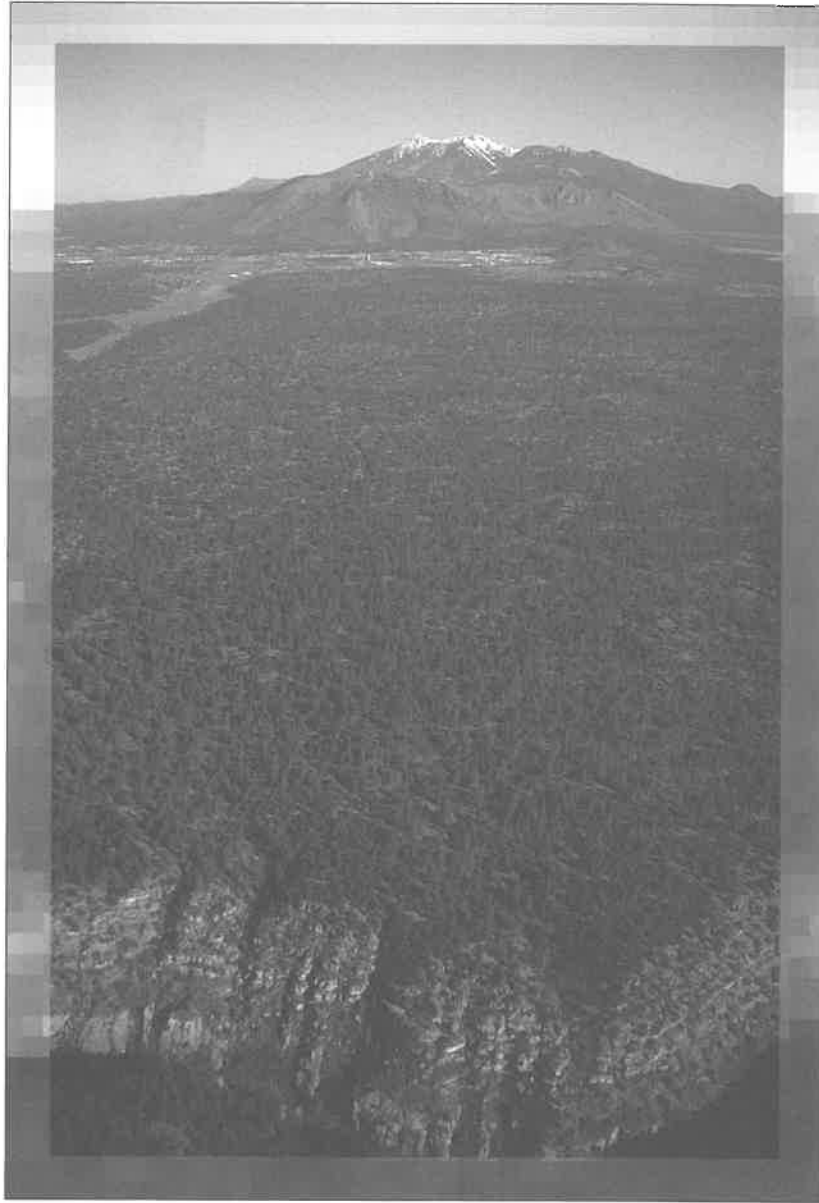


*Greater Flagstaff  
Living with Open Spaces*



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**Flagstaff Area Open Spaces  
and Greenways Plan**

January 1998

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# Table of Contents

---

<b>Executive Summary</b>	<b>1</b>
<hr/>	
<b>Section 1: Open Space Categories and Landscape District Descriptions</b>	<b>16</b>
<hr/>	
<b>Open Space Categories</b>	<b>17</b>
Primitive	17
Semi-primitive	19
Multiple-use/Conservation	20
Neighborhoods	21
Cultural/Historical/Recreational Facilities	22
<b>Landscape Districts</b>	<b>24</b>
Open Space Category Criteria Descriptions	24
Table 1.1: Open Spaces Category Criteria Descriptions	27
<hr/>	
<b>Section 2: Recommendations Common to all Landscape Districts</b>	<b>30</b>
<hr/>	
<b>Introduction</b>	<b>31</b>
<b>Land Ownership and Development</b>	<b>31</b>
Development Within Neighborhoods	31
Land Ownership in Neighborhoods	32
Development Within the Multiple-use/Conservation Category	34
Considerations for Buffers Between Communities and Between More Primitive Landscapes	34
<b>Recreation, Trail Linkages, and Access Roads</b>	<b>35</b>
General Recreation Recommendations by Open Space Category	35
Camping	36
Outdoor Facilities	37
Groups and Outfitter/Guides	37
Winter Recreation	39
OHV (Off-Highway Vehicle) Use	39
Trail-Road Linkages System	40
The Rio de Flag Linkage	41
Methods for Developing the Recommended Linkage Network	42
General Access by Open Space Category	43
Forest Service Access/Roads	44
<b>Resource Management</b>	<b>46</b>
General Wildlife Management	46
Wildlife Corridors	47
Wildlife Viewing and Education Opportunities	49

**Section 2 (continued)**

Shooting . . . . .49

Hunting . . . . .50

Rare and Unique Species Habitat . . . . .50

Fire Management . . . . .51

Riparian Community . . . . .52

Watershed . . . . .52

Traditional American Indian Uses . . . . .52

Cultural and Historical Sites . . . . .52

Research . . . . .53

General Forest Products . . . . .53

Grazing . . . . .54

Timber Management . . . . .55

Mining . . . . .56

Firewood Cutting and Gathering . . . . .56

**Community Participation, Information and Education,  
Agency Collaboration, and Law Enforcement . . . . .58**

Community Participation in Neighborwoods Management . . . . .58

Information and Education . . . . .59

Improving Communication, Cooperation, and Collaboration  
Among and Between Agencies and the Public . . . . .60

Law Enforcement . . . . .61

**Section 3: Recommendations Unique to Specific Landscape Districts . . . . .62**

**Introduction . . . . .63**

Open-Space Retention Recommendations . . . . .63

Desired Futures and Expected Outcomes . . . . .64

Implications for Future Land Exchanges and Sales . . . . .65

**A-1 Mountain Landscape District . . . . .68**

Table 3.1: A-1 Mountain Landscape District  
Lands Recommended for Retention . . . . .71

**Griffiths Springs Landscape District . . . . .74**

Table 3.2: Griffiths Spring Landscape District  
Lands Recommended for Retention . . . . .77

**Kachina Peaks Landscape District . . . . .84**

Table 3.3: Kachina Peaks Landscape District  
Lands Recommended for Retention . . . . .89

**Mt. Elden Landscape District . . . . .90**

Table 3.4: Mt. Elden Landscape District  
Lands Recommended for Retention . . . . .94

**Section 3 (continued)**

<b>Old Caves Landscape District</b> .....	<b>96</b>
Table 3.5: Mt. Elden Landscape District Lands Recommended for Retention .....	100
<b>Pumphouse Wash Landscape District</b> .....	<b>108</b>
Table 3.6: Pumphouse Wash Landscape District Lands Recommended for Retention .....	111
<b>Sunset Crater Landscape District</b> .....	<b>114</b>
Lands Recommended for Retention in the Sunset Crater Landscape District .....	117
<b>Walnut Canyon Landscape District</b> .....	<b>118</b>
Table 3.7: Walnut Canyon Landscape District Lands Recommended for Retention .....	123
<b>Wing Mountain Landscape District</b> .....	<b>126</b>
Table 3.8: Wing Mountain Landscape District Lands Recommended for Retention .....	129

---

**Section 4: Conclusion** **131**

Creation of an Open Spaces Coalition .....	131
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**Appendix 1: Open Spaces and Greenways Implementation Tools** **A1-1 to A1-21**

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**Appendix 2: Implementation Agencies and Processes** **A2-1 to A2-11**

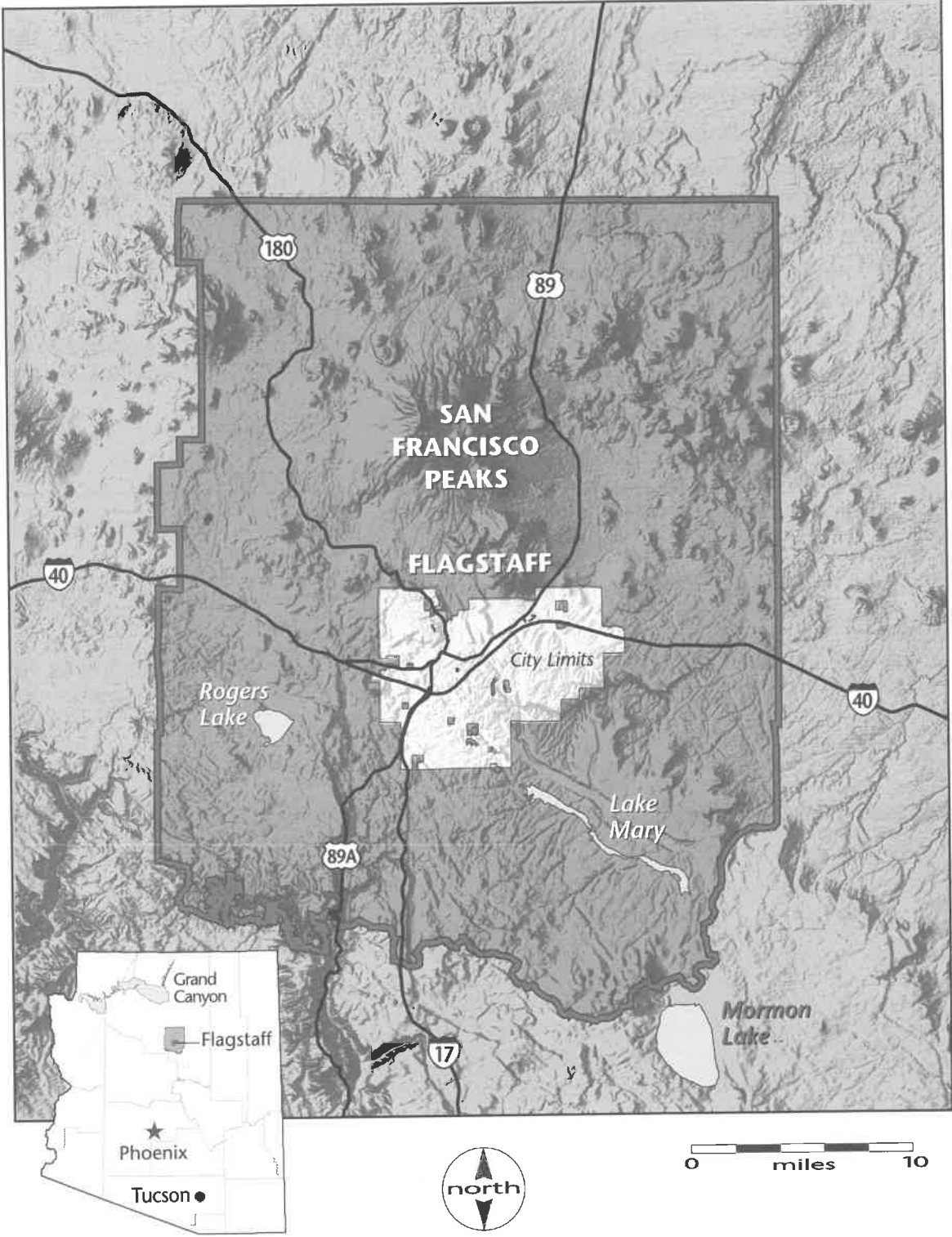
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**Appendix 3: Resource Maps** **A3-1 to A3-9**

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**Appendix 4: Memorandum of Understanding** **A4-1 to A4-11**

# Plan Area



# Executive Summary

## Greater Flagstaff Area Open Spaces and Greenways Plan

The *Greater Flagstaff Area Open Spaces and Greenways Plan* is intended to provide guidance in protecting and preserving existing open spaces with the demands of urban growth. Residential populations are expected to double by the year 2020. This growth will change the structure of the landscape and limit opportunities to experience the benefits of greenways and open spaces.

More and more people desire to live in and visit Northern Arizona. The number of visitors to the cool pines from the Metro-Phoenix area is expected to increase as their populations also increase. Land management decisions can no longer be made without more consideration of the interrelationships between natural and urban needs. People in the Flagstaff area need to consciously choose where and how much of the open spaces that currently surround our communities will continue to exist into the future. Once existing open spaces are developed, access to and connections between open spaces are difficult to regain. The distribution, size and shape of open spaces can be even more important than the mere presence of these open areas. Because of these increasing demands, there needs to be more communication, coordination and cooperation between governmental entities, residents and visitors to this part of Northern Arizona.

The values of open spaces affect the cultural and natural resources of the Flagstaff area. The

following is a list of the values associated with open spaces and greenways. These values are referred to throughout the *Plan* in the goals and objectives, recommendations and implementation strategies.

- community identity
- contained and directed growth and development
- non-motorized transportation corridors
- recreational opportunities
- scenic quality
- wildlife movement corridors
- wildlife habitat
- water and air quality
- flood control

The goals and objectives of the *Plan* were determined by the community and representatives of the land management agencies through a three-year planning process. The primary goal of the *Greater Flagstaff Area Open Spaces and Greenways Plan* is to maintain Flagstaff's quality of life by finding ways to balance development

with the retention of open spaces and natural areas. A key principle in the recommendations is that residents in the greater Flagstaff communities be able to reach open spaces in no more than 15 minutes from their neighborhoods.



*The primary goal of the Plan is to maintain Flagstaff's quality of life by finding ways to balance development with the retention of open spaces and natural areas.*

## The Importance of Open Spaces and Greenways

Open spaces are felt to contribute significantly to the quality of life in the greater Flagstaff landscape.

The Flagstaff area is surrounded by open space, intermixed with greenways. Open space is simply undeveloped land. There are usually few roads, buildings or human-made structures. Open space may be a wilderness, a park, a wildlife refuge, or a vacant lot in an urban area. Broad areas of open space are managed for conservation and multiple uses, such as recreation, wildlife habitat, watersheds, education, and natural resource commodities. They can be centered on natural features, such as mountains and canyons, or on cultural resources, such as archaeological sites or astronomical observatories. Open spaces are also nature reserves, recreational areas, and monuments.

Greenways are linear corridors of open space in urban areas. They are beneficial for providing connections to larger open spaces for people and wildlife along trails or watercourses. Greenways can follow natural features, such as rivers or escarpments, or human-made features, such as abandoned railroad corridors and scenic roadways. Greenways are trails, wildlife corridors, riparian communities, and utility corridors. They link nature reserves, parks, cultural features, and historic sites with each other and with populated areas. They are planned natural corridors linking large natural areas, such as parks and national forests or wildlife refuges. Greenways maintain native habitats and wildlife migration routes.



*Undeveloped lands are ribbons of green around the Flagstaff communities that provide opportunities for people to enjoy nature.*

Open spaces and greenways function in many ways for people and for wildlife. These areas protect the natural resources that people depend on, such as watersheds and lakes, streams and aquifers, timber, rangelands, and large areas of vegetation that help maintain or improve air quality. They protect developed places from floods and storm water runoff. In addition, designated open spaces and greenways can be used to contain and direct growth, avoid the need for costly utility and infrastructure extensions, and maintain scenic vistas and natural resources.

Some of these lands are publicly owned, some are privately owned, and some are the result of public/private partnerships. For example, some individuals may donate a conservation easement along a small strip of land, bestow title of a large parcel to a conservation organization, or agree to maintain a buffer strip of vegetation close to a riparian community. Some are open to visitors, others are not. Some appeal to people, others attract wildlife. Together, open spaces and greenways provide a whole that is greater than the sum of its parts.

Surrounding the greater Flagstaff area and adjacent communities are undeveloped lands. These forested lands, dotted with mountains and dissected by canyons, provide many varied opportunities for recreation and traditional forest uses of timbering and grazing, while sheltering and serving as corridors for wild animals and providing water for many uses. Residents and tourists enjoy these easily accessible, tranquil settings of wide open spaces, natural vistas, rare riparian communities and unbroken forested landscapes. These places are ribbons of green around the Flagstaff communities that provide opportunities for people to enjoy nature. These open lands bring the out-of-doors to people's own doorsteps.

Much of the land around Flagstaff is administered for the benefit of the public by the Forest Service and National Park Service. In addition, State Trust lands are managed for the benefit of the Trust. Each agency has a different mission and in the past has often exchanged or sold lands adjacent to urban areas. These

changes in ownership have not always been guided by long-range planning, but have resulted from independent requests and have not always considered the long-term implications. Often, exchange of these lands has been an advantage to the agency, allowing it to divest itself of lands that are difficult to manage or that have management objectives not in concert with the agency's mission. Nonetheless, one of the results has been undesirable patterns of urban sprawl and the frustration experienced by many citizens who valued the open space character and use of those once-public lands. Flagstaff and nearby area communities are largely dependent on the continued retention of Forest Service and State Trust lands to maintain the lifestyle to which local citizens are accustomed.

In 1994, recognition of the unwanted consequences of this process led to the formation of the Flagstaff Area Open Spaces and Greenways Committee, established and coordinated by the City. Committee members included representatives from the City of Flagstaff, Arizona Game and Fish Department, Arizona State Land Department, Coconino County, local citizens, and various business, recreation, conservation, tourism, and education interests. Advisory to the Committee were the Forest Service – Coconino National Forest and the National Park Service – National Monuments. All Committee members were residents of the greater Flagstaff area. Throughout the *Plan's* development, there were public forums and continual contact with interested members of the public.

This *Plan* will serve as the principal guide to the future protection of the open spaces and greenways surrounding Flagstaff and adjacent communities. Once adopted by the City of



*The Interstate 17/Interstate 40 interchange on the south side of Flagstaff is currently undergoing a major expansion to handle increased traffic more efficiently. The increased demand for such development underscores the importance of implementing a region-wide plan for determining the course of future development and controlling its pace.*

Flagstaff and Coconino County, and implemented by the cooperating agencies through changes to their management plans, this *Plan* should become a key component of a region-wide, coordinated, flexible growth management process. The City of Flagstaff, Coconino County, and other agencies will use the recommendations in the *Plan* to coordinate land management activities to maintain a mix of development and open spaces.

This *Plan* is not intended to be a site-specific document. For example, the *Plan* does not set



*This Plan will serve as the principal guide to the future protection of the open spaces and greenways surrounding Flagstaff and adjacent communities.*

priorities for development of the Flagstaff Urban Trail System, but it does indicate a need for future development of a linkage system between various locations. It does not tell agencies what to do, but makes recommendations for agencies to consider during their own planning. This *Plan's* recommendations attempt to strike a balance between conscious long-term choices for the future of wildland resources and the needs of an expanding resident and visitor population. By implementing this *Plan*, regional land management agencies and communities will be better able to create, maintain, and enjoy the benefits of open spaces and greenways for local long-term benefit.

The Committee identified general reasons, based on values, resources and characteristics, why open spaces and greenways were important to them. These reasons guided the Committee's development of management recommendations for lands surrounding Flagstaff. The *Open Spaces and Greenways Plan* was developed as a result of this collaborative effort.

- ◆ **Retain-natural appearing landscapes adjacent to urban and residential areas throughout the general Flagstaff area and outlying communities. The**

**open spaces and greenways will help to define the patterns of future development, prevent further encroachment into unique locations, and maintain people's connections to the land.**

Open spaces and greenways are the viewsheds, or scenic vistas, throughout the landscape surrounding Flagstaff. Viewsheds around communities consist of what people can see when they look beyond the subdivisions or shopping centers. Through thoughtful open-space planning, these viewsheds can be retained even amid human-made changes to the landscape.

In the past, open spaces have often existed by default and were often temporary. The pattern of urban sprawl made development of long-term trail systems and recreation areas difficult because locations used informally for trails and recreation could end up being developed at a later time. Urban sprawl increases the cost of providing services to residents. The City of Flagstaff has long been attempting to minimize these costs in part by designating an Urban Service Boundary within which the City provides services such as water, sewer, trash removal, and snow plowing.



*The Flagstaff Urban Trail System is a prime example of a high-quality, alternative mode transportation corridor between the city, communities, and outlying areas. Such trails will enable residents to leave their homes and reach a park or other open space within a 15-minute walk.*

◆ **Provide continued recreational opportunities for area residents and visitors by retaining and improving recreational values of open lands near residential areas.**

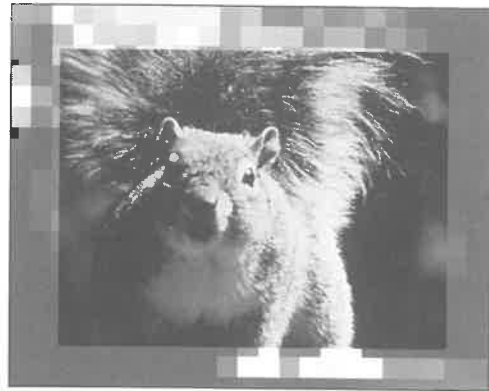
Undeveloped areas surrounding communities are used for individual and family recreation, permitted activities, and gathering resource products. All of these uses have increased over time and, because of the growth of the Flagstaff and Phoenix metropolitan populations, this trend will likely continue. Establishing open spaces and greenways will help communities and public agencies to shift the management priorities of these lands toward uses that maintain and enhance recreational uses, while considering community safety and future ecological health. Some uses will be altered; many will not change. Future monitoring of impacts from various uses and people will be an on-going process.

◆ **Connect communities, neighborhoods, open spaces, parks, cultural sites, and natural areas by providing non-motorized transportation corridors to the city, between communities, and between the city and outlying areas.**

Flagstaff area residents should be able to leave their neighborhoods and reach a trail, park or other open space within a 15-minute walk, which is part of a lifestyle currently enjoyed by Flagstaff citizens. This requires access points in neighborhoods and development of a network of trails and roads. People will use these routes for recreation or commuting. The network would connect the City of Flagstaff, Coconino County, and National Forest locations with trail corridors near paved roads, for example, as well as a trail network in more remote areas to connect peripheral communities and sites.

◆ **Conserve natural ecosystems and wildlife habitats to be compatible with human needs for recreation, functioning watersheds, and community safety. Minimize the loss of critical wildlife habitat to keep wildlife in and around Flagstaff.**

**Wildlife.** Conserving and enhancing wildlife habitat within and adjacent to Flagstaff is an important part of the quality of life in Flagstaff. As long as people have lived in Flagstaff, they have considered wildlife to be part of what



*The desired distribution of wildlife in the Flagstaff area currently includes maintaining songbirds and small animals such as this squirrel throughout the city and surrounding communities. Concentrations of them also will be maintained in some locations conducive to wildlife viewing.*

makes this landscape a special place to live. Although many people in Flagstaff enjoy seeing wildlife, people and wildlife are never completely compatible.

As Flagstaff has grown, development has disturbed wildlife habitats or driven wildlife away from some neighborhoods. As places of traditional wildlife foraging have been developed, the mix of wildlife species has changed, and some areas have lost much of their value as wildlife habitat. Urban development without consideration for wildlife can lead to loss of critical wildlife habitat. Wildlife movement corridors allow wildlife populations to migrate from one area to another area according to seasonal patterns, weather and food-supply conditions. If wildlife populations cannot travel to find the food, shelter and water they need, their numbers decrease and their populations become less viable. Disruption of travelways could reduce wildlife populations on a regional rather than on a local scale. The best landscape design for wildlife around Flagstaff is one in which natural areas are connected by wide corridors that contain the most diverse habitats available. However, how wildlife use these corridors and other open spaces will greatly depend on how humans use these corridors. Many open space and greenway design considerations involve trade-offs between human uses and habitat values.



Downtown Flagstaff boasts a number of historic and cultural sites, such as the Babbit Building, which was built between 1888 and 1904. Such historic structures are tangible evidence of the past and are therefore important to preserve for current and future generations.

Some open space design decisions will have to be based on the desired future distribution of wildlife around Flagstaff. This desired distribution currently includes maintaining songbirds and small animals throughout the city and surrounding communities and concentrations of them in some locations conducive to wildlife viewing. Large animals, such as deer and elk, could still be seen on the outskirts of the city, including greenways that people use minimally to moderately. Wildlife movement corridors would exist further from urban areas and would provide travelways for animals that migrate seasonally, move between subpopulations, need more remote habitats, or simply need more space, such as bears.

**Riparian.** Riparian communities are lands on the edges of bodies of water. These places should be conserved for many reasons, primarily because few natural riparian communities exist in the landscape surrounding Flagstaff and because these habitats have a high diversity of plant and animal life. Where effluent systems exist or are proposed, riparian opportunities should be enhanced and taken advantage of, just as natural riparian communities are.

Wildlife and domestic animals depend on riparian communities for water. People

use riparian communities, enjoying the cooler climate, lush green vegetation, wildlife viewing opportunities, and fishing. Some riparian communities also provide sites for outdoor education activities. Some American Indians attach traditional cultural values to certain springs and creeks.

**Fire.** The ponderosa pine forests that currently cover the Mogollon Rim contain many more trees per acre than when European settlers arrived in the mid- and late-1800s. The intense grazing at the end of the 1800s, coupled with fire suppression and broad-scale timbering, converged with a few fine seed years early this century to create the nearly continuous coverage of young ponderosa pine trees that is seen today. There is an urgent need to reduce the number of small trees because current densities increase the risk of fire starting and spreading quickly. This could be done by mechanically removing the younger trees and/or through the use of prescribed fire.

Another benefit of prescribed fire is the reduction of debris that has accumulated on the forest floor from leaves and limbs over the years because there have been very few fires. Prescribed fires can be human-started, low-intensity fires or prescribed natural fires from

lightning strikes that are allowed to burn if they meet prescription and management objectives. Prescribed fires reduce fuels such as pine needles, leaves, and tree branches. By reducing the amount of fuels available for wildfires through thinning and prescribed fire, there can be a significant reduction in the risk of life and property loss due to wildfire. At the same time, prescribed fire programs mimic fire's natural role in nutrient cycling.

**Watershed.** The ability of a piece of land to absorb, transport, and store water is influenced by many activities, such as pavement and concrete structures and soil compaction caused by roads, trails, or intense livestock grazing. Open space and greenway lands can be used to manage these factors to improve or maintain the health of watersheds. Vegetation and healthy surface soils can slow or capture water from rain and snowmelt. Water moving over land fills intermittent streams, which, in turn, fill larger creeks, rivers, and lake basins. Water moving underground through the soil percolates down into aquifers.

Flagstaff area communities depend on snowmelt, springs, aquifers, and lakes for water sources. Therefore, maintaining healthy watersheds that can successfully capture and filter water is important for the long-term availability of water. The overall priority is to protect the quality and quantity of the water in order to maintain, enhance, and restore rivers, streams, and riparian habitat.

◆ **Preserve the historic and prehistoric cultural history of the area.**

Open spaces and greenways will help protect and maintain the variety of cultural and historical resources. Many of these resources link people of different cultures to their pasts. Some of the more prominent cultural and historic sites serve visitors who may observe, learn about, and connect themselves to local history by seeing prehistoric and historic dwellings, historic railroad grades, and prehistoric and historic petroglyphs/pictographs/dendroglyphs. In addition, scientific research on prehistoric and historic remains have helped describe how past cultures interacted with the environment. Areas of unique scientific importance need to be preserved to allow such studies to continue.

Prehistoric and historic structures are tangible evidence of the past and are therefore important to preserve for current and future generations.

Some locations around Flagstaff hold significant spiritual values for American Indian cultures. For example, some American Indians gather plants for medicinal and spiritual needs; others visit certain places to pray and reflect. American Indians want to retain the environmental health of these special places and have raised concerns about their future, such as the overuse, advertisement or promotion, and possible degradation of resources. Consequently, consultation with American Indians is an important part of planning and making decisions about open spaces and greenways.

◆ **Provide buffers between communities and between more primitive landscapes.**

Open spaces and greenways can be used to contain urban sprawl while maintaining separation between Flagstaff and the outlying communities. Providing a visual separation will help each community maintain a sense of its own identity as well as a sense of belonging to the larger community through linkages. Continuation of current uses on public, State Trust, and private lands is one means to this end. In the case of State Trust lands, continuation of non-urban leases and revenue-generating activities will retain those lands in an open space condition and help prevent urban sprawl. Many of the same spaces and corridors that separate the communities can also serve as recreation areas and connectors with foot, bike, and horse trails.

A tiered buffer system is proposed in which the more remote and primitive landscapes, particularly the lands designated Semi-primitive and Primitive, are to carry less human impact and activity. Lands adjacent to urbanized development receive the most use, with usage tapering off on the more remote lands.

## Planning Process

The process of developing this *Open Spaces and Greenways Plan* began as part of the update of the City of Flagstaff's *Growth Management Guide 2000*. The *GMG 2000* had identified many possible benefits that the City of Flagstaff and surrounding communities could realize from developing an *Open Spaces and Greenways Plan*. With these benefits in mind, the City of Flagstaff invited land management agencies and local citizens to take part in an open spaces and greenways committee to develop the *Plan*.

The first public forum was held in 1994 to generate ideas and gauge support for planning the area's open spaces and greenways. Community participants expressed their opinions on the value of open spaces and greenways and potential obstacles to identifying and maintaining them.

Resource assessments were then conducted in which information was collected on environmental conditions, prehistoric and historic sites, contemporary and traditional land uses, wildlife, economic benefits, educational opportunities, scenic areas, and recreational opportunities. The information was plotted onto area maps and presented to the public at open houses held in February and March 1995.

In 1995, the Committee reviewed the inventory assessments and public input and defined an overall study area of about 578,000 acres in and around the city of Flagstaff. This was broken into nine landscape districts where similar activities and biophysical characteristics exist, with recommendations specific to each district. The districts are A-1 Mountain, Griffiths Spring, Kachina Peaks, Mt. Elden, Old Caves, Pumphouse Wash, Sunset Crater, Walnut Canyon, and Wing Mountain.

A set of criteria was developed to classify lands within the study area. The criteria included everything from vegetation types and wildlife

habitats to cultural/historic values, remoteness, visitor use, potential for social encounters, and economic uses, such as grazing and wood cutting. Five Open Space Categories emerged from analyses of these data:

- Primitive
- Semi-primitive
- Multiple-use/Conservation
- Neighborwoods
- Cultural/Historical/Recreational

These Open Space Categories represent a range of resource values, uses and opportunities, and types of experiences.

Potential linkages were identified. Linkages were defined as lands that allow wildlife to move from one area to another during seasonal migrations, that serve as trail corridors for people, and may provide open space buffer areas between communities. Linkages, including National Forest trails and the Flagstaff Urban Trails System, were also carefully considered as part of an overall system.

In 1996, the Committee developed policy recommendations and suggested implementation tools and strategies for each open space category within each landscape district.

These recommendations were presented to the public for review and comment through open houses and provision of draft *Plan* copies at various public agency locations and libraries. The Committee adjusted its information and recommendations according to public input and incorporated changes into the final *Open Spaces and Greenways Plan*.

Finally, in 1997 the agencies involved in this process prepared a Memorandum of Understanding (MOU). Through the MOU, the agencies committed to using the *Open Spaces and Greenways Plan* in their future planning.

## Current Land Ownership Patterns

Lands currently used as open space around Flagstaff are owned or managed primarily by the Forest Service or the State of Arizona and fall within the political jurisdiction of either the City of Flagstaff or Coconino County.

Flagstaff is unique in that it is surrounded primarily by publicly owned lands. In many other communities, private land acquisition is a large part of meeting open space goals. In the area covered by the *Plan*, National Forest Service System lands can provide many of the open space needs. There are, however, quasi-private State Trust lands managed by the Arizona State Land Department for the express purpose of generating revenues for the Trust. These lands are not as accessible, nor are they currently guaranteed to remain as open space.

The Lands for Retention Map presented in Appendix 3 shows the checkerboard pattern of State Lands in the region.

Each agency follows different mandates in managing its lands, while private individuals use their lands according to their own missions. Each government entity also acquires and disposes of land in different ways. For example, the Forest Service primarily disposes of lands through exchanges, though limited sales do occur, whereas the State Land Department disposes of State Trust lands through leases or sales. Disposition of Federal and Trust lands often leads to urban development, which has an impact on adjacent undeveloped land and on the communities that provide infrastructure services.

**Table ES-1**

Land Ownership Patterns in the Greater Flagstaff Area		
Ownership	Percent of Total	Approx. Acres
Private/City	8	50,000
State Land Department	6	34,000
National Park Service	1	6,300
Coconino National Forest	85	487,700
<b>Total</b>	<b>100</b>	<b>578,000</b>

## Planning Area

The study area of this *Plan* covers approximately 578,000 acres. It includes the city of Flagstaff and extends from Flagstaff beyond the San Francisco Peaks into the piñon and juniper woodlands, south to the Oak Creek Canyon Overlook, east near Winona, and west to Belmont. The Flagstaff Area Open Spaces and Greenways Committee established this

study area after conducting resource inventories and receiving input from the public.

Based on later input and evaluation, the southern boundary of the *Plan* was adjusted slightly to one that was more locatable on-the-ground and that will facilitate future implementation by the Coconino National Forest.

## Goals and Objectives

There are four goals that guide the objectives of the *Plan*. These goals are the basis of the recommendations and implementation strategies derived from resource assessments, public input, and the work of the Flagstaff Area Open Spaces and Greenways Committee. Each goal is followed by the objectives and the rationale for each objective.

### 1. Achieve a balance between the demands of open space and urban development.

#### ***Retain open space as buffers between communities and surrounding urban areas.***

Greenways and open spaces create buffers between separate communities, which helps to maintain community identity. These lands serve as buffers for more sensitive or primitive lands as well as providing valuable open space adjacent to urban areas and as connectors between communities. Historically, public lands adjacent to existing developed areas have been exchanged, sold, or leased by the Forest Service or State Land Department.



*Human activities such as livestock grazing, tree harvesting and recreation use should be managed at levels that conserve environmental quality and open space values.*

***Retain existing open space to contain and direct urban growth.*** Urban sprawl consumes land at a greater rate than population growth and is often characterized by “leapfrog” development. Leapfrog development leaves behind pockets of open space that are often disconnected from more valuable open space lands. This sprawl increases the cost of providing infrastructure and makes it difficult to provide traditional amenities.

#### ***Preserve Forest Service and State Trust lands as part of a comprehensive open space system.***

Federal and state lands provide scenic views, wildlife habitat and corridors, community buffers and recreation opportunities; serve as buffers to sensitive areas by absorbing many of the outdoor recreational users; or contain threatened, endangered or rare plant species, or archeological sites. Future land exchange or sale decisions should be balanced with potential gains and losses of open space values. Development should be balanced with retention of open spaces that provide corridors for wildlife, and, where this is not possible, development should at a minimum provide greenway linkages between developments and public open spaces.

***Protect scenic viewsheds.*** Retaining open space will protect scenic viewsheds. Viewsheds are the backdrops visible along scenic byways, transportation corridors, city centers, and community gateways. Scenic viewsheds are valued by residents and tourists who associate the community with the scenic views unique to the area.

***Keep human impacts to a level that provides for a healthy forest.*** Attractive open spaces are often “loved to death” through overuse and are stripped of their qualitative values, resulting in the need to close an area until it is stabilized and restored. Human activities, such as livestock grazing, tree harvesting, and recreational use, should be managed at levels that conserve environmental quality and open space values. Cumulative use and impact should be monitored and adjusted to an equilibrium consistent with carrying capacity.

## 2. Develop an interconnected open space and greenway network providing access and recreational opportunities.

**Provide a range of opportunities for recreation in open spaces and greenways.** The different open space categories offer a wide variety of recreation opportunities. Primitive open space will provide a different experience from an urban greenway. The recreation needs for all ages, abilities, and skill levels can be met by retaining a diverse system of open spaces.

**Develop a network of interconnected trails for recreation and commuting.** In some instances the use of the road is in itself a recreational activity; in others, the road is used to reach areas to engage in non-motorized recreational activities. An interconnected network of trails could connect separate communities and rural and urban areas; and provide multiple access to public lands, monuments, parks and cultural sites. A network of trails can serve as non-motorized transportation routes for commuting between residential, commercial, and employment centers.

**Protect access to public lands.** Encroaching development often restricts access to public lands. A limited number of access points concentrates users, which may adversely impact natural resources and lessen the experience of the user. Providing an interconnected network of trails and roads will allow multiple accesses to open space on public lands without adversely impacting the environment.

## 3. Promote the conservation and restoration of natural and cultural resources.

**Enhance wildlife management in and near urban areas.** The presence of wildlife is a valued characteristic to the residents of the Flagstaff area. Yet wildlife in urban areas can be a hazard to people and property. Wildlife in and around an urban area should be carefully managed for the benefit of both wildlife and the community.

**Protect and restore unique and sensitive vegetation and plant communities.** Vegetation and plant communities are important for their biological, scenic, educational, and habitat values. For protection, these sensitive, outstanding,



Retaining open spaces will protect "scenic viewsheds" such as this grove of aspen trees. Viewsheds are the backdrops visible along scenic byways and other transportation corridors.

and rare occurrences of vegetation may require restricted access to designated open spaces.

**Encourage fire management and hazard mitigation.** Open spaces and greenways near urban areas are susceptible to wildfires. The risks should be reduced by fire management and hazard mitigation techniques. This may call for the reduction of fuel, tree canopy cover, and vegetation density. In urban areas, the risk may be reduced by using appropriate building and landscaping materials.

**Preserve and restore riparian communities.** Riparian communities in Arizona have diminished greatly due to increased development throughout the state. Riparian habitat is found along watercourses that support a greater diversity and density of vegetation than surrounding areas because of limited water in an arid land. Many wildlife species depend on these sites, which are also popular recreation areas. Use must be managed to protect the vegetation and wildlife.

**Improve watershed protection.** Open spaces and greenways are valuable to watershed health. The open spaces serve as recharge areas and help in flood control by capturing runoff. Open spaces are essential for the quality of water resources because they absorb and disperse pollution.

**Encourage the protection of cultural resources through education.** Evidence of prehistoric occupation and historic sites exists throughout the Flagstaff area. Existing cultural sites are associated with the traditional practices and beliefs of various communities. Many of these sites are located within public open spaces. The importance of such sites should be recognized and efforts made for the protection of these sites.

#### **4. Encourage cooperation among community landowners, educators, residents, and land management agencies in achieving the goals of this Plan.**

**Encourage educational opportunities.** The open spaces and greenways system offers opportunities for education about history, pre-history, and natural resources. Information and education will encourage an understanding of the environment and appropriate uses as well as the values of open space.

**Promote scientific research.** Open spaces and greenways offer invaluable research opportunities. A multitude of research projects is already under way. Scientific research on a wide variety of topics should be encouraged to examine the effects of human use on the ecosystems and vice versa.

**Provide for sustainable economic uses of open spaces.** Historic economic uses of the open spaces in and around the Flagstaff area are grazing, logging, mining, and tourism. Each land managing agency has specific management policies governing these uses. These uses should be managed to prevent irreversible impacts to the environment while still providing the desired opportunities.

**Create an advisory coalition for the Open Spaces and Greenways Plan.** Open spaces and greenway development and management problems often cross land ownership and jurisdictional boundaries, requiring the cooperation of multiple agencies and citizens to address them. The coalition could include representatives of government agencies, special interest groups, and residents. A collaborative relationship among coalition members would assist in the implementation of the recommendations and in attaining the overall goals of the Plan.

**Establish Neighborhoods stewardship associations.** Because of their proximity to urban areas and convenient access, the Neighborhoods are some of the most desired for recreation, particularly by nearby residents. Neighborhoods associations can help public agencies provide care, improvements, maintenance, and enhancement of Neighborhoods while instilling a sense of stewardship.

## Recommendations

Open spaces and greenways are put to a broad spectrum of uses. This *Plan* proposes numerous recommendations for how open spaces and greenways can be preserved and enjoyed, while also considering the continuing demands for growth in residential, commercial, and recreational uses. The principal recommendations are...

1. Residents in the greater Flagstaff area communities should be able to reach open spaces within a 15-minute walk.
2. Means should be identified and pursued for the acquisition of State Trust, private, and Forest Service lands through the use of various alternatives, such as leases, fee title acquisition, regulatory and congressional action, conservation easements, and donations.
3. The Forest Service should maintain more public lands for recreational, cultural, and other compatible uses, rather than divesting itself of lands in the urban interface where traditional agricultural uses may no longer be feasible.
4. Attempts should be made to protect private lands that have significant resource values.
5. Efforts should be made to retain State Trust lands for open space activities.
6. Neighborwoods associations should be established to promote stewardship of lands adjacent to developed neighborhoods and communities.
7. If development should occur in the Neighborwoods, provisions should be made for retaining key open space values through linkages and overall development planning to avoid changes in current public accessibility. If State Trust and privately owned lands are ready to develop before they can be acquired or protected, then development shall occur according to the recommendations in Section 2, "Development Within Neighborwoods."
8. The City and Forest Service should coordinate and connect their trail systems.



*Residents in the greater Flagstaff area should be able to reach open spaces within a 15-minute walk.*

The County should develop a trail system to connect to the Forest Service's and City's systems; and that connects to park, cultural, and educational sites.

9. Maintain "connected" vegetation that provides wide corridors made up of diverse habitats for use by the greatest number of wildlife while preventing urban wildlife conflicts. Maintain special habitats, such as riparian communities, water sources, and snags.
10. Reintroduce fire's natural role in the ecosystem through prescribed fire programs. Mitigate the risk of property loss from wildfire while maintaining a balance among aesthetics, wildlife habitat, and the retention of as many large trees as is consistent with fire mitigation objectives.
11. Preserve and protect traditional cultural properties and consult with American Indians about all aspects of the planning process that may affect them.
12. Grazing, hunting, mining, wood products harvesting, and firewood cutting and gathering should be continued with appropriate planning for and in consideration of recreation and scenic and wildlife resources.
13. Individual and group recreation activities should be evaluated to meet future demands, provide enjoyable recreation experiences and maintain scenic, wildlife, and other natural resources.
14. Provide educational opportunities, including wildlife viewing, outdoor classrooms,

and ecosystem information, to gain informed compliance with the laws, rules, and regulations that protect resource values and provide safety.

15. The City of Flagstaff and Coconino County, through a regional land-use planning effort, should begin the process of amending their general plans and zoning maps.
16. The Forest Service should amend the *Coconino National Forest Plan* and use the *Open Spaces and Greenways Plan* in its upcoming Forest Plan revision.
17. The National Parks Service should begin incorporating this *Plan* into its *National Park Service General Management Plan and Strategic Plan*.
18. The Arizona Game and Fish Department should begin the process of pursuing the incorporation of this *Plan* into its strategic plans.
19. An Open Spaces Coalition should be established to advise and aid the various governmental entities on open spaces and greenways issues and activities.
20. The Open Spaces Coalition should promote public understanding and support for the *Open Spaces and Greenways Plan* by engaging the public and other governmental departments in furthering its goals.

## Contents of the Plan

### Section 1

Contains descriptions of the five open spaces categories: Primitive, Semi-primitive, Multiple-use/Conservation, Neighborwoods, and Cultural/Historical/Recreational. This section also includes descriptions of the nine landscape districts:

- A-1 Mountain
- Griffiths Spring
- Kachina Peaks
- Mt. Elden
- Old Caves
- Pumphouse Wash
- Sunset Crater
- Walnut Canyon
- Wing Mountain

### Section 2

Provides general recommendations on the following topics:

#### Land Ownership and Development

- Development within Neighborwoods and Multiple-use/Conservation Categories
- Buffers between communities and between more primitive landscapes

#### Recreation, Trail Linkages System, Access/Roads

- Camping
- Facilities
- Groups and Outfitter Guides
- Winter Recreation
- Off-Highway Vehicle Use
- Trail-Road Linkages System
- Rio de Flag Linkage
- Access by Open Space Category
- Forest Service Access/Roads

#### Resource Management

- Wildlife, Wildlife Corridors, and Wildlife Viewing
- Education Opportunities
- Shooting
- Hunting
- Rare and Unique Species Habitat
- Fire Management
- Riparian Communities
- Watershed
- Traditional American Indian Uses
- Cultural and Historical Sites
- Research

- General Forest Products
- Grazing
- Timber Management
- Mining
- Firewood Cutting and Gathering

### **Community Participation, Information and Education, Agency Collaboration and Law Enforcement**

#### **Section 3**

Provides recommendations unique to each landscape district and should be used in conjunction with Section 2.

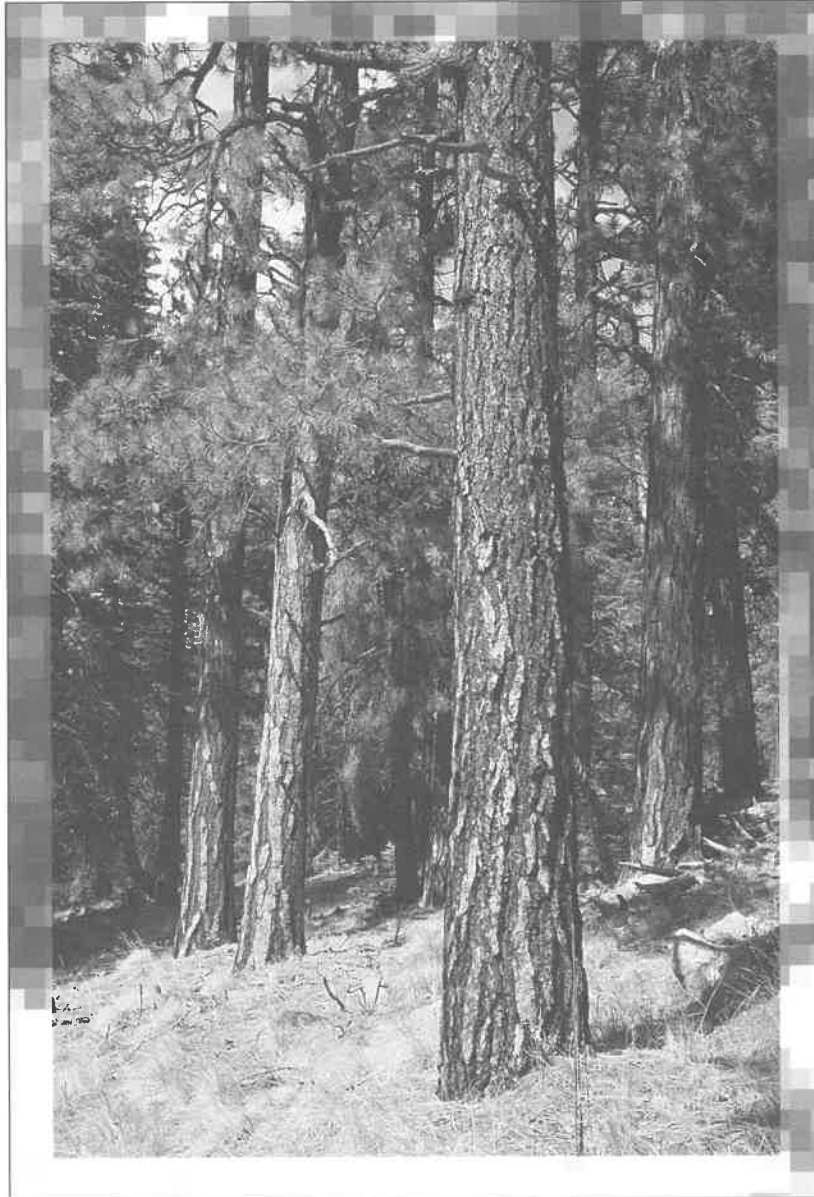
Section 3 provides a description of the landscape district by generalized geographic boundary; vegetation; pre-history and history; traditional uses; and recreational, economic and cultural uses. For each landscape district, a table is presented indicating lands recommended for retention. Finally, there are additional recommendations unique to each landscape district.

#### **Section 4**

The concluding section of the *Plan*, Section 4, contains a proposal for the formation of an Open Spaces Coalition to assist in implementing the *Plan*.

#### **Appendices**

The *Plan* has four appendices. Appendix 1, Open Spaces and Greenways Implementation Tools, contains suggestions for carrying out the recommendations contained in the *Plan*. Appendix 2, Implementation Agents and Processes, describes the missions and legal and regulatory mandates of public agencies in or near Flagstaff who are responsible for developing and managing open space lands. Appendix 3 contains recreation, wildlife, economic, and cultural site maps used in developing the open space categories. It also contains the landscape districts, land retention priority, desired futures, and community linkage system maps. The Memorandum of Understanding is presented in Appendix 4.



*Ponderosa pine is common in lands classified as "Neighborwoods." Typically, Neighborwoods extend from a neighborhood or community to a radius of approximately one to one-and-a-half miles. People commonly use these lands for recreational activities such as walking, jogging, bicycle riding, horseback riding, or all-terrain vehicle riding.*

# Section One

## Open Space Categories and Landscape District Descriptions

### Open Space Categories

Open space lands within landscape districts fall into five open space categories: Primitive, Semi-primitive, Multiple-use/Conservation (MU/C), Neighborwoods, and Cultural/Historical/Recreational (C/H/R). The eleven criteria used to develop the categories are surface features, vegetation, wildlife habitat, cultural sites, economic uses, accessibility, remoteness, naturalness, potential for social encounters, visitor use, and visitor facilities, and site management. These criteria and the differences between categories are displayed in the matrix at the end of this section.

Not every location designated as an open space category meets every single criterion; rather, a combination of criteria helped determine which places fit into which category. The process is a broad-scale designation with smaller pockets of one category or another existing within the larger areas. Lines were also drawn on a broad scale and should not be considered site-specific. These designations will be used as a guide for describing existing conditions within the greater Flagstaff landscape. Possible future changes in category designation are presented in the "Desired Futures" sub-sections of Section 3.

The Forest Service has developed a framework for understanding the various recreational relationships and interactions occurring on National Forest lands. This framework, referred to as the Recreation Opportunity Spectrum (ROS), has seven major classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban. Although this *Plan's* open space categories may reflect some similarities to the ROS system, there are significant differences and the two systems are not meant to be interchangeable.

The characteristics and the values/functions of each open space category are described below.



*Primitive lands provide solitude which...can enhance creativity, physical and mental health, self esteem, and independence.*

#### Primitive

Lands in the Primitive category exhibit natural conditions with little evidence of current human activities. These areas have many unique, significant and prominent surface features, such as the highest mountains, deepest canyons, and most unique geologic formations that help define the greater Flagstaff landscape and provide area residents a sense of place. For example, most people think of Flagstaff when they see the San Francisco Peaks, Walnut Canyon, or the surrounding cinder cones. Many people also feel spiritually connected to the Primitive category features, and American Indians, in particular, have strong religious connections to many of the area's mountains and canyons. These areas provide solitude, which people believe can enhance their creativity, physical and mental health, self esteem, and independence.

Unique and diverse vegetation exists throughout this category, including mixed conifer forests, riparian vegetation, and vegetative communities, such as the tundra on the

San Francisco Peaks. A large percentage of this category is Key Wildlife Habitat.

Key Wildlife Habitats are biologically diverse areas that contribute a great deal to habitat values on adjacent lands and would affect large areas if lost or modified. Both vegetative diversity and wildlife species diversity are high in most key wildlife areas. Vegetation patches are large enough to provide all habitat needs and space requirements for most of the native wildlife species that would be expected in these areas. Locally rare species are associated with some areas.

The Primitive category also provides ecological benchmarks, or places to study natural ecological processes and human influences on the processes. This category usually has high biodiversity and is important to maintaining long-term biodiversity. The lands are a refuge for many species, such as bears and mountain lions, that depend on large, remote, undisturbed habitats, as well as for species adapted to unique habitats, such as tundra plants, birds, rock wall canyon dwellers, and riparian plants and animals. Access to the Primitive category is restricted, and trails are primarily designated for non-motorized use. Where congressionally-designated Wildernesses exist, motorized or

mechanized use, including mountain biking, is prohibited.

Direct economic uses are minimal and occur in few sites, though there are some direct economic benefits and many indirect economic benefits. This category is used by many businesses for various purposes, including outfitter guide trips, livestock grazing, and commercial art/photography projects. The scenic and recreational values of these places draw many local and non-local recreation uses, which in turn support recreation-based businesses in town. Some people simply enjoy living near these natural wonders, even though they rarely visit them.

People visiting the Primitive category seldom encounter other people. The sights and sounds of urban environments are remote, few visitor facilities exist, and there are large areas where a person can find solitude, challenge, and a close association with “unaltered” nature. Approximately two-thirds of this category is Congressionally designated Wilderness, such as the Kachina Peaks, while the remainder has wilderness-like characteristics, such as Walnut Canyon. According to the Wilderness Act of 1964, a Wilderness is an area of “undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation....”



*Hikers venture into the Kachina Peaks Wilderness, a prime example of the Primitive landscape category. Primitive lands provide solitude, which people believe can enhance their creativity, physical and mental health, self-esteem, and independence.*



*Semi-primitive lands are larger parcels of land that surround and buffer Primitive lands and tie together key wildlife areas.*

### **Semi-primitive**

The Semi-primitive category encompasses lands that show some evidence of past human activities, but this category also has a substantial amount of land with natural-appearing conditions. Semi-primitive lands offer many of the same ecological values as Primitive lands, but are seen as helping to maintain or buffer the Primitive category it surrounds. These areas are larger parcels of land that tie together key wildlife areas. Many of the Semi-primitive category lands contain unique and diverse vegetation in association with key topographical features. This category encompasses slopes, side canyons, mesas, and ridgelines, which are key to maintaining wildlife habitat and travel corridors, scenic backdrops, and outdoor recreation experiences. Like the Primitive, the Semi-primitive category is largely forested.

A large percentage of Semi-primitive lands are Key or High Quality Wildlife Habitat, important for feeding, breeding and travel corridors between winter and summer ranges. High Quality Wildlife Habitats are larger parcels of land that tie together Key Wildlife habitats. These areas have somewhat high plant and animal diversity and provide refuge for a variety of species, including deer, elk, turkey, raptors, and small mammals. There are large undisturbed areas where animals sensitive to disturbance can live and where offspring can be raised safely. The Semi-primitive category also provides ecological benchmarks.

Many important cultural sites occur in this category as do places that hold important traditional cultural values.

Access into and through the Semi-primitive category is somewhat restricted because most

roads are primitive and passable only by high-clearance vehicles. Few two-wheel drive roads exist. Trail densities are low in most of the Semi-primitive category with the exception of the Mt. Elden/Dry Lake Hills and Fisher Point areas.

Direct economic uses are minimal to moderate and occur in few to several sites. Semi-primitive category lands offer more direct economic benefits than the Primitive category because there is a somewhat greater variety of activities. This category is used by many businesses and individuals for various purposes, including outfitter guide trips, livestock grazing, commercial photography, hunting, and some types of wood-product harvesting.

Recreationists often encounter other people, but the sights and sounds of urban environments are distant. Visitor use has a slight to moderate impact on the Semi-primitive category, and some visitor facilities exist. Much like the Primitive category, the Semi-primitive category provides solitude, which people believe can enhance their creativity, physical and mental health, self esteem, and independence. This category also offers scenic vistas and prominent landscape features.



*Forest Road 420 provides a spectacular view of Agassiz Peak in this Semi-primitive landscape. Recreationists often encounter other people, but the sights and sounds of urban environments are distant.*

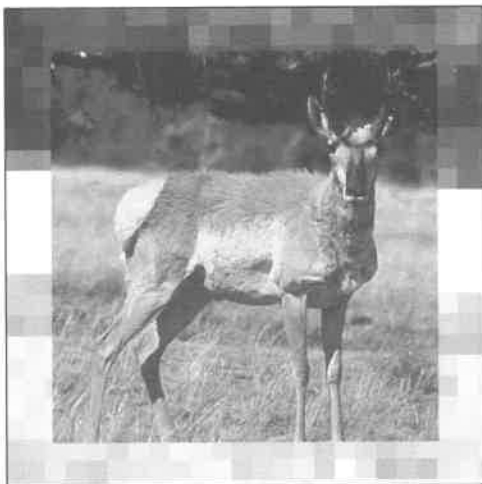


*Multiple-use/Conservation lands provide easily accessible places where people can remove themselves from urban environments.*

### **Multiple-use/Conservation**

Lands categorized as Multiple-use/Conservation (MU/C) appear natural but show some evidence of past human activities.

This category has rolling land features and pockets of unique and diverse plant species interspersed among ponderosa pine and piñon/juniper forests. The MU/C category is dominated by forests and contains large portions of unfragmented open spaces. Although this category has less unique geology and plant diversity than the Primitive and Semi-primitive categories, the conifer trees, and interspersed grasslands create a familiar landscape.



*Pronghorn antelope and other large grazers such as deer and elk rely on the large tracts of ponderosa pine and piñon/juniper forests common in Multiple-use/Conservation lands.*

A high percentage of this category is High Quality Wildlife Habitat, and there are pockets of Key Wildlife Habitat. The plants and trees provide feeding and breeding areas for wildlife. A number of species, such as elk and pronghorn antelope, rely on these large tracts of ponderosa pine and piñon/juniper forests. In some cases, the MU/C lands help maintain and protect the Semi-primitive category that they surround by serving as a buffer and receptor of heavier human usage.

The distribution of cultural sites in the MU/C category is highly variable, but many important sites do occur.

There are many opportunities to access the MU/C category on roads passable by two-wheel drive vehicles. There is also a variety of unimproved roads passable by high-clearance vehicles. When people travel through MU/C lands, they feel that they are “in the forest” and far from developed areas, even though they are likely to see other people and vehicles along these roads. However, people can find solitude by leaving the main road system and traveling on secondary roads or on trails.

Economic use of these lands is moderate to high and occurs in several to many sites. This category is used by businesses and many individuals for a wide variety of purposes, including outfitter guide trips, livestock grazing, wood products harvesting, firewood gathering, and hunting. Indirect economic benefits are gained from large numbers of recreationists who use these areas for a variety of activities, including hiking, camping, jogging, bicycling, horseback riding, and riding motorcycles, all-terrain vehicles, and off-highway vehicles.

The MU/C category provides easily accessible places where people can remove themselves from urban environments, relax and spend time alone or with family and friends. The lands offer forest scenery, and, to some extent, they provide places for studying natural processes and human influences on these processes. People may encounter other people sometimes to often along Forest Service roads and infrequently on trails and away from roads. The sights and sounds of urban environments are distant throughout most of this category. There is a moderate-to-high use of the MU/C category, and some visitor facilities exist.



The forest on Observatory Mesa serves as the Neighborwoods for these homes in the Cheshire community. Neighborwoods have trees, grasses, and rolling landforms that improve the beauty of developed areas by softening urban edges and adding natural features.



*Neighborwoods are open spaces near residents' homes where people may relax and enjoy a variety of outdoor activities.*

### **Neighborwoods**

Lands categorized as Neighborwoods exhibit natural conditions that have been modified by humans. Neighborwoods are open spaces near residents' homes, which provide easily accessible places where people can remove themselves from urban environments, relax and spend time alone or with family and friends. Based on patterns and intensity of recreational use, the Neighborwoods are mapped extending from a neighborhood or community at a radius of approximately one to one-and-a-half miles. Neighborwoods located between communities help maintain

the boundaries and define the separateness of residential developments.

People commonly use the Neighborwoods for after-work recreational activities such as walking, jogging, bicycle riding, horseback riding, or all-terrain vehicle riding. State lands are often used for Neighborwoods activities, but since these are quasi-private lands, a recreation permit or hunting and fishing licenses are required to avoid violation of trespassing laws. Most uses occur here by default rather than under planned management.

With increasing numbers of people using the Neighborwoods, a more managed condition is necessary. Increased neighborhood involvement and stewardship can help create and maintain the natural character and facilities of this category. These places should be areas that residents want to care for and maintain as open spaces.

Neighborwoods have trees, grasses, and rolling landforms that improve the beauty of developed areas by softening urban edges and adding natural features. For the most part, Neighborwoods have land features similar to those of the Multiple-use/Conservation category, with relatively flat landscapes and ponderosa pine, piñon/juniper vegetation types, native grasses, and small pockets with unique

geology or plant diversity. Neighborwood help to maintain the character of the adjacent MU/C and Semi-primitive categories.

Most of this category serves as habitat for common, and usually small, wildlife species, though some larger animals, such as elk and deer, sometimes pass through.

High densities of cultural sites may occur in many Neighborwoods.

Access to Neighborwoods is virtually unlimited because this category is near communities and has roads or numerous non-vehicular entry points. Often, these areas serve as unofficial parks or as gateways to more remote open spaces.

Economic use of these lands is moderate. In some Neighborwoods, direct benefits include firewood gathering, grazing, and beekeeping. In some parts of the Neighborwoods, campfires, camping, and firewood gathering are prohibited. Indirect economic benefits are gained when people move to the Flagstaff area because of the nearby outdoor recreation, accessibility, and scenic qualities of Neighborwoods.

People encounter other people sometimes to often, and the sights and sounds of urban environments are nearby and even within this category. Visitors heavily use roads, trails and recreation sites in Neighborwoods. Some visitor facilities exist in this category. People using Neighborwoods usually feel that they are "in the woods" because they see forest vegetation and see and hear wildlife.



*lands categorized as Cultural/Historical/Recreational have been highly and permanently modified by humans to provide facilities for local residents and visitors.*

### **Cultural/Historical/Recreational**

Lands categorized as Cultural/Historical/Recreational (C/H/R) have been highly and permanently modified by humans to provide facilities for local residents and visitors. This category helps give Flagstaff area residents a sense of place and pride. Some facilities research, document, and interpret cultural and natural history, while other facilities offer developed recreational areas for both small- and large-scale events.

Two examples are the Snowbowl and Fort Tuthill. Thousands of people visit the Arizona Snowbowl every year to downhill ski, use the ski lodges, see the vistas from the San Francisco Peaks, and ride the skyride. The Snowbowl also provides summertime access to the Kachina and Humphreys Trails. The Fort Tuthill County Park is the site of the Coconino County Fair, various festivals and other large-scale events. The Park also provides facilities for large group or family gatherings.

This category has diverse surface features and combinations of natural and maintained landscaped vegetation.

Wildlife habitat is limited due to the amount of human occupation, though birds, small mammals, and various tiny fauna live here. Much of this category is managed to exclude large animal species.



*Arizona Snowbowl in the San Francisco Peaks is one of the most popular Cultural/Historical/Recreational sites in the Flagstaff area. Thousands of people visit the facility each year to downhill ski, use the ski lodges, see the vistas from the San Francisco Peaks, and ride the skyride.*

Cultural sites in these areas are of high value.

Access to the facilities of the C/H/R category is open to all modes of travel on surfaced roadways.

Direct economic benefits are gained from entrance and user fees at visitors centers and facilities. Visitors choose these areas as desti-

nation points and visitor use is high in the developed sites. Users often encounter other people, and the sights and sounds of urban environments range from nearby to distant. Developed sites include facilities and services designed for comfort and convenience, numerous informational signs, exhibits, and obvious controls on activities and sites of use.

## Landscape Districts

Adjacent open space lands were grouped into nine landscape districts. The boundaries were drawn based on similar biophysical characteristics. Community identity was also an important factor. Each landscape district may contain more than one open space category. The purpose of these landscape district designations is simply to break the larger study area into more workable geographic areas for reference. The nine landscape districts are:

- **A-1 Mountain Landscape District**, encompassing A-1 Mountain, Observatory Mesa, the adjacent communities of Fort Valley, and the west-side neighborhoods of Flagstaff.
- **Griffiths Spring Landscape District**, encompassing Griffiths Spring, lands surrounding the communities of Kachina Village and Mountaineer, and lands bordered by Lake Mary Road.
- **Kachina Peaks Landscape District**, encompassing the San Francisco Peaks in the Kachina Wilderness and its lower slopes, the Hochderffer Hills, and the Hart Prairie communities.
- **Mt. Elden Landscape District**, encompassing Mt. Elden and the Dry Lake Hills, including portions of Schultz Pass Road, and the areas adjacent to northern Flagstaff and Buffalo Park.
- **Old Caves Landscape District**, encompassing the Doney Park communities and portions of Old Caves, O'Neill, and Turkey Hills Craters.
- **Pumphouse Wash Landscape District**, encompassing Rogers Lake, Woody Ridge, Pumphouse Wash, areas south of Kachina Village/Mountaineer, and portions of the Lake Mary communities.
- **Sunset Crater Landscape District**, encompassing portions of the Cinder Hills, Sunset Crater Volcano National Monument, and Strawberry and O'Leary Craters.
- **Walnut Canyon Landscape District**, encompassing Walnut Canyon, areas adjacent to the Fairfield Country Club commu-

nities, Walnut Canyon National Monument, Campbell Mesa, and Anderson Mesa.

- **Wing Mountain Landscape District**, encompassing Wing Mountain, Kendrick Mountain, and areas adjacent to the Bellemont communities.

These landscape districts serve as manageable planning units within the larger study area. A more detailed description of each landscape district is given in Section 3 of this *Plan*, and the landscape districts are indicated on the Landscape District map presented in Appendix 3.

### Open Space Category Criteria Descriptions

The following is a description of the criteria used to develop and delineate the open space categories. The distinction between the categories is based on each category having criteria that are more prevalent in that one category than another. For example, the Primitive category was found to have characteristics not found to the same extent in the other categories. It has unique surface features and vegetation and key wildlife habitat; is the most remote from urbanization and difficult to access; and has maintained most of its naturalness. Relative to the other categories, there are very few social encounters and almost no visitor facilities or site management.

#### Surface Feature

"Surface features" are the geologic formations that create land form. They are classified as either unique, prominent or substantial. Geologic formations that are unique to the region, such as the San Francisco Peaks or Walnut Canyon, are considered unique. Prominent surface features are those highly visible, such as the large cinder cones of O'Leary Peak or A-1 Mountain. Examples of substantial features are other main cinder cones such as Old Caves Crater and major drainages such as Pumphouse Wash.

#### Vegetation

"Vegetation" is described as unique, diverse or common. "Common" describes vegetation

that is commonly found in this region, such as ponderosa pine and grass forests, or large areas of piñon and juniper forests. Diverse vegetation refers to mixed conifer species such as limber pine, Douglas-fir, corkbark fir, white fir, aspen, and the associated grass and shrub understories. Unique vegetation refers to grass, forb, or shrub species that occur only in small areas or are rare when compared to the rest of the region. Examples of unique vegetation include San Francisco Peaks groundsel and Bebb's Willow.

### **Wildlife Habitat**

**Key Wildlife Habitat.** Land areas mapped as key wildlife habitat are for the most part undeveloped areas that are biologically diverse. These areas contribute a great deal to habitat values on adjacent lands and would affect large areas if lost or modified. Both vegetative diversity and wildlife species diversity are high in most key wildlife habitats. Vegetation patches are large enough to provide all habitat needs and space requirements for most native wildlife species that would be expected in these areas. Locally rare species are associated with some areas. Examples of key wildlife habitat within the vicinity of Flagstaff include the San Francisco Peaks, Roger's Lake, Mount Elden, the Hochderffer Hills, Rio de Flag, Dry Lake, Woody Ridge, and Walnut Canyon.

**High Quality Wildlife Value Areas.** These larger parcels of land tie together key wildlife habitats. Ponderosa pine forest dominates the vegetation, with aspens, oaks, or other large shrubs providing additional diversity. These areas support an abundance of wildlife species and vegetative diversity. Disturbance from past development and other management is variable, although these areas are usually more disturbed than lands designated as key wildlife habitat. Locally rare species are associated with some areas. These lands have high wildlife values, but are of lesser importance and greater extent than key wildlife habitat and do not have as much effect on wildlife values on adjacent lands.

### **Personal Gain**

"Personal gain" refers to a variety of forest uses that benefit individual households. Examples are firewood for home heating, wildings and rocks for home landscaping, Christmas tree cutting, piñon nut gathering,

and house logs. Different categories exhibit a different variety and intensity of these uses.

### **Commercial/Economic Gain**

"Commercial/economic gain" refers to a variety of forest uses where products or services are obtained and sold for profit. Examples include wood product for paper, latillas for home building, firewood cutting and gathering, outfitter guiding, and commercial photography. The number and variety of uses and the areas where they occur vary among categories.

### **Cultural**

"Cultural" refers to prehistoric and historic remains that connect present-day cultures to the past. "Cultural" also refers to the spiritual connection people hold for areas or places. Each of the categories contains a variety of remnants of the past and spiritual values. Thus, there is not a clear distinction between categories for this value; rather, cultural values exist throughout the *Plan* area.

### **Remoteness**

"Remoteness" refers to the level at which the sights and sounds of urban areas are experienced. For example, in some portions of the *Plan* area a visitor hears very little traffic noise, human voices or dogs barking, while in other portions of the *Plan* area a visitor hears and sees many of these urban sights and sounds. Each category has a different level of remoteness.

### **Accessibility**

"Accessibility" is tied to the road system and access points. Some portions of the *Plan* area contain many access points off of main highways, roads, and trails. Other portions of the *Plan* area are reached by only one or two access points, and roads and trails are less frequent. Access also refers to the maintenance level of the roads. For example, some roads are easily passable by two-wheel drive vehicles, while others are passable only by high-clearance vehicles.

### **Naturalness**

"Naturalness" refers to the level of human changes to the landscape. Some portions of the *Plan* area contain many utility lines, roads, trails, and signs. Other areas may contain many

tree stumps, fences, water tanks, or other evidence of human and forest commodity use. Different categories have different levels of naturalness, and fire suppression has created a different forest condition than would appear if fire had played its natural role.

### **Social Encounter**

“Social encounters” refers to the relative number of times a visitor sees another person or group of people. For this *Plan*, the number of social encounters is described as High, Moderate to High, Moderate to Low, Few and Very Few, with the fewest being found in the Primitive category and the highest in the Cultural/Historical/Recreational (C/H/R) category.

### **Visitor Use**

“Visitor Use” refers to the level and location of recreation use. In some portions of the *Plan* area, high levels of recreation use occur along main Forest Service roads or developed sites. In other portions of the study area, low levels of uses occur. This is a general distinction

described as High, Moderate to High, Low to Moderate, and Low use.

### **Visitor Facilities and Site Management**

“Facilities” refers to physical structures that are used by the visitor, such as developed campgrounds, picnic tables, grills, parking areas, and trailhead signs, as well as services associated with these facilities. These include water and toilets in some locations and information and educational services in others.

“Site management” refers to the rules or controls placed on visitors. At highly developed campgrounds, for example, there is usually a set of rules to follow. In other portions of the *Plan* area, there are few rules governing behavior. Site management also refers to the number of directional signs and facilities that help the visitor to feel secure and well guided. There are portions of the *Plan* area where directional aides and facilities exist and other portions of the area where little exists, and the visitor experiences the challenge of finding his or her own way.

Table 1.1

## Open Spaces Category Criteria Descriptions

	<b>Cultural/Historical/Recreational (C/H/R) Facilities</b> <i>Primarily high visitor-use areas providing for a wide variety of level of users, with highly developed facilities and services and evidence of permanent alteration of the natural landscape.</i>	<b>Neighborhoods</b> <i>These natural areas are near neighborhoods and urbanized environments. They experience substantial human use and serve as "parks" and gateways to more remote open regions.</i>
<b>Surface Features</b>	Diverse. Features may be unique, prominent or substantial and significant.	Relatively flat terrain
<b>Vegetation</b>	Maintained. Generally consists of natural vegetation, but is maintained and/or cultivated.	Common
<b>Wildlife Habitat*</b>	Few habitats managed for encroachment from large animal species	Habitat serves common and usually small wildlife species
<b>Personal Gain</b>	Number of uses and areas are none or very few	Number of uses and areas are moderate
<b>Commercial/Economic Gain</b>	Number of uses and areas are prevalent	Number of uses and areas are moderate
<b>Cultural Value**</b>	High	Varied
<b>Remoteness</b>	Remoteness from urbanized environments is of little importance	Close to neighborhoods and within sight and sound of urbanized environments
<b>Accessibility</b>	Full access is available for all types and modes of travel to the facility, although some sites with the C/H/R area may not be accessible by vehicle	Vehicular accesses are numerous and there is much access for alternate modes of transportation
<b>Naturalness</b>	High modification to accommodate facilities and high number of uses	Considerable modification, particularly by nearby residents
<b>Social Encounters</b>	High number of encounters with others	Moderate to high number of encounters with others
<b>Visitor Use</b>	High use at developed sites	High use on roads, trails and recreation sites
<b>Visitor Facilities &amp; Site Management</b>	Developed facilities designed for comfort and convenience. Numerous information signs, exhibits, and controls are obvious.	Campground facilities and dispersed camping is available. Controls are obvious.

\* High Quality Wildlife Habitat and Key Wildlife Habitat, see p. 25.

\*\* Prehistoric, Historic, and Native Inhabitants' Traditional Use Areas

**Table 1.1**

**Open Spaces Category Criteria Descriptions**

	<b>Multiple-Use/Conservation (MU/C)</b> <i>These areas are defined by their multiple-use aspects and a combination of the characteristics of other regions. While there is obvious evidence of past activities, there is some retention of the natural landscape and opportunities for independent recreational and sporting experiences.</i>	<b>Semi-Primitive</b> <i>These areas exhibit some evidence of past activities and alteration of the natural landscape. These activities are subordinate to the overall landscape, which is noted for its prominent features.</i>
<b>Surface Features</b>	Substantial	Prominent feature or cluster of substantial features
<b>Vegetation</b>	Pockets of unique and diverse vegetation	Unique and diverse vegetation in most of the area
<b>Wildlife Habitat*</b>	High percentage of High Quality Wildlife Habitat and small pockets of Key Wildlife Habitat	High percentages of Key and/or High Quality Wildlife Habitat
<b>Personal Gain</b>	Number of uses and areas are moderate to high	Number of uses and areas are few to moderate
<b>Commercial/Economic Gain</b>	Number of uses and areas are moderate to high	Number of uses and areas are few to moderate
<b>Cultural Value**</b>	Varied	Moderate to high
<b>Remoteness</b>	Sights and sounds of urbanized environment are distant in most areas	Sights and sounds of the urbanized environment are distant
<b>Accessibility</b>	Unimproved roads are passable by 2-wheel drive vehicles in season, and 4-wheel drive is required at other times	Most roads are primitive, passable by high-clearance vehicles
<b>Naturalness</b>	Retention of natural setting in some places with some evidence of past activities	Substantial retention of the natural environment with some evidence of past activities
<b>Social Encounters</b>	Moderate to high number of contacts with others on roads, and moderate to low contacts with others on trails	Few encounters with others
<b>Visitor Use</b>	Moderate to high use on roads at dispersed camping sites	Low to moderate use
<b>Visitor Facilities &amp; Site Management</b>	Dispersed camping is available. Services are not available. Little control, with little information.	Dispersed and/or semi-developed camping is available. Few services are available. Little control, with little information.

\* High Quality Wildlife Habitat and Key Wildlife Habitat, see p. 25.    \*\* Prehistoric, Historic, and Native Inhabitants' Traditional Use Areas

Table 1.1

## Open Spaces Category Criteria Descriptions

**Primitive**

*These areas exhibit a high degree of naturalness with little human impact evident. They provide opportunities for solitude, independence, and self-reliance.*

<b>Surface Features</b>	Unique
<b>Vegetation</b>	Unique and diverse vegetation throughout
<b>Wildlife Habitat*</b>	High percentage of Key Wildlife Habitat
<b>Personal Gain</b>	Number of uses and areas are none or very few
<b>Commercial/ Economic Gain</b>	Number of uses and areas are few
<b>Cultural Value**</b>	Varied
<b>Remoteness</b>	Sights and sounds of the urbanized environment are very remote, if seen or heard at all
<b>Accessibility</b>	Access is highly restricted and consists primarily of non-motorized trails
<b>Naturalness</b>	Primarily unaltered natural environment with little to no evidence of past activities
<b>Social Encounters</b>	Very few encounters with others
<b>Visitor Use</b>	Low use overall, except on heavily used trails
<b>Visitor Facilities &amp; Site Management</b>	Minimal to no facilities, services or information

\* High Quality Wildlife Habitat and Key Wildlife Habitat, see p. 25. \*\* Prehistoric, Historic, and Native Inhabitants' Traditional Use Areas



*Standing dead trees (snags), especially large ones, are used by more than 40 bird species and at least seven bat species. Protecting such features in order to maintain wildlife as part of the quality of life in the greater Flagstaff landscape is one of the primary goals of this Plan.*

# Section Two

## Recommendations Common to All Landscape Districts

### Introduction

Recommendations are organized into two areas: Recommendations Common to All Landscape Districts (Section 2) and Recommendations Unique to a Specific Landscape District (Section 3). For example, objectives for an overall trail linkages system are described in the Recommendations Common to All Landscape Districts, and specific trail needs to serve a community or place names of connections are described in Recommendations Unique to a Specific Landscape District.

Sections 2 and 3 should be considered together as a comprehensive package of recommendations. Where discrepancies may occur between Sections 2 and 3, then Section 3, which is more specific, takes precedence.

In addition to the recommendations, a menu of implementation tools has been developed. These tools are potential means

of achieving the recommendations. For a listing of these tools, see the tables in Appendix 1.

Section 2 is divided into four parts:

- Land Ownership and Development
- Recreation, Trail Linkages and Access/Roads
- Resource Management
- Community Participation, Information and Education, Agency Collaboration, and Law Enforcement

Section 3 is divided into nine parts, one for each landscape district. Each of the nine sections contains a description, specific information on lands recommended for retention as open space, recommendations unique to the specific landscape district, and potential desired futures or possible expected outcomes of management recommendations.

### Land Ownership and Development

The following discussion addresses development within the Neighborhoods and Multiple-use/Conservation (MU/C) categories only, not the Primitive, Semi-primitive or Cultural/Historical/Recreational (C/H/R) categories. Development of a residential, commercial, or industrial nature is not expected in these three latter categories. However, it is recognized that State Trust and privately owned lands within the Semi-primitive category may be developed unless they are acquired or protected for open space purposes. If these lands are ready to develop before they can be acquired or protected,

then development shall occur according to the recommendations in the following subsection, "Development Within Neighborhoods."

#### Development Within Neighborhoods

Because of their proximity to urban areas, the Neighborhoods are both the most susceptible to development and the most desired for retention as open space by the adjacent neighborhoods that value them. This *Plan* does not list specific parcels or sections appropriate for development within the Neighborhoods. Rather,



*Because of their proximity to urban areas, the Neighborwoods are both the most susceptible to development and the most desired for retention as open space.*

It is the intent of the *Plan* that Neighborwoods be preserved to the extent possible because they create buffers between communities and provide recreational opportunities for nearby residents.

The prioritization of State and Forest Service lands can help in making such determinations. However, regardless of a section's ranking, there is still the need for site-specific evaluation and community involvement prior to any state or federal land ownership change or development decisions. It is not the intent of this *Plan* to stop development, but rather to shape growth in accordance with the open space values articulated in this *Plan*. It is a main intent of this *Plan* to consciously consider how to develop in response to the community's future growth. For example, by placing primary emphasis on infilling within currently urbanized areas, sprawl can be contained.

Because of their proximity to high levels of populations and accessibility, Neighborwoods absorb heavy recreation use, thus protecting Semi-primitive and Primitive categories from over-use and potentially degrading impacts.

Many factors should play into future development decisions. In some cases, whole parcels of land may not be needed for open space; rather, easements, corridors, or portions of the sections may satisfy open space needs. It should also be noted that there may be instances in which the community will want additional land for a community purpose,

such as new recreation facilities, water and sewer facilities, or road rights-of-way, in addition to the potential demand for residential purposes. The release of public lands for these needs could be appropriate.

#### **Recommendations**

- Adjoining neighborhoods should play a role in planning and maintaining Neighborwoods. The proposed Open Spaces Coalition can enlist the assistance of Neighborwoods associations in this role.
- If development should occur in the Neighborwoods, provisions should be made for retaining key open space values through linkages and overall development planning to avoid changes in current public accessibility. Open space planning for urbanized areas within the city will be needed to support this effort.
- Land use decisions in the Neighborwoods must be based on the best information available, public input, and on the overall goals and objectives recommended in this *Plan*.
- Developments along forested gateways into Flagstaff should be complementary and subordinate to the landscape and screened with vegetation.
- Future signage should be minimal, discrete, and appropriate and should not detract from the landscape.

#### **Land Ownership in Neighborwoods**

The recommendations listed below should also be followed when considering land ownership changes. "Development" refers to all residential and non-residential development.

#### **Recommendations**

- If public lands that contain substantial or significant evidence of open space values, resources, and characteristics are proposed for exchange, further resource inventories and analyses should be done to determine exact locations of these characteristics and their relationships to surrounding areas.
- If resource inventories and analyses determine that public lands proposed for development have substantial or significant open

space values, resources, and characteristics, they should not be exchanged or developed. Various means, extending from purchase through fee title, donations, and conservation easements, may be employed to acquire development rights.

- If resource inventories determine that public lands proposed for development are not needed in their entirety to meet open space goals, provisions should be made for connecting trail linkages, wildlife corridors, and access points to surrounding public lands. In addition, provisions should be made for obtaining open spaces that provide outdoor recreational opportunities within developments. Development should be blended into the landscape to limit visual degradation on ridges, slopes or major roadways, and patches of natural landscape features such as large trees, shrubs, native grasses, and rock should be retained.
  - Vegetation should be retained along major roads and building heights limited where needed to meet scenic values.
  - Land exchanges can be conducted where small areas of Forest Service land surround or are adjacent to private land and are highly valued by adjoining private landowners as
- Neighborwoods, but offer few open space characteristics or benefits to the public. This will reduce the patchwork of private and Forest Service land ownership and allow for homeowners associations to manage the open space lands. Consolidating land ownership where possible will ease Forest Service administration of these lands. Before this occurs, however, site-specific inventories and analyses should be done, with appropriate public involvement, and access should be considered as described elsewhere in the *Plan*.
  - When making future land ownership change decisions, consider what can be gained overall for open spaces and greenways. For example, certain public lands of lower priority could be offered in exchange for a highly valued, privately owned parcel that may contain a riparian community. Local agencies could orchestrate win-win scenarios that work toward long-term retention and maintenance of the most valued natural places in the greater Flagstaff landscape while still providing for desired development.
  - Promote a mosaic of developed and undeveloped areas where development



Roads and trails accessible from Flagstaff-area Neighborwoods receive heavy recreational use from mountain bikers, joggers, and other outdoor recreation enthusiasts. Consequently, Neighborwoods protect Semi-primitive and Primitive lands from over-use and potentially degrading impacts.

is clustered and surrounded by open spaces. Retain natural buffers and greenway linkages between communities. Retain close-to-home outdoor recreation opportunities.

- Limit resident and wildlife conflicts where possible. This can be done by avoiding the creation of false, or dead end, corridors in wildlife movement areas that trap migrating or emigrating wildlife into neighborhoods. Inform and educate residents on how to either attract or avoid attracting wildlife, including small mammals and birds, in their neighborhoods.
- The Open Spaces and Greenways Coalition should provide interpretation of the *Plan* to the community.

In addition to providing recreational opportunities, some lands within Neighborwoods are critical to the Flagstaff open spaces and greenways system for one or more of the following reasons:

- They contain special resource values such as riparian habitat.
- They provide an important wildlife travelway or other habitat consideration.
- They provide open space trail linkages.
- They contain important cultural/historical sites.
- They provide buffers between communities or buffers to fragile areas.
- They maintain scenic corridors along major roadways, ridgelines, and hillsides.

### **Development Within the Multiple-use/Conservation Category**

A few selected areas of the MU/C category may be developed in the future, particularly private lands currently zoned for development within the Wing Mountain Landscape District in the Bellemont vicinity.

#### **Recommendations**

- The same guidelines described above for the Neighborwoods should be followed in the MU/C category.



*Open spaces and greenways can be used to maintain the visual separation that currently exists between Flagstaff and the outlying communities...helping each community keep a sense of its own identity.*

### **Considerations for Buffers Between Communities and Between More Primitive Landscapes**

Urban sprawl increases the cost of providing services to residents. Flagstaff has long been attempting to minimize these costs. The City has done this since 1982 by designating an Urban Service Boundary within which Flagstaff provides services. The pattern of urban sprawl also contributed to the desire to develop an *Open Spaces and Greenways Plan*, since open spaces often happened by default and were often temporary. The pattern of urban sprawl makes development of trail systems and recreation areas difficult because places that are used informally for trails and recreation can end up being developed at a later time.

The decision to have and maintain buffers between and around communities is intended to encourage the development of currently undeveloped lands (infilling) and redeveloping areas within existing communities, therefore, over time, containing urban sprawl. This, in turn, requires decisions regarding which lands to develop and which lands to retain as open spaces and greenways. This *Plan* is a beginning and takes into account the fact that more detailed analysis, evaluation, and public involvement are necessary at a site-specific level as this process continues.

Open spaces and greenways can be used to maintain the visual separation that currently

exists between Flagstaff and the outlying communities. Providing a visual separation will help both Flagstaff and the outlying communities keep a sense of their own identities as well as a sense of belonging to the larger community. The same spaces and corridors that separate the communities can also serve as recreation areas and connectors for foot, bike and horse trails.

The existing communities represent many of the good points of the rural village concept, which seeks to provide residents with a sense of belonging to a community which is small enough to grasp and large enough to provide essential quality-of-life services and amenities. Providing a buffer around each of the smaller communities that make up the larger community maintains the quality of life and a sense of place and home.

A tiered buffer system is proposed in this *Plan*, in which the more remote and primitive landscapes, particularly the lands designated Semi-primitive and Primitive, are to carry less human impact and activity. Lands adjacent to urbanized development receive the most use, with usage tapering off on the most remote lands.

#### **Recommendations**

- Not only should buffers and a mosaic of natural vegetation be maintained between existing communities, but identification of buffers should be a consideration for new developments.
- Conserve the primitive character of the more remote open space categories with the Neighborwoods and MU/C areas serving as buffers.

## **Recreation, Trail Linkages, and Access Roads**

### **General Recreation Recommendations by Open Space Category**

Section 3 contains many recreation recommendations specific to the various landscape districts. Below is a summary of recreation opportunities in the different categories. If there is a conflict between the recommendations given in this section and the more specific recommendations in Section 3, the specific recommendations in Section 3 take precedence.

#### **Primitive**

There are fewer types of outdoor recreation activities occurring in this category relative to the Semi-primitive, MU/C, and Neighborwoods categories.

#### **Recommendations**

- Throughout most of this category, encounters with other people should be infrequent, with the exception of popular trails, such as the Humphreys Trail.
- Trail corridors within the Primitive category can receive moderate to high levels of use while maintaining the areas between trail corridors as wild and primitive, providing solitude and challenge.

- While this *Plan* does not designate camping sites, camping may have to be limited to appropriate sites. Where high levels of use occur, camping sites should be designated.
- Congressionally-designated Wildernesses should be managed as a place where natural processes occur and human influence is minimal. Limit group sizes to meet Wilderness goals.
- Continue to provide for recreational opportunities while balancing this use with wilderness, spiritual, and wildlife values.

#### **Semi-primitive**

This category provides for local as well as visitor use. Emphasis will be on retaining the Semi-primitive nature of the category. These lands should be maintained with lower numbers of people, and fewer recreational opportunities than the MU/C and Neighborwoods categories, especially away from designated roads and trails.

#### **Recommendations**

- Areas outside of major road corridors, designated roads and trails should provide solitude and challenge.

- Overnight camping opportunities should be provided.

### Multiple-use/Conservation (MU/C)

This category provides for both local and visitor uses.

#### Recommendations

- This category should have a wide variety and high level of recreation opportunities, including overnight dispersed camping and motorized and non-motorized uses.

### Neighborhoods

Traditionally, management of the Neighborhoods has not been very active for many reasons. A primary assumption has been that the lands would be developed someday, so spending money on recreational improvements did not seem to be a wise choice even though the trails or other improvements would have received use in the interim. This *Plan* recommends changing this assumption. Urbanized growth is increasing on existing private lands, and the sale and subsequent development of State Trust lands is likely. Increased numbers of people living in Neighborhoods will increase the demands for recreation opportunities on surrounding public lands.



Horseback riding is just one of many recreational activities supported by lands categorized as Neighborhoods. Retaining such areas throughout the Flagstaff area is a central goal of the Plan.

The *Plan* recognizes that use or development without prior planning could have greater impacts on the character of the Neighborhoods than planned uses or development. Therefore, active management of future recreation use is needed to retain the desirable characteristics and recreation qualities of Neighborhoods.

#### Recommendations

- Recognize the value of the Neighborhoods and encourage a sense of neighborhood interest, involvement and responsibility for them.
- Maintain an environment in the Neighborhoods that provides an outdoor forest experience and emphasizes daytime activities with limitations on overnight camping.
- Manage the Neighborhoods to provide a safe and aesthetically pleasing “backyard,” with some informal opportunities for hiking, leisure walks, horseback riding, bicycling, and bird watching, for example.
- Monitor and control the transient camps that are established in the Neighborhoods and pose a fire risk to the surrounding communities.
- Further evaluate lands around Neighborhoods communities for meeting future recreation demands.
- Actively manage future use so as to not lose the Semi-primitive characteristics of nearby lands, which could be encroached upon if Neighborhoods are over-used in the future.

### Cultural/Historical/Recreational (C/H/R)

#### Recommendations

- Continue managing these sites to accommodate large numbers of people and provide recreation in keeping with the managing entities’ missions and overall themes.

### Camping

There are many opportunities for camping on public lands around Flagstaff, though some areas currently prohibit camping and campfires.

#### Recommendations

- In consideration of fire danger and public safety in the Neighborhoods, overnight



*There are many opportunities for camping on public lands around Flagstaff. However, different controls may be necessary for camping depending on the open space category.*

camping is discouraged anywhere campfires could increase risk of wildfire or where sanitation or public safety concerns exist.

- The MU/C category is appropriate for camping, especially along road corridors.
- Camping within the Semi-primitive category should be encouraged along main road and trail corridors only.
- Within the Primitive category, consider designating overnight camp sites and rotate their use to allow for recovery of vegetation.
- In the C/H/R category, camping sites are designated per management agency policies.

### **Outdoor Facilities**

Ideas for implementing new facilities include constructing City and County park facilities on National Forest lands; entering into agreements in which the local agency provides and administers recreation use on National Forest lands; working cooperatively to obtain grant monies; and developing public/ private partnerships.

#### **Recommendations**

- In the MU/C and Neighborwoods categories, recreational facilities should be provided where possible to meet existing demands and maintain a balance with

resource protection objectives. Examples of needed facilities may be additional parking, staging areas with toilet facilities, picnic facilities, and signs on trails. If new campgrounds are needed, they should be placed on MU/C lands.

- Facilities should continue to be provided and designed for convenience at the C/H/R sites by the managing agencies.
- No new facilities are recommended in this *Plan* within the Primitive category.
- In the Semi-primitive category, development of some minor new user facilities might be appropriate, but they should be few in number and simple in design.

### **Groups and Outfitter/Guides**

#### **Groups**

Gatherings of people in the out-of-doors can have an effect on the land and its vegetation, soil and animals. People visit certain places with the intention of seeing or hearing few people; in other locations, larger groups are expected. The potential for increased conflict between users and their effects on the environment indicates a need to set some objectives for group size and the type and location of events.

### Recommendations

- In general, the Primitive category should support groups of 12 or fewer people, especially in designated Wilderness. “Large events,” such as walkathons or mountain bike races, are not recommended in the Primitive category, with mountain bikes being prohibited in Wildernesses.
- In the Semi-primitive category, larger groups should use designated sites, and use of these sites needs to be rotated to allow recovery of vegetation and to prevent overuse.
- In the MU/C category, some group-use sites may need to be designated in popular areas, such as Hart Prairie and Schultz Pass. Other portions of the Multiple-use/Conservation category can support dispersed group use, but monitoring should occur to ensure some sites are not overused. Large events are appropriate along most major roads and trails in the MU/C category.
- Smaller size groups such as family gatherings are recommended in the Neighborwoods for daytime activities only. Large events, such as races, may occur throughout the Neighborwoods on designated road and trail routes. However, impacts on nearby residents must be considered.
- “Very large events,” such as festivals, are recommended at the C/H/R sites where facilities and parking can support the large numbers of people. Efforts to raise funds for infrastructure and park expansion and improvements at Fort Tuthill should be supported so that Fort Tuthill can continue to be used as a festival site. Very large events are not recommended for the Neighborwoods, MU/C, Primitive or Semi-primitive categories. The Coconino National Forest should evaluate the demand for very large events and their appropriate sites and needs.
- Intensive use of a specific location by any group should be accompanied by direct assistance from the user groups to provide maintenance on the site. Examples of assistance include patrols, trash clean-up, adopt-a-trail, adopt-a-facility, providing

signs, providing education on appropriate use, and developing and following event regulations designed for a location’s well-being.

### Outfitter/Guides

Outfitter/guides are individuals or companies who take clients out for a particular recreation experience for a fee. Examples of guiding in the greater Flagstaff landscape include mountain bike tours, hunter guides, jeep tours, and climbing expeditions. It is difficult to say how many more outfitter/guide activities are appropriate. Because many people have strong feelings about some locations, they do not want more “commercialism.” However, outfitter/guiding can help alleviate impacts in high-use areas, in that one jeep or van tour with several people visiting a place may be better than four or five individual vehicles simultaneously visiting the same area.

### Recommendations

- Outfitter/guides should be managed to meet the goal of sustaining the natural values within each of the categories. In other words, ecosystem management needs should drive the type and number of outfitter/guides.
- A community-wide effort should be undertaken by the responsible administrative agency to answer the following questions:
  - (1) What are the current demands from the public in terms of type and length of activity?
  - (2) How can outfitter/guides be used to meet the goal of using the natural lands while maintaining their ecological health?
  - (3) What kinds of cooperative actions might be taken between agencies and outfitter/guides to provide the best experience and information/education to the public?
- The goals and objectives of this *Plan* should be included in the Forest Service’s annual operating plans and should be considered when issuing permits for outfitter/guides and other recreation permits.

### Agency Administration of Group Uses and Outfitter/Guide Permits

It is important for government agency personnel to spend time monitoring and supervising permitted activities. Unfortunately, the increase in the number of permits issued corresponds with a decrease in the agencies' abilities to administer permits given current staffing and budgets. This *Plan* does not provide a solution to this dilemma; rather, the *Plan* reiterates the importance of monitoring and supervising permits and requesting stewardship and self-policing by all users.

### Winter Recreation

Habitats for wildlife are different in winter as many species hibernate or migrate to winter ranges. These places are then available for human use with a reduced possibility of wildlife conflict.

In general, winter recreation experiences should be similar to summertime experiences. For example, the likelihood of encountering many other people should be low in the Primitive and Semi-primitive categories. More encounters with others, and a wider variety of uses, is likely to occur in the MU/C category. All of the C/H/R facilities provide year-round services, and large numbers of social encounters can be expected.

#### Recommendations

- Winter motorized activities are popular. Therefore, the opportunities for and the impacts and conflicts of these activities need to be identified. Winter wildlife needs should be considered when planning routes, corridors, and trails. Where motorized closures exist or are proposed, it needs to be determined whether or not snowmobiles should be included in the closures.
- Evaluate the location of designated snow play areas as safety issues, access, and parking continue to face the community during the snow months. Currently, the Forest Service provides some winter parking places where snow is plowed, but they are limited.

### OHV (Off-Highway Vehicle) Use

Currently, there are demands for both more miles and a wider variety of motorized trail opportunities in the greater Flagstaff landscape. The City's urban trails and Forest Service trails are mostly for non-motorized uses, though Forest Service roads provide many road driving experiences. Under National Forest order, users must follow state law on all Forest Service roads. State law requires that Forest Service roads be used by licensed drivers, eliminating ATV (All-Terrain Vehicle) and motorcycle use by young, unlicensed drivers. Other desires expressed by the community have been to convert an old cinder pit or other appropriate site to a motocross course and to provide additional motorized trail opportunities for young people.

#### Recommendations

- Initiate a planning process to identify appropriate areas and opportunities for summertime OHV trails and promote a managed trail system.
- Motorized use and mountain bikes are prohibited in the congressionally-designated Wildernesses of the Primitive category. Education and enforcement of these rules should be increased.
- Motorized use is discouraged in the Primitive category and is prohibited within congressionally-designated Wildernesses.
- Generally, in the Semi-primitive category, motorized trails are, and should be, infrequent, but should provide connections.
- In the MU/C category, more summer motorized trails may be developed; however, more motorized trails north of Sunset Crater Volcano National Monument in the Deadman's Wash area are not recommended.
- When designing motorized trails, consider wildlife habitat and corridors where roads and their use can affect wildlife movement.
- Work with nearby residents to design location and use of roads and trails for motorized activity.
- The Forest Service should work with other agencies, OHV user groups, and other recreationists to mitigate impacts in areas



*A network of trails and roads for people to use for recreational and commuting purposes is desirable and would connect the City of Flagstaff, Coconino County, National Monuments, and National Forest lands.*

adjacent to the Sunset Crater Volcano Monument. These effects include sounds, OHV tracks on the cinder cones, and vehicle intrusion onto the Monument and Forest Service lands outside of the OHV area. Some have suggested that OHV activities be moved from the southern boundary of Sunset Crater Volcano National Monument. At this time, and for the foreseeable future, the Forest Service is not considering this solution. Movement of this activity could cause even worse conflicts than those now occurring at the edge of the Monument. The Forest Service should continue to monitor vegetation impacts and designate trails in some areas to maintain the vegetation.

### **Trail-Road Linkages System**

A network of trails and roads for people to use for recreational and commuting purposes is desirable. It will allow for additional opportunities in addition to the well-known trails. The network would connect the City of Flagstaff, Coconino County, National Monuments and National Forest lands. These connections would link neighborhoods to Neighborhoods, parks, educational and cultural sites, recreational areas, other communities, and outlying areas. People would be able to use the network to travel between specific places and to access areas where they can walk, jog, bike and ride horses. They would also be able to access places designated for snowmobile, ATV (All-

Terrain Vehicle), motorcycle, and OHV (Off-Highway Vehicle) use. Ideally, Flagstaff area residents should be able to leave their neighborhoods and use the network to reach a trail, park, or other open space within 15 minutes.

The quantities of roads and trails available in the network will vary within each open space category. For example, the Primitive category will be roadless, the Semi-primitive category will have few roads, and the MU/C and Neighborhoods categories will have moderate road densities. Similarly, the kinds of experiences people can expect to have on roads and trails will vary within an open space category. In the Primitive and Semi-primitive categories, trails are remote and encounters with people infrequent. In the MU/C category, people will see evidence of past activities on trails, such as road work, utility corridors, and logging, and will be likely to see other people. In Neighborhoods, people will feel that they are in a natural environment, but will probably see other people and hear sounds from urban areas. Users will have to be aware of the variety of experiences and opportunities available and the relationship of accessibility in order to choose places to visit.

### **Recommendations**

- Residents should be able to leave their neighborhoods and walk to an open space area within 15 minutes.
- Link neighborhoods and communities with City and County parks; schools; educational sites such as the Lowell Observatory, the Museum of Northern Arizona, Northern Arizona University, and Coconino Community College; and hubs such as Fort Tuthill, the Arizona Snowbowl, Walnut Canyon National Monument, and Downtown Flagstaff.
- Link the following outlying areas to Flagstaff: Kachina Village; Mountaineer; communities along Lake Mary Road, Route 66 and Woody Mountain Road; Doney Park; Black Bill; Timberline/Fernwood; Cosnino; and Fort Valley.
- Link hubs that receive high visitor use, such as the Flagstaff Visitor's Center and hotel/motels, to National Monuments and cultural and educational sites.

- Connect schools to each other and to local parks and natural public lands.
- Construct hard-surface pathways where appropriate. Hard-surface trails may be best used in Neighborhoods or urban settings.
- Provide loop trails as often as possible.
- Create mini-networks of designated trails in place of undesignated social trails where the social trails would disturb important wildlife habitat or cause erosion.
- Explore rails-to-trails opportunities.
- Provide both motorized and non-motorized opportunities for the elderly and for persons with disabilities. Locate these opportunities near residential areas where possible, but also design and construct pathways so people using wheelchairs or other assistive equipment can access and use facilities at other locations, letting users make informed decisions about how and where to use the trail system.
- Connect the Flagstaff Urban Trail System (FUTS) to Forest Service trails, and roads, where possible.
- Develop a county trail system to connect to the FUTS, Forest Service trails, and National Park sites, and cultural, recreational, and educational sites.
- Provide trail corridors parallel to established paved roads for commuting and recreational opportunities.
- Provide trail corridors parallel to future paved roads on City, County, and Forest Service lands for commuting and recreational opportunities, where necessary, but keep in mind the preference for separating motorized from non-motorized traffic. Parallel trail corridors should be located a safe distance from road traffic.
- Work with developers in designing and building a trail network, seeking trail and greenway connections for new development.
- Develop or improve trails to provide winter recreation opportunities such as cross-country skiing and snowmobiling.
- Mitigate the heavy and damaging use of some trails and areas on Forest Service lands where possible. These sites include the Elden, Kachina, and Humphreys Trails, as well as Lockett Meadow.
- Use differing corridor widths to accomplish different objectives in accommodating bicyclists, OHV users, and other types of recreationists. Separate the various users where feasible. At all times, emphasize the need to provide general user etiquette information and general interpretation.
- Engender cooperation among agencies and communities, particularly the Arizona Department of Transportation (ADOT), to promote safe crossing at state and federal roadways for alternate modes of transportation. Various methods, such as signs, lights, culverts, overpasses, or underpasses, could be used depending on site conditions and types of users. Seek opportunities for roadway scenic buffers, off-roadway viewing, and recreation parking/staging with trail access points along major highways.
- Accelerate the establishment of trails through aggressive pursuit of Arizona Heritage funds, ISTEA (Intermodal Surface Transportation and Efficiency Act) funds, and other sources.
- Pursue easements on private and state lands as needed for the linkage system.

### The Rio de Flag Linkage

The Rio de Flag is defined by wide grassy stream course sections and narrow rocky sections with dense riparian vegetation. Many sections of the Rio are beautiful. The City of Flagstaff's urban trail has considerably enhanced long sections of the Rio while providing access to it. Walking along many sections is an aesthetic experience, unmarred by visual or noise clues to the nearby urban environment.

However, the Rio is not completely accessible. Access is currently blocked in two significant locations: first, by the Santa Fe Railroad embankment on the east side of town, where the Rio also goes through an industrial area before reaching Picture Canyon; and, second, on the south side of Flagstaff, where the Rio is privately held. Additional private lands are located along the Rio south of Butler Avenue and in the southern portion of the Doney Park communities. Damming and channelization

have occurred in some places. Sewer lines have been placed here because the Rio is the lowest part of the watershed, but fortunately this also means the Rio has remained a public right-of-way in some places.

The community must be reacquainted with the Rio and its environmental, educational, and aesthetic values, including important scientific information. By walking the Rio, one can envision what the “site” of Flagstaff looked like in ancient times, when the Sinagua Indian population lived along the Rio. An understanding of Flagstaff’s history from pioneer settlements in the Fort Moroni (Fort Valley) area to the place where the first “Flag-staff” was erected (commemorated in Thorpe Park) can be gained by traveling the Rio. Thus, it is possible to understand how the cultural landscape has evolved over the last two millennia up to the present day. Projects by the City, the Museum of Northern Arizona, and the Army Corps of Engineers have or will enhance the viability of the Rio and add to the public’s knowledge.

Many institutions are linked along the Rio, including, from upstream to downstream, the Museum of Northern Arizona, the Francis Short Pond, the Flagstaff Public Library, City Hall, the Chamber of Commerce, a City water reclamation plant, Knoles Elementary School, Sinagua High School, a wastewater treatment plant, and Picture Canyon.

### **Recommendations**

- Continue to promote use of the Rio de Flag as a linkage corridor of the Flagstaff Urban Trail System, extending a trail corridor farther north to Fort Valley and east to the Doney Park area.
- In some of the wider sections of the Rio de Flag, golf courses, ballparks, or City parks may be suitable and adaptive to large flood events.
- Increase education opportunities related to riparian communities and history by providing trails, signs, and education material.
- Preserve unique ecological and cultural sites where they occur along the Rio de Flag.
- Protect and enhance pockets of riparian vegetation where appropriate and also revegetate where bare banks exist, if appropriate.

- Enhance bird-watching opportunities on appropriate sections of the Rio.
- Provide an open channel for the Rio where possible, enhance its banks, and improve it with trails and other amenities.
- Pursue re-routing and recreation opportunities on the Rio through downtown, and pursue restoration of the riparian communities.

### **Methods for Developing the Recommended Linkage Network**

The following actions are recommended for developing the trail-road network.

#### **Partnerships**

Achieving a well-located, well-marked and maintained trail-road network within and around the city will require a partnership approach. For example, to locate trail corridors, additional discussions will be needed with individual residents, homeowners’ associations, government agency specialists, and law-enforcement personnel. While Flagstaff has an urban trail system (FUTS), the County has not yet developed one for communities, in the outlying areas. To construct and maintain new trails and signs, monies from numerous entities will be required to comprehensively serve city neighborhoods, county communities, and Forest Service users. Multiple, complementary efforts can be used to develop the trails and greenways.

Partners might include government agencies and grant-funding organizations. For example, ISTEA funding from the Arizona Department of Transportation might be used to develop a trail corridor parallel to Highways 89 and 180 and Lake Mary Road. Other partnerships could include inter-agency groups, citizen commissions, and task forces that plan, construct, and maintain the Flagstaff Urban Trail System and nearby Forest Service trails. In addition, neighborhood associations could adopt and maintain sections of trails in their Neighborwoods. A non-profit organization could also be formed to develop and maintain trails and roads. Jobs-for-youth might be a part of the partnership process. Different agencies can contribute in different ways; one might use its personnel to accomplish work, while another contracts work out or provides grants for the work.

### Access and Crossing Points

Access and trail crossing points through roadways and developments will prevent breaks in the trail-road network and will help people enter, use, and exit the network more easily. To ensure that access and crossing points are created and maintained in the trail-road network, they need to be established and preserved in both old and new developments, including gated communities. Otherwise, developments could block critical access points or cut off network links. At the same time, it is important to consider the concerns of residents living adjacent to access points and minimize effects on residents through careful design and management of trail accesses. Access should be provided via trail connections, Forest Service road connections, and staging/parking areas. The County, City, Forest Service, and residents should work together to discourage uncontrolled access and designate appropriate access points.

### Easements

Recreation rights-of-way or easements will need to be acquired for the trails-roads network. Development could cut off access points and linkages in the network, so it is important to work with developers to have access to trails and greenways. These connections can benefit the developers and homeowners by enhancing land values with this amenity. Purchase or lease of trail rights-of-way across State Trust lands are options that should be pursued. The most immediate easement needs are on State and undeveloped private lands because these lands are likely to be sold and developed. Easement needs are listed in Section 3 for each landscape district. These needs are currently very general and will require future site-specific analysis and appropriate public involvement.

### Information and Education

Interpretive and informational brochures, maps, and signs on trails and roads will help people understand the trails-roads network and the natural and wildlife environments around it. These interpretive and informational materials help urban citizens feel connected to the forest around them.

Agencies, organizations and other groups should be encouraged to provide outdoor education information and activities at access points along the network. Information about

new trails in the network should be continually distributed to hotels, restaurants, outdoor sporting goods stores, visitors' centers, and other businesses where people might request information about recreational opportunities.

### General Access by Open Space Category

Where possible, at various locations in all categories, access should be provided to people of varying ages and abilities. Information about facilities, conditions, and accessibility should be made available so users may make informed decisions about how and where to use the trail-road systems.

### Access in the Neighborhoods

#### Recommendations

- Access from communities to Neighborhoods should be provided via trail connections, Forest Service road connections, highways, and staging/parking areas.
- The County, City, ADOT, Forest Service, residents, and businesses should work together to designate and maintain access points and scenic buffers within each community. Access points should also be controlled to reduce conflicts between recreationists and private land owners.
- Additional staging/parking areas should be designated and facilities such as toilets or picnic tables may be appropriate at some staging/parking areas.
- Neighborhoods road systems should be designed, located and maintained to prevent erosion and provide adequate access to recreation opportunities.

### Access in the Multiple-use/Conservation (MU/C) Category

#### Recommendations

- Access to the MU/C category should be achieved by exiting main highways onto Forest Service roads or driving from Neighborhoods access points onto Forest Service roads. There should be a system of roads passable by two-wheel drive vehicles to provide access into these areas.
- Trails are mostly standard Forest Service trails and access to them should be via Forest Service roadways.

- Road and trail maintenance should be at appropriate levels to allow any type of user access to this category while preventing erosion and avoiding other negative resource impacts.

### **Access in the Semi-primitive Category**

#### ***Recommendations***

- Access to the Semi-primitive category from highways or MU/C roads should be achieved by a few Forest Service roads with two-wheel drive clearance. Other high-clearance roads exist in the interior, but there also should be large areas where roads are not provided and alternate means of travel are necessary.
- Trails are standard Forest Service trails, and access to them should be via Forest Service roadways. Road and trail maintenance should be at appropriate levels to allow any type of user access to this category while preventing erosion and avoiding other negative resource impacts.
- Only a few primitive roads access this category, and this level of access should be maintained.

### **Access in the Primitive Category**

#### ***Recommendations***

- Access to the Primitive category should be achieved by leaving highways or main Forest Service roads and reaching exterior points only. From the exterior points, access to the interior of the Primitive category is limited to alternate means and, in designated Wildernesses, is limited to foot and horse travel.
- Large areas exist where no roads or trails should be provided. Maintenance of this level of remoteness is recommended.

### **Access in the Cultural/Historical/Recreation Category.**

#### ***Recommendations***

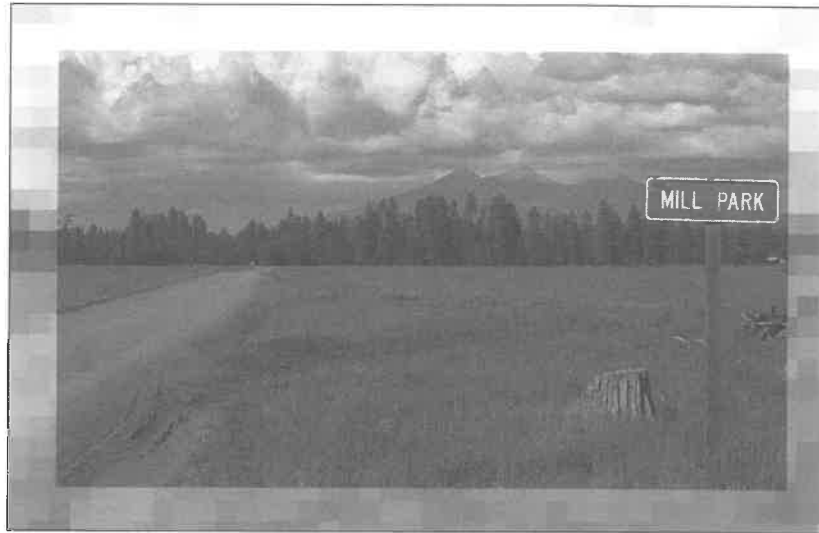
- Access to C/H/R sites should be provided directly off of main highways. Paved roads reach each site, and paved parking is generally provided. Trails and facilities provide access for people with disabilities.

Maintaining year-round access for all types of vehicles is recommended.

### **Forest Service Access/Roads**

#### ***Recommendations for Forest Service Roads Only***

- Provide an open road system for vehicular traffic that includes roads for high-clearance vehicles and a system of main roads for passenger cars.
- The Primitive category should have roads at perimeter access points only.
- The Semi-primitive category should have a few passenger car roads, some high-clearance roads and fairly large non-roaded areas. On the average, open road densities in the Semi-primitive category should be less than two miles per square mile. In some areas, the open road density should be much less than two miles per square mile; this requires future area-by-area analysis.
- The MU/C category should have several two-wheel drive roads with numerous high-clearance roads and some non-roaded areas. Open road densities in the MU/C category should be approximately two miles of road per square mile. Open road densities should be lowest within wildlife corridor areas.
- C/H/R sites should continue to have major paved access roads.
- Neighborwoods should vary in terms of the miles and types of roads. Some Neighborwoods should have roads similar to the MU/C category, with some two-wheel drive roads and some high-clearance vehicle roads. Open road densities in such Neighborwoods are likely to be two miles per square mile. In other Neighborwoods, it might be more appropriate to have only a few two-wheel drive roads that access outlying areas, while other roads should be converted to trails. In still other Neighborwoods, there may be very few open roads with large motorized closure areas. How the road system is designed in each Neighborwoods depends on that area's land characteristics and the needs of the nearby communities. Neighborwoods roads systems should be designed, located, and maintained to prevent erosion and



*Forest Service roads provide access to a variety of landscape categories in the Woody Mountain area, including Multiple-Use Conservation, Semi-primitive, and Primitive lands. Recommendations for the maintenance or establishment of Forest Service roads vary by landscape category.*

provide adequate access to recreation opportunities.

- Encourage the Forest Service to maintain the full range of existing Recreational Opportunity Spectrum classes in the *Plan* area.
- In every category, road users should be encouraged to stay on designated roads.

#### **“Closed Unless Designated Open” Roads**

At present, some areas have more roads than are needed. The current road management policy trend on national forests is to maintain fewer roads at standards suited for two-wheel drive, low-clearance vehicles. Overall, an adequate number of open roads will be maintained throughout Forest Service lands, but many roads will be closed or obliterated. One reason for less road maintenance and more road closures is that the Forest Service has less funding now than in past years for maintaining roads. Other reasons include improving wildlife habitat, reducing water pollution from dirt road run-off, reducing dust pollution in the air, and improving recreation opportunities for non-motorized recreation.

Current Forest Service road policy around Flagstaff allows travel on any road not marked

with a “road closed” sign. Current policy also allows cross-country vehicle travel throughout most areas, with some seasonal closures. Traveling cross-country just once or twice with a wheeled vehicle can set tracks that stay on the site for a very long time, and when other vehicles travel the same tracks, it creates a new “social road.” Social roads and trails develop frequently and quickly. However, during the last 20 years, use levels on Forest Service roads have increased to the point that road maintenance cannot keep up with damage in heavily used areas. Even in less frequently used areas, road maintenance is becoming more and more of a problem in years with large amounts of rain or snow.

Too many roads and trails lessen the quality of wildlife habitat and can contribute to erosion and scenic degradation. Roads contribute dust to air pollution and make it more difficult to find peace and quiet. When fewer people were using the Forest Service roads, the “open unless designated closed” policy made sense, but now a change needs to be considered, even though it will reduce motorized access.

A “closed unless designated” open policy may be difficult to implement and enforce

unless it is applied on a Forest-wide basis. The recommendation is that the Coconino National Forest consider changing its roads policy to “closed unless designated open” as a response to the increasing levels of road use and creation of social or impromptu roads. Some details would need to be worked out, such as how to continue allowing firewood cutting and other activities where limited off-road use is reasonable. These details and the extent of closures could be worked out through a public involvement process.

#### **Recommendations**

- Shift to a “closed unless designated open” policy in which cross-country travel would not be allowed unless designated on the ground. Such a policy would meet many of the objectives of the greenways; however, implementing it for the *Plan* area may not be feasible without undertaking a study of

the effects on the entire Coconino National Forest and possibly on State Trust lands. If roads are closed except where designated open, there are reduced impacts on air quality, water quality, wildlife habitat, scenic beauty, and forage production. If a Forest-wide policy change is not possible, at a minimum, a “closed unless designated open” policy is recommended within the Primitive and Semi-primitive categories.

- Under this suggested policy change, it will be necessary to provide an adequate road system. Expansion of the designated system will help ensure adequate access. Some secondary roads and the lands they access would not be available for motorized use under this recommendation. The recommendation is to use the closed roads as a ready-made trails system for hiking, horse-back riding, and bicycles where appropriate.

## **Resource Management**

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### **General Wildlife Management**

The objective of including wildlife in the design of open space and greenways is to maintain wildlife as part of the quality of life in the greater Flagstaff landscape. A desirable future includes maintaining songbirds and small animals throughout developed areas with some areas providing greater opportunities for wildlife viewing. In the future, large animals such as deer or elk may still be seen on the outskirts of urban areas, including greenways where human use is not very great. Connections and movement corridors for animals that require seasonal movements, more remote areas, or simply more space would be maintained on lands farther removed from urban areas. The ability of animals to move between seasonal ranges and sub-populations is important and should be maintained.

Several wildlife management concepts related to wildlife travel corridors and special habitat components can guide the integration of wildlife needs into the design of open

spaces and greenways. These concepts are described below:

- Connections between portions of open space provide the travel corridors that allow wildlife to find and use habitats they need. These connections also provide a way for less human-tolerant species, such as the black bear, to move through the greater Flagstaff area without becoming trapped in residential or business areas. Many human-wildlife conflicts result from blocked or dead-end migration corridors (false corridors).
- Corridor widths determine which wildlife species will use these corridors as different wildlife species have varying needs for security, food, and shelter. For example, black bear and turkey require corridors that are about two miles wide for regular use, but skunks and raccoons will use corridors that are only 25 feet wide. In general, wide corridors support a greater variety of wildlife and dependably retain



*An objective of including wildlife in the design of open space and greenways is to maintain wildlife as part of the quality of life in the greater Flagstaff landscape.*

more resident wildlife species than do narrow passages.

- There will be more diverse wildlife using corridors that have a greater variety of vegetation and topography. Mammals will be more attracted to corridors that are landscaped with native plants used by wildlife.
- Certain habitat components are especially important to wildlife. For example, any dependable source of water attracts wildlife, and standing dead trees (snags), especially large ones, are used by 40 or more bird species and at least seven bat species. Large logs on the ground provide cover for small mammals such as chipmunks. Large, old ponderosa pine and oak trees provide food and shelter for various species, including band-tailed pigeons, turkey, deer, nuthatches, woodpeckers, and many songbirds.
- Where there are riparian sites or there is diversity of vegetation or topography near or within urban areas, maintenance and enhancement of the diverse vegetation and habitat components such as snags, large logs, oak, and brush can provide habitat for birds and small mammals. This allows people living in urban areas to enjoy a variety of birds and small mammals in very close proximity to their homes.

The best situation for wildlife is to have a connected, wide corridor made up of the most diverse habitats available. Use of the open spaces and greenways or any type of corridor

by wildlife will be heavily affected by human use. Many of the open space and greenway design considerations involve hidden tradeoffs between human use and natural area values associated with wildlife and wild plants. However much planning is done to try to avoid undesirable encounters between people and wildlife, they cannot be precluded entirely.

### **Wildlife Corridors**

This subsection presents some important wildlife corridors that should be maintained. A wildlife corridor is defined by historical and current wildlife use and movements. Many of these corridors can also serve the human needs for linkages discussed elsewhere in the *Plan*. Only when a corridor is very narrow or lacks vegetative cover would human use preclude use by wildlife. More specific recommendations appear in the discussions on each landscape district in Section 3.

#### **A-1 Mountain Corridor**

This corridor is the only remaining movement corridor from the foothills of the San Francisco Peaks to the west and south of Snowbowl Road. The corridor primarily provides for seasonal movements of deer, elk, and turkey from summer to winter range. It is quite narrow, as narrow as 400 yards in some locations. Recreation, particularly late-night parties and bonfires in the corridor, is believed to have recently discouraged use by wildlife. Decisions on road closures made as part of the A-1 Mountain 10K Block planning by the Peaks Ranger District of the Forest Service will help in continuing to keep the corridor in use by wildlife.

#### **Recommendations**

- This wildlife travel corridor should be maintained.
- Any future intentional increase in recreational use would conflict with wildlife movement, so it is recommended that increases in all forms of recreational development be avoided.
- Maintenance of wildlife cover is especially important in this corridor because of high levels of human use and the narrow width of the corridor. Careful planning is needed to maintain the vegetative cover without increasing fire risk unnecessarily.

### **Rio de Flag Corridor**

The Rio de Flag provides a natural movement and concentration area for wildlife. The presence of available water enhances its value for wildlife. It is mostly used by birds and small mammals and provides some of the best bird-watching opportunities within the City of Flagstaff. Much of the length of the Rio de Flag (not privately owned) within the city is already developed as part of the Flagstaff Urban Trails System (FUTS). Some of the best opportunities for nature education along the FUTS occur in the Rio de Flag. Planned flood control along the Rio could have major effects on the attractiveness of some stretches of the Rio de Flag to wildlife.

#### **Recommendations**

- Take advantage of outdoor education and bird-watching opportunities, especially where unique/diverse vegetation exists.
- Maintain water availability, where possible, and maintain unique/diverse vegetation. Encourage plantings of native vegetation in some stretches of the Rio de Flag, such as near the Rio de Flag Water Reclamation Plant, to enhance the area as wildlife habitat and as a watchable wildlife education and recreation site.

### **I-40/Naval Observatory/Woody Mountain Movement Corridor**

This corridor connects the areas north of the interstate and south to the Mogollon Rim. The movement corridor crossing Interstate 40 in the vicinity of the Naval Observatory is used mostly by birds, including raptors, moving along Woody Ridge and continuing around Mars Hill. The ponderosa pine/oak forest-type vegetation is attractive to many animals. This route was probably more of a movement corridor for large mammals and turkey before completion of the interstate. Some elk and deer apparently still use the corridor and cross the interstate, helping to maintain genetic interchange between herds north and south of the interstate. Major wildlife habitat areas south of the interstate still connect to this corridor, including the Woody Mountain, Woody Ridge, Rogers Lake, and Camp Navajo areas. Woody Ridge is a major movement area for elk, deer, and turkey south of the interstate. The principal wildlife management concern is

the potential for sale and development of State Trust lands, which could sever these wildlife travel corridors.

#### **Recommendations**

- This wildlife travel corridor should be maintained.

### **Mogollon Rim Corridors**

Areas along the Mogollon Rim are important for east-west interchange between wildlife populations and seasonal movements off the Rim to wintering areas. Development on Highway 89A south of section 26 (T20N R6E) or on Interstate 17 between the south edge of section 30 (T20N R7E) and north of Munds Park could potentially have serious impacts on the east-west movements of elk, deer, turkey and bear (refer to maps in Appendix 3). A connection is also needed east from Interstate-17 to Mormon Lake, Upper and Lower Lakes Mary, and Anderson Mesa; however, the placement is not as critical as other corridors and many options remain open.

#### **Recommendations**

- This wildlife travel corridor should be maintained.

### **San Francisco Peaks/Sunset Crater Corridor**

A wide area along the top of the ridge near the entrance to Sunset Crater Volcano National Monument from Highway 89 serves as a wildlife movement corridor. This corridor is probably most used in winters with high snowfall. Protecting the corridor would become more important if any additional development occurs north of the ridge that would block wildlife movement to the north.

#### **Recommendations**

- This wildlife travel corridor should be maintained.

### **Walnut Canyon Corridors**

Areas both north and south of Walnut Canyon serve as wildlife movement areas. Both areas are ill-defined, but important. Animals, including elk, antelope, and turkey, use the areas to move to and from lower elevations to the east. South of Walnut Canyon, the movements take place all along the rim of Anderson Mesa. North of Walnut Canyon, the movement area is restricted by Interstate 40

and rural subdivisions. The corridor north of the canyon potentially could become more restricted depending on which pieces of land are developed in the future. It is important to the wildlife north of Walnut Canyon to keep a corridor open to the east. A corridor closer to the canyon would likely receive more use than one closer to the Interstate, so maintaining open space close to the canyon will be a higher priority for wildlife.

#### **Recommendations**

- This wildlife travel corridor should be maintained.

### **Wildlife Viewing and Education Opportunities**

Wildlife viewing has become increasingly popular in the greater Flagstaff area. Recently, the intense interest in viewing bald eagles in the winter and elk in the summer has demonstrated this high level of interest.

Wildlife viewing opportunities can be developed in a number of ways. For example, existing opportunities in some areas, such as Lower Lake Mary, could be enhanced by providing more parking areas. In other areas, efforts to reduce impact of the viewing on wildlife could be accomplished by building blinds or viewing areas.

Development of additional general information on wildlife in the greater Flagstaff area to meet educational and public demand would benefit the program. Each landscape district identifies outdoor education opportunities more specifically.

People have identified places near their homes as wildlife viewing areas. Many of the areas identified do not meet the criteria for development as designated wildlife viewing areas because they are not High Quality Wildlife Habitats. Instead, these are what are referred to as "neighborhood wildlife viewing areas." These areas do not always have a high number of wildlife. However, the wildlife that residents see in these places is highly valued. Many of these sites have been protected or enhanced. Within this *Plan*, these neighborhood viewing places are included as part of the Neighborhoods.

#### **Recommendations**

- Only areas with high wildlife use that can retain their wildlife value in the face of

increased recreational use should be promoted for wildlife viewing.

- Development of improved opportunities for wildlife viewing within or near greenways is recommended.
- Increase the use of interpretive signs and make informational materials available.
- Development of additional outdoor classrooms and other environmental education areas is recommended. Sometimes all that is needed is letting educators know what opportunities exist. Other areas may require some site improvement or development of curriculum materials to make them more useful.
- More attention should not be called to the neighborhood wildlife viewing places, as additional recreational use might cause them to lose their value as wildlife habitat and lessen the opportunities for neighborhood wildlife viewing.
- Neighborhood wildlife viewing places should be maintained by ensuring the diversity of vegetation, including a variety of tree sizes and shrubs, and by maintaining special habitat such as water sources, snags, and vegetative cover to encourage continued wildlife use.

### **Shooting**

Shooting near residential areas raises concerns with public safety. Conflicts between shooting and other recreational uses and shooting within the city limits are other issues of concern.



*Building a shooting range could reduce concerns by giving shooters a legal and safe place to go and would respond to public requests for a shooting range.*

Requests for “no shooting” restrictions have been made for a number of areas. For example, some people wish to maintain the Fisher Point/Campbell Mesa area in the Walnut Canyon landscape district as a “no shooting” zone. Due to enforcement difficulties, a more focused effort is needed to determine how to protect citizens who are using the open space areas for recreational purposes not involving firearms. And, although the Fisher-Campbell decision calls for a public order to restrict shooting in this area, it has yet to be implemented.

Other areas that have been specifically mentioned are the Walnut Canyon area, Cinder Lakes, cinder pits in general, the cinder pit near Turkey Hills, and the area north of Black Bill/Timberline at the ORV (Off-Road Vehicle) area. Mt. Elden, and Fort Valley are areas of increasing concern. These places include a mix of the various open space categories.

Since shooting is illegal within a city’s limits, some concerns could be resolved by expanding the city limits. Since this would involve the City of Flagstaff’s Police Department, their agreement and commitment would be essential. Some lands to consider for incorporation are three isolated pieces north of Walnut Canyon west of the Walnut Canyon National Monument. Target shooting is prohibited on State Trust lands.

Building a shooting range could reduce concerns by giving shooters a legal and safe place to go and would respond to public requests for a shooting range. The Ben Avery Shooting Range near Phoenix has apparently helped to reduce problems there.

#### **Recommendations**

- The Forest Service should consider revising regulations to prohibit shooting in selected locations that it administers.
- Agencies with enforcement jurisdiction should work with each other to strengthen their shooting restrictions and enforcement where necessary for public safety.
- A formal shooting range in the vicinity of Flagstaff is recommended. (The site, design and timing of building such a shooting range is outside the scope of this *Plan*.)
- The Flagstaff Regional Office of the Arizona Game and Fish Department should commit to following up with Flagstaff area residents

and seek public comment on concerns and opportunities for shooting in the greater Flagstaff landscape.

### **Hunting**

In the past, concerns have been expressed about illegal hunting and the length of hunting seasons in the greater Flagstaff landscape.

#### **Recommendations**

- Hunt designs and timing of areas open to hunting should be considered by the Arizona Game and Fish Commission to reduce concerns.
- Address, through a more focused effort, ways to protect citizens who use the open spaces for recreational purposes not involving firearms while recognizing the legitimate hunting interests of citizens.
- The Flagstaff Regional Office of the Arizona Game and Fish Department should commit to following up with Flagstaff area residents and seek public comment on concerns and opportunities for hunting in the greater Flagstaff landscape.
- The Arizona Game and Fish Commission should seriously consider creation of a “metro unit” around Flagstaff as it has around other urban areas in Arizona.

### **Rare and Unique Species Habitat**

Unusual, outstanding and unique plant communities exist within open spaces and greenways. In some instances they include patches of old trees, mountain meadows, riparian vegetation, aspen, wildflowers, or rare plants. Besides their critical contribution to the ecosystem, these are scenic features and often serve as photographic focal points; provide educational opportunities, habitat for wildlife, and pleasurable experiences for recreationists; and may serve as critical biological links between similar communities outside of the open space and greenways system.

These outstanding plant communities can vary in size and shape from less than one-quarter acre to many acres in size and range from being very linear to more compact in shape. Some may be accessible and others may be remote and difficult to access.

In some cases, maintenance and preservation of rare plant communities can be compatible with development, construction and heavy recreation use. In other instances, use may degrade these places to the extent that scenic, educational or biological values decline.

Threatened, endangered, and other rare species of animals live in the open spaces and greenways system. The bald eagles, osprey, and peregrine falcons seen along Lake Mary provide unique opportunities for environmental education and wildlife viewing.

Tolerance of human presence by rare species can vary widely. In some cases, environmental education, wildlife viewing, fishing, boating, and other types of recreation are compatible with the species' use of an area. For less tolerant or more vulnerable species, more protection may be desirable or necessary. Agreements between landowners or other interested parties, volunteer efforts, well-planned recreation use, fencing, and signs are some of the tools that might facilitate use of areas by both rare species and humans.

#### **Recommendations**

- Maintain or enhance plant communities with use of native landscaping, interpretive signs, fencing, well-planned trail locations, recreational use sites, and easements.
- Evaluate rare plant communities to determine their compatibility with various uses and their tolerance of human impact while not compromising their biological, scenic, or educational value.

### **Fire Management**

Because the *Plan* area is a "desert forest," pine needles and branches do not break down like they do in wetter climates. Fire is a major nutrient cycling agent of the Southwest and was frequent prior to Anglo settlement and subsequent fire suppression.

Fire management priorities for the Neighborwoods and Multiple-use/Conservation categories upwind from developments are to protect life and property by making the forest more resistant to fire. The goal is to create environmental conditions that will keep a fire-start from spreading rapidly. Because of the Neighborwoods' proximity to urban areas with water and other services nearby, long-term use

campsites are sometimes established, which poses a high risk of wildfires.

For the most part, the *Plan* relies on the judgment of community fire prevention/suppression specialists in conjunction with other specialists and interested parties, such as the Forest Stewardship Review Team, to determine the best fire management tool to use in a given situation or location.

Wildfire suppression in the greater Flagstaff landscape is coordinated through an inter-agency team called the Ponderosa Fire Advisory Council (PFAC). The recommendations expressed in this *Plan* are intended to complement and support PFAC goals.

#### **Recommendations**

- Reintroduce fire's natural role in the ecosystem through prescribed fire programs and mitigate the risk of property loss from wildfire.
- Where appropriate, prescribed fire may be used as a tool to maintain and enhance open grasslands and/or scattered shrubs to provide a mosaic of cover and openings and plant species diversity. As many large trees as possible should be retained consistent with other fire mitigation objectives.
- Fuel reduction activities should be designed to maintain a balance with



*Fire management priorities for the Neighborwoods and Multiple-use/Conservation categories upwind from developments are to protect life and property by making the forest more resistant to fire.*

aesthetics, wildlife habitat and the retention of as many large trees as possible that is consistent with the fire mitigation objectives.

- Undertake multi-public agency safety efforts to prevent the establishment of Neighborhoods' campsites, while recognizing that the forest can and should serve a diverse palette of recreational uses, including short-term camping.
- Thinning out smaller trees, burning slash piles, and regularly burning needles and other woody accumulations on the forest floor may be required to reduce the potential of a catastrophic fire in the urban interface.

### Riparian Community

Riparian communities are places where the presence of standing or flowing water influences the vegetation, such as along lakes, streams, or canyon bottoms. Riparian communities provide essential diverse habitats, but few exist in the greater Flagstaff area, and these communities continue to decline state-wide. Consequently, it is desirable to maintain and enhance their qualities wherever they exist.

#### *Recommendations*

- Develop strategies for improving riparian communities, such as fencing sites from livestock or elk, requiring dispersed camping to be situated out of canyon bottoms and spring sites, and placing roads and parking away from riparian communities.
- New development of recreational facilities should take into account the need to conserve and protect riparian communities.
- Education efforts are needed to explain the importance of protecting the habitat and to encourage people to protect these places. Aquifers feeding springs should not be depleted through ground water pumping.

### Watershed

Overall watershed conditions need to be protected and maintained.

#### *Recommendations*

- Promote healthy vegetation by designing and constructing roads and trails to minimize erosion.

- Maintain trails in good condition.
- Land management agency guidelines for the design and location of roads, trails, facilities, and other ground-disturbing activities should be followed to minimize soil erosion, protect slopes, and retain vegetation.

### Traditional American Indian Uses

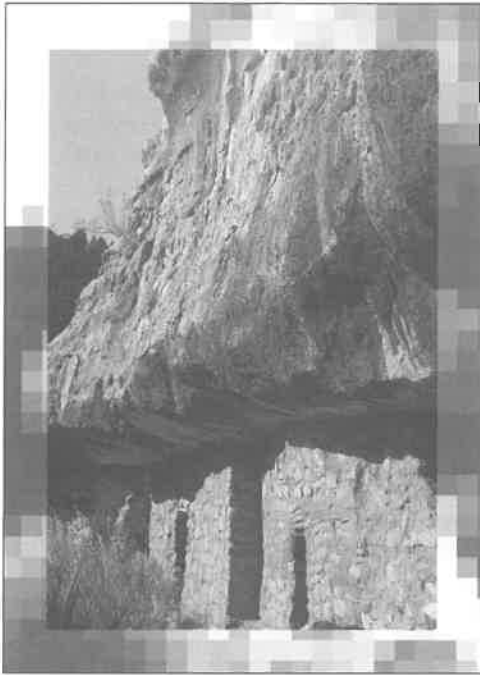
Several American Indian tribes have important cultural associations with land resources and sites in the greater Flagstaff area. These groups include the Hopi, Navajo, Hualapai, Havasupai, Zuni, Yavapai-Apache, and Yavapai. Federal agencies have procedures for consulting with American Indian tribes, and it is recommended that all parties to the *Plan* engage in similar consultations.

#### *Recommendations*

- American Indian concerns should be taken into consideration in any future changes in land use, especially if they involve potential encroachment on sacred places or limitations on access to them by American Indians. These include plant and piñon nut gathering areas and other traditional uses.
- The Arizona Burial Protection Law of 1990 requires that any discovery of Indian burials on State and private lands be reported to the Arizona State Museum. To foster compliance with this law, City and County employees and the public need to be educated on this sensitive issue.

### Cultural and Historical Sites

There is much evidence of prehistoric occupation and some traces of pioneer history throughout the greater Flagstaff landscape. Existing federal regulations provide for the identification and study of these resources in the event they are to be affected by federal actions. Federal actions include not only projects on federal lands, but also projects involving federal licensing, permitting or funding. Similar historic preservation regulations exist for State Trust lands, and the Burial Protection law of 1990 pertains to both State and private lands.



*Prehistoric ruins are found throughout the Flagstaff area. This ruin is located in Walnut Canyon National Monument.*

There are also places in the greater Flagstaff landscape associated with the cultural practices and beliefs of a variety of ethnic groups. Such places are rooted in the history of these communities and are important to maintaining the continuity of their traditional beliefs and practices. These places are called “traditional cultural properties” and are eligible for inclusion on the National Register of Historic Places. While many of these places are important to American Indian tribes, other local ethnic groups such as the Hispanic, Basque, and Anglo communities also have traditional cultural properties. Existing federal regulations provide for consultation with appropriate ethnic groups concerning the management and evaluation of traditional cultural properties.

#### **Recommendations**

- Coconino County and the City of Flagstaff should continue or establish, as necessary, historic preservation programs that can work with ethnic communities, federal agencies, and the State Historic

Preservation Office to preserve and protect traditional cultural properties.

- Federal and state agencies should continue the practice of consulting with appropriate ethnic groups concerning the evaluation and management of traditional cultural properties.

#### **Research**

It is important to continue opportunities for scientific studies that contribute to the public’s knowledge of forest lands. Currently, researchers from Northern Arizona University, the Rocky Mountain Forest and Range Experiment Station, and other scientific institutions conduct such studies on open space and greenway lands.

#### **Recommendations**

- Continue and expand the practice of permitting scientific research studies that promote the communities’ knowledge of the ecosystem.

#### **General Forest Products**

The long-term health and sustainability of the natural landscapes is an integral part of the long-term quality of life for residents and visitors to the greater Flagstaff open spaces. Ecosystem health incorporates resiliency and diversity of a variety of plant and animal communities and the processes that connect them through time.

The public open space lands around Flagstaff provide a variety of products. The taking of products from the National Forest is administered by the Forest Service through a permit system. The State Land Department leases areas for grazing, logging, and other uses. Revenues gained from State Trust lands augment the State Trust Land Fund.

In recent years, a philosophical shift has occurred about forest products. Instead of managing the land solely to produce a product, the Forest Service and State Land Department are managing the land for ecosystem health and diversity. Design of forest management can no longer be done on a single-resource basis. Wood products, for example, are now intended to be a result of meeting other objectives, not the end in itself. That is, thinning of trees is

conducted to reduce fire risk, create diversity of tree sizes, and improve habitat for some species of wildlife. Being able to sell merchantable wood products is a result of this action, not the reason for the harvesting.

Another shift in commodity use is an increase in the variety of products taken from public lands. Historical uses were dominated by logging and domestic livestock grazing, with some mining. To some extent, these activities are still carried out. Now, however, a much wider variety of uses occurs, including cutting of trees for latillas, logs, posts, and poles, Christmas trees and firewood for home heating; gathering of pine cones and pine whorls; gathering of wildings, lava, malpais, and common rock for landscaping and masonry work; mining of cinders and aggregate rock for construction and pumice for landscaping; beekeeping; and piñon nut gathering. Over time, additional products are likely to be identified.

Currently, grazing, firewood gathering, and wood product harvesting occur in many of the Neighborwoods. However, the long-term trend is toward lower levels of these uses. As Neighborwoods become more important for daytime recreation for a greater number of people, product needs may be a lesser priority in the Neighborwoods. However, as fire mitigation is extremely important in the Neighborwoods, it is likely that wood products will still result from future thinning projects.

#### **Recommendations**

- Grazing, hunting, aspen wildings, wood product harvesting, and firewood gathering should be continued with appropriate planning for and in consideration of recreation opportunities, scenic values, and wildlife resources.
- Manage uses in keeping with desired recreation experiences, forest diversity and habitat needs for each open space category.
- The Primitive category, especially designated Wilderness, does not lend itself to a wide variety or high intensity of forest uses. Therefore, only minimal, low-impact uses should occur in the Primitive category.
- In the Semi-primitive category, uses such as firewood cutting, wood product harvesting and grazing are appropriate, but should be kept at levels that do not jeopardize wildlife

habitat or the human experience of solitude and challenge.

- Although the Multiple-use/Conservation category provides the greatest variety and highest intensity of forest uses of all the categories, each use must still be managed to sustain forest health, diversity, and wildlife habitat.
- In the Neighborwoods, the Forest Service should consider managing the lands for the greater and more important role recreation has above grazing, firewood gathering, and wood product harvesting, while still providing tree thinning needed for fire management purposes.
- On State Trust lands in the MU/C, commodity production should achieve the goals of ecosystem health and revenue generation.
- Where appropriate, recommendations from this *Plan* should be considered as input to the Forest Service's annual operating plans, permits, and contracts for administration of forest uses.

#### **Grazing**

Improving the diversity, quantity, and quality of native plant species is a primary objective. The amount of forage (grass) varies depending on density of tree cover, soil types, and past grazing history. Where livestock are grazed, they are moved from pasture to pasture according to the available forage. However, excessive use can occur, and has occurred, in some pastures, causing degraded conditions. Grazing by large numbers of elk has had a large effect on the density, variety, and availability of grasses and forbs.

The need to provide water for livestock has resulted in greater numbers of elk in this landscape than were historically present. Elk and livestock numbers should be in balance with the ability of the land to sustain and produce them.

The key to improving range conditions while grazing domestic livestock is to keep livestock in specified pastures at designated times. When recreationists leave gates open, cut fences, or break down fences by climbing over them, livestock scatter onto lands that are scheduled for rest from grazing. To alleviate this problem, cattleguards should be placed on major roads, and explanatory signs and education should be provided.

### **Recommendations**

- Work should be done to improve specific locations with degraded conditions and to increase plant composition and forage production for a variety of native plant and animal species.
- Grazing management practices need to consider recreation, scenic, and wildlife concerns.
- Cattleguards should be placed on major roads, and explanatory signs and education should be provided as methods of improving range conditions by keeping livestock in designated pastures.
- Wherever appropriate, open space recommendations should be considered as input to the Forest Service's annual operating plans and permits for grazing.

### **Timber Management**

A brief history of forests provides a better understanding of current forest management activities. Harvesting of the region's timber resources as firewood, railroad ties, and building materials began with pioneer settlement in the 1880s. The Coconino National Forest, which manages the Forest Service lands of this *Plan*, was created in 1908. Large commercial logging operations occurred in the early 1900s, and an extensive railroad system and roadway network were created to support these operations.

As development occurred, people began suppressing fires to protect their farms, ranches, and buildings. Water sources for livestock were constructed throughout the area, increasing the numbers and changing the patterns of deer, elk, and livestock use.

Today's landscape has been shaped by past climatic conditions as well as by these human activities. Climatic conditions in 1919, combined with logging, grazing, and the reduction of wildfires, created a good seedbed and ideal ponderosa pine regeneration conditions. This resulted in large areas of similar-age trees throughout the landscape, including the thick stands of closely spaced pole-size pines seen in many places today. Some large wildfires, however, have occurred over the years, creating a few large open grassy areas.

Vegetation Structural Stage (VSS) is a method used by the Forest Service to describe stand density and structure. VSS is based on tree size, canopy cover, and vertical structure. The different VSS classes describe young, mid-age, and old forests. There is currently an unequal distribution of structural stages, with a larger percentage of VSS 3 (young forest, pole-size pine). There are relatively few very young or very old trees. A better distribution of age classes and sizes will meet the needs for a diversity of wildlife species now and in the future.

Thinning of the understory ponderosa pine trees at various densities allows some trees to grow faster than others. The result is larger trees in the thinned areas and a better balance of large and small trees. This forest diversity objective combined with fire mitigation objectives is currently the main reason for Forest Service timber harvesting.

Aspen trees support wildlife species adapted to them, enhance forest diversity, and provide for fall color viewing. Lack of fire has limited the number of new aspen stands created, and grazing animals, such as livestock and elk, eat new sprouts within existing aspen areas, preventing the young trees from growing. This combination of factors is leading to a decline of the acres of aspen.

### **Recommendations**

- Continuation of tree thinning is recommended where appropriate for enhancing forest health and diversity and mitigating fire risk.
- Activities to re-establish young aspen, oak trees, and shrub species as appropriate should be continued and increased.
- Open space category descriptions and objectives described in this *Plan* should be considered when designing future projects.
- Strategies and plans should be developed with consideration of inter-related biological, social, and cultural components. Design of forest management should no longer be done on a single resource basis. Rather, management strategies should be based on ecological inter-relationships.
- Vegetation, especially trees, should be used to screen urbanized gateways into Flagstaff.

## Mining

Geologic features on Forest Service lands around Flagstaff are dominated by past volcanic activity. The San Francisco Peaks, as well as other prominent peaks, are extinct volcanoes. Because of this geologic formation and type, mining activity has been limited to the production of cinders, pumice and other aggregate material.

On Forest Service lands, the Forest Service regulates minerals mining under three categories: locatable, common variety, and leasable minerals. Locatable minerals are administered through the General Mining Law of 1872 and are limited to minerals of uncommon value, typically precious metals such as gold or silver, or other minerals that have unique characteristics that make them more valuable. Pumice is considered a locatable mineral when of a certain size and economic value.

Common variety minerals, the second category, are mineral materials of common occurrence that are generally used in construction and road work. Common variety materials, such as cinders and aggregate rock, are managed through Forest Service permits where sites are designated and operations are overseen by the Forest Service.

The third category, leasable minerals, includes energy resources such as oil and gas. There has been some geothermal activity in the open space planning area.

Under the Mining Law of 1872, the Forest Service's authority for locatable minerals is limited to determining mitigation measures necessary to reduce adverse environmental impacts associated with the mining operations. The Forest Service has the authority to require reasonable actions by the claimant to reduce environmental impacts but cannot deny activity on a valid claim. Under the 1872 Mining Law, unless a formal withdrawal from future mining claims is made, new claims can be made and mining for locatable materials undertaken. Existing claims cannot be withdrawn. Section 3 lists specific locations desirable for withdrawal from future mining claims within each landscape district. Those identified areas provide scenic back-drops to communities and contain recreational, spiritual, and wildlife values.

Common variety cinders and aggregate rock are also obtained from State Trust and private

lands. There are active and discontinued mining pits on these lands.

### *Recommendations*

- Certain locations should be withdrawn from availability for mining claims. These places include, but are not limited to, large mountains, canyons, and prominent cinder cones as indicated in Section 3.
- Community needs for mining of common variety materials should be met in an environmentally sound manner, exclusive of large mountains, canyons, and prominent cinder cones. Existing common variety operations should be administered and monitored by the responsible agency.
- Cinder and aggregate rock use should be consolidated to one site as much as possible to limit the "bite out of every apple" appearance of cinder cone mining.
- Where rehabilitation of existing rock and cinder pits is needed, efforts should be undertaken to re-shape slopes, plant vegetation, and clean up the sites as appropriate.
- Land management and jurisdictional agencies should begin to determine appropriate uses for discontinued mining pits, with input and assistance from nearby communities.

## Firewood Cutting and Gathering

Families have been gathering firewood since Flagstaff was established and even before when the area was inhabited by early peoples. In recent decades, the Forest Service has administered this use through a permit system. Individual or family firewood gathering is closely associated with access and roads; therefore, the different open space categories have different levels of firewood availability.

The Forest Service recognizes that large dead trees (snags) are now fewer in number and are valued for the habitat they provide for a wide variety of species. The reason for the reduction in snags is due to a combination of past Forest Service timber management practices and firewood cutting. In order to retain current and future snags, the Forest Service several years ago began limiting the size of standing dead trees that could be cut for firewood.



*Individual and family firewood gathering must be balanced with the protection of snags, oak, and other trees that provide important wildlife habitat.*

Oak has also been recognized as having very high habitat value for wildlife, both as a food source and as cavities for nesting. Oak was and still is a very popular firewood for home heating. Again, the Forest Service saw a decline in large oak trees resulting from a combination of permitted firewood cutting and illegal wood poaching. In order to retain remaining large oak trees, the Forest Service has prohibited cutting standing dead oak for firewood.

The Arizona State Land Department provides firewood gathering and cutting and Christmas tree cutting opportunities under special circumstances with an Incidental Use Permit and through commercial sale.

Piñon and juniper are also popular firewood for home heating. Current firewood permits allow the cutting of dead, standing piñon and juniper of any size, and some locations of green piñon/juniper are also offered.

Another recent concern has been off-road driving to reach firewood areas. Many people drive off of Forest Service roads and create new “social” roads. Others follow and push the new road farther and farther into the forest. The on-going challenge is how to continue to offer firewood while reducing the number of new roads created.

In addition to individual family permits, the Forest Service identifies some places for commercial firewood cutting. For these places, a contractor purchases a permit, cuts the wood and sells it as firewood. The number of locations available for commercial firewood has diminished over the years, but some areas are still available every year. The primary species for commercial cutting is piñon/juniper, although ponderosa pine, and in some places

aspen, may be appropriate. These sales are designed much like larger timber sales where landscape and ecosystem objectives are met through cutting of the firewood trees.

There are some places where snags are deficient, oak is limited, and roads and trails need to be managed intensively to keep people on designated roads and trails. Where these conditions exist, it may be appropriate to prohibit firewood gathering. No specific places are listed at this time, but as Neighborwoods management progresses, these issues should be considered when determining future firewood-gathering locations as well as taking into account the impact on households that depend on nearby firewood gathering sites.

#### **Recommendations**

- Continue to provide commercial firewood cutting to meet overall ecosystem objectives. Commercial use is appropriate in the MU/C category and may also be appropriate in some places in Neighborwoods to mitigate fire hazards. Commercial firewood cutting is appropriate in some parts of the Semi-primitive category if needed to meet other objectives, such as fire salvaging. Commercial firewood cutting is not appropriate in the Primitive category.
- Where appropriate, continue to provide for individual and family firewood gathering demands while ensuring the presence of snags, oak, and other important wildlife habitat components.
- In the Primitive category, the lack of roads and Wilderness objectives preclude firewood gathering for home use. Firewood gathering is appropriate in the Semi-primitive category but should be restricted to locations with designated open roads. The Multiple-use/Conservation category can provide firewood gathering in many places because there is a higher density of open roads. If future restrictions on general firewood gathering occur within the Neighborwoods, retain the option of special firewood cutting projects in which residents and agencies work in partnership to reduce fuel hazards.
- Address the challenge of how to continue to offer firewood while reducing the number of new roads created.

## Community Participation, Information and Education, Agency Collaboration, and Law Enforcement

The Neighborwoods are where City and County outdoor recreation needs meet Forest Service management objectives and needs. Here, local recreation use meets general public recreation use on a daily basis. Neighborwoods can no longer be administered by any one particular agency or used by one particular group of people. The long-term well-being and sustainability of these lands depends on multi-faceted coordination, cooperation, and management. This is less the case in the Multiple-use/Conservation (MU/C), Semi-primitive, Primitive and Cultural/ Historical/Recreational (C/H/R) categories, which are farther removed from developed communities. Therefore these categories are not dealt with here.



*The community, especially the community of users and the local government agencies, meet to share the responsibility for protecting and sustaining Neighborwoods into the future.*

### Community Participation in Neighborwoods Management

Most of the land designated as Neighborwoods is public land managed by the Coconino National Forest. Managing lands for Neighborwoods as described in this Plan would be a new role for the Forest Service. Historically, the Forest Service would make lands close to urban centers that are heavily used by the local community for “park like” recreation activities available for exchange and remove them from public ownership. This is especially true if the character

of the land is changed so that it no longer meets the mission of the Forest Service. Generally, this mission is to achieve quality sustainable land management. Without a long tradition of managing lands as urban open space, this task is particularly challenging for the Coconino National Forest, especially in these times of downsizing and budget reductions. The Forest Service will need to create partnerships with other government agencies and private parties to fulfill this new role.

Over the past few years, as the Flagstaff area communities have grown and uses have intensified, the places designated as Neighborwoods have experienced some degradation. In some instances, too many impromptu trails have developed; some of the Neighborwoods contain “party spots”; some have transient camps; some have been used as dumping grounds for refuse; and others have an over-abundance of two-track social roads. As Flagstaff grows, these conditions could continue, and the Neighborwoods could lose their appeal and value as places to escape the hustle and bustle of modern urban life. The cycle of use, abuse, and development could push access to wildland farther and farther away from residential areas and forever change the character of the city. This cycle, however, can be broken by restoring these blighted spots to their natural conditions.

The preferred vision for Neighborwoods is that they be a significant component of the Open Spaces and Greenways Plan and a benefit to the local community, while providing public access and maintenance of appropriate resource values. Developing access for the whole community, and in some locations developed recreation facilities, might be better than random uses, which may impact larger areas. Users can and should help with management planning. They should help determine how many and which trails and roads will be needed. Trails and roads that are not needed will be eliminated, and others may need to be re-routed to avoid causing erosion and other negative impacts. Once the road and trail

system for a Neighborwoods has been identified, the local users, a block-watch or Neighborwoods association could be mobilized for future maintenance and monitoring. The stewardship group would encourage appropriate use, see that litter does not accumulate, ensure that new unplanned trails do not develop, and help foster an atmosphere of neighborliness. Identification of places to be developed as picnic sites, parking areas, fitness trails, and access points to trails is another potential function of the partnerships.

In addition to questions regarding the number of roads and trails in a Neighborwoods, users should become better acquainted with the local wildlife and how people can live in harmony with the birds and animals.

### **Recommendations**

- The community, especially the community of users and the local governmental agencies, needs to share the responsibility for caring and providing the stewardship needed for Neighborwoods to protect and sustain the lands into the future. Local, state, and federal agencies can provide the “know how,” while the community will be asked to provide some of the “muscle.”
- Establish a block-watch or Neighborwoods association to provide land stewardship; assist with management planning; determine how many and where roads and trails are needed; and identify places to be developed as picnic sites, parking areas, fitness trails, and access points to trails
- Neighborwoods implies neighborliness. Increasing populations means changing outlooks toward nearby forests. Developing access to wildlands for the whole community and designating places for developed recreation will be better for the land and natural resources than random use.
- Neighborwoods users can participate in activities to make the forest and their personal properties more resistant to fire.
- Assist in developing appropriate people habits to ensure that garbage and pet food do not become death sentences for wildlife, such as a bear moving through the Neighborwoods.
- Provide education to Neighborwood residents on what types of vegetation

and practices can make the Neighborwoods more attractive to birds and small mammals, thus enhancing the urban wildlife experience.

- Intensive use of any area should be accompanied by direct assistance from the users to manage lands for the enjoyment of future generations.

### **Information and Education**

In order to carry out the goals and recommendations contained in this *Plan*, more information needs to be provided to the public and the users, recreationists as well as land use permittees. Education at all levels and in different venues, whether school children or post-secondary education of adults, would be very helpful in understanding the importance of the rules, regulations, and courtesies required to sustain, protect, and enjoy the outdoors environment and to avoid conflicts.

Information regarding the *Plan* should be delivered in a compelling and professional manner through partnership efforts that create an opportunity and desire for the public to become an active and willing partner in the protection and preservation of finite natural resources. Presentations should build on existing efforts currently under way by a variety of agencies and entities that explain natural, cultural, and historical values.

Important topics for public discussion and input include, but are not limited to, the following:

- Neighborwoods\ management and opportunities
- Regional land use growth management
- Fire management and ecology
- Motorized/non-motorized recreation opportunities
- Wildlife/human interaction
- User responsibilities
- Economic implications

### **Recommendations**

- Provide educational and informational opportunities regarding the concepts and issues of the *Open Spaces and Greenways Plan* and its relationship to forest ecosystem management, delivered in a manner appropriate for a diverse audience.

- Establish strong educational programs aimed at informing people of the impacts of the *Plan's* actions on natural and cultural resources and fostering a sense of resource stewardship among the public served by this *Plan*.
- Ensure a balanced and thoughtful presentation of the issues to facilitate the public's opportunity to participate in decision-making through a variety of forums.
- Share various public agency missions and policies with the public as they relate to the agencies' respective roles in the management and preservation of open space lands.
- Strengthen partnerships between organizations that currently provide information to the public such as the National Park Service, Forest Service, Arizona Natural History Association, Chamber of Commerce, and the Flagstaff Visitors Center. Efforts should be made to brief agencies that are not a part of this planning effort on the content of the *Plan* and encourage them to include this information in discussions with the public.
- Ensure wide distribution of the *Open Spaces and Greenways Plan* and the accompanying video and summary; and through strategic locations of the *Plan* for public review and use.
- Provide information to new or prospective homeowners via standard realtor packets in cooperation with the Northern Arizona Board of Realtors.
- Provide brochures on specific issues such as "ATV Opportunities and Responsibilities" in information kiosks.
- Incorporate information on minimum impact use with information on local attractions and features and the natural history, geology, and heritage of the greater Flagstaff landscape. Many visitors may not be "woods wise," and lack of information may be contributing to resource damage. Lack of information also contributes to unwanted traffic patterns as people wander, looking for their destination. Adequately orient visitors to opportunities and the responsibilities that accompany a visit, so they may safely, and non-destructively, learn, enjoy, recreate, and make the best use of their time in the forest.
- Provide accessible sites in accordance with the Americans with Disabilities Act and outdoor recreation information that allows people to make informed choices.
- Continue education/interpretation of heritage resources through partnerships, signs, brochures, site steward programs guiding, and other methods.
- Work closely with the hospitality and tourism industry to ensure that it is able to dispense accurate information to its customers. Identify and use electronic opportunities to facilitate trip planning.
- Establish a resource list for groups to contact regarding clarification or orientation to the *Plan*. Ensure that potential users of the *Plan* are provided needed "interpretation" of the *Plan* when it is presented.

### **Improving Communication, Cooperation, and Collaboration Among and Between Agencies and the Public**

Partnerships will be especially important for maintaining open spaces and greenways as agency funds decrease while demand for use and protection of these lands increases. Open space and greenway development, management problems and solutions are broad in scope and cross land ownership boundaries; therefore, agencies and other stakeholders must work across jurisdictional boundaries to analyze and address these problems.

Current efforts are under way to improve communication and understanding between agencies. This process reflects local agencies' commitment to collaboration. If agencies continue to improve their communication and interactions, each can increase its efficiency and effectiveness and, consequently, serve the public better. As agencies better understand each other's missions, operations and services, some agencies can eliminate public services that are duplicated by other agencies. They can also more effectively share information and skills among the agencies and with the public.

Agencies might pursue joint management of lands for a particular purpose. For example, there may be places where Forest Service lands are suitable for intensive recreation use. This

use might be administered on a daily basis by the City or the County in the form of a regional park or other facility. Another example would be a local school using a wildlife viewing area constructed by the Arizona Game and Fish Department and maintained by the students and schools.

Through partnerships, agencies can anticipate open space changes rather than react to them. They can also coordinate their open space efforts and make decisions about open spaces based on shared community objectives. The processes described and contacts listed in this *Plan* will help ease the review and approval processes that agencies perform prior to land sales, exchanges, and developments.

Public involvement is crucial to the implementation of this *Plan*. Possibilities for public involvement include groups organized for a particular location or groups organized for a particular topic. For example, a group may form to help implement road, trail, and sign needs for the Mt. Elden landscape district, or a group may form to help implement the overall trail linkages system, such as Friends of Flagstaff Trails.

Successful working groups within the community could be used as examples, and some of the objectives of this *Plan* could be accomplished with their assistance. These groups are the Ponderosa Fire Advisory Council (PFAC), City/County Regional Planning Committee, and the current collaboration among law-enforcement personnel.

In addition to acquisition of open space lands and implementation of management actions, committees, work groups and commissions could serve as a conduit for discussions about open space issues. Providing forums and processes, such as those used in developing this *Plan*, would allow people with very different viewpoints to come together to discuss issues. These discussions could lead participants to win-win resolutions for issues related to open space development and management.

#### **Recommendations**

- An oversight and coordinating coalition should be formed as a joint City/County/governmental agency/citizen group. This coalition should see to the implementation of the ideas and recommendations presented in this *Plan*. It could identify and seek mechanisms for acquisition of open space lands; assist in interpreting this *Plan*; foster

partnerships for use and management of open space lands; obtain funding for development of recreational sites; act as a third party or trust for accepting donations; and facilitate discussions with Neighborhoods associations. This group might also provide a forum for discussions with private land owners and developers to promote open space goals. The coalition could serve as a conduit of information to the public on the progress made toward the open space goals.

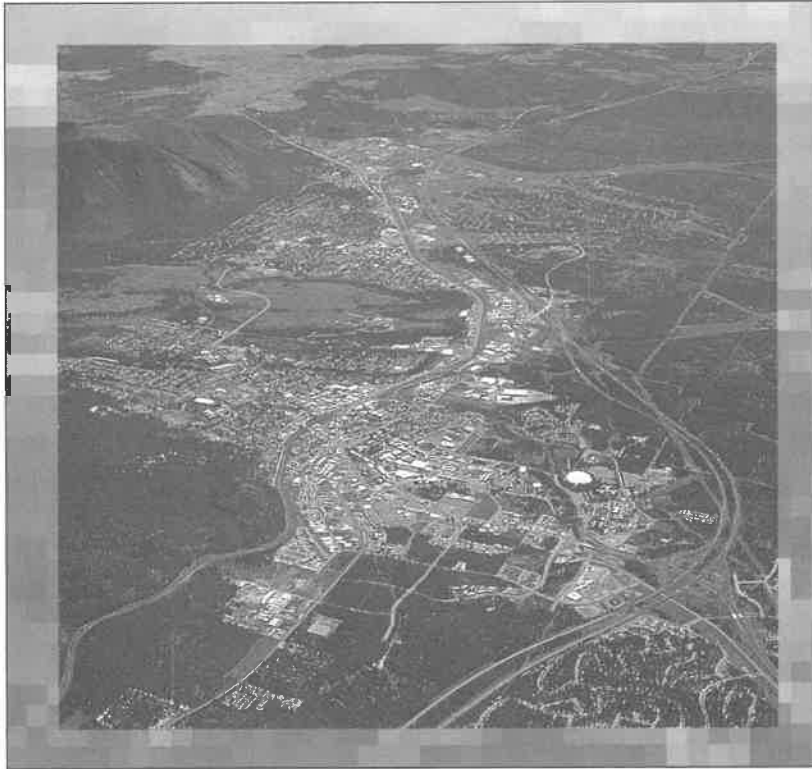
- Neighborhood associations, work groups, or committees are recommended to help implement this *Plan*. The appropriate Federal or State agencies would handle compliance aspects.
- A local land trust would be beneficial to act as a third party in land adjustments to meet open space goals.
- Committees, work groups, and commissions could be established to serve as a conduit for discussions about open space issues.
- Agencies should streamline communication channels by sharing information at meetings and providing staff to continue interagency collaboration.
- Where appropriate, pursue the feasibility of agencies managing lands jointly for a specific public purpose.

#### **Law Enforcement**

Compliance with laws and regulations is important in maintaining resource values and providing for safety. Although law enforcement falls under the jurisdiction of numerous agencies, including the National Park Service, Arizona Game and Fish Department, Coconino Sheriff's Department, Forest Service, and the City of Flagstaff, patrols and law enforcement officers are few and are spread out over very large areas.

#### **Recommendations**

- To gain informed compliance, it is necessary to provide information to the recreating public.
- As recreation roads and trails are designed, law enforcement should be included in the planning.
- Where large group events occur, policies of group self-policing or cooperative funding for law enforcement should be pursued.



*An aerial photograph of the Greater Flagstaff area shows large parcels of forested, open areas surrounding the city and its transportation corridors. Portions of five landscape districts are visible here, including Mt. Elden, Pumphouse Wash, A-1 Mountain, Old Caves, and Walnut Canyon. A total of nine landscape districts are presented in Section 3. The characteristics of each district are described in detail, and specific recommendations for the retention or creation of open spaces and greenways are listed.*

# Section Three

## Recommendations Unique to Specific Landscape Districts

### Introduction

Section 3 is divided into four sections per landscape district: Description of Landscape District, Recommended Policies, Expected Outcomes of Management Recommendations or Desired Futures, and Lands Recommended for Retention as Open Space. The focus in this section is on the characteristics of each landscape district and on the recommendations unique to the district. This section is designed to supplement the Recommendations Common to all Landscape Districts in Section 2. If there is a conflict between recommendations in Section 2 and recommendations in Section 3, then Section 3 takes precedence. For some landscape districts, there may not be a recommendation for a particular function or use because the recommendations common to all landscape districts are adequate and reference to Section 2 is sufficient.

#### Open Space Retention Recommendations

Lands within the existing Semi-primitive and Primitive categories and lands with a desired future of Semi-primitive or Primitive are recommended for retention as natural landscapes with appropriate public access, even where adjacent to interstates and highways. Most lands within the Multiple-use/Conservation (MU/C) category are recommended for retention as well, although a few of these sites may be suitable for residen-

tial and non-residential development. Some development consistent with *Plan* goals can also occur in portions of the Neighborwoods. However, within the Neighborwoods there are places vital to retain as undeveloped lands. These areas contain important resource values or provide a valuable close-to-home outdoor recreation experience. Where existing MU/C and Neighborwoods lands have been designated on the Desired Futures Map as Semi-primitive, development is strongly discouraged (see Appendix 3).

At this time, only a few private land parcels have been identified for retention as open space. These parcels have been identified for potential future acquisition assuming a willing seller. There are, however, several other private parcels within the *Plan* area. They have not been identified as high priority for retention as they are farther removed from the urbanized and developed areas and are not considered a high risk for development at this time. These parcels should be assessed as to their viability for meeting open space criteria and goals.

Nonetheless, due to growth trends, some outlying parcels that are currently undeveloped

have the potential for development. This could have major effects on adjacent National Forest resources through increased traffic, loss of scenic vistas, increased use, and impacts on sensitive wildlife habitat. Site-specific evaluation and community involvement



*Site-specific evaluation  
and community involvement  
must occur prior to any  
land ownership change or  
development decision.*

must occur prior to any land ownership change or development decisions.

Mechanisms for retention include maintaining existing ownership, exchanging ownership between agencies or acquisition by other parties, such as land trusts, homeowner associations or Neighborwoods stewardship groups. A variety of tools for achieving these goals is listed in Appendix 1.

### Land Retention Prioritization Process

The following lands are listed in the retention tables:

- All State Trust lands within the *Plan* area
- Forest Service lands classified as Neighborwoods
- Some Forest Service lands classified as MU/C and Semi-primitive where adjacent to developed areas
- Private lands within the *Plan* area with critical resources

The criteria used for ranking included values and features related to riparian/wetlands, topography, wildlife, culture, recreation, and vistas. Further criteria included whether or not the areas served as significant buffers between communities or functioned as buffers between communities and primitive areas and if they were part of a fragmented block of large open space tract that would have its integrity and function highly compromised if not retained in a consolidated state. In some instances, some tracts of land encompassing an entire section may presently be recommended for retention. With further evaluation at a more site-specific level, it might be determined that only a portion of the section is needed for open space conservation.

The tables in this section display the priorities for open space retention within each landscape district, primarily, but not solely, for the Neighborwoods portions. With the exception of a few sections of MU/C and Semi-primitive lands, MU/C, Semi-primitive, and Primitive lands are not displayed in the tables. All other lands within the Primitive, Semi-primitive and MU/C categories of each landscape district are highest priority for retention as open space. The tables also indicate lands where linkages are needed.

State Trust lands have been given priority rankings of first, second, third, and fourth, with first-priority lands having the highest priority for retention. Fourth-priority lands are those where linkages are needed, but do not require large tracts for open space conservation.

Forest Service lands have been ranked high or low priority for retention, with all low-priority lands requiring some retention of land for linkage purposes. All Forest Service land within the Primitive or Semi-primitive category and most MU/C lands are high priority. Many Forest Service lands within Neighborwoods are also high priority for retention. Some of the low-priority National Forest lands ranked low because their boundaries are intermixed with private lands, making administration by the Forest Service difficult. In these instances, retention as open space could still be an objective if these lands were to be owned by an entity other than the Forest Service.

Private in-holdings have also received a high or low priority ranking for retention. Private lands are considered for inclusion only on a willing seller basis.

The resulting “picture” of this prioritization process is depicted on the Land Retention Priorities map presented in Appendix 3. The retention map is not the only tool for evaluating future land adjustments; rather, the retention map should be used together with other open spaces and greenways goals and objectives. If there is a discrepancy between the map and the tables in Section 3, then the tables in Section 3 should prevail.

The sections of land in the following tables are locatable by section number, township, range, and direction on the Land Retention map in Appendix 3.

### Desired Futures and Expected Outcomes

Over time, management changes will cause some areas to move toward a different set of conditions and, subsequently, a different open space category. This section describes expected changes for each landscape district and corresponds with the Desired Futures Map presented in Appendix 3. Due to site characteristics or current agency management practices that impact land usage, the lands noted in the “Desired Futures and Expected Outcomes

of Management Recommendations” sub-section did not qualify for the desired open space category designations at the present time.

Because it is expected that conditions will change and that the lands indicated in the “Desired Futures” sub-section for each landscape district will move into the Semi-primitive, Primitive, or MU/C category, they have been included as high priority for retention.

If conditions change, changes can be made to the map to reflect the new conditions and designations. Lands recommended for retention as open spaces and their priority will not change except through a review by the Open Spaces Coalition.

### Implications for Future Land Exchanges and Sales

Management practices, policies and legal mandates for the two primary land managers and owners are different. The implications of and general recommendations for Forest Service and State Land Department land exchanges or sales, respectively, are indicated in the following sections.

#### Future Forest Service Land Exchanges

Land exchange proposals should be pursued when lands received by the Forest Service meet community open space goals or have important scenic, riparian, wildlife, or heritage resource values. Land exchanges should be designed in cooperation with local agencies and the public to achieve an overall community benefit.

National Forest lands identified as desirable to retain as open space have been prioritized into two groupings: high priority for retention as open space and low priority for retention as open space. Lands in the low-priority listing include areas that the administering agency may consider for exchange or sale. Decisions should be based on opportunities to acquire and maintain higher priority lands through exchange. Retention of linkages and corridors should be considered when parcels are exchanged or sold. Any proposed future exchange should continue to have public input and involve public agencies and the Open Spaces Coalition. Site-specific evaluation and community involvement should occur



*Land exchange proposals should be pursued when lands received by the Forest Service meet community open space goals or have important scenic, riparian, wildlife or heritage resource values.*

prior to any land ownership change or development decision.

Lands were prioritized with general information only. As future discussions arise and more site-specific information is gathered, the *Plan* may require adjustments. However, all future discussions and decisions should take into account the recommendations provided in this *Plan*.

Some community members have raised a land trade issue with the Forest Service. They want the Forest Service to retain all Forest Service lands in public ownership. However, the *Plan* recommends that land exchanges should remain a valid tool where they help achieve the acquisition of important State Trust or private lands that, if sold and developed, could have significant negative effects on riparian values, outdoor recreation opportunities, or wildlife habitat. There may also be instances in which the community will want additional land for a community purpose, such as new school sites, water and sewer facilities, landfill, or road rights-of-way. The current location of the Flagstaff Medical Center is an example of a recent land exchange that met a community need.

Currently, the *Coconino National Forest Plan* identifies National Forest lands that may be appropriate for land exchanges and calls them “Base-for-Exchange.” This system has led to some misunderstanding that only lands designated base-for-exchange are available for exchange. On the contrary, all Forest Service

lands are technically available for exchange. Land trade proposals are considered on their individual merit, and the Forest Service does not pre-determine which lands might be appropriate to exchange. The Coconino National Forest is willing to consider managing all lands by using the tables and retention map in this *Open Spaces and Greenways Plan*. Thus, it is recommended that the Forest Service update its Base-for-Exchange map so that it no longer includes lands identified within the area covered by this *Plan*.

Future land exchange decisions must be based on the best information available when decisions are actually being made, including public comment, the overall goals and objectives recommended in the *Open Spaces and Greenways Plan*, and any other community, County, or City long-range planning documents.

Given past budget experience and expected trends, the Forest Service has reduced resources for pursuing land exchanges. The Forest Service will be unable to take on many land exchange projects, and those that are undertaken are likely to proceed slowly. It is possible that other agency involvement could facilitate land exchanges by assisting with some of the design, public input, and environmental analysis work. Such involvement is recommended where the land exchange meets community needs and lands acquired have been identified as high priority in this *Plan* for retention as open space.

#### **Future State Trust Land Sales**

Some State Trust Land sections have been identified as potential open space lands based on their resource and outdoor recreation values. Currently, the Arizona State Constitution prohibits the State Land Department from public or private sector land exchanges.

Acquisition of State Trust lands requires purchase at public auction or, if authorized by Congressional legislation, federal condemnation. An additional option, the Arizona Preserve Initiative (API), is now available for use by local communities and others. Upon submission of a formal petition and bond, a community can request that the State Land Commissioner reclassify a parcel of Trust land as suitable for conservation purposes. The community could then go to an auction to purchase or lease the land at fair market value. However, in Flagstaff,

the API applies only to lands within three miles of the city's corporate boundaries, and the majority of the State Trust sections in the *Plan* are beyond that limit. Also, there is no state funding source to assist in the acquisition of these lands.

All available options need to be considered to ensure productive usage to maximize revenue. This means the State Trust lands serve as de facto open space, though they are not managed for open space.

Future national legislation may allow the exchange of State lands for National Forest lands. It is recommended that the options of purchase, condemnation, exchange, and/or the Arizona Preserve Initiative be considered to meet the needs of the open space system. In the meantime, State Trust lands, with their current uses, meet open space objectives.

State Trust lands have been prioritized for retention as open space in four main groupings: first priority, second priority, third priority, and fourth priority. Some of these lands may be suitable for conservation purposes under the Arizona Preserve Initiative (API). This *Plan* identifies State Trust lands within the three-mile radius of the city's corporate boundaries, designated by the API, that could be considered for conservation. It is important to note that some sections with very high resource values are located at Rogers Lake, which is outside of this three-mile radius.

Some of the State Land sections situated south of Rogers Lake are located far from urban services and may be less likely to receive sale proposals. These more distant State lands are currently managed as open space in conjunction with surrounding National Forest lands. Forest commodity uses, natural-appearing landscapes, and recreation access by permit are available here. The State Land Department should continue to administer these lands to meet open space opportunities.

Trail easements are desired through some sections of State land, and the agencies and public should continue to work toward attaining these critical linkages. Notifying the Open Spaces Coalition of impending sale or lease of State Trust lands would be beneficial to the implementation of this *Plan*. Such notification may provide the opportunity for site-specific evaluation and community involvement.

Continued communication with the director of the Arizona Preserve Initiative is also recommended to keep the State Land Department aware of the desires of the Flagstaff community.

**Condemnation and Land Retention Recommendations**

Should federal legislation be proposed to permit acquisition of lands by federal agencies through condemnation when there is a party willing to release lands, the Open Spaces Coalition should strongly consider this

measure. Condemnation is a valid tool that can be used to acquire lands with high resource values as identified through the *Open Spaces and Greenways Plan*. The primary objective is for Forest Service lands identified for retention to remain under management of the Coconino National Forest. However, in the event that an exchange or acquisition is proposed that serves the overall beneficial purpose of the *Plan*, specific proposals should be considered by the agency with the decision authority.

## A-1 Mountain Landscape District

### Description

The A-1 Mountain landscape district includes Observatory Mesa and A-1 Mountain and is bordered by Thorpe Park, Lowell Observatory, and the Museum of Northern Arizona on the east. Interstate 40 is to the south. Bellemont lies to the west and the communities of Fort Valley and Hidden Hollow are to the north.

Ponderosa pine with shrubs and grasses on the forest floor and large grassy open areas make up most of this landscape district. The slopes of the Mesa and A-1 Mountain contain thick forests with small pockets of oak, aspen, and mixed conifer. Springs and side drainages exist on the southern slopes of the Mesa. There are excellent views of the San Francisco Peaks from Observatory Mesa, and the slopes of the mesa facing Highway 180 provide a scenic vista.

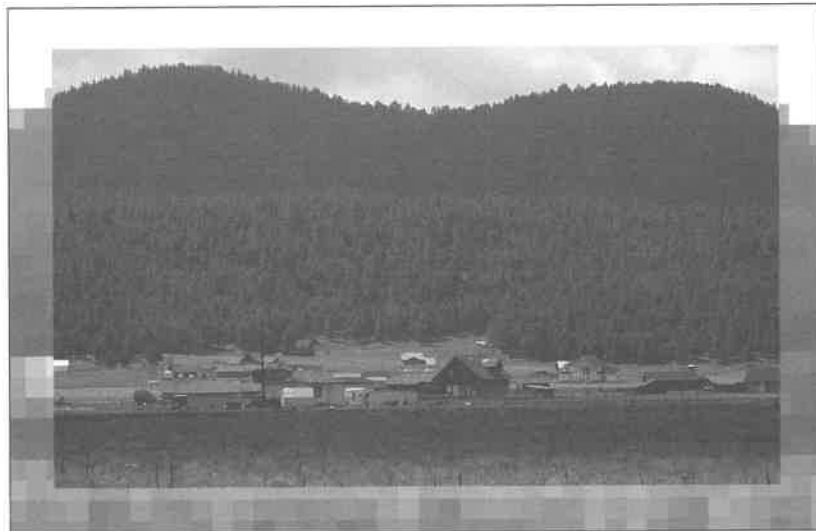
Forest commodity uses of this district include grazing, wood products harvesting, firewood gathering, and beekeeping. Multiple recreation activities enjoyed here are hiking, biking, horseback riding, dispersed camping,

driving for pleasure, cross-country skiing, snowmobiling, occasional foot and bike races, and hunting-dog trials. Residents of adjacent communities take opportunities for daily jogging, dog walking, and other "Neighborhoods" activities.

An important wildlife travel corridor exists within this district for deer, elk, bear, turkey, and small mammals. The landscape district connects the Woody Ridge area to the south with A-1 Mountain and north to the San Francisco Peaks.

Historical, educational, and cultural sites that provide facilities and interpretive activities are the Museum of Northern Arizona and Lowell Observatory. Evidence of pioneer settlement and use can be found in the Fort Valley area and along the Rio de Flag.

The Fort Valley Experimental Forest research facility is located in this landscape district. It was established after the turn of the 20th century to study the effects of logging, grazing, and fire on ponderosa pine and its regenerative capabilities. This research is considered the most comprehensive long-term study of its kind and is still pursued to this day.



*Ponderosa pine with shrubs and grasses on the forest floor and large grassy open areas make up most of the A-1 Mountain landscape district. The slopes of Observatory Mesa and A-1 Mountain also contain small pockets of oak, aspen, and mixed conifer. There are excellent views of the San Francisco Peaks from Observatory Mesa, and the slopes of the mesa facing Highway 180 provide a scenic vista.*

The potential for ignition of a wildfire is high in this landscape district. Due to the prevailing winds, the close proximity of buildings to dense stands of trees, and current high levels of recreational use, the probability of property loss is high. Fire is a natural component of the ponderosa pine forest ecosystem and should be reintroduced to reduce the risk of catastrophic wildfire and to maintain a healthy ecosystem. In the future, the preferred forest ecosystem could be reached through the creation of a mix of forest conditions in the “Neighborwoods,” through the retention of large old pines, the thinning of younger trees to lower densities, and promoting healthy grasses.

This area is heavily used by both west Flagstaff and Fort Valley residents, and its value as a “Neighborwoods” should be protected in the future as there is a potential for more adjacent development on some State Land sections and as yet undeveloped private lands.

Collaboration at all levels – public and private – needs to be established or continued and strengthened to accomplish the goals needed to preserve the resources and maintain them in an eco-healthy environment.

## Uses and Values Recommendations

### Cultural Sites and Uses

The Fort Valley Experimental Station was the first experimental forest established in the country. Support the use of the Experimental Station as an educational and research facility. Promote protection of the remaining original historic buildings.

### Education and Research

The Rio de Flag could provide educational opportunities on prehistorical, historical, and ecological topics. Consider partnerships with the Museum of Northern Arizona, the Pioneer History Museum, and other institutions to enhance the opportunities for outdoor classroom instruction. Lowell Observatory is a scientific, cultural, and educational asset to the Flagstaff community. Continue to promote outdoor education opportunities in conjunction with the activities at the Lowell Visitor Center. Section 17 T21N R6E (see Land Retention map in Appendix 3) is owned by Lowell and adds to



*The A-1 Mountain Landscape District is heavily used by both west Flagstaff and Fort Valley residents, and its value as a “Neighborwoods” should be protected in the future.*

the area’s open space values. The Museum of Northern Arizona is also a scientific, cultural, and educational asset to the Flagstaff community. Continue to promote outdoor education opportunities in conjunction with the public event activities at the museum.

### Fire

Because of the area’s close proximity to urban areas with water and other services nearby, longer-term campsites are sometimes established here, increasing the risk of wildfires. Encourage multi-public agency safety efforts that prevent the establishment of such camps while recognizing that the forest can and should serve a diverse palette of recreational uses, including short-term camping.

### Forest Commodity Uses

At existing mining claim sites, require appropriate mitigation measures to lessen the visual effects from Highway 180 and Interstate 40. There are no areas within this landscape district identified for withdrawal from future mining claims.

### Recreation: Corridors and Linkages

Develop and maintain alternate modes of transportation linkages between Lowell Observatory, Thorpe Park, Rio de Flag, the Arizona Historical Society-Pioneer Museum and Coconino Center for the Arts, the Museum of Northern Arizona, and the Fort Valley Experimental Forest; and from these sites to neighborhoods in the City of Flagstaff and the County communities of Hidden Hollow and

Fort Valley. Easements may be needed in State Sections 06, 08, and 18 of T21N R7E (see Land Retention Map in Appendix 3) should development occur.

### **Riparian**

Support the riparian restoration project planned for the A-1 Lake area.

Protect and enhance the spring sites at the base of Observatory Mesa. These sites are not only important micro-sites of wildlife habitat but also are historically important to the founding of Flagstaff. Where they are privately owned, work with property owners to encourage their protection.

### **Vistas and Viewsheds**

The ridgelines and slopes of the north- and east-facing portions of Observatory Mesa provide a viewshed as seen from Highway 180 and adjacent and outlying neighborhoods. This viewshed defines the western edge of Flagstaff. Manage vegetation, recreation activities, and recreation developments such as roads and trails in order to meet scenic goals.

Continue to manage Highway 180 as the scenic highway by retaining its natural landscape features.

The top of Observatory Mesa, just east of A-1 Mountain, provides excellent views of the San Francisco Peaks, A-1 Mountain, and Woody

Mountain. These views attract varied recreational uses, group camping, and other large group activities. Continue to provide for and manage these uses so as not to damage the vegetation or obstruct the views.

The southfacing slopes of Observatory Mesa provide a backdrop and scenic vista for the communities along historic Route 66 and to people driving this road or riding the train. Conduct vegetation and recreation management so as to meet scenic goals. Where possible, work with private property owners to encourage appropriate tree screening and building heights.

At existing mining claim sites, require appropriate mitigation measures to lessen the visual effects from Highway 180 and Interstate 40. Mitigate cultural and biological effects.

### **Desired Futures and Expected Outcomes of Management Recommendations**

In the A-1 Mountain landscape district, it is expected that a small portion of lands in the Multiple-use/Conservation category will shift toward Semi-primitive conditions. This shift will occur where wildlife corridors are managed with fewer roads, less recreation, and connected dense patches of vegetation. Currently, these areas are relatively far from the sights and sounds of urban environments.

**Table 3.1**

**A-1 Mountain Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Observatory Mesa area Section 12 T21N R6E	Second priority for State lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Open Space Zone  Acquire State Section 12 and retain as open space. This section lies in the middle of a large, open grassland created by a 1950s wildfire. Views of the San Francisco Peaks are exceptional, and retention of this section will ensure that the grasslands are kept intact and not fragmented by potential development. Section 12 is surrounded on four sides by National Forest and on the southeast side by Lowell Observatory use lands.
Observatory Mesa area Section 18 T21N R7E	Second priority for State lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Rural-Residential  This Section lies within the city limits, but outside the city's Urban Service Boundary. Although it is zoned Rural-Residential, it has a general plan land use designation of Open Space/Green Belt. Acquire State Section 18 and retain as open space. The most important components of this Section are the steep slopes and associated drainages. The steep slopes and drainages contain oak and other shrubs, which provide wildlife habitat. The slopes of Section 18 provide a view that can be seen from the railroad tracks, Old Route 66, and private lands to the south. Should erosion occur due to development, it could impact soils, vegetation, and springs. The northern half of Section 18 is forested and currently provides road and trail opportunities, which could be expanded. This Section is surrounded on the north and west by National Forest and the east by Lowell Observatory lands.
Observatory Mesa area Section 08 T21N R7E	Fourth priority for State lands within entire Plan area (linkages requested)  Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Rural-Residential  Should sale and development occur, obtain easements for trail linkages and access points to roads and trails, including maintaining a trail connection between Lowell Observatory, the Museum of Northern Arizona and the Flagstaff Urban Trail System. Retain some level of natural landscape features and open space within the developed area.

**Table 3.1 (continued)**

**A-1 Mountain Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>Observatory Mesa area Private lands along ridge lines &amp; slopes</p>	<p>Low priority for retention</p>	<p><i>Ownership:</i> Private <i>County Zoning:</i> Agricultural Residential 2.5 Residential Single-Family 5.0</p> <p>Observatory Mesa is a prominent natural feature delineating the western edge of Flagstaff and provides viewsheds of steep slopes, trees and its rim as seen from Hwy. 180 and the east. Work with developers to protect viewsheds to the extent possible by retaining vegetation, limiting height and clustering of buildings, retaining trees for screening, and designing signs to blend with scenic goals.</p>
<p>Observatory Mesa area Section 07 T21N R7E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Rural-Residential</p> <p>This area is part of an unfragmented block of open space where Neighborhoods recreation occurs. There are some views of the Peaks.</p>
<p>Observatory Mesa area Sections 25 &amp; 36 T22N R6E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space</p> <p>Part of an unfragmented block of open space, this area serves as buffer between the Hidden Hollow and Fort Valley communities. It is a wildlife corridor area, has remnants of pioneer history, and is used for Neighborhoods recreation. Section 25 contains portions of the Rio de Flag riparian corridor.</p>
<p>Observatory Mesa area Section 35 T22N R6E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space</p> <p>This area is part of a large unfragmented block of open space that serves as buffer between the Fort Valley communities and adjacent Semi-primitive lands on A-1 Mountain. The area has remnants of pioneer history.</p>
<p>Fort Valley area Section 28 T22N R6E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space</p> <p>Part of the Neighborhoods in this Section extends to the base of Little Wing Mountain, which is Semi-primitive. The area is used for Neighborhoods recreation and is part of an unfragmented block of open space.</p>

**Table 3.1 (continued)**

**A-1 Mountain Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Fort Valley area Sections 22, 27, 23 & 14 T22N R6E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space Fort Valley Experimental Forest, Rocky Mountain Forest, and Range Experiment Station are located here with their primary purpose being forest research. The station is on the National Register of Historic Places. Section 14 is not Experimental Forest, but Forest Service.
Fort Valley area Sections 24, 25, 19, 30 & 13 T22N R6E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space All sections, including the southern half of Section 13, are experimental forest. They have been, and are, the site of a long-term fire ecology study. These lands provide an unfragmented block of open space between the community of Fort Valley and northern Flagstaff neighborhoods.
Observatory Mesa area Section 06 T21N R7E	Second priority for State lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Rural-Residential This land is characterized by its steep slopes and side drainages. Maintaining this Section for conservation purposes will help preserve the wildlife corridor immediately adjacent to the west. These lands are adjacent to Forest Service-managed lands, and if consolidated with the Forest Service lands, administration would be facilitated and made more efficient.
Belle Spring area Section 14 T21N R6E	High priority for retention	<i>Ownership:</i> Private <i>County Zoning:</i> General This small piece of private land contains a spring site and is surrounded by National Forest lands.

## Griffiths Spring Landscape District

### Description

The Griffiths Spring landscape district surrounds several communities, major employers and a regional park. Located in the District are the W. L. Gore facility; lands west of the Flagstaff community of Equestrian Estates and other communities along Lake Mary Road; lands around the county communities of Forest Highlands, Kachina, and Mountaineer; and lands around Fort Tuthill Park. It also includes the areas south of the Flagstaff Airport. This landscape district is a combination of private and Forest Service lands, with a few State sections.

Prominent features of the area include Pumphouse Wash, a major tributary to Oak Creek Canyon extending south from the Kachina Village area, and portions of Skunk and Fay Canyons west of Lake Mary Road. Vegetation consists primarily of ponderosa pine with grass and shrubs on the forest floors and riparian vegetation in drainages and around springs, such as Griffiths Spring, Landon Spring, Schoolhouse Draw and Pumphouse Wash. Wetland habitat exists in a quarter of State section 18 near Kachina Village.

No large wildlife corridors exist here, but the habitat along the lakes, drainages and springs is critical for eagles, osprey, frogs, and other aquatic life. Elk, deer, and small mammals also use the habitats for summer-time feeding.

Forest commodity uses are primarily livestock grazing, with some wood products harvesting.

Residents use this landscape district for Neighborwoods activities such as daily hiking, jogging, biking, horseback riding, ATV (all-terrain vehicle) riding, snowmobiling, and cross-country skiing. Overnight camping is permitted at Fort Tuthill, a regional park that serves as the County fairgrounds and is used for numerous large-scale outdoor events, particularly in the summer. It is also host to a wide array of urban recreational activities.

Educational sites include The Arboretum at Flagstaff, an indigenous and adapted plant community research facility on Woody Mountain Road, and the Griffiths Spring area used by the Flagstaff Public School District as an outdoor laboratory.



*The Griffiths Spring landscape district includes lands surrounding Fort Tuthill Park, a popular site for festivals and other large recreational and cultural events. Vegetation consists primarily of ponderosa pine with grass and shrubs on the forest floors and riparian vegetation in drainages and around springs.*

With its close proximity to numerous city neighborhoods and county communities, the Griffiths Spring landscape district provides staging areas for recreational users, such as to Woody Mountain and south to Lake Mary. This is envisioned as an area where recreationists can mix alternate modes of transportation to gain easy access to major destination points, such as Roger's Lake, or use trails and roadways for short trips.

Concerns for firefighter safety and the risk of property and resource loss due to wild-fire are high in this district due to the prevailing winds, current forest conditions, close proximity of buildings to high tree densities, and past fire history. Nonetheless, fire is a natural component of the ponderosa pine forest ecosystem and should be reintroduced for wild-fire mitigation purposes and a healthy ecosystem. In the future, as development occurs, a mix of forest scenes in the Neighborwoods should be maintained by retaining old pines, thinning younger trees to lower densities, and promoting healthy grasses.

Although there is a primary need for retention and maintenance of open space conditions and practices, there is the possibility of future growth and development. Development should occur at carefully determined locations, giving priority to protecting the integrity of Griffiths Spring and other drainage basins and obtaining lands, in particular State Trust lands, for wildlife habitat, linkages, and the expansion of Fort Tuthill. Should such development occur, the forested buffer that currently exists between communities and serves as a Neighborwoods should be retained.

### Uses and Values Recommendations

#### Access

One staging/ parking area exists at Fort Tuthill. Additional staging/parking areas should be designated. This small Semi-primitive area is accessed from Forest Service Road 231. Few roads and no trails exist. Future access should be provided but should take into account protection of wildlife habitat.

#### Cultural Sites and Uses

Interpret history of the Flagstaff area in keeping with County Park management policies.



*With its close proximity to numerous city neighborhoods and county communities, the Griffiths Spring Landscape District provides staging areas for a wide variety of recreational users, including mountain bikers and hikers.*

#### Education and Research

Griffiths Spring provides excellent potential for development as an environmental education site. Fort Tuthill may be able to expand its outdoor education opportunities. Promote these opportunities and strengthen partnerships with agencies and the school district.

#### Forest Commodity Uses

The landscape district is within the Lake Mary watershed; all of the district should be withdrawn from future mining claims. Continue to provide for use by the city for its well system.

#### Recreation

**General.** Evaluate lands south of the airport and around Fort Tuthill for meeting future recreation demands. Because urbanized growth is under way in the vicinity of Flagstaff Ranch Road and along Lake Mary Road, lands currently used by residents for Neighborwoods-type recreation may no longer be available. Increased numbers of people living in these areas will result in increased demands. High levels of "close to home" recreation opportunities are more appropriate here than on the Semi-primitive lands to the east and west of this landscape district. Proactive planning and active management are needed to provide for

increased recreation while maintaining the adjacent Semi-primitive category.

**Corridors and Linkages.** Create the following corridors and linkages for alternative modes of transportation:

- from the Lakes Mary, Mountaineer, and Kachina Village to urbanized areas
- to the city from Fort Tuthill, The Arboretum at Flagstaff, Rogers Lake, and the Woody Mountain Road communities
- from Lake Mary Road communities to the city, the Arizona Trail, and Northern Arizona University
- from NAU to points that offer high-altitude training opportunities through partnerships
- at the double box culvert near the Black Springs restaurant area on Highway 89A south of Fort Tuthill as an east-west crossing to serve Forest Highlands, Pine Del, and Kachina Village communities
- from the Woody Mountain Road communities to the Flagstaff Ranch Road underpass at Interstate 40 across Route 66 and the railroad tracks to Observatory Mesa. This connection should be developed as soon as feasible with private landowners.

**Group Activities.** Undertake a process to identify appropriate locations for large groups and limit large group activities to main designated roads and trails. Very large recreational groups may use a combination of facilities at Fort Tuthill and roads and trails on adjacent Forest Service or State lands. Formally designate trail routes on National Forest or State lands (only the FUTS is formally designated). Other group uses, such as weddings, family reunions and foot or bike races, may occur in the MU/C. The integrity of the individual user experience should not be compromised by large group use.

### Riparian

Support the use of Kachina wetlands for education and recreation.

Protect vegetation and water flows in Griffiths Spring, Schoolhouse Draw, Pumphouse Wash, and other major drainages.

Protect and enhance pockets of riparian vegetation in Sinclair Wash. Maintain FUTS

trails around Sinclair Wash. Possibly implement flood control measures in Sinclair Wash to protect developed areas that lie downstream.

Protect vegetation and water flows in Pumphouse Wash and other major drainages. Limit overnight camping where it may affect riparian vegetation.

Manage the Dry Lake basin as a natural wetland and provide education and public enjoyment opportunities as appropriate. Dry Lake basin is a marshy wetland surrounded by rocky hillsides of pine, aspen and oak, and this combination of wetland surrounded by aspen and oak provides unique habitat for a variety of bird species and other animals.

### Roads and Trails

Develop a designated road and trail system in response to increased recreation demand. Concentrate road and trail development in areas north of Kachina Village/Mountaineer. Provide fewer roads and trails south of Kachina/Mountaineer in the adjacent Pumphouse Wash landscape district.

Discourage increased recreational use from expanding onto Woody Ridge by limiting road and trail access on the far west side of this landscape district. Forest Road 533 may be a good delineation with Forest Road 533 open to vehicles and restrictions on roads and trails west of Forest Road 533.

Provide trail corridors linking Fort Tuthill to sites in the Pumphouse Wash landscape district, such as The Arboretum at Flagstaff, Woody Mountain Road, and Rogers Lake, and sites in the Walnut Canyon landscape district.

Fort Tuthill should serve as a hub for trails leading out to other destination points and as a connector to other forest trails. Currently, Fort Tuthill serves as a parking/staging area for this landscape district.

### Vistas and Viewsheds

Developments along forested gateways into Flagstaff should be screened by trees, particularly Interstate 17, Highway 89A, and Lake Mary Highway (FH3). Future signage should be minimal, discrete and appropriate, and should not detract from the landscape.

### Wildlife

Manage recreational roads and trails to maintain low levels of forest use south

of Kachina Village, where an important wildlife corridor exists. The corridor is actually located in the Pumphouse Wash landscape district, but actions in the Griffiths Spring landscape district can affect wildlife in the corridor. Higher levels of forest use can be maintained north and east of Kachina Village.

Emphasize recreation use in this landscape district as a means to protect the wildlife habitat in the adjacent Pumphouse Wash landscape district.

Kachina Village wastewater wetlands should be maintained as an exceptional wildlife watching opportunity.

**Desired Futures and Expected Outcomes of Management Recommendations**

No expected changes in open space category designations

**Table 3.2**

**Griffiths Spring Landscape District**

**Lands Recommended for Retention**

<b>Location of Lands</b>	<b>Overall Priority within Plan Area</b>	<b>Objectives and Rationale for Retention and Acquisition</b>
Dry Lake Basin area Section 25 T21N R6E	High priority for retention	<i>Ownership:</i> Private <i>County Zoning:</i> Planned Community Zone This private land makes up most of the Dry Lake wetland, which has high riparian value. Acquire, if possible, private lands encompassing the Dry Lake wetland located in the interior of the basin. Should the private land surrounding the wetland develop, approach property owners to maintain the wetland portion of Dry Lake for riparian and wildlife values. Discourage building in the wetland itself. Foster partnerships among appropriate organizations, developers and property owners to maintain the wetland and surrounding hillsides. Manage this wetland as a conservation education site.
Outer Slopes Dry Lake Basin Section 25 T21N R6E	Low priority for retention	<i>Ownership:</i> Private <i>County Zoning:</i> Planned Community Zoning A public access trail linkage connecting Flagstaff Ranch Road interchange to the city's FUTS and Woody Mountain Road is desired.
Dry Lake area Section 26 T21N R6E	Second priority for State lands within entire Plan area Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Open Space Portions of this Section make up the Dry Lake wetland, which has high riparian value. Habitat serves wildlife foraging and traveling through the area, including sensitive species such as golden eagles and the Mexican spotted owl. This Section served as range land for the old dairy, which has buildings still intact adjacent to this Section. This Section is also adjacent to The Arboretum at Flagstaff and contributes to its natural setting and visitor experience.

**Table 3.2 (continued)**

**Griffiths Spring Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>Equestrian Estates area Section 30 T21N R7E</p>	<p>Third priority for State lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Rural-Residential</p> <p>Consider acquiring part of this State Section to expand De Miguel Elementary School outdoor classroom opportunities. Consider acquiring another part of this State Section for open space/park for the University Heights communities.</p> <p>However, should this Section sell, approach owners for public access trail linkage across this area connecting Equestrian Estates, University Heights, and Mountain Dell communities to the city's FUTS and surrounding National Forest lands.</p> <p>A problem in this Section is an old, former landfill for which future cleanup will require reclamation.</p>
<p>Fort Tuthill area Section 02 T20N R6E</p>	<p>Third priority for State lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> General</p> <p>These lands are adjacent to Fort Tuthill and should be evaluated for recreation opportunities to handle possible recreational overflow from Fort Tuthill and to serve adjacent communities. Future growth in private lands to the north will mean more recreation demands in this area. These open space areas also serve as buffers between communities. Locating high recreation uses here could serve as a buffer to and protect Semi-primitive lands on Woody Ridge in the adjacent Pumphouse Wash landscape district. Currently, this Section is part of an unfragmented open space with multiple Forest Service commodity and other uses.</p>
<p>Fort Tuthill area &amp; Landon Springs Section 12 T20N R6E</p>	<p>Third priority for State lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> West Half – 10-acre minimum Residential East Half – Open Space</p> <p>This Section is surrounded by Forest Service lands and Fort Tuthill County Regional Park and is cut through with small drainages that feed Landon Spring. The area offers recreation opportunities as a Neighborhoods for area communities and as a linkage to Fort Tuthill from communities to the south. Possible future uses include overflow recreation from Fort Tuthill. Records indicate a small commercial lease and homestead lease on this Section.</p>

Table 3.2 (continued)

<b>Griffiths Spring Landscape District</b>		
<b>Lands Recommended for Retention</b>		
<b>Location of Lands</b>	<b>Overall Priority within Plan Area</b>	<b>Objectives and Rationale for Retention and Acquisition</b>
Fort Tuthill area Section 01 T20N R6E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space These lands are adjacent to Fort Tuthill and should be evaluated, along with State Section 2, for recreation opportunities to handle possible recreational overflow from Fort Tuthill and to serve adjacent communities. Future growth in private lands to the north will mean more recreation demands in this area. This Section could serve as a buffer to protect Semi-primitive lands on Woody Ridge in the adjacent Pumphouse Wash landscape district. Currently, this Section is part of an unfragmented open space with multiple forest commodity and other uses.
Fort Tuthill area Section 06 T20N R7E	High priority for retention Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Coconino County & Arizona State Land Department <i>County Zoning:</i> Open Space This Section serves as the county's regional park. The recently completed <i>Fort Tuthill Master Plan</i> calls for the expansion of the park into the State-owned portions of this Section due to the ever-increasing number of users and impact on the existing site, which is now inadequate.
Fort Tuthill area Section 07 T20N R6E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space This Section serves as the county's regional park. The recently completed <i>Fort Tuthill Master Plan</i> calls for the expansion of the park into the State-owned portions of this Section due to the ever-increasing number of users and impact on the existing site, which is now inadequate.
Fort Tuthill area Section 11 T20N R6E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space This area is part of an unfragmented block of open space located at the base of Woody Ridge. Wildlife use the small drainages here, and the area has the potential to provide for future recreation needs.
Forest Highlands area Section 18 T20N R7E	Low priority for retention except for trail linkage	<i>Ownership:</i> Private <i>County Zoning:</i> Planned Residential Development Obtain a public access trail linkage across the northeast corner or along the northern Section line to connect the Kachina Village area to Fort Tuthill and the city's FUTS.

**Table 3.2 (continued)**

**Griffiths Spring Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Griffiths Spring area Section 13 T20N R6E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>Scenic Hwy. 89A runs through the middle of this Section. Griffiths Spring has high riparian values and currently serves as an outdoor classroom for public schools. Small drainages feed the spring.</p>
Griffiths Spring area Section 14 T20N R6E	<p>Third priority for State lands within entire Plan area</p> <p>Within 3-mile radius designated by Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department  <i>County Zoning:</i> Open Space</p> <p>This Section is located partly within the Griffiths Spring and partly within the Pumphouse Wash landscape districts. It is surrounded by Forest Service lands. Small drainages cut through the Section and scenic Hwy. 89A passes through the southeast corner.</p>
Griffiths Springs area Section 23 T20N R6E  Forest Highlands Area Section 24 T20NR6E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>Scenic Hwy. 89A passes through the middle of Section 23. The Section is cut through by Woody Wash, which drains into Pumphouse Wash and eventually into Oak Creek Canyon. Wildlife use this Section, which is characterized by the slopes of Woody Ridge. This Section is surrounded on three sides by unfragmented open space and is ranked high priority for retention. Approximately one-quarter of the Forest Service land in Section 24 is low priority for Forest Service ownership and administration.</p>
South of Kachina Village area Section 25 T20N R6E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>This Section lies just south of Kachina Village. It is characterized by steep geologic formations and the dense riparian vegetation of Pumphouse Wash. Riparian species as well as large wildlife use this land. Neighborwoods and other types of recreation occur here.</p>
South of Kachina Village area Sections 29 & 30 T20N R7E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>These sections lie just south of Kachina Village. They are characterized by the upper end of Kelly Canyon drainage. Wildlife use the drainage and ridgelines. These sections form the northern boundary of an unfragmented block of open space. I-17 runs through section 30 and its vegetation provides a scenic buffer.</p>

Table 3.2 (continued)

Griffiths Spring Landscape District		
Lands Recommended for Retention		
Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
North of Kachina Village area Section 17 T20N R7E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space This Section lies just north and east of Kachina Village. I-17 runs through this Section and its vegetation provides a scenic buffer for the highway. It contains a portion of School House drainage; Neighborwoods recreation occurs here. There is an historic railroad bed east of I-17. This Section provides opportunities for trail linkages and serves as a buffer between private land to the south and the Fort Tuthill/Airport area.
South of Airport area Section 08 T20N R7E	High and low priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space & Public Land/Forest This Section lies just south of airport lands. The southern half of this Section is Forest Service land, which, in conjunction with Section 17, provides a buffer between communities. It contains the upper end of Pumphouse Wash. Future airport needs for portions of these lands may be compatible with open space goals provided that natural landscapes and recreation opportunities are maintained. The lands directly south of the airport are low priority for Forest Service retention and may best serve the community if consolidated with the airport.
South of Airport area Section 09 T20N R7E	High and low priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space & Public Land/Forest Section 09 lies just southeast of airport lands and contains the upper end of Pumphouse Wash. Future airport needs for portions of these lands may be compatible with open space goals provided that natural landscapes and recreation opportunities are maintained. This Section is part of an unfragmented block of open space.
Block of lands south & west of Lake Mary Road & north of Mountaineire Sections 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 34, 35 & 36  East of Hwy. 89A Section 07 T20N R7E	High and low priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space <i>City Zoning:</i> Sections 10, 11 & 12 Public Land/Forest These Sections make up a relatively unfragmented block of open space lands that provide Neighborwoods recreation and forest commodity uses. Schoolhouse Draw and other drainages bisect the area. These lands provide a buffer between the airport and Lake Mary Road communities and the Mountaineire/Kachina communities. As growth occurs on the southern side of Flagstaff north of the airport, increased recreation use is likely to occur here. A small parcel of land within Section 07 is low priority for Forest Service ownership. A trail linkage is currently planned.

**Table 3.2 (continued)**

**Griffiths Spring Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Sections 30 & 19 T20N R8E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>Part of the unfragmented block of open space described above, these Sections are located around Lake Mary Meadows. They contain some bluffs, and wildlife associated with the lake ecosystem use these Sections. This area provides a buffer between Lake Mary Meadows and the community at the Lake Mary store. Recreation use occurs here.</p>
Section 15 T20N R7E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Private  <i>County Zoning:</i> General</p> <p>This private inholding lies in the middle of the block of open space lands. Acquisition and retention as open space is desirable to maintain recreation and open space values.</p>
Sinclair Wash area Sections 35 & 36 T21N R6E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>These sections are northeast of Fort Tuthill and south of the private lands of the Dry Lake and Equestrian Estates areas. Section 36 makes up part of the Dry Lake wetland and the surrounding oak/aspen covered ridge. This portion of these sections provides wildlife habitat for golden eagles and many waterfowl and unique birds. Sinclair Wash crosses both these sections and contains pockets of riparian vegetation. Current use is Neighborhoods recreation. Section 35 surrounds the Arboretum at Flagstaff. Part of the FUTS trail system is constructed here. As private lands to the north develop, these sections can provide for increased recreation use. Various cinder pits are located off of Forest Road 231.</p>
East of Kachina Village area Section 20 T20N R7E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>These parcels within Section 20 lie on the south east sides of private lands east of Kachina Village. These lands are low priority for Forest Service ownership because private land lines make administration difficult. Maintain access and linkages.</p>

**Table 3.2 (continued)**

**Griffiths Spring Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Mountaineer area Section 28 T20N R7E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>This parcel lies just north of private lands. It is low priority for Forest Service ownership because private land property lines make administration difficult. Development may be appropriate here because of existing development and because large unfragmented open space can be maintained to the south, east and north of this Section. Retain linkages and open space within future developed areas.</p>
North & east of the Airport Sections 04 & 05 T20N R7E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>City Zoning:</i> Section 04 – Public Lands/Forest                      Section 05 – Rural-Residential</p> <p>These lands are adjacent to the City of Flagstaff Airport. They are low priority for National Forest ownership because they are surrounded by private lands, making administration difficult. These lands may best serve the community if consolidated with the airport.</p>
North of the water treatment plant on Lake Mary Road Section 33 T21N R7E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>City Zoning:</i> Rural-Residential</p> <p>This parcel (approximately 1/2-mile section) is low priority for Forest Service ownership because surrounding private lands make administration difficult. However, there may be partnership opportunities here to jointly develop a regional park. It is highly desirable to provide open space park facilities to serve Flagstaff.</p>
Forest Highlands area Section 24 T20N R6E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Open Space</p> <p>Approximately one-quarter of this Section is National Forest land, and the rest makes up Forest Highlands. This one-quarter Section is low priority for Forest Service ownership to simplify administration. Development here would not jeopardize the large unfragmented block of open space located south of this Section.</p>

## Kachina Peak Landscape District

### Description

The Kachina Peaks landscape district is dominated by the Kachina Peaks Wilderness, encompassing the San Francisco Mountains on which Humphreys Peak, Arizona's tallest point, is situated. Also surrounded by the Wilderness is the Snowbowl Ski Resort. The sparse, and for the most part seasonally occupied, communities of Hart Prairie are also located in this district. The district is bounded by State Highway 180 on the west and State Highway 89 on the east. In addition to the San Francisco Peaks, other prominent features include the Inner Basin/Lockett Meadow area and Fern Mountain.

This landscape district consists mostly of Forest Service lands with some private land inholdings.

Vegetation includes ponderosa pine forests on the lower slopes, mixed conifer and aspen at the higher elevations, and Arizona's only tundra at the tops of Humphreys and Agassiz Peaks. high-altitude shrubs,

grasses and wild flowers cover this landscape, including the riparian community of the rare Bebb's willow near Fern Mountain. Springs and drainages support microsites of unique riparian vegetation and provide important forage and water sources for wildlife.

The various vegetative zones support deer, elk, bear, turkey, small mammals, and a wide variety of birds. High elevation species, such as nutcrackers, are found at the tops of the Peaks. The Peaks are the definitive landmark in this part of northern Arizona by which Flagstaff gains its sense of place, character, and uniqueness. Many parts of this landscape district hold spiritual significance, particularly to American Indians, and are considered to be "places of the heart" for many other people and cultures

extending well beyond the greater Flagstaff landscape. Historical landmarks and early homestead sites can be found.

Forest commodity uses are livestock grazing, firewood cutting and gathering, and wood product harvesting on the lower pine-covered slopes of the



*The skyride at Arizona Snowbowl affords a spectacular view of the San Francisco Peaks, the dominant feature of the Kachina Peaks landscape district and home to Humphreys Peak, the highest mountain in the state of Arizona.*

mountains. Snow melt from the Inner Basin is a major source of the city's water supply system.

Recreation activities range from leisure pastimes to the most strenuous challenges. When the aspen leaves turn gold, many people travel to Highway 180, Hart Prairie, Snowbowl, and Lockett Meadow to view the fall colors. The Snowbowl ski area conducts summer ski lift rides and provides winter downhill skiing opportunities. Other recreation activities include non-mechanized uses in the Kachina Peaks Wilderness, such as hiking and horseback riding. An extensive trail network provides many miles of mountain hiking opportunities. Finding solitude is possible in the Wilderness. Distant horizon views can be obtained from Snowbowl and other points around the Peaks. Dispersed camping occurs along major National Forest roads.

Mimicking fire's role in the ecosystem requires continual mitigation measures, such as prescribed fires. Risk of property and resource loss to wildfire is low.

This ecosystem and its various vegetative communities, habitats, and landmarks have value beyond measure and must be protected.

## Uses and Values Recommendations

### Access

Provide access points along Highway 89, Highway 180, Schultz Pass Road, Little Elden Springs Road, and Snowbowl Road.

Provide a few designated trailhead/access points off of major Forest Service roads and highways in the Semi-primitive category.

### Cultural Sites and Uses

Protect sites where there is evidence of pioneer and Basque history, including the Overland Stage Route, the Homestead at Hart Prairie, Beale Wagon Road, Grand Canyon Stage Route, Little Springs, C. Hart Merriam Base Camp, historical markings on aspen trees (dendroglyphs), and other old cabin structures.

Understand and incorporate where possible American Indian spiritual values when designing and making improvements to the ski area. Balance individual recreation and commercial recreation with American Indian cultural values.



*The San Francisco Peaks are the definitive landmark in this part of northern Arizona by which Flagstaff gains its sense of place, character and uniqueness. Many parts of this landscape also hold spiritual significance, particularly to American Indians.*

### Education and Research

Continue to provide educational opportunities to promote understanding of forest ecosystems at Camp Colton and The Nature Conservancy Hart Prairie Preserve.

### Forest Commodity Uses

Within this MU/C category, withdraw the Hart Prairie area from future mining claims because this area has significant scenic, recreation, spiritual, and wildlife values. Maintain the current mineral withdrawal for the ski permit area. Withdraw from future mining claims the Semi-primitive lands of the San Francisco Peaks and the Hochderffer Hills.

At existing mining claims, require appropriate mitigation measures to lessen the visual effects as seen from Highway 89, Sunset Crater National Monument, and Lockett Meadow Road. Mitigate cultural and biological effects.

Continue to provide for American Indian uses in keeping with wilderness regulations.

### Recreation

**General.** Semi-primitive Forest Service roads and trails currently provide recreation opportunities in the Semi-primitive category. Undertake a process to determine desired conditions by number of contacts, group size, existing levels of use, impacts, trends, and strategies for

continued enjoyment of the area. Manage for current uses and do not promote higher levels of use until existing impacts are better understood. If user experience or wildlife values are seriously degraded because of high user numbers, strategies may include establishing new trails with a “stay on trail” policy, setting limits through a permit system, or using outfitter/guide options. Maintain a variety of future options.

Continue to provide cross-country skiing opportunities and trails. Maintain the ski area, summer sky ride, trailhead and parking, and vista lookouts that currently exist at the Snowbowl ski area. Continue to provide opportunities for large groups to use the facilities year-round while monitoring and, if and where necessary, controlling large-group impacts to the surrounding areas.

The Wilderness Act of 1964 and other Forest Service guidelines strive to manage wildernesses as places where natural processes occur and human influence is limited. This is especially



*Lockett Meadow receives thousands of visitors per year. Concerns exist for how to maintain and protect meadow vegetation and provide wildlife access to meadows and water sources while also maintaining a quality visitor experience.*

challenging for the Kachina Peaks Wilderness because of its proximity to urbanized areas and the popularity of its natural feature as a high-mountain environment. The challenge is to balance demands for recreation and other uses with maintenance of wilderness, spiritual, and wildlife values. Continue to provide non-mechanized recreational opportunities where wilderness values are not compromised.

**Inner Basin.** The City of Flagstaff’s water collection system is located here. There are unique/diverse high-elevation plant communities and spectacular views. Consider limiting dogs to leashes only, or prohibiting dogs, to enhance visitor experience and prevent wildlife disturbance. Clearly mark designated trails and remove undesignated trails to protect and reclaim vegetation. Locate trails away from springs to protect fragile vegetation and spiritual values.

Continue to prohibit overnight camping, motorized use (including snowmobiles), and livestock to protect fragile vegetation and water quality.

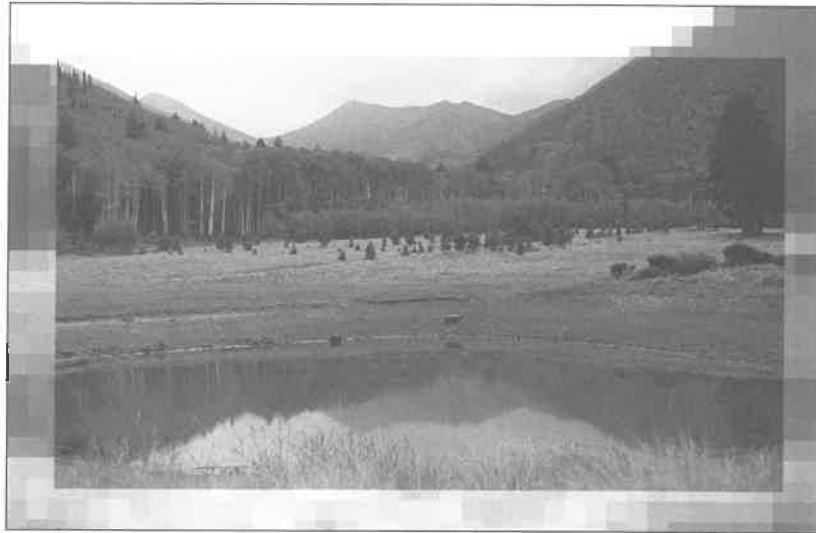
**Lockett Meadow.** Lockett Meadow receives thousands of visitors per year. Concerns exist for how to maintain and protect meadow vegetation and provide wildlife access to meadows and water sources while also maintaining a quality visitor experience. To better arrive at management policies, conduct discussions with the public on strategies such as limiting use to the daytime only, providing alternate camping at lower elevations, providing shuttles at exterior locations, constructing more facilities to handle the high usage, or developing a permit system.

#### **Riparian**

Protect unique riparian woodland vegetation such as the Bebb’s willow in Hart Prairie. Where Bebb’s willow and riparian vegetation exist on private lands, encourage cooperative efforts to protect the overall ecological integrity of the plant communities.

#### **Road and Trails**

The physical characteristics of Lockett Meadow Road limit the number of vehicles it can hold. In the future, alternatives may need to be considered, such as van shuttles or a permit system.



*Beautiful Lockett Meadow is one of many prominent features located in the Kachina Peaks landscape district. The district also includes Humphreys Peak, Arizona's highest point. Vegetation ranges from ponderosa pine forests to high altitude shrubs, grasses, and wildflowers.*

Provide trail linkages from the Timberline and Doney Park communities to the existing trail system and the east side lower slopes of the San Francisco Peaks.

Hart Prairie Road receives extensive use during fall color season. Monitor the road condition, visibility, visitor experience and other ecological impacts of vehicles and, if appropriate, consider options such as increased maintenance of the road, shuttle opportunities, or controlling numbers through a permit system.

Continue to maintain the Snowbowl Road for summer and winter access to the ski area, trailheads, and parking lots. In winter, provide shuttle opportunities from Highway 180. In summer, should numbers of cars begin to impact safety or visitor experience, consider a providing shuttle system on high-use days.

Because of American Indian spiritual values and wilderness values associated with the Peaks, do not construct additional parking or facilities along Snowbowl Road; rather, provide these opportunities at lower elevations along Highways 180 and 89.

The Humphreys Trail to the top of Arizona's tallest peak is used by thousands of people annually. Increasing numbers of people could diminish user experience and

degrade trail conditions. Continue to monitor use levels, especially on the Kachina and Weatherford Trails. Consider a management system to control the number of users and their impacts, if necessary.

Continue to maintain Hart Prairie Road and other two-wheel drive main roads. Provide for recreation trail access points and dispersed camping along these road corridors.

In the Multiple-use/Conservation and Semi-primitive categories, identify designated roads and trails and obliterate secondary roads to create quiet areas for wildlife between the designated high-use road and trail system.

Future parking measures at Snowbowl should not prohibit any legitimate or authorized recreational uses.

#### **Vegetation**

Develop new young stands of aspen trees to support all animal species that use aspen and to provide fall color viewing and enhance forest diversity.

Manage trees and grasses for skier safety. Use native seed mixes when rehabilitating disturbed areas and along ski runs.

Protect and enhance unique and/or diverse plant communities, especially the Bebb's willow, tundra, and Inner Basin plant communities.

### **Vistas and Viewsheds**

Design future ski run improvements to limit effects on viewsheds.

The San Francisco Peaks provide a scenic backdrop to Flagstaff area communities. Actions such as fire and vegetation management and road and trail construction should be accomplished to retain this scenic viewshed. Human-made changes should be minimal, discrete and appropriate, and should not detract from the landscape.

Protect viewshed corridors along Highways 180 and 89.

Wilderness actions should ensure human activities are subordinate to the landscape. This will ensure that the Peaks continue to provide a visual backdrop to Flagstaff communities.

### **Wildlife**

Provide undisturbed areas, corridors and habitat for wildlife. When designing future trailheads, thinning or other projects, leave connected patches of dense vegetation with reduced numbers of roads for undisturbed travelways.

Maintain the ability of wildlife to use mountain meadows, which provide important edge habitat and feeding for a variety of species. Strategies include restricting new trail construction in meadows, limiting time of day when people may use the area, or relocating trails to areas below the meadows.

Maintain wildlife corridors that promote access to and from wildlife summer ranges by providing corridors of higher cover, lower recreation pressure, and fewer roads than surrounding areas.

In the Primitive category, Wilderness activities ensure that natural processes occur and a variety of habitats are maintained. Sensitive wildlife species should receive high protection.

### **Desired Futures and Expected Outcomes of Management Recommendations**

No expected changes in open space category designations.

**Table 3.3**

<b>Kachina Peaks Landscape District</b>		
<b>Lands Recommended for Retention</b>		
<b>Location of Lands</b>	<b>Overall Priority within Plan Area</b>	<b>Objectives and Rationale for Retention and Acquisition</b>
Hart Prairie area, private lands within Sections 14, 15, 22, 23, 26, 27, 34 & 35 T23N R6E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Private &amp; Forest Service</p> <p><i>County Zoning:</i> Section 14 – R-2 except SW 1/4 (General)</p> <p>Sections 22, 23, 26 &amp; 27: Forest Service Open Space</p> <p>Section 35: Snow Bowl – Agricultural/Residential-5 Camp Colton – General</p> <p>Undeveloped private lands are desirable for retention as open space, especially where riparian or other unique plant communities exist. These lands contain recreation opportunities, spectacular views of the Peaks and large aspen stands. The surrounding slopes of the Peaks hold spiritual values. In some sections, Bebb’s willow, a rare species, thrives. Consolidation of these lands with surrounding unfragmented blocks of open space is desirable. Pursue conservation partnership opportunities with private parties.</p>
Crater Lake Section 04 T22N R6E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Private &amp; Forest Service</p> <p><i>County Zoning:</i> General</p> <p>Riparian vegetation attracts wildlife to this area.</p>
Other private inholdings within this landscape district (exact locations not specified)	Low priority for retention	<p><i>Ownership:</i> Private</p> <p><i>County Zoning:</i> General</p> <p>There are a few scattered private inholdings within this landscape district that are remote and surrounded by National Forest lands. It is desirable to maintain these as open space to limit future development of satellite communities and to maintain wildlife values. Pursue conservation partnership opportunities with land owners.</p>

## Mt. Elden Landscape District

### Description

The Mt. Elden landscape district is dominated by its most prominent feature, Mt. Elden, a backdrop at the northern edge of Flagstaff. The district also includes Mt. Elden's foothills and Dry Lake Hills and is bordered by Schultz Pass Road and Elden Springs Road. Most lands are under the jurisdiction of the Forest Service, with some small private inholdings and other private lands adjacent to and within the city.

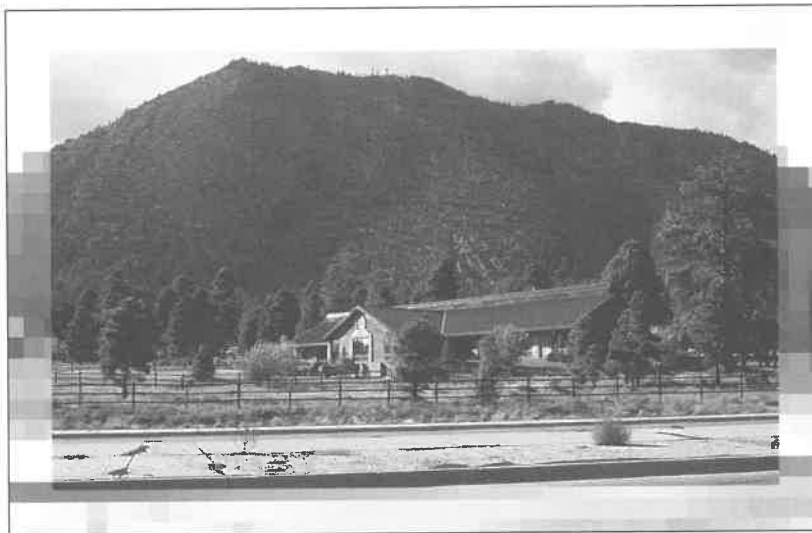
Vegetation on this landscape district is diverse and includes mixed conifer, aspen and high-altitude shrubs and wildflowers on the slopes and tops of the Dry Lake Hills.

Large, relatively undisturbed wildlife habitat areas exist between trail corridors, including habitat for elk, deer, bear, small mammals, turkey, and a variety of other birds. The base of Mt. Elden serves as important winter habitat for deer, and the diverse shrubs, juniper and pine vegetation support small mammals and birds as well. Riparian vegetation and water sources at springs and creeks add to the vegetative

diversity and wildlife habitat. Critical wildlife travel corridors allow animals to cross from the Dry Lake Hills to the San Francisco Peaks.

Many places in this landscape district are spiritually significant for Native Americans and are "places of the heart" for Flagstaff residents who consider this area part of their domain. Traditional uses are American Indian plant gathering, some firewood cutting, and outfitter/guiding for game hunting, horseback riding and hiking. In more recent years, commercial communication towers have been constructed on the ridges of Mt. Elden. Evidence of old stagecoach and wagon trails through this area can still be found. A historical marker identifying pioneer settlement is located at the Elden grave site and Leroux Springs.

The Mt. Elden landscape district provides extraordinary outdoor recreation opportunities on a well-developed trail system with easy access from residential areas along the base of Mt. Elden and from Buffalo Park within the city limits. Schultz Pass Road is a centralized staging point to access the hiking trails on Mt. Elden as well as those on the San Francisco



*Mt. Elden dominates the Mt. Elden landscape district. Vegetation is diverse and includes mixed conifer, aspen, and high-altitude shrubs and wildflowers on the slopes and tops of the Dry Lake Hills. Large, relatively undisturbed wildlife habitat exists between trail corridors, including habitat for elk, deer, bear, small mammals, turkeys, and a variety of other birds.*

Peaks. Additional trailheads, parking and dispersed camping occur along Schultz Pass Road and Elden Springs Road. With easy road access to Schultz Pass and Schultz Creek, equestrians make high use of the area. The tank also serves the Doney Park communities' water supply system.

The Mt. Elden landscape district, with its close proximity to the urbanized developments of the greater Flagstaff area, is in great demand for outdoor recreation use on a daily year-round basis. People use the base of Mt. Elden as a Neighborwoods as well as the district's trail system, which provides linkages from the city's urban trail system and neighborhoods to the Forest Service's trail system. Semi-primitive lands on the slopes and tops of the mountains are used for daytime recreation and primitive camping. Other summer activities include mountain biking, motorcycle riding, rock climbing and bouldering, and driving on forest roads. Winter activities include cross-country skiing, snowmobiling, and snowshoeing. Because of its centralized location, proximity to numerous communities and urbanized areas, easy access, and multiple recreational opportunities, this landscape district currently serves as a staging area for recreation users.

An area at the base of Mt. Elden has been designated an Environmental Study Area and is used by the Flagstaff Public Schools for outdoor education.

There are excellent views of the San Francisco Peaks along Schultz Pass Road and from vantage points along the trails.

Risk of property loss from wildfire is high near buildings along the base of Mt. Elden. The Forest Service has a fire lookout tower at the summit of Mt. Elden. In the rest of the landscape district, fire's natural role in the ecosystem is being restored where possible with prescribed fire burns.

## Uses and Values Recommendations

### Access

Provide access from communities to Neighborwoods via trail connections, Forest Service road connections and staging/parking areas. The County, City, Forest Service and area residents should work together to designate and maintain access points within each community. Access points should also be



*The Mt. Elden Landscape District provides extraordinary outdoor recreation opportunities on a well-developed trail system. It is in great demand for recreation use on a daily year-round basis.*

controlled to reduce conflicts between recreators and private land owners. Additional staging/parking areas should be designated, and facilities, such as toilets or picnic tables may be appropriate at some staging/parking areas. Manage recreation access to maintain ecological health.

### Cultural Sites and Uses

Protect and interpret the Elden Grave site.

### Education and Research

Expand opportunities for outdoor education at the Mt. Elden Environmental Study Area, within Buffalo Park, and at major access points.

Provide an outdoor classroom area adjacent to Christensen School on City and National Forest lands.

Foster a partnership between the Flagstaff School District and the Arizona Game and Fish Department to provide wildlife viewing opportunities near Christensen School.

### Fire

Mitigate risk of wildfire along the Schultz Pass Road corridor. Design projects to include aesthetics and provide wildlife crossings across Schultz Pass Road.

### Forest Commodity Uses

Emphasize recreation uses and provide limited forest commodity uses in keeping with recreation goals.

Withdraw this entire landscape district from future mining claims. The mountains provide a scenic backdrop to the city, and recreation, spiritual, and wildlife values are very high.

Continue grazing, hunting and gathering of wood products and firewood gathering, limiting these uses in the Semi-primitive category because of considerations for recreation and scenic resources.

### **Recreation**

Continue to provide for Neighborwoods, public access and recreation opportunities. At Schultz Tank, continue to provide for recreational use; however, more information and knowledge are needed to understand the impacts of various uses. Increases in numbers of people may need to be curtailed in the future. Alternate sites may need to be established, or improved facilities may have to be provided.

In the Semi-primitive category, continue to provide multiple-use recreation and primitive camping opportunities that are primarily non-motorized in nature. Within balanced limits, absorb or meet recreation use demands that might otherwise be made on the San Francisco Peaks. Establish a process for determining thresholds by monitoring visitor experience and impact on the ecosystem. If user experience is degraded because of high user numbers, it may become necessary to develop new trails, set limits through a permit system, or consider outfitter/guide options. Maintain a variety of future options.

### **Riparian**

Protect and interpret the Mt. Elden springs and other drainages at the base of Mt. Elden.

Promote riparian values and maintain the water quality of Schultz Tank.

Maintain and enhance riparian qualities wherever they exist. Strategies for improving riparian sites might include fencing sites from cattle and/or elk, requiring that dispersed camping be situated out of canyon bottoms and spring sites, and providing roads and parking away from riparian communities. Complement regulations with education efforts explaining the need to protect the habitat and encouraging people to follow guidelines.

### **Roads and Trails**

Continue to provide recreation access and opportunities. The Neighborwoods contain Buffalo Park, the Mt. Elden trailhead, and other access points to the adjacent Mt. Elden/Dry Lake Hills trails system. Maintain the existing Mt. Elden/Dry Lake Hills trail system.

Continue to limit vehicle use to primary roads, such as Mt. Elden Lookout Road, while maintaining existing non-roaded areas and vehicle closure areas in order to provide non-motorized recreation and to protect wildlife, vegetation and soils.

Provide trail linkage crossing of Highway 180 somewhere in the Cheshire area to link the Observatory Mesa and Rio de Flag trails to the Dry Lake Hills trail system.

The Multiple-use/Conservation category encompasses the Schultz Pass Road and Little Elden Springs Road corridors. Continue to maintain these two roads for passenger cars. Provide for recreation trail access points and dispersed camping along these road corridors. Continue to close these roads in winter to protect road surfaces.

Provide trails linking the Dry Lake Hills system to the Fort Valley communities located north of Highway 180, Snowbowl Road, and the Hart Prairie area.

Maintain the existing Mt. Elden/Dry Lake Hills trail system.

### **Vistas and Viewsheds**

Mt. Elden and Dry Lake Hills provide a scenic backdrop to Flagstaff area communities. Actions such as fire, vegetation management, or road and trail construction should not compromise this scenic viewshed. Human-made changes should be discrete and appropriate and should not detract from the landscape.

### **Wildlife**

The base of Mt. Elden contains cliffrose and other shrubs that provide winter habitat for the Mt. Elden deer herd. The winter habitat has been decreased due to Flagstaff's development and recreation use. Habitat, therefore, is mostly limited to the strip of lands at the base of the mountain. The cliffrose, an important food component of deer habitat, is being overtopped and crowded out by pine trees. Action should be taken to lessen impacts

and promote the cliffrose, such as thinning some of the pine, keeping pets on leashes or under control, and encouraging people to stay on trails. Provide education about the deer herd and its needs.

Retain the ability of wildlife to move across Schultz Pass Road between the Mt. Elden and Kachina Peaks landscape districts. When designing future trailheads, thinning or undertaking other projects, leave connected patches of dense vegetation for undisturbed travelways by wildlife.

#### **Wildlife Viewing**

Provide a wildlife-viewing site in the vicinity of the Mt. Elden trailhead, Peaks District Ranger Station, and Christensen School.

#### **Desired Futures and Expected Outcome of Management Recommendations**

A small portion of Multiple-use/Conservation area is expected to shift toward Semi-primitive conditions. This area, which comprises approximately one-half of a section, is currently managed in a manner similar to that used in the adjacent Semi-primitive category. Land features are moderate, and vegetation is somewhat diverse. This area is currently distant from sights and sounds of the urban environment.

**Table 3.4**

**Mt. Elden Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>Dry Lake Hills area Northeast quarter of Section 27 T22N R7E</p>	<p>High priority for retention</p>	<p><i>Ownership:</i> Private <i>County Zoning:</i> General (138-acre site) Acquire this parcel if the opportunity presents itself. This private parcel is located in the Mt. Elden/Dry Lake Hills trail system area and is surrounded by National Forest lands. Development of this parcel could detract from current outdoor recreation experiences and affect the area's Semi-primitive characteristics.</p>
<p>Sections 01 &amp; 02 T21N R7E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space (north half) <i>City Zoning:</i> Public Land/Forest (south half) These Sections comprise the base and slopes of Mt. Elden and provide important deer winter habitat and high levels of recreation use on established trails. They provide a scenic vista as seen from surrounding communities. Diverse vegetation grows here and the designated Mt. Elden Environmental Study Area provides an outdoor classroom for nearby public schools.</p>
<p>Section 6 T21N R8E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Open Space (north half) This Section comprises the base and slopes of Mt. Elden and provides important deer winter habitat and high levels of recreation use on established trails. It provides a scenic vista as seen from surrounding communities. Diverse vegetation grows here and the designated Mt. Elden Environmental Study Area provides an outdoor classroom for nearby public schools.</p>
<p>Other private lands within and adjacent to this landscape district</p>	<p>Low priority for retention</p>	<p><i>Ownership:</i> Private <i>County Zoning:</i> Agricultural Residential 2.0 Rural Residential 5.0 and 2.0 General Should private lands in this landscape district develop, obtain public access trail linkages, protect the steeply sloped escarpments, preserve patches or corridors of open space and maintain scenery as seen from Hwy. 180 and Cedar Avenue. As City-owned and private lands on McMillan Mesa develop, maintain FUTS trail connections, open space on slopes and scenic views from Cedar Avenue and surrounding neighborhoods.</p>

**Table 3.4 (continued)**

**Mt. Elden Landscape District**

**Lands Recommended for Retention**

<b>Location of Lands</b>	<b>Overall Priority within Plan Area</b>	<b>Objectives and Rationale for Retention and Acquisition</b>
Base of Mt. Elden north of the I-40/Hwy 89 north Interchange Section 07 T21N R8E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service</p> <p><i>City Zoning:</i> Rural-Residential</p> <p>A tiny parcel of National Forest land is located in this Section and the rest is private land in a residential area. This Section is low priority for retention in Forest Service ownership. Conduct studies to determine why it was left in Forest Service ownership. Maintain access and linkages.</p>

## Old Caves Landscape District

### Description

The Old Caves landscape district surrounds the communities of Doney Park, Timberline/Black Bill, Fernwood, Rain Valley, Cosnino, and Winona and extends to the City of Flagstaff's eastern developed areas. The landscape district is dotted by volcanic craters and cinder cones, including Old Caves, Sheeps Hill, Turkey Hills, and several other unnamed cones. The Rio de Flag winds its way through this district and is particularly prominent at Picture Canyon.

Aside from the private lands on which the various communities are located, the remainder of the lands consist of mostly Forest Service jurisdiction lands, with some State lands and other interspersed private holdings.

This landscape district encompasses a transition zone of vegetation from ponderosa pine to piñon pines and juniper as the elevation drops. Other vegetation includes cliffrose, oak, and other shrubs. Lush riparian vegetation exists along the Rio de Flag where water from Flagstaff's Wildcat Wastewater Treatment Plant feeds the stream.

The cinder cones are highly visible to residents in the surrounding valleys, and vistas of the San Francisco Peaks and Mt. Elden occur along the major corridors of Highway 89, Old Route 66, and the Townsend/Winona Road. For the most part, a naturally landscaped corridor has been maintained along these areas with a mix of residential and commercial development.

Forest commodity uses include firewood cutting and gathering, piñon nut and plant gathering, cinder mining, and grazing in the Cosnino area. The Flagstaff Cinder Lake Landfill is located in this landscape district.

Unique or scientifically important sites are located throughout the landscape district at Old Caves Crater, Picture Canyon, and Sunset Crater at the NASA astronaut training grounds, where moon vehicles were tested prior to the moon landing. O'Neill Crater and the Turkey Hills are other important historic and cultural sites. The Beale Wagon Road crosses this landscape district, as do remnants of the Greenlaw logging railroad line, the oldest in Flagstaff.



*The Old Caves landscape district is dotted with volcanic craters and cinder cones, including Old Caves (shown here), Sheeps Hill, Turkey Hills, and several unnamed cones. Vegetation in the district is characteristic of a transition zone, ranging between ponderosa pine at higher elevations and piñon pine and juniper at lower elevations.*

Although no large wildlife corridors exist in this district, antelope use the piñon and juniper areas around Cosnino, and some elk, deer, small mammals, and birds are evident throughout the area.

Residents of the surrounding communities use this landscape district extensively as a Neighborhoods for daytime recreation, mostly horseback riding, mountain biking, jogging, walking, hiking, and OHV riding. A portion of the Cinder Hills Off-road Vehicle Riding Area is located within this district and provides for large group events and individual riding of OHVs on roads, trails and across country.

Cromer Elementary School currently uses the Old Caves Crater area for outdoor education and, in cooperation with the Forest Service, is exploring an Ecological Study Area designation. New approaches are needed to manage this area to preserve its long-term viability for education.

Risk of property and resource loss from wildfire is high due to past fire history, prevailing winds, current forest conditions, and close proximity of buildings to high tree densities.

This district contains high densities of cultural sites. The presence of cultural sites does not necessarily preclude sale, exchange, urbanized development, or road and trail construction, but the cost of conducting such activities is high in order to meet survey, mitigation, and recording needs as set forth in historic preservation law and regulations. In some instances, the presence of cultural sites should limit the type or extent of future activities.

## Uses and Values Recommendations

### Access

Provide access from communities to Neighborhoods via trail connections, Forest Service road connections, and staging/parking areas. The County, City, Forest Service, and area residents should work together to designate and maintain access points within each community. Access points should also be controlled to reduce conflicts between recreationists and private land owners.

Several cinder cones are surrounded by developed communities, making Forest Service administration difficult and costly. Residents



*Residents of the surrounding communities use the Old Caves Landscape District extensively as a Neighborhoods for daytime recreation, mostly horseback riding, mountain biking, jogging, walking, hiking and OHV riding.*

should consider taking responsibility to ensure that the Forest Service mission of resource protection and public access is maintained.

When future development occurs on private inholdings, require the land owners to access Forest Service lands at minimal points through a roadway collector system on Forest Service lands. Multiple, dispersed accesses across Forest Service lands are not recommended where one or two collection points would be more efficient.

### Community Buffers

Continue to provide tree screening buffers and efforts to limit the effects of windblown trash on adjacent Neighborhoods, particularly from the Flagstaff public landfill.

Continue to have the cinder cones, such as Old Caves Crater, Turkey Hills, and O'Neill Crater, serve as landmark buffers between communities.

### Cultural Sites and Uses

Continue ongoing education/interpretation activities at Elden Pueblo. Provide protection to retain cultural, wildlife, vegetation and scenic qualities on the cinder cones.

Protect and interpret the NASA astronaut training grounds.

Protect and interpret important cultural sites and make them available where the sites lend themselves to public use.

### **Education and Research**

Develop additional opportunities for outdoor education in conjunction with the Flagstaff School District. Possible outdoor educational sites are portions of the Rio de Flag, specifically Picture Canyon, Little Elden Springs, and portions of the cinder hills.

Continue working with Cromer School to develop Old Caves Crater as an outdoor classroom. In addition, determine appropriate access and road and trail design and conduct trash cleanups to reclaim and retain the values of this special site.

### **Forest Commodity Uses**

In the Multiple-use/Conservation category recommend withdrawal from future mining claims be made for the major cinder cones that provide a scenic backdrop to communities such as Turkey Hills, although this is State Trust land, and Old Caves Crater. Where development of an existing claim occurs, encourage mitigation measures to limit visual effects in the Multiple-use/Conservation category. Consolidate cinder and aggregate rock use as much as possible. Where cinder use has occurred without reclamation, restore these sites through re-shaping of slopes and planting of vegetation.

### **Recreation**

Lands around the communities need further evaluation on how to meet future recreation demands and mitigate impacts. Urbanized growth is increasing on existing private lands, and the sale and subsequent development of some State Trust lands is likely. An increase in the numbers of residents will increase demands for recreation opportunities on surrounding public lands. There is also a need to actively manage future use to maintain the Semi-primitive characteristics of adjacent landscape districts, which could be encroached upon if Neighborhoods are over-used.

Discourage increased uncontrolled recreational use from expanding onto the slopes of the San Francisco Peaks by limiting road and trail access on the far west side of the Timberline community.

Events such as foot, bike, and OHV races should be limited to main designated roads. Large group events should not diminish individual recreational experiences in Neighborhoods.

Large groups such as weddings or reunions are not appropriate in this Neighborhoods because of the high level of current use.

Continue existing jeep, bicycle, and other tour opportunities on main forest roads. As a rule, existing and proposed commercial recreation uses should be evaluated for compatibility with the desired recreation experience, ecosystem health, and needs of nearby residents.

Throughout the MU/C category, emphasize daytime activities. Allow current overnight camping uses but not to the extent that overnight uses increase risk of wildfire through higher populations and denser vegetative conditions.

Continue to provide off-road recreation in the Cinder Hills off-road vehicle area.

### **Riparian**

Currently, effluent from the Wildcat treatment plant flows through the Rio de Flag in this landscape district. Pursue opportunities to continue consistent levels of effluent releases into the Rio de Flag to support riparian vegetation and the wildlife associated with that vegetation.

### **Roads and Trails**

Create corridors and linkages for alternative modes of transportation to connect the communities of Timberline, Blackbill, Fernwood, Doney Park, Rain Valley, Winona, Cosnino, Sunset Crater Estates, and other area communities. Depending on feasibility, provide either a parallel trail corridor along Highway 89 or a network of trail linkages through the communities on either side of Highway 89 to reach the City of Flagstaff from the outlying communities and Sunset Crater Volcano and Wupatki National Monuments. Provide a trail linkage to connect the Walnut Canyon area to Turkey Hills, Elden Pueblo, and Mt. Elden.

Maintain some roads for vehicles, convert some secondary roads to non-motorized or motorized trails by decreasing the road width to a trail width, and close unneeded secondary roads. The density of roads and trails in this area can be relatively high. Encourage users to stay on the road and trail system to maintain vegetation, decrease instances of erosion, and provide undisturbed areas for wildlife.

Limit roads on the steep slopes of cinder cones to maintain scenic qualities and unique vegetation and to prevent erosion.

#### **Vistas and Viewsheds**

Blend future and existing urban development with scenic qualities along major roadways such as Old Route 66, Townsend/Winona Road, and Highway 89. To maintain visual quality, provide wide building setbacks with a tree screening buffer along the roadways. Use vegetation for screening where it exists. Any future signs should be minimal, discrete and appropriate and should not detract from the landscape.

The cinder cones and low-lying hills provide a scenic backdrop to the communities that surround them. Recreation and Forest Service management activities should be subordinate to the landscape to protect the vistas.

#### **Desired Futures and Expected Outcomes of Management Recommendations**

The Multiple-use/Conservation categories of Old Caves Crater, Turkey Hills, and the O'Neill Crater will shift toward Semi-primitive conditions. Management recommendations that will cause these changes include fewer roads, controlled access, and re-vegetation of cinder pits and road scars. Recreation and other uses will be limited in keeping with providing Semi-primitive experiences, although the number of people using the areas will continue to be high. Current topography and vegetative diversity are significant here. These cinder cones will always be in close proximity to the sights and sounds of the urban environment as they are surrounded by urbanized areas.

**Table 3.5**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>Wildcat Hill area (north of I-40) Sections 08 &amp; 10 T21N R8E</p>	<p>Fourth priority for retention</p>	<p><i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Rural-Residential</p> <p>These State lands, which are in the vicinity of Rain Valley, are likely to sell and develop. Provide public access to adjacent public lands via trail linkages and parallel corridors adjacent to major roadways for alternate modes of transportation. Retain some level of natural landscape features and open space within the developed area. Protect and interpret remnants of pioneer history.</p> <p>Development will eventually affect the scenic aspects of Old Route 66. Consider building heights, tree screening and sign designs that retain this road's scenic characteristics.</p>
<p>Big Fill area (north of I-40) Section 08 T21N R8E</p>	<p>Fourth priority for retention</p>	<p><i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Rural-Residential</p> <p>The Rio de Flag runs through Section 08. Continue to allow the free flow of water through the Rio and protect the riparian vegetation. Prior to sale of this Section, ensure a public access trail corridor along the stream course. There may be opportunities for community parks in the vicinity of the Rio de Flag.</p> <p>Provide public access to adjacent public lands via trail linkages and parallel corridors adjacent to major roadways for alternate modes of transportation. Retain some level of natural landscape features and open space within any developed area.</p>
<p>Picture Canyon area Section 04 T21N R8E</p>	<p>First priority for State Lands within entire Plan area</p> <p>Within 3-mile radius designated by Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Agricultural/Residential-5</p> <p>This Section located just north of Sheeps Hill is distinguished by the Rio de Flag, steep canyon walls and dense riparian vegetation. Portions of the Rio with unique riparian stream qualities should be protected and preserved. Retention of the entire Section is recommended.</p> <p>Retain a public access linkage through Section 04 to the north-east corner.</p> <p>This Section is surrounded by private lands and a small parcel of National Forest lands. It could be jointly managed as an area park by a variety of agencies and nearby communities.</p>

**Table 3.5 (continued)**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Turkey Hills Section 02 T21N R8E	First priority for State Lands within entire Plan area  Within 3-mile radius designated by Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Agricultural/Residential-5  State Section 02 consists of large cinder cones that make up a large part of the Turkey Hills. It has archaeological value, provides a scenic backdrop to surrounding communities located around the base of the cone and provides Neighborhoods recreation. Future recreation opportunities may be expanded here as nearby communities grow in population.
Turkey Hills Sections 01 & 03 T21N R8E	High and low priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Agricultural/Residential-5  These sections make up part of the slopes and adjacent rocky ridgelines of Turkey Hills. Section 35 contains cultural sites associated with Turkey Hills pueblo. Together with State Section 02, these Sections provide a block of unfragmented open space and a buffer between Mt. View Ranchos, the Koch Field area and the Rain Valley area. They provide Neighborhoods recreation and, as populations in these areas increase, will provide future recreation sites. Some wildlife use occurs in the oak/pine mix forests. Sections 35 and 36 provide natural vegetation along a portion of the Townsend-Winona Road. Section 36 contains part of the Rio de Flag with riparian vegetation and large cultural sites. Portions of Sections 35 and 36 that are surrounded by private lands and along Townsend-Winona Road are low priority for retention by the Forest Service.  Parcels of Forest Service Land located east of Highway 89 in Sections 32 and 33 are low priority for Forest Service ownership because they are surrounded by private lands.
Sections 32, 33, 35 & 36 T22N R8E	High and low priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Agricultural/Residential-5  Old Caves Crater provides a scenic backdrop to the communities that surround it and Highway 89. It also has cultural values and is used as an outdoor classroom by Cromer School. Another unnamed cone is located in Section 15. These three Sections provide buffers between the Doney Park and Fernwood communities. Neighborhoods recreation is high here. Future recreation needs will go up as populations increase. Portions of land in Sections 10 and 15 are low priority for retention by the Forest Service.

**Table 3.5 (continued)**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Little Elden Spring Road area Sections 21 & 16 T22N R8E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-5</p> <p>These sections provide an open space buffer between Timberline, Little Elden Springs Homes and communities to the south on Highway 89. Neighborhoods recreation occurs here and serves as access to the Little Elden Springs and Shultz Tank areas. Small drainages cross Section 16.</p> <p>A portion of Section 21 adjacent to private land is low priority for retention as open space.</p>
West of Timberline Sections 05, 08 & 17 T22N R8E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-5</p> <p>These sections are located west of Timberline. They provide Neighborhoods recreation to the Timberline communities and serve as a buffer to Semi-primitive lands on the slopes of the Peaks. They make up the eastern boundary of an unfragmented block of open space.</p>
East side of Doney Park Section 25 T22N R8E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-2.5</p> <p>This section is located east of the Koch Field area. Section 25 and the northern portion of 31 contain low-lying hills that provide a buffer between communities northeast of the Koch Field area. These hills are visible from surrounding houses and provide a scenic backdrop.</p>
Near intersection of Koch Field Road & Townsend/Winona Road Section 27 T22N R8E		<p>Section 27 is low priority for Forest Service ownership because it is surrounded by private lands. However, further study is needed to determine if open space values exist because of the Rio de Flag. Pursue retention of riparian values if they exist.</p>

**Table 3.5 (continued)**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>Elden Pueblo area Section 32 (west of Hwy 89) and Sections 29 &amp; 20 T22N R8E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Agricultural/Residential-5 These sections are located west of Hwy. 89. Section 32 contains Elden Pueblo, deer winter habitat and recreation access at the Sandy Seep trailhead. All three sections make up unfragmented open space and could provide for future recreation activities.</p>
<p>North of Doney Park Sections 01, 02, 11, 12, 13 &amp; 14 T22N R8E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Sections 13 &amp; 14 – Agricultural/Residential-5 &amp; Agricultural/Residential-2.5 Sections 01, 02, 11 &amp; 12 – Open Space These sections provide a block of open space north of Doney Park and east of Fernwood. The area is used for Neighborwoods recreation and access to the Cinder Hills OHV area. The landfill is located here.</p>
<p>Areas surrounding Lenox Park Sections 28, 29, 32, 33 &amp; 34 T23N R8E</p>	<p>High and low priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Agricultural/Residential-5 These sections surround Lenox Park and the north end of Timberline/Fernwood. They provide a buffer between these communities and are connected to large unfragmented blocks of open space. Some Neighborwoods recreation occurs here. Main Forest Service road accesses to Schultz Pass Road and the Cinder Hills area occur on Hwy. 89 within these sections. Hwy. 89 is aligned through these sections and is buffered with natural vegetation. Cultural sites are located here. A portion of Section 33 surrounded by private lands is low priority for retention by the Forest Service.</p>

**Table 3.5 (continued)**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>O'Neill Crater and surrounding hills Sections 29, 32, 18, 19, 30, 31 &amp; 20 T22N R9E</p>	<p>High and low priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Sections 20, 29 &amp; 32 – Agricultural/Residential-5 Section 31 – Agricultural/Residential-2.5 Sections 19 &amp; 30: Agricultural/Residential-5 &amp; Agricultural/Residential-2.5</p> <p>O'Neill Crater in Section 29 provides a visual backdrop to the private lands surrounding it. All of these sections connect to each other to provide an unfragmented block of open space. Neighborhoods recreation occurs here and is likely to increase as the populations of the adjacent communities increase.</p> <p>The southwest quarter of Section 31 along the Townsend/Winona Road is low priority for Forest Service ownership because surrounding private lands make administration difficult. Maintain a trail linkage.</p>
<p>Winona area Sections 33 &amp; 34 T22N R9E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Agricultural/Residential-5</p> <p>Section 33 is connected to the block of open space described above for the O'Neill Crater area. Section 34 surrounds the northern portion of Winona private lands and provides open space and Neighborhoods recreation. Section 34 is connected to an unfragmented block of open space on three sides.</p>
<p>South of Cosnino area Sections 19, 20 &amp; 17 T21N R9E</p>	<p>High and low priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>County Zoning:</i> Section 19 – Open Space Section 17 – Agricultural/Residential-5 &amp; Agricultural/Residential-2.5 Section 20 – General &amp; Open Space</p>
<p>North &amp; south of the intersection of Cosnino Road &amp; I-40 Section 18 T21N R9E</p>	<p>High and low priority for retention</p>	<p>These sections make up the northern boundary of a large, unfragmented block of open space. They provide a buffer between the private lands of Cosnino and Walnut Canyon. Currently, recreation use by adjacent homeowners occurs here. Future demands will likely increase as populations increase on the private lands. These areas provide antelope and other wildlife summer and winter habitat.</p> <p>Portions of Section 18 are low priority for Forest Service ownership because they are intermixed with private lands and rail-road tracks, which makes administration difficult.</p>

Table 3.5 (continued)

Old Caves Landscape District		
Lands Recommended for Retention		
Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Cosnino area Sections 08 (south half), 09, 04, & 05 (north portion) T21N R9E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> South half Section 08 – Agricultural/Residential-2.5            Sections 04 &amp; 09 – Agricultural/Residential-5            Section 05 – Agricultural/Residential-5 &amp; Agricultural/Residential-2.5</p> <p>These sections surround portions of Cosnino and provide a buffer between the Cosnino and Winona areas. They provide Neighborhoods recreation. The Rio de Flag crosses Section 04 and the northern portion of Section 05 and contains riparian vegetation and cultural values. Future trail linkages could be placed here. Townsend-Winona Road crosses Section 09 and vegetation provides a visual and scenic buffer. Portions of Sections 05 and 08 located between private parcels are low priority for retention for Forest Service ownership.</p>
I-40/Winona area Sections 16 & 21 T21N R9E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Section 16 – Agricultural/Residential-5            Section 22 – General</p> <p>These two sections are connected to the block of open space between Winona and Cosnino. I-40 crosses Section 16 and its vegetation provides scenic visual buffers. Section 21 borders the northeast portion of Walnut Canyon. As private lands in the vicinity develop, these areas will be used more for recreation. Cultural sites in the area are associated with Walnut Canyon.</p>
South of Winona Sections 22 & 23 T21N R9E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> General &amp; Open Space</p> <p>These sections located south of Winona and I-40 surround private land and make up a block of open space.</p>
Winona Sections 03, 10 & 15 T21N R9E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-5 &amp; Agricultural/Residential-2.5</p> <p>These open space lands border the private lands of Winona and provide the eastern boundary of a block of open space between Cosnino and Winona. Portions of Section 15 and 10 are low priority for retention by the Forest Service.</p>

**Table 3.5 (continued)**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Winona Sections 02, 11 & 14 T21N R9E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-5 &amp; Agricultural/Residential-2.5</p> <p>The lands south, east and north of the Winona private land that are connected to surrounding open space should be retained as open space to provide for future uses. Portions of Sections 02, 11 and 14, located between private lands, are low priority for retention by Forest Service.</p>
Wildcat Canyon Sections 06 & 07 T21N R9E	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-2.5</p> <p>This area is a drainage (Wildcat Canyon) that drains into the Rio de Flag. The area provides Neighborhoods recreation and is a buffer between Mt. View Ranchos and Cosnino. It has the potential to provide for future recreation uses. Some wildlife use occurs in the piñon, juniper, oak and pine vegetation that grows here. This area can provide for trail linkages. The north-east corner of Section 06 along Townsend-Winona Road is low priority for retention in Forest Service ownership.</p>
South of Turkey Hills Sections 11, 12, 13 & 14 T21N R8E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>City Zoning:</i> Section 14 &amp; Section 11 (south) – Rural-Residential  <i>County Zoning:</i> Sections 12 &amp; 13 – Agricultural/Residential-5                      Section 11 (north) – Agricultural/Residential-5</p> <p>These sections provide a block of open space south of Turkey Hills and around the Walnut Canyon National Monument Entrance Road. They provide visual screening along I-40 and the Monument entrance road. Some recreation occurs here. Section 13 contains a rocky ridge. Wildcat Canyon drainage crosses Sections 12 and 13.</p>
Near the intersection of Koch Field Road & Townsend-Winona Road Section 28 T22N R8E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-5</p> <p>The Forest Service portion of Section 28 is low priority for Forest Service ownership because private property lines make administration difficult. However, further study of archaeological values is needed. Forest Service land accesses and linkages should be maintained.</p>

**Table 3.5 (continued)**

**Old Caves Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Wildcat Hill area Section 09 T21N R8E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>Zoning:</i> Rural-Residential</p> <p>This parcel is difficult for Forest Service to administer because of I-40, Route 66, the railroad and adjacent private lands. State Section 10, located east of Section 09, is likely to sell and develop. Therefore, Section 09 is low priority for open space and for Forest Service ownership.</p>
Doney Park area Sections 23 & 24 T22N R8E	Low and high priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-2.5</p> <p>The very small parcel of Section 24 is surrounded by private land and is ranked low priority. Further study is needed to determine why this land was left in Forest ownership. Maintain open space values where they exist but pursue other ownership as appropriate. Section 23 has a high priority ranking for retention as it is part of the slopes of Old Caves.</p>
Fernwood area Section 03 T22N R8E	Low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> Agricultural/Residential-2.5</p> <p>A small parcel of National Forest land is low priority for retention to align the private land lines and ease administration.</p>

## Pumphouse Wash Landscape District

### Description

The Pumphouse Wash landscape district includes lands south of the communities of Lake Mary Meadows, Elk Park Meadows, Flagstaff Ranch Road and Old Route 66, Kachina Village, and Mountainaire. Distinguishing natural features are Upper and Lower Lakes Mary, Rogers Lake, Woody Mountain, Woody Ridge, Fry Canyon, and areas surrounding Pumphouse Wash Canyon. The Naval Observatory is also located within this district.

This landscape district consists mostly of Forest Service lands, with some private in-holdings and large checkerboard sections of State Trust lands.

Vegetation is diverse with various pines, oak and other shrubs, which provide a mosaic of connected dense patches of vegetation allowing for movement and cover for wildlife. Riparian vegetation occurs at Rogers Lake, as well as at various spring sites and in the bottoms of large drainages, such as Pumphouse Wash and Fry Canyon.

Activities in the area include livestock grazing, firewood and wood product harvesting, beekeeping, and hunting.

The diverse vegetation provides food and shelter for many wildlife species, including elk, deer, bear, antelope, lion, turkey, small mammals, and birds. This area is particularly distinguished by the significant wildlife travel corridor that extends from Wing Mountain on the north, south to Rogers Lake, through Woody Ridge and Pumphouse Wash, and then down to the Red Rock-Secret Mountain Wilderness. Migratory water birds stop at Rogers Lake.

This landscape district also provides opportunities for multiple recreation activities, ranging from dispersed camping and sight-seeing to mountain bike riding and cross-country skiing. Rock climbing and horseback riding are also very popular. Forest roads are used for ATV riding and driving by licensed drivers. Solitude is easy to find off of major roads.

Risk of resource and property loss from fire is high in areas surrounding the various communities and moderate in the more remote areas.

This landscape district defines the southwestern boundaries of the *Open Space And*



*Lake Mary provides both recreational opportunities and valuable habitat for wildlife and riparian vegetation. Vegetation is diverse, providing food, and shelter for many wildlife species. The Pumphouse Wash district is particularly distinguished by a significant wildlife travel corridor.*

*Greenways Plan*, with the area being devoted primarily to wildland uses. These uses are also recommended for the future.

## Uses and Values Recommendations

### Cultural Sites and Uses

Protect and enhance the historical features related to the Lakes Mary.

American Indian values and cultural site values are high in the canyons of this Primitive category and should be protected.

Continue to protect cultural values in keeping with Wilderness regulations to promote understanding of forest ecosystems.

### Fire

In the areas southwest of Kachina Village, Mountaineer, Forest Highlands, Flagstaff Ranch Road, and other adjacent communities, it is important to mitigate risk of catastrophic wildfire.

### Forest Commodity Uses

Withdraw Rogers Lake and scenic areas along the Woody Ridge from future mining claims; these areas provide wildlife habitat and have high recreational values.

### Recreation

Woody Mountain Road should continue to be the main road through the area and high levels of recreation activities should be concentrated along this corridor where it passes through the Semi-primitive category.

There is increasing demand for camping facilities along the Highway 89A corridor, especially as overflow occurs from Oak Creek Canyon. Consider a new camping facility to accommodate heavy use.

As areas in the vicinity of Flagstaff Ranch Road and Old Route 66 develop, recreation will likely increase in the Rogers Lake area. In response to increased demands, provide managed outdoor recreation opportunities that maintain the ecological integrity of the Rogers Lake area.

Continue to provide multiple daytime recreation activities, including Lakes Mary activities such as boating and fishing. Maintain facilities to accommodate high levels of use.



*The Pumphouse Wash Landscape District provides opportunities for multiple recreation activities, ranging from dispersed camping and sightseeing to mountain biking and cross-country skiing.*

### Riparian

Provide education opportunities and informational signs related to the Lake Mary ecosystem.

Protect and enhance the large wetland of Rogers Lake and its associated waterfowl species. This wetland is ecologically special and very beautiful. Consider management strategies such as changes in livestock use, continued road closures, and carefully designated and controlled recreation and wildlife-viewing opportunities.

### Roads and Trails

Provide long distance road/trail linkages between Flagstaff and Rogers Lake and south to the wilderness trailheads along the Mogollon Rim.

Maintain the long-distance Forest Service road accesses only to existing trailheads. Continue to provide primitive wilderness trails. Monitor use of trails to ensure the wilderness experience is not diminished.

Lake Mary Basin is closed to vehicles, and previously existing roads have been re-seeded to re-create large grassy areas. Besides adding to the scenery as seen from Lake Mary Road, this action aids in limiting erosion into the Lakes; therefore, the road closures should be maintained. Future non-motorized trails should be located in forested areas outside the lake basins.

### **Vistas and Viewsheds**

Protect and enhance the views of Lake Mary as seen from Lake Mary Road.

Woody Mountain and Woody Ridge provide a scenic backdrop to Highway 89A. The rim areas provide spectacular views. Actions such as fire and vegetation management or road and trail construction should be accomplished without compromising this scenic viewshed. Human-made changes should be discrete and appropriate and should not detract from the landscape.

The canyons of this area provide spectacular views of geologic formations, which are preserved under Wilderness regulation.

### **Wildlife**

Continue to provide for a variety of habitats, including the waterfowl and riparian habitat of Rogers Lake.

Maintain the ability of wildlife to travel north and south from Woody Ridge to Rogers Lake and north to Budweiser Tank and across Interstate-40.

Maintain the ability of wildlife to travel from Woody Ridge to the Rogers Lake area and east and west to the Navajo Army Depot lands.

Maintain the ability of wildlife to travel east/west across Highway 89A in the areas south of Kachina Village.

The Semi-primitive nature of the rim area should be retained because of its high density of sensitive animal species such as peregrine falcons and Mexican spotted owls.

### **Wildlife Viewing**

Wildlife viewing sites may be established along the Woody Mountain Road corridor and in the vicinity of Rogers Lake. Animals that can be seen include peregrine falcons, elk, deer, antelope, and waterfowl. The Cultural/Historical/Recreational sites of Lower and Upper Lake Mary already provide wildlife-viewing sites along Lake Mary Road. Because of increased viewing at Lower Lake Mary, consider more development of viewing sites on the lake.

### **Desired Futures and Expected Outcomes of Management Recommendations**

Within the Pumphouse Wash landscape district, adjacent to Woody Ridge, some Multiple-use/Conservation areas will move toward more Semi-primitive conditions. This will occur where wildlife corridors are managed with fewer roads, less recreation, and connected dense patches of vegetation. As road densities are reduced, there will be less likelihood of encountering other visitors in these areas. Recreation and other uses will be on designated roads and trails and will be in keeping with Semi-primitive experiences. These areas are currently distant from sights and sounds of urban environments and current numbers of people using the areas are low.

Table 3.6

<b>Pumphouse Wash Landscape District</b>		
<b>Lands Recommended for Retention</b>		
<b>Location of Lands</b>	<b>Overall Priority within Plan Area</b>	<b>Objectives and Rationale for Retention and Acquisition</b>
<p>Naval Observatory area Sections 22, 27 &amp; 34 T21N R6E</p>	<p>Second priority for retention for State lands within entire Plan area</p> <p>Within 3-mile radius designated by the Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Sections 22 &amp; 27 – General Section 34 – Open Space</p> <p>Sections 22 and 27, adjacent to the Naval Observatory, serve as part of a wildlife travel corridor extending from Rogers Lake and Woody Ridge north to the San Francisco Peaks.</p> <p>Section 34, adjacent to The Arboretum at Flagstaff, serves as part of a wildlife travel corridor extending from Rogers Lake and Woody Ridge north to the San Francisco Peaks.</p> <p>These lands are adjacent to Forest Service-managed lands and if consolidated with them, administration is facilitated and made more efficient. These lands are adjacent to the Naval Observatory and The Arboretum and contribute to the missions of these institutions.</p>
<p>Highway 89A area, southwest of Forest Highlands Section 26 T20N R6E</p>	<p>Third priority for retention for State lands within entire Plan area</p> <p>Within 3-mile radius designated by the Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Open Space</p> <p>A portion of this Section is designated and should be maintained Semi-primitive. It is part of Woody Ridge, which serves as a wildlife corridor. The Section has numerous drainages cutting through it. It also serves as a scenic and protective buffer between Hwy. 89A and the Semi-primitive category.</p> <p>Although bisected by Hwy. 89A, these lands are adjacent to Forest Service lands and make up a block of unfragmented open space.</p>
<p>Rogers Lake area Sections 31, 32 &amp; 33 T21N R6E</p> <p>Sections 04, 05 &amp; 06 T20N R6E</p>	<p>First priority for State lands within entire Plan area</p>	<p><i>Ownership:</i> Arizona State Land Department &amp; Private <i>County Zoning:</i> Sections 31, 32 &amp; 33 – State, Open Space Sections 04, 05 &amp; 06 – State, Open Space</p> <p>Sections 31, 32, 05 and 06 make up the Rogers Lake basin. In wet years, a large lake up to two miles across is formed. The lake dries over the course of the year, creating a mosaic of wetland environments. The lake basin provides important waterfowl and big game habitat. Riparian vegetation is found here. Views of the San Francisco Peaks are spectacular and Forest Service Road 231 provides two-wheel drive access to the area. Recreation is popular here.</p> <p>Sections 33 and 04 encompass drainages that feed the lake, the Forest Road 231 corridor and the slopes of Woody Mountain.</p>

**Table 3.6 (continued)**

**Pumphouse Wash Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Rogers Lake area Sections 32 & 33 T21N R6E	High priority for retention	<p><i>Ownership:</i> Private  <i>County Zoning:</i> General</p> <p>These private parcels make up part of the Rogers Lake wetland basin. They border the lake area and contain spectacular views of the lake. Riparian vegetation, wildlife habitat values and recreation opportunities are all important features. Partnerships with land owners should be pursued to protect and maintain the lake environment.</p>
Sections 5 & 6 T20N R6E (private land portions)	Third priority for State lands within Plan area	<p><i>Ownership:</i> Arizona State Land Department  <i>County Zoning:</i> Open Space</p> <p>These Sections are part of a large unfragmented open space corridor between the private land areas of Flagstaff Ranch Road and Camp Navajo. Retention as open space will help limit outdoor lighting impacts on the Naval Observatory. It is important to retain the ability of wildlife such as deer, elk, bear, lion, and birds to travel north/south in this area. Retention as open space also helps protect the Rogers Lake area, which is located south of these Sections.</p>
Naval Observatory area Section 23 T21N R6E	High priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service  <i>County Zoning:</i> West Half – Open Space                      East Half – Planned Residential Development</p> <p>This Section is directly adjacent to the Naval Observatory and retention as open space helps meet Observatory needs. It is also connected to the block of lands identified for retention as open space between the Flagstaff Ranch Road area and Camp Navajo. Naval Observatory lands are maintained as open space except for the astronomical observation facilities.</p>
South of Rogers Lake Sections 10 & 08 T20N R6E	Second priority for State lands within entire Plan area	<p><i>Ownership:</i> Arizona State Land Department  <i>County Zoning:</i> Open Space</p> <p>Sections 08 and 10 are located just south and east of Rogers Lake. They contribute to large unfragmented blocks of open space. Section 10 on Woody Ridge contains high wildlife values because of the pine and oak habitat. Small drainages bisect these Sections. Open space goals can be met under State Land management policies. However, it is desirable to eventually consolidate these lands under Forest Service ownership.</p>

**Table 3.6 (continued)**

**Pumphouse Wash Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>South of Rogers Lake Sections 17, 18, 20, 22, 28, 30, 32 &amp; 34 T20N R6E</p>	<p>Third priority for State lands within entire Plan area  Section 14 is within 3-mile radius designated by the Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>County Zoning:</i> Sections 17, 18, 20, 22, 28, 30, 32 &amp; 34 – Open Space  Sections 02, 08, 10, 12, 14, 18, 20, 22, 24, 26, 28, 32 &amp; 36 – Open Space</p> <p>These lands form a checkerboard pattern of State and National Forest lands south from Rogers Lake approximately six miles. They are currently managed as open space by the State Land Department with a variety of forest uses. Because of their remoteness, sale and development of these Sections is less likely than those closer to urbanized areas. It is, nonetheless, desirable to consolidate these Sections into National Forest ownership. Until such consolidation is possible, many open space goals will be met under management practices by the State Land Department. These lands fall within the Multiple-use/Conservation and Semi-primitive categories.</p> <p>Cultural sites in the area are associated with Walnut Canyon.</p>
<p>Sections 02, 08, 10, 12, 14, 18, 20, 22, 24, 26, 28, 32, 34 &amp; 36 T20N R5E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service &amp; Private <i>County Zoning:</i> Forest Service – Open Space Private – General 10-acre</p> <p>A portion of Section 16 Forest Service lands and private lands lies south of I-40 and north of a block of State Trust land Sections. Within the Forest Service portion, there are private inholdings. Both Forest Service and private inholdings should be retained as part of the unfragmented block of open space. Retention would maintain north/south wildlife movement and limit sprawl of communities along I-40. These lands provide a viewshed for I-40.</p>

## Sunset Crater Landscape District

### Description

The Sunset Crater landscape district includes the volcanic field activity area comprising Sunset Crater Volcano National Monument, O'Leary Peaks, and the surrounding cinder cones and craters as well as Strawberry Crater, a designated Wilderness. The landscape district lies east and north of the highly developed communities of Doney Park. The Sunset Crater Road, or Forest Service Road 545, is a paved road leading from Highway 89 through the landscape district, with excellent views of volcanic lava flows, volcanic cinder cones and long-distance vistas of the painted desert to the north and east. Aside from the Monument, most lands are within the jurisdiction of the Forest Service.

The entire landscape district is covered with a layer of cinders, which supports low densities of trees, shrubs, and sparse grasses. Ponderosa pine, piñon pine, and juniper predominate with some pockets of oak and aspen. O'Leary Peak contains mixed conifer on its northern slopes. O'Leary also holds special significance and use for American Indians.

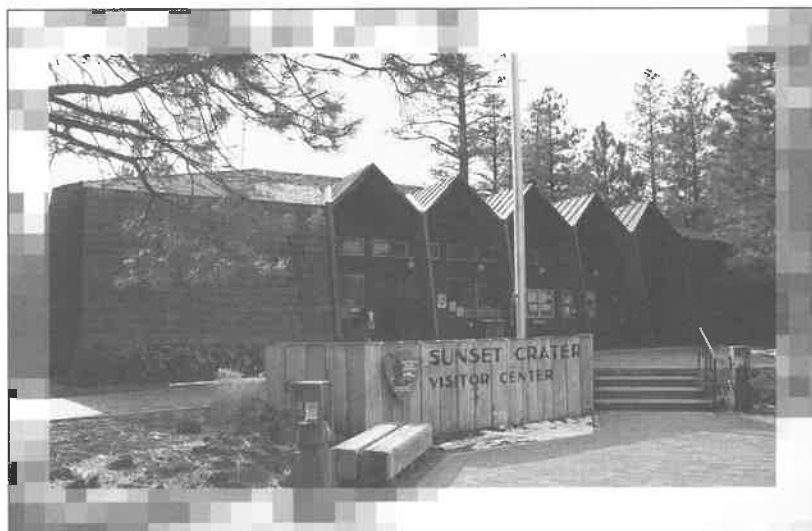
The area is sparsely populated by antelope, deer, small mammals, and birds.

Many Forest Service roads and trails have been developed south of Sunset Crater Road, while there are few roads and trails north of the road, resulting in a relatively pristine and undisturbed environment. South of Sunset Crater Road, off-highway vehicle (OHV) driving, and dispersed camping are the popular recreation activities. The Monument provides visitor facilities and an educational interpretation of the area. Bonito Campground has developed camping facilities.

Traditional uses are primarily firewood gathering and plant gathering by American Indians. There are aggregate rock mining pits operating here also. Grasses are so sparse on the cinder soils that grazing is not practicable.

The potential for finding prehistoric sites beneath the cinder layer is high. Extensive ground disturbance that reaches below the cinder layer will likely require archaeological mitigation measures.

While it is desirable to continue to provide OHV opportunities in the Cinder Hills OHV area,



*The Visitor Center of the Sunset Crater Volcano National Monument welcomes both residents and tourists to the extraordinary sites of this unique landscape district. The entire district is covered with a layer of cinders, which supports low densities of trees, shrubs, and sparse grasses.*

the Forest Service, National Park Service, OHV user groups, and other recreationists should work together to mitigate the effects of sound, OHV tracks on the cinder cones, impacts to the visual qualities of the area, and vehicle intrusion on the Monument and onto Forest Service lands outside the OHV area.

### Uses and Values Recommendations

#### Access

Primitive lands should be accessed by leaving highways or main Forest Service roads and reaching exterior points only. From the exterior points, access to the interior of the Primitive category is limited to alternate means and, in the Wilderness, is limited to foot and horse travel.

#### Education and Research

Continue to provide educational services and facilities at Sunset Crater Volcano Visitor Center and at various points along Sunset Crater Road.

#### Forest Commodity Uses

Do not permit forest commodity uses in the National Monument. Emphasize visitor experience and information.

To retain and protect vistas and viewsheds, wildlife habitats, traditional American Indian values, and unique plant communities, withdraw O'Leary Peak and other major cinder cones in this area from future mining claims.

#### Recreation

***OHV Use Adjacent to Sunset Crater.*** The Cinder Hills Off-Highway Vehicle area is designated for ATV/OHV/motorcycle trail opportunities and provides for a variety of motorized experience levels. Within the Cinder Hills OHV area, approximately 13,500 acres contain a combination of unrestricted cross-country travel and a dense network of designated trails. The area is appreciated by thousands of OHV users. One of the highlights for OHV users is the challenge of scaling steep hills.

The following issues should be considered by the management agencies and user groups for the continued use, enjoyment, and resource management of this area. The area of intensive OHV use lies immediately adjacent to Sunset Crater Volcano National Monument. The



*Sunset Crater Road, or Forest Service Road 545, offers excellent views of volcanic lava flows, volcanic cinder cones, and long-distance vistas of the painted desert to the north and east.*

Monument strives to provide an educational experience for its visitors by interpreting the unique environment of Sunset Crater. The Monument seeks to provide quiet settings for visitors, but from one of the vista points of the Monument, visitors can hear the noise from the Cinder Hills OHV area. Vehicles, campers, OHVs, and OHV tracks can be seen. The noise and sight of OHV use cause management problems for the Monument. Visitors ask, "Why can't we walk to the top of Sunset Crater when, just across the Monument/National Forest boundary, people can take their motorcycle anywhere they wish?" OHV riders often trespass, causing resource damage to the more pristine environment of the Monument and Forest Service lands outside the OHV area.

There is some concern about the visual effects of roads and trails on the sides of the cinder cones facing Highway 89 and its communities. Some of the steep hill climbs can be seen from Highway 89. The extent of this issue is not clearly understood, and some of the roads people see might lie outside the designated Cinder Hills OHV area. Additional work is needed to identify exactly where tracks can be seen and to identify the source of the tracks.

There is a general concern over the health of vegetation in the Cinder Hills area, especially on steep slopes. The Forest Service has monitored impacts on vegetation and will continue to do so in the future.

Forest Road 545 was recently improved, causing changes in the types and speed of vehicles that use the road. This road now

receives more commuter traffic by people using it as a short-cut through Sunset Crater Volcano and Wupatki National Monuments. Commuters tend to travel at higher speeds on this newly improved road, while the recreationist tends to travel more slowly. This is especially true of family groups with young riders. Safety problems have arisen because of the variety of speeds and types of vehicles using the road.

Limit recreational uses on O'Leary Crater and other areas north of Sunset Crater Road to protect American Indian values, provide large quiet areas for wildlife, and promote semi-primitive or primitive experiences and wilderness characteristics.

Continue to protect and preserve the natural environment and cultural resources of the Monument. This naturally functioning ecosystem supports unique and diverse vegetation communities, including many rare plants.

ATV/OHV/motorcycle trail opportunities provide a variety of experience levels. Allow



*Off-highway vehicle driving is one of the most popular recreation activities in the Sunset Crater landscape district. It is important to mitigate the sound and track effects of OHV use on the cinder cones.*

for large ATV group uses that would otherwise conflict with other landscape district conditions. Any major changes to the Cinder Hills OHV area should include public involvement of all user groups, from in and out of state, as well as local users.

### **Roads and Trails**

Provide an open road system for vehicular traffic. In this landscape district, there are more four-wheel drive roads than passenger car roads because of the cinder soils. Outside the designated OHV area, provide a few designated open roads, primarily for four-wheel drive vehicles, and some large unroaded areas. The trails in this landscape district are primarily motorized trails. Continue to provide for this opportunity.

Maintain the paved Sunset Crater Road to accommodate visitors year-round.

Provide very large unroaded areas north of Sunset Crater Road to maintain large quiet areas for wildlife, to maintain Semi-primitive experiences, and to provide protection to Strawberry Crater Wilderness and the Deadman's Wash area.

Continue to provide motorized road and trail opportunities south of Sunset Crater Road. Limit roads and trails on O'Leary Crater to protect American Indian values and provide large quiet areas for wildlife.

Limit vehicular access according to Wilderness regulations.

Develop parallel trail corridors along major roadways, such as Highway 89.

### **Vistas and Viewsheds**

Manage OHV use to protect viewsheds from the Cinder Hills Overlook on Sunset Crater Road and from the Doney Park neighborhoods.

North of Sunset Crater Road, maintain the existing undisturbed natural landscapes for vistas and views.

South of the entrance road, rehabilitate disturbed areas that can be seen from Sunset Crater Road.

Continue to protect the scenic integrity of the Strawberry Crater Wilderness.

At existing mining claim sites, require appropriate mitigation measures to lessen the visual effects on Highway 180 and Interstate 40. Mitigate cultural and biological effects.

**Wildlife**

Retain the ability of wildlife to move across Highway 89 from the San Francisco Peaks to O’Leary Peak and the large cinder cones south of the Monument.

North of Sunset Crater Road, continue to provide habitat areas that are relatively unaffected by people.

Continue to provide wildlife viewing opportunities along Sunset Crater Road in keeping with National Monument objectives.

**Desired Futures and Expected Outcomes of Management Recommendations**

No expected changes in open space category designations.

**Lands Recommended for Retention in the Sunset Crater Landscape District**

There are no Neighborwoods lands within the Sunset Crater landscape district. Therefore, it was not necessary to prepare a listing of land sections for retention. All lands designated Multiple-use/ Conservation, Cultural/ Historical/ Recreation, Semi-primitive, and Primitive are recommended for retention for open space purposes.

## Walnut Canyon Landscape District

### Description

The Walnut Canyon landscape district includes lands south of the Fairfield neighborhood in Flagstaff and south of the county community of Cosnino. It includes Anderson Mesa, Walnut Canyon itself, and areas surrounding both sides of the canyon, as well as lands around the Old Walnut Canyon Road on Campbell Mesa.

This landscape district consists mostly of Forest Service lands with a few small private in-holdings, a few State Trust sections, and private lands adjacent to existing communities. Walnut Canyon National Monument, created by the Congress for the protection of the prehistoric archaeological ruins located here, has visitor facilities on the rim and trails within the canyon. Prominent geological features include Walnut Canyon, Anderson Mesa, and Marshall Lake.

Vegetation consists of ponderosa and piñon pines, juniper, agave and other dry-climate

plants, and riparian species in the bottom of Walnut Canyon and at Marshall Lake. Old-growth forest conditions exist in some areas south of Walnut Canyon.

Although the area is dominated by Walnut Canyon, its major surface feature, and its side drainages Fay and Skunk Canyons, cultural resource values abound throughout this district with its prehistoric and archaeological sites. Other resource values include Walnut Canyon itself with its unique geology, riparian vegetation, diverse wildlife habitat, scenic views, and historic sites. Activities include livestock grazing, firewood cutting and gathering, beekeeping, and recreation. Cultural and educational opportunities are provided at Walnut

Canyon National Monument, and Lowell Observatory has constructed observation facilities on Anderson Mesa for scientific research.

Wildlife using the area include elk, deer, antelope, turkey, and other small mammals and birds.

People use parts of this landscape district as a Neighborhoods



*Walnut Canyon is the dominant physical feature of the Walnut Canyon landscape district. Cultural resource values abound throughout this district, with numerous prehistoric and archaeological sites. Other resource values include the area's unique geology, riparian vegetation, diverse wildlife habitat, scenic views, and recreation.*

and other parts of it for semi-primitive and primitive recreation. Hiking, rock climbing, dispersed camping, picnicking, snowmobiling, horseback riding, hunting biking, dog walking, and jogging are some activities people engage in. The Arizona Trail has been routed through this area from Marshall Lake to the north rim of the canyon. On the open roads, jeeps, OHVs (Off-Highway Vehicles), and motorized trail bikes can often be seen. Marshall Lake provides fishing opportunities and riparian habitat for ducks and other birds and wildlife. Those seeking quiet and solitude can find it along the canyon rim, where a few remote areas and old-growth trees remain.

Forest commodity uses are firewood cutting, Christmas tree cutting, piñon nut and plant gathering, beekeeping, and livestock grazing.

Risk of resource and property loss from fire is high in areas surrounding the neighborhoods and moderate in the more remote areas.

Protection of Walnut Canyon is a high priority. The Monument boundary's close proximity to State Trust lands heightens the need to acquire the lands for open space purposes or for the State to set aside this area to prevent future development

Two matters that are outside the scope of this *Plan* could have a significant effect on the management of this landscape district. The Walnut Canyon National Monument boundary expansion was passed into law in 1997. The Open Spaces And Greenway Committee supported this expansion. However, the Committee takes no stand on future boundary initiatives, and they are not considered in this *Plan*.

The second matter is the area identified as the "Walnut Recreation Area." The administrative history of this area originated in discussions between the National Park Service, Forest Service, and the Friends of Walnut Canyon. The Forest Service and Park Service agreed to manage the areas around Walnut Canyon cooperatively and in a fashion that would satisfy public concerns about recreation and other uses in the area.

The recommendations contained in this *Open Spaces and Greenways Plan* concerning the Walnut Canyon landscape district are not



*People use parts of the Walnut Canyon landscape for semi-primitive and primitive recreation. Those seeking quiet and solitude can find it along the canyon rim, where a few remote areas and old-growth trees remain.*

*Protection of Walnut Canyon is a high priority.*

intended to supersede the existing understandings and agreements between the Forest Service and other parties. The Forest Service's *Resource Access Travel Management Plan*, for example, identifies standards for managing the roads in this area that are consistent with the *Open Spaces and Greenways Plan*. The *Plan*'s recommendations for shooting restrictions (as called for in the Fisher-Campbell decision) are addressed in Section 2, "Wildlife Management Recommendations – Hunting and Shooting," and also apply to this landscape district. Issues of nomenclature or designation, such as the "Walnut Canyon Recreation Area," are within the purview of the Forest Service.

## **Uses and Values Recommendations**

### **Access**

Access should be achieved by Forest Service roads to exterior points of the Primitive category only.

Access in the interior of the area should be limited to alternate means of non-motorized travel.

Establish designated access points within each community and discourage uncontrolled access to reduce conflicts between recreationists and private land owners.

### **Community Buffers**

Future development along major highways should be screened and buffered by trees, and any future signing should be minimal, discrete and appropriate, and should not detract from the landscape. Motorists along Lake Mary Road, Interstate 40, Walnut Canyon National Monument Entrance Road, and Old Walnut Canyon Road pass through forest scenes that define a sense of place. These corridors serve as gateways to Flagstaff, so it is imperative to protect their scenic qualities.

### **Cultural Sites and Uses**

Protect cultural and historical sites within the canyon and along the rim in keeping with the missions of the National Park Service and the Forest Service.

Protect and maintain stands of old-growth forest as examples of the historic landscape. Lands to the south of Walnut Canyon represent areas of old-growth forest that were not logged in the early 1900s or since.

### **Education and Research**

In developed areas, encourage lighting that limits effects on Anderson Mesa Observatories and continues to provide opportunities for night-sky viewing, another aspect of the quality of life for Flagstaff-area residents.

Significant astronomical research is conducted at Anderson Mesa, and all efforts should be made to continue to provide for the operation of telescopes there.

Continue to provide educational services at the Walnut Canyon National Monument Visitors Center.

### **Fire**

Fire mitigation is important, and the areas of Continental Country Club, Amberwood, Forest Dale, and Heckathorn should be protected through the use of thinning, prescribed fire, pile burning, and underburning where appropriate to reduce the risk of property loss from wildfire. Design and conduct thinning to maintain a pleasing wildland environment. Preserve as many large trees as possible consistent with other fuel reduction objectives.

### **Forest Commodity Uses**

Hundreds of people drive to the Flagstaff area each winter to cut Christmas trees in designated areas, one of which is located in this

landscape district south of Winona. Continue to provide Christmas tree-cutting opportunities in designated areas.

Walnut Canyon is the delineating feature on the southeastern edge of the city, and it has recreational, spiritual, and wildlife values that are immeasurable and evident through the area's high levels of use. It is strongly recommended that the lands encompassing Walnut Canyon be withdrawn from availability for future mining claims. Identify, designate and withdraw from future mining claims areas west of the Walnut Canyon National Monument entrance road, Walnut Canyon itself, and areas to the north; these areas have American Indian religious values and provide recreation opportunities.

Continue uses such as firewood cutting (as directed by Forest Service firewood regulations) and pre-commercial thinning north of Walnut Canyon and west of the Monument entrance road. In the remaining Semi-primitive category, continue grazing and wood product harvesting, and balance all of these uses with maintenance of a healthy functioning ecosystem. All commercial uses should be compatible with expected Semi-primitive recreation experiences. For example, guiding and small group activities may be appropriate, while jeep tours and larger group uses should be limited to the Forest Road 301 and Forest Road 303 corridors, or main roads on Anderson Mesa.

### **Recreation**

Discourage overnight camping in the Neighborwoods where risk of wildfire is a concern, or where sanitation or public safety concerns exist. Some Forest Service lands prohibit camping without a permit. Consider expanding the restricted area if appropriate.

With other lakes in the vicinity providing recreation, Marshall Lake is more valuable as a less-easily accessed place that possesses better features for wildlife habitat, including waterfowl habitat. Recreation activities should be carefully controlled and should occur only at designated spots. Waterfowl habitat is currently being threatened by recreation usage; immediate actions are needed to ensure that prime waterfowl habitat is maintained.

West of the Walnut Canyon National Monument entrance road, large group events such as weddings and reunions are currently infrequent. Such activities are appropriate for

groups of up to about 125 people. As demand increases, it will be necessary to identify suitable sites for such events and to rotate use of these sites to allow vegetative recovery.

High levels of controlled visitation by people are currently available at the Walnut Canyon National Monument, providing views of some of the steepest parts of the canyon. These sites provide a variety of canyon experiences, including the ability to reach cultural sites at the Monument.

Continue to support and provide visitor services, interpretation and the opportunity to experience the cultural history, geology, flora and fauna of Walnut Canyon National Monument. Continue to provide for research in keeping with National Park Service and Forest Service regulations.

Some rock climbing occurs in the canyon, and further impact studies need to be conducted. Manage this activity at levels compatible with other activities, maintaining a low impact on the resources and landscape.

In the Primitive category, any development of facilities on public lands should meet management goals of maintaining the natural processes that sustain the canyon ecosystem in its most natural state. This presents challenges given the area's proximity to urban communities and the popularity of its scenic features. Development of additional visitation sites is not recommended. Instead, continue to provide dispersed recreation opportunities and apply existing Forest Service camping regulations. Consider the individual recreation experience and ecological health of areas.

### **Roads and Trails**

Continue to manage the Skunk/Fay Canyon area as a motorized closure area (including snowmobiles) as required by Public Order 04-150 and provide multiple trail opportunities for non-motorized uses.

Identify and develop linkages connecting Lake Mary, the Lake Mary Road communities, Herold Ranch Road, and the Fairfield communities to each other and to the Arizona Trail at Fisher Point, to the Monument, and to communities to the north around Turkey Hills. This corridor should connect the FUTS in Flagstaff to Lake Mary. It could also tie into the Arizona Trail and Northern Arizona University. Alternate means of transportation from outlying communities to the Walnut Canyon National

Monument would not only provide for recreation opportunities, it would ease traffic congestion. Foster high-altitude training opportunities. A key linkage is across a portion of State Section 26 (T21N R7E). Other key crossing points include box culverts under Interstate 40. Implement a "closed unless designated open" policy by addending Public Order 04-146 to include Campbell Mesa east of Fairfield, and provide trail opportunities for non-motorized uses.

Review locations east of the Monument entrance road and east of Walnut Canyon itself for opportunities for ATV/motorcycle use. Undertake a process among various agencies, local communities and recreationists to designate roads and trails for motorized trail uses in these areas if appropriate.

North of Walnut Canyon and west of the Monument entrance road, provide minimal levels of roads. Forest Road 301 and Forest Road 303 (Old Walnut Canyon Road) should continue to be the only designated open access roads under Public Order 04-146 in this area.

All of Campbell Mesa, which is east of Old Walnut Canyon Road and west of the Monument entrance road, should be a motorized closure area where motorized travel is restricted to designated roads only. The requirement to stay on these roads will protect grasses and soils and facilitate the obliteration of retired roads. Continue obliteration of secondary roads. Forest Road 301 is currently not passable by two-wheel drive vehicles; consider upgrading and maintaining this road for passenger car travel in the future.

South of Walnut Canyon, the Marshall Lake road should continue to be the main access into Anderson Mesa with a system of primitive roads on the rest of the mesa.

Provide parking and trail access off of Old Walnut Canyon Road (Forest Road 303). Any new roadways, such as Butler Avenue or the Fourth Street extension, should have designated and controlled non-motorized access points and parallel corridors for alternate modes of transportation

### **Vegetation**

Continue and increase actions to protect large oak and pine trees and establish young oak trees. Perpetuate other shrub species where appropriate.

Under National Park Service and Forest

Service policies, manage Walnut Canyon National Monument so that natural processes occur without evidence of present human influence.

Maintain the naturally functioning system that supports the unique and diverse vegetation communities.

Prevent unnatural levels of erosion on steep slopes and rim areas by limiting ground-disturbing activities on the slopes and at the canyon rim's edge.

Portions of the Primitive category south of Walnut Canyon are in very dense forest conditions and may require some thinning in the understory. Conduct activities so that road access remains limited and large trees and wildlife habitats are maintained.

### **Vistas and Viewsheds**

Future development along major roadways should be screened by effective tree buffers, and any future signs should be minimal, discrete and appropriate, and should not detract from the landscape. Motorists along Lake Mary Road, Interstate 40, the Walnut Canyon National Monument entrance road, and Old Walnut Canyon Road pass through forest scenes that define a sense of place. Because these corridors serve as gateways to Flagstaff, it is imperative to protect their scenic qualities.

Maintain and protect the scenic views of geologic formations and the unique vegetation of Walnut Canyon and the rim of Anderson Mesa.

### **Wildlife**

Continue to provide habitat and corridors for wildlife movement of elk, deer, antelope, and mountain lion in and out of the canyon and east and west from the piñon/juniper areas to the ponderosa pine areas. Near the rim, limit miles of open road and maintain connected patches of dense hiding cover for animals.

### **Desired Futures and Expected Outcomes of Management Recommendations**

In the Campbell Mesa area west of the Monument entrance road, east of the Fairfield Continental neighborhood and south of Interstate 40, some Neighborwoods and all Multiple-use/Conservation (MU/C) and will move toward Semi-primitive conditions. It is expected that a buffer area approximately

one-quarter of a mile wide on portions of Sections 09, 16, and 21 (T21N R8E) will remain Neighborwoods for nearby residents, and that the rest of the mesa will shift toward Semi-primitive conditions as road closures are implemented. Recreation and other uses will be in keeping with Semi-primitive experiences, although the numbers of people using the area will be high. Sights and sounds of Interstate 40 will still be evident.

On the northern boundaries of Sections 30 and 29 (T21N R8E), it is expected that future uses will cause a buffer area of approximately one-quarter mile width of MU/C lands to move toward Neighborwoods conditions. The remaining MU/C lands in these two sections will shift toward Semi-primitive conditions as road densities are reduced. These areas are currently somewhat isolated from the sights and sounds of urban environments. The western one-quarter mile of Section 30 will be MU/C. Recreation and other uses will be in keeping with providing Semi-primitive experiences.

In an area encompassing Walnut Canyon from Fisher Point south to Lake Mary, lands will shift from Semi-primitive to Primitive conditions. These lands are located in Sections 06, 07, 17 and 18 (T20N R8E) and are adjacent to existing Primitive lands. Management recommendations of closing the one access road and limiting uses in keeping with Primitive experiences will cause the change in conditions over time. The canyon topography is less defined here but still substantial. Currently, the area is distant from the sights and sounds of the urban environment. The Arizona Trail runs through this area.

In Section 28 (T21N R8E), all of the land that is not currently Semi-primitive will become Semi-primitive in the future due to road closures and other changes in management.

In the Marshall Lake area, which contains unique and diverse vegetation, recommendations include managing recreation uses that provide for semi-primitive experiences and limiting impacts to the waterfowl habitat. Such changes will cause the area surrounding Marshall Lake to progress from MU/C experiences to Semi-primitive experiences. However, the area will remain in the MU/C category because of continued use by high numbers of people, the area's proximity to a paved road, and the presence of developed recreation and observatory facilities. This will be a MU/C area with an emphasis on wildlife habitat.

**Table 3.7**

<b>Walnut Canyon Landscape District</b>		
<b>Lands Recommended for Retention</b>		
<b>Location of Lands</b>	<b>Overall Priority within Plan Area</b>	<b>Objectives and Rationale for Retention and Acquisition</b>
Continental area Section 20 T21N R8E	Fourth priority for State lands within entire Plan area  Linkages are desired  Within 3-mile radius designated by the Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department  <i>City Zoning:</i> Rural-Residential  Section 20 lies adjacent to Fairfield Continental neighborhoods and Old Walnut Canyon Road. Public access trail linkages from these areas to adjacent open space lands are needed as well as separated parallel travelways adjacent to major roadways such as the Butler Avenue extension. Should development occur, consider incorporating open space and natural land features into development.
Hoffman Tank area Section 26 T21N R7E	Fourth priority for State lands within entire Plan area  Linkages are desired  Within 3-mile radius designated by the Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department  <i>City Zoning:</i> Rural-Residential  Section 26 is located south of Little America lands. A trail linkage is especially critical across this Section to connect the Fisher Point/Arizona trail area to the FUTS. Public access trail linkages from these areas to adjacent open space lands are needed as well as separated parallel travelways adjacent to major roadways such as the Fourth Street extension. Should development occur, consider incorporating open space and natural land features into development.
Walnut Canyon area (Log Cabin Tank) Section 22 T21N R8E	First priority for State lands within entire Plan area  Within 3-mile radius designated by the Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department  <i>City Zoning:</i> Rural-Residential  Section 22 contains a large side drainage that flows into Walnut Canyon and provides deer and elk cover and pockets of riparian and other unique vegetation. This Section also provides recreation access from Old Walnut Canyon Road and should be managed for Semi-primitive uses.  Recreation will likely increase in this area and it is desirable to maintain open space lands as a buffer to the interior of Walnut Canyon and to absorb recreational use that might otherwise impact the canyon or the Monument.
Walnut Canyon area (Campbell Mesa) Section 22 T21N R8E	First priority for State lands within entire Plan area  Within the 3-mile limit designated by the Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department  <i>City Zoning:</i> Rural-Residential  Old Walnut Canyon Road is located within this Section north-west of the Walnut Canyon National Monument. It is surrounded by National Forest lands. Acquire and retain State Section 22 as open space to protect recreation opportunities, to maintain a connected block of open space and to serve as a buffer to limit impacts of possible development close to Walnut Canyon National Monument.

**Table 3.7 (continued)**

**Walnut Canyon Landscape District**

**Lands Recommended for Retention**

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
<p>South of Fairfield Continental area Section 30 T21N R8E</p>	<p>First priority for State lands within entire Plan area  Within 3-mile radius designated by the Arizona Preserve Initiative</p>	<p><i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Rural-Residential  Section 30 is located just south of Fairfield Continental and north of Walnut Canyon. Acquire State Section 30 and retain as open space to provide recreation opportunities adjacent to existing urbanized areas, to buffer the Canyon rim area from excessive use impacts, to provide public access trail linkages and to maintain wildlife use of the area.</p>
<p>Campbell Mesa area adjacent to Old Walnut Canyon Road  Sections 15, 16, 09 (south of I-40), 17 &amp; 21 T21N R8E</p>	<p>High priority for retention as open space</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>City Zoning:</i> Sections 09 &amp; 17 – Rural-Residential Section 16 – Public Land/Forest Section 21 – Rural-Residential  These Sections are part of Campbell Mesa. Section 21 also surrounds private lands on Old Walnut Canyon Road. These areas are a combination of Neighborwoods and Multiple-use/Conservation categories. Future management recommendations include limiting road access, providing for recreation and enhancing wildlife habitat. There are views of Mt. Elden from here as well as a relatively open landscape with large old trees. These Sections make up an unfragmented block of open space.</p>
<p>Herold Ranch area Section 25 (sliver) T21N R7E  Section 29 T21N R8E</p>	<p>High priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>City Zoning:</i> Rural-Residential  A small piece of Section 25 contains sensitive plant species and recreation access. Section 29, in conjunction with adjacent State Sections 30 and 28, provide an unfragmented block of open space and public recreation access and opportunity. This block of open space helps buffer the Walnut Canyon rim from future impacts. These Sections are within the Multiple-use/Conservation category.</p>
<p>Water Treatment Plant, northeast corner of Section 04 (south of I-40) T20N R7E</p>	<p>Low priority for retention</p>	<p><i>Ownership/Jurisdiction:</i> Forest Service <i>City Zoning:</i> Public Land/Forest  This parcel is low priority for retention as open space because of Lake Mary Road and the water treatment plant. This parcel may be low priority for maintaining in Forest Service ownership. Consolidation with City-owned airport bonds or with the proposed regional park to the north may be appropriate.</p>

Table 3.7 (continued)

Walnut Canyon Landscape District		
Lands Recommended for Retention		
Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Big Fill Lake Section 08 (south of I-40) T21N R8E	Third priority for State lands within entire Plan area Linkages are desired	<i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Rural-Residential The southeast 1/4 of Section 08, south of I-40, is likely to sell and develop. Provide public access to adjacent public lands via trail linkages. Maintain scenic aspects along I-40 by considering tree screening and building heights.
Block of lands north and east of Lake Mary Road Sections 01, 02, 03, 10, 11 & 12 T20N R7E	High priority for retention	<i>Ownership/Jurisdiction:</i> Forest Service <i>City Zoning:</i> Public Lands/Forest <i>County Zoning:</i> Section 02 – Open Space These lands are a combination of Semi-primitive and Neighborwoods and should be maintained as open space. They make up a large block of open space that serves as a buffer between Lake Mary Road and the upper end of Walnut Canyon.
Rain Valley Section 10 (south of I-40) T21N R8E	Third priority for State lands within entire Plan area Within 3-mile radius designated by the Arizona Preserve Initiative	<i>Ownership:</i> Arizona State Land Department <i>City Zoning:</i> Rural-Residential Portions of Section 10 south of I-40 should be maintained as open space to contribute to a large unfragmented block of open space on Campbell Mesa. Campbell Mesa provides recreation opportunities for adjacent communities.

## Wing Mountain Landscape District

### Description

The Wing Mountain landscape district includes forested lands west of Highway 180 and north of Interstate 40. This district lies adjacent to the north side of the community of Bellemont adjacent to the Navajo Army Depot. Wing Mountain and Kendrick Mountain are prominent features along with a few smaller cinder cones. Kendrick Mountain is in a congressionally designated Wilderness. Most lands are under the jurisdiction of the Forest Service, with some private inholdings.

Vegetation on the landscape is primarily ponderosa pine with Arizona fescue and other native grasses. Aspen and mixed conifer occur in patches and on Wing and Kendrick Mountains.

A road network provides ample opportunity for sightseeing from a vehicle, mountain biking and ATV (All Terrain Vehicle) riding. Winter activities include cross-country skiing, snowmobiling; and dog-sled running. With the exception of Kendrick Mountain, few trails exist here, so hiking and horseback riding are primarily cross-country. A few mountain bike and jeep

tours use Forest Service roads. Lava River Cave is a two-mile long lava tube that people can hike into and is a major destination for many people. Other smaller caves occur in this landscape district.

Wildlife include elk, deer, antelope, and small mammals, including bats and birds. The pine areas provide feeding sites, and the vegetation on the mountains and cinder cones provide dense cover for elk and deer. Past wood product harvesting and firewood cutting has left a relatively low number of large old yellow pines, so retaining the remaining large trees and snags is important to provide songbird habitat. The mountains also support turkey. Few natural springs occur here, so water for wildlife is provided from dirt stock tanks.

Primary forest commodity uses include firewood cutting, wood product harvesting, and livestock grazing.

The community of Bellemont has only a few residences at this time, but is likely to grow in the future in conjunction with recent industrial development. From the Bellemont truck stop on Interstate 40, there are views of Wing Mountain and Kendrick Mountain. Crested



*Wing Mountain (shown here) and Kendrick Mountain, a designated wilderness, are prominent features in the Wing Mountain landscape district. Vegetation in the landscape is primarily ponderosa pine with Arizona fescue and other native grasses.*

ridgelines paralleling the interstate provide a scenic corridor. Highway 180 to the Grand Canyon is a designated scenic highway.

There are some small visible remains of prehistoric and historic uses.

There is potential for large wildfires due to prevailing winds and past fire history, but open forest conditions and limited numbers of buildings make the potential for property loss low. Nonetheless, tree thinning southwest of private lands is recommended as a fuel mitigation measure. A prescribed fire program mimics fire's natural role in the ecosystem.

This landscape district defines the north-westerly boundaries of the *Open Spaces and Greenways Plan* and is covered with ponderosa pine. Maintaining its traditional resource and recreational uses, as well vast scenic vistas, is important to the integrity of this landscape district. In the future, the continuous stretch of dense vegetative cover should be maintained and the number of roads and trails should be reduced in the wildlife corridor that extends from Rogers Lake, through Woody Ridge, to Wing Mountain, and north to the San Francisco Peaks.

## Uses and Values Recommendations

### Access

Although there are no designated Neighborwoods in this landscape district, it is expected that adjacent Forest Service lands will be used as Neighborwoods as private lands develop in the Bellemont area. As this occurs, encourage residents to designate roads and trails and public access points. Encourage people to stay on roads and trails. Consider linkages for alternate modes of travel from this area to Flagstaff.

### Cultural Sites and Uses

Kendrick Mountain holds significant spiritual values for American Indians; consult with them on proposed projects and continue to provide access for traditional activities.

### Forest Commodity Uses

At existing mining claim sites, require appropriate mitigation measures to lessen the visual effects from Highway 180 and Interstate 40. Mitigate cultural and biological effects.



*Winter activities are popular in the Wing Mountain landscape district, including cross-country skiing, snowmobiling, and dog-sled running.*

### Recreation

Continue existing jeep, bicycle and other tour opportunities on main Forest Service roads only.

New commercial recreation uses proposed should be evaluated for their compatibility with the desired recreation experience and ecosystem health.

Lava River Cave is a popular site, receiving approximately 10,000 visitors per year, mostly in the summer months, to explore two miles of a giant lava tube. Current facilities are a dirt parking area with some identification signs. Continue to provide use and enjoyment of the cave while also protecting it. Additional signs and visitor facilities such as restrooms, picnic tables, and trash receptacles are recommended. Partnership opportunities should be pursued with the tourism and outdoor recreation supply industries to seek funding for such improvements.

If a shooting range be developed in the Bellemont area, it should be done in a sensitive manner that maximizes safety, minimizes impacts on natural resources, and provides a scenic buffer on Interstate 40. A formal shooting range will lessen instances of discharging of firearms in Neighborwoods.

### Roads and Trails

Most of the Semi-primitive category in this landscape district comprises cinder cones such as Wing Mountain and the slopes of Kendrick Mountain. Low road densities should be maintained to not only protect the fragile landscape but to retain semi-primitive experiences and provide large quiet areas for wildlife.

Currently, Forest Service roads provide for multiple uses such as biking, horse riding, hiking, licensed OHV, and other vehicular uses. Continue to provide multiple-use opportunities. Where appropriate, consider linking the Lava River Cave to Highway 180 trailheads. Provide long-distance trail connections between Bellemont, Highway 180, and the Kendrick Mountain Wilderness.

### **Vegetation**

Continue and increase actions to re-establish young aspen trees, including thinning to remove conifers, cutting patches of aspen trees to encourage sprouting, conducting prescribed fires, and providing protective fencing.

### **Vistas and Viewsheds**

Manage Highway 180 as a designated scenic highway while providing for a safe roadway per the Highway 180 Corridor Plan and *Coconino Forest Plan Amendment #10*.

Provide tree screening buffer, and maintain building heights to protect the views as seen by travelers on Interstate 40. Any future signs should be minimal, discrete, and appropriate, and should not detract from the landscape.

Semi-primitive lands in this district are made up of cinder cones, which provide a scenic backdrop to Highway 180 and Interstate 40. Forest management actions should not compromise this scenic viewshed.

The Primitive area in the district is made up of Kendrick Mountain Wilderness, which provides a scenic backdrop to Highway 180. Forest management actions should not compromise this scenic viewshed.

### **Wilderness**

The Kendrick Mountain Wilderness is managed by the Kaibab National Forest. Manage this area to meet the intent of the Wilderness Act and associated Forest Service management directions.

### **Wildlife**

Maintain and protect the corridor that serves deer, elk, turkey, and birds by maintaining a connected mosaic of dense patches of vegetative hiding cover around Wing Mountain and extending to the Hart Prairie area. Within the corridor, limit the extent of roads and manage dispersed camping and other recreation activities at compatible levels.

### **Desired Futures and Expected Outcomes of Management Recommendations**

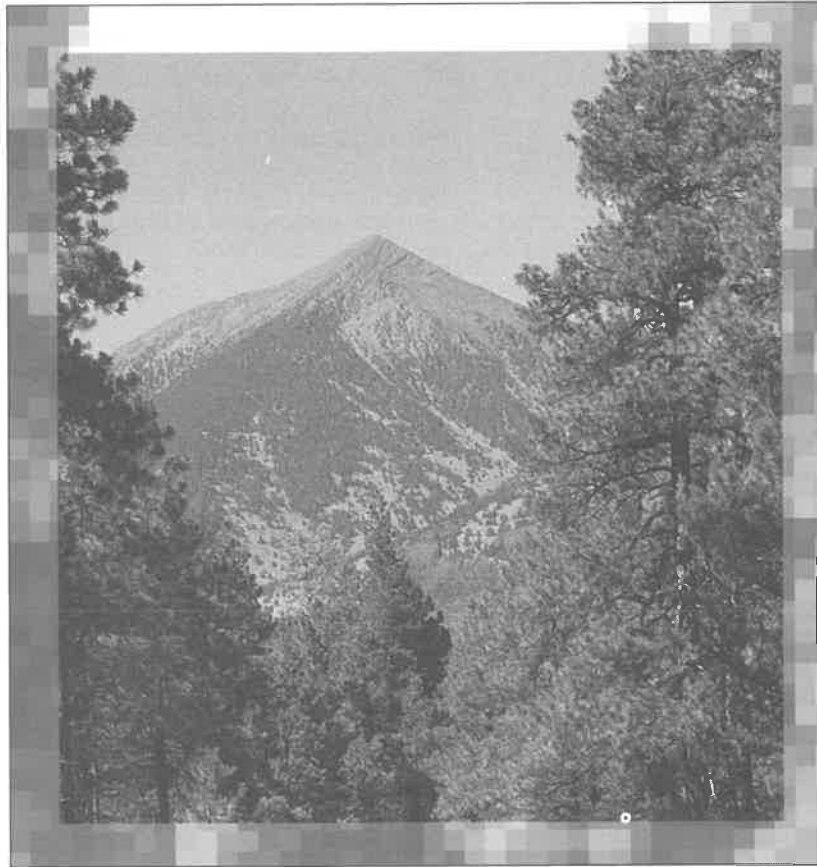
Within the Wing Mountain landscape district, some Multiple-use/Conservation areas will move toward more Semi-primitive conditions. This will occur where wildlife corridors are managed with fewer roads, less recreation and connected dense patches of vegetation. As road densities are reduced, there will be less likelihood of encountering other visitors in these areas. Recreation and other uses will be on designated roads and trails and will be in keeping with Semi-primitive experiences. These areas are currently distant from sights and sounds of urban environments. Land features such as topography and types of vegetation will not change.

Table 3.8

## Wing Mountain Landscape District

## Lands Recommended for Retention

Location of Lands	Overall Priority within Plan Area	Objectives and Rationale for Retention and Acquisition
Numerous Forest Service Sections	High and low priority for retention	<p><i>Ownership/Jurisdiction:</i> Forest Service</p> <p><i>County Zoning:</i> Open Space</p> <p>To retain their large unfragmented landscapes, these National Forest lands are in the high priority group for retention as open space except for two Sections, 35 and 36 T22N R5E, which are low priority. These two Sections may, after further study, accommodate a regional shooting range facility.</p>
Crater Lake near Kendrick Wilderness Section 36 T24N R5E	High priority for retention as open space	<p><i>Ownership:</i> Private</p> <p><i>County Zoning:</i> General</p> <p>This parcel is desirable to acquire and maintain as open space; it is an inholding surrounded by National Forest lands. This land lies adjacent to the Kendrick Wilderness and to the Crater Lake cinder cone, which has unique vegetation and wetland characteristics and provides habitat for a variety of wildlife.</p>
Crowley Park area Section 12 T23N R5E  Section 18 T23N R6E	Low priority for retention	<p><i>Ownership:</i> Private</p> <p><i>County Zoning:</i> General</p> <p>Undeveloped parcels within these Sections are desirable to acquire and maintain as open space to retain unfragmented blocks of undeveloped National Forest lands.</p>
Wild Bill Hill area Section 02 T22N R5E	Low priority for retention	<p><i>Ownership:</i> Private</p> <p><i>County Zoning:</i> General</p> <p>This undeveloped parcel of land is desirable for retention as open space to maintain the unfragmented block of undeveloped National Forest lands.</p>
Bellemont area private lands	These private lands are not needed for open space conservation. Trail linkages are needed.	<p><i>Ownership:</i> Private</p> <p><i>County Zoning:</i> General</p> <p>For the most part, these lands are scattered inholdings located around Bellemont. As these privately owned lands develop, it will be necessary to work with private land owners to ensure public access to public lands through trail linkages. Building setbacks from I-40 should be substantial and vegetation preserved to maintain the significant scenic qualities.</p>



*The San Francisco Peaks dominate the Flagstaff landscape, providing a dramatic backdrop to vast stretches of ponderosa pine forests. Wilderness is a valuable resource in the greater Flagstaff area.*

# Section Four

## Conclusion

The recommendations in this *Open Spaces and Greenways Plan* are meant to help guide public land management agencies who administer the lands surrounding Flagstaff. This *Plan* is a framework for guiding future development by balancing the retention of open spaces with the needs for residential and business growth. The *Plan* is a growth-management tool to help guide conservation efforts, land use policies, and the system of open space categories. These categories provide a range of experiences, from the Primitive category which is intended primarily for the protection of wildlife, where one can find solitude and a wilderness experience, to categories for concentrated human use, such as the Cultural/Historical/Recreational (C/H/R).

Current and potential beneficiaries of the *Plan's* goals and recommendations include both residents and visitors to the Flagstaff area. People will be able to enjoy a valued Western lifestyle of publicly accessible natural open spaces. The *Plan* also assists federal and state agencies in their long-range planning by identifying a vision of current and future open space needs. The *Plan* also helps local governments guide infrastructure investments.

Previous to the collaboration on this *Plan*, each agency worked independently, pursuing its own missions, goals, and objectives. One result of this *Plan* is that the individual agencies have agreed to consider the retention and management of some lands to achieve the long-term recommendations for change. Governmental agencies recognize the complexity of retaining and managing lands for multiple uses close to urbanized areas and are committed to an inter-governmental approach. Agencies have realized that some Arizona communities, including Flagstaff and surrounding communities, want greater control over their growth, that is to say how and where they develop.

The State Land Department is willing to designate certain lands for conservation purposes. Through the Arizona Preserve Initiative

(API), which was passed by the State Legislature in 1996, State Trust lands may be petitioned, and, upon meeting the API criteria, they may be leased or purchased for conservation purposes. This can occur only if it is in the best interests of the Trust and the purchase price is at fair market value. If public funds are used, voter approval is required.

The Forest Service is willing to actively pursue retaining and maintaining more of the lands surrounding the greater Flagstaff area for recreational, cultural, and other uses.

The Arizona Game and Fish Department is considering the creation of a new game management unit, carved out of existing units, that would include many of the residential areas around Flagstaff. The new unit would reflect the need to change the types and lengths of some existing hunts because of the greater human presence on these lands.

The *Plan* recognizes that some private land holdings have significant resource value. Where acquisition is desirable, this *Plan* recommends that such acquisition occur only if the seller is willing. There are, of course, a number of other means by which to acquire open space lands, such as land trusts, conservation easements, land trades, contributions, or homeowners' associations. In any case, any such actions require that a system be in place to accept and manage the lands and their resources. Currently, no such system exists, but it should be discussed in the future.

Nonetheless, on rare occasions other means are available to protect lands, particularly those with high resource values and whose open space values may be threatened. Various methods may be considered, such as acquisition through fee title purchase or condemnation.

### Creation of an Open Spaces Coalition

All the agencies are entering into the Memorandum of Understanding (MOU,

see Appendix 4) to establish a mechanism to consider recommendations for management and protection of lands identified in the *Plan*. Through the MOU, a Greater Flagstaff Open Spaces Coalition is proposed. The Coalition would not be a decision-making body, but rather would function as an advisory and recommending body on open spaces and greenways issues and activities to the respective governing bodies. The Coalition would not supplant or duplicate the roles and duties of appointed bodies that currently, or in the future, would serve governing councils or boards. Its establishment would be by separate agreement or action by the governmental agencies.

### Composition

The following is a proposed composition for the Coalition, which is subject to further deliberation and change by the approving and appointing governmental bodies. Membership could consist of staff representatives from the following governmental agencies affected by this *Plan*:

- City of Flagstaff
- Coconino County
- Arizona State Land Department
- Arizona Game and Fish Department

The Coconino National Forest and National Park Service-Flagstaff Area Parks would serve in an advisory capacity.

Citizen representation is also expected, with potential representation coming from the following types of organizations:

- Development/Business (seat to be rotated)
- Conservation (seat to be rotated)
- Recreation, both private and volunteer, with representatives from motorized and non-motorized interests (seats to be rotated)
- Cultural/Education (seat to be rotated)
- City and County Commissions (one City seat and one County seat), potentially from:
  - Planning and Zoning Commission (City) appointed by City Council
  - Planning and Zoning Commission (County) appointed by Board of Supervisors
  - Parks and Recreation Commission (City) appointed by City Council

- Parks and Recreation Commission (County) appointed by Board of Supervisors
- Tourism Commission (City) appointed by City Council
- Historic Preservation Commission (City) appointed by City Council
- Citizens-at-Large to be appointed by City Council and the Board of Supervisors

City Council appointees should be city residents; Board of Supervisors' appointees should be residents of the Plan area outside city limits.

### Terms

- Governmental agencies: ongoing
- Groups: two years with one reappointment
- Citizens-at-Large: two years with one reappointment
- Appointments staggered initially:
  - Five two-year terms (four special interest and one at-large) chosen by lot
  - Four one-year terms (three special interest and one at-large) chosen by lot
  - Subsequently, all term appointments are for two years.

### Role

- Provide public education and outreach
- Determine specific applications of the *Open Spaces and Greenways Plan*
- Identify and recommend mechanisms for funding or other sources of land acquisition for open space purposes
- Work with neighborhoods to establish Neighborhood associations to provide land stewardship, maintenance and improvement of open space lands
- Serve as a link between governmental agencies and departments
- Receive community input on open spaces and greenways issues, activities, and potential changes
- Provide input to governmental agencies on land management and use
- Assess and prioritize lands for acquisition
- Consider and make recommendations for improvements in Neighborhoods

- Monitor and recommend strategies and actions to implement the *Plan* through an annual action plan
- Develop an annual governmental agency action agenda and an annual summary of accomplishments
- Review progress made toward implementation of the *Plan* and update it as necessary, preferably on a two-year basis
- Initiate and support legislative efforts to conserve and protect open space lands
- Interface with other governmental agencies to assure cooperation and consistency in *Plan* implementation and in the planning, development, operation and maintenance of open space uses and activities
- Identify and recommend funding and sources for improvements of outdoor amenities, facilities, and trails on open space lands
- Assure that GIS mapping is updated
- Prepare and adopt bylaws and rules for procedure

#### **Action Agenda**

A preliminary action agenda for the Coalition, or in its absence the Open Spaces and Greenways Committee, would consist of the following:

- Agencies enter into MOU
- The City begins the process of amending its *General Plan* through a regional planning effort
- The County begins the process of amending the *County Zoning Map* and *Comprehensive Plan* through a regional planning effort
- The National Parks Service begins the process of amending the *National Park Service General Management Plan and Strategic Plan*
- The Coconino National Forest begins the process of amending the *Coconino National Forest Plan*
- The Coalition develops an action plan to
  - (a) prioritize lands for acquisition;
  - (b) identify means by which to protect and acquire open space lands;
  - (c) establish Neighborhoods associations as land stewards;
  - (d) improve, maintain and construct

open space improvements, amenities and facilities; (e) undertake public outreach and education efforts; and (f) interface with Vision 2020 and regional planning efforts.

#### **Staffing And Funding**

Staffing support would be provided by each of the governmental agencies. The function of the Coalition and activities not requiring allocated funding would be provided by the governmental agencies through in-kind services, materials and equipment. Activities requiring funding would be undertaken through a separate agreement, if necessary, and on a case-by-case basis.

#### **Reassessment**

Two years after its formation, the Coalition should review, assess and report to the governmental agencies the appointment procedures, terms and organization representation, and its role, function, funding, staffing, bylaws, and rules for procedure. Recommendations for changes will be submitted to the City Council and County Board of Supervisors for approval.

#### **Amendments**

The Coalition should set a regular schedule for review of the entire *Plan*. This review process will consider new information and changes in facts and public needs. Public review and comment will be included in the process. If there is a need to adjust the *Plan* between these regularly scheduled reviews, the Coalition may amend portions of the *Plan* with public review and comment. For example, changing an open space category designation or lands identified as high priority for retention are examples of reasons for an amendment. Recommendations for change based on either an amendment or a regularly scheduled review will be submitted to the City Council and County Board of Supervisors, and their respective appointed bodies, as appropriate, for approval.



*This Landsat Thematic Mapper™ satellite image of the Greater Flagstaff area was taken in May 1993 from an altitude of approximately 400 miles. It shows the San Francisco Mountains covered with snow, Mt. Elden just below the peaks, and the City of Flagstaff at the base of Mt. Elden.*

# Appendix One

## Implementation Tools

The recommendations in this *Plan* can be implemented by individuals, groups, organizations and agencies, who will use a variety of implementation methods. In some cases, implementation requires more refined planning and discussion to provide for continued public debate on difficult issues. In other instances, on-the-ground implementation may be undertaken without the need for additional planning and discussion.

This *Plan* does not describe how to conduct implementation. However, during development of the *Plan*, various ideas surfaced and have been listed in this appendix. The tools are orga-

nized into topic areas for easier reference. Often, more than one tool will be needed to meet an objective. For reference, the tables also include the agencies that might be involved in each implementation action.

This appendix is meant to serve as a reference. It does not imply that the agencies identified will undertake the implementation actions listed. Strategic analyses and further implementation discussions should be undertaken by the individual, group, organization, or agency involved in carrying out the action. The Open Spaces Coalition will also facilitate open discussion on ways to implement this *Plan*.

**Table A1-1**

**Recommended Policy 1**

**Retention and Acquisition for Open Space and Traditional Uses**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.1.1. Allow for some federal land exchanges where they meet open space goals.	Forest Service
T.1.2. Do not continue a Forest Service base-for-exchange list.	Forest Service
T.1.3. Per the Arizona Preserve Initiative, authorize, equip and fund the State Land Department to classify environmentally sensitive State Trust lands for conservation use.	OSGW Coalition encourage State legislature to accomplish. API Office, State Land Dept
T.1.4. Per the Arizona Preserve Initiative, allow the sale or long-term lease of State Trust lands to federal, state or local government agencies or entities, conservation organizations or others that are authorized to manage lands for public use and protection of public values.	State Land Dept, Forest Service, OSGW Coalition
T.1.5. Per the Arizona Preserve Initiative, allow the State to sell conservation easements to groups such as local governments or local entities and organizations.	State Land Dept, OSGW Coalition, private parties
T.1.6. Support a state constitutional amendment to grant exchange authority to the State Land Department to make land exchanges directly to other agencies, entities and organizations in exchange for lands of equal value where such exchange would offer protection of environmentally sensitive State lands.	State Land Dept, OSGW Coalition, private parties
T.1.7. Support legislative authorization to fund the State Land Department to manage resource values and linkages for conservation use.	OSGW Coalition, State Land Dept
T.1.8. Existing, traditional uses of State Trust lands that are compatible with preserving open space resources should be allowed to continue.	State Land Dept, OSGW Coalition
T.1.9. Establish and implement noise, light and air quality regulations to protect the quality of open space areas and experiences.	City & County Planning & Zoning Commissions
T.1.10. Establish stewardship programs for homeowners to maintain adjacent Neighborhoods, including trail planning and maintenance, signs, vegetation management, and fire mitigation.	Forest Service, Private/Public Collaboration
T.1.11. Recommend that federal, state and local governments review and revise their land use planning documents to meet the objectives in the Open Spaces and Greenways Plan for retention and protection of open spaces and linkages.	Forest Service, AZG&F, State Land Dept, City, County, NPS

**Table A1-1 (continued)****Recommended Policy 1****Retention and Acquisition for Open Space and Traditional Uses**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.1.12. Foster co-management of Neighborwoods lands among the agencies.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.1.13. Establish strong interpretation programs aimed at informing people about natural resources and the consequences of the Plan's actions so sound decisions can be made on resource management and use.	OSGW Coalition
T.1.14. Obtain title or conservation easement to lands needed for protection of identified open space resources or linkages, through purchase, from the State Land Department.	OSGW Coalition, City, County, Forest Service
T.1.15. Acquire specific parcels of State Trust lands by friendly condemnation inside and adjacent to existing national monuments, recreation, wilderness or resource conservation and other specific management areas, repaying the Trust with other federal lands of equal value.	OSGW Coalition, Forest Service, County, City
T.1.16. Per the Arizona Preserve Initiative, encourage the Legislature to authorize the State Land Department to hold State lands with resource values and linkages for a period of time beyond the three-mile radius to give governmental agencies and entities time to acquire them as dedicated open space.	OSGW Coalition recommend to USFS, City, County
T.1.17. Use existing non-profit land trusts and other conservation organizations, or establish a new non-profit land trust, to purchase or lease lands and accept land donations, gifts, bequests, etc. for protection of identified open space resources or linkages.	OSGW Coalition
T.1.18. Initiate or support the use of federal and state monies, currently collected for various application fees and uses, to pay for open space conservation leases and land purchases.	OSGW Coalition
T.1.19. Develop mechanisms for accepting contributions for open space conservation land purchases by governmental entities that allow the public to donate funds through firewood permits, special use permits, utility bills or state income tax returns.	OSGW Coalition, City, Forest Service, NPS, AZG&F
T.1.20. Provide a mechanism for homeowners' or neighborhood associations to purchase or lease lands for conservation purposes.	OSGW Coalition, public/private collaboration
T.1.21. Raise funds through special taxes or bonding by local governments to enable them to purchase or lease open space lands.	City, County, OSGW Coalition
T.1.22. Apply for Heritage Fund monies for the purchase or lease of open space lands and linkages.	City, County, Forest Service, AZG&F

**Table A1-1 (continued)**

**Recommended Policy 1**

**Retention and Acquisition for Open Space and Traditional Uses**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.1.23. Request appropriation of state and local general fund monies for the lease or purchase of open space lands.	OSGW Coalition, City, County
T.1.24. Communicate need and methods to the public via interpretation, news releases and other media.	OSGW Coalition
T.1.25. Support local city and county and state planning and zoning actions, through state and local laws, to protect open spaces and encourage increased development densities and clustered development.	OSGW Coalition supports City & County Planning & Zoning and State Land Dept implement
T.1.26. Support increased densities in new developments if open space is preserved and put in trust for that purpose.	OSGW Coalition, City & County Planning & Zoning
T.1.27. Support in-filling, redevelopment, and increased densities in urbanized areas as a means to preserve open space.	OSGW Coalition, City & County Planning & Zoning
T.1.28. Use Transfer of Development Rights and other planning tools to retain open space.	OSGW Coalition, City & County Planning and Zoning
T.1.29. In the event that Forest Service, military or State Trust lands are exchanged, surplused, or sold, encourage use restrictions to protect open space resource values and linkages.	Forest Service, State Land Dept, private developers, AZ National Guard
T.1.30. Use the Urban Lands Act to build protection of environmentally sensitive State Trust lands into the Urban Trust land plans that the State Land Department develops in coordination with other governments.	State Land Dept, City, County
T.1.31. Use city and county zoning codes to require protection of open spaces and provision of linkages through the planning and zoning	City & County Planning & Zoning
T.1.32. Share information early on with all relevant parties about land use planning and other decisions to allow input before plans are fully developed.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.1.33. Recommend appropriate city corporate boundary extensions through annexation.	OSGW Coalition, Forest Service, County, City
T.1.34. Develop joint regional planning processes to address land use and growth management concepts.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.1.35. Encourage bike paths and walking/jogging paths within and between developed communities.	City, County, Forest Service

Table A1-2

## Recommended Policy 2

**Maintain Access and/or Private Linkages and Trails from  
Neighborhoods to Nearby Open Spaces and Greenways**

Implementation Tools	Collaborators
T.2.1. Pursue linkages in private developments through the planning and zoning process and working with developers in designing and constructing a trail network, seeking trail and greenway connections for new development.	OSGW Coalition, City & County Planning & Zoning, developers
T.2.2. The Forest Service, City and County should establish new linkages where appropriate to provide for recreation opportunities as well as an alternate means of transportation.	Forest Service, City, County
T.2.3. Should Forest Service, military or State Trust lands be exchanged, surplused or sold, linkages and access should be maintained or provided.	Forest Service, State Land Dept, developers, AZ National Guard
T.2.4. Maximize rail-to-trail opportunities, use of utility corridors and culverts under highways for linear linkages.	Forest Service, County, City, ADOT
T.2.5. Explore possibilities for crossing railroad tracks.	Forest Service, County, City, Railway
T.2.6. Retain access through washes.	County, City, Forest Service
T.2.7. Protect access through culverts underneath highways.	OSGW Coalition, ADOT
T.2.8. Continue the construction of the Arizona Trail through the city and county.	OSGW Coalition, Forest Service, City, County, State Parks Dept

**Table A1-2 (continued)**

**Recommended Policy 2**

**Maintain Access and/or Provide Linkages and Trails from Neighborhoods to Nearby Open Spaces and Greenways**

Implementation Tools	Collaborators
T.2.9. Provide for neighborhood access points to open spaces by gaining consent from land owners, maintaining or providing Forest Service and NPS road and public rights-of-way, or obtaining leases on state	Forest Service, AZG&F, State Land Dept, City, County, NPS, private/public collaboration
T.2.10. Pursue funding for acquisition of lands needed for linkages and trail corridors along highways and for a mass transit shuttle from staging areas to national monuments and other high-use areas.	NPS, Forest Service, OSGW Coalition, business owners
T.2.11. Foster partnerships with homeowners to establish and maintain trail and forest road access points.	Forest Service, AZG&F, State Land Dept, City, County, NPS, private/public collaboration, Neighborhoods associations
T.2.12. Promote information/interpretation aimed at responsible use in order to protect privileges.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.2.13. Establish stewardship programs for homeowners to maintain access.	Forest Service, City, County, homeowners associations, residents
T.2.14. Accelerate trail establishment through aggressive pursuit of Arizona Heritage funds, ISTEA and other funding.	OSGW Coalition, Forest Service, AZG&F, State Land Dept, City, County, NPS
T.2.15. Provide adequate signage, particularly for small children, foreign visitors and people with cognitive and visual impairments so they can make informed decisions about how and where to use the trail systems.	Forest Service, City

Table A1-3

## Recommended Policy 3

## Maintain Vistas and Viewsheds

Implementation Tools	Collaborators
T.3.1. Use scenic highways criteria that call for limits on outdoor advertising, development setbacks or natural landscape screening and design standards and review.	ADOT, Forest Service, City, County, State Land Dept
T.3.2. Establish "enhancement" corridors to promote scenic views along roadways.	ADOT, Forest Service, City, County, State Land Dept
T.3.3. Minimize visual intrusion to cinder hills.	Forest Service, State, County, City
T.3.4. Minimize visual impact of illegal dumping on public lands by educating residents about landfill use and requirements.	Forest Service, City, County
T.3.5. Make viewshed impacts and protection of viewsheds key criteria in planning and zoning.	City, County
T.3.6. Where necessary, purchase scenic easements to protect views.	City, County, private/public collaboration
T.3.7. Identify and designate scenic viewsheds.	Forest Service, City, County, State Land Dept
T.3.8. Where development occurs on open space lands, protect viewshed aesthetic values.	Forest Service, State Land Dept
T.3.9. Re-vegetate and otherwise reclaim old cinder pits no longer in use.	Forest Service, County, claimants
T.3.10. Re-vegetate highly visible closed road areas.	Forest Service
T.3.11. Work with planning and zoning agencies to establish appropriate guidelines for the protection of vistas and viewsheds.	Forest Service, City, County
T.3.12. Undertake a process to withdraw identified lands from mineral entry.	Forest Service, claimants

**Table A1-4**

**Recommended Policy 4**

**Protect Riparian Communities, Wetlands, Rivers, Grasses, Meadows, and Other Vegetation**

Implementation Tools	Collaborators
T.4.1. Close drainage bottoms to overnight camping.	Forest Service
T.4.2. Relocate roads from drainage bottoms.	Forest Service
T.4.3. Provide consistent water flows through sewage effluent management.	City, County
T.4.4. Maintain or develop ability of floodway areas to absorb flooding.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.4.5. To lessen impacts on soils, water quality and vegetation, discourage overuse of riparian sites.	Forest Service, AZG&F
T.4.6. Establish and promote best management practices for grazing, timber production, roadways and mining in riparian areas.	Forest Service, State Land Dept
T.4.7. Encourage use of trails and roads to maintain grasses and other vegetation.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.4.8. Eliminate roads to reduce number of roads per square mile.	Forest Service, State Land Dept
T.4.9. Relocate roads and trails away from riparian areas.	Forest Service
T.4.10. Construct fences around riparian sites to exclude cattle and/or elk.	Forest Service, private/public collaboration
T.4.11. Rotate recreational use closures of sensitive sites, such as riparian communities, meadows, and lakes to allow vegetative recovery.	Forest Service
T.4.12. Educate the public on the importance of the "no camping within 1/4 mile of water sources" regulation.	Forest Service, private/public collaboration
T.4.13. Relocate trails out of meadows where possible.	Forest Service

Table A1-5

## Recommended Policy 5

## Maintain Wildlife Habitat and Corridors

Implementation Tools	Collaborators
T.5.1. Maintain minimum corridor width for large animal species.	AZG&F, Forest Service, State Land Dept
T.5.2. Develop ecosystem study areas and other environmental education sites.	AZG&F, Forest Service, State Land Dept, NPS, School District
T.5.3. Develop wildlife viewing areas.	AZG&F, Forest Service, NPS
T.5.4. Develop and distribute information on wildlife.	AZG&F, Forest Service, NPS
T.5.5. Close certain open space areas, roads and trails to public use for limited seasonal times to protect wildlife.	AZG&F
T.5.6. Maintain some non-roaded, non-trail areas for wildlife habitat.	Forest Service, State Land Dept, AZG&F
T.5.7. Encourage landscaping to support resident birds, small mammals and native species populations.	AZG&F, Forest Service
T.5.8. Retain large dead trees and replacement of these trees to provide habitat for certain animal species.	AZG&F, Forest Service, State Land Dept
T.5.9. Retain large dead logs on the ground as habitat for certain animal species.	AZG&F, Forest Service, State Land Dept
T.5.10. Manage road and trail densities and recreation in High Quality Wildlife Habitat and corridors so that impact on wildlife is minimized, mitigated or avoided.	AZG&F, Forest Service, State Land Dept
T.5.11. Educate homeowners near open space on potential conflict/opportunities with wildlife.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.5.12. Close areas to dispersed camping where appropriate.	Forest Service, State Land Dept
T.5.13. Maintain connected patches of dense cover for wildlife within travel corridor areas.	Forest Service, State Land Dept, AZG&F
T.5.14. Undertake a process for management of wildlife viewing areas that addresses safety, security and health of wildlife and people.	AZG&F

**Table A1-6**

**Recommended Policy 6**

**Reduce Wildland Fire Potential and  
Use Prescribed Fire to Improve Ecosystem Health**

Implementation Tools	Collaborators
T.6.1. Use prescribed maintenance underburning.	Forest Service, State Land Dept, NPS, PFAC
T.6.2. Use thinning, piling and burning of slash materials to reduce potential losses of forest resources from fire.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.6.3. Work with the Ponderosa Fire Advisory Council to develop a road access system for public safety and fire-suppression vehicles.	Forest Service, AZG&F, State Land Dept, City, County, NPS, private property owners
T.6.4. Develop residential construction materials and defensible space guidelines to mitigate the potential of loss from fire.	City, County, private property owners
T.6.5. Make provisions for adequate water sources for fire suppression.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.6.6. Continue interagency partnerships in fire management.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.6.7. Continue to educate the public about fire ecology and safety and the potential for loss from fire.	Forest Service, AZG&F, State Land Dept, City, County, NPS, private property owners and dwellers
T.6.8. Use lightning-ignited prescribed fire to meet management objectives and improve ecosystem health.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.6.9. Use human-ignited prescribed fire to meet management objectives and improve ecosystem health.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.6.10. Use a variety of fire management tools to suppress and mitigate fires.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.6.11. Establish a panel of agents and interested citizens to approve proposed fire reduction proposals on specified properties.	Forest Service, AZG&F, State Land Dept, City, County, NPS and interested citizens

Table A1-7

## Recommended Policy 7

## Provide Recreation Opportunities

Implementation Tools	Collaborators
T.7.1. Pursue target- shooting facilities.	AZG&F & private enterprise
T.7.2. Designate areas for off-highway vehicles that are separated from non-motorized trail uses.	Forest Service
T.7.3. Provide campground facilities with water.	Forest Service, NPS or concessionaire
T.7.4. Provide campground facilities without water.	Forest Service, NPS or concessionaire
T.7.5. Provide dispersed primitive camping.	Forest Service, State Land Dept, NPS
T.7.6. Provide outfitter guide opportunities where appropriate.	Forest Service, State Land Dept, NPS
T.7.7. Undertake a process to set guidelines and upper-use limits for group sizes and frequency of events and activities. Manage for healthy vegetation and soil conditions and desired recreation experience	Forest Service, the public
T.7.8. Construct new trails and maintain existing trails.	Forest Service, City, County, State Parks Dept, the public, user groups
T.7.9. Consider establishing recreational user cost-recovery fees, or impact fees, to supplement the cost of maintaining the values and resources on the land, particularly for high-impact user groups.	OSGW Coalition, Forest Service, State and US Congress
T.7.10. Provide other recreation facilities, such as fishing, hunting and boating, where appropriate.	Forest Service, AZG&F, State Land Dept, City, County, NPS, the public, user groups
T.7.11. Establish and manage certain lands as parks and developed recreation areas.	Forest Service, AZG&F, State Land Dept, City, County, NPS, the public, user groups
T.7.12. Continue existing partnerships and develop new partnerships to construct and/or maintain trails and corridors or recreational facilities.	Forest Service, AZG&F, State Land Dept, City, County, NPS, Neighborwoods associations, OSGW Coalition
T.7.13. Continue existing programs and establish new programs of community volunteers to develop, construct and maintain trails and other recreational use areas and facilities.	OSGW Coalition, Forest Service, AZG&F, State Land Dept, City, County, NPS, Neighborwoods associations

**Table A1-7 (continued)**

**Recommended Policy 7**

**Provide Recreation Opportunities**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.7.14. Designate trailhead access points and close secondary or redundant access points.	Forest Service, OSGW Coalition, Neighborhoods associations
T.7.15. Educate residents that living near a forest means that public use is nearby and accessibility is important.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition, homeowners associations
T.7.16. Publish and distribute brochures as a means to reach and inform the public.	All agencies, OSGW Coalition
T.7.17. Intensive use of any type should be accompanied by direct assistance from the users along with other methods to sustain lands for future generations' enjoyment and to prevent irreparable damage.	Forest Service, AZG&F, the public, user groups
T.7.18. Recruit Neighborhoods stewards.	Forest Service, OSGW Coalition
T.7.19. Develop joint regional planning to address needs of mutual concern, such as long- distance trails, winter recreation sites and activities, camping sites and facilities, major educational and recreational events, and outfitter guide use areas.	OSGW Coalition, Forest Service, the public, user groups
T.7.20. Construct new trails that meet desired objectives. For example, multiple-use trails may be wider than traditional Forest Service trail widths.	Forest Service, County, City, State Land Dept & Parks
T.7.21. Manage for a semi-primitive recreation experience by limiting roads and trails.	Forest Service
T.7.22. Provide parking/staging areas with facilities.	Forest Service, County, City
T.7.23. Manage for a primitive setting by closing most roads and trails.	Forest Service
T.7.24. Use shuttle or van tours to reduce traffic congestion where needed.	NPS, private business owners, Forest Service
T.7.25. Promote community programs and means to drive the elderly, infirm, and disabled to the open spaces through van tours and other means.	County, Forest Service, NPS, AZG&F
T.7.26. Educate people about the importance of controlling pets, and enforce leash regulation or pet prohibition where appropriate to protect wildlife and/or wildland experiences for people.	OSGW Coalition, Forest Service, AZG&F, State Land Dept, City, County, NPS

Table A1-8

## Recommended Policy 8

## Reduce Conflict Between and Among Recreation Users

Implementation Tools	Collaborators
T.8.1. Actively manage recreation activities to reduce conflict among users.	Forest Service
T.8.2. Develop and provide educational materials and signs on trail user etiquette.	Forest Service, State Parks Dept
T.8.3. Enforce current hunting and target-shooting restrictions near urban areas	AZG&F, City, County
T.8.4. Provide adequate facilities to meet recreation demand.	Forest Service, County, City
T.8.5. Inform users of open space responsibilities and potential dangers of concurrent or conflicting use, such as hunting and hiking.	AZG&F
T.8.6. Establish seasonal closures where and when needed to reduce conflict between users.	AZG&F, Forest Service, State Land Dept
T.8.7. Review where and how hunting is permitted in the immediate vicinity of Flagstaff.	AZG&F
T.8.8. Disperse and, where feasible, separate recreational use throughout the area.	Forest Service
T.8.9. Support efforts to establish a shooting range.	OSGW Coalition, City, County, Forest Service, NPS, State Land Dept
T.8.10. Strengthen hunting and shooting restrictions where appropriate.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.8.11. Inform recreationists about the importance of closing livestock grazing gates.	Forest Service, AZG&F

**Table A1-9****Recommended Policy 9****Provide an Adequate and Appropriate Roadway Network  
with Minimal Impacts on Open Space Resources**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.9.1. Adopt a policy of "Closed Unless Designated Open" roadways to discourage uncontrolled access.	Forest Service
T.9.2. Reduce overall miles of roads through elimination and/or gating.	Forest Service, County, State Land Dept
T.9.3. Upgrade or maintain primary road corridors for two-wheel drive.	Forest Service, County, State Land Dept
T.9.4. Construct new roadways where appropriate in conformance with Plan recommendations.	Forest Service, County
T.9.5. Gate roadways during critical seasonal periods for protection of	Forest Service, AZG&F
T.9.6. Gate roadways during wet and muddy conditions to prevent erosion.	Forest Service
T.9.7. Construct parallel, but separate, trail corridors along new roadways.	Forest Service, County, City
T.9.8. Relocate roadways where appropriate in conformance with Plan recommendations.	Forest Service, County
T.9.9. Convert secondary roads to trails.	Forest Service
T.9.10. Provide education on the importance of "tread lightly" and staying on designated roads and trails.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.9.11. Identify alternative sources of funding for road maintenance.	All agencies, private/public collaboration
T.9.12. Identify trailheads on maps and at sites.	Forest Service, County, City, NPS
T.9.13. Increase road maintenance frequency to support high use areas such as Lockett Meadow	Forest Service
T.9.14. Identify two-wheel drive main forest roads (Level III) for each landscape district.	Forest Service
T.9.15. Establish a shuttle system on Snowbowl Road when visitor safety and experience become compromised.	Forest Service, business owners
T.9.16. Identify maintenance levels on high-clearance vehicle roads (Level II).	Forest Service
T.9.17. Identify OHV opportunities through a process that incorporates recommendations and produces a managed trail system.	Forest Service, public recreation groups

**Table A1-10****Recommended Policy 10****Protect Cultural and Historic Resources**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.10.1. Provide the public information about cultural, historic, and pre-historic resources.	Forest Service, AZG&F, State Land Dept, City, County, NPS, MNA, OSGW Coalition
T.10.2. Establish a site stewards program to protect important sites.	Forest Service, OSGW Coalition
T.10.3. Use trails to promote historic travelways.	Forest Service, County, City, NPS
T.10.4. Support efforts to protect archaeological, paleontological, or historic resources through conservation easements or purchases.	Forest Service, AZG&F, State Land Dept, City, County, NPS, private/public collaboration
T.10.5. Protect unique sites through road and trail management signage and educational programs.	Forest Service, AZG&F, County, City, NPS
T.10.6. Survey and pursue designation of significant cultural and historic resources.	Forest Service, MNA, NPS, State Land Dept, City, County
T.10.7. Pursue funding for preservation of historic sites related to transporta-	ADOT, Forest Service, AZG&F, State Land Dept, City, County, NPS, preservation associations
T.10.8. Continue to provide for traditional American Indian uses.	Forest Service, NPS

**Table A1-11**

**Recommended Policy 11**

**Continue Economic Uses of Open Spaces  
that are Compatible with Preservation Uses**

Implementation Tools	Collaborators
T.11.1. Undertake a process to identify appropriate mining, timber production, grazing, and other forest commodity uses in keeping with open space objectives.	Forest Service
T.11.2. Establish programs to maintain or progress toward desired healthy forest conditions by allowing thinning, protection of mature yellow ponderosa pine trees, re-introduction of fire and promotion of native species diversity. Products resulting from management of the land include firewood, wood furniture, wood for art, trees for landscaping, and wood for paper and houses.	Forest Service, State Land Dept, NPS, PFAC
T.11.3. Government and private entities should undertake a process to evaluate and select aggregate source material sites for community infrastructure and home building needs.	Forest Service, County, City
T.11.4. Provide firewood gathering opportunities.	Forest Service, State Land Dept
T.11.5. Permit beekeeping, professional photography and other non-extractive commercial uses in keeping with open space objectives.	Forest Service, State Land Dept
T.11.6. Provide opportunities for piñon nut gathering.	Forest Service, State Land Dept

**Table A1-12****Recommended Policy 12****Provide Opportunities for Research and for  
Environmental Education and Interpretation to the Public**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.12.1. Remove seasonal signs in a timely manner.	Forest Service, AZG&F
T.12.2. Provide educational and interpretive signage at riparian, historic, vegetative, and wildlife viewing sites.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.12.3. Provide education about cultural, historic and pre-historic resources.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.12.4. Form partnerships between the Forest Service and State Land Department with educational institutions for outdoor classrooms, research sites, etc., in return for maintenance costs.	Forest Service, State Land Dept, School District, NAU, Coconino Community College
T.12.5. Designate environmental study areas (outdoor classrooms) on open space lands and manage these areas in partnership with the Flagstaff Unified School District and other educational institutions.	Forest Service, AZG&F, State Land Dept, City, County, NPS, MNA, School District, NAU, Coconino Community College
T.12.6. Promote research activities on National Forest and State Trust lands.	Forest Service, State Land Dept, private and public research institutions

**Table A1-13**

**Recommended Policy 13**

**Establish Long-Term Organizational Structure  
to Implement the *Open Spaces and Greenways Plan***

Implementation Tools	Collaborators
T.13.1 Establish indicators to measure progress made in implementing the <i>Open Spaces and Greenways Plan</i> and prepare a reporting schedule.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.13.2. Establish a local open spaces coalition with governmental and citizen representation to advise and aid the greater Flagstaff area governmental entities on preservation issues and implementation of the <i>Open Spaces and Greenways Plan</i> .	OSGW Committee, Forest Service, AZG&F, State Land Dept, City, County, NPS
T.13.3. Establish an open spaces and greenways land trust to maintain and acquire lands and solicit funds for projects.	OSGW Coalition, private/public collaboration
T.13.4. Reassess and revise, as needed, open space category descriptions and map application.	OSGW Coalition, the public
T.13.5. Consult the <i>Open Spaces and Greenways Plan</i> when establishing new or different land management practices and land uses, rezoning, annexing, providing lease or permits or extending leases and renewing permits.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.13.6. Establish and maintain a coordinated GIS system on open spaces and greenways.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition

Table A1-13 (continued)

## Recommended Policy 13

**Establish Long-Term Organizational Structure  
to Implement the *Open Spaces and Greenways Plan***

Implementation Tools	Collaborators
T.13.7. Support a statewide conservation advisory committee to advise and aid the State Land Department on preservation issues and in the evaluation of additional Trust lands proposed for preservation.	OSGW Coalition
T.13.8. Form partnerships among governmental agencies or between agencies and private entities to maintain and protect open spaces and provide and maintain linkages and recreational facilities.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.13.9. Enter into an agreement for the implementation and role responsibility of each governmental agency involved in development of the <i>Open Spaces and Greenways Plan</i> .	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.13.10. Educate the public about the <i>Open Spaces and Greenways Plan</i> , State Trust lands, and management policies of the Forest Service and the Game & Fish Department.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.13.11. Develop agreements between agencies for cooperative management of open space lands, such as ownership by one agency and management of a use or activity by another.	Forest Service, City, County, AZG&F
T.13.12. Reassess, revise, and recommend to the Forest Service boundary expansion of areas in the <i>Open Spaces and Greenways Plan</i> .	OSGW Coalition

**Table A1-14**

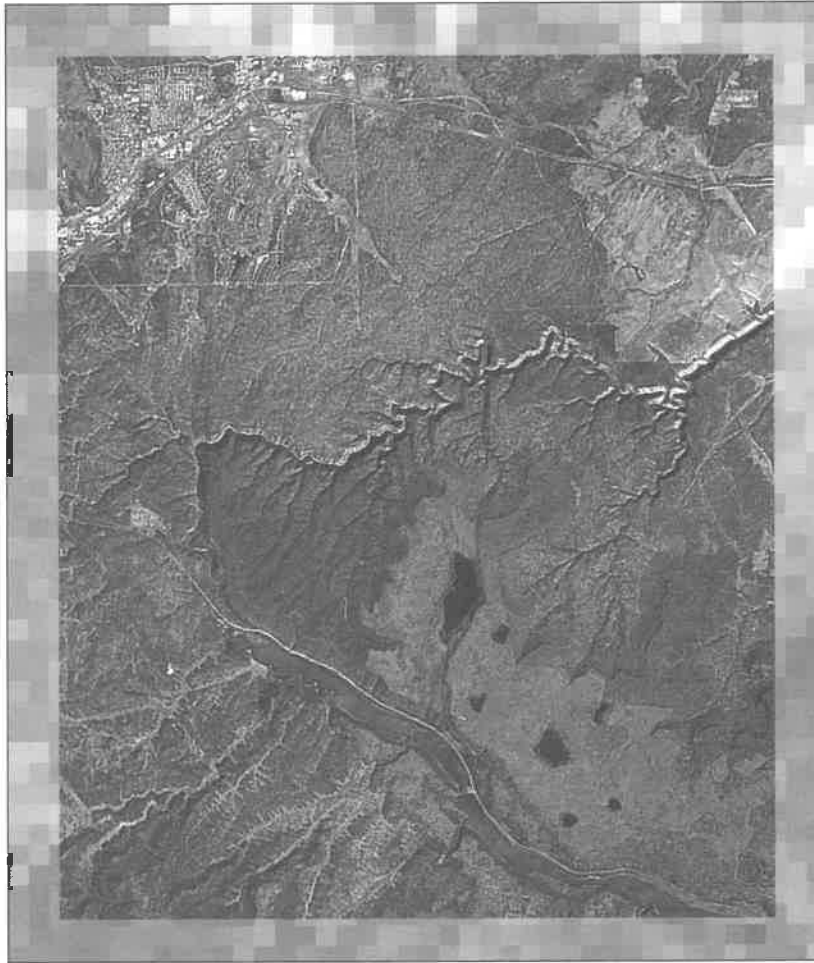
**Recommended Policy 14**

**Establish Information, Education and Personal Contacts  
to Gain Compliance with Necessary Restrictions or Regulations**

Implementation Tools	Collaborators
T.14.1. Establish more visitor personnel contact to provide more personalized service with recreation users.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.14.2. Support local, state, county and federal law enforcement cooperative partnerships.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.14.3. Provide signs, pamphlets, and public service announcements explaining reasons for policies, rules and regulations.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.14.4. To augment patrol services, enlist large groups to enforce their permit requirements.	Forest Service, AZG&F, State Land Dept, City, County, NPS, permittees
T.14.5. Encourage "block watch"-type organizations or Neighborhoods associations to adopt Neighborhoods.	Forest Service, OSGW Coalition, residents
T.14.6. Recruit volunteer land stewards.	Forest Service, OSGW Coalition, residents

**Table A1-15****Recommended Policy 15****Improve Agency Efficiency and Responsiveness Through Cooperation**

<b>Implementation Tools</b>	<b>Collaborators</b>
T.15.1. Establish open spaces and greenways rules and responsibilities that are consistent among all agencies.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.15.2. Increase understanding of each agency's laws and processes.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition
T.15.3. Foster citizens groups for better understanding of the laws, processes and missions of the agencies.	Forest Service, AZG&F, State Land Dept, City, County, NPS, OSGW Coalition, user groups, residents
T.15.4. Develop new expertise where needed.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.15.5. Share existing expertise between agencies. Develop a bank of skills.	Forest Service, AZG&F, State Land Dept, City, County, NPS
T.15.6. Foster and use private sector expertise such as the Native Plant Society.	Forest Service, AZG&F, State Land Dept, City, County, NPS, special-interest organizations
T.15.7. Identify and use temporary work forces that use all types of human resources.	Forest Service, AZG&F, State Land Dept, City, County, NPS, public and private volunteer organizations



*This view from space of Walnut Canyon was taken by a Landsat Thematic Mapper™ satellite in May 1993. A number of prehistoric archaeological sites are located in Walnut Canyon National Monument, and many people use the area for Primitive and Semi-primitive experiences.*

# Appendix Two

## Implementation Agencies and Processes

### Agency Mandates, Missions and Jurisdictions

Described below are the missions and legal and regulatory mandates of 11 public agencies in or near Flagstaff. The agencies are presented in two categories: those directly and those indirectly involved in developing and managing open space lands. Discussed for each agency, if applicable, are the types of lands it manages in the Flagstaff area, its policies on public access to and use of lands, as well as its processes of land acquisition, disposal, and planning.

#### Agencies Directly Involved in Developing and Managing Open Spaces and Greenways

##### Arizona Game and Fish Department (AZG&F)

The mission of the Arizona Game and Fish Department is “to conserve, enhance, and restore Arizona’s diverse wildlife resources and habitats through aggressive protection and management programs and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.” The Arizona Game and Fish Commission, composed of five members appointed by the Governor, establishes policies for carrying out the department’s mission.

Under Arizona law, the Arizona Game and Fish Department is responsible for managing all wildlife in the state. The AZG&F has primary responsibility for population management, and the land management agencies have primary responsibility for habitat management. In practice, however, wildlife management is cooperative with land management. That is, land management agencies, such as the Forest Service, advise and cooperate with the AZG&F on population management, and the department advises and cooperates with the land management agencies on habitat management.

The Region II offices of the department’s Field Operations Division is located in Flagstaff. This region includes approximately 11 game management units that cover a large part of Northern Arizona surrounding Flagstaff. This regional office administers programs such as fisheries, wildlife management, habitat management, law enforcement, information and education, and watercraft and off-highway vehicle enforcement activities.

Throughout Arizona, the AZG&F owns 26,092.63 acres of deeded land. Lands managed or owned by the department are usually open to the general public. The AZG&F does not charge fees for use of these lands. In some areas, however, the department may restrict activities such as camping, hunting, and fishing. The best known of the department properties near Flagstaff are the Lamar Haines Wildlife Area north of Flagstaff on the San Francisco Peaks and the Raymond Wildlife Area southeast of Flagstaff. The Lamar Haines Wildlife Area and the Regional Headquarters facility lie within the *Open Spaces and Greenways Plan* area.

The Game and Fish Department can acquire lands by purchase, lease, exchange, gift or condemnation. The department acquires property only from “willing sellers” – those who request that the department consider acquiring their property. Acquired lands are used for fish hatcheries, shooting ranges, fish and wildlife habitat or office sites. The department can also sell lands, but typically it does not do so. If the department does sell property, it usually reserves mineral rights and public access for hunting and fishing on the property.

The AZG&F has drafted a *Wildlife 2000 Strategic Plan* to carry out the wildlife portion of its mission from 1996 through the year 2000. Strategic plans are five-year plans used in the department for general guidance on

management of wildlife and department activities. Public input is sought when strategic plans are written. Public input is solicited for each year's hunting seasons and whenever a change in a regulation is proposed. Partnerships have been forged with federal, state, and local resource agencies; other government bodies; private organizations; and the general public through cooperative projects and planning. One partnership strategy presented in the draft *Wildlife 2000 Strategic Plan* is that the department link its plan with the plans of land management agencies, counties, cities and other land owners so that these agencies and the AZG&F can coordinate their goals and objectives. The department's involvement with the Flagstaff Open Spaces Coalition is an objective of this AZG&F plan strategy.

Department management programs related to Flagstaff's open spaces and greenways include law enforcement; game, non-game, fisheries and habitat management; and information and education. During the planning process for and after acceptance of the *Open Spaces and Greenways Plan*, the AZG&F Region II will hold several public meetings to discuss management of wildlife and the department's other responsibilities within open spaces and greenways. Possible topics of discussion include at least the following: fisheries management, design of hunts, non-game programs, wildlife viewing, habitat maintenance and development, and information and education programs.

In addition to the opportunities for making recommendations to the AZG&F during this process, anyone may make input to the department or to the AZG&F Commission through the normal strategic planning process or during the yearly cycle of regulation development.

### **Arizona State Land Department**

The mission of the Arizona State Land Department is to administer Arizona's 9.4 million acres of State Trust lands to produce the highest revenue yield for the State's public institution beneficiaries. The department deposits funds derived from the sale of lands or royalties from natural products on lands into a permanent fund, and the State Treasurer invests revenues from this fund in interest-bearing securities. The department deposits funds derived from fees for Trust land leases

and permits, interest from sale contracts and interest earned from permanent fund investments into an expendable fund. Trust beneficiaries may use these expendable fund revenues directly.

The department designates State Trust lands as Urban Trust lands when they adjoin existing commercial and residential properties and are either within or adjacent to the corporate boundary of a city or town. State Trust lands within one mile of a city or town with a population of less than 250,000, or within three miles of a city or town with a population of more than 250,000, are considered Urban Trust lands. According to the State Land Department's 1993-1994 Annual Report, about 9,231 acres of Urban Trust lands exist in the Flagstaff area.

State Trust lands, including Urban Trust lands, are not open for use by the general public. Although public use of Trust lands is not prohibited, it is regulated to protect the lands and reimburse beneficiaries for their use. Existing utility corridors may be used for public trails.

The State Land Department may issue easements and rights-of-way through public auction. The department disposes of lands by sale or lease at no less than the appraised fair market values. Sales and leases in excess of 10 years are advertised then awarded through public auction to the highest and best bidder. Leases of 10 years or less may be issued without public auction. No State Trust lands can be mortgaged or encumbered in any way.

The department's Urban Planning Division manages the land use planning and zoning of Urban Trust lands. The Urban Lands Act of 1981 established a new framework to increase the sale and lease values of Trust lands in urban areas through quality land use planning and local rezoning prior to implementation of urban plans. As part of this framework, the division works closely with local communities and other agencies to merge local development policies with the long-term highest and best uses of Urban Trust properties. During this process, the department includes in its development plan Trust lands designated for public uses by the general plans of municipalities. Provisions must then be made for municipalities to acquire these lands because, by law,

the State Land Department cannot give away Trust lands for any public use.

With the passage of the Arizona Preserve Initiative by the State Legislature, certain State Trust lands can now be designated for conservation purposes if they meet certain criteria and if it is in the best interest of the Trust. This allows entities or a group of individuals to go to auction to purchase or lease the lands for up to 50 years for conservation purposes. There is an optional temporary period during which the Land Commissioner can withdraw the reclassified lands from development application so that a management plan can be prepared and monies can be raised for acquisition. Except for Maricopa County (and eventually Pima County), one drawback is that only lands within a three-mile radius of an incorporated city over 10,000 in population are eligible for such a designation. Additionally, to date, no state funding has been allocated to a recently approved public/private matching grant program for acquisition of these lands.

### **City of Flagstaff**

The City of Flagstaff has a Council-Manager form of government and has the powers granted to municipal corporations and cities by the Constitution and laws of the State of Arizona.

The City may acquire property by purchase, gift, devise, lease, or condemnation. The City may also sell, lease, exchange, mortgage, hold, manage, and control property. Historically, the City has been very judicious in its use of its condemnation powers.

Flagstaff's *Growth Management Guide 2000* (GMG 2000), adopted in 1987, is intended to guide and coordinate physical growth and development within the corporate limits of the city. This guide is long-range, covering a period of 20 years or more. It is also comprehensive, encompassing all geographic areas of the community of about 65 square miles. It includes all functional elements involved with physical development, such as designation of land uses and community form, water and sewer, transportation, community facilities, parks, schools, fire stations, and drainages.

The concept of open spaces and greenways is one of the central coordinating land use elements of the GMG 2000. Open spaces and greenways are visualized as a network of public, quasi-public and private lands throughout the

city. According to the GMG 2000, open space is important because it enhances the community's quality of life by serving as a land resource, conserving unique natural areas, preserving flood plains, providing recreational and transportation corridors, and providing a system of control in building development patterns. The City has an urban service boundary and its area consists of 11.25 square miles of undeveloped land. The intent is to use the urban service boundary as a tool to guide growth and to provide facilities and services to accommodate urban development.

Beyond the urban service boundary to the city limits, there are 6.0 square miles of undeveloped land. Between the urban service boundary and city limits there are 22.9 square miles of designated open space/greenbelt on the Land Use Plan of the GMG 2000.

In its GMG 2000, the City recognized that most publicly held lands close to the city would eventually transfer to private interests. Therefore, the City also recognized that, if it did not embark on a program of preserving quality open space, much of its perceived open space would be only temporary in nature.

These realizations resulted in the City's joining forces with other governmental jurisdictions and land managers to implement the goals and objectives of the GMG 2000 through preparation of the *Open Spaces and Greenways Plan*. Agencies involved in developing this plan included the City of Flagstaff as the lead agency; the Forest Service, the Arizona State Land Department, the Arizona Game and Fish Department, Coconino County and the National Park Service.

### **Coconino County**

In its Mission Statement, Coconino County commits "to serve conscientiously our community and citizens in a changing world; to provide the most effective and efficient delivery of services; to be sensitive to the needs of all citizens; and to protect, preserve, and care for our environment." The County carries out this mission through the actions of a five-member elected Board of Supervisors.

Coconino County covers 11,887,000 acres. Private lands make up 14 percent of this total; Indian Reservations 37 percent; State of Arizona lands 9 percent; and federal lands, including Forest Service, Park Service and Bureau of Land

Management, 40 percent. The County manages two parks near Flagstaff: Fort Tuthill County Park west of Interstate 17 near the Flagstaff Airport and Raymond Park at Kachina Village. Raymond Park is used primarily by neighborhood residents. Fort Tuthill is a 355-acre regional park that is used heavily by both city and county residents. The park includes picnic grounds and ramadas, a campground, a track and stadium used for horse racing and shows, and the county fairgrounds. Expansion through acquisition of State Trust lands is currently under way.

The County can acquire lands through purchase, gift, dedication (for example, rights-of-way) and condemnation, and can acquire use of lands through easements. Historically, the County has acquired land only through purchase from willing sellers or through dedication or gift.

The County's *Comprehensive Plan* provides goals and policies designed to bring about orderly growth and well-planned development that will protect the County's natural features and environment while encouraging economic development. The *Comprehensive Plan* applies to all areas of the County except incorporated cities and towns and Indian Reservations. Although the County has very limited jurisdiction over state and federal lands, many of the *Comprehensive Plan's* policies are designed to protect the integrity of these lands. Specifically, these policies include maintaining open space zoning for federal public lands and actively participating in the land and natural resource planning and management of state and federal agencies administering public lands within the County.

In addition, the *Comprehensive Plan* identifies areas and resources that warrant special attention relating to land uses and development. These areas and resources include national parks, monuments and recreation areas; wildernesses; historical and cultural resources; and astronomical observatories. The *Comprehensive Plan* also presents policies to protect natural resources in the County, including water quantity and quality, air quality, vegetation, wildlife and aesthetics.

Supplementing the *Comprehensive Plan* are a number of special area plans that contain more detailed policies designed to guide growth in specific areas. Special area plans in the Flagstaff area include plans for Doney Park, Fort Valley,

Mountaineer, and Bellemont. These plans are implemented through decision-making processes at the Board of Supervisors and the Planning and Zoning Commission, which carefully consider the goals and policies of the special area plans in addressing zoning changes, subdivisions, and conditional use permits.

### **Forest Service, United States Department of Agriculture**

The phrase "Caring for the Land and Serving the People" captures the spirit of the Forest Service mission. As set forth by law, the Forest Service's mission is to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of people. This mission includes:

- Advocating a conservation ethic in promoting the health, productivity, diversity, and beauty of the forest and associated lands.
- Listening to people and responding to their diverse needs in making decisions.
- Protecting and management the National Forest and grasslands so they best demonstrate the sustainable multiple-use management concept.
- Providing technical and financial assistance to State and private forest land owners, encouraging them to practice good stewardship and quality land management in meeting their specific objectives.
- Providing technical and financial assistance to cities and communities to improve their natural environment by planting trees and caring for their forest.
- Providing international technical assistance and scientific exchange to sustain and enhance global resources and to encourage quality land management.
- Helping states and communities to use the forest wisely to promote rural economic development and a quality rural environment.
- Developing and providing scientific technical knowledge aimed at improving the Forest Service's capability to protect, manage, and use forest and rangelands.
- Providing work, training, and education to the unemployed, underemployed, elderly, youth, and disadvantaged.

The Coconino National Forest surrounds Flagstaff and covers approximately 1,821,500 contiguous acres over portions of three counties: Coconino, Yavapai, and Gila. Lands of the Coconino National Forest are open for public use. The Forest Service designates areas for certain uses and requires permits or charges fees or both, for some uses.

Because the national forests are available for public use, the Coconino National Forest provides a wide variety of benefits to people in the Flagstaff area. For example, the Forest Service offers Congressionally-designated Wildernesses and many outdoor recreational opportunities; commercial uses such as domestic livestock grazing, harvesting of wood products and mineral extraction; and smaller commercial uses such as photography, beekeeping and outfitter/guides. In addition, individuals use the forests to gather firewood, trees, rocks and piñon nuts.

The Forest Service may acquire lands through land exchanges, purchases or donations. Generally, lands are acquired to consolidate land ownership, maintain public, and administrative access to Forest Service lands and manage resources efficiently. Lands are also leased for certain purposes such as livestock grazing.

Maintaining the long-term health and sustainability of forest ecosystems is a major management goal of the Forest Service. The Forest Service therefore strives to manage ecosystems so that they remain resilient and diverse in composition, structure and function, plant and animal species and communities, and the processes that connect ecosystem elements through time. For example, fire is an integral part of forest ecosystems in the Flagstaff area. Therefore, the Forest Service uses prescribed (controlled) burning to increase fire's natural role in forests and to reduce the risk of catastrophic wildfire, especially at urban/forest interfaces. The Forest Service also protects cultural resources on Forest Service lands. In working toward all these management objectives, the Forest Service approves actions on National Forest lands in accordance with laws designed to protect and maintain sensitive species; cultural resources; and soil, water and air quality.

Because conflicts often occur between forest uses or between the long-term health and uses of areas, the Forest Service includes public participation as a major part of its management planning. Public participation helps ensure that forests benefit local communities and regions as well as the national public.

The Coconino National Forest, like all national forests, prepares and implements a forest plan as required by the Renewable Resources Planning Act as amended by the National Forest Management Act. Several of these principles relate to concepts in Flagstaff's open spaces and greenways planning. They include preserving important historic, cultural, and natural aspects of our national heritage; providing for the safe use and enjoyment of forest resources by the public; coordinating with land and resource planning efforts of other federal agencies, state and local governments and Indian Tribes; and responding to the changing conditions of land and other resources and to changing social and economic demands of the American people.

The *Coconino Forest Plan (Forest Plan)* directs management activities on Forest Service lands within the *Open Spaces and Greenways Plan* area. The Coconino National Forest will amend its *Forest Plan* to address the needed changes. This process will require returning to the public with a proposal for change. It is important for the Forest Service to focus its limited dollars and personnel on the greatest need for change. The Forest Service has heard from a variety of sources that the land exchange program and management of lands surrounding Flagstaff and adjacent communities are the two topics that need immediate attention.

The Coconino National Forest is now starting a NEPA analysis to amend its *Forest Plan*. The NEPA analysis will identify a desired condition, with the aid of public input, and then identify a set of proposed actions as a means to attain the desired condition. The public will be asked to comment on the proposed actions. Next, the Forest Service will create alternatives to the proposals based on more public comment and will publish the effects of implementing the different potential courses of action. Again, the Forest Service will ask for public comment. This input will be considered while the Forest Service selects a specific course of action to implement.

### **National Park Service, United States Department of the Interior**

Congress created the National Park Service in the Department of the Interior to “promote and regulate areas known as national parks, monuments, and reservations...by such means and measures as conform to the fundamental purpose of said parks, monuments and reservations.” The purpose of these lands is “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” This two-fold mission statement directs the National Park Service to allow public access, but to do so in a way that causes minimal or no impact on resources within National Park Service boundaries.

There are three National Monuments near Flagstaff: Walnut Canyon, Sunset Crater Volcano, and Wupatki. These units are managed collectively as the Flagstaff Areas of the National Park Service.

Walnut Canyon National Monument lies within one mile southeast of Flagstaff and, with the boundary change in 1996, now includes more than 3,200 acres. Its primary purpose is to preserve and interpret numerous sites of the prehistoric Sinagua culture, located in canyon cliffs and on the rim of Walnut Canyon. The monument includes only a portion of the Walnut Canyon geologic system; much of the canyon itself lies on Forest Service land.

Sunset Crater Volcano National Monument lies approximately 12 miles north of Flagstaff off of Highway 89 and includes 3,040 acres. It was set aside primarily to preserve an extinct 1,000-foot-high cinder cone and the surrounding black lava and cinder fields. It also interprets the dramatic effects that the volcanic eruption must have had on the prehistoric people living near its base.

Wupatki National Monument is 35 miles north of Flagstaff off of Highway 89 and contains more than 35,000 acres. Its primary purpose is to preserve more than 2,600 pre-historic and historic archeological sites, primarily of the Sinagua and Anasazi cultures.

All three monuments are open to the public year-round. An entrance fee is charged, and restrictions are enforced on uses such as collecting of resources, hunting, off-road vehicle travel, and camping. Some areas of the monu-

ments are closed to public entry to preserve fragile resources .

The National Park Service can acquire land through purchase, exchange, lease, gift, or condemnation. Generally, however, lands are acquired from “willing sellers.” Legislative action is often required in land acquisition or disposition. Acquiring land outside the monuments’ legislated boundary, disposing of lands inside the boundary or effecting an exchange involving land within the boundary are all examples of actions that would require Congressional action. A gift of land within the boundary could likely be accommodated without legislative action if the land were specified in the enabling (original) legislation. If the gift is land outside the boundary, a third party would likely need to accept the land initially. Leasing of land is described by National Park Service officials as an unlikely option relative to the *Flagstaff Open Space and Greenways Plan*. Easements on private property are possible but would generally be considered only on lands within the legislated boundary such as an inholding. In most cases, easements require some degree of compensation to the landowner and would not be considered for lands outside the monument boundary.

Management, planning and development decisions and actions for these monuments must comply with a variety of acts, executive orders, laws, and guidelines. These include the Antiquities Act, National Park Service Organic Act, National Historic Preservation Act, American Indian Religious Freedom Act, Native American Grave Repatriation Act, Archeological Resources Protection Act, and National Environmental Policy Act.

General management objectives for Walnut Canyon, Sunset Crater Volcano, and Wupatki National Monuments include preserving and maintaining the natural and cultural resources of the monuments; providing visitors with educational, enjoyable and enlightening monument visits; encouraging continued non-destructive research programs that will provide managers with guidance needed to perform accurate and informative interpretation of natural and cultural aspects of the monuments; and close cooperation and consultation with the Hopi and Navajo nations, Forest Service, other federal agencies, the State of Arizona, Coconino County, and the City of Flagstaff, as well as private organizations and entities to provide programs for natural and

cultural preservation and outdoor recreation in the surrounding region.

The Flagstaff Areas of the National Park Service entered into a General Management Plan process beginning in 1997. This document will provide long-range guidance to managers. Included in this plan is a "Visitor Experience and Resource Protection" process that will provide managers with new information on visitor expectations and activities and how they relate to resource management within the monuments.

Specific planning documents for each monument include the following: a Resource Management Plan, Wildland Fire Management Plan, Interpretive Prospectus, Comprehensive Interpretive Plan, Ethnographic Overview, Strategic Plan and Land Protection Plan.

### **Agencies Indirectly Involved in Developing and Management Open Spaces and Greenways**

#### **Arizona State Parks and the State Historic Preservation Office**

The mission of Arizona State Parks is "to select, acquire, preserve, establish, and maintain areas of natural features, scenic beauty, and historical and scientific interest, zoos, and botanical gardens for the education, pleasure, and health of the people and for other such purposes as may be described by law."

One state park exists in Flagstaff: Riordan State Historic Park. This park covers about five acres on the west side of the city and features two adjoining homes built in 1904 by two brothers of the Riordan family, once prominent in Flagstaff. The park is open to the public for a fee and according to certain schedule, access and activity restrictions.

The State Parks Board may acquire land for park or monument purposes through purchase, lease-back agreements, donations, grant bequests, eminent domain, trades, exchanges, life-tenancy agreements, less-than-fee acquisitions, and special use and conservation easements. In general, Arizona State Parks manages its parks and monuments so that a balance is maintained between protecting recreational resources from overuse or other damage and making them adequately available to the general public.

In addition, the State Parks Board follows these six historical/cultural zone management objectives: (1) to conserve the historic site and preserve the integrity of the site's historic buildings, artifacts and grounds; (2) to provide personnel, funding, improvements and facilities necessary to successfully operate, maintain and administer the park; (3) to maintain the site for public enjoyment by providing educational, interpretive and cultural programs and opportunities; (4) to monitor and work with adjoining landowners to address development and non-park use that could adversely affect the park; (5) to actively promote the park by communicating with government, business and community individuals and by encouraging public awareness of the site and participation in projects of mutual interest; and (6) to assist Arizona State Parks in its efforts to achieve self-sufficiency by promoting revenue-generating activities, maximizing attendance and ensuring that the park operates efficiently.

The State Historic Preservation Office is a division of Arizona State Parks. The Preservation Office is responsible for ensuring that Arizona agencies comply with the State Historic Preservation Act and that federal agencies in the state comply with the National Historic Preservation Act of 1966, as amended. The office's mandated programs for carrying out these responsibilities include the following: statewide comprehensive historic preservation planning, survey and inventory of heritage resources; review of nominations to the National and Arizona Registers of Historic Places; review of compliance by federal and state undertakings; grants and incentives administration; oversight of the Certified Local Government program; and public education and outreach.

In its Review and Compliance program, the Preservation Office reviews projects planned by state agencies to ensure that they comply with the State Historic Preservation Act. Therefore, the office routinely works with Arizona State Parks on projects such as the development of new parks or planned construction within existing parks. In addition, the State Historic Preservation Office reviews all Arizona Heritage Fund grant applications sent to Arizona State Parks to ensure that funded grant projects will not adversely affect significant cultural resources.

The State Historic Preservation Office also works with more than 40 federal agencies in its Review and Compliance program to ensure that these agencies comply with the National Historic Preservation Act. In doing so, the office provides technical expertise in fields such as prehistoric and historic archaeology, historic architecture, rehabilitation of historic buildings or structures, and engineering. Additionally, the office helps federal agencies identify other parties who should be involved in the compliance process such as American Indians, local preservation groups, project sponsors, and interested citizens.

**Camp Navajo, Arizona National Guard, National Guard Bureau, United States Department of Defense**

In 1988, Camp Navajo, then the Navajo Depot Activity, was recommended for turnover to the Arizona National Guard by the Base Realignment and Closure Commission (BRAC). In October 1992, Camp Navajo met all requirements outlined by the BRAC, and the Arizona National Guard took charge of the installation. The Arizona National Guard, a subordinate element of the National Guard Bureau under the Department of Defense, has since operated Camp Navajo under a license from the Department of Defense.

Camp Navajo's primary mission is to provide a training site for National Guard and Reserve units and other units with federal or state missions. The camp's secondary mission is to operate a facility for the receipt, storage, handling, care, inspection, demilitarization and renovation of conventional ammunition, associated assemblies and inert stocks. Camp Navajo receives no funding from federal or state sources. All revenues are generated from funds charged to customers for services provided.

Camp Navajo lies about 12 miles west of Flagstaff off Interstate 40 and covers about 28,425 acres. The camp is surrounded by the Coconino and Kaibab National Forests, some Arizona State Trust lands and several small parcels of privately-owned lands. Current land use patterns at the camp include a 1,300-acre industrial area for daily support activities, a 14,000-acre ammunition area for ammunition storage and a 10,000-acre buffer zone for safety and security. About 19,000 acres of Camp Navajo lands are leased for livestock grazing.

All camp areas are closed to the general public except for the designated buffer zone, which is open for seasonal hunting of turkey, deer, and elk.

Camp Navajo is not currently involved with Flagstaff's open spaces and greenways planning. However, camp lands serve as a wildlife corridor, an important component of Flagstaff's desired open spaces and greenways.

Management of Camp Navajo lands covers various resources and activities. A wildlife and fish management program addresses fish-stocked reservoirs on the camp and the wildlife that move freely between the camp and adjacent forest lands. About 17,000 acres of forested lands are managed on the camp in accordance with practices approved by the Natural Resource Manager. A cultural resource management plan is being developed for the cultural sites known and assumed to exist on the camp. Air and soil quality and the disposal of wastewater, solid wastes and hazardous wastes are managed according to standards set by the Environmental Protection Agency and the Arizona Department of Environmental Quality. Finally, noise levels on the camp must comply with current Army regulations.

**Colorado Plateau Field Station, Forest and Rangeland Ecosystem Science Center, Biological Resources Division, United States Geological Survey**

The mission of the Biological Resources Division (BRD), administered by the United States Geological Survey in the Department of the Interior, is "to work with others to provide the scientific understanding and technologies needed to support the sound management and conservation of our nation's biological resources." Therefore, the BRD works to increase and improve the biological information available to the nation's decision-makers by responding to management and information needs. BRD enters into partnerships with scientific collaborators to produce high quality scientific information and partnerships with the users of scientific information to ensure its relevance and application to real problems.

The Colorado Plateau Field Station (CPFS), located in Flagstaff on the campus of Northern Arizona University, is a field station of the USGS-BRD. The mission of the CPFS is "to provide and disseminate quality biological research

and technical services to support effective management and conservation of natural, cultural, and social resources on the Colorado Plateau." To accomplish this mission, the CPFS fosters partnerships and cooperative efforts with federal and state agencies, universities, and non-governmental organizations.

The CPFS focuses on scientific research, technical assistance, training, and public outreach. Specifically, the CPFS states that it "will be recognized as a leader in scientific biological research for the Colorado Plateau Ecosystem by providing scientific research for our partners that is credible, meaningful, and cost effective." In addition, the station provides a unique academic setting that encourages excellence for graduate students pursuing biological and ecological research within the Colorado Plateau physiographic province. The primary goal of research conducted by CPFS staff is to provide biological data for the sound, long-term use, management and protection of natural resources. Hence, an important function is in providing access to this scientific data for governmental agencies, private entities, and the general public.

Training at the station consists of courses for scientists, resources managers and field station employees. The CPFS also serves as an information management center and as a center for Geographic Information System and Global Positioning System expertise. Materials available to interested parties include an educational video library and resources management information pertinent to the Colorado Plateau. The station's public outreach efforts focus on sharing information related to resource management and conservation issues of the Colorado Plateau with interested agencies, organizations and groups.

Although the CPFS manages no lands and, therefore, does not acquire and dispose of lands, it was asked to provide logistical support for Flagstaff's open spaces and greenways process on behalf of the Flagstaff Area Parks of the National Park Service. Consequently, the CPFS has provided support in the form of Geographic Information System technology, office space and scientific and technical expertise. This was the CPFS's main role in Flagstaff's development of the *Open Spaces and Greenways Plan*. The CPFS may assist Department of the Interior agencies around Flagstaff in future

activities related to the city's open spaces and greenways development.

### **Fish and Wildlife Service, United States Department of the Interior**

The Fish and Wildlife Service, administered through the United States Department of the Interior, is the principal agency through which the federal government carries out its responsibilities for managing the nation's birds, mammals and fish for the enjoyment of all people. In carrying out these responsibilities, the service enforces the Endangered Species Act. This Act provides "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species." The Act also provides means for taking steps to achieve the purposes of various international conservation treaties and conventions.

The Endangered Species Act declares that "all Federal departments and agencies shall seek to conserve endangered species and threatened species" and that "Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." The Act also declares that "encouraging the States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants."

No Fish and Wildlife Service lands exist in or near Flagstaff. Service lands do exist in other parts of Arizona, however, and are generally open to public use for a fee and according to certain restrictions or regulations. The Fish and Wildlife Service's Arizona Ecological Services office, based in Phoenix, located a field office in Flagstaff in 1995.

The service may acquire lands through the Secretary of the Interior. That is, under the Endangered Species Act, the Secretary of the Interior is directed to "establish and implement a program to conserve fish, wildlife, and plants" and in doing so "shall use the land acquisition and other authority under the Fish and Wildlife Act of 1956, as amended, the Fish and Wildlife

Coordination Act, as amended, and the Migratory Bird Conservation Act.” Under these authorities, the Secretary can acquire by purchase, donation, or otherwise, lands, waters, or interest therein.”

The service’s role in Flagstaff’s development of *Open Spaces and Greenways Plan* will be that of a regulatory agency and advisor, enforcing the Endangered Species Act for actions taken on federal lands around Flagstaff. Specifically, the Endangered Species Act requires the following: “Each Federal agency shall, in consultation with and with the assistance of the Secretary of the Interior, through the Fish and Wildlife Service, insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action.”

Federal agencies must also consult with the Fish and Wildlife Service if a prospective permit or license applicant believes implementation of his or her project will likely affect an endangered or threatened species. In addition, federal agencies must confer with the service on any agency action that may jeopardize the continued existence of any species proposed to be listed as endangered or threatened. Examples of agency actions that may require consultation with the Fish and Wildlife Service include leasing and exchanging lands, construction of roads and trails and other potentially habitat-disturbing activities.

#### **Flagstaff Field Center, Geological Survey, United States Department of the Interior**

The mission of the Geological Survey, administered by the United States Department of the Interior, is to “provide geologic, topographic, and hydrologic information that contributes to the wise management of the Nation’s natural resources and that promotes the health, safety, and well-being of the people.” Information collected consists of maps, databases and descriptions of water, energy and mineral resources; the land surface: underlying geologic structure; and the dynamic processes that have shaped the Earth and other bodies in the Solar System.

The Flagstaff Field Center of the Geological Survey is located in north Flagstaff. The center was established in 1963 to gather geological information about the Moon and to help train astronauts scheduled for lunar flights . Since 1970, research at the center has diversified and projects have contributed to all aspects of the mission of the Geological Survey. Today, planetary geology is still the major research effort of the center, and current projects focus on Mars, Venus, the Moon and the satellites of Jupiter, Saturn and Uranus. Other areas of research include studies of the Earth at diverse sites such as Antarctica and the Sahara Desert and field studies that explore physical and chemical processes that shape and modify continents and that contribute information useful for efforts such as national resource evaluation, natural-hazard recognition and hazard-reduction planning.

Other activities carried out at the Flagstaff Field Center include geologic mapping of Earth and extraterrestrial landscapes and mapping of sea floors. The center also studies the geology of Earth’s crust transects, swaths of land miles wide and hundreds of miles long that cross from one type of geological setting to another. In addition, the center studies volcanoes and geothermal energy, subsurface geology, desert processes, the Grand Canyon and water resources. Currently, the only projects the Center is conducting in the Flagstaff area are the geological and hydrological mapping of water sites.

The center manages no lands and, therefore, does not acquire and dispose of lands. The center leases the land on which its facility is located from the City of Flagstaff. The facility is open to visitors, who may follow a self-guided tour through certain buildings. In addition, the center’s library of geological, geophysical and hydrological literature is open to the public.

The Field Center is presently not involved in Flagstaff’s open spaces and greenways planning, but its databases may be useful in future open space and greenway development. The center disseminates database information and research results through an outreach program. The program includes presentations at meetings, maps and papers published in various journals and on compact disk videos, posters with text, and talks given to students and other public groups.

## Agency Processes for Moving From Large-Scale Plans to the Implementation of Site-Specific Projects

The City of Flagstaff, Coconino County and the Coconino National Forest will implement site-specific open space projects according to hierarchies of plans, guides and processes ranging in scope from large-scale to site-specific. This *Open Spaces and Greenways Plan* will be included in the large-scale ends of the hierarchies but will be influenced by other plans, guides and processes, both large-scale and more site-specific. The typical hierarchy in each agency for site-specific projects is explained below.

### City of Flagstaff

This *Open Spaces and Greenways Plan* will be incorporated into the City of Flagstaff's *Growth Management Guide 2000 (GMG 2000)*, which sets forth large-scale goals and policies for development in the city. Based on these large-scale recommendations, area plans are created for sections of the city. These area plans or the Land Development Code are used for planning and implementing site-specific projects.

The City uses the area plan for the section of the city in which the project will be located to identify and analyze the purpose, proposed actions, alternative actions and expected effects of the project. This analysis is incorporated into a site-specific project proposal or plan. The Planning and Zoning Commission and City Council then review the proposal or plan and decide whether to approve, disapprove, or recommend changes to and subsequent resubmission of the proposal or plan. Finally, if the proposal or plan is approved, it is implemented according to an implementation plan written specifically for the project.

Area plans have not yet been created for all sections of the city. However, area plans should be written as soon as possible for parts of the city where immediate actions need to be taken to develop or retain parts of the desired open spaces and greenways described in this *Plan*.

### Coconino County

The *Open Spaces and Greenways Plan* will be incorporated into Coconino County's Comprehensive Plan, which sets forth goals and policies designed to bring about orderly growth

and well-planned development. The *Open Spaces and Greenways Plan* serves as the foundation for the zoning and subdivision ordinances and area-specific community plans used for planning and implementing site-specific projects.

The County's Planning and Zoning Commission reviews a proposal or plan for a site-specific project and decides whether to approve, disapprove or recommend changes to and subsequent resubmission of the proposal or plan. Compliance with the Comprehensive Plan and the applicable area Plan is required for approval. Zone changes and subdivisions are then sent to the Board of Supervisors for a similar review. If approved by the board, the proposal or plan is then implemented according to conditions of approval written specifically for the project.

### Coconino National Forest

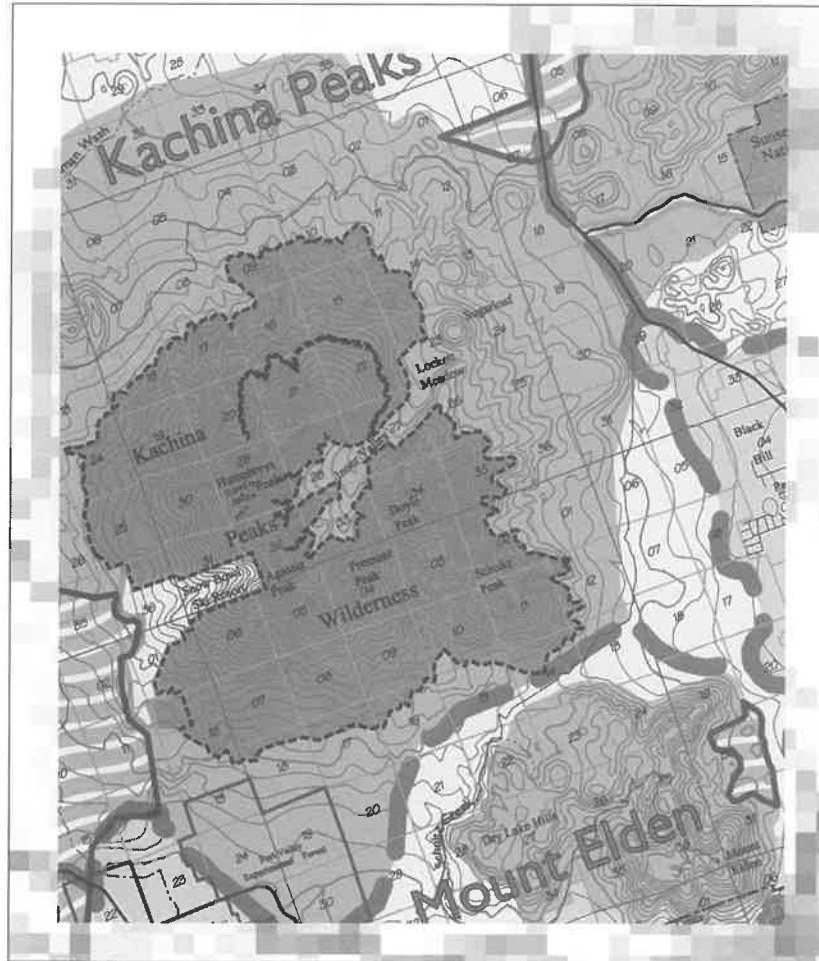
The *Open Spaces and Greenways Plan* will be incorporated into the *Coconino Forest Plan (Forest Plan)*, which sets forth large-scale goals, policies and guidelines for managing the Forest. Site-specific projects on the Forest are planned according to *Forest Plan* direction and the analysis and documentation process required by the National Environmental Policy Act (NEPA) of 1969.

In this NEPA process, an integrated resource management team identifies the purpose and need for a project, develops a proposed action, receives public comment and then develops alternative actions for the project based on issues raised during the comment period. The environmental effects of each alternative are analyzed and disclosed in a public environmental assessment (EA) or environmental impact statement (EIS). Then, more public comment is received and analyzed. The team presents the analyses of all alternatives and public comment to the deciding official, usually the Forest Supervisor. The deciding official considers the project, its effects and costs and then decides whether to proceed with all or part of the project. The public is notified of the decision. At this time, members of the public may appeal the deciding official's decision to the next level within the Forest Service, which is the Region 3 Regional Forester. Most decisions may be appealed, though some may not be. If there are no appeals or subsequent litigation, the project may be implemented and monitored.



# Appendix Three

## Resource Maps



The following maps show the results of the Open Spaces and Greenways Plan and some of the key resource maps used in its development.



# Appendix Four

## Memorandum of Understanding

### Memorandum of Understanding

#### *Among*

City of Flagstaff, Arizona

County of Coconino, Arizona

Arizona State Land Department

Arizona Game and Fish Department

United States Forest Service,  
Coconino National Forest

National Park Service, Flagstaff areas

*To Establish a Framework to Consider Recommendations for Management and Protection of Lands Specified in the Greater Flagstaff Open Spaces and Greenways Plan Through a Cooperative and Collaborative Effort*

This Memorandum of Understanding (MOU) is made and entered into as of the 26th day of January, 1998, by and between the City of Flagstaff hereinafter referred to as CITY; Coconino County hereinafter referred to as COUNTY; Arizona State Land Department hereinafter referred to as LAND DEPARTMENT; Arizona Game and Fish Commission hereinafter referred to as GAME AND FISH DEPARTMENT; United States Department of Agriculture, Forest Service, Coconino National Forest hereinafter referred to as FOREST SERVICE; and United States Department of the Interior, National Park Service, Flagstaff Areas hereinafter referred to as the NATIONAL PARK SERVICE. The aforementioned parties are hereinafter referred to as the PARTICIPANTS.

This MOU is organized into eleven sections. The first section states the purpose of the MOU. Section II provides a background of the planning process involved in developing the Greater Flagstaff Area Open Spaces and Greenways Plan (PLAN). Section III describes consideration of the recommendations of the PLAN in each agencies' planning processes. Section IV describes collaboration in implementing those actions which are accepted during planning processes. Section V describes the creation of a future group which advances the goals of the PLAN. Section VI describes future agreements and Section VII describes restrictions or exclusions related to this MOU. Section VIII describes the circumstances under which the MOU may be revised or terminated. Section IX lists general provisions as required by law. Sections X and XI provide the authorities under which the authorized parties are signing the MOU.

### **I. PURPOSE**

The purpose of this MOU is to recognize that the complexity of retaining and managing lands for multiple uses close-in to urbanized areas requires an inter-governmental approach; and to establish a general framework for cooperation and collaboration between the CITY, COUNTY, LAND DEPARTMENT, GAME AND FISH DEPARTMENT, FOREST SERVICE, AND NATIONAL PARK SERVICE. The named institutions propose to work together to achieve a common goal of advancing the PLAN. This cooperation is in the mutual interest of all parties.

## II. BACKGROUND

WHEREAS, the Greater Flagstaff area is known for its mountains, canyons and open spaces as a defining component of its community character; and

WHEREAS, the Greater Flagstaff area has experienced significant population growth in its environs, and which growth is expected into the future; and

WHEREAS, the PARTICIPANTS recognize the issues resulting from the loss of open spaces due to the encroachment of urban growth and development on public lands; and

WHEREAS, the PARTICIPANTS further recognize that “leapfrog” development, urban sprawl, or untimely development on these lands impacts local governmental entities who have to provide infrastructure services and maintain land use patterns and urban form; and

WHEREAS, the PARTICIPANTS also recognize that loss of open space lands results in depletion of habitat and corridors for wildlife; and

WHEREAS, the FOREST SERVICE is dedicated to management of the nation’s natural and cultural resources and increasing the public’s knowledge, awareness and appreciation of these resources; and

WHEREAS, the CITY has identified in its general plan the importance of preserving significant natural areas, such as unusual terrain, scenic vistas, unique geologic formations, dense or unique vegetation and wildlife habitat; defining patterns of development; providing recreational opportunities; preventing encroachment into floodplains; retaining aesthetic and recreational values of land in proximity to and within the city; and preserving land for futures uses; and

WHEREAS, the COUNTY has adopted a mission statement with protection of the natural environment as an integral part and the conservation of open space is important in fulfilling the COUNTY’S mission; and

WHEREAS, the NATIONAL PARK SERVICE is dedicated to the preservation of the nation’s natural and cultural resources and administers land within the boundaries of the PLAN; and

WHEREAS, the LAND DEPARTMENT has as its primary mission the administration of Arizona’s state Trust lands in order to produce the highest revenue yield over time for the Trust beneficiaries, and has the authority to classify and sell or lease certain lands for conservation when it is in the best interest of the Trust; and

WHEREAS, the GAME AND FISH DEPARTMENT has the mission to conserve, enhance and restore Arizona’s diverse wildlife resources and habitats through aggressive protection and management programs, and to provide wildlife resources, and safe watercraft and off highway vehicle recreation for the enjoyment, appreciation and use by present and future generations; and

WHEREAS, through numerous public meetings, residents have expressed their desire for retaining open space lands for recreational, cultural and economic uses; and

WHEREAS, the PARTICIPANTS conclude they should undertake certain activities in a cooperative manner under a Memorandum of Understanding; and

WHEREAS, the PARTICIPANTS conclude such cooperation would result in the enhanced protection of resources and improved quality of life for the residents of the Greater Flagstaff area; and

WHEREAS, the PLAN has been prepared, approved and submitted for adoption to the CITY and COUNTY; and

WHEREAS, the PLAN provides recommendations for the conservation and protection of the natural and cultural environment, while still providing physical space for future development; and

WHEREAS, the PLAN consists of a graduated system of open space functions and uses ranging from heavy recreational use in areas with proximity to urbanized development, to areas of economic forest commodity uses, and to more primitive and remote areas; and

WHEREAS, the PARTICIPANTS desire to enter into a MOU to achieve a common goal of advancing the PLAN.

NOW, THEREFORE, in consideration of the above, the parties hereto mutually agree as follows:

### **III. CONSIDERATION OF PLAN RECOMMENDATIONS IN AGENCY PLANNING**

- A. The PARTICIPANTS mutually agree to pursue incorporating the PLAN into their relevant plans, policies, and regulations.
  - 1. The CITY agrees to pursue the incorporation of the PLAN into its General Plan and the amendment of its zoning map.
  - 2. The COUNTY agrees to pursue the incorporation of the PLAN into its Comprehensive Plan and the amendment of its zoning map with the intent of amending the Comprehensive Plan to incorporate all of the goals, recommendations and policies of the PLAN. and utilize the PLAN in its review of zoning and subdivision cases to ensure consistency.
  - 3. The FOREST SERVICE agrees to consider recommendations of the PLAN during future planning processes.
  - 4. The NATIONAL PARK SERVICE agrees to pursue the incorporation of the PLAN into its Strategic Plan and General Management Plan.
  - 5. The LAND DEPARTMENT agrees to consider recommendations of the PLAN during future planning processes.
  - 6. The GAME AND FISH DEPARTMENT agrees to pursue the incorporation of the PLAN into its Strategic Plans; consider the establishment, where appropriate, of a special wildlife management unit in the Flagstaff area incorporating portions of the Greater Flagstaff Open Spaces and Greenways area; and should special wildlife management unit be established, the GAME AND FISH DEPARTMENT agrees to pursue adapting management practices to accommodate public expectations, use, and safety in said unit.

### **IV. ON-GOING COLLABORATION TO IMPLEMENT THE PLAN**

It is mutually agreed and understood by and between the said PARTICIPANTS that:

- A. Each Participant will cooperate in carrying out activities to facilitate identification and action that further the purpose of this MOU. These activities may include, but are not limited to, the following:
  - 1. Assigning a staff member with responsibility for advancing the PLAN.
  - 2. Using this PLAN as a guide when reviewing development plans, annexations and rezoning requests and trail extensions for consistency.
  - 3. Pursuing establishment of the recommended trail network serving the communities in the unincorporated areas.
  - 4. Developing an annual summary of accomplishments.

5. Promoting the PLAN through a speakers bureau by giving presentations to interested parties, sharing literature, etc.
6. Committing to supporting a GIS mapping program, as possible within staffing and funding limitations, for hardware and software equipment, to keep the PLAN'S mapping updated.
7. Implementing, through agency cooperation where appropriate, projects that are accepted through planning processes. Information exchange, on-the-ground improvements, and facilities' management may be accomplished by one or more agencies working together, or by one or more agencies working with citizens.
8. Providing resource protection, resource management, law enforcement, information and education efforts in the Greater Flagstaff Open Spaces and Greenways area, in cooperation with other agencies and within the scope of the authority of various agencies.
9. Participating in the public outreach educational aspect of the PLAN by providing space in PARTICIPANTS' visitor centers for exhibit of the PLAN and to include information into existing interpretive programs to better educate the public about the PLAN.

## V. CREATION OF A COALITION

The PARTICIPANTS agree to:

1. Pursue the establishment of an Open Spaces Coalition (Coalition), with the provision that this does not imply obligation on the part of the PARTICIPANTS to serve on the Coalition until it is established by separate agreement or action. The Coalition would be responsible for monitoring, recommending and undertaking strategies and actions to implement the PLAN, reviewing progress made towards its implementation, and updating the PLAN. The Coalition would seek funding for land acquisition for preservation purposes; prioritize lands for acquisition; seek funding and sources for improvements of outdoor amenities and trails on open space lands; support and undertake legislative efforts to conserve open space; conduct public outreach and education efforts; work with others in providing stewardship, maintenance and improvements of open space lands; work with other governmental entities to assure cooperation and consistency in the planning, development, operation and maintenance of open space activities and uses; and undertake other activities as identified and approved by the Coalition for action planning. This Coalition would conduct its business in accordance with State of Arizona Open Meetings Law.
2. Develop an annual governmental agency action agenda to be submitted to the PARTICIPANTS of this MOU annually.
  - A. The CITY agrees to:
    1. Provide planning staff support towards the implementation of the PLAN.
  - B. The COUNTY agrees to:
    1. Assign a County employee to serve as a community/agency liaison to advance the PLAN.
  - C. The LAND DEPARTMENT agrees to:
    1. Assign a Land Department employee to serve as a community/agency liaison to advance the PLAN.

- D. The GAME AND FISH DEPARTMENT agrees to:
  - 1. Assign a Game and Fish Department employee to serve as a community/agency liaison to cooperate in the management of the Flagstaff Open Spaces and Greenways area as per the PLAN.
- E. The FOREST SERVICE agrees to:
  - 1. Assign a Forest Service employee to serve as a community/agency liaison to advance the PLAN.
- F. The NATIONAL PARK SERVICE agrees to:
  - 1. Assign a National Park Service employee to serve as a community/agency liaison to advance the PLAN.

## **VI. FUTURE AGREEMENTS**

- A. The PARTICIPANTS agree to undertake mutually agreeable and joint projects that would share expertise, in-kind services, or other goods, services, or funding that would be carried out under separate agreements. This work would be done jointly with the Coalition.
- B. Each PARTICIPANT shall determine for itself the availability of personnel and funding to carry out the provisions of the separate agreements. All operations under separate agreements shall be subjected to the availability of appropriated funds.

## **VII. RESTRICTIONS OR EXCLUSIONS**

- A. Participation in this MOU shall not alter the powers and duties of each PARTICIPANT to independently undertake similar activities.
- B. Specific projects or activities that involve the transfer of funds, services, or property between the parties to this MOU will require the execution of separate agreements or contracts, contingent upon the availability of funds as appropriated. Each subsequent agreement or arrangement involving the transfer of funds, services or property between the parties to this MOU must comply with all applicable statutes and regulations, including those statutes and regulations applicable to procurement activities, and must be independently authorized by appropriate statutory authority.
- C. This MOU in no way restricts any Participant from participating in similar activities or arrangements with other public or private agencies, organizations, or individuals.
- D. Participation in this MOU shall not alter the powers and duties of the State Land Commissioner to fulfill his responsibilities and obligations arising under the Enabling Act, the Arizona Constitution or the Arizona Revised Statutes.
- E. Participation in this MOU shall not be deemed to alter or limit the powers and duties of the National Park Service to manage lands under its jurisdiction pursuant to applicable federal laws and regulations.

## **VIII. TERMINATION AND REVISION OF THIS MOU**

- A. The MOU may be revised, modified or amended at any time by the agreement of the PARTICIPANTS by the issuance of an executed modification by all PARTICIPANTS prior to any changes being performed.
- B. This instrument is executed as of the last date shown below and expires five years from that date, at which time it will be subject to review, renewal, or expiration.

- C. Any PARTICIPANT, in writing, may terminate the instrument in whole or in part at any time before the date of expiration by providing sixty (60) days advance written notice to the other PARTICIPANTS stating the reasoning for the request for termination. An analysis and review by the other PARTICIPANTS of the rationales for seeking termination will be undertaken during the sixty-day period prior to the request for termination. This activity does not prohibit any PARTICIPANT from terminating their involvement in this MOU.

## IX. GENERAL PROVISIONS

- A. Authorization  
The PARTICIPANTS to this MOU represent and warrant that the persons executing this MOU on their behalves have full authority to bind the respective PARTICIPANTS.
- B. Civil Rights Assurance  
During the performance of this agreement, the PARTICIPANTS agree to abide by the terms of Executive Order No. 11246 on nondiscrimination and will not discriminate against any person because of race, color, religion, sex, age, disability, or national origin. The PARTICIPANTS will take affirmative action to ensure that applicants are employed without regard to their race, color, religion, sex, age, disability, or national origin.
- C. Counterparts  
This MOU may be executed in multiple counterparts, each of which shall constitute one and the same instrument.
- D. Drug Free Workplace  
All PARTICIPANTS certify that they have established an alcohol and drug-free workplace for itself as well as its contractors (43CFR Part 12, Subpart D, Chapter 12.600 through 12.630).
- E. Expenses  
Nothing in this MOU shall obligate any Participant to expend appropriations to enter into any contract or other obligation.
- F. Governing Law  
This MOU shall be governed by and construed under the laws of the State of Arizona.
- G. Limitations  
Nothing in this MOU shall be construed as limiting or expanding the statutory responsibilities of the PARTICIPANTS in performing functions beyond those granted to them by law; or as requiring the PARTICIPANTS to expend any sum in excess of its respective regulations of the State of Arizona, the laws of the United States, and the regulations of the Secretaries of Agriculture and the Interior.
- H. Limitations on Payments to Influence Certain Federal Transactions  
The PARTICIPANTS certify herein that no federal appropriated funds have been paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering of any cooperative agreement and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement (FAR 52.203-12).

- I. **Officials Not to Benefit**  
No member or delegate to Congress or resident commissioner or State or locally elected officials shall be authorized to any share or part of this MOU or to any benefit that may arise therefrom.
- J. **Severability**  
In the event that any phrase, clause, sentence, paragraph, section, article or other portion of this MOU shall become illegal, null or void or against public policy, for any reason, or shall be held by any court of competent jurisdiction to be illegal, null or void or against public policy, the remaining portions of this MOU shall not be affected thereby and shall remain in force and effect to the fullest extent permissible by law.
- K. **Successors and Assigns**  
Subject to the restrictions and prohibitions on assignment set forth in this MOU, all of the conditions set forth herein shall inure to the benefit of and shall be binding upon the successors in interest of each of the PARTICIPANTS hereto.
- L. **Non-fund Obligating Document**  
This instrument is neither a fiscal nor a funds obligation instrument. Any endeavor involving reimbursement or contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures including those for government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority. Specifically, this instrument does not establish authority for non-competitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

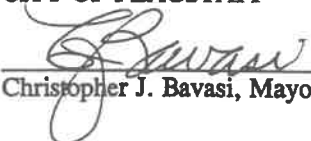
**X. AUTHORITIES**

- A. The U. S. Department of Agriculture, Forest Service is authorized by the provisions of the Multiple-Use Sustained Yield Act of June 12, 1960 (P.L. 86-517, 74 Stat. 215; 16 USC 528 (note) 528-531 to enter into this MOU; and
- B. The U. S. Department of the Interior, National Park Service is authorized by the provisions of the National Trails System Act, P. L. 90-543 (16 U.S.C. §1241-1249) as amended, and the Land and Water Conservation Act (16 U.S.C. @ 4601-1 (d)) to enter into this MOU; and
- C. The Arizona Land Department, Arizona Game and Fish Commission, County of Coconino and City of Flagstaff are authorized by the provisions of A.R.S. §37-102 and 37-132, §17-231-B.7, §11-951 through 11-954, and §9-461.01, respectively, to enter into this MOU.

**XI. AUTHORIZING SIGNATURES**

IN WITNESS WHEREOF, the parties have executed this MOU as of the last written date below.

**ATTEST:**  
  
City Clerk

**CITY OF FLAGSTAFF**  
  
Christopher J. Bavasi, Mayor

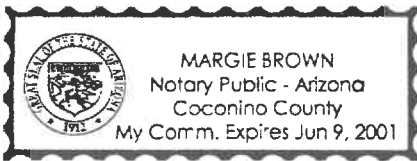
APPROVED AS TO FORM:

[Signature]  
City Attorney

STATE OF ARIZONA        )  
  ) ss.  
County of Coconino        )

On this 26<sup>th</sup> day of Jan., 1998, before me, the undersigned Notary Public, personally appeared J.C. J. Bavasi, who acknowledged himself to be the \_\_\_\_\_ of the Mayor of the City of Flagstaff, a municipal corporation, and that he, as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



[Signature]  
Notary Public

COUNTY OF COCONINO  
[Signature]  
Paul J. Babbitt, Jr.  
Board of Supervisors Chairperson

ATTEST:

[Signature]  
County Clerk of the Board

APPROVED AS TO FORM:

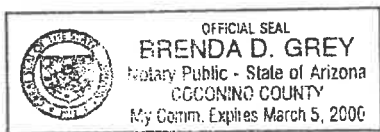
TERENCE C. HANCE  
COUNTY ATTORNEY

By: [Signature]  
Deputy County Attorney

STATE OF ARIZONA )  
 ) ss.  
County of Coconino )

On this 20<sup>th</sup> day of October, 1997, before me, the undersigned Notary Public, personally appeared Paul S. Babbitt, Jr. who acknowledged himself to be the Chairman of the Board of Supervisors, and that he, as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



Brenda D. Grey  
Notary Public

ARIZONA STATE LAND DEPARTMENT

J. Dennis Wells  
J. Dennis Wells  
State Land Commissioner

STATE OF ARIZONA )  
 ) ss.  
County of ~~Coconino~~ Maricopa )

On this 21<sup>st</sup> day of January, 1998, before me, the undersigned Notary Public, personally appeared J. Dennis Wells who acknowledged himself to be the Land Commissioner of the State Land Department, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



Mary C. Bryan  
Notary Public

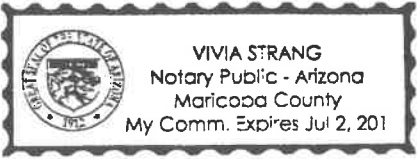
ARIZONA GAME AND FISH DEPARTMENT

*Duane L. Shroufe*  
Duane L. Shroufe  
Director

STATE OF ARIZONA )  
 ) ss.  
County of Coconino )

On this 16<sup>th</sup> day of December, 1997, before me, the undersigned Notary Public, personally appeared Duane L. Shroufe who acknowledged himself to be the Director of the Arizona Game & Fish Department, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



*Vivian Strang*  
Notary Public

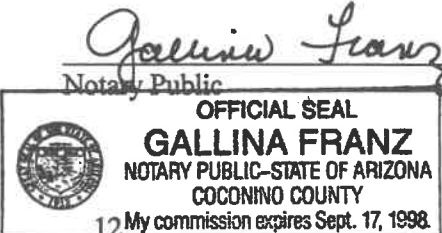
UNITED STATES FOREST SERVICE

*Fred Trevey*  
Fred Trevey  
Forest Supervisor  
Coconino National Forest

STATE OF ARIZONA )  
 ) ss.  
County of Coconino )

On this 14<sup>th</sup> day of January, 1998, before me, the undersigned Notary Public, personally appeared Fred Trevey who acknowledged himself to be the Forest Supervisor of the USDA Forest Service, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



*Gallina Franz*  
Notary Public

NATIONAL PARK SERVICE

*Sam R. Henderson*

Sam R. Henderson  
Superintendent, Flagstaff Areas

STATE OF ARIZONA     )  
  ) ss.  
County of Coconino     )

On this 31<sup>st</sup> day of October, 1997, before me, the undersigned Notary Public, personally appeared Sam R. Henderson who acknowledged himself to be the Superintendent of the Flagstaff Area National Park Service, and that he, as such officer, being authorized so to do, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

*Myra R. Newman*  
Notary Public

