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Forest
Service

**Southwestern
Region**

Values, Attitudes and Beliefs Toward National Forest System Lands: The Kaibab National Forest

Prepared for:

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Contents

ACKNOWLEDGEMENTS ..... **ii**

EXECUTIVE SUMMARY **1**

BACKGROUND **5**
- Methods and Data Collection 5
- Data Processing and Analysis 6

CONTEXT: The Forest and Socioeconomic Setting **7**

RESULTS **13**
- Planning Environment 13
  - Social Setting 14
  - Forest Conditions and Characteristics 18
  - Kaibab National Forest Management 20
  - Agency Policies and Presence 22
- Multiple-Use 23
  - General Beliefs and Values about Multiple-Use 24
  - KNF Specific Multiple-Use Themes 25
- Resource Benefits and Values 28
  - Resource Assets and Intrinsic Values 28
  - Socioeconomic Benefits and Values 32
- Needs for Change and Desired Futures 34
  - Management: Needs for Change and Desired Futures 34
  - Resource and Multiple-Use Issues 38

REFERENCES **44**

APPENDIX **45**
- Topic Areas for Discussion 46

List of Tables

- Table 1: Region 3 National Forests Ranked by Total Acreage 7
- Table 2: County Land Ownership (in 1,000 Acres) 9
- Table 3: Kaibab National Forest 10

List of Figures

- Figure 1: Kaibab National Forest Counties 8
- Figure 2: Kaibab NF County Land Ownership 9
- Figure 3: Kaibab NF Study Area Percentage of Total Population by County 11
- Figure 4: Kaibab NF Study Area Major Cities/Communities Population 2000 & 2003 12

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EXECUTIVE SUMMARY

This document reports on the results of a project to identify values, attitudes, and beliefs (VAB) about forest resources and their management for all national forests and grasslands in the Southwest Region (Region 3), including the Kaibab National Forest (KNF). Results of this work are intended to assist forest managers and planners to identify strategic issues for revision of the existing Forest Plan and to assess other social and cultural factors that may influence forest planning and management.

Identification of values, attitudes, and beliefs was achieved by the use of a discussion group or focus group approach (Morgan 1997). Additionally, some individual interviews were conducted with persons who were unable to attend the discussion group sessions. Participants were selected for these groups by consultation with District Rangers, forest planning staff, and other individuals within the Kaibab National Forest. The goal was to select participants with a range of perspectives about forest management issues by identifying individuals with knowledge about their community or forest management issues. This targeted sampling approach (Bernard 1995; Morse 1998) is not intended to result in groups "representative" of their communities. Instead, the intent is to include individuals knowledgeable about forest and community issues. The interviews and discussion sessions were focused by a discussion guide (see Appendix) that includes topics about the social environment, forest characteristics, the use of forest resources, values and benefits associated with forest resources, desired futures, and assessments of issues for Forest Plan revision.

Four discussion group sessions were conducted. These groups were structured to include persons from the different communities and geographic areas surrounding the Kaibab National Forest. Two discussion groups were held in Williams, one in Tusayan, and one in Kanab. Three individual interviews were conducted with persons who could not attend the discussion group sessions. All of the discussion sessions and some of the individual interviews were recorded. Sketch notes were taken for the recorded sessions and interview field notes for non-recorded sessions (Sanjek 1990; Emerson, Fretz, and Shaw 1995). This material was coded by topic area using a combination of predefined and emergent codes (Strauss 1987; Strauss and Corbin 1998). The predefined codes correspond with the discussion guide categories and the emergent codes were developed from participant statements that did not correspond with the predefined categories. Major categories for presentation were then constructed and issues were grouped within these categories.

The Kaibab National Forest (KNF) occupies about 1.6 million acres in northern Arizona between Williams and the Utah Border. The Grand Canyon divides the KNF between the Tusayan and North Kaibab Ranger Districts. The Williams Ranger District is the southern most of the KNF's three Districts. Elevations range from about 5,500 feet to more than ten thousand feet atop Kendrick Peak near Williams. The Kaibab National Forest is located primarily within Coconino County in northern Arizona, although a small portion is in Yavapai County to the south and Mohave County to the west. Residents of Kane County in Utah also have a long-term association with the KNF.

Forest planning and management occurs in the context of social, economic, political, cultural, and ecological conditions and trends. The configuration of these factors can influence what topics are

identified as requiring management attention, desired solutions to identified issues or problems, and how publics choose to participate or not in planning and collaboration activities. Identifying the configuration of socioeconomic and cultural issues particular to the KNF can assist planning and management staff to assess likely areas of public concern in future discussions about Plan revision issues. For the purposes of this work, the planning environment consists of the social setting, forest conditions and characteristics, assessments of Kaibab National Forest management, and beliefs about Forest Service policies and procedures.

Social Setting

Participant comments about the social setting for the Kaibab National Forest have five prominent themes: history; population composition and growth; land ownership; transitioning local economies; and, the interaction of forestlands with rural lifestyles. Each theme expresses a connection between adjacent communities and the Kaibab National Forest that has implications for the planning environment for revision of the Forest Plan. Themes about history emphasize the natural resource traditions and interactions between local populations and the federal government. Population growth in surrounding communities and more distant urban areas such as Phoenix and Las Vegas, Nevada appear to amplify existing concerns about the availability of resources for use and the interactions among different types of users. Population composition of surrounding communities is focusing attention on the different types of meanings and uses associated with special places and particular types of uses. The limited amount of private land in counties immediately adjacent to the KNF, especially in Coconino County, is focusing attention on particular issues such as land exchanges, economic diversification, and increasing recreational uses of national forest lands. Local economies are transitioning from ones based on activities such as ranching and logging to more amenity and recreational based activities. This is amplifying concern about these types of uses and the interaction of commercial and recreational users of national forest lands.

Forest Conditions and Characteristics

Participants describe the Kaibab National Forest as one of the significant assets of northern Arizona. Three themes are prominent in participant comments about the conditions and characteristics of this asset: (1) the KNF provides a setting for the Grand Canyon that enhances the value of that national asset; (2) because of water, altitude, and soil conditions, the KNF is a forest that is “fragile” and prone to being easily damaged; and, (3) participants describe tree density combined with drought as resulting in poor forest health and an increased vulnerability to fire that can threaten communities and forest resources.

Kaibab National Forest Management

Assessments of KNF management are likely to influence public assessments of agency capacity to manage forest resources. Several prominent themes about KNF management include: the need for the agency to clarify and promote its mission; general satisfaction with communication between the agency and communities; a desire for more consistent policies among the Districts; and continuing to improve on what is evaluated as a generally positive working relationship with stakeholders and interested publics.

Agency Policies and Presence

There are themes in the discussion group data that are more general comments about the Forest Service rather than specific comments about KNF management. These general comments are

relevant to this discussion because they also affect assessments of the capacity to manage forest resources. The themes about these agency-wide issues include the adverse effects on agency mission resulting from decreasing budgets and limited personnel resources; a desire for more agency presence on the ground for enforcement as well as to gain first hand knowledge of resource conditions; an assessment of decision making as too cumbersome and risk averse; the loss of knowledge as older managers retire and a perceived predisposition among newer managers for preservation oriented management; and, concerns about the community effects of turnover in leadership positions such as District Rangers and Forest Supervisors.

Multiple-Use

Participants expressed both general and specific themes about multiple-use issues on the KNF. The general themes include assessments of a decline in commercial activities such as grazing, mining, and timber harvesting; the emergence of recreation activities as the primary use of forestlands and resources, especially off-highway vehicle use and hunting; assessments of adverse effects on forest resources resulting from increased use; and, a decline in the capacity of the agency to respond to problems associated with increased recreational use. The specific themes about multiple-use describe participant beliefs about KNF lands as a type of community commons for outings and gatherings; changes in the management of grazing resources; the importance of personal responsibility in the use of forest resources; and, a transition to restoration activities as the focus of management activities for the Kaibab National Forest.

Resource Benefits and Values

Comments about resource benefits and values were categorized into two groups (1) resource assets and intrinsic values and (2) socioeconomic benefits and values. The first category contains themes about particular resources such as scenery, quiet, biodiversity, fire, vegetation, wildlife, and special places. The second category contains themes about the social, economic, heritage, and other social values attributed to forest resources.

Needs for Change and Desired Futures

Dialogue about the Kaibab National Forest also expressed a range of assessments and beliefs about the needs for change and desired futures. Participants expressed these beliefs and values in response to direct questions about the needs for change and in the context of dialogue about particular issues. Some of these issues are implied in previous sections about the planning environment, multiple-use, and forest resources. Comments in this dialogue were categorized into two groups: (1) KNF management issues and (2) use and resource issues. Management themes include expectations about forest planning and collaboration; fostering community stewardship; the desire for more on the ground presence of KNF personnel; desires for partnerships in providing education and information about forest resources, uses, and land ethics; a management emphasis on monitoring; a desire for a management strategy based on sustainable use of forest resources; and more effective use of volunteers to effectively manage forest resources and uses. Use and resource themes include a desire for consideration of custom and culture in decision making and planning; consideration of the linkage between fire, drought, and tree density in promoting forest health; clarifying the criteria for land exchanges; developing an effective management approach for off-highway vehicle use; consideration of quiet as a resource for management; increased attention to recreation management; a focus on restoration as a key concept for future management; road closure and road maintenance; the importance of scenery

management for communities adjacent to the KNF; and, responding to trash and litter problems on KNF managed lands.

BACKGROUND

This document reports on the results of a project to identify values, attitudes, and beliefs (VAB) about forest resources and their management for all national forests and grasslands in the Southwest Region (Region 3), including the Kaibab National Forest. Results of this work are intended to assist forest managers and planners to identify strategic issues for revision of the existing Forest Plan and to assess other social and cultural factors that may influence forest planning and management. This VAB information is part of a suite of socioeconomic and cultural information being assembled for planning purposes. Scholars at the School of Natural Resources at the University of Arizona have prepared a comprehensive socioeconomic assessment for all Arizona national forests, including the Kaibab National Forest (Arizona National Forests Socioeconomic Assessment Team 2005). Additionally, the Rocky Mountain Research Station is preparing to administer a survey to Arizona and New Mexico residents that will provide forest-specific and region-wide population based information about forest resource and management issues. This collection of information provides forest managers with forest-specific data to compare with similar state and regional data.

The VAB information presented in this document provides a different set of information than either survey or socioeconomic assessment data. This information was collected and synthesized to identify local perspectives about key issues and concerns about forest resources and management. These perceptions and assessments of participants may be factually correct or in error, but most importantly it portrays local perspectives from selected individuals that frame issues and imply solutions relevant for forest management and planning. The VAB information may also be used in conjunction with socioeconomic data to understand issue amplification, assessments of agency effectiveness, or other relevant factors affecting public evaluation of forest planning and management. Similarly, the VAB results were used by researchers at the Rocky Mountain Research Station as one source of information to formulate the content of the population-based survey to be administered in 2006. The information from this work thus offers a local perspective about key issues from concerned publics that can be placed within a broader context of information about the social environment for the Kaibab National Forest.

Methods and Data Collection

Identification of values, attitudes, and beliefs was achieved by the use of a discussion group or focus group approach (Morgan 1997). Additionally, some individual interviews were conducted with persons who were unable to attend the discussion group sessions. Participants were selected for these groups by consultation with District Rangers, forest planning staff, and other individuals within the Kaibab National Forest. The goal was to select participants with a range of perspectives about forest management issues by identifying individuals with knowledge about their community or forest management issues. This targeted sampling approach (Bernard 1995; Morse 1998) is not intended to result in groups “representative” of their communities. Instead, the intent is to include individuals knowledgeable about forest and community issues.

The interviews and discussion sessions were focused by a discussion guide (see Appendix) that includes topics about the social environment, forest characteristics, the use of forest resources, values and benefits associated with forest resources, desired futures, and assessments of issues for Forest Plan revision. The social environment and forest characteristics topics provide some

context to interpret the content of other discussion topics. The social environment discussions were oriented to how the social environment has changed since the last Forest Plan. The forest characteristics discussions were intended to establish broad scale strategic assessments of existing forest conditions. Use and resource discussions were intended to develop participant assessments of patterns of use and resource conditions. Desired futures and issues for Plan revision directly address topics participants wish to see addressed by decision making or planning. For each of these topic areas, the strategy was to avoided direct questions in favor of open-ended questions that allow participants to structure responses from their perspective.

The open-ended interview approach is consistent with qualitative interview techniques that begin with the most general types of issues and then focus the discussion to develop the specifics from the participant's perspective (Spradley 1979; Agar and Hobbs 1985). This approach also benefits from having a base of information to draw on about existing issues, beliefs, values, and attitudes collected for other national forests. This existing information can be used to structure follow-up questions and probes. The discussion groups conducted for this work relied on a information from similar work conducted for other national forests in Region 3, including the Apache-Sitgreaves, Coconino, Coronado, Prescott, Tonto, Gila, Carson, and Cibola National Forests as well as three national grasslands (e.g., Russell 2005; Russell and Adams-Russell 2005, 2005, 2005, 2006).

Four discussion group sessions were completed. These groups were structured to include persons from the different communities and geographic areas surrounding the Kaibab National Forest. Two discussion groups were held in Williams, one in Tusayan, and one in Kanab. Three individual interviews were completed with persons who could not attend the discussion group sessions.

Data Processing and Analysis

All of the discussion sessions and some of the individual interviews were recorded. Sketch notes were taken for the recorded sessions and interview field notes for non-recorded sessions (Sanjek 1990; Emerson, Fretz, and Shaw 1995). Sketch notes were annotated with the time mark in the recordings by topic area. This material was coded by topic area using a combination of predefined and emergent codes (Strauss 1987; Strauss and Corbin 1998). The predefined codes correspond with the discussion guide categories and the emergent codes were developed from participant statements that did not correspond with the predefined categories. Major categories for presentation were then constructed and issues were grouped within these categories. Representative comments were then identified to illustrate specific points where the issue could benefit from a statement by participants in their own words.

Analysis and discussion of this material presents several challenges. Time, budget, and page limitations require a strategy to present consumable and useable information that also expresses the participant's perspectives on the issues discussed. The strategy used here identifies key issues by topic category to illustrate the range of issues of concern to project participants. The authors recognize this strategy abbreviates and under-develops complex issues. However, future collaborative efforts should offer the opportunity to develop these topics in the detail that is useful for stakeholders, the Forest Service, and others participating in the planning process.

CONTEXT: The Forest and Socioeconomic Setting

Among the four national forests in northern Arizona, the Kaibab is sometimes described as the "setting" for the grand jewel of the nation's national parks, the Grand Canyon. The Kaibab National Forest (KNF) occupies about 1.6 million acres in northern Arizona between Williams and the Utah Border. The Grand Canyon divides the KNF between the Tusayan and North Kaibab Ranger Districts. The Williams Ranger District is the southern most of the KNF's three Districts. Elevations range from about 5,500 feet to more than ten thousand feet atop Kendrick Peak near Williams.

Table 1: Region 3 National Forests Ranked by Total Acreage

Southwestern Region (3)	Rank by Size	Gross Acreage	NFS Acreage	Other Acreage
Tonto NF	1	2,969,543	2,872,935	96,608
Gila NF	2	2,797,628	2,708,836	88,792
Apache-Sitgreaves NF	3	2,761,386	2,632,018	129,368
Cibola NF	4	2,103,528	1,631,266	472,262
Coconino NF	5	2,013,960	1,855,679	158,281
Coronado NF	6	1,859,807	1,786,587	73,220
Santa Fe NF	7	1,734,800	1,572,301	162,499
Kaibab NF	**8**	**1,600,061**	**1,559,200**	**40,861**
Carson NF	9	1,490,468	1,391,674	98,794
Prescott NF	10	1,407,611	1,239,246	168,365
Lincoln NF	11	1,271,064	1,103,748	167,316
National Forests (11)		22,009,856	20,353,490	1,656,366

Source: U.S. Forest Service http://www.fs.fed.us/land/staff/lar/LAR04/table3_r3.htm

There are four wilderness areas (Kana Creek, Saddle Mountain, Kendrick Mountain, and Sycamore Canyon), five lakes and reservoirs, and a landscape rich in history, geology, and natural resources. The vegetation resources of the KNF include ponderosa pine, Douglas fir, Engleman Spruce, pinyon pine, juniper, as well as oak and aspen. Wildlife includes big game species such as elk and deer as well as smaller species such as the Kaibab Squirrel, Abert's squirrel, coyote, fox, and a plethora of bird species. As a neighbor to the Grand Canyon, the KNF also has rich geological resources, including limestone, lava domes, and sandstone that is quarried for flagstone. The archaeological and historic resources are extensive, especially those of some of the earliest inhabitants of the region who are the ancestors of the contemporary Native American tribes that are neighbors to the KNF. Spanish explorers and Mormon settlers also left their mark on the history of this region and have contributed to the cultural mix in the historic resources of the KNF. As in many parts of the West, the railroad, loggers, ranchers, and miners followed the explorers to establish settlements. The legacy of these activities remains a part of the custom and culture of northern Arizona.

The Kaibab National Forest is located primarily within Coconino County in northern Arizona, although a small portion is in Yavapai County to the south and Mohave County to the west. Kane

County in southern Utah also has long-term associations with the Kaibab National Forest.The University of Arizona produced a socioeconomic assessment for each of the national forests in the state, including the Kaibab. This work should be consulted for an analysis of the socioeconomic connections of the KNF with surrounding counties and communities. Table 2 and Table 3 provide an overview of land ownership and population characteristics that are noteworthy context data for the discussions in this report. Landownership is significant because of the limited amount of private land in Coconino County and the relatively high proportion of Forest Service and Indian lands. Noteworthy demographic highlights include the higher than state average rates of population growth for Yavapai and Mohave counties and the lower than average rate of growth for Coconino County. With the exception of Coconino County, there is less ethic diversity than the state average. However, there is a notable population of Native Americans in Coconino County as well as in other northern Arizona counties.

Although the Kaibab National Forest is about two hours distant from metropolitan Phoenix, this population center is a source of visitors as is nearby Flagstaff. Similarly, Las Vegas, Nevada is within a two or so hour drive from the North Kaibab Ranger District.

Figure 1: Kaibab National Forest Counties

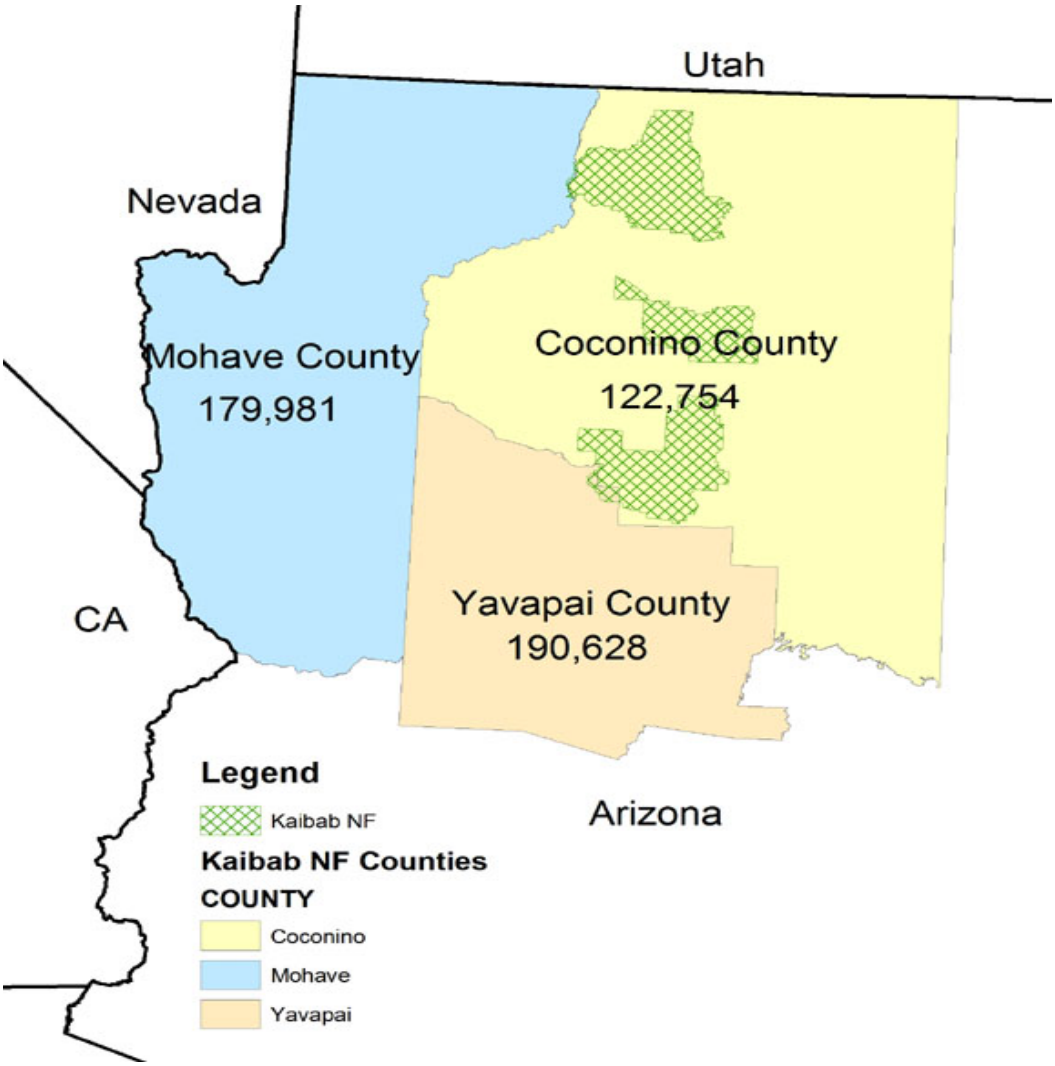

Table 2: County Land Ownership (in 1,000 Acres)

County	BLM	USFS	State	Private	Indian	Other Public Lands	Total Acres
Coconino	612	3,269	1,137	688	5,447	762	11,915
Mohave	5,234	5	582	1,493	544	662	8,520
Yavapai	567	1,969	1,264	1,327	8	64	5,199
Total	6,413	5,243	2,983	3,508	5,999	1,488	25,634

Figure 2: Kaibab NF County Land Ownership

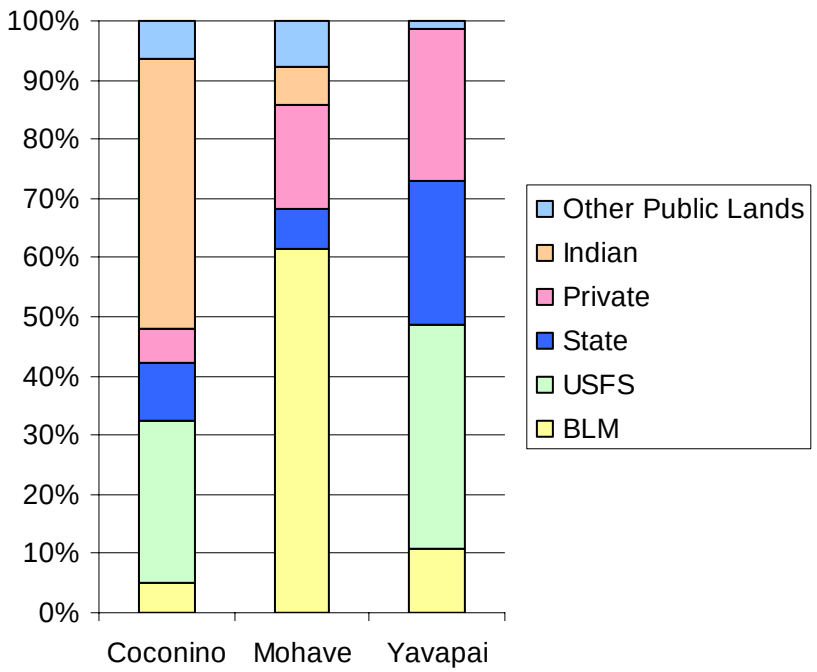

Table 3: Kaibab National Forest

		Kaibab NF		
People QuickFacts	Arizona	Coconino County, AZ	Mohave County, AZ	Yavapai County, AZ
Population, 2003 estimate	5,580,811	121,301	171,367	184,433
Population, percent change, April 1, 2000 to July 1, 2003	8.8%	4.3%	10.5%	10.1%
Population, 2000	5,130,632	116,320	155,032	167,517
Population, percent change, 1990 to 2000	40.0%	20.4%	65.8%	55.5%
Persons under 18 years old, percent, 2000	26.6%	28.7%	23.1%	21.1%
Persons 65 years old and over, percent, 2000	13.0%	7.0%	20.5%	22.0%
White persons, percent, 2000 (a)	75.5%	63.1%	90.1%	91.9%
Black or African American persons, percent, 2000 (a)	3.1%	1.0%	0.5%	0.4%
American Indian and Alaska Native persons, percent, 2000 (a)	5.0%	28.5%	2.4%	1.6%
White persons, not of Hispanic/Latino origin, percent, 2000	63.8%	57.6%	84.0%	86.6%
Persons of Hispanic or Latino origin, percent, 2000 (b)	25.3%	10.9%	11.1%	9.8%
Language other than English spoken at home, pct age 5+, 2000	25.9%	28.2%	10.7%	9.7%
Median household income, 1999	$40,558	$38,256	$31,521	$34,901
Per capita money income, 1999	$20,275	$17,139	$16,788	$19,727
Persons below poverty, percent, 1999	13.9%	18.2%	13.9%	11.9%
Land area, 2000 (square miles)	113,635	18,617	13,312	8,123
Persons per square mile, 2000	45.2	6.2	11.6	20.6
Agriculture				
Farms and land in farms - Farms 1997 to 2002 % Change	-14.3%	-25.5%	-19.0%	-12.1%
Farms and land in farms - Land in farms (acres, 1997 to 2002) % Change	-2.1%	(D)	-22.6%	-9.7%
Farms and land in farms - Land in farms - Average size of farm (acres, 1997 to 2002) % Change	14.1%	(D)	-4.4%	2.7%

(D) Withheld to avoid disclosing data for individual farms.

Source: U.S. Census Bureau 2002 People Quickfacts and U.S.D.A. 2002 Census of Agriculture

Figure 3: Kaibab NF Study Area Percentage of Total Population by County

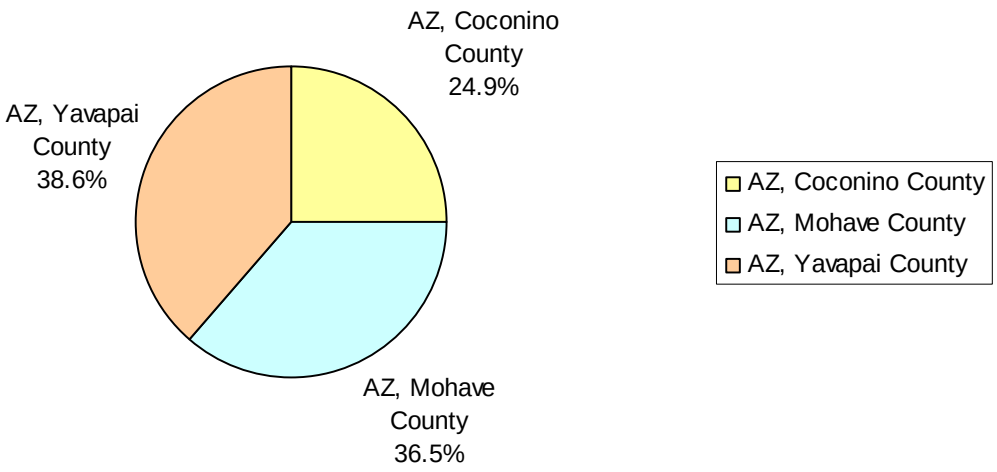

Figure 4: Kaibab NF Study Area Major Cities/Communities Population 2000 & 2003

	2000	2003	% Change
Arizona	5,130,632	5,629,870	9.7%
Coconino County	116,320	125,420	7.8%
Flagstaff	52,894	59,160	11.8%
Fredonia	1,036	1,090	5.2%
Leupp, Navajo Nation *	970	1,045	7.7%
Page	6,809	7,040	3.4%
Sedona (Coconino & Yavapai)	10,192	10,540	3.4%
Tuba City, Navajo Nation *	8,225	8,864	7.8%
Williams	2,842	2,910	2.4%
Mohave County	155,032	170,805	10.2%
Bullhead City	33,769	35,760	5.9%
Colorado City	3,334	3,890	16.7%
Kingman	20,069	22,690	13.1%
New Kingman/Butler *	14,810	16,317	10.2%
Lake Havasu City	41,938	48,730	16.2%
Yavapai County	167,517	186,885	11.6%
Bagdad *	1,578	1,760	11.5%
Camp Verde	9,451	10,095	6.8%
Chino Valley	7,835	9,015	15.1%
Clarkdale	3,422	3,595	5.1%
Cottonwood	9,179	10,240	11.6%
Jerome	329	330	0.3%
Prescott	33,938	38,180	12.5%
Prescott Valley	23,535	27,255	15.8%
Sedona (Coconino & Yavapai)	10,192	10,700	5.0%
Verde Village * & **	10,610	11,837	11.6%

RESULTS

Discussion groups and interviews resulted in a rich set of information regarding public assessments of the Kaibab National Forest. The results presented in this report are not intended to be a full record of this information. Although that task may be useful for a broader understanding of the social and cultural environment affecting forest management, it is beyond the scope of this work. The results presented here focus on public perspectives about what needs consideration as forest managers revise the existing Forest Plan. This information may be useful to assist publics and KNF managers to collaborate in the Plan revision process. Specifically, this information can be used as a basis to plan the structure and process for collaboration as well as to identify needs for change and desired conditions.

Presentation of the results is intended to aid forest managers and interested publics apply these findings to the process of future collaboration. Results are thus grouped into several major categories that correspond with the coding and analysis of the focus group and interview data: the planning environment; multiple-use issues; resource concerns; and, desired futures for the KNF. The planning environment addresses issues that are likely to affect the structure and process of collaboration efforts as well as needs for change issues. This information also describes perceived benefits and values of forest resources that affect public attachments to the KNF. Resource and multiple-use values, attitudes, and beliefs identify some topic areas that suggest needs for change or resources that have emerged as important in the years since the last Forest Plan. A desired condition expresses assessments of future conditions that address public relationships with the lands and resources of the Kaibab National Forest.

Planning Environment

Forest planning and management occurs in the context of social, economic, political, cultural, and ecological conditions and trends. The configuration of these factors can influence what topics are identified as requiring management attention, desired solutions to identified issues or problems, and how publics choose to participate or not in planning and collaboration activities. Identifying the configuration of socioeconomic and cultural issues particular to the KNF can assist planning and management staff to assess likely areas of public concern in future discussions about Plan revision issues.

For the purposes of this work, the following categories of information express values, attitudes, and beliefs relevant for the planning environment:

- The social setting identifies participant assessments of the social environment and noteworthy interactions between communities and forest resources and uses.
- Forest conditions and characteristics describe public assessments of conditions and trends that influence the identification of issues for Plan revision.
- Management approaches addresses public assessments of KNF capacity to achieve sustainability and desired future conditions.
- Agency-wide policies and procedures describe aspects of Forest Service culture and policy that are perceived by publics to affect agency capacity to complete its mission.

Social Setting

Participant comments about the social setting for the Kaibab National Forest have five prominent themes: the history of community interaction with the Kaibab National Forest; population composition and growth; land ownership; transitioning local economies; and, the interaction of forestlands with rural lifestyles. Each theme expresses a connection between adjacent communities and the Kaibab National Forest that has implications for the planning environment for revision of the Forest Plan. Population growth in surrounding communities and more distant urban areas such as Phoenix and Las Vegas, Nevada appear to amplify existing concerns about the availability of resources for use and the interactions among different types of users. Population composition of surrounding communities is focusing attention on the different types of meanings and uses associated with special places and particular types of uses. The limited amount of private land in counties immediately adjacent to the KNF, especially in Coconino County, is focusing attention on particular issues such as land exchanges, economic diversification, and increasing recreational uses of national forest lands. Local economies are transitioning from ones based on activities such as ranching and logging to more amenity and recreational based activities. This is amplifying concern about these types of uses and the interaction of commercial and recreational users of national forest lands.

History

Participants suggested two distinct themes about historical circumstances affecting the interaction of communities and natural resource issues. The first theme emphasizes the history of natural resource lifestyles in this region. Logging, mining, ranching, were once prominent activities with a set of values and beliefs about the purpose and use of natural resources and ways of life based on utilitarian uses of these resources. Some participants emphasize that these natural resource beliefs and values are a component of the history of rural northern Arizona communities. The second theme concerns particular events that sensitize community members to the actions of the federal government. Specifically, designation of the Grand Staircase-Escalante National Monument was not supported by some residents of northern Arizona and southern Utah communities. The decision was described by some participants as “arrogant” and a “slap in the face” because it is perceived not have taken into consideration community needs and desires. Similarly, the history of “downwinders” or those “downwind” of the fallout from nuclear testing in Nevada has also sensitized some residents of northern Arizona and southern Utah to the actions and credibility of the federal government:

Growing up in the fifties here in Cedar City, we could see those blasts in Nevada. When people asked if it would harm us, they said ‘No, but don’t drink the milk for a while.’ I think back to the families that were here and there is a group of kids I remember that when they hit their junior high school years, I can think of one after another that died. Some of those that did not die are crippled and have deformed limbs. Some downwinders have been compensated for that, but it is still the government saying, ‘It is not going to hurt you.’ So, we have to ask, why we should trust this government that told us this is not going to hurt you. It is not just our lifestyles but also our lives that have been at risk.

Population Growth and Composition

Communities adjacent to the Kaibab National Forest are largely rural. Flagstaff has the largest population in northern Arizona with an estimated total (2003) of about 59,160 persons. Other communities in Coconino County such as Williams and Fredonia have populations of less than

4,000 persons, as does Kanab in Kane County, Utah. More distant mid-sized communities such as Kingman (20,069), Bullhead City (33,769), and Lake Havasau (41,938) in Mohave County and St. George (49,663) in Washington County, Utah have also experienced higher rates of growth than communities in Coconino County (Arizona National Forests Socioeconomic Assessment Team 2005). Among other factors, this growth appears to be associated with the availability of land for development. The Phoenix megapolitan area is among the fastest growing areas of the United States. National forests in Arizona appear to be experiencing increased pressure from Phoenix residents seeking recreational opportunities. Similarly, metropolitan Las Vegas is about two hundred miles or so from Fredonia and the northern portions of the Kaibab National Forest. Each of these metropolitan areas is a source of visitors for the Kaibab National Forest as well as other northern Arizona recreation areas, including nearby Grand Canyon National Park.

Population growth in distant mid and large size metropolitan areas is perceived to result in increased demands for recreational resources. Participants suggest that they are not immune from the effects of Phoenix population growth even through the city is somewhat distant from the KNF. Some of these effects are perceived to be visitation by Phoenix residents and others are associated with visitors that may have visited other national forests or recreational areas, but they have been displaced by Phoenix residents. These displaced users are believed to be visiting the KNF to find opportunities for recreation. The perceived increase in demand for KNF resources is also believed to decrease the opportunities to “get away.” With more visitors using the same spaces, participants describe more opportunities for conflicts about uses of forestlands and resources.

Participants also describe the migration of urban residents to rural communities as a source of change in the interaction of communities with the KNF. In general, newer residents are described as either lacking information about the ethics and values associated with the use of natural resources or as unconcerned about these issues. “Traditional” land ethics are contrasted with what is described as diminished awareness of the traditional norms about personal responsibility in the use of natural resources, especially national forest lands. Some participants also suggest that new residents tend to use national forest lands and resources as if they are “day parks” where staff and not users are responsible for cleanup. The social complexity resulting from these mixed values is expressed in the following participant comment:

We have a huge spectrum of people here now. Some people think this area still has the small town feel and other who have been here longer do not. There are people like the ranchers who have been here a while and have a link to the land and they know how they want it to be. There are new people who have no link to the land and they have not been here long. They often have a very different agenda about what they want it to be in the future. There are people with very low incomes and others with very high incomes. There is a lot of frustration among people here who have been priced out of the market for houses because of all the newcomers. People are starting to feel as if we are getting swallowed up.

The different assessments of desired forest conditions also appear to vary among newer and longer-term residents:

People move here because of the forest. They move here thinking, ‘wow what a great forest.’ But, what they don’t realize is that what they are seeing is overgrowth from clear-cutting. So, when the Forest Service comes in and says we have 80-140 trees per acre and we have to get it down to 20-40, then some people are outraged because they think these dog-hair thick tree stands are the

forests they dreamed of living near. We have been able to change some of those assessments through education, but people have their own ideas about what the forest should be.

Rural Lifestyles

Rural lifestyles continue to be important to residents adjacent to the Kaibab National Forest. Population growth poses challenges to maintain the traditional values of face-to-face relationships in rural communities, but the ideal of the rural community where neighbors are known remains important:

People here want to have the money that comes with development, but they also still want to walk down the street and not be scared. They want to have control of their lives and the lives of their children. … There has been a tremendous influx of people moving in. They moved here because of the small town values. They want to reap the benefits of living in a small town, but they resent anyone else moving in because then the community grows.

Participants also suggest that absentee landowners are influencing rural lifestyles:

We have people from Tucson, Las Vegas, and of course Phoenix building two hundred thousand dollar cabins here and then they only use it for a couple of weeks. They don't use a lot of local resources, but they are moving into the WUI (Wildland Urban Interface) because that is where they want to live.

Land Ownership

In Coconino County communities such as Williams and Tusayan are surrounded by KNF lands. The Coconino and Kaibab National Forests also surround the nearby community of Flagstaff. Indeed, within Coconino County approximately six percent of all land is in private ownership and the remainder is federal, state, and Indian owned land. The USFS manages about twenty-eight percent of the total acreage in the county, second only to Indian owned lands with about forty-six percent of total lands. With limited lands for private development in this county, this appears to focus attention on the interaction of private and public lands. It also appears to amplify the interest of local residents in the use and management of KNF lands because of the interaction of lifestyle, community, and forestlands and resources.

I think it is something like thirteen percent of Arizona is privately owned. So, agencies like the Forest Service have to interact with the private land owners and they have to protect the people and the houses who are neighbors.

We are lucky we have so much public land in this state. It is a real asset that improves the quality of life.

Other participants describe the interaction of KNF and communities in the terms of being surrounded by forestlands:

We are like an island here. We are surrounded by the national forest. It is unique as an ecosystem and unique in terms of how it surrounds our communities. We live our life in the national forest or looking at the national forest. It is a daily part of what we see and what we think about because it is in front of us all the time.

Social Diversity

There are two different themes about social diversity. One theme concerns the increase in social diversity related to population growth, especially from in-migration of newer residents. This theme was expressed especially by participants in the Kanab discussion group. These participants emphasized that communities such as Fredonia and Kanab in Utah have a history of Mormon settlement. Participants from these communities perceive more diversity than existed in the past:

On the North Kaibab in Fredonia and Kanab, the LDS (Latter Day Saints) faith is the predominant religion. It has been the foundation of community life here, but there is growing diversity. Many of the community celebrations we have are not necessarily religious, but they are based on LDS traditions. The community is diversifying and that is a change that probably started with construction of the Glen Canyon Dam.

The second theme about social diversity describes a decrease in diversity related to changing economic conditions:

You got to sell gas or a hotel room to get by here. We have Interstate 40 and the Grand Canyon. Those are some of the biggest economic assets of the community. We have some ranching, some railroad, but tourism is our bread and butter now. So, now we have the less fortunate and the fortunate here whereas there used to be more diversity in our economic classes.

Each of these themes suggests a need to be aware of the different types of social diversity and how each type may influence the relationship of communities with natural resources.

Transitioning Local Economies

Participants describe a change from local economies based on logging, ranching, and mining to one based more on tourism and the amenity and recreational values of natural resources. This assessment is consistent with information presented in the University of Arizona social assessment for the Kaibab National Forest (Arizona National Forests Socioeconomic Assessment Team 2005). Participants describe these transitions for communities both north and south of the Grand Canyon. For example,

Here on the North Kaibab we used to have about 800 families that were involved in the former forest products industry that was based in this area. Those people became unemployed. That is a big change. We had people working in sawmills and then we also had the uranium mining industry that came and went.

In the past we had whole communities that were involved in ranching, livestock, farming, or timber and when those declined there were changes in the community. There are places now where there is only one fellow ranching and in the past there were eighteen families ranching in the same area. So, the economic base and the communities have changed with it.

There is a long history of natural resource work here. When we saw the mill close it was one thing. There are other things that have happened and each one in and of themselves is not a major event, but with each event the hope of keeping our lifestyles here was reduced. When you lose that hope it has affects on families and communities that have had those values for a long time.

Some participants suggest this transition partially accounts for declining forest conditions:

The permitees and the loggers have a vested interest in making sure the land is healthy. They have also borne the cost of making roads and doing upkeep that take tax dollars now. Recreation uses don't generate any money and they can damage the forest. If you don't believe that, then go look at some of the areas where ATVs are used.

A common theme about tourism as the economic base is expressed in the following comments:

Tourism has a strangle hold on our (Williams) economy. As we all know, the tourist economy does not provide the best paying job. So, it results in a strong economic stratification within the community. If you own part of the tourist economy, then you and your kids are doing very well. But, then you have everyone else. The dishwashers, the waitresses and the store clerks are all struggling. To put all our eggs in one basket that way is a problem. But, we just keep promoting the tourist industry rather than trying to find other industry. .. Even in the housing being built what you see are second homes. We are catering to those people who do not live here full time. We need to be taking care of the people who live here rather than the wealthy outsiders.

Forest Conditions and Characteristics

Participants describe the Kaibab National Forest as one of the significant assets of northern Arizona. Three themes are prominent in participant comments about the conditions and characteristics of this asset: (1) the KNF provides a setting for the Grand Canyon that enhances the value of that national asset; (2) because of water, altitude, and soil conditions, the KNF is a forest that is "fragile" and prone to being easily damaged; and, (3) participants describe tree density combined with drought as resulting in poor forest health and an increased vulnerability to fire that can threaten communities and forest resources. Each of these themes is briefly illustrated with participant comments:

- **KNF Setting**. The setting of the KNF is described as an asset for communities adjacent to it because of its scenic values. Participants particularly emphasized the interdependence of the Kaibab National Forest and Grand Canyon National Park. For example,

  You can't think about the forest without thinking about the park (Grand Canyon). All that separates them is a fence. Everything is the same. Seeds and squirrels do not know fences and man-made boundaries. The forest is incredibly important to the beauty of the Grand Canyon. The forest allows all this beautiful green area leading into the park. Instead of towns and development right up the edge, we have a forest that is the setting. What we don't have is a Jackson Hole situation. Instead we have a beautiful setting that is enhanced by the forest. It becomes inseparable from the park.

  The same sentiment is expressed in the following comment emphasizing the link between the Grand Canyon National Park and the Kaibab National Forest:

  There is a lot of interaction between the park and the forest. People who are on their way to the park pull off and camp by the road or in the forest. They may start a fire and that can cause problems for everyone. There is also just more impact on the land from the volume of people coming to the Grand Canyon and stopping to camp or ride their ATV or something like that. Grand Canyon and the forest interact. You cannot separate them here.

Tusayan participants also emphasize the needs for information and education about the forest and its resources because of the association with the park:

Here in Tusayan, they don't have enough staff to meet all the demands for information. We have maybe five million visitors to the Grand Canyon per year and a good percentage of them are going to make use of the forest, too. They need more staff, more controlled campsites, more oversight of recreation activities. They just need more resources and staff because of the interaction of the forest and the park.

- **Forest Fragility**. The following two comments suggest different components of an asset of the KNF as a "fragile" environment. The first comment compares the KNF with eastern forests and emphasizes the need to maintain awareness of the conditions that contribute to the perceived sensitivity of this ecosystem. The following comment suggests that there is a perceived relationship between fragile conditions and susceptibility to overuse or misuse than can damage forest resources.

  These are not like eastern forests that can regenerate quickly. We don't have the moisture they do in the eastern forests, so it takes longer to recover from damage. Our soils are also very alkaline. We don't have much top soil because we are on top of limestone. I think the Forest Service appreciates how fragile it is here and I hope they continue to promote that awareness.

  We don't want to open the forest up to unsupervised and unmanaged use. We don't want to be promoting use of the forest that can damage the resource. This is such a fragile environment that if you do that, then it threatens the future of the forest.

- **Forest Health**. The theme of forest health and especially vegetation management was especially strong among participants in all of the discussion groups. Participants perceive a connection between high tree density, drought, beetle infestations, and overall forest health and susceptibility to fire. The assessment of high tree density is expressed in the following comments:

  Our current forest structure on the Kaibab is very thick and dense tree cover. This is the source of the big push among some people for restoration. Sometimes those thick conditions are great for wildlife, but those same conditions are a problem for the wildland urban interface.

  When I look at this forest, I see overgrowth. That does not mean I want to go back to clear cutting. But, when I look at it now, I see overgrowth. So, there needs to be a policy of how to affect that, especially with people who move here and build their houses surrounded by that overgrowth. They need to know about the danger.

  Participants appear to agree that beetle infestations contribute to problems with forest health, although some assess this as part of a natural cycle and others view it as an aberrant condition:

  Beetle cycles follow drought. It is just part of a natural cycle and you have to understand that. Trees that got out of their normal range before the drought and especially those in shallow soils were sometimes hit by the beetles after the drought. If you see the trees at higher elevations in deeper soils, they don't have that problem. So, the beetle infestation is just part of the natural processes. It does give you a funny feeling when you drive through a forest and see a third of them dead or dying.

Beetles are a sign that things are not normal. When you have too many trees and too little water, then you have problems that cause the forest to be out of balance. If it was managed differently, then those abnormal conditions would not exist.

In general, forest conditions are perceived to be "poor" because of tree density and disease. For example,

In pockets the forest looks healthy. But, people moving here should know they are moving into a high desert. You can enjoy this as long as it is here, but don't expect that it will be here forever. It is like a box of kindling right now and it may go at any time.

It is hard to tell what a healthy forest is because you have to ask:' a healthy forest for what?' What we know is that conditions at the turn of the century are not like they are now. There were far fewer trees per acre. And, this ecosystem is one without water in comparison to other places. Maybe it is just healthy forests look different in dry places.

Kaibab National Forest Management

Assessments of KNF management are likely to influence public assessments of agency capacity to manage forest resources. Several prominent themes about KNF management include: clarity of mission, communication, consistency in policy, and, community awareness and cooperation.

- **Clarify the Mission**. Participants suggest a need for the agency to clarify and promote its mission. For example,

  The public does not really know what the agency is doing. If they did some more communication about that it would be good, especially when they are doing burns or things like that.

  In my job I talk to a lot of the public. Many of them don't know that the Forest Service does anything but timber. They also don't think other agencies talk to one another. They think we live in these little vacuums. So, it is important to collaborate and advertise our collaboration so people understand what we do and how we cooperate. So, when an agency's credibility is challenged, it can help if people know how much collaboration goes on. If they have some success stories, it would be good if they publicized that.

- **Communication**. In general, participants expressed satisfaction with communication between the agency and its stakeholders. Some participants emphasize the need for more feedback when public comments are solicited:

  It is encouraging they are reaching out to the public. Probably when the last Forest Plan was made it was a few people in some cubicles doing it. We want to be a part of the planning process and we would like to see some follow-up when we offer some input to them. Too many times we offer something and there is no feedback.

  Other participants describe an improvement in communication and feedback in more recent years:

  In the past, we made comments and never heard anything back. But recently I made some comments about the prescribed burns for Long Jim Canyon like considering options I did not see on the table, things like chipping. I got not one but two calls back about those options. That is much more positive than in the past.

Participants were especially praiseworthy of the efforts associated with fire management. For example,

Communication is hugely important. Without communication in this environment, you can reinvent the wheel over and over again. So, communication is important. I work with the Forest Service closely and they do a good job overall. But, you have to keep the focus on communication and interacting with all the players, especially on the fire end of things. They are trying to do a better job and things are getting better.

The forestry people have been pretty good about providing information about things, especially fire management. They have done a good job there.

- **Consistency in Policy**. Some participants emphasize a desire for more consistency in the policies and procedures between Districts and Forests. For example,

  We are not always seeing consistency of regulations for similar uses across Districts and Forests. We deal with the Prescott and the Kaibab and things are different with each forest. I would like to see them integrate their management of particular resources so that there is more consistency.

- **Community Awareness and Cooperation**. Participants describe improving community-agency working relationships. Participants also describe a strong desire to work with the KNF to address management issues. For example,

  We have a good working relationship with them. It is important to emphasize that. We have some history with the Federal Government, but we are strong advocates of working together with them. Part of the critique of the agency is healthy. That is the way we want it to be. We would like to see more interactions and dialogue with them, but that is a problem that can be solved.

  Tusayan does not have any land for expansion. We are surrounded by the forest here. But, our school population is growing and there is a need for more classrooms for the future. We are applying for a grant to get some property at the south end of town for future growth. The Forest Service has been very supportive and cooperative in helping us with the guidelines and what we need to do to make the application. They are being very cooperative in trying to achieve our common goals.

  As with communication issues, work associated with fire response and management was positively evaluated:

  I see a big improvement in how they are interacting with the community, especially on fire interface issues. They sent out a survey, they held some meetings and showed us some visual presentations with maps. They had the information people needed and it was really a terrific program. People came into some of the meetings openly hostile and left fully supportive because we got the information. They did not feel like it was something being done to them. It was more of a feeling they were part of it.

  Around here (Tusayan) they have made an effort to reduce the fuels on the forest in the past few years. In comparison to a few years ago, they have done that in a wonderfully responsive way. They have been very careful about the impacts to the populations nearby. In comparison to the Park Service, the Forest Service has been more attentive to how fires interact with

communities and that is good for our community. Anything we can say to make the Forest Service sensitive to human habitations around the area is a good thing. They communicate well with us, they take us out to see the prescribe burn sites and that education has been really positive. Just letting us know what is going on is very important and they do that very well.

Agency Policies and Presence

There are themes in the discussion group data that are more general comments about the Forest Service rather than specific comments about KNF management. These general comments are relevant to this discussion because they also affect assessments of the capacity to manage forest resources. The themes about these agency-wide issues include budgets, resources, and presence; decision making and risk taking; old and new style managers; and, staff rotation.

- **Budgets, Resources, and Presence**. Participants expressed concern about the personnel and budget resources of the Forest Service. Perceptions about limitations on these resources are believed to affect the capacity of the agency to perform its mission. For example,

  One of the things I do not like to see is downsizing in the Forest Service. I don't like it because there is no one out there in the woods. There is poaching of stone, poaching of timber and fuel wood, and wildlife too. There is no one out in the forest to see the damage from the mud boggers (four wheeling on wet roads). They have downsized the Forest Service so everyone has a desk job now. They used to have people doing grassland surveys and people checking on the cattle allotments and people doing migratory surveys and plan counts. You couldn't go out for a walk in the woods without bumping into some Forest Service employee. That was cool. It bothers me that there are very few people out in the woods.

  We invite them to our community events and they attend. You get to talking to them and they are one hundred percent into what they do and they seem to know what they are doing. But, there is this catch 22. They want to do more, but they don't have the time. They are stretched way too thin to try to manage the forest and manage the tourists. Those are two different jobs.

  The theme about the presence of Forest Service personnel in the woods is especially prominent in the data. Participants expressed a desire for more direct contact and interaction with agency personnel as well as more resources for enforcement and maintenance:

  They have experienced a lot of budget cuts and personnel cuts. I think the effect is that they cannot patrol in the woods the way they have in the past. Things that they would check on in the past, hunting, ATV use, those kinds of things are not getting done. There is so much heavy recreational use but there is not enough Forest Service staff to keep tabs on it.

- **Decision Making and Risk Aversion**. Agency decision making is described as cumbersome and indefinite. Participants also link this decision making style with what is perceived to be a risk aversive culture that has developed in response to lawsuits and appeals of Forest Service management and decision making. For example,

  The Forest Service has become an agency that cannot make a decision in any kind of timely way. Things just drag out. Sometimes a strong' yes' or a strong' no' is better than just 'we don't know if we can do it.' Things just don't get done in a timely way. The process is so thick that it needs to change so that things get done.

The linkage of decision making with risk aversion is expressed in the following comment:

They are so cautious and so unwilling to make a mistake, that things do not get done. They are afraid of lawsuits and afraid of the effect of that on their careers. So, rather than make a decision to do the right thing, they just don't make a decision because they are afraid it will be challenged. I would like to see them take some risks and do the right thing for the resource.

- **Old and New Style Managers**. There are two distinct themes about management styles among agency staff. The first theme concerns how retirement and turnover is resulting in the loss of expertise and the other theme concerns a perceived prominence among newer managers of 'preservation' orientations to natural resources. The first theme is illustrated in the following comment:

  There is a huge turnover happening in the agency. The old style managers are moving out and newer style ones are moving in. There needs to be a transfer of information and if that does not happen then there will be a huge loss of expert knowledge. So, I want to see that part of their awareness for the future. There needs to be attention to building the expertise to do the job.

  The theme regarding the preservation orientation of newer managers is illustrated in the following comment:

  Overall there has been a shift from forest managers who have a utilitarian bent to those with a preservation orientation. That has affected how things work. They get their paycheck regardless of if they have a sale come out of the forest or not. There isn't the same awareness about the interaction of the community and the forest.

- **Staff Rotation**. Among the most commonly expressed concerns about agency policies and procedures is the transfer or promotion of District Rangers and other key staff. Participants perceive this policy as undermining the working relationships with stakeholders and interested parties. In more rural communities, Forest Service personnel are often important social capital that benefits the community. Even though the vacated position is filled again, it is perceived to disrupt the resources within communities. For example,

  They are trying harder than they used to become part of the community, but there are some things that are just in the system that works against that. They come in here with the idea that maybe they will be here for three years and then to move on and advance in the system, they have to move on to advance their career. In these rural communities the Forest Service people can be a real asset. You know that some of them want to stay and be a part of the community, but they also want to advance their careers. That hurts the community and information about the resources.

Multiple-Use

The dialogue in discussion groups regarding the uses of the Kaibab National Forest expressed some broad themes about multiple-use issues similar to those described for other national forests in Arizona and New Mexico (e.g., Russell and Adams-Russell 2005, 2005, 2006). There are also other themes with content that express beliefs and values associated with communities surrounding the Kaibab National Forest. The more general themes and the Kaibab specific themes about activities and uses of the KNF are summarized in separate sections.

General Beliefs and Values about Multiple-Use

The following broad scale themes were expressed by participants about the multiple-use environment of the Kaibab National Forest.

- Dialogue about the activities and uses of the KNF indicate a belief that commercial uses are declining and recreational uses are increasing. Participants describe mining, especially for flagstone, fuel wood harvesting, tourism and guiding, grazing, and some limited timber harvesting as the primary commercial activities on the KNF. Permitted users suggest a rising tide of paperwork to maintain their permits, a cumbersome permitting process, and delays in the NEPA (National Environmental Policy Act) process when such work is required.
- Commercial uses are generally described as having some benefit, although skepticism remains about grazing and timber harvesting. Grazing supporters believe their use of the forest has stewardship value that assists the Forest Service to maintain forest resources and to assist in vegetation control that can increase fire danger. Grazing opponents are unsure the environment of the Kaibab National Forest is broadly supportive of grazing; and, there is some argument that grazing is not an economically viable use of the resources of the KNF. Timber harvesting is perceived to be limited and focused more on restoration and stewardship contracting than commercially viable harvesting.
- Recreation is believed to be the predominant use of the KNF. A full range of activities including skiing, mountain bike riding, hunting, fishing, OHV (off-highway vehicle) riding, birdwatching, camping, hiking, and wildlife viewing occur on the forest. The range and volume of these activities is believed to be increasing. Participants also suggest the forest offers enough open space to accommodate most uses without conflict. However, two types of recreational uses were noted as problematic: OHV use and hunting.
  - Off-highway vehicle use is problematic because it is disrupting other users and contributing to resource damage. The problems identified with OHV use include, excessive noise, littering, off-trail riding that causes erosion and resource damage, unsafe speed and riding practices on trails that endanger other users; and, a lack of concern among some OHV riders about trail etiquette. Participants also suggest that as the volume of users from metropolitan areas such as Las Vegas and Phoenix increases, there is a likelihood of increased OHV use; and, with the increased volume the absolute numbers of problem users will increase causing an even wider range of user conflicts.
  - Although hunting is described as among the most common and valued uses of the KNF, especially elk hunting, it is also a concern because of the problem behavior associated with it. The complaints are similar to those associated with OHV activity: litter, off-trail riding, and especially “mud bogging” that is attributed as much to hunters as it is to dedicated OHV riders.
- As the uses of the KNF increase, the resources to maintain facilities and expand trails in response to increased demand appear to be diminishing. Participants express a belief in the need for resources to maintain facilities and resources that are important recreational assets; and, a need for expansion of recreational planning that is appropriate to the demand. Users with commercial permits suggest that their activities generally benefit forest resources at a point in time when the agency has fewer resources to complete its mission. These users are concerned that commercial activity may be curtailed and this will result in a decline in forest conditions.

- Enforcement and education are needed to address perceived misuse and problem behavior such as littering, vandalism, poaching, and off-trail OHV riding. Participants suggest there are insufficient resources to respond to what is believed to be more problem behavior associated with increased use. Although education about land ethics is an answer to some of the problem behavior, increased enforcement of poaching and other illegal activities is believed to be necessary in order to maintain and improve the quality of visitor experiences and the health of forest resources.

KNF Specific Multiple-Use Themes

Themes about access, timber, grazing, and personal responsibility in the use of forest resources appear to express some KNF specific issues. Each of these issues is briefly summarized and illustrated with selected comments.

Access and the Forest as Commons

Access to forest use is a priority issues for publics throughout the West in general and it is also expressed in the data for other Arizona and New Mexico national forests. These same general concerns about road closures and maintenance are also expressed in the discussion group data for the KNF. There is also a theme associated with what might be termed a traditional use among the residents of communities on the North Kaibab District. These communities were traditionally associated with the Mormon (Latter Day Saints) faith. Participants describe a belief in the national forest lands of this area as a kind of "commons" that was used for a variety of family and community events.

When the early settlers came here the settlements in this area were based on water. The farming operations were associated with water and in some ways the commons of the early communities were those areas. Once they became public lands, those common lands were thought of as "ours" even though it was federal land. The longer you have been here the more you become to have those beliefs about the commons as our land. Unfettered access to federal lands has been an important part of the family traditions. Some people say that the easiest way to get elected here is to be against federal access policies. That shows some of the tensions that exist about federal lands and our beliefs about them being our common lands too.

The *commons* tradition continues to be a belief and a practice among the residents of this area:

In this area the forest has been a kind of commons area. Family and community use it for recreation, for ranching, and for family outings. Things like ranching and hunting are all part of that tradition. You might have a family or several families that would go out ranching together and it is a way of socializing as much as anything. And hunting in these rural communities is a recreational thing, but it is also a family activity. In the past it was an activity that drew families together. We have done our hunting mostly on the commons and it is part of our way of life.

There are also some particular traditions associated with the use of forest, including practice called "Eastering" as described in the following comment:

In a lot of northern Arizona and Utah at the Easter time of year when the good weather hits, there is a rush to the desert and other places on public lands. It is really a family gathering. You can have maybe eighty people including relatives and close friends who gather at Easter time and go out onto the public lands.

Some participants describe some tensions around the use of federal lands as a community or family commons:

A few years ago there were some Easter gatherings here and they brought in a bunch of federal people because they said they thought we were going to overrun the place. This was so in your face that it did not need to be. They were defying us to go where we wanted to go. If someone says you can't do this or that to that local person and you are within your rights and not disturbing the landscape, then that is disturbing because they are affecting access to lands that are ours.

There are also tensions associated with diversifying use of the national forest by persons who are from more distant communities or who are newer residents to the traditional northern Arizona and Southern Utah communities:

With new people moving in and new demands for use of the resource from Las Vegas and elsewhere, there are more people out there competing with locals for the use of the land. It is just a reality of life now and we can accept that, but it is a change from how things used to be and there are a few tensions about it.

Grazing

Grazing is described as a continuing but diminishing use of the Kaibab National Forest. Some participants describe grazing as an activity with some past abuses that have been addressed by updated practices:

Grazing was overdone here in the 1970s. It was grazed so hard that you would see bare spots and meadows that did not regenerate. Now maybe they have gone too far the other way. Overgrazing was a problem in the past, but if they manage it, then it can help the ecosystem and help fire danger.

Grazing is an integral part of the national forest. They need to have permits, but it does benefit the forest if it is done correctly and according to the permits. If you give a rancher a grazing right and they have to move their cows say every three weeks, but they don't do it, then there is a problem. But, if they do rotate them, then it can benefit the forest. In a year like this year when the undergrowth is high it would be beneficial to have grazing to help keep that down. In the 1920's when they had sheep grazing here there was not the same problem with undergrowth. Now, you can thin all you want, but that does not take care of the undergrowth. Grazing has merit because of what it does for the undergrowth.

The theme of grazing as directly addressing fire danger is a prominent theme in the discussion group data for the KNF:

I see a real role for grazing in helping with cutting down on the undergrowth. It needs to be part of the management scheme in controlling fire and I support it as a use in that sense.

Participants also note there are ongoing tensions about grazing; especially the efforts of some entities to buy ranches that may not use their full allocation of Animal Units per Month (AUMs). For example,

Given how grazing works here and the constant lawsuits, there is a tension about grazing. And the respond of the agency has been to cut back on AUMs. So, you take some outfits that are very

vocal about anti-grazing and they put pressure on the Forest Service to cut back. I don't think the issue is with the agency, but it is a philosophical issue on each side of the agency and the Forest Service is caught in the middle. But, there are people here who would like to see those unused AUMs put to use and there is tension about that.

Personal Responsibility

Participants in each discussion group emphasized personal responsibility in the use of forest resources. There is a belief that personal responsibility has declined. Some perceive this decline is associated with a diminished land ethic in American society, others suggest there is a lack of information about the expectations for the use of public lands, while others suggest the Forest Service has fostered this decline because:

The agency and others are catering to their users so much there is just no personal responsibility anymore.

However, the prominent theme is the need for individuals to assume personal responsibility for their actions and the use of forest resources. In part, this appears to be related to concerns about declines in forest conditions associated with increased use. There may be other reasons, but the sentiment about accepting and fostering personal responsibility as an element of multiple-use is clearly expressed in the following comment:

One thing that is clear is that we can no longer completely rely on the government. What I mean is that, we each as citizens have an obligation to care for the land without waiting for the government to tell us how to do it. We have to take a responsibility for the land that is ours. We need to be invested in how it is managed, how it is used, and how it is taken care of.

Timber, Forest Restoration, and Community Health

Some participants expressed the belief that the future of forest management is in conceptualizing the use of the forest in terms of restoration activities that benefit forest resources and surrounding communities. This is a subtle difference in the more common conception of commercial use of forest resources as providing economic benefits to communities and sustaining forest resources. In the assessment identified for this theme, forest restoration becomes the central concept in the relationship of communities with natural resources. Although there may be economic benefit that results from these activities, their purpose is to ensure a healthy resource and healthy communities. This connection is illustrated in the following comment:

There used to be a strong timber industry on the North Kaibab, but things have changed. In this area, we are really involved in forest restoration now. What a logger, road builder, or other person brings to the table is for forest restoration. The tools they bring may be the same, but what we are trying to accomplish is forest and rangeland restoration now. We are about wildlife habitat improvement. The bottom line with all of that is some economic development. We firmly believe that if you have a healthy community it will contribute to a healthy environment. We can change the paradigm so that what we do for restoration will benefit communities economically in a way similar to what the timber industry once did. It will not be the same, but it is a future we see.

Resource Benefits and Values

Comments about resource benefits and values were categorized into two groups (1) resource assets and intrinsic values and (2) socioeconomic benefits and values. The first category contains themes about particular resources such as scenery, quiet, biodiversity, fire, vegetation, wildlife, and special places. The second category contains themes about the social, economic, heritage, and other social values attributed to forest resources.

Resource Assets and Intrinsic Values

Participant comments about the benefits and values of KNF resources include statements about particular places and trails to more general statements about biodiversity and intrinsic values of all forest resources.

Biodiversity

Participants describe a forest environment rich with diverse vegetation, wildlife, scenic, and other biological resources. In describing these resources, participants describe both the present and the future value of these diverse resources:

This is a forest rich with resources. We have such variety here from desert to high mountain ponderosa forests. The vegetation variety we have is amazing and we have wildlife from mice to elk, deer, and bison. We all benefit from having those resources in our world. I want to make sure our children have these resources too. They need to know there will be a ponderosa forest, a goshawk nest, and a meadow where deer browse in their future.

Another participant also expressed the value the diverse resources of the KNF:

We are a mountain island here. It is a special area that is very rare because we have mountains that rise off the desert. We have one of the largest ponderosa pine forests in the world. The changes in ecological conditions here are something that needs to be treated with respect and preserved. I think of the forest as a place to sustain the diversity of life here. In my mind it is not primarily a place to produce a product to sell. A forest can do that, but the primary purpose of a forest in my mind to sustain the diversity of life.

Fire

Although forest fire is perceived as a threat to communities, natural fires are perceived as a potential asset to control of forest vegetation. Past fire suppression is perceived by some participants as contributing to overgrown forest conditions. The use of fire as a resource is perceived to benefit the KNF ecosystem. For example,

We built a habitat through the Smoky Bear campaign to have no fire anywhere. The results are here with us now. People are now realizing they are doing more harm by putting out all the fires than by actually letting the ground fires clean up the undergrowth and promote healthier trees. Even the brush will come back better after a wildfire. You have to be careful, but natural fire is important to this forest.

Intrinsic Value

Some participants noted that specific resources such as scenery and solitude are resources that have value that is not easily quantified. Such resources are described as having “intrinsic value.” Other participants also describe the forest as an entity that has intrinsic value for the present as well as future generations. For example,

There needs to be buffer zones around sensitive areas where there is no commercial development or activity. There are values that are beyond just economics and we want to make sure that those intrinsic values are sustained as well as economic values. Things are going to change and as they change we want to make sure that the non-economic values are considered. I am not a tree-hugger mind you, but I do appreciate and cherish the environment. It is our land and we have an obligation as citizens to cherish it and pay attention to its values for now and for future generations. It is a very fragile environment and we need to remember that for the future. We need to make sure that the forest continues to exist not because you can cut trees or mine minerals, but just because we need forests in our future.

Components of this intrinsic value are illustrated in the following comments that also describe the intrinsic value of forest resources:

I cut wood for a living, but on my days off I go to the forest just to be there. It is a special place for me and my family. When I have the time to stop and just look around I find it inspiring to be there in the woods. It is something we need to have in our community. We need to have the opportunity to experience the forest as part of our lives, not just as a place to work, but as a part of our lives. We have to remember that we are just passing through here and we have to take care of the planet and our forest.

And,

There are some people who never leave their houses here and visit the forest. There are others who sustain themselves by going to the forest. It is the richest place on earth for me. When I am in the woods I can see the processes of life and appreciate my connection with the world. As a society, we need those types of places to exist. We have to remember if you lose something like this it is gone forever. That would be a loss that you cannot put into dollars.

National Park Connections

Participants from both rims of the Grand Canyon emphasize the interconnection of the Grand Canyon National Park (GCNP) with the Kaibab National Forest. The interaction of the GCNP with the KNF is believed to enhance the value of each entity. As noted previously, some describe the KNF as the setting for the GCNP that is described as the “crown jewel” of national parks in the nation.

I cannot imagine the park without the forest. If the forest was not there, then there would be development right up to the edge of the park. The forest is a buffer that leads you into the park. It makes you anticipate what the park is going to look like, especially when you come in from the North Rim. They interact in a way that makes each one special for different reasons.

And,

If you took the forest away from here, it would be a big loss to the canyon (Grand Canyon). People like the look of this forest, they like the green and the trees. It adds to the whole ambiance. The aesthetic value of the forest is something that is hard to put into dollars, but it generates dollars for communities here.

Peace and Quiet

Quiet is a resource that participants identified in two different themes. One theme identifies the need for quiet in response to the noise generated by motorized use in the forest. For example,

There are more and more of them (ATVs) using the trails and riding everywhere they can go. They should be planning for areas of the forest where people who want to hear natural sounds can get away from the motorized noise.

The other theme identifies quiet as an asset of national forests that needs to be managed as a particular resource:

Personally, I would not care if another person ever visited this forest. I like the place because it offers peace and quiet and the out-of-doors. It is also something that people who live in the city need more and more. There are just too few places where you can go and find quiet and the forest is among those few places. I don't think it is on the manager's radar as something they need to address, but for me it is one of the important things about the forest and we need to make sure it continues to be available to those of use who seek out places for peace and quiet.

Roads and Trails

Roads and trails are the access routes to the forest for most visitors. These are described by participants as among the valued assets of the forest, although they are not part of the natural assets:

Any kind of a trail, if it is a hiking trail or a four-wheeler trail or a single track trail, they all have an impact. They are not a natural part of the forest no matter what you think. But, for me, it is the way I get into the forest. I like to ride my ATV and get out. Without those trails, I wouldn't have the time or energy to visit the forest. So, management of trails and roads is high on my list of what is important about this forest.

Scenery and Aesthetic Values

Participants describe the KNF as a forest with exceptional scenic resources. Scenic resources are believed to have intrinsic value and they also enhance the quality of life for residents in surrounding communities. For example,

A really beautiful drive is along 302. You can drive 302 to Grandview and it is just wonderful. There are meadows and just wonderful views of wildlife. It is also one of the ways to get into the park free! It is widely used by all the jeep tours because of that. But, it is a beautiful area and we love to go out there when people visit.

And,

We are surrounded by the forest here. You can't go too far out of town and you are in the forest. You can look up at the mountains that are around us here. That is all the national forest. Without

the forest we would be a different community. It adds to the quality of life in our community. It is one of the reasons I moved here and it is one of the reasons that people continue to build summer homes. It is just a beautiful place that has inspiring views.

Vegetation Variety

Participants describe the variety of vegetation on the KNF as a particularly valued resource. Although vegetation overall is described as "overgrown" and contributing to poor forest conditions, the variety of vegetation is noted as particularly important to the characteristics of this forest. For example,

There is so much variation in the vegetation on this forest. You can be in the sage or the pinyon, juniper or oaks and then into the tall pines. It has a lot to offer in the way of variety. Fortunately, few people go there. That is a good thing because those of us who do go find it to be very peaceful. I think if they just decided to manage this forest for vegetation, everything else would fall into place. Good vegetation management that respects the variety we have here is what I would like to see at the core of the next plan.

Water

Water is noted as a special resource of this forest because it is in short supply. Water is valued as a drinking source and essential for sustaining wildlife and vegetation that are also valued resources of this forest. Water is also valued because it has an essential role in fire protection:

Water is one of those resources that is in short supply here. If you have a forest fire here, we don't have the water resources that other forests might have. So, they have to use slurry rather than water. So, we have the highest water scarcity of any forest say within a thousand miles. So, that makes us vulnerable, especially since they closed some of the slurry bases because of the budget cuts. The people doing the work are great, but they need more assets.

Wilderness and Special Places

Special places and wilderness areas are described as valued assets, although there are mixed assessments of designated wilderness areas as a component of the KNF. Some designated areas provide experiences for participants that are perceived as unavailable in areas of more mixed use. For example,

One big plus of this area is the primitive areas we have. People can find peaceful hiking and peaceful hunting. I enjoy archery where you have to stalk the animals and the quiet for that is important. So, I enjoy having those areas where you can have that peaceful experience.

Another theme about designated areas is that they provide areas where natural processes can exist without human intervention:

The forest has the hand of man on it almost everywhere. There needs to be places where we can see the forest take care of itself, so we can see what happens. That is one of the reasons I support wilderness. Those are places where we can see how fire operates and how biological systems control themselves.

Wilderness is complicated. There are people who think it should be managed and others who think that we shouldn't touch it because there are so few places left we can't touch and we need those places. If we touch it, then we may lose the qualities that make it special.

Another theme suggests more mixed assets of the need for designated wilderness areas because of the effects of designating places that have special qualities:

There are some places here that are special, but they are not designated as wilderness areas. They don't allow road building or grazing or things like that there. The thought at the time was that maybe the best way to protect those areas is not to designate them as wilderness because then it would increase the number of people going there. So, sometimes it is better to just leave it as a natural protected area rather than make it a destination.

A final theme suggests that designated special places such as wilderness can inhibit access by the full spectrum of potential users. This theme is illustrated in the following comment that makes a comparison between the Grand Canyon National Park and the Kaibab National Forest:

We don't really need wilderness areas here. We have the compound with the gate around it (Grand Canyon National Park) and we don't need more of that here. The mentality of the Park Service is to put a gate up and keep the people out so they don't have to worry about visitors. … That is not what we want here for the forest.

From this perspective, national forests are landscapes in which a range of publics can interact with and use forest resources for a variety of purposes whereas national parks and designated wilderness areas have restricted uses and limited access.

Wildlife

The KNF provides habitat for a variety of wildlife, including threatened and endangered species such as the goshawk. Wildlife is also a resource with intrinsic and other values for adjacent communities:

We have a wide range of wildlife and it adds to the quality of life here. When my cousin visited we went out and saw deer, coyote, turkey, elk, and a whole bunch of other things. We have elk in our front yard and there are elk at the airport. It is a big draw for tourists, but we also just like to have them here.

Socioeconomic Benefits and Values

There are three themes about the social and economic values and benefits associated with forest resources: direct economic benefits, including those associated with forest products; the heritage value of archaeological and other historical resources; and the social value that enables the existence of natural resource lifestyles.

Economic Benefits

The KNF is perceived to offer direct economic benefits to residents of adjacent communities because of the tourist value of the forest. For example,

The visitors to the Grand Canyon like to see the forest around it. Most of them don't know that it is the Kaibab; they think it is the park. But, because the forest is here, there are local businesses that benefit from it. Without the forest here, there would be people who would go out of business.

Participants in a range of communities also note the tourism value of the KNF:

I don't necessarily agree with the emphasis of the city on tourism, but they promote the Kaibab (National Forest) as a draw for the community, especially the hunting and ATV use. There are hunting guides and other businesses that directly depend on the forest for income, so it is an asset for the community in that regard.

Forest products such as timber, grass for grazing, flagstone, and fuel wood are also described as resources that provide economic benefit for adjacent communities.

Historical and Archaeological Sites

Sites associated with the pioneer history of the region as well as Native American archaeological sites are described as important assets of the KNF:

There are many places where there are traces of the Indians. That ancient history is a real asset of this forest. Then there is the more recent history, the pioneer history. You see that in the in-holdings in the old cabins and structures and the old stagecoach line. Those are important resources for the forest, too.

Social Value for Natural Resource Lifestyles

The existence of the national forest provides resources for natural resource based lifestyles, especially ranching. Participants describe ranching lifestyles as expressing some of the essential values about the West and American culture. The availability of grazing resources is perceived to enable the existence of those lifestyles and the values they are believed to express. The value of ranching lifestyles in local communities, especially on the North Kaibab District is expressed in the following two comments:

Ranching isn't a big economic generator here like it used to be. It is a small part of the economic picture, but a huge part of the social picture. Here in Kanab, the mascot of the high school is the Cowboys. We are the Kanab Cowboys. We have Western Heritage Days that celebrate the legacy of those traditions. Now, are most of the people here in Kanab cowboys? No, they are not. But, it expresses the values and culture of this community. People can trace their roots to ancestors who were involved in that way of life. I would like to be in ranching and my family has the property, but we need something to pay the bills. We do not want to give up on it because we hold it near and dear to our traditions. We reach into our extended family to maintain that heritage. I want to pass on to my grandchildren that heritage, too.

And,

There are people who want to be a part of the ranching heritage, but they can't make a full time living. The smaller operators have to do something else but even if they make a little bit of money at it, then it allows them to stay viable. There is nothing more rawboned than a hardnosed cowboy. But, we need each other and we need to cooperate to stay alive. For example, my irrigation system would not stay working if I was fiercely independent. We rely on each other to

keep things going and that supports our community. The reality is that we survive because we work together. That is a way of life I want to see preserved because it shows the value of hard work and cooperation.

Needs for Change and Desired Futures

Dialogue about the Kaibab National Forest also expressed a range of assessments and beliefs about the needs for change and desired futures. Participants expressed these beliefs and values in response to direct questions about the needs for change and in the context of dialogue about particular issues. Some of these issues are implied in previous sections about the planning environment, multiple-use, and forest resources. Comments in this dialogue were categorized into two sub-sections: (1) KNF management issues and (2) use and resource issues. These beliefs and values are briefly identified here as a starting point for dialogue between interested publics and KNF managers about the future of the Kaibab National Forest.

Management: Needs for Change and Desired Futures

Participants perceive there are needs for change to respond to ongoing and future demands for management of the KNF. These assessments appear to affect public assessments of the capacity of KNF management to manage forest resources and uses. Themes include expectations about forest planning and collaboration; fostering community stewardship; the desire for more on the ground presence of KNF personnel; desires for partnerships in providing education and information about forest resources, uses, and land ethics; a management emphasis on monitoring; a desire for a management strategy based on sustainable use of forest resources; and the use of volunteers to effectively manage forest resources and uses.

Collaboration and Planning

Participants expressed a desire for a working partnership with KNF managers. This partnership would engage interested communities to work proactively and cooperatively to identify and solve problems related to KNF management. Participants suggest that such partnerships require a change from current approaches to working with interested publics. For example,

Get out of the citadel and on the street talking to people. Engage people in meaningful dialogue. They are trying. We have some good working relationships with the Forest Service. In this community if you put a nickel in you are going to get a quarter's worth of community interest and collaboration. People here will strive to find ways to work together. If there is a way to figure out how to make it work, we can do that. But, there has to be willingness on all party sides to do that. It is just not on the side of the agency and we know that. But, there is an opportunity to do that if a hand is extended to work on this together.

Although participants express a strong desire for a partnership relationship with the agency, there is recognition of potential problems in the process of collaboration, especially with decision making authority and the relative weight given to local and not-local input regarding forest management. For example, concerns about the relationship of public participation and collaboration to decision making authority are expressed in the following comment:

I remember going through the collaboration process for the Grand Staircase process and one person said to me that 'you know that people got shot for that (collaboration) during World War

II.' It is not necessarily a process that has positive connotations. What we are talking about is something like a cooperating agency approach. The decision still is the responsible federal agency, but it is closer to what we would like it to be. We are looking to be more of a partner than a stakeholder. We want to sit down together and work out a solution. We are thinking about more shared responsibility than exists now.

Similarly, concerns about the relative weight of comments by local and non-local publics are expressed in the following comment:

The difficulty that will come is that these are public lands and that entails those in New York and California and they will say that they have to listen to them as much as they listen to us. That is true, but it grates on people's nerves here.

Participants acknowledge the KNF is a public resource and all publics therefore have an interest in forest management. However, to some participants local residents who engage the resource and have an experience based understanding of resource issues should have more value than comments by non-local residents who may have no understanding of forest issues or conditions.

Fostering Community Stewardship

Previous sections noted an emerging sense of public stewardship for KNF resources. Participants expressed a desire to work cooperatively with KNF managers to apply public stewardship to improve forest conditions and address issues in forest management. This sense of public stewardship is expressed in the following two statements:

You have to be educated and you have to be responsible. You just can't be irresponsible and say everything goes. We need to educate ourselves to be responsible and know what the sideboards are. As local people, we just need to be as responsible as we can. We can sit here and talk about what the Forest Service needs to do in their planning process over and over, but the reality is that communities have responsibility we have not stepped up to. We have waited and reacted and we need to get beyond that.

And,

The agency needs to take the step and look at their legal obligations and how those impact local communities. Then communities also need to assume responsibility for what happens. If you have an interest, then you also have a responsibility. If you want something to happen on the national forest, then you have to act to fulfill that interest. Interest and responsibility is part of what needs to happen in the partnership with the community.

Participants expressed the desire for the Forest Service to foster this sense of personal and community responsibility as a means to respond to ongoing and emerging issues such as vandalism, littering, and other irresponsible uses and activities on KNF managed lands.

Increased Presence

Participants expressed a desire for more presence of agency personnel in the forest. There are two components of this theme. One is the desire for an increased enforcement presence to respond to perceived problems with illegal activity and problem behavior. The other is the desire for more

direct knowledge of forest conditions to apply to forest management. The first theme is illustrated in the following comment:

We are seeing a lot of poaching and a lot of problems with people doing damage to the resource. They have been trying hard to stop a lot of the illegal taking of surface stones and fuel wood. But, because of lack of funds and personnel, the problems have increased. We see a need to have more people on the land who can do something about the problems.

The second theme about increased presence is expressed in the next two comments about a desire for more face-to-face interaction and concerns about downsizing:

We really need to have more face-to-face interaction with them (FS). In our area, what the Forest Service does has an influence on our community. So, they have some problems with budget and personnel, but I would like to see more priority placed on interaction with the public The more they know about what is going on out there, the better they will be at managing the forest and how we use it. If they are in their office, how do they know? They may be able to look at satellite images and see forest conditions, but they can't see how people are using the forest and that interaction of people and the forest.

I want to see downsizing stopped and more people in the field. I want to see them in the field getting the first-hand knowledge about what happens in the forest so they have a factual basis to make decisions. I want to know it isn't some office poke's hair brained idea.

Education and Information

Themes about desires for more information and education about forest resources and uses have two components. One is a desire for the agency to promote awareness of KNF resources and facilities as a means to improve user experiences. For example,

If you type into any search engine "Grand Canyon" you will find more than you want to know. If you type in Kaibab National Forest, you will not find as much about conditions, what to do, etc… From a guest services standpoint, they could do more to promote the forest, identify where camping and other activities are allowed and provide some information that would benefit communities near the forest.

A related theme is a desire for the agency to work with communities to provide information that can enable understanding of forest process and issues. Participants expressed the belief that providing this information is one means to foster public stewardship for forest resources.

A long time ago they used to take school kids on hikes up to the top of the mountain here. The kids would come back bug eyed with moss and lichen in their pockets. They would tell you all the things they saw. And they were told this forest belongs to them and how they had to take care of it. Now, the kids don't get out from their television sets. I think the schools here are begging for more educational interaction with the USFS to haul kids out to archaeological or geological sites. We know that those kinds of activities are the ones that get cut first, but it is something that has long-term benefits.

Monitoring

A pervasive theme in comments about forest management is the desire for increased monitoring. There are two components to this theme. One concerns the need for information that is a basis for informed decision making and effective management.

If you make a plan and don't monitor then you have a problem. We need to include monitoring as part of the research, planning, and management cycle. That is how we know about what we are doing. If they don't monitor, then how do we know the decision made is not just then bias of the decision maker?

The second component is a desire to employ local knowledge and expertise in the monitoring process.

One of the things I would like to see is the agency use local communities for monitoring. There is a lot of local knowledge and local expertise they could use to engage the community. We would like to have the direct involvement and not have monitoring done by someone who does not know the area.

Sustainable Management

Some participants expressed a desire for a management approach that emphasizes the long-term sustainability in resource use. These beliefs emphasize that there is room to accommodate diverse uses such as timber, ranching, and other commercial activities if sustainability is central to KNF management approaches. For example,

I want to see them managing for two or more generations ahead. They should be managing so that a long time into the future, there is still mining to be done. There is still ranching and there is still a timber industry. Maybe not timber for a huge international timber corporation to come and clear out in three months, but for several families to sustain themselves for generations. I want the forest not just to take care of people, but also to have biological diversity. The impacts of human beings should not be destroying the forest. We need to pass on this forest to the future.

In the future we can still have mining and still have ranching. We need to be looking toward the future so there is a forest and we leave our children a forest and not a desert.

Some participants perceive sustainability as serving the needs of adjacent communities while others believe sustainable management emphasizes managing for sustaining resources regardless of the effects on communities. For example,

I don't want them to ignore the effects of what they do on communities, but they should be focusing on managing for the long-term health of the forest. They shouldn't have the survival of ranching or the survival of timber companies as their priority. If you take care of the resource first, then there will be opportunities in the community.

Volunteers

In some communities volunteer resources are limited. In others, there appears to be more available community capital that can be applied to volunteering to assist the agency in some management activities. In those instances where community capital is available, participants

expressed a desire for increased opportunities to address issues of concern about forest conditions and uses. For example,

I would like to see them offer more volunteer opportunities so that those of us who care about the forest can help out. Things like highway cleanup or cleaning up roads. Since they are so short on labor and money, it would be of help to the forest.

Maybe what they need to do is designate some of the main access roads as areas for volunteers. If they were proactive about getting a handle on the trash and litter, then things would be better. It would also be a good way to teach the kids about responsibility.

Resource and Multiple-Use Issues

Some of the issues noted here are implied or explicit in previous discussions about KNF resources and multiple-use beliefs and values. This discussion is intended to summarize some of the key themes about needs for change expressed in these other sections.

Custom and Culture

Given the history of community connections with the lands and resources of the KNF, participants expressed a desire for consideration of community custom and culture in future management decision making and planning. Although there is acknowledgement that the agency appears to be aware of local traditions, there is also a desire for a change in the priority assigned to how decisions affect custom and culture. Among some participants, custom and culture needs more emphasis as a priority issue in planning and decision making. Other participant statements believe custom and culture is a relevant planning and management issue, but resource health and biological issues should have priority.

Forest Health, Fire Management, and Community Safety

The linkage of forest health, fire management, and community safety is a common theme in the discussion group data. Although participants uniformly praise fire management and planning activities of the KNF, there is a desire for action to address forest conditions that create fire danger. The positive assessment of KNF fire management is indicated by statements such as the following:

We used to call them controlled burns, but they got out of control so now they call them prescribed burns. But, the people on this forest are using fire science to the nth degree. Things are being monitored constantly as these fires go on.

The perceived threat to communities from fire dangers is indicated by statements such as:

We are 100 percent dealing with tourists who come up the road to visit the Grand Canyon. We have no other economy in Tusayan. If we lose the forest, it will hurt our community and our economy. So, we need to make sure that forest health and fire safety are at the top of the list for what to consider in the future because the affect us so directly.

The solutions to this threat are management policies that include a diverse set of management tools and effective resources to respond when fires do occur:

A healthy forest is one that is not over grazed and there is a good diversity of birds and wildlife. There is natural fire control but not out of control because we have changed the environment so much. The problem now is the undergrowth that the fires would have cleared out, but that has not happened. We need to get natural fire back into the management scheme to make a healthy forest. We also need to use grazing and thinning and any other tool we have to make sure the forest is healthy and does not threaten our communities. We also need to make sure the Forest Service continues to have the tools it needs to respond to fires when they do get out of control. We know we have to have fewer trees per acre, but we can't do it all in one push. We have to do it gradually and I think we have to start with the urban interface areas.

In-Holdings and Land Exchanges

Participant concerns about in-holdings and land exchanges appear to be linked. This linkage appears to be based on identifying criteria for consolidation of in-holdings and engaging in land exchanges. Participants expressed concern about ensuring that future decisions regarding land exchanges and consolidation of in-holdings are based on resource management principles rather than the fiscal benefits to the agency. These sentiments are expressed in the following comments:

I know there is some concern on this District about all the in-holdings. I know they would like to consolidate those. But, I would like to see a broader strategy about what the best and highest value is of those in-holdings. I would like to see them be proactive about in-holdings rather than just react to situations. There are some problems with how they are thinking about in-holdings and land exchanges and how those interact with communities. What they do affects us because of the limited land base, so I want them to think this through. I want them to tell us what the basis is for their decision and we want to know they are doing what is right for the forest.

The Forest Service has a motto:' Caring for the Land and Serving the People'. They have to remember that. This plateau is a unique place and they should not be swayed by dollar signs for land exchanges. The aesthetic and heritage values that exist for these lands are important and I would like to see them keep those in mind when they do land exchanges and not just have dollar signs in their eyes.

Off-Highway Vehicles

Diverse participants expressed a desire for change in the management of off-highway vehicles. As noted previously, this desire is based on an assessment that existing OHV use is increasing as are issues attributed to OHV activity such as resource damage (erosion, disruption of wildlife, etc…), excessive noise, and other disruptions of user experiences. Solutions offered include designated areas, improved trail system to accommodate different types of users, limitations on noise levels, and the use of buffer zones. The buffer zone solution is expressed in the following comment and it appears to apply to campsites and residential areas adjacent to forestlands:

We don't want the area torn up with dirt bikes. And, if you live close to the forest, then noise is a big issue because of the ATVs. I live right up against the forest and there is a road nearby. There is heavy ATV use there. It seems to be an endless procession of them. I would like to see some buffer zones where they cannot go, especially where their land (USFS) meets private land. But, it is also a problem in the area we like to go camping. A buffer zone around the areas for camping is needed too.

As with other issues of concern to participants, a component of the solution to OHV activity is cooperation with local communities to identify the details of the problem and the possible solutions:

OHV use has too much money tied up in it and too strong a lobby. So, there needs to be some strong proactive management to plan for that use. The issues are what kind of uses can occur with those vehicles and where can it occur. It may cause some heartburn for some of us locals, but we have to do it to get a handle on it. People from urban areas are looking for these types of areas and the use is not going to decrease. Maybe they need to start thinking about allocations of areas and zoning rather than some broad -scale approach. They may also have to work closer with local communities to enact a plan. Maybe there is a sit-down between the local and federal government folks and maybe even the state folks to get together on the same page. Because how they manage this will impact our communities and our communities have to be willing to take some responsibility that we have not taken in the past. We have to look at the bigger picture and if we work together, it will benefit all of us.

Quiet

As noted in the previous section, a perception about intrusive and disrupting characteristics of ATV use is the noise generated by this activity. Participant comments about ATV use suggest the overall importance of quiet as resource that requires management. For example,

One of the reasons people enjoy going to the forest is to experience the quiet. There is a lot of noise intrusion now that did not use to be there, especially from ATVs. Maybe what you have to do is create special areas for them, but more importantly they need to have areas where people can experience quiet and enjoy just that. Someone who has an ATV ought to have the right to go out and drive it too, but somehow they need to consider the needs for quiet, too.

This comment expresses a sentiment about the desire to include “quiet” as a consideration in the use of forest resources and the management of interactions among users.

Recreation Management

The prominent theme about recreation management is the desire for more proactive planning about recreation uses. Participants describe a perceived gap between the resources and planning allocated to recreation and the volume of recreation use; and, there is a belief that recreation planning and management needs to have a higher priority. There is also expressed desire for more information and interpretation that is believed to offer both an enhanced user experience and also to promote ethics about the use of forest resources. For example,

Awareness about recreation has been slow in coming. We are a heavily used forest for recreation, but they do not seem to have had the foresight about the potential for recreation. Private parties that operate jeep tours and ATV tours are providing some interpretation that I would like to see come from the Forest Service. Several years ago they had summer interns come in and tell people about the flora, fauna, and history. The table was usually crowded every single night they were here. … That is what I would like to see is more interpretation, more information, and more awareness about the recreation potential of the forest.

What they used to do with personal contact they know do with pamphlets. If they could tell people more about what the resource are here, then the forest would be used more. But, people don’t

know. We know that they don't have the resources now, but people want more information and more service about recreation issues. If they have more information about the right way to use the forest then we will have fewer problems. But, the Forest Service needs to take the lead and work with us to develop and distribute that information.

Some participants also expressed direct concern about the effects of hunting on forest resources. Although there is recognition that hunting provides economic benefits to communities and that it is also integral to the lifestyles of the region, it also has effects that can be managed to mitigate some of its adverse effects:

They really need to get a handle on the problems associated with hunting. Hunting is big here and so are the problems that come with it. The litter and the driving on wet roads and causing road problems are important issues. It is very political because it is such big business, but maybe they could assess a fee that would go to the District to manage roads and undue the damage the hunters do. I would also like to see a buffer between the residential areas and the areas hunters use. I am not against hunting, but the effects need to be addressed.

Restoration

Although participants may disagree about the causes of current forest conditions, there is general agreement that conditions need to change. Among some participants this concern is amplified by the perceived shift from commodity production to recreation. These participants suggest that with fewer paying users in the forest (e.g., timber harvesting and ranching) and declining budgets, the downward trend of forest conditions will increase unless forest restoration becomes the priority. Some participants perceive a focus on restoration will benefit communities as well as forest health:

Whatever name you put on it, restoration needs to happen because of the condition of the forest. There is more work out there than ever can be done, especially with taxpayer dollars. We need to find a way to harness the capacity of our communities to help. How can you build that capacity to do the restoration work if there is only a trickle of money once a year? You have to plan effectively with outcomes that make sense for a desired future that includes a healthy forest.

This perspective emphasizes developing community capacity to work cooperatively with the agency to focus on restoration work as a means to restore forest health. And, from this perspective, a "trickle of money" to communities needs to be transformed into a more robust commitment of funds to address the conditions of declining resources.

Roads

Although participants describe concerns about access, there is also a theme about support for continued road closures. Some participants perceive there are too many roads that lead to problems with off-trail riding, road proliferation, and the litter and vandalism problems that accompany increased access. Participants do desire more attention to the maintenance of key roads that appear to vary by geographic area. This sentiment is expressed in the following comment:

What I believe is that they don't' have to create new roads, but maintain some of the key roads. There are so many roads and they have done a good job of closing some of the roads, but there are still too many. We have about the right amount of access now, but they need to be maintained

and they are not maintaining them. We don't want to see more roads built, maybe a few side roads closed, but a few key roads need to be maintained.

Scenery Management

Participants describe communities adjacent to the KNF as "surrounded" by the forest. This is an asset that participants believe is an asset for the quality of life in these communities. However, participants also suggest there is a need to focus on scenery as a planning and management issue because of the value residents place on the aesthetics of their surroundings. For example,

I think the Forest Service can be more proactive in scenery management here. Sometimes land exchanges can play a part in keeping the scenery as a part of the community. That scenery draws tourists to our communities, but scenery is also important to why people live here. I would like to see them create some buffer zones so that development or land exchanges do not disturb those areas around communities where scenery creates exceptional places.

A component of this sentiment is that the scenery of this region is unique, especially in areas adjacent to the Grand Canyon National Park.

We have some unique landscapes here. They create a unique environment that has heritage value that should be available to future generations. I would like to see the Forest Service recognize those heritage values, especially in places like this (Tusayan) where the interaction of the forest, the community, and the park creates a special situation. What I would like to see is the scenery enhanced and not degraded.

These sentiments call attention to a desire for scenery management to be part of the considerations in the interaction of communities and the Kaibab National Forest.

Trash and Litter

Participants noted a perceived connection between increased use and problems with trash and litter. Some of this is attributed to users from urban areas that are believed to engage in less responsible use than more local residents. However, this generalization is not held by all participants:

We all know there are problems with littering by people who don't live around here. But, I disagree that they are the major problem. There are a lot of local people that dump their trash and litter when they go into the forest. I have seen it happen. Those people need as much education as anyone else.

Perceived solutions to the litter problem include increased education, the use of volunteers to cleanup, and increased enforcement. Some participants also suggest a combination of seasonal enforcement and more trash containers:

This is a real problem. For years I have been picking up trash on the forest. There are some heavily impacted areas where they could at least put out some trash containers and encourage people to use them. They could do that for hunters and put them in the places hunters go. Maybe they need some more oversight during those peak times when they could do something about trash and litter.

Trash and litter are indicators of forest conditions and they adversely affect user experiences. Alone, litter and trash may be minor problems, but participants appear to identify trash and litter as indicators of a range of associated problems resulting from increased use of forest resources. Assessments of increased population growth and inevitable increased use of forest resources, participants desire solutions to trash and litter problems that degrade their experience of visiting the Kaibab National Forest.

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APPENDIX

Topic Areas for Discussion

The following topic areas will guide the discussion about forest and grasslands management.

Identity. Each participant will be asked to describe their interest in management of National Forests and Grasslands and any particular perspective or interest/stakeholder group with which they are affiliated.

Community Character and Recent Changes This topic address about the lifestyles and social life in communities adjacent to National Forests and Grasslands. The purpose of this discussion topic is to understand the connections between communities and these public lands. Example questions are:

> How would you describe this place to someone who has never been here, both the place and the way of life?
>
> How has this community changed in the last 10-15 years? What are the important sources of change?
>
> What are your thoughts about the challenges for this community/region?
>
> What communities, occupations, or lifestyles are most and least affected by how National Forest and Grasslands are managed?

Uses. Communities and groups have connections to National Forests and Grasslands from the types of uses of these lands. This topic develops the range of uses of National Forests and Grasslands. Example questions to discuss are:

> What are the most and least common uses of these National Forest and Grasslands?
>
> Are there any types of existing or potential uses that are not compatible with these lands? Do all users get along?

Is there anything the Forest Service should do to change how Forests and Grasslands are used in the future?

Resources. This topic area identifies the types of resources that are contained within National Forests and Grasslands. This will aid in identifying the connections between communities and resources of the National Forests and Grasslands. An example issue to develop is:

> A place is often thought of as the sum of its parts. Can you describe the parts, the types of resources of this National Forest or Grassland?
>
> What are the special qualities and characteristics of these Grasslands?

Areas for Special Designations. Some Forests and Grasslands have an area or geographic feature that is given a special designation such as Wilderness, Wild and Scenic River, Roadless Area, or Research Natural Area.

> For any existing area, how do you describe the qualities and characteristics of this area? What does it contribute to communities in this area?

> What are the benefits of having this type of area in this National Forest or Grasslands? (Local, National, Other?)
>
> If areas for special designation do not exist on this National Forest or Grasslands, is there are need to identify a particular place or landscape? If so, where?
>
> Are there other types of "special places" in this National Forest or Grasslands? (Locate these on Forest/Grasslands map). And, what are the qualities of these places that make them "special?"

National Forest and Grasslands Benefits and Values. "Value" has several definitions such as "attributed worth or merit." This discussion will develop locally meaningful definitions about values and identify specific values about National Forests and Grasslands.

Similarly, a "benefit" can refer to the types of effects that result from a resource such as a National Forest or Grassland. Some benefits may be economic and others may be recreational. Some communities, groups, or individuals may receive more benefits than others from having such resources nearby. This topic area will address questions such as:

> What is valued about National Forests and Grasslands?" (e.g., Products, Services, Opportunities, Existence)
>
> What are the benefits to nearby communities and groups from National Forests and Grasslands?"

Desired Futures. Many people have an idea of how they would like to see a place such as a National Forest be in the future. They have ideas about current conditions and how those should change to improve the landscape and its resources. This topic will develop information about your future vision for National Forest and Grasslands resources. Example questions this topic will address are:

> How would you compare the conditions in the forest now to how you would like to see them in the future?
>
> What should the Forest Service do to achieve your future vision for these lands?

Key Management Issues and Priorities for Future Forest Management. The Forest Service is developing strategic plans to guide future management of National Forests and Grasslands. An understanding of public assessments of existing plans and future needs can help the agency to identify planning issues. To discuss this topic, we can address questions such as:

> What do you think is broken and what needs to be fixed as the USFS revises existing plans?
>
> > What has the USFS done well in its management of lands and resources here? Are any changes needed in the management strategy in those areas?
> >
> > What are the "bottom line" issues for you in revision of the existing plan? That is, are there management issues that absolutely must be addressed or changed from how they are now?

Additional Issues. These topics are guiding the discussion, but there may be others that you feel are important and need to be included. Please identify any additional topics you feel need to be considered by the USFS as it tries to understand the connections between communities and National Forests and Grasslands.