there are no unique/sensitive plants or animals. There are isolated riparian areas and large alligator junipers, but these do not significantly contribute to the biological diversity. The Granite Mountain PWA was rated moderate for the variety of resources that it contains as it does have a mix of natural habitat types and vegetation, but it lacks an outstanding level of diversity.

### **Undeveloped**

**Rating:** Medium

The Granite Mountain PWA is primarily undeveloped, but it does contain a variety of range improvements, old and existing roads, and an active railroad on its boundary.

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

**Rating:** Medium

Recreation is the primary use of this PWA as described above. With many miles of trail and different boulder piles and washes to explore, a visitor can find a high level of challenge and self-reliance, if desired. Solitude is easy to find, as the numerous trails distribute users across the landscape and provide for a low level of user contact. The recreational opportunities include backpacking, hiking, horseback riding, and rock climbing.

### **Special Features and Values**

**Rating:** Medium

The Granite Mountain PWA has outstanding scenery from within the unit. Visitors here look into the existing wilderness at the spectacular rock formations and boulder piles. Looking out to the north yields spectacular views of Juniper Mesa and Sheridan Mountain, and to the west lies the Weaver Mountains and Kirkland Peak. There are opportunities for scientific research and educational opportunities, but most people choose to use the existing Granite Mountain Wilderness for these activities. In spite of the scenic features, Granite Mountain PWA was rated medium for this category because there are no known sensitive or unique species in the unit.

### **Manageability**

**Rating:** Low

Granite Mountain PWA would be difficult to manage due to the existing and planned uses in the area. Prohibiting mountain bikes on trails where they are currently allowed would be difficult. A number of mixed-use trails have been planned in the area, and they are inconsistent with wilderness management. There is also a motorized trail planned for the western side of this unit, and 10 miles of existing road that are legal motorized travel routes.

**Overall Capability****Rating: Low**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Granite Mountain PWA rates a low for overall capability to support wilderness character and provide a wilderness experience as it scored 39 out of a possible 57 points. Although the opportunities for challenge and solitude were rated high, its bio-diversity was rated average and it does not support any documented rare plants or animals. Existing recreation use in the area, including bicycles and motorized use, would make management as wilderness difficult. The proliferation of bicycle use on the trails in the area has a significant effect on its potential for wilderness designation since mechanized conveyances are not allowed in wilderness. It was determined that this use is incompatible with wilderness character and that Granite Mountain PWA should not receive further evaluation for wilderness designation. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”.



## **Grief Hill**

### **Description**

#### **Acres, Location, Landforms**

Grief Hill PWA consists of 16,447 acres on the Verde Ranger District, south of Cottonwood and west of Interstate 17. Grief Hill is part of the Black Hills Range in Arizona's Transition Zone Geographic Province and encompasses a watershed divide between the Verde and Agua Fria Rivers. Elevation within the PWA ranges from 3,100 feet in the canyons, up to 5,725 feet on the summit of Onion Mountain. Other geographic features located within the PWA include Hull Hill and Table Mountain; Gaddis, Boulder, and CF Canyons; Cherry Creek, Hull Spring, and Indian Spring.

#### **Vegetation**

The PWA has a vegetative covering of piñon and juniper shrub, with areas of semi-desert grassland. There is riparian vegetation in the canyons associated with springs and seeps.

#### **Surroundings, Land Ownership, and Boundaries**

The Grief Hill PWA is completely within Federal ownership, and approaches, but does not border, private land. The boundary meanders alongside Cherry Creek and Cherry Road (County Road 75) on the north side of the unit. It is bounded on the south by State Highway 169 and Interstate 17. On the east side it follows Grief Hill Wash and on the west, Buckbed Wash. There are eight cherry-stemmed roads, ranging from 0.25 to 3 miles long, which lead into the PWA.

#### **Access, Current Uses, and Attractions**

The area can be accessed from the south by State Highway 169, from the west and north by County Road 75, and from the east by Forest Road 9603. Interstate 17 forms the south boundary of the area; however, there are no interchanges providing direct access to Grief Hill. Visitors can access the central part of the PWA from the south via Forest road 9603F.

### **Capability**

#### **Naturalness**

**Rating:** Medium

The Grief Hill PWA is natural appearing in many locations, but previous management activities in the more accessible areas have affected the naturalness of the unit. There are no known populations of invasive species, although being bounded by a State highway and an interstate make the introduction of invasive species likely. The springs and creeks are free flowing when there is water and it is assumed that the water quality is good, although no sampling has occurred. Visitors to the unit experience a moderate level of dark skies, as the unit is not far from Dewey and Prescott Valley to the west and the Verde Valley to the north and east. There is a moderate level of diversity within this PWA, as there are no unique or sensitive plants or animals. Grief Hill was also rated moderate overall on the variety of resources that it contains as it does provide

some recreation opportunities and contains under-represented grassland ecosystem types, but it lacks an outstanding level of diversity.

### **Undeveloped**

**Rating:** Medium

The interior of Grief Hill it is mostly undeveloped, with a few range improvements for livestock. Development around the edges of the PWA includes a communications tower, Interstate 17, and eight cherry-stemmed roads for access to livestock tanks. Many of these improvements can be seen from inside the unit.

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

**Rating:** Medium

The rugged basalt ground in most of the unit makes cross-country travel, whether by foot or on horseback, extremely challenging. There are opportunities for solitude in some areas of the PWA, but visitors will most likely hear sounds of civilization from the interstate on the southern end of the unit. There opportunities for recreation were deemed moderate, with one trail that travels from the lower elevations to the top.

### **Special Features and Values**

**Rating:** Medium

The semi-desert grassland ecosystem in the Grief Hill PWA is under-represented in the National Wilderness Preservation System, comprising only 2.5% of the total of designated wilderness in the continental United States. However, there are no known Federally listed species in the area. The road up Grief Hill has cultural significance as the historic road between Camp Verde and Fort Whipple, and the whole area provides a scenic backdrop that is important to the residents of the Verde Valley.

### **Manageability**

**Rating:** Low

The Grief Hill PWA would be difficult to manage due to the eight roads that access the range improvements. These roads would be cherry-stemmed outside of the boundary, but they would still degrade the wilderness character of the PWA. It would also be difficult to prevent illegal access from these roads. In addition, the planned expansion of Interstate 17 would increase the noise level on the southern boundary, further degrading the wilderness character and intruding upon the opportunity for solitude.

### **Overall Capability**

**Rating:** Low

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Grief Hill PWA rates a low for overall capability to support wilderness character and provide a wilderness experience as it scored 37 out of a possible 57 points. The opportunities for solitude, isolation, and primitive or unconfined recreation were rated average due to the proximity of Interstate 17 on the southern boundary of the area. The biodiversity and naturalness of the area were also rated average and the area does not support any documented rare plants or animals. It was determined that Grief Hill PWA should not receive further evaluation for wilderness designation. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix".

# Hyde Mountain

## Description

### Acres, Location, Landforms

The 6,168 acre Hyde Mountain PWA is approximately 30 miles northwest of Prescott, along the southern border of the existing Apache Creek Wilderness. It is located in the Santa Maria Mountains, in the Central Mountains Transition Zone Geographic Province, and it divides the Santa Maria and Verde River Watersheds. Elevations range from 7,200 feet atop Hyde and Camp Wood Mountains to 5,600 ft along Stringtown Wash in the east, with much of the PWA above 6,000 feet. It also contains a number of springs and seeps that are valuable water sources for cattle and wildlife.

### Vegetation

Piñon-juniper and chaparral plant communities comprise the majority of the vegetation in the unit. Stands of ponderosa pine, with an understory of Gambel oak, dominate in the higher elevations, and mature stands of ponderosa pine can be found in the drainages. Monarch Alligator Junipers are common throughout the PWA.

### Surroundings, Land Ownership, and Boundaries

The PWA is completely within Federal ownership. On the eastern and northern sides, the boundaries run along FR 95B and 19 and the southern edge of the Apache Creek Wilderness. To the west, the boundary is defined by FR 9, and along the south, it follows Camp Wood Road (County Road 68) and section lines just outside Camp Wood.

### Access, Current Uses, and Attractions

Access to this unit is via Williamson Valley Road (County Road 5) to Camp Wood Road (CR 68). There are three multi-use motorcycle trails in the PWA: Hyde Mountain Trail #6, Hyde Mountain Trail #5, and Grapevine Springs Trail #9825. These trails are popular for hikers, equestrians, and motorcyclists wanting to visit the top of Hyde Mountain. The unit also contains the Hyde Mountain Lookout, which is on the National Register of Historic Places

## Capability

### Naturalness

**Rating:** High

There is a high degree of naturalness in this unit due to its remote nature. There are a few perennial springs and it is assumed that the water quality is good, although no sampling has occurred. The mix of plant and animal species associated with the change in elevation increases the biological diversity in the PWA, and invasive plant species have not been noted in the area, although the inventory is incomplete. There have been prescribed burns performed in an effort to return natural fire regimes to the area. These projects have contributed to the reestablishment of a natural state in the PWA. Overnight visitors enjoy beautiful views of the stars with little to no

impact from urban light pollution. There is a high variety of recreational, biological, and cultural resources within the PWA.

### **Undeveloped**

**Rating:** Low

The most significant development in the PWA unit is the historic lookout tower atop Hyde Mountain. There are also facilities associated with a Forest Service radio repeater in the PWA.

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

**Rating:** High

This PWA has rates high for outstanding opportunities for solitude and primitive and unconfined recreation. Bears, mountain lions, and turkeys all present the visitor with an outstanding natural experience. The topography of the PWA provides for numerous opportunities for solitude and challenge both on and off the established trails. Hunting is not common, although bear, mountain lion, and turkey can all be found in the PWA. Most visitors come for the hiking, horseback riding, and motorcycling opportunities. Equestrian users enjoy the area, as it has available water for horses. In the past 10 years it has been common for people to use FR 95B in the PWA as an equestrian and hiking trail because it has become impassable to vehicles.

### **Special Features and Values**

**Rating:** High

Ecologically, the presence of water in the various springs and creeks make this area a refuge for wildlife, and it provides connectivity to other habitats for many game and non-game species. These include mule deer, elk, black bear, mountain lion, javelina, and northern goshawk - a Forest Service Southwestern Region Sensitive Species. The area is also locally unique because it includes some of the Prescott NF's higher elevation habitats. The Forest Service has a strong historical presence in the area in the form of the Walnut and Camp Wood work centers and Hyde Mountain Lookout. The lookout was constructed in 1936 and it is considered a good example of Civilian Conservation Corps construction methods. The lookout has not been used for well over 10 years and is in need of repair.

### **Manageability**

**Rating:** Low

This unit has approximately seven and a half miles of motorized trails, including approximately 5 miles of motorcycle trail. The overall manageability is directly associated with these motorized trails, and would be rated moderate if the trails did not exist. According to guidance from the Southwestern Regional Office (Forest Service 2007), some consideration can be given to closure of roads to improve the wilderness character of an area. In this instance, the closure of FR 95A and FR 95B would allow an expansion of Apache Creek Wilderness by over 10,000 acres, including the Bald Mountain PWA, the Apache Creek Adjacent A PWA, and a portion of the Hyde Mountain PWA that does not support motorized use. These three PWAs are currently separated by FR95A and FR95B, which are reportedly impassible other than by foot, horse, or motorcycle.

**Overall Capability****Rating: Low**

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Hyde Mountain PWA rates a low for overall capability to support wilderness character and provide a wilderness experience as it scored 35 out of a possible 57 points. It rated high on three of five aspects, but low on both undeveloped and manageability and it lost additional points due to the motorized trails within the unit. Motorized use has a significant effect on its potential for wilderness designation since motorized equipment is not allowed in wilderness. It was determined that this use is incompatible with wilderness character and that Hyde Mountain PWA should not receive further evaluation for wilderness designation. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”.

# Juniper Mesa

## Description

### Acres, Location, Landforms

Juniper Mesa PWA is 4,891 acres\* bordering the south side of the existing Juniper Mesa Wilderness in the Juniper Mountains, approximately 32 miles northwest of Prescott. It lies completely within the upmost reaches of the Verde River Watershed in the Central Mountains Transition Zone Geographic Province and encompasses the Juniper Mesa Escarpment. Elevation ranges from 6,200 feet at the existing wilderness boundary to about 5,200 feet on the southern boundary. The geology in the unit includes the lower portions of the Redwall Limestone and the Tepeats Sandstone. There are also some more recent basalts scattered in the lowest elevations.

### Vegetation

Ponderosa pine mixed with a Gambel oak understory can be found in the higher elevations, but the majority of the PWA is covered with piñon-juniper Monarch alligator juniper, Emery white oak, and Arizona white oak are all common throughout the PWA.

### Surroundings, Land Ownership, and Boundaries

The PWA is completely within Federal ownership. The northern boundary is adjacent to the existing Juniper Mesa Wilderness, while the southern boundary is along private lands and Walnut Creek Road (County Road 125). The eastern boundary follows the multi-use Military Trail #1 and the western boundary is adjacent with the forest boundary.

### Access, Current Uses, and Attractions

Visitors access this PWA from Walnut Creek Road (CR 125) through the Walnut Creek area. There are three non-motorized trails that pass through the PWA and on into the existing wilderness.

Primary recreational uses in the area include hunting, hiking, horseback riding, backpacking, birding, wildlife viewing, and rock climbing on the Tepeats Sandstone cliffs. Hunting opportunities include elk, turkey, and bear, and the scenic views from the top of the mesa over to the Apache Creek Wilderness are unsurpassed.

### Capability

#### Naturalness

**Rating:** High

The remote nature of this PWA contributes to its high degree of naturalness. Invasive plant species have not been noted in the area, although the inventory is incomplete. None of the major drainages has perennial water, but a few ephemeral springs hold water year-round during wet

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\* Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

periods. Overnight visitors enjoy beautiful views of the stars with little to no impact from urban light pollution. The pockets of old growth ponderosa pine in George Wood Canyon and other drainages are uncommon on the Prescott NF.

### **Undeveloped**

**Rating:** High

The southern portion of the PWA has a history of juniper treatments, but they are substantially unnoticeable and the area is returning to a natural condition. There are no earthen stock tanks for grazing operations inside the PWA, but there is a developed water source that was built in cooperation with the Arizona Game and Fish Department. The improvements are small and a common occurrence with wilderness areas in the southwest.

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

**Rating:** High

This PWA has outstanding opportunities for challenging and primitive recreation activities. The rock climbing routes in the area require skill and experience to identify and ascend, and access to them entails a long and difficult approach. Equestrian users have access to water for their horses in a few locations, and all trail users can cross through the unit to access the Juniper Mesa Wilderness. Solitude and isolation are not difficult to find among the drainages and ridges.

### **Special Features and Values**

**Rating:** High

The PWA is of geologic interest as it includes recent basalt flows and older features marking the great unconformity between the granitic basement rocks and the sedimentary rocks of the Colorado Plateau. The geology also contributes significantly to the recharge of the Big Chino Aquifer, and helps to maintain flows in Walnut Creek and the Verde River.

Ecologically, this PWA is home to a wide range of game and non-game species. Lowland leopard frog and Arizona toad are two species in the area that are on the Forest Service Southwestern Region Sensitive Species list. The drainages also support possible habitat for the northern goshawk. Game species in the PWA include black bear, mule deer, javelina, turkey, and elk.

### **Manageability**

**Rating:** High

This unit has no motorized trails inside its boundaries and management of this unit for wilderness character would be easily accomplished due to the topography. A 300 foot setback for the boundaries with private land would facilitate management and appropriate fire mitigation efforts.

### **Overall Capability**

**Rating:** High

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Juniper Mesa PWA rates a high for overall capability to support wilderness character and provide a wilderness experience as it scored 54 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”.

## **Availability**

### **Recreation**

**Rating:** High

Recreation in the Juniper Mesa PWA is generally compatible with wilderness designation. There are three trails in the unit, all of them are non-motorized and cross over into the existing Juniper Mesa Wilderness. The primary recreation opportunities are hunting, hiking, horseback riding, backpacking, birding, and wildlife viewing. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Juniper Mesa PWA.

### **Wildlife**

**Rating:** Medium

In general, wilderness designation could have both positive and negative effects on wildlife management. Positive effects include prohibiting the development of future roads or motorized trails that could lead to further habitat fragmentation and disruption of travel for some wildlife species. Restrictions on motorized use could cause negative impacts by limiting options for implementing vegetative treatments for wildlife habitat, watershed improvement for aquatic habitat and fuels reduction for habitat protection. Wilderness designation for the Juniper Mesa PWA would interfere with the maintenance of the George Wood trick tank by prohibiting the use of motorized equipment for access or maintenance.

### **Water**

**Rating:** High

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Juniper Mesa PWA.

### **Livestock**

**Rating:** Medium

The Juniper Mesa PWA has an earthen stock tank that would require maintenance and associated access to these improvements. The area is also adjacent to Juniper Spring Development, an improvement that could be accommodated by adjusting the potential boundary. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

### **Timber**

**Rating:** Medium

When combined with the adjacent Apache Creek A, Apache Creek B, and Bald Mountain PWAs, this entire area could provide approximately 3,688 hundred cubic feet (CCF) of merchantable timber in the ponderosa pine vegetation type every 30-50 years. However, Juniper Mesa PWA contains less than 3 percent of the ponderosa pine acres in this area. If designated as wilderness,



the Forest Service would lose the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Juniper Mesa PWA.

### **Minerals**

**Rating:** High

There are no known patented mining claims within the Juniper Mesa PWA. There are also no known abandoned mines, adits, and quarries within the area. There are no indications that wilderness designation for the Juniper Mesa PWA would cause any conflicts with minerals management.

### **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. The Juniper Mesa PWA has a very high density of archaeological properties along with several historic sites, including a portion of the earliest route into Prescott. There are no specific cultural resources issues concerning the Juniper Mesa area being designated as wilderness.

### **Land Use**

**Rating:** High

The Juniper Mesa PWA adjoins both private land and a Forest Service administrative site on the southern edge; however, there are no conflicts within the boundary of the potential wilderness area. There are no indications that wilderness designation would cause any conflicts with the special use permit or land management programs.

### **Fire**

**Rating:** High

Wilderness designation for the Juniper Mesa PWA would have little effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

### **Overall Availability**

**Rating:** High

Juniper Mesa PWA was rated high for availability in five resource areas, and medium in four. There were no resource areas rated low. The total availability score was five and Juniper Mesa PWA received an overall availability rating of high.

## **Need**

### **Factor # 1**

**Rating:** Low

**The location, size, and type of other wilderness areas 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 41 designated wilderness areas within a 100-mile radius of the Juniper Mesa PWA. They range in size from 5,000 to 250,000 acres, total over 1.3 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests, the Bureau of Land Management, and the US Fish and Wildlife Service. The closest of these is the adjacent Juniper Mesa Wilderness to the north. There is one area 95 to 100 miles away, and the average distance to designated wilderness is about 70 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, and Flagstaff all fall within the 100-mile radius of Juniper Mesa PWA, but the Phoenix area does not. It is closer than the average distance for wilderness from Prescott, about average from the Verde Valley, and slightly farther (73 miles versus 59 miles) than the average distance from Flagstaff.

Juniper Mesa PWA was rated low on this factor. While it is closer than average from Prescott, it is farther than average from the underserved Flagstaff area and over 100 miles from Phoenix. It is also adjacent to the Juniper Mesa Wilderness area and less than 5 miles north of the Apache Creek Wilderness.

### **Factor # 2**

**Rating:** Low

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and

approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Juniper Mesa PWA was rated low on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, and Juniper Mesa PWA is adjacent to the existing Juniper Mesa Wilderness. Although the additional wilderness acreage would move the Southwestern Region closer to the national average, Juniper Mesa PWA is poorly located to serve anticipated increased public demand from Phoenix and Flagstaff (Forest Service 2009b).

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage,

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4**

**Rating:** Low

**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.**

There were no species identified in the Juniper Mesa PWA that require less than primitive surrounding to survive. No need for ecological sanctuary was identified.

**Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6**

**Rating:** Low

**An area’s ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A

fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Juniper Mesa PWA contains 35 acres of Ponderosa Pine-Evergreen Oak and an insignificant amount of Mixed Broadleaf Deciduous Riparian Forest (2 acres). There was no Coconino Plateau Woodland identified within the Juniper Mesa PWA.

## **Factor # 7**

### **Public review and comment on potential wilderness areas.**

The Juniper Mesa PWA was specifically mentioned in two comments of support and one comment opposed to wilderness from a permittee who grazes an allotment within the Juniper Mesa PWA. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

**Rating: Medium**

The Juniper Mesa PWA was rated low for need in all six factors, for a combined score of zero out of eighteen. There were no factors rated medium or high. Juniper Mesa PWA received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Juniper Mesa PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Juniper Mesa Wilderness. The geology that contributes significantly to the recharge of the Big Chino Aquifer and helps to maintain flows in Walnut Creek and the Verde River would be maintained, and many species of wildlife could benefit from

the preservation of primitive surroundings, including two sensitive species. Juniper Mesa PWA would also contribute acreage of an ecosystem (Ponderosa Pine-Evergreen) that is under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on Juniper Mesa PWA; the three trails in the unit are non-motorized and bicycle use is not prevalent. However, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. Designation would interfere with the maintenance of the George Wood trick tank, as motorized access to this tank and the use of motorized equipment for maintenance would be prohibited. This is due to the fact that wildlife water improvements are not subject to the exceptions for range improvements outlined in the Congressional Grazing Guidelines. New improvements and habitat enhancements would be rare and would be authorized only to protect and improve management of the wilderness resource.

Although the natural functions of watershed systems would be maintained, 98 percent of the vegetation in Juniper Mesa PWA is classified as piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Juniper Mesa PWA contains an earthen stock tank; the use of motorized equipment to access and maintain improvements would be allowed, based on a rule of practical necessity and reasonableness. The area is also adjacent to Juniper Spring Development, an improvement that could be accommodated by adjusting the wilderness boundary.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to about 100 acres of ponderosa pine and the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This could increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims, abandoned mines, adits, or quarries within the Juniper Mesa PWA.

The Juniper Mesa PWA has a very high density of archaeological properties along with several historic sites, including a portion of the earliest route into Prescott. Wilderness designation would

have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for Juniper Mesa PWA does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. The prohibition on timber harvest may increase the risk of uncharacteristic wildfires, however, there are no planned mechanical treatments in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that Juniper Mesa PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors are already passing through the area to access the existing Juniper Mesa Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

The economic impact from the withdrawal of mineral rights is also expected to be minimal as there is no known history of mineral extraction in the area.

More substantial impacts may be expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to merchantable timber and firewood collection areas within Juniper Mesa PWA.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Juniper Mesa PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

## **Area is managed as non-wilderness**

If Juniper Mesa PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Juniper Mesa PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include timber harvesting, mechanical vegetation treatments, or motorized trails. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Juniper Mesa PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Juniper Mesa PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Juniper Mesa PWA, this could mean vegetation treatments in the piñon-juniper or watershed improvement projects to restore or maintain habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Juniper Mesa PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

In a non-wilderness area, mechanical vegetation treatments would be allowed. The acres of suitable timber in Juniper Mesa PWA could be proposed for treatment or harvest under future management decisions. Suitable sections of the area could also be open for commercial or public firewood cutting.

Juniper Mesa PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes, although as noted above, there is no known history of mineral extraction in the area.

Known cultural sites in Juniper Mesa PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could



increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across 4,800 acres of piñon-juniper and around 100 acres of ponderosa pine. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Juniper Mesa PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Juniper Mesa PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

## **Muldoon**

### **Description**

#### **Acres, Location, Landforms**

Muldoon PWA is 8,993 acres in size and located approximately 17 miles northeast of Prescott. It is proximate to two existing wilderness areas, the Woodchute Wilderness 8 miles southeast and the Sycamore Canyon Wilderness 12 miles east. Elevations range from almost 5,300 feet in the southern portion, down to 3,960 feet along the Verde River. The Verde River is the most prominent feature and, along with Muldoon Canyon and Bull Basin Canyon, one of the major drainages in the area. The Verde River is also one of the few perennial streams in this part of Arizona; the other streams and washes in the PWA are intermittent, although there are a number of springs and tanks that provide water for livestock and wildlife.

#### **Vegetation**

Muldoon is in the Transition Zone Geographic Province, and represents the Chino High Plains Grassland landform. This landform is characterized by stands of juniper and piñon pine interspersed with herbaceous vegetation. The dominate ecosystem is the piñon-juniper evergreen shrub type, which covers about 75% of the PWA. There are also stands of cottonwood, willow, and other riparian vegetation associated with the Verde River.

#### **Surroundings, Land Ownership, and Boundaries**

Muldoon PWA is bounded by roads and rights-of-way. The Navajo/Westwing Power line forms the eastern boundary, the western boundary follows FR 638 south of the Verde River and FR 9090N to the north. The northern boundary runs along County Road 137 and the south is bounded by FR 164 and section lines. There are approximately 100 acres of private land along the Verde River that are surrounded by the PWA, and CR 137 is cherry-stemmed into the area to provide access to this parcel.

#### **Access, Current Uses, and Attractions**

Hikers, equestrians, quail hunters, and bird watchers access the PWA from the north via FR 9097U and from the south via 9112J. Each of these roads dead-ends at a non-motorized trail that leads down to the river. There are no developed river crossings within the PWA. River runners are uncommon, but a few brave souls do canoe or kayak this stretch of river. During low flows, river travel is relatively safe, but requires a lot of dragging of boats. On the east side, CR137 ends at private land just north of the river and there is no public access. No Forest Service roads or trails traverse Muldoon from east to west, however, there are numerous old roads throughout the PWA.

## **Capability**

### **Naturalness**

**Rating:** High

The Muldoon PWA generally appears natural at the landscape level. The Verde River corridor contains some populations of invasive tamarisk, and recent treatments have significantly reduced the populations in the area. No other significant populations of invasive species have been noted. The springs and river are free flowing and it is assumed that the water quality is good, although the results of recent sampling are not final. Visitors to the PWA experience a moderate level of dark skies, as the unit is not far from Chino Valley. There is a high level of diversity within this PWA in the form of fish, birds, and amphibian species associated with the Verde River. The Muldoon PWA was rated high for the variety of resources that it contains—an outstanding level of diversity in plants and wildlife, water-based opportunities along the river, and land-based opportunities in the dry upland canyons.

### **Undeveloped**

**Rating:** High

The Muldoon PWA is predominately undeveloped, but it does contain a number of range improvements and roads, both existing and decommissioned. Earthen stock tanks, like the ones present, are compatible with wilderness, and the presence of historic and decommissioned roads is common. Muldoon is also bounded by a natural gas pipeline and a regional power transmission line; however, these rights-of-way were not considered when evaluating the undeveloped character as they are outside of the PWA.

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

**Rating:** High

There are many opportunities for challenge and solitude in the Muldoon PWA. Hiking along the river is challenging due to the numerous crossings required, and boating can involve as much time carrying as paddling when the water level is low. Equestrian use requires skill on the descent to the river to avoid injury to rider or stock. The canyons away from the river provide solitude and the opportunity to explore for historical and archeological sites.

### **Special Features and Values**

**Rating:** High

Muldoon PWA has outstanding scenic views within the unit; visitors can look down the Verde River corridor and see a ribbon of green contrasting with the stark red of the Redwall Limestone cliffs. From the mesa tops, looking out to the north yields spectacular views of the Sycamore Canyon Wilderness, and to the south Woodchute Wilderness and Mingus Mountain. There is also scientific research being conducted along the Verde River, and fish counting studies provide educational opportunities for schoolchildren. In addition, five unique plant species were found in the PWA during a 2009 assessment. Significant wildlife in the PWA include river otter, beaver, elk, mule deer; various nesting and migratory birds; and thirteen fish, mammal, and bird species found on the Forest Service Southwestern Region Sensitive Species list.

The Upper Verde River has been deemed eligible for Wild and Scenic River designation, and the section of the Upper Verde River within the Muldoon PWA has been classified as “Wild”.

**Manageability****Rating:** Medium

There is no authorized recreational motorized use in this PWA, but there is illegal use on a number of old roads that have not been decommissioned. There are five cherry-stemmed roads in the PWA, totaling approximately 6 miles. There are three earthen stock tanks and one well that require motorized equipment for maintenance and access. Preventing motorized use in this area would be moderately difficult as most of the boundary runs through open, flat areas adjacent to existing roads. Management activities for pronghorn habitat restoration and river restoration would be difficult to implement due to the need for motorized equipment and their impact on naturalness and visitor solitude.

**Overall Capability****Rating:** High

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Muldoon PWA rates a high for overall capability to support wilderness character and provide a wilderness experience as it scored 52 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled “PNF PWE Capability Matrix”.

**Availability****Recreation****Rating:** High

Recreation in Muldoon PWA is generally compatible with wilderness designation. The two trails in the PWA are non-motorized, and the primary recreation opportunities are hunting, hiking, horseback riding, bird watching, and river use such as canoeing, kayaking, and fishing. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Muldoon PWA.

**Wildlife****Rating:** Low

In general, wilderness designation could have both positive and negative effects on wildlife management. The watershed lies above spikedace critical habitat in the Verde River and wilderness designation would maintain limited soil disturbance in the area above this habitat. In addition, designation would preclude the development of future roads or motorized trails that cause habitat fragmentation and disrupt travel corridors for pronghorn and other wildlife species. Wilderness designation could also provide a large block of second-growth dense juniper habitat adjacent to the Upper Verde River Important Bird Area (IBA). However, restrictions on motorized use could cause negative impacts by limiting options for vegetation and fuels treatments. Limiting these options could limit opportunities for pronghorn habitat improvement and watershed improvement for listed fish species such as spikedace. The second-growth dense juniper habitat that benefits bird species also blocks travel ways for pronghorn, and repairing this situation is vital to space-limited pronghorn movement on this side of the Prescott NF.

**Water****Rating:** Low

The Muldoon PWA has been the focus of numerous watershed improvement projects, including the treatment of juniper and the removal of roads. Mechanical vegetation treatment is the most

viable option to improve watershed conditions and restore a fire-adapted ecosystem to the Muldoon PWA because there are not enough fine fuels to carry a fire. Wilderness designation would limit allowable management actions and cause conflict with these watershed improvement goals.

### **Livestock**

**Rating:** Medium

Muldoon PWA has a well and three earthen stock tanks that would require maintenance and the associated access to these improvements. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

### **Timber**

**Rating:** Medium

The Muldoon PWA could provide approximately 60,000 cords of fuelwood in the piñon-juniper vegetation type every 30-50 years. If designated as wilderness, the Forest Service and the public would lose access to this fuelwood, along with the ability to maintain historic tree density levels through thinning in the piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Muldoon PWA.

### **Minerals**

**Rating:** High

There are no known patented mining claims within the Muldoon PWA. According to information from the Bureau of Land Management, there are several closed mines within the area. There are no indications that wilderness designation for the Muldoon PWA would cause any conflicts with minerals management.

### **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. Muldoon PWA is likely to have fewer and smaller prehistoric and historic sites, except for the portion around the Verde River, where site densities will increase dramatically. There are no specific cultural resources issues concerning the Muldoon PWA being designated as wilderness.

## **Land Use**

**Rating: High**

There are no indications that wilderness designation for the Muldoon PWA would cause any conflicts with the special use permit or land management programs. There is a private in holding, Verde Ranch, which is located on the Verde River in the north end of the PWA. This parcel is accessed from the north via a cherry-stemmed road, FR9097U.

## **Fire**

**Rating: High**

Wilderness designation for the Muldoon PWA would have no effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

## **Overall Availability**

**Rating: Low**

The Muldoon PWA was rated high for availability in four resource areas, and medium in two resource areas. It was rated low for availability with regard to Wildlife, Water, and Timber. The total availability score was one, and Muldoon PWA received an overall availability rating of low.

## **Need**

### **Factor # 1**

**Rating: Medium**

**The location, size, and type of other wilderness areas 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 33 designated wilderness areas within a 100-mile radius of the Muldoon PWA. They range in size from 5,000 to 250,000 acres, total one million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the Woodchute Wilderness, 11 miles to the southeast. Four of the areas are 95 to 100 miles away, and the average distance to designated wilderness is 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of Muldoon PWA. It is much closer than the average distance for wilderness from Prescott and the Verde Valley, closer than average from Flagstaff and farther (93 miles versus 54 miles) than the average distance from Phoenix.

Muldoon PWA was rated high on this factor. It is much closer than average from Prescott and the Verde Valley, closer than average from the underserved Flagstaff area, and just within a 100-mile radius from Phoenix. It is also isolated from existing wilderness areas, with the closest, Woodchute, being 11 miles away.

**Factor # 2**

**Rating:** Medium

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Muldoon PWA was rated medium on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, but Muldoon PWA is not adjacent to any existing wilderness. Its location would allow it to serve future demand for wilderness from the Flagstaff area in addition to local demand from Prescott and the Verde Valley, but it is poorly located to meet anticipated future demand from Phoenix (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

**Factor # 3****Rating:** Low**The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

**Factor # 4****Rating:** Low**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.**

There were no species identified in the Muldoon PWA that require less than primitive surrounding to survive. One listed species and eleven sensitive species were identified in the area; however, it is unclear if the most benefit would be obtained from primitive or managed surroundings, thus the need for ecological sanctuary cannot be supported.



**Factor # 5****Rating:** Low**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Rating:** Medium**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Muldoon PWA contains 362 acres of Mixed Broadleaf Deciduous Riparian Forest and less than 50 acres of Interior Chaparral. There was no Coconino Plateau Woodland identified within the Muldoon PWA.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Muldoon PWA was specifically mentioned in two comments of support but was not specifically mentioned in any comments opposed to wilderness. The Arizona Wilderness

Coalition expressed strong support for the designation of the Muldoon PWA as wilderness. The operations foreman for the grazing permittee on the Muldoon PWA expressed opposition, noting that there would be no benefit to wilderness designation and that it would negatively affect grazing operations. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

## **Rating: Low**

The Muldoon PWA was rated high for need in one factor, medium in two factors, and low in three factors for a combined score of seven out of eighteen. Muldoon received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Muldoon PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation. The environmental educational opportunities associated with vegetative life zones and watersheds and the area’s mining history and cultural sites would be maintained, and many species of wildlife could benefit from the preservation of primitive surroundings. Muldoon PWA would also contribute acreage of three ecosystems (Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. Wilderness designation for the area would prohibit existing mountain bike use and future motorized use, including motorized big-game retrieval. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. The watershed lies above critical habitat

for spikede, and wilderness designation would maintain limited soil disturbance in the area above this habitat. Wilderness designation could also provide a large block of second-growth dense juniper habitat adjacent to the Upper Verde River Important Bird Area (IBA). However, restrictions on mechanical vegetation treatments could limit opportunities for habitat improvement for both aquatic and terrestrial species such as spikede and pronghorn. 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.

Although the natural functions of watershed systems would be maintained, about three-fourths of the vegetation in Muldoon PWA is classified piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Muldoon PWA contains a well and three earthen stock tanks that would require maintenance. The use of motorized equipment to access and maintain these improvements would be allowed, based on a rule of practical necessity and reasonableness.

Muldoon PWA doesn't contain any lands deemed suitable for timber production, however, the vegetation is suitable for public and commercial fuelwood cutting. If designated as wilderness, no timber sales or firewood cutting would be permitted; only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims. According to information from the Bureau of Land Management, there are several closed mines within the area.

Muldoon PWA is likely to have fewer and smaller prehistoric and historic sites, except for the portion around the Verde River, where site densities will increase dramatically. Wilderness designation would have both positive and negative effects on the management of these cultural resources. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for Muldoon PWA does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. There are no plans to construct fuel breaks or control lines by mechanical means in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. Muldoon PWA could be expected to add more visitation because it contains a section of the Verde River that is eligible for Wild & Scenic designation. Muldoon's expected visitation was estimated to be 20 percent higher than the average for wilderness areas on the Prescott NF, about 6,000 visits per year (Forest Service 2011). Its economic impact from outdoor recreation is expected to be minimal.

There are no known patented mining claims in Muldoon PWA, but it does have a history of mineral extraction. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects.

The economic impact from the prohibition on timber harvesting is also expected to be minimal as there are no suitable timber lands in the Muldoon PWA. However, it is estimated that Muldoon PWA could provide approximately 60,000 cords of fuelwood in the piñon-juniper vegetation type every 30-50 years. If designated as wilderness, this could represent a potential future loss of commercial fuelwood sales revenue and revenue from the sale of public firewood cutting permits.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a "quality-of-life" factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Muldoon PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If Muldoon PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Muldoon PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include fuelwood cutting, mechanical vegetation treatments, wildlife habitat or range improvement projects, developed camping or day-use facilities, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Muldoon PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Muldoon PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with the existing motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities. New road construction to improve access is unlikely in the areas where the Muldoon PWA overlaps with the Muldoon Inventoried Roadless Area.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Muldoon PWA, this could mean vegetation treatments to improve pronghorn habitat or watershed restoration projects to improve water quality for spikedace.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Muldoon PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

Muldoon PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in Muldoon PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and cut firewood. This fuel reduction could be implemented across more than 15,000 acres of piñon-juniper. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Muldoon PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Muldoon PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

# Pine Mountain

## Description

### Acres, Location, Landforms

The Pine Mountain A, B, and C PWAs are three separate areas that adjoin the existing Pine Mountain Wilderness. Pine Mountain A is 7,021 acres, B is 4,501 acres<sup>\*</sup>, and C is 9,383 acres. They are approximately 34 miles southeast of Prescott - east of Interstate 17 near the ranching community of Dugas. The Cedar Bench Wilderness is east of the area and Arnold Mesa PWA lies to the north. All three PWAs lie within the Central Mountains Transition Zone Geographic Province, and their elevations range from 6,300 feet in the western portion of Pine Mountain C PWA down to 4,120 feet where Sycamore Creek flows west out of Pine Mountain A PWA. The most prominent features in the area are Sycamore Creek, Dry Creek, and Silver Creek, all of which drain into the Agua Fria River. Sycamore Creek is a significant perennial drainage in this part of the Prescott NF and runs through the Pine Mountain A and C PWAs. Further downstream within the Agua Fria National Monument, Silver Creek and Sycamore Creek are considered eligible for Wild and Scenic River designation.

### Vegetation

The vegetation in the area is dominated by piñon pine and juniper, interspersed with grasslands on the flats and mesas. In the canyons, the juniper is mixed with chaparral and riparian vegetation, and pockets of ponderosa pine occur in the higher elevations. Sycamore trees can be found throughout the riparian areas, and large Emery and Arizona white oak exist in selected pockets. Much of this area was burned in the Cave Creek Complex Fire of 2005, leaving many standing dead juniper.

### Surroundings, Land Ownership, and Boundaries

The PWAs are entirely within Federal ownership, but there are about 80 acres of private land in two different parcels that have been excluded from the PWA boundaries. Primary access to the area is from the west, on County Road 171 through Dugas. From Dugas, FR 68G forms the northern boundary of Pine Mountain C PWA, and, to the east of Dugas, FR 68 provides access to the area and forms the boundary between Pine Mountain A and C PWAs. FR 677A provides access and divides Pine Mountain A PWA from Pine Mountain B PWA. The Prescott/Tonto National Forest boundary forms the southern boundary of Pine Mountain B PWA and the Pine Mountain Wilderness forms the eastern boundary of all three PWAs.

### Access, Current Uses, and Attractions

Recreational use by hunters, hikers, backpackers, and equestrians is popular in these PWAs and growing each year as various publications highlight the attractions in the area. Pine Mountain Wilderness was first protected as a Primitive Area in the 1930s and later as a designated wilderness area in 1972. Visitors to the area enjoy spectacular views, solitude, and challenging

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<sup>\*</sup> Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

recreation opportunities. Portions of all three PWAs have experienced prescribed and wildland fires and fuel reduction projects. Forest Road 68 separates Pine Mountain A PWA from Pine Mountain C PWA and provides access to two small private in-holdings in Pine Mountain A PWA and access to Forest Service trails into the Pine Mountain Wilderness. Forest Road 677A separates Pine Mountain A PWA from Pine Mountain B PWA and provides access to forest trails as well. This area is also under lease for grazing, and the associated improvements include individual allotments separated by fence lines, corrals, exclosures, and water developments.

## **Capability**

### **Naturalness**

**Rating:** High

There is an outstanding degree of naturalness in these PWAs due to the remote nature of the area. Invasive plant species have not been noted, although the inventory is incomplete. There are no impoundments on the perennial creeks in the PWAs; water is free flowing in these areas. Sycamore Creek in Pine Mountain A PWA has been designated as critical habitat for Gila Chub. Six other species in the area are either Forest Service Southwestern Region Sensitive Species or Arizona Game and Fish Department Wildlife of Special Concern. These include black hawk and lowland leopard frog. The biodiversity of these PWAs is high and can be attributed in part to the change in elevation across the units. Overnight visitors enjoy beautiful views of the stars with little to no impact from urban light pollution.

### **Undeveloped**

**Rating:** High

The Pine Mountain PWAs generally appear natural and the improvements in the units are substantially unnoticeable. These include range improvements such as earthen stock tanks and an old juniper push in Pine Mountain C PWA that is unnoticeable on the ground. There is also a cabin at Cabin Spring in Pine Mountain B PWA. It was overlooked when the PWA boundaries were established, but the boundaries would be adjusted to exclude it from the area if the unit were to become designated wilderness.

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

**Rating:** High

There are outstanding and many opportunities for primitive and unconfined recreation as well as solitude and challenge associated with all three PWAs. The trails in Pine Mountain C and A PWAs can be faint and receive little use, making them a challenge to follow. Visitors often use pack animals to hunt elk and deer in these PWAs and find it extremely challenging. Outstanding solitude can be found in the canyons and along the mesa tops. The surrounding landscape is undeveloped, with unrestricted views across the Agua Fria grasslands and the Southern Bradshaw Mountains in the west. There is a variety of recreation opportunities in these PWAs. Day hikers, backpackers, and equestrians use both the interior of the PWAs and the boundary roads, FR 677A and FR 68G, which are so rugged that it is quicker and safer to walk them than to drive them.



## **Special Features and Values**

**Ratings:** Low & High

These units are outstanding places for educational activities associated with cultural resources and ecology. There is a well-established tradition of ranching in the area, with associated historic range structures. There are also prehistoric sites on the mesa tops and in the canyon bottoms.

Because of the variety of biological resources associated with the riparian areas in Pine Mountain A and C PWAs, they were both rated high for this category. Pine Mountain B PWA rated low, mainly because it was smaller and more homogenous than the other PWAs. If it were considered in conjunction with an adjacent PWA on the Tonto National Forest, it would rate higher due to the number of springs and the variety of habitats as the terrain drops off towards the desert.

When combined, the Pine Mountain, Cedar Bench, Fossil Creek, and the Mazatzal Wilderness Areas represent the largest natural and undisturbed land areas in Arizona's Central Mountains Geographic Province. The value of these units for wildlife is high due to the size of this land base, and the Pine Mountain PWAs provide the opportunity to expand the protection in this area.

## **Manageability**

**Rating:** High

There is no authorized motorized recreation use in the Pine Mountain PWAs. Manageability would not be overly difficult due to the rugged nature of the terrain and the proximity of the existing Pine Mountain Wilderness. Forest Roads 68 and 677A would be cherry-stemmed out of the wilderness if all three PWAs were designated. There are a number of developed range facilities within these PWAs, and some of these improvements would be best managed by being excluded from the potential wilderness boundary. Others would require special authorization to maintain them with motorized equipment.

## **Overall Capability**

**Ratings:** Medium & High

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that the Pine Mountain A and C PWAs rate a high for overall capability to support wilderness character and provide a wilderness experience. Each of them scored 55 out of a possible 57 points. Pine Mountain B PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 49 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix".

## **Availability**

### **Recreation**

**Rating:** High

Recreation in the Pine Mountain PWAs is generally compatible with wilderness designation. There is one trail in Pine Mountain A PWA and one in Pine Mountain C PWA. Both of them are non-motorized and the trail in Pine Mountain A PWA crosses over into the existing Pine Mountain Wilderness. There are no Forest Service trails in Pine Mountain B PWA. The primary recreation opportunities are hunting, hiking, horseback riding, backpacking, birding, and wildlife viewing. Hunting is allowed in wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Pine Mountain PWAs.

**Wildlife****Rating:** Medium

The watershed lies above and along critical habitat for Gila chub in Sycamore Creek, and wilderness designation would maintain limited soil disturbance in the area above this habitat. Designation for the Pine Mountain PWAs would also bring wilderness protection closer to the Agua Fria National Monument Important Bird Area (IBA). In addition, it would preclude the development of future roads or motorized trails that cause habitat fragmentation and disrupt travel corridors for some wildlife species. However, restrictions on motorized use could cause negative impacts by limiting options for vegetation and fuels treatments. In some parts of the Pine Mountain PWAs, mechanical vegetation treatment is the most viable option to improve habitat and watershed conditions and to restore a fire-adapted ecosystem because there are not enough fine fuels to carry a fire.

**Water****Rating:** High

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Pine Mountain PWAs.

**Livestock****Rating:** Medium

Pine Mountain A PWA has two earthen stock tanks, Pine Mountain B PWA has one well and one developed water source, and Pine Mountain C PWA has five earthen stock tanks, two of which are included in the buffers for FR9601G and FR68G. All of these improvements would require maintenance and access. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

**Timber****Rating:** Medium

There is no direct conflict between timber management and wilderness designation in the Pine Mountain PWAs. However, wilderness designation would restrict the ability to use mechanical methods to reduce tree density for the benefit of other functions such as pronghorn habitat and rangeland.

**Minerals****Rating:** High

There are no known patented mining claims within the Pine Mountain PWAs. There are five known abandoned mines within the Pine Mountain PWAs. There are no indications that wilderness designation for the Pine Mountain PWAs would cause any conflicts with minerals management.

**Cultural resources****Rating: Medium**

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. Site densities in the Arnold Mesa and Pine Mountain PWAs are high, but there are few large sites. This would indicate that it was an area where native peoples hunted and gathered, but did not stay for long periods. There are no specific cultural resources issues concerning the Pine Mountain PWAs being designated as wilderness.

**Land Use****Ratings: Medium & High**

There are no indications that wilderness designation for the Pine Mountain B and Pine Mountain C PWAs would cause any conflicts with the special use permit or land management programs. Designation for the Pine Mountain A PWA would cause no direct conflicts; however, it would leave two private in-holdings in the midst of over 45,000 acres of wilderness. Pine Mountain A PWA was rated medium for this resource due to the presence of private in-holdings. Pine Mountain B and Pine Mountain C PWAs were rated high for this resource.

**Fire****Rating: Medium**

The Pine Mountain PWAs are being considered for treatments that would improve pronghorn antelope habitat. Treatments would focus on areas with less than 25% slope, and entail cutting trees and brush, followed by prescribed burning. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be required for aerial ignition operations.

**Overall Availability****Rating: Medium**

Pine Mountain A PWA was rated high for availability in three resource areas, and medium in six. There were no resource areas rated low. The total availability score was three and Pine Mountain A PWA received an overall availability rating of medium.

Pine Mountain B PWA was rated high for availability in four resource areas, and medium in five. There were no resource areas rated low. The total availability score was four and Pine Mountain B PWA received an overall availability rating of medium.

Pine Mountain C PWA was rated high for availability in four resource areas, and medium in five. There were no resource areas rated low. The total availability score was four and Pine Mountain C PWA received an overall availability rating of medium.

## Need

### Factor # 1

**Rating:** Medium

**The location, size, and type of other wilderness areas 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 36 to 40 designated wilderness areas within a 100-mile radius of the Pine Mountain PWAs. They range in size from 5,000 to 250,000 acres, total over 1.4 million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the adjacent Pine Mountain Wilderness to the southeast. Four of the areas are 95 to 100 miles away, and the average distance to designated wilderness is 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of the Pine Mountain PWAs. It is much closer than the average distance for wilderness from Prescott and the Verde Valley, closer than average from Flagstaff and farther (93 miles versus 54 miles) than the average distance from Phoenix.

The Pine Mountain PWAs were rated medium on this factor. They are closer than average from Prescott and about average distance from the Verde Valley, Phoenix, and the underserved Flagstaff area. However, all three areas are adjacent to the Pine Mountain Wilderness and within 10 miles of the Cedar Bench Wilderness to the north.

### Factor # 2

**Rating:** Medium

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and

approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

The Pine Mountain PWAs were rated medium on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, and the Pine Mountain PWAs are adjacent to the existing Pine Mountain Wilderness. The location of the Pine Mountain PWAs would allow them to serve future demand for wilderness from both the Phoenix and Flagstaff areas in addition to local demand from Prescott and the Verde Valley (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

#### **Factor # 4**

**Ratings:** Low & Medium

**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.**

There were no species identified in the Pine Mountain PWAs that require less than primitive surrounding to survive. However, the endangered Gila chub is found in Sycamore Creek and would benefit from primitive surroundings. Sycamore Creek borders Pine Mountain C PWA and runs through Pine Mountain A PWA. Five sensitive species that might benefit from primitive surroundings were also identified in these PWAs: desert sucker, longfin dace, Arizona toad, lowland leopard frog, and black hawk. Based on the presence of these sensitive species, Pine Mountain A and C PWAs were both rated medium for this factor. No need for ecological sanctuary was identified for Pine Mountain B PWA, so it was given a rating of low.

#### **Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Ratings: Medium & High****An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Region Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Pine Mountain A PWA contains over 2,000 acres of Interior Chaparral and 195 acres of Mixed Broadleaf Deciduous Riparian Forest. Pine Mountain B PWA contains over 1,600 acres of Interior Chaparral and less than 50 acres of Mixed Broadleaf Deciduous Riparian Forest. Pine Mountain C PWA contains over 800 acres of Interior Chaparral and less than 80 acres of Mixed Broadleaf Deciduous Riparian Forest. There was no Coconino Plateau Woodland identified within any of these PWAs. Pine Mountain A and B PWAs were both rated high on this factor due to the presence of over 1,000 acres of Interior Chaparral in each unit. Pine Mountain C PWA was rated medium due to the presence of over 100 acres of Interior Chaparral.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Pine Mountain area was specifically mentioned in four comments opposed to wilderness, including a letter from the permittees who graze the allotments within the Pine Mountain PWAs. The Arizona Wilderness Coalition expressed strong support for the designation of the Pine Mountain A, B, and C PWAs as wilderness, noting that it would expand the existing Pine Mountain Wilderness to almost 40,000 acres. There were four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D "Factor #7".

**Overall Need****Ratings: Low & Medium**

The Pine Mountain A PWA was rated high for need in one factor, medium in three factors, and low in two factors for a combined score of nine out of eighteen. Pine Mountain A PWA received an overall need rating of medium.

The Pine Mountain B PWA was rated high for need in one factor, medium in two factors, and low in three factors for a combined score of seven out of eighteen. Pine Mountain B PWA received an overall need rating of low.

The Pine Mountain C PWA was rated medium for need in four factors and low in two factors for a combined score of eight out of eighteen. There were no factors rated high. Pine Mountain C PWA received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Pine Mountain A, B, or C PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The areas would remain natural and generally undeveloped, and would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation alone and in combination with the existing Pine Mountain Wilderness. The educational value associated with cultural resources and ecology would be maintained and many species of wildlife could benefit from the preservation of primitive surroundings, including six sensitive species across the three areas. Any of the three areas would also contribute acreage of two ecosystems (Interior Chaparral and Mixed Broadleaf Deciduous Riparian Forest) that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on the Pine Mountain PWAs; there is one non-motorized trail in Pine Mountain A PWA that crosses over into the existing Pine Mountain Wilderness, one non-motorized trail in Pine Mountain C PWA, and no Forest Service trails in Pine Mountain B PWA. Bicycle use is not prevalent in any of the units. Wilderness designation for any of the areas would have little effect on current recreation users, however, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. The watershed lies above and along critical habitat for Gila chub in Sycamore Creek, and wilderness designation would maintain limited soil disturbance in the area above this habitat. Designation for any of the Pine Mountain



PWAs would also bring wilderness protection closer to the Agua Fria National Monument Important Bird Area (IBA). 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.

Although the natural functions of watershed systems would be maintained, the majority of the vegetation in the Pine Mountain PWAs is classified piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. As previously noted, the Pine Mountain PWAs have a number of grazing improvements currently located within their boundaries, including two earthen stock tanks in Pine Mountain A PWA, one well and one developed water source in Pine Mountain B PWA, and five earthen stock tanks in Pine Mountain C PWA. Some of the improvements are adjacent to the cherry-stemmed roads in the area and are included in the associated buffers around these roads, thus the use of motorized equipment for access and maintenance would not be an issue. The use of motorized equipment to access and maintain the improvements located within the wilderness would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 460 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims. There are five known abandoned mines within the Pine Mountain PWAs.

The density of cultural sites in the Pine Mountain PWAs is high, but there are few large sites. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation does not preclude the use of wildland fire for the benefit of the resource, however, the Pine Mountain PWAs are being considered for treatments that would improve pronghorn antelope habitat. Treatments would entail cutting trees and brush, followed by prescribed burning. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be

required for aerial ignition operations. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

Designation for the all three Pine Mountain PWAs together would leave two private in-holdings in Pine Mountain A PWA and in the midst of over 45,000 acres of wilderness.

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that the Pine Mountain PWAs would receive little in the way of new visitation if designated as wilderness because many of the visitors already have to pass through them to access Pine Mountain Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

There are no known patented mining claims in the Pine Mountain PWAs, but they do have a history of mineral extraction. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing and timber harvest. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to suitable timber land and firewood collection areas within the Pine Mountain PWAs.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for the Pine Mountain PWAs would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If any of the Pine Mountain PWAs were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of the Pine Mountain PWAs could be diminished by incompatible management activities. Reasonably foreseeable examples include timber harvest, mechanical vegetation treatments, wildlife habitat or range improvement projects, or a motorized trail network. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Pine Mountain PWAs. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If any of the Pine Mountain PWAs were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities. New road construction to improve access is unlikely in Pine Mountain A PWA as about half of it overlaps with the Pine Mountain Wilderness Contiguous Inventoried Roadless Area.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In the Pine Mountain PWAs, this could mean vegetation treatments in the piñon-juniper to improve wildlife habitat or riparian and watershed improvement projects to restore or maintain habitat for the Gila chub, desert sucker, and longfin dace.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in the Pine Mountain PWAs could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

The Pine Mountain PWAs would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in the Pine Mountain PWAs would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and perform prescribed burns. This fuel reduction and prescribed burning could be implemented on as much as 10,500 acres of piñon-juniper and 4,500 acres of interior chaparral. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing the Pine Mountain PWAs as non-wilderness areas would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of the Pine Mountain PWAs for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

# **Sheridan Mountain**

## **Description**

### **Acres, Location, Landforms**

The 38,374 acre Sheridan Mountain PWA is approximately 18 miles west of Prescott, in the Central Mountains Transition Zone Geographic Province. Elevations range from 6,199 feet at the peak of Sheridan Mountain to 3,600 ft. in the canyon bottoms to the west, where South Mesa and Cedar Mesa dominate the landscape. Cottonwood Canyon, Smith Canyon, and Sycamore Creek are the major drainages in the area, flowing down to the Santa Maria River.

### **Vegetation**

The vegetation in the Sheridan Mountain PWA is dominated by piñon pine and juniper, with areas of chaparral and desert scrub in the lower elevations. Numerous perennial stream sections in the PWA support stands of sycamores, cottonwoods, and a variety of other riparian species.

### **Surroundings, Land Ownership, and Boundaries**

The area is accessed from the east by County Roads 121 and 124, from the north by Camp Wood Road (County Road 68), and from the west via Forest Road 9807C. Forest Road 65A forms the eastern boundary of the area and the western edge is delineated by the Prescott NF boundary. The northern boundary is defined by FR 665 and FR 705, and the southern boundary is FR 260. Tank Creek Road (FR 9409A), runs east to west from FR 65A into the center of the Sheridan Mountain PWA.

### **Access, Current Uses, and Attractions**

Forest Road 9409A traverses a portion of Tank Creek Mesa, in the center of the Sheridan Mountain PWA. This road, along with its associated feeder roads, was improved to facilitate a fuel wood sale and they have not been slated for closure. Portions of the Sheridan Mountain have undergone mechanized vegetation treatment and there have been prescribed burns aimed at promoting chaparral regeneration. There are approximately 35 miles of multi-use trails in the PWA that are designated for off-highway vehicle (OHV) use. There is also dispersed camping along the roads and trails throughout the area.

## **Capability**

### **Naturalness**

**Rating:** Medium

The Sheridan Mountain PWA generally appears natural in spite of a motorized trail density approaching 2 miles of trail per square mile. Stargazing can occur with very little light pollution, and the springs and creeks are unimpeded and free flowing, although no sampling has occurred to determine water quality. There is a moderate level of biological diversity in the area, with a number of sensitive species occurring in and around perennial water. The landscape is comprised primarily of mesa tops and canyon bottoms, limiting the variety of resources available in the area.

**Undeveloped****Rating:** Medium

The PWA is generally undeveloped with no significant improvements. There are a few livestock improvements in the PWA, but most lie outside the proposed boundary for the unit. The high number of motorized trails in the PWA was a factor in determining the undeveloped rating.

**Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation****Rating:** High

The Sheridan Mountain PWA has outstanding opportunities for primitive and unconfined recreation of a challenging nature. Many of the canyon bottoms are tight and winding, and require visitors to walk through water to traverse the area. The mesa tops and canyon sides can also be choked with brush making travel extremely challenging. Solitude is easy to find, as the area is over 42,000 acres in size, however, due to the motorized use on the trails visitors may hear other groups more often than they encounter them.

**Special Features and Values****Rating:** Medium

The Sheridan Mountain PWA contains the headwaters of the Santa Maria River, and the area is of tremendous value in retaining water quality and the downstream flow of surface water. Ecologically, this area serves as a core habitat area, helping to bridge the gap between the desert land to the south and the mountainous country to the north. There are five unique and rare species of plants that occur in the unit and two Forest Service Sensitive Species. Historically, this area was known to support a high mountain lion population, but current numbers are unknown. There are opportunities for educational and scientific opportunities, although they are not outstanding.

**Manageability****Rating:** Low

Although the rugged terrain in the Sheridan Mountain area would facilitate protection of its wilderness character, a motorized trail system was developed here and it would be very difficult and unpopular to reverse course and prohibit motorized use.

**Overall Capability****Rating:** Low

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Sheridan Mountain PWA rates a low for overall capability to support wilderness character and provide a wilderness experience as it scored 3 out of a possible 57 points. It rated medium on three of the five aspects, and it lost additional points due to the motorized trails within the PWA. Motorized use has a significant effect on its potential for wilderness designation since motorized equipment is not allowed in wilderness. It was determined that this use is incompatible with wilderness character and that Sheridan Mountain PWA should not receive further evaluation for wilderness designation. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix".

# Sycamore Canyon

## Description

### Acres, Location, Landforms

Sycamore Canyon A, B, and C PWAs are three separate areas adjacent to the existing Sycamore Canyon Wilderness Area. Sycamore Canyon A PWA is 4,435 acres, and lies west of the southwest tip of Sycamore Canyon Wilderness. Sycamore Canyon B PWA is 789 acres\* in the area of Henderson Flat. Sycamore Canyon C PWA is 6,122 acres, adjacent to the western-most side of the existing wilderness and extending onto the Kaibab National Forest. The PWAs are approximately 28 miles northeast of Prescott. Elevations range from 6,800 feet on the northern margins of Sycamore Canyon C PWA down to 3,600 feet along the Verde River. The predominant rock type in the Sycamore Canyon PWAs is the brilliantly colored red sandstone of the Supai formation, but visitors can also find basalts, Redwall Limestone, and Coconino Sandstone in the area. Canyons and washes dominate this landscape, with the major drainages being Government Canyon in Sycamore Canyon C PWA, and Rafael Draw and Railroad Draw in Sycamore Canyon A and B PWAs. The Verde River is perennial, and forms the southern boundary for most of Sycamore Canyon A PWA. The remaining streams and washes in the units are intermittent, with a number of springs, seeps, and tanks providing water for local use.

### Vegetation

Piñon pine and juniper are the predominate vegetation in all three PWAs. Piñon-juniper with an evergreen shrub understory covers all of the Sycamore Canyon B PWA and almost 90% of the Sycamore Canyon A PWA. It also covers about half of Sycamore Canyon C PWA, with the other half covered primarily by interior chaparral. The southern section of Sycamore Canyon A PWA contains the eponymous sycamore, along with other types of riparian vegetation in the corridor along the Verde River.

### Surroundings, Land Ownership, and Boundaries

All units are entirely within Federal ownership, do not contain any long cherry-stemmed roads, and can be accessed via forest roads off County Road 71. The boundary for Sycamore Canyon A PWA follows the existing wilderness boundary on its east side, and the Verde River on the south. The rest of the PWA is bordered by roads and motorized trails. Sycamore Canyon B PWA is bounded by the existing wilderness and FR 181. Sycamore Canyon C PWA is adjacent with the existing wilderness boundary on the east and then uses roads, section lines, trails, and contour lines for the rest of the boundary.

### Access, Current Uses, and Attractions

There are hiking and equestrian trails in all three units that provide access to the Sycamore Canyon Wilderness. The area has been popular with equestrian users for many years because there is reliable water for horses. Road maintenance on FR 181 has been performed with the

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\* Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

intent of providing horse trailer access. Backpacking is also been popular in the PWAs as these are adjacent with the existing wilderness and an extended backcountry trip can be accommodated. Deer, elk, and small game hunting occur in the area, and the units are popular with those looking for a more remote hunting experience.

## **Capability**

### **Naturalness**

**Rating:** High

All of the Sycamore Canyon PWAs generally appear natural, with the imprint of people substantially unnoticeable. There is very limited light pollution in these areas at night, providing for excellent stargazing opportunities. Invasive species are not evident, but no comprehensive inventory has been completed. The Verde River is free flowing with no impoundments and the springs and seeps are assumed to be of high quality, but no sampling has occurred. Sycamore Canyon A and C PWAs both contain elements of biodiversity with unique plants and sensitive species occurring. Due mainly to its small size, Sycamore Canyon B PWA does not show any presence of unique species. There is an outstanding variety of resources in these PWAs, including river access, numerous non-motorized trails, cultural sites, and hunting opportunities.

### **Undeveloped**

**Rating:** High

All three Sycamore Canyon PWAs retain a high level of undeveloped character. There are range improvements in Sycamore Canyon B and C PWAs that are maintained for livestock, but they fall within the criteria for included developments. No grazing improvements have been identified in Sycamore Canyon A PWA. Otherwise, these PWAs generally appear natural, with the imprint of people substantially unnoticeable.

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

**Rating:** High

There are numerous opportunities for challenge, primitive recreation, and solitude in all three of the Sycamore Canyon PWAs. There are trails in each designed and designated for both hiking and equestrian use. There are rocky cliffs and steep canyons for those looking for more challenge, and isolated grottoes offering outstanding solitude. Visitors often pass through these areas to get into the heart of Sycamore Canyon Wilderness or to explore a remote part of the Verde River, as trail access from other locations is limited by private land.

### **Special Features and Values**

**Rating:** High

The Sycamore Canyon Wilderness and the adjacent PWAs provide one of the Prescott NF's most scenic backdrops. The red cliffs and rugged topography is often depicted in pictures of the area. Sycamore Canyon is one of the largest canyons in Arizona and drains a tremendous landscape into the Verde River. There are exceptional opportunities for the protection and interpretation of numerous educational, scientific, and cultural resources in these PWAs. The geology, flora, and fauna make the Sycamore Canyon area an outstanding place to teach natural history and the ecology of the desert southwest. There are outstanding representations of previous cultures for visitors to explore, interpret, and ponder on their own or with a guide. There are also numerous sensitive and unique species associated with the Verde River corridor in Sycamore Canyon A



PWA and a unique juniper species associated with Sycamore Canyon C PWA. All of the Sycamore Canyon PWAs contain crypto-biotic soil crusts, a feature more common to southeastern Utah's canyon country.

### **Manageability**

**Ratings:** Medium & High

The Sycamore Canyon PWAs would be easily managed as wilderness; they are adjacent to the existing wilderness and do not receive any motorized use. Sycamore Canyon C PWA does contain a motorized trail on the Motor Vehicle Use Map (MVUM), which led to this PWA receiving a medium rating for manageability. This motorized trail was field verified and double-checked in the Prescott NF trails database, and it was determined that the trail had been misidentified for motorized use. However, for the purpose of this evaluation it was decided to abide by the designations per the current MVUM. This was done for consistency, as not all of the motorized trails within PWAs were field verified.

### **Overall Capability**

**Ratings:** Medium & High

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that the Sycamore Canyon A and B PWAs rate a high for overall capability to support wilderness character and provide a wilderness experience. Sycamore Canyon A PWA scored 56 out of a possible 57 points and Sycamore Canyon B PWA scored 54 out of a possible 57 points. Sycamore Canyon C PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 45 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix".

### **Availability**

#### **Recreation**

**Ratings:** Medium & High

Recreation in the Sycamore Canyon PWAs is generally compatible with wilderness designation. According to the MVUM, there is one motorized trail in Sycamore Canyon C PWA. However, this trail was field verified and it appears that it was not designed for and is not passable by motorized vehicles. The primary recreation opportunities are hunting, horseback riding, wildlife viewing, geology explorations, backpacking, and hiking. Hunting is allowed in wilderness, although motorized game retrieval is not. Trail #61 in the Sycamore Canyon C PWA has been designated for mountain bike use; however, it should be noted that mountain biking and other forms of mechanized travel are also prohibited in designated wilderness. Sycamore Canyon C PWA was rated medium for this resource because of the multiple-use trail, Sycamore Canyon A and B PWAs were both rated high.

#### **Wildlife**

**Rating:** High

The Sycamore Canyon C PWA contains nesting Mexican spotted owl and peregrine falcons, and wilderness designation would help maintain the status quo by prohibiting the development of future roads or motorized trails that could lead to habitat fragmentation. However, it could potentially have negative impacts by limiting options for implementing vegetative treatments for fuels reduction, thus increasing the threat of catastrophic fire to nearby Mexican spotted owl

Protected Activity Centers (PACs) and critical habitat. Although mechanical treatment methods would not be allowed, prescribed fire can be used for fuels reduction in wilderness. It was determined that the additional protection for Mexican spotted owl habitat was a greater benefit than the increased risk of fire was a detriment, and Sycamore Canyon C PWA was rated high for this resource. Sycamore Canyon A and B PWAs were rated high because no negative effects were identified.

## **Water**

**Rating:** High

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Sycamore Canyon PWAs.

## **Livestock**

**Ratings:** Medium & High

Sycamore Canyon B PWA has one earthen stock tank and Sycamore Canyon C PWA has two earthen stock tanks and one trick tank, one of which is included in the buffer for FR9000V. All of these improvements would require maintenance and access. Sycamore Canyon A PWA has no identified range improvements. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

## **Timber**

**Rating:** Low

The Sycamore Canyon PWAs could provide approximately 48,000 cords of fuelwood in the piñon-juniper vegetation type every 30-50 years. If designated as wilderness, the Forest Service and the public would lose access to this fuelwood, along with the ability to maintain historic tree density levels through thinning in the piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. No positive benefits to timber management from wilderness designation were identified for the Sycamore Canyon PWAs.

## **Minerals**

**Rating:** High

There are no known patented mining claims within the Sycamore Canyon PWAs. There are also no known abandoned mines, adits, and quarries within the area, but there is one abandoned mine on the boundary. There are no indications that wilderness designation for the Sycamore Canyon PWAs would cause any conflicts with minerals management.

## **Cultural resources**

**Rating:** Medium

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and

the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. Sycamore Canyon is an area where it is expected that there will be many prehistoric sites, some of which could be the best examples with architecture. There are no specific cultural resources issues concerning the Sycamore Canyon PWAs being designated as wilderness.

### **Land Use**

**Ratings: Low & High**

There are no indications that wilderness designation for Sycamore Canyon B or C PWAs would cause any conflicts with the special use permit or land management programs. Sycamore Canyon A PWA has a number of areas that have been labeled “Federal Energy Regulatory Commission (FERC) withdrawal” and the effect, if any, of these withdrawals on wilderness designation is unknown at this time. Due to this uncertainty, Sycamore Canyon A PWA was rated low for this resource. Sycamore Canyon B and C PWAs were rated high because there was no indication that wilderness designation would cause any conflict with land use or special permits in these areas.

### **Fire**

**Rating: High**

Wilderness designation for the Sycamore Canyon PWAs would have no effect on fire management. No construction of fuel breaks or control lines by mechanical means is anticipated, and there are no planned mechanical treatments in the area. Designation would not affect any access needs, but it might affect prescribed burning opportunities, as aerial ignition operations would require special clearance.

### **Overall Availability**

**Ratings: Medium & High**

Sycamore Canyon A PWA was rated high for availability in six resource areas and medium in one resource area. It was rated low for availability with regard to Timber and Land Use. The total availability score was four, and Sycamore Canyon A PWA received an overall availability rating of medium.

Sycamore Canyon B PWA was rated high for availability in six resource areas, and medium in two. It was rated low for availability with regard to Timber. The total availability score was five and Sycamore Canyon B PWA received an overall availability rating of high.

Sycamore Canyon C PWA was rated high for availability in five resource areas, and medium in three. It was rated low for availability with regard to Timber. The total availability score was four and Sycamore Canyon C PWA received an overall availability rating of medium.

## **Need**

### **Factor # 1**

**Rating:** Medium

**The location, size, and type of other wilderness areas 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 26 to 29 designated wilderness areas within a 100-mile radius of the Sycamore Canyon PWAs. They range in size from 5,000 to 250,000 acres, total over 900,000 acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the adjacent Sycamore Canyon Wilderness to the east. Four of the areas are 95 to 100 miles away, and the average distance to designated wilderness is 55 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, and Flagstaff all fall within the 100-mile radius of Sycamore Canyon PWAs, but the Phoenix area is on the edge, falling inside the radius for Sycamore Canyon A and B PWAs, but outside the radius for Sycamore Canyon C PWA. They are much closer than the average distance for wilderness from Prescott, the Verde Valley, and Flagstaff, but the closest one, Sycamore Canyon A PWA, is much farther (94 miles versus 54 miles) than the average distance from Phoenix.

The Sycamore Canyon PWAs were rated medium on this factor. They are much closer than the average from Prescott, the Verde Valley, and the underserved Flagstaff area, but almost 100 miles from Phoenix. All three PWAs are adjacent to the Sycamore Canyon Wilderness, and within 20 miles of two other wilderness areas.

### **Factor # 2**

**Rating:** Medium

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and

approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

The Sycamore Canyon PWAs were rated medium on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, and the Sycamore Canyon PWAs are adjacent to the existing Sycamore Canyon Wilderness. The location of the Sycamore Canyon PWAs would allow them to serve future demand for wilderness from the Flagstaff area in addition to local demand from Prescott and the Verde Valley, but they are poorly located to meet anticipated future demand from Phoenix (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

(BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

#### **Factor # 4**

**Ratings:** Low & Medium

**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.**

There were no species identified in the Sycamore Canyon PWAs that require less than primitive surrounding to survive. However, there are two listed fish species in the Verde River, the Razorback sucker and the Spikedace, which would benefit from primitive surroundings in their critical habitat. The Verde River forms the southern boundary of Sycamore Canyon A PWA, which in part covers the area between the Verde River and the existing Sycamore Canyon Wilderness. It has also been noted that Sycamore Canyon C PWA would make a logical addition, as there is critical habitat for the Mexican spotted owl adjacent to the area in the Sycamore Canyon Wilderness and northern goshawk within the unit. Sycamore Canyon A and C PWAs were both rated medium for the presence of sensitive species. No need for ecological sanctuary was identified for Sycamore Canyon B PWA; therefore, it was rated low.

#### **Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the Forest, primarily due to ease of access from Prescott, and accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

**Factor # 6****Ratings:** Low, Medium & High**An area's ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Sycamore Canyon C PWA contains over 1,800 acres of Interior Chaparral but none was identified in Sycamore Canyon A or B PWAs. Sycamore Canyon A PWA contains 188 acres of Mixed Broadleaf Deciduous Riparian Forest. There was no Coconino Plateau Woodland identified within any of these PWAs.

Sycamore Canyon C PWA was rated high on this factor due to the presence of over 1,000 acres of Interior Chaparral. Sycamore Canyon A PWA was rated medium due to the presence of over 100 acres of Mixed Broadleaf Deciduous Riparian Forest. Sycamore Canyon B PWA was rated low because it did not contain any under-represented ecosystem acres.

**Factor # 7****Public review and comment on potential wilderness areas.**

The Sycamore Canyon PWAs were specifically mentioned in two comments of support but were not specifically mentioned in any comments opposed to wilderness. The Arizona Wilderness Coalition expressed strong support for the designation of the Sycamore A and B PWAs as wilderness. There were also four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D "Factor #7".

**Overall Need****Ratings:** Low & Medium

The Sycamore Canyon A PWA was rated medium for need in four factors and low in two factors for a combined score of eight out of eighteen. There were no factors rated high. Sycamore Canyon A PWA received an overall need rating of low.

The Sycamore Canyon B PWA was rated medium for need in two factors and low in four factors for a combined score of four out of eighteen. There were no factors rated high. Sycamore Canyon B PWA received an overall need rating of low.

The Sycamore Canyon C PWA rated high for need in one factor, medium in three factors, and low in two factors for a combined score of nine out of eighteen. Sycamore Canyon C PWA received an overall need rating of medium. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Sycamore Canyon A, B, or C PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The areas would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation alone and in combination with the existing Sycamore Canyon Wilderness. The scenic, educational, scientific, and cultural values would be maintained and many species of wildlife could benefit from the preservation of primitive surroundings, including listed species in Sycamore Canyon A PWA. Sycamore Canyon C PWA contains Interior Chaparral acreage and Sycamore Canyon A PWA contains Mixed Broadleaf Deciduous Riparian Forest acreage, two ecosystems that are under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-motorized and non-mechanized access and recreation would be permitted. This would have little effect on Sycamore Canyon A and B PWAs as bicycle use is not prevalent in these units. It would have some effect on Sycamore Canyon C PWA because it contains a trail that has been designated for mountain bike use. Motorized big-game retrieval and mountain bike use would both be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. As noted above, it could increase the threat of catastrophic fire to nearby Mexican spotted owl Protected Activity Centers (PACs) and critical habitat by limiting options for fuel reduction treatments. However, wilderness designation would also help maintain the status quo by prohibiting the development of future roads or motorized trails that could lead to habitat fragmentation in PACs. 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.

Although the natural functions of watershed systems would be maintained, almost three-fourths of the vegetation in the Sycamore Canyon PWAs is classified piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions on the Prescott NF. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. As previously noted, the Sycamore Canyon PWAs have a number of grazing improvements currently located within their boundaries, including one earthen stock tank in Sycamore Canyon B PWA, and two earthen stock tanks and one trick tank in Sycamore Canyon C PWA. The use of motorized equipment to access and maintain the improvements located within the wilderness would be allowed, based on a rule of practical necessity and reasonableness.

The Sycamore Canyon PWAs don't contain any lands deemed suitable for timber production, however, the vegetation is suitable for public and commercial fuelwood cutting. If designated as wilderness, no timber sales or firewood cutting would be permitted; only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing. There are no known patented mining claims, abandoned mines, adits, or quarries within the Sycamore Canyon PWAs, but there is one abandoned mine on the boundary.

Sycamore Canyon is an area where it is expected that there will be many prehistoric sites, some of which could be the best examples with architecture. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation for any of the Sycamore Canyon PWAs does not preclude the use of wildland fire for the benefit of the resource and thus would have little effect on fire management. The prohibition on fuelwood cutting may increase the risk of uncharacteristic wildfires, however, there are no planned mechanical treatments in the area. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

Sycamore Canyon A PWA has a number of areas that have been labeled "Federal Energy Regulatory Commission (FERC) withdrawal" and the effect, if any, of these withdrawals on wilderness designation is unknown at this time.

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that the Sycamore Canyon PWAs would receive little in the way of new visitation if designated as wilderness because many of the visitors already pass through them to access Sycamore Canyon Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

There are no known patented mining claims in the Sycamore Canyon PWAs, but they do have a history of mineral extraction as evidenced by the abandoned mine on the boundary. It could be reasonably concluded that the withdrawal of mineral rights could have a future negative economic impact, but that the extent of that impact cannot be determined at this time.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects.

The economic impact from the prohibition on timber harvesting is also expected to be minimal as there are no suitable timber lands in the Sycamore Canyon PWAs. However, it is estimated that the Sycamore Canyon PWAs could provide approximately 48,000 cords of fuelwood in the piñon-juniper vegetation type every 30-50 years. If designated as wilderness, this could represent a potential future loss of commercial fuelwood sales revenue and revenue from the sale of public firewood cutting permits.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for the Sycamore Canyon PWAs would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

### **Area is managed as non-wilderness**

If any of the Sycamore Canyon PWAs were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of the Sycamore Canyon PWAs could be diminished by incompatible management activities. Reasonably foreseeable examples include fuelwood cutting, mechanical vegetation treatments, wildlife habitat improvement projects, or motorized trails. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Sycamore Canyon PWAs. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If any of the Sycamore Canyon PWAs were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and existing mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In the Sycamore Canyon PWAs, this could mean vegetation treatments in the piñon-juniper to improve wildlife habitat or riparian and watershed improvement projects to restore or maintain habitat for razorback sucker and spikedace.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in the Sycamore Canyon PWAs could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

The Sycamore Canyon PWAs would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in the Sycamore Canyon PWAs would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and perform prescribed burns. This fuel reduction and prescribed burning could be implemented across 10,500 acres of piñon-juniper and over 4,500 acres of interior chaparral. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing the Sycamore Canyon PWAs as non-wilderness areas would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of the Sycamore Canyon PWAs for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.

# Woodchute

## Description

### Acres, Location, Landforms

Woodchute PWA is 1,510 acres\* in size and located on the Chino Valley Ranger District, roughly 20 miles northeast of Prescott. The PWA lies on the northwest side of the existing Woodchute Mountain Wilderness, on the massive landform known locally as Mingus Mountain. Elevations in the PWA range from 6,400 feet in the south, down to 5,200 feet along Forest Road 318A. The PWA lies completely within the Upper Verde Watershed and is drained by Munds Draw.

### Vegetation

The dominate vegetation in this PWA is piñon-juniper, which covers over 90% of the unit. There is also a small amount of interior chaparral but no riparian vegetation within the PWA.

### Surroundings, Land Ownership, and Boundaries

This PWA is completely within Federal ownership and does not border any private land. The eastern and southern boundaries are adjacent to the existing wilderness, the western boundary is along FR 9701V, and the northern boundary is along FR 318A.

### Access, Current Uses, and Attractions

Access to the unit is via FR 318A, which forms the northern boundary. Recreational use is limited, as there are no designated motorized or non-motorized trails inside the PWA. Hunting is most likely concentrated around the two earthen stock tanks in the PWA, which are accessed by hiking along old four-wheel drive roads. There are populations of mule and white-tailed deer, elk, and even black bear in the area. The primary use in this PWA is livestock grazing.

### Capability

#### Naturalness

**Rating:** Low

Although the landscape appears natural inside the PWA, there are limited outstanding values associated with this small area. The PWA faces the town of Chino Valley, and its light pollution can be clearly seen affecting the night sky. There is a medium level of biological diversity, with no populations of unique plants. However, the area is identified as potential habitat for lowland leopard frog, Arizona toad, and northern goshawk. The only water in the PWA is provided by two earthen stock tanks and one trick tank.

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\* Units less than 5,000 acres were considered if they were adjacent to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership.

## **Undeveloped**

**Rating:** High

The PWA is generally undeveloped, and the range improvements are substantially unnoticeable. There is a trick tank shown on the map, in the southwestern corner of the PWA. It lies on the boundary, and it is unclear if it is a range improvement or an Arizona Game and Fish Department wildlife water source because the improvement has not been field verified. If needed, the boundaries would be adjusted to exclude it from the PWA if it were to become designated wilderness.

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

**Rating:** High

The opportunities for primitive recreation and solitude were considered in context of the PWA being adjacent to the existing wilderness. There are opportunities for hiking and equestrian use on the two old roads in the PWA that access the range improvements, but the rest of the PWA is open for the challenge of cross-country travel. Deer and elk hunting in the area are focused around the earthen stock tanks. Opportunities for solitude do exist, as the area is lightly visited and adjacent to the larger Woodchute Wilderness.

## **Special Features and Values**

**Rating:** Medium

By itself, this 1,510-acre parcel does not contain any exceptional values. However, it does add to the values for watershed, wildlife, and recreation provided by the existing Woodchute Wilderness. These include the area's value as protection for the Verde River watershed and the benefits for wildlife and hunting from the earthen stock tanks.

## **Manageability**

**Rating:** High

If this PWA were designated as wilderness, it would simplify management of the Woodchute Wilderness by extending the boundary to existing roads. Designation would be two earthen stock tanks within the PWA that would require motorized access along non-public roads, but this is allowable under provisions for grazing. There is no authorized motorized recreation occurring inside the PWA.

## **Overall Capability**

**Rating:** Medium

Based on the criteria from the Forest Service Southwestern Region (listed in appendix B), it has been determined that Woodchute PWA rates a medium for overall capability to support wilderness character and provide a wilderness experience as it scored 46 out of a possible 57 points. A breakdown of the score for each area is available in a separate document titled "PNF PWE Capability Matrix".

## **Availability**

### **Recreation**

**Rating:** High

Recreation in the Woodchute PWA is generally compatible with wilderness designation. There are no motorized or non-motorized trails in the PWA, and the primary recreation opportunities are hunting, birding, wildlife viewing, and cross-country hiking. Hunting is allowed in

wilderness, although motorized game retrieval is not. Mountain biking and other forms of mechanized travel are also prohibited in designated wilderness, but bicycle use is not prevalent in the Woodchute PWA.

### **Wildlife**

**Rating:** High

In general, wilderness designation could have both positive and negative effects on wildlife management. Positive effects include prohibiting the development of future roads or motorized trails that could lead to further habitat fragmentation and disruption of travel for some wildlife species. Restrictions on motorized use could cause negative impacts by limiting options for implementing vegetative treatments for wildlife habitat (including fuels reduction for habitat protection) and watershed improvements for aquatic habitat. No specific concerns about wilderness designation for the Woodchute PWA were cited.

### **Water**

**Rating:** High

In general, wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails. These potential actions can become either more expensive or impractical if mechanized equipment is precluded. No specific impacts to watershed management were identified in the Woodchute PWA.

### **Livestock**

**Rating:** Medium

Woodchute PWA has two earthen stock tanks included in the buffer for FR318 and two additional earthen tanks, and their associated access roads, within the PWA. Wilderness designation may have an impact on livestock management in the area, as there are a number of improvements that would require maintenance; this maintenance could be accommodated under Wilderness Act provisions for grazing, but use of needed motorized equipment would be based on a rule of practical necessity and reasonableness. Approval for motorized equipment is granted by the regional forester based on an analysis of the environmental effects of the proposed activities.

### **Timber**

**Rating:** High

There are no indications that wilderness designation for the Woodchute PWA would cause any conflicts with forestry or timber management.

### **Minerals**

**Rating:** High

There are no known patented mining claims within the Woodchute PWA. There is a suspected mine feature within the area, but an Abandoned Mine Lands (AML) feature inventory has not been completed. There are no indications that wilderness designation for the Woodchute PWA would cause any conflicts with minerals management.

**Cultural resources****Rating: Medium**

Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc) would be reduced. However, administration of these sites, including research and, monitoring and inspections, would be more difficult. If sites were in need of maintenance, stabilization, or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Although none of the potential wilderness areas has had comprehensive archaeological inventories, every area is expected to have prehistoric sites and most will have had historic use in some fashion. There are no specific cultural resources issues concerning the Woodchute PWA being designated as wilderness.

**Land Use****Rating: High**

The Woodchute PWA has an Arizona Game and Fish Department trick tank under special use permit that is adjacent to the potential wilderness boundary. In addition, a power line crosses FR9701V and FR318A and may cross a small corner of the PWA. Both of these issues would need to be field verified, but they could be resolved through minor boundary adjustments to place them outside of the potential wilderness.

**Fire****Rating: Low**

The Woodchute PWA falls within the Black Hills Vegetation Management Plan (BHVMP). Prescribed burning would be implemented with a combination of helicopter ignitions and ground ignitions along existing roads, including some that fall within the proposed boundary for the PWA. These roads would be needed for access to the area and as control lines to contain the burn. Motorized equipment would be needed to prepare the control lines. Designation would affect future prescribed burning opportunities, as aerial ignition operations would require special clearance.

**Overall Availability****Rating: High**

The Woodchute PWA was rated high for availability in six resource areas and medium in two resource areas. It was rated low for availability with regard to Fire. The total availability score was five, and Woodchute PWA received an overall availability rating of high.



## **Need**

### **Factor # 1**

**Rating:** Medium

**The location, size, and type of other wilderness areas 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 33 designated wilderness areas within a 100-mile radius of the Woodchute PWA. They range in size from 5,000 to 250,000 acres, total just over one million acres, and include areas managed by the Prescott, Coconino, Kaibab, and Tonto National Forests and the Bureau of Land Management. The closest of these is the adjacent Woodchute Wilderness to the east. There are two areas 95 to 100 miles away, and the average distance to designated wilderness is about 60 miles.

Most wilderness visitors on the Prescott NF originate from the Prescott area, the Verde Valley, the Phoenix metro area, or Flagstaff (Forest Service 2009a). Of these four, Phoenix has the greatest access to wilderness with 42 wilderness areas, totaling over 1.6 million acres, within a 100-mile radius. Prescott and the Verde Valley are in the middle, with 43 and 32 areas respectively, each totaling 1.2 million areas. Flagstaff is the least served of the group, with 24 areas totaling 846,000 acres.

Prescott, the Verde Valley, Phoenix, and Flagstaff all fall within the 100-mile radius of Woodchute PWA. It is much closer than the average distance for wilderness from Prescott and the Verde Valley, closer than average from Flagstaff and farther (85 miles versus 54 miles) than the average distance from Phoenix.

Woodchute PWA was rated medium on this factor. It is much closer than average from Prescott and the Verde Valley, closer than average from the underserved Flagstaff area, and within a 100-mile radius from Phoenix. Although it is adjacent to the Woodchute Wilderness, the next closest area, Sycamore Canyon Wilderness, is almost 15 miles away.

### **Factor # 2**

**Rating:** Medium

**Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.**

Based on national sampling, wilderness use on all national forests is estimated at 8.6 million visits annually (USDA, Forest Service 2007a). It is expected that the number of wilderness participants will increase by 26 percent between 2006 and 2056 because of the increasing population nationally (Forest Service 2009b). Wilderness visitation on the Prescott NF was estimated at approximately 16,000 visits annually in 2002 and

approximately 40,000 annual visits in 2007 (Forest Service 2009c). These figures, 2,000 to 5,000 annual visits per wilderness, are considered low use.\*

In the northwest quadrant of Arizona, where the majority of the Prescott NF is located, wilderness accounts for 8% of all the National Forest, National Park Service, Bureau of Land Management, and US Fish and Wildlife Service acreage. Nationally, 17% of these four agencies combined acreage is designated as wilderness. On a smaller scale, 13% of the National Forest System land in the Southwestern Region (Arizona and New Mexico) and 18% of all National Forest System land is designated as wilderness. For wilderness acreage in the Southwestern Region to meet the national average would require the addition of about 1 million acres, and northern Arizona in particular could benefit from these additional wilderness acres (Forest Service 2009b).

Woodchute PWA was rated medium on this factor. Currently, there is low use in existing wilderness areas on the Prescott NF, and Woodchute PWA is adjacent to the existing Woodchute Wilderness. Its location would allow it to serve future demand for wilderness from the Flagstaff area in addition to local demand from Prescott and the Verde Valley, but it is poorly located to meet anticipated future demand from Phoenix (Forest Service 2009b). Additional wilderness would also move the Southwestern Region closer to the national average for Federal wilderness acreage.

### **Factor # 3**

**Rating:** Low

#### **The extent to which non-wilderness lands on the Prescott National Forest or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.**

The opportunity to experience unconfined recreation is not limited to designated wilderness. Many acres of public land are managed to provide primitive recreation experiences where the visitor can experience solitude in an unconfined setting. These areas may be classified as a Wilderness Study area, an Inventoried Roadless Area, a Primitive or Semi-Primitive Non-Motorized setting, or may have no formal designation at all.

Other types of wilderness-like opportunities were inventoried within the vicinity of the Prescott NF. Areas that were within 100 miles of Prescott, Prescott Valley, Chino Valley, Cottonwood, or Camp Verde were included. It was found that there were over 1.3 million acres of national forest land in the vicinity that is classified as either Primitive or Semi-Primitive Non-Motorized (SPNM). In addition, 44 Inventoried Roadless Areas (IRA), representing over 370,000 acres, were included across five national forests: the Apache-Sitgreaves, Coconino, Kaibab, Prescott, and Tonto. When added to the 58,000-acre Cactus Plain Wilderness Study Area managed by the Bureau of Land Management (BLM), this totals almost 1.8 million acres of wilderness-like setting. While it is

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\* 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 use for a forest was divided by the number of wildernesses the forest is lead for, to get an average amount of use per wilderness (Forest Service 2009b).

acknowledged that there is some overlap between the Primitive/SPNM and IRA acreage, it is also known that there is additional BLM acreage that is “Managed for Wilderness Character” and that is not included in this total.

Given these figures, it has been determined that there is a low need to create additional wilderness to address the need for primitive and unconfined recreation opportunities on or near the Prescott NF.

#### **Factor # 4**

**Rating:** Low

**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.**

There were no species identified in the Woodchute PWA that require less than primitive surrounding to survive. No need for ecological sanctuary was identified.

#### **Factor # 5**

**Rating:** Low

**Within social and biological limits, management may increase the capacity of established Wilderness areas to support human use without unacceptable depreciation**

As noted above, the Prescott NF is considered to have low wilderness use (Forest Service 2009b). Granite Mountain Wilderness has the greatest use of any wilderness on the forest, primarily due to ease of access from Prescott, and it accounts for a disproportionate share of the visitation. For the most part, use in the other wilderness areas is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

#### **Factor # 6**

**Rating:** Low

**An area’s ability to provide for preservation of identifiable landform types and ecosystems.**

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and

Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

Woodchute PWA contains 76 acres of Interior Chaparral. There was no Coconino Plateau Woodland identified within the Woodchute PWA.

## **Factor # 7**

### **Public review and comment on potential wilderness areas.**

The Woodchute PWA was not specifically mentioned in any comments supporting or opposing wilderness. There were four general comments in support of wilderness and nine general comments opposed. For more information about the public involvement process, see appendix D “Factor #7”.

## **Overall Need**

**Rating: Low**

The Woodchute PWA was rated medium for need in two factors and low in four factors for a combined score of four out of eighteen. There were no factors rated high. Woodchute PWA received an overall need rating of low. More information about the rating process is available in appendix D.

## **Effects of Recommendation**

### **Area is designated as wilderness**

If Woodchute PWA were to be designated as wilderness, it would be managed to protect and maintain its wilderness characteristics, in accordance with the Wilderness Act and other applicable laws, regulations, and policies.

#### *Effects on wilderness characteristics and values*

In designated wilderness areas, the wilderness characteristics are maintained and protected. The area would remain natural and generally undeveloped, and it would continue to provide outstanding opportunities for solitude or primitive and unconfined recreation by itself and in combination with the existing Woodchute Wilderness. The area’s value as protection for the Verde River watershed would be maintained and many species of wildlife could benefit from the preservation of primitive surroundings. Woodchute PWA would also contribute acreage of an

ecosystem (Interior Chaparral) that is under-represented on Forest Service land in the Nation Wilderness Preservation System within the Southwestern Region (Arizona and New Mexico).

#### *Effects on non-wilderness resources and uses*

Recreation use would be managed to minimize the evidence of human use and to maintain the outstanding opportunities for solitude and primitive recreation. Thus, only primitive, non-mechanized access and recreation would be permitted. This would have little effect on Woodchute PWA as there are no Forest Service trails in the PWA and bicycle use is not prevalent. However, motorized big-game retrieval would be prohibited. New facilities would be constructed only if they were required for the safety of users or the protection of wilderness resources, and the use of mechanized tools for trail construction and maintenance would be restricted.

Wilderness designation would provide greater protection for wildlife and wildlife habitat, however it would limit options for active management. 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.

Although the natural functions of watershed systems would be maintained, almost all (92 percent) of the vegetation in Woodchute PWA is classified as piñon-juniper evergreen shrub, a vegetation type that is associated with a relatively low percentage of satisfactory soil conditions. Wilderness designation has the potential to improve water quality and quantity over time; however, such designation may also extend the time required to realize these improvements over more direct land management actions such as soil improvement projects or erosion control on trails.

Grazing allotments and developments would be managed under the Congressional Grazing Guidelines and allotment management plans. Woodchute PWA contains two earthen stock tanks included in the buffer for FR318 and two additional earthen tanks, and their associated access roads, within the PWA. The use of motorized equipment to access and maintain the improvements within the wilderness would be allowed, based on a rule of practical necessity and reasonableness.

If designated as wilderness, no timber sales or firewood cutting would be permitted. The Forest Service would lose access to approximately 17 acres of ponderosa pine, along with the ability to maintain historic tree density levels through thinning in both the ponderosa pine and piñon-juniper vegetation types. This would increase the risk of loss of existing vegetation due to high intensity fire or insect outbreaks. Only firewood collection incidental to recreation would be allowed.

The area would be withdrawn from further mineral entry and leasing, however, there are no known patented mining claims. There is a suspected mine feature within the area, but the area has not been inventoried for Abandoned Mine Lands (AML) features.

Woodchute PWA contains cultural sites, but very little survey work has been done. Wilderness designation would have both positive and negative effects on cultural resource management. Impacts to sensitive sites due to vehicle traffic would be reduced or eliminated and the potential for vandalism (e.g., digging in sites, defacing or removing rock art, etc.) would be reduced. However, administration of these sites, including research and monitoring and inspections, would

be more difficult. If sites were in need of maintenance, stabilization or rehabilitation, the ability to accomplish the work could be hampered by motorized restrictions.

Wilderness designation does not preclude the use of wildland fire for the benefit of the resource, however, Woodchute PWA falls within the Black Hills Vegetation Management Plan (BHVMP). Most of this area could be treated with prescribed burns, including some areas that will require aerial ignition by helicopter. Wilderness designation would prohibit the use of chainsaws for treatment, and although prescribed fire would be allowed for habitat restoration, special clearance would be required for aerial ignition operations. Suppression actions would be guided by Minimum Impact Suppression Tactics (MIST).

### *Economic and social effects*

It is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

There is some evidence that new wilderness areas receive increased visitation for a period of time following their designation, but it is not certain that this level of visitation is sustained. It is estimated that Woodchute PWA would receive little in the way of new visitation if designated as wilderness because many of the visitors are already passing through the area to access the Woodchute Wilderness. Thus, its economic impact from outdoor recreation is expected to be minimal.

There are no known patented mining claims in Woodchute PWA, but it is suspected of having a history of mineral extraction. Since this is unconfirmed, it cannot be determined if the withdrawal of mineral rights would have a future negative economic impact.

Economic impacts could also be reasonably expected from the restrictions and prohibitions associated with livestock grazing. Livestock grazing would be permitted to continue, but it could be reasonably expected that there would be additional expense associated with the Congressional Grazing Guidelines applicable within designated wilderness. These guidelines allow the use of motorized equipment for management activities within designated wilderness, but require additional time for review and approval of projects. Wilderness designation would also mean the loss of access to firewood collection areas within Woodchute PWA, although the economic impact from this is expected to be minimal.

Not all of the value of wilderness can be captured in market transactions. Non-market goods and services such as clean air or scenic vistas have both social and economic value, however, it can be difficult to assign a dollar figure to them. Wilderness is recognized as contributing to healthy lifestyles and healthy economies through benefits derived from recreation and as a “quality-of-life” factor to attract new businesses and residents. The social values associated with wilderness include community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values, and an increase in primitive recreation opportunities. Wilderness designation for Woodchute PWA would maintain the wilderness characteristics that attract visitors to the area and could increase public awareness of the values associated with wilderness.

## **Area is managed as non-wilderness**

If Woodchute PWA were not to be recommended for wilderness designation, it would be managed for multiple use, ecosystem restoration, and social and economic values.

### *Effects on wilderness characteristics and values*

Under a multiple-use management approach, the wilderness characteristics of Woodchute PWA could be diminished by incompatible management activities. Reasonably foreseeable examples include mechanical vegetation treatments, developed recreation facilities, or motorized trails. The extent of disruption would be contingent upon the activities proposed, however they all have the potential to diminish the naturalness and undeveloped qualities of the Woodchute PWA. Motorized use would also have a negative impact on the opportunities for solitude or primitive and unconfined recreation.

### *Effects on non-wilderness resources and uses*

If Woodchute PWA were managed as a non-wilderness area, recreation opportunities could be expanded or developed if future demand required a shift in focus. Non-wilderness land would be compatible with motorized and mechanized use, including motorized big-game retrieval. The area would also be available for new developed camping or day-use facilities.

Wildlife habitat can be more actively managed in an area that is not subject to the restrictions placed on wilderness. In Woodchute PWA, this could mean vegetation treatments in the piñon-juniper to restore or maintain habitat.

The threats to the natural functions of watersheds from management activities can be counter-balanced in non-wilderness areas by the ability of managers to use active management to restore poor soil conditions. Vegetation treatments in Woodchute PWA could help to restore vegetation and soil conditions to desired states and reduce the risk of catastrophic wildfire. In the short-term, these types of mechanized management activities could increase soil compaction, erosion, and associated sedimentation. However, in the long-term, restoration could reduce these same factors at a faster rate than if left to natural processes. This long-term reduction would directly benefit water quality and watershed health.

Grazing allotments would continue to be managed under current allotment management plans, laws, policies, and regulations. There would be no additional management requirements for oversight and review of plans.

In a non-wilderness area, mechanical vegetation treatments would be allowed. Suitable sections of the area could also be open for commercial or public firewood cutting.

Woodchute PWA would be open to mineral development except where specifically withdrawn or restricted for other purposes.

Known cultural sites in Woodchute PWA would not be disturbed as they are already protected by law. Project-level inventories associated with ground disturbing and other activities could increase the identification of previously unknown sites or resources, and mitigation measures to avoid disturbance would be applied at the project level.

The risk of uncharacteristic wildfires would be reduced because of the opportunities to mechanically treat vegetation and harvest timber. This fuel reduction could be implemented across 1,400 acres of piñon-juniper and about 17 acres of ponderosa pine. The full range of suppression tactics and management approaches would also be available for use.

### *Economic and social effects*

As previously noted, it is difficult to quantify the economic effects of an individual potential wilderness area, however, revenue-generating goods and services on the Prescott NF include outdoor recreation, minerals extraction, livestock grazing, and forest products.

The economic effects of managing Woodchute PWA as a non-wilderness area would not change from the status quo. There would be no withdrawal of mineral rights, implementation of grazing guidelines, or prohibitions on timber harvest due to wilderness designation, although any of these may occur for other reasons.

The management of Woodchute PWA for multiple-use and ecosystem restoration does not preclude management for social values that are also associated with wilderness. The “quality-of-life” benefits derived from recreation are not exclusive to primitive or non-motorized activities. A non-wilderness area can provide a more diverse set of recreation opportunities that could appeal to visitors who are not seeking a wilderness experience. These opportunities could include mountain bike trails, motorized trails, off-highway vehicle play areas, and developed camping or day-use areas. Community benefits, preservation of open space, scientific and educational values, biodiversity, promotion of ecosystem services and other forest-related amenity values can be promoted in non-wilderness areas as part of a multiple-use management approach.



## Appendix A - Potential Wilderness Area Ratings

Number	Name	Acres	Capability	Availability	Need
PW-03-09-001	Apache Creek A	1,975	High	High	Low
PW-03-09-002	Apache Creek B	3,813	Medium	High	Low
PW-03-09-003	Arnold Mesa	20,815	High	Medium	Medium
PW-03-09-004	Ash Creek	16,086	Medium	Low	Medium
PW-03-09-005	Bald Mountain	7,662	Medium	High	Low
PW-03-09-006	Black Canyon	9,617	Medium	Medium	Medium
PW-03-09-007	Blind Indian Creek	32,338	Low	-	-
PW-03-09-008	Castle Creek	4,925	High	High	Medium
PW-03-09-009	Cedar Bench A	1,949	Medium	Medium	Low
PW-03-09-010	Cedar Bench B	644	Medium	High	Low
PW-03-09-011	Connell Mountains	9,975	Low	-	-
PW-03-09-012	Fritsche A	8,938	Medium	Low	Medium
PW-03-09-013	Fritsche B	15,596	Medium	Low	Low
PW-03-09-014	Fritsche C	5,690	Low	-	-
PW-03-09-029	Fritsche D	5,364	Low	-	-
PW-03-09-015	Granite Mountain	10,386	Low	-	-
PW-03-09-016	Grief Hill	16,477	Low	-	-
<i>PW-03-09-017</i>	Hackberry *	1,036	-	-	-
PW-03-09-018	Hyde Mountain	6,168	Low	-	-
PW-03-09-019	Juniper Mesa	4,891	High	High	Low
PW-03-09-020	Muldoon	20,428	High	Low	Low
PW-03-09-021	Pine Mountain A	6,268	High	Medium	Medium
PW-03-09-022	Pine Mountain B	2,808	Medium	Medium	Low
PW-03-09-023	Pine Mountain C	9,476	High	Medium	Low
PW-03-09-024	Sheridan Mountain	42,510	Low	-	-
PW-03-09-025	Sycamore Canyon A	4,435	High	Medium	Low
PW-03-09-026	Sycamore Canyon B	789	High	High	Low
PW-03-09-027	Sycamore Canyon C**	6,122	Medium	Medium	Medium
PW-03-09-028	Woodchute	1,510	Medium	High	Low

\* Hackberry PWA (PW-03-09-017) on the Prescott NF was evaluated as part of the Coconino NF Potential Wilderness Evaluation.

\*\* Sycamore Canyon C PWA (PW-03-09-027) adjacent to the Sycamore Wilderness contains acreage that is located on the Kaibab NF but will be analyzed by the Prescott NF as part of this Potential Wilderness Evaluation

## Appendix B - Capability Rating Criteria

This rating system was created to assess the wilderness character of Potential Wilderness Areas (PWAs). The 15 criteria were developed by the Southwestern Regional Office, with direction from the Forest Service Handbook 1909.12 Chapter 72.1. The numerical ratings were developed by the Prescott NF for use during the Potential Wilderness Area Evaluation Process, concurrent with the development of a revised Forest Plan.

As the PWAs were assessed, they were assigned a high, medium, or low rating on each criterion. A breakdown of these scores by PWA is available in a separate document titled “PNF PWE Capability Matrix”. A high rating was worth either three or five points, a medium rating was worth two points, and a low rating was not worth any points. Six of the fifteen criteria (as shown in boldface below) were determined to have greater significance for wilderness character and were accorded more weight (two more points) for a high rating. Medium ratings in these six criteria were not weighted more than the medium ratings in the other criteria, as the objective was to promote areas with outstanding qualities. Similarly, low ratings in these six criteria, like low ratings in the other criteria, received no points for displaying poor wilderness potential.

Each of the five categories—Naturalness, Undeveloped, Solitude / Primitive Recreation, Special Features, and Manageability—received a sub-rating of high, medium, or low based on the points earned in that category. The overall capability rating for a PWA was based on the total number of points earned in all five categories. A score of 50 or higher was needed to achieve an overall rating of high. Medium scores were between 43 and 49 points. Potential Wilderness Areas that had a low score, less than 43 out of 57 possible points, were determined to have insufficient wilderness character. A list of the areas that did not meet the threshold is below in appendix C.

As motorized use is incompatible with wilderness character, PWAs that contained motorized trails received zero points for the criteria and an additional penalty of one point per mile of motorized trail. For the purpose of this evaluation, only existing, motorized National Forest System trails, as designated per the current Motorized Vehicle Use Map (MVUM), were considered.

### Naturalness

An area received a high Naturalness rating for scoring at least sixteen out of twenty points in this category. A medium rating required at least thirteen points.

1. Presence of non-native species:
  - a. **High**—non-native species are not evident (3 points)
  - b. **Medium**—non-native species are evident in isolated spots (2 points)
  - c. **Low**—non-native species are common or scattered throughout the area (0 points)
2. Rivers within the wilderness area are in free-flowing condition:
  - a. **High**—rivers within the area are considered free-flowing (3 points)
  - b. **Medium**—some rivers have impoundments or other issues that affect their free flowing character (2 points)
  - c. **Low**—rivers within the wilderness area are seasonal or heavily impacted by impoundments (0 points)

3. Quality of night-sky as affected by light pollution:
  - a. **High**—the night sky is clear with little to no interference from light pollution (3 points)
  - b. **Medium**—some stars are visible and there is moderate degradation from light pollution (2 points)
  - c. **Low**—few stars are visible at night and the presence of light pollution is evident (0 points)
4. Presence of pollutants that degrade water:
  - a. **High**—all rivers/streams have been sampled and there are no water quality issues (3 points)
  - b. **Medium**—there are no known water quality issues within the area but not all rivers/streams have been sampled (2 points)
  - c. **Low**—there are rivers within the area that are listed on the State Impaired Waters List (303d) (0 points)
5. Area provides elements of biological diversity and naturalness, including unique habitats, Threatened and Endangered Species (TES), or rare plants and wildlife:
  - a. **High**—has critical or unique habitats and diverse ecological conditions (3 points)
  - b. **Medium**—has a mix of habitats and ecological conditions (2 points)
  - c. **Low**—has limited ecological conditions and habitats (0 points)
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.:**
  - a. **High**—diverse amount of natural resources (5 points)
  - b. **Medium**—mixed amount of natural resources (2 points)
  - c. **Low**—limited amount of natural resource diversity (0 points)

## Undeveloped

The Undeveloped category rating is the same as the rating for criteria number seven.

7. Area has current or past evidence of human activity:
  - a. **High**—little or no evidence of human activity (3 points)
  - b. **Medium**—unnoticeable or unobjectionable human activity (2 points)
  - c. **Low**—obvious evidence of human activity (0 points)

## Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

An area received a high Solitude / Primitive Recreation rating for scoring at least ten out of thirteen points in this category. A medium rating required at least eight points.

8. **Area provides physically and mentally challenging recreation opportunities that promote adventure and self-reliance:**
  - a. **High**—most of the area provides challenging recreation opportunities (5 points)
  - b. **Medium**—some parts of the area have the potential for challenging recreation opportunities (2 points)
  - c. **Low**—few parts of the area can provide challenging recreation opportunities (0 points)
9. **Opportunity to experience solitude and isolation from human activities while recreating in the area:**
  - a. **High**—significant feeling of being alone or remote from civilization (5 points)
  - b. **Medium**—feeling of being alone is possible but signs of civilization are possible (2 points)
  - c. **Low**—little opportunity of feeling alone (0 points)
10. Opportunity to engage in primitive and unconfined recreation such as backpacking, kayaking, hunting, fishing, etc.:
  - a. **High**—there are many opportunities for engaging in primitive recreation (3 points)
  - b. **Medium**—there are some opportunities for engaging in primitive recreation (2 points)
  - c. **Low**—there are few to no opportunities to engage in primitive recreation (0 points)

## Special Features and Values

An area received a high Special Features rating for scoring at least nine out of eleven points in this category. A medium rating required at least five points.

11. Area contains outstanding or distinct features like rock formations, panoramic views, etc.:
  - a. **High**—many distinct features or few but exceptional features (3 points)
  - b. **Medium**—some distinct features (2 points)
  - c. **Low**—one or no distinct features (0 points)

**12. Area has potential for scientific research, environmental education, or historic/cultural opportunities:**

- a. **High**—good potential for two or more types of these opportunities (5 points)
- b. **Medium**—potential for one type of opportunity (2 points)
- c. **Low**—little or no potential for this type of opportunity (0 points)

**13. Area contains unique or rare species of plants and/or animals:**

- a. **High**—area has several unique or rare plants and/or animals (3 points)
- b. **Medium**—area has a few unique or rare plants and/or animals (2 points)
- c. **Low**—area has no unique or rare plants and/or animals (0 points)

**Manageability**

The Manageability category rating is the same as the rating for criteria number fourteen.

**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:**

- a. **High**—isolated from areas of activity; controlled or limited access; no encumbrances or resource conflicts (5 points)
- b. **Medium**—somewhat isolated from areas of activity; adequate access opportunities; some resource conflicts and/or encumbrances (2 points)
- c. **Low**—areas of activity are nearby; many access opportunities; many resource conflicts and/or encumbrances (0 points)

**15. Motorized use within the area:**

- a. **Yes**—has motorized vehicle use (0 points) + 1 point is deducted for each mile of motorized trail
- b. **No**—does not have any motorized vehicle use (5 points)

Each of the six criteria that were accorded more weight is tied to language in the 1964 Wilderness Act, as shown below.

**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.**

An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its *natural conditions* ...

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

**9. Opportunity to experience solitude and isolation from human activities while recreating in the area.**

... wilderness areas shall be devoted to the public purposes of *recreational*, scenic, scientific, educational, conservation, and historical use.

... has outstanding opportunities for *solitude* or a primitive and *unconfined type of recreation*

**12. Area has potential for scientific research, environmental education, or historic/cultural opportunities.**

... contain ecological, geological, or other features of *scientific, educational, scenic, or historical value*.

... wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

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

... each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character.

**15. Motorized use within the area**

... there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats...

## **Appendix C - Areas Excluded from Further Evaluation**

For a breakdown of the ratings, see the document “PNF PWE Capability Matrix”.

### **Fritsche C & D**

**Rating: 39 (68%)**

These PWAs were excluded from further evaluation due to a lack of wilderness character. Although these PWAs do support rare plants and animals, the areas show evidence of human disturbance from firewood collection.

### **Granite Mountain**

**Rating: 39 (68%)**

This PWA was not considered for further evaluation due to a lack of wilderness character. Although the opportunities for challenge and solitude were rated high, its bio-diversity was rated average, and it does not support any documented rare plants or animals. Existing recreation use in the PWA, including bicycles, would make management as wilderness difficult.

### **Grief Hill**

**Rating: 37 (65%)**

This PWA was also not considered for further evaluation due to a lack of wilderness character. The opportunities for solitude, isolation, and primitive or unconfined recreation were rated average due to the proximity of Interstate 17 on the southern boundary of the PWA. The biodiversity and naturalness of the PWA were rated average, and it does not support any documented rare plants or animals.

### **Hyde Mountain**

**Rating: 35 (61%)**

This PWA was not considered for further evaluation because it contains 7.5 miles of motorized trails. It was determined that this use was incompatible with wilderness character.

### **Blind Indian Creek**

**Rating: 28 (49%)**

This PWA was not considered for further evaluation because it contains 15 miles of motorized trails. It was determined that this use was incompatible with wilderness character.

### **Connell Mountains**

**Rating: 27 (47%)**

This PWA was not considered for further evaluation because it contains 11.5 miles of motorized trails. It was determined that this use was incompatible with wilderness character.

### **Sheridan Mountain**

**Rating: 3 (5%)**

This PWA was not considered for further evaluation because it contains 35 miles of motorized trails. It was determined that this use was incompatible with wilderness character.

## Appendix D – Need Assessment Factors

### Factor #1

*The location, size, and type of other wilderness areas 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.*

The ratings for this need factor were based each Potential Wilderness Area's location relative to the population centers of Phoenix, Flagstaff, the Prescott Basin, and the Verde Valley, and to existing wilderness areas. On average, visitors will travel about 92 miles to reach a wilderness area (Forest Service 2009b). The average distance to all wilderness areas within 100 miles was calculated for each of the population centers on the assumption that a 100-mile radius represented the reasonably accessible existing wilderness.

Potential Wilderness Areas were rated high on this factor if they were closer than average distance from at least three population centers, including Flagstaff, and were not adjacent to any existing wilderness areas. Preference was given to those PWAs closer than average to Flagstaff, because it has access to the least amount of wilderness, both in number of areas and acres.

Potential Wilderness Areas were rated medium on this factor if they were closer than average or about average distance from at least three population centers but adjacent to existing wilderness.

Potential Wilderness Areas were rated low on this factor if they were farther than average distance from at least two population centers and adjacent to existing wilderness.

### Factor #2

*Present visitor pressure on other wilderness areas, the trends in use, changing patterns of use, population expansion factors, and trends and changes in transportation.*

This factor is similar to factor one in that it is location based, but it analyses the ability of each Potential Wilderness Area to meet future demand for wilderness as opposed to the current demand. It is predicted that future demand for wilderness on the Prescott NF will be greatest from Phoenix and Flagstaff (Forest Service 2009b). None of the PWAs was rated high on this factor because low use figures indicate that there is little visitor pressure in the existing wilderness areas. Areas that received a medium rating were well positioned to serve future anticipated demand from either Flagstaff or Phoenix. Those areas that received a low rating were poorly situated to serve either of those population centers.

### Factor #3

*The extent to which non-wilderness lands on the Prescott NF or other Federal lands are likely to provide opportunities for unconfined outdoor recreation experiences.*

The assessment for this factor was done collectively for all PWAs on the Prescott NF. It was determined that there were numerous opportunities available on "wilderness-like" lands and that the need for additional designated wilderness to provide these opportunities was low.



#### **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.*

Potential Wilderness Areas received a high rating for this factor if they provided refuge or sanctuary for species that require less than primitive surroundings for survival. There no species that fit this description identified within any of the PWAs on the Prescott NF. PWAs received a medium rating if they contained identified populations of threatened, endangered, or sensitive species. PWAs were rated low if they did not contain any identified populations of threatened, endangered, or sensitive species.

#### **Factor #5**

*Within social and biological limits, management may increase the capacity of established wilderness areas to support human use without unacceptable depreciation.*

The assessment for this factor was also done collectively for all Potential Wilderness Areas on the Prescott NF. It was determined that, for the most part, use in the existing wilderness areas on the Prescott NF is self-regulating due to rugged terrain and a lack of water. They are currently well within their social and biological limits and could experience an increase in use without unacceptable depreciation or changes in management. If there was a need for additional capacity, this could be accomplished through improvements to access, including new trails and trailheads. Given these conditions, it was determined that there is a low need to establish new wilderness to address capacity issues.

#### **Factor #6**

*An area's ability to provide for preservation of identifiable landform and ecosystem types.*

The guidelines set forth from the Forest Service Southwestern Regional Office identify under-represented landform types and ecosystems as those that comprise less than three percent of the acres in the Southwestern Region (Arizona and New Mexico). One under-represented landform type, Coconino Plateau Woodland, and three under-represented ecosystems, Interior Chaparral, Mixed Broadleaf Deciduous Riparian Forest, and Cottonwood Willow Riparian Forest, were identified from the regional information. A fourth ecosystem type, Ponderosa Pine-Evergreen Oak, was added to the list of under-represented ecosystems on the Prescott NF due to its similarity to the under-represented Madrean Pine Oak Woodland ecosystem. Areas that contained more than 1,000 acres of Coconino Plateau Woodland or Interior Chaparral were rated high. Areas that contained 100 to 1,000 under-represented acres were rated medium. Low rated areas contained less than 100 under-represented acres.

#### **Factor #7**

Public review and comment on potential wilderness areas.

The public was given opportunity to provide input and feedback to the potential wilderness area evaluation through a number of methods. Potential Wilderness Area boundaries were presented at public meetings for the Prescott NF Plan Revision in Prescott and Cottonwood, and comments

and feedback were solicited during and after these meetings. Information about the PWAs and the evaluation process was also posted on the Prescott NF Plan Revision website, with provisions to submit comments on-line or via email. Presentations were given to local user groups, business interests, community groups, and the Arizona Department of Game and Fish Department, and feedback was gathered during and after these interactions.

There is no rating associated with the public input—it is simply an accounting of the comments received concerning each PWA.

### **Overall Need Rating**

The PWAs were assigned a high, medium, or low rating for each factor, with a high rating worth three points, a medium rating worth two points, and a low rating worth no points. The overall need rating for the PWA was based on the total number of points. A score of fourteen out of a possible eighteen points was needed to achieve an overall rating of high. Medium scores were between nine and thirteen points. Low scores were eight points or less.

## References

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