

ARTHUR CARHART

NATIONAL WILDERNESS TRAINING CENTER

"Fostering interagency excellence in wilderness stewardship"



Wilderness Stewardship Desk Guide

Management Practices for Wilderness in the National Forests

This Desk Guide is provided by the Arthur Carhart National Wilderness Training Center as a synopsis of the intent of wilderness laws, regulations, and Forest Service policy and contains descriptions of typical management practices for information purposes only. The Management Practices and examples do not represent new or official Forest Service Policy or direction except where noted.

The Desk Guide is a 'work in progress' and will be updated as new issues emerge and new policy and management practices are developed. Comments and suggestions are appreciated and should be sent to: tcarlson @ fs.fed.us.

More information on most of the topics in this Desk Guide can be found at:

- Toolboxes at: <http://www.wilderness.net/toolboxes/>
- Forest Service wilderness page at: <http://www.wilderness.net/FS/>
- Forest Service wilderness Intranet site: <http://fsweb.wo.fs.fed.us/rhwr/wilderness/>

What Should be Done and What Cannot be Done in Wilderness

The question of what should and cannot be done in wilderness is the most often received query at the Arthur Carhart National Wilderness Training Center. The topics for discussion arise both from internal resource management proposals as well as visitor use and other agency requests. Many queries have no clear and consistent answer because The Wilderness Act did not directly address the issue or provided for exceptions, or because Forest Service Policy is lacking for a new or emerging issue.

The following is a summary of many of the key issues facing wilderness managers. Each issue is described in terms of how managers typically address the issue to meet the intent of law and policy, with references provided. The management of the wilderness resource is extremely complex. It requires a systematic and fully integrated approach as part of an overall wilderness stewardship program. Although components of the wilderness resource are separated below for discussion, it must be clearly understood that ecologically, politically, and practically, everything is connected and interrelated. Functional or specialty area discussions must be viewed in an ecosystem perspective.

Congress enacts and the President signs legislation, like the 1964 Wilderness Act, that provides broad direction and defines implementation responsibility. The appropriate Secretaries and agencies to which responsibility is delegated promulgate regulations and write policy for executing the laws. For National Forest wilderness management, the Regulations are published in the Code of Federal Regulations at:

<http://www.gpoaccess.gov/cfr/index.html>

Wilderness Regulations are found in Title 36, Part 261 and 293.

Policies and agency wilderness management direction are published in the Forest Service Manual Section 2320. To view the complete text of Forest Service Wilderness management policy visit:

<http://www.wilderness.net/index.cfm?fuse=NWPS&sec=policyFS>.

Case law further interprets laws and the way agencies apply them. Judicial decisions related to wilderness can be found at:

<http://www.wilderness.net/index.cfm?fuse=WSRS&sec=intro>

Laws, regulations, policies and other direction are used as a basis for development and revision of Forest Plans which contain standards and guidelines for local on-the-ground management of wilderness.

References to The Wilderness Act of 1964 (TWA) and FS Wilderness Management Policy contained in the Forest Service Manual (FSM) are noted for the topics that follow. Regulations found in the Code of Federal Regulations (CFR) are included if they provide additional direction not found in Policy.

Guidance may also be found in subsequent wilderness legislation for areas designated after 1964. To view additional information on Forest Service Wilderness Management visit: <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=manage>.

Common Wilderness Stewardship Topics

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Access to Other Lands, Mining Claims and Valid Occupancies

The Wilderness Act states in Section 5 (a):

“In any case where State-owned or privately owned land is completely surrounded by national forest lands within areas designated by this Act as wilderness, such State or private owner shall be given such rights as may be necessary to assure adequate access to such State-owned or privately owned land by such State or private owner and their successors in interest, or the State-owned land or privately owned land shall be exchanged for federally owned land in the same State of approximately equal value under authorities available to the Secretary of Agriculture: Provided, however, that the United States shall not transfer to a State or private owner any mineral interests unless the State or private owner relinquishes or causes to be relinquished to the United States the mineral interest in the surrounded land.

(b) In any case where valid mining claims or other valid occupancies are wholly within a designated national forest wilderness area, the Secretary of Agriculture shall, by reasonable regulations consistent with the preservation of the area as wilderness, permit ingress and egress to such surrounded areas by means which have been or are being customarily enjoyed with respect to other such areas similarly situated. “

Federal Regulations

Sec. 293.12 Access to surrounded State and private lands.

States or persons, and their successors in interest, who own land completely surrounded by National Forest Wilderness shall be given access as provided in subpart D of part 251 of this chapter.

Sec. 293.13 Access to valid occupancies.

Persons with valid occupancies wholly within National Forest Wilderness shall be permitted access to such surrounded occupancies by means consistent with the preservation of National Forest Wilderness which have been or are being customarily used with respect to other such occupancies surrounded by National Forest Wilderness. The Forest Service will, when appropriate, issue permits which shall prescribe the routes of travel to and from the surrounded occupancies, the mode of travel, and other conditions reasonably necessary to preserve the National Forest Wilderness.

Forest Service Policy

2320.5 – Definitions

15. Adequate Access. The combination of routes and modes of travel that the Forest Service has determined will have the least-lasting impact on the wilderness resource and, at the same time, will serve the reasonable purposes for which State or private land or rights is held or used.

2326.13 - Access to Surrounded State and Private Land, Valid Mining Claims, or Other Valid Occupancies

1. Surrounded State and Private Land. Ensure adequate access to States or persons, and their successors in interest, who own land completely surrounded by wilderness. Adequate access is defined in 36 CFR 293.12 and section 2320.5.

Prevent unauthorized road construction or motorized transport across wilderness. The Regional Forester may provide these landowners with written permission to use wilderness routes or motorized modes of travel not available to the general public. When the exercise of these rights of access to surrounded land would be detrimental to wilderness values, attempt to acquire the land by purchase or exchange or donation before granting access.

2. Valid Mining Claims or Other Valid Occupancies. Permit access to valid occupancies according to the direction in 36 CFR 293.13. Include proposals for access within the boundaries of the claim area in the operating plan. Authorize access off the claim area by special use permit if there is approval for other than primitive access (FSM 2710).

2326.11 - Use of Motorized Equipment by Other Government Agencies. Approve the use of motorized equipment, aircraft, or mechanical transport by other government agencies in National Forest wilderness in the same manner and under the same conditions stipulated for Forest Service use (sec. 2326.1). Special provision is given for access to existing snow measurement sites (sec. 2323.44).

2326.12 - Use of Motorized Equipment by Valid Occupants of National Forest Land. Approve the use of motorized equipment and/or mechanical transport by valid occupants of National Forest System lands in wilderness using criteria in section 2326.1.

Management Practices

Access issues can be challenging and complicated. The language of the Wilderness Act which states “such State or private owner shall be given such rights as may be necessary to assure adequate access” is strong and it compels a thoughtful decision process. While there is no one size fits all answer both the law and policy require managers to seek and compare similar access situations to help determine what is reasonable.

A primary consideration in determining adequate access is the Wilderness Act mandate to “preserve wilderness character”. The method of travel used to access state or private land may have adverse effects on one or more qualities of wilderness character. For example, allowing motor vehicle travel inside wilderness would likely affect natural conditions and outstanding opportunities for solitude or a primitive and unconfined type of recreation for visitors. The motor vehicle travel route would also be considered a development in wilderness.

A review of a recent court ruling may help illustrate this topic. In the Absaroka-Beartooth Wilderness on the Gallatin NF in Montana, the owners of a patented mining claim asked the Forest Service for permission to construct a 6-mile gravel road to their property so they could better access the mineral potential, transport construction materials for hunting and fishing cabins, and for emergency access. The Forest Service denied them the road based on a review of other similarly situated inholdings and found that in only one other instance had new road construction been authorized in a wilderness area. The FS said the owners could walk or ride horses in and construction materials could be flown in by helicopter.

The owners went to court stating that helicopter access was prohibitively expensive & unreasonable. The Court found for the Forest Service (Absaroka Trust vs. Glickman D. Mont., 2002) succinctly decreeing, the law “does not guarantee the cheapest access, only adequate access, and this access is consistent with similar areas situated elsewhere”. The court also cited FS Regulations “Where a conflict in resource use exists, the preservation of wilderness character predominates over other values.”

Wilderness Accessibility

In 1964, Congress passed the Wilderness Act and established the National Wilderness Preservation System (NWPS). Congress has sole authority to designate Wilderness; the USDI National Park Service, the Bureau of Land Management, Fish and Wildlife Service, and the USDA Forest Service, must manage these lands within the parameters specified by the Wilderness Act.

As stated in Section 2(a), the purpose of the Wilderness Act is:

“... to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to ... secure for the American people of present and future generations the benefits of an enduring resource of wilderness ... “

In the years since its passage, some people have claimed that the Wilderness Act discriminates against the rights of persons with disabilities because it prohibits the use of motor vehicles, mechanical transport, and other activities within Congressionally designated wilderness areas. Section 4(c) of the Wilderness Act states: “

“Except as specifically provided for in this Act ... there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

The Wilderness Act was written before the rights of people with disabilities were a prominent national issue. Not surprisingly, there is no mention of people with disabilities in the Wilderness Act. So, as people with disabilities began to use Wilderness, the question was raised whether a wheelchair is mechanical transport and therefore prohibited from the NWPS.

In 1990, Congress passed the Americans With Disabilities Act (ADA). The ADA addresses the issue of accessibility in the NWPS in Section 507(c) (emphasis added):

"(1) In General -- Congress reaffirms that **nothing in the Wilderness Act is to be construed as prohibiting the use of a wheelchair in a wilderness area** by an individual whose disability requires use of a wheelchair,”

“and consistent with the Wilderness Act, **no agency is required to provide any form of special treatment or accommodation**, or to construct any facilities or modify any conditions of lands within a wilderness area to facilitate such use.”

“(2) Definition -- For the purposes of paragraph (1), the **term wheelchair means a device designed solely for use by a mobility - impaired person for locomotion, that is suitable for use in an indoor pedestrian area.**”

People with disabilities often visit wilderness. In some cases assistance is needed from helpers or wheelchairs. Managers sometimes receive requests to allow additional

equipment, or accommodations for people with disabilities that would not normally be allowed in wilderness. To help managers address these requests and make decisions consistent with the Wilderness Act and the Americans with Disabilities Act a Wilderness Access Decision Tool has been developed as a set of guidelines. The guidelines can be found at:

http://carhart.wilderness.net/docs/wild_access_decision_tool.pdf

Gates, berms, and other barriers

The Architectural Barriers Act of 1968 (ABA) states:

“Any facility that is built, bought, rented, or leased by, for, or on behalf of a Federal agency is to be accessible.”

Section 504 of the ADA states:

“No person with a disability can be denied participation in a program that is available to all other people, solely because of his/her disability.”

If foot travel is permitted beyond a gate, berm or other barrier, a person using a wheelchair must also be able to access that area. Typically a 32” minimum of clear passage around gate, berm or other barrier is needed for access to such foot travel areas.

For assistance with law and policy interpretation, or other information contact the FS National Accessibility Program Manager at: [jzeller @ fs.fed.us](mailto:jzeller@fs.fed.us).

Also, see the **Wilderness Laws** section of the Wilderness Awareness Toolbox at: <http://www.wilderness.net/toolboxes/> for a discussion of the provisions of the Americans with Disabilities Act and the Architectural Barriers Act.

(TWA Section 4c)

Wilderness Character and Wilderness Characteristics

Introduction

The terms 'wilderness character' and wilderness characteristics' are sometimes used interchangeably and misunderstood by some. The two terms both have importance for the Forest Service wilderness program but they originate from different aspects of both the Wilderness Act and FS policy and handbook guidance. Misconceptions and improper use of the two terms has and will potentially lead to significant confusion and poor decision making.

Basis in Law

Wilderness Character:

In the Wilderness Act, wilderness character is used in two sections to provide the mandate for administration of designated wilderness areas.

Section 2 (a): "For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by the Congress as "wilderness areas," and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the **preservation of their wilderness character**,..."

Section 4 (b): "Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for **preserving the wilderness character** of the area and shall so administer such area for such other purposes for which it may have been established as also to **preserve its wilderness character**. "

Wilderness Characteristics:

The Wilderness Act does not use the term wilderness characteristics but it can be argued that wilderness characteristics are part of what defines wilderness. Wilderness characteristics are the conditions of the land that may qualify an area for consideration as designated wilderness.

and some of the same qualities that define wilderness character can also be used for this purpose.

From the Wilderness Act Section 2(c) we can draw out a meaning of wilderness characteristics for use in evaluation of lands proposed for wilderness such as:

"(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; "

“(2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; “

“(3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and

“(4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value. “

Basis in Regulations and Forest Service Policy

Wilderness Character:

Regulations governing the management of designated wilderness:

- 36CFR293 .2 “...National Forest Wilderness shall be ... administered ... in such a manner as to preserve and protect its **wilderness character**.”

Forest Service policy for management of lands designated as wilderness is contained in FSM 2320.

- FSM 2320.2 (4): Protect and perpetuate **wilderness character** and public values...”

Wilderness Characteristics:

Regulations:

- 36CFR 293 Management of Designated Wilderness Areas and 36CFR219 Special Designations and Wilderness Area Reviews:
 - No use of the term “wilderness characteristics”

Forest Service Policy:

Forest Service Handbook - FSH 1909.12 Land Management Planning Handbook, Chapter 70 Wilderness Evaluation:

- 72.1 Capability: The capability of a potential wilderness is the degree to which that area contains the basic **characteristics that make it suitable for wilderness recommendation** without regard to its availability for or need as wilderness. The principal **wilderness characteristics**, as identified in the Wilderness Act, that follow are generally, but not necessarily, listed in order of importance or desirability. Consider these **characteristics** in analyzing the quality of the wilderness resource of a potential wilderness area.
- The listed **characteristics** are: natural, undeveloped, outstanding opportunities for solitude or primitive and unconfined recreation, special features and values, manageability plus additional **characteristics** for lands East of the 100th Meridian.

Other Supporting Information

Wilderness Character:

Dictionary definition of character: “the combination of qualities or features that distinguish one person, group, or thing from another” or “ the aggregate of distinctive qualities” Webster’s II Dictionary

Legal and wilderness scholars refer to the Wilderness Act Section 2 (c) Definition of Wilderness to understand congressional intent for the meaning of wilderness character (Rohlf and Honnold 1988, McCloskey 1999, Scott 2002).

From: Monitoring Selected Conditions Related to Wilderness Character: A National Framework, RMRS-GTR-151, April 2005:

- “This monitoring Framework also improves wilderness stewardship by more clearly articulating what wilderness character means, which may help managers evaluate proposed actions...”
- “Wilderness character may be described as the combination of biophysical, experiential, and symbolic ideals that distinguish wilderness from all other lands.”
- The Framework uses the Definition of Wilderness from Section 2 (c) of the Wilderness Act to identify four qualities of wilderness related to wilderness character:
 - Untrammelled
 - Natural
 - Undeveloped
 - Outstanding opportunities for solitude or a primitive and unconfined type of recreation
- The Framework also recognizes that there is a fifth component of wilderness character that must also be considered:
 - The unique qualities of a particular wilderness area.
- Agency decisions and actions may either support or degrade certain qualities of wilderness character and some decisions may have a lasting effect on the land and the meanings associated with wilderness:
 - Examples: choosing not to use a chainsaw, build a bridge, suppress a fire, install a fish barrier, land a helicopter, treat non-native invasive plants, transplant wildlife, etc.

A recent search of judicial rulings revealed that references to wilderness character from the Wilderness Act were frequently cited in decisions:

- 54 District Court cases
- 31 Circuit Court of Appeals cases

Wilderness characteristics:

Dictionary definition of characteristic: “a distinguishing feature or attribute” Webster’s II Dictionary

Potential Problems:

Why is it important to distinguish between wilderness character and wilderness characteristics?

Response 1: Interchanging wilderness character and wilderness characteristics confuses those who rely on established guidance:

- 1) Law, regulation, and policy use or omit the terms wilderness character and wilderness characteristics for generally different but related purposes:
 - Wilderness character - Management of designated wilderness
 - Wilderness characteristics – Evaluation of areas of potential wilderness
- 2) The Forest Service has published the Monitoring Selected Conditions Related to Wilderness Character: A National Framework, which includes the statutory definition of wilderness character and the four qualities.
- 3) The Minimum Requirements Decision Guide (MRDG) uses wilderness character, and the four statutory qualities, as criteria to determine if an action is necessary (Step 1) and select the minimum tool (Step 2).

Response 2: Disregarding the differences between wilderness character and wilderness characteristics can lead to their incorrect use in other guidance, internal integration within the FS, and agreements with non-federal agencies and non-governmental organizations.

Example: The 2006 AFWA Policies and Guidelines for Fish and Wildlife Management in Wilderness, Attachment A, MRDP Outline incorrectly uses wilderness character and wilderness characteristics to mean the same thing:

- Step 1a, 5.: “Determine whether the proposed action contributes to the preservation of **wilderness character**...”
- Step 2a, 2. “This entails analyzing the impacts of each alternative on the **wilderness characteristics** (naturalness, outstanding opportunities for solitude or a primitive and unconfined recreation, and other special features)”.
Note – There is an additional confusing problem here as the parenthetical list of qualities of wilderness character (naturalness, outstanding opportunities...) omits 2 of the 4 qualities (undeveloped and untrammeled) which could lead to poor decision-making.

Response 3: For training and management purposes line officers, wilderness managers, and others need clear and unambiguous definitions and guidance to ensure good analysis and decision making, and avoid adverse appeal decisions and court rulings.

Management Practices:

Understand and emphasize the correct usage of the terms wilderness character and wilderness characteristics in all planning documents and management of wilderness.

More information:

Wilderness Character Monitoring Framework:

<http://www.wilderness.net/index.cfm?fuse=WC>

Wilderness Planning Toolbox: <http://www.wilderness.net/toolboxes/>

Commercial Enterprises – Cabin Rentals

The intent of Congress is very clear about (1) occupancy, (2) permanent habitation, and (3) commercial enterprise in congressionally designated wilderness. The Wilderness Act of 1964 (P.L. 88-577) states: “A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain” (Section 2(c)).

An area of wilderness is further defined to mean, “undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions (Section 2(c)).

Additionally, the Wilderness Act states, “Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise...within any wilderness area designated by this Act (Section 4(c)).

Structures in Wilderness: There are now over 700 wildernesses in the National Wilderness Preservation System. Many of these wildernesses have old mining shacks, cabins and even lodges that were used at the turn of the century. Some of these structures were built during the CCC days and are now used for administrative purposes by the Forest Service.

Historical Structures in Wilderness: Numerous structures in wilderness qualify for protection and preservation under the Archaeological Resources Protection Act (P.L. 96-95). Some dwellings and structures in wilderness have been determined eligible for the National Register of Historical Landmarks. Existing laws, policy and regulations govern the preservation, stabilization and maintenance of these heritage sites.

The commercial enterprise prohibition in the Wilderness Act does not allow use of these structures as cabin rentals. There are ample opportunities for such enterprise outside of wilderness.

Forest Service Policy

2324 - MANAGEMENT OF SUPPORT ACTIVITIES IN WILDERNESS

2324.04 - Responsibilities

2324.04a - Chief. The Chief is responsible for approving:

1. Insect and disease projects that do not meet conditions described in FSM 2324.04b.

2. Replacement of Forest Service facilities at administrative sites and construction of buildings for cooperating agencies that have responsibilities within National Forest wilderness.

2324.3 - Management of Structures and Improvements

2324.31 - Objective. To limit structures and improvements for administrative purposes or under special-use permit to those actually needed for management, protection, and use of the wilderness for the purposes for which the wilderness was established.

2324.32 - Planning. Document the need for administrative and existing special use permitted improvements in forest plans. Develop removal schedules for those improvements considered unnecessary. Provide an historical evaluation when needed.

Determine the long-term need of the improvement and its location before authorizing substantial maintenance for administrative or permitted improvements.

Consider alternative locations that may be more compatible with the wilderness resource.

2324.33 - Structures and Improvements Needed for Administration

2324.33a - Administrative Sites. Unless otherwise authorized by the Chief, limit existing administrative sites to the existing structures or replace them with similar structures of compatible design. Justify the need for existing stations in forest plans. Do not plan any new stations in wilderness.

Management Practices

Manual direction allows for these sites to be used for administrative use if they are the minimum necessary for the administration of the wilderness. To use a structure for any other purpose in wilderness would only be allowed if it is an existing right, such as a valid mining claim, a private inholding or other valid occupancies. Designation of any structure as a new administrative site, replacement of buildings at existing administrative sites, and construction of buildings for cooperating agencies require a decision by the Chief.

(TWA Section 2c and 4c, FSM 2324)

Communication Installations and Facilities

The Wilderness Act states in Section 4c:

“...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”.

Forest Service Policy

2320.3 - Policy

10. Inform wilderness visitors that they face inherent risks of adverse weather conditions, isolation, physical hazards, and lack of rapid communications, and that search and rescue may not be as rapid as expected in an urban setting in all publications and personal contacts.

2324.33g - Communication Structures. Maintain communication structures only as necessary for administration and protection of the wilderness. Evaluate and document the need for communication structures in the forest plan (FSM 7200).

2324.34 - Other Agency Structures. Approve, manage, construct, and maintain structures funded by cooperating agencies on National Forest lands in the same manner as described in section 2324.3. When existing improvements deteriorate to the point that normal maintenance does not keep them usable, analyze the need for such structures. If they are not essential to meet the minimum requirements of wilderness administration, or if they are not essential to a continuing program that was established on the basis of the structure, do not replace them.

Periodically review permits for structures in wilderness to determine whether or not their continued existence is in the public interest. If not, terminate the permits and remove the improvements. Forest plans shall assess and direct the disposition of all such structures.

Management Practices

Cell phone technology and use has become so widespread that many visitors carry cell phones as emergency insurance. Proposals to build cell phone towers in wilderness citing the need for cell phone coverage for emergencies are not uncommon. In addition, some units have proposed construction and/or maintenance of radio repeater facilities in wilderness to insure adequate communications for employees, contractors, and volunteers in wilderness for safety purposes.

Cell phone towers in wilderness are not constructed for visitor use while in the wilderness. Instead, managers make every effort to provide information to visitors on the inherent naturally occurring risks of wilderness use. Satellite phones or rescue beacons may be an alternative for some.

Adequate communications for personnel working in wilderness is essential to meet safety objectives. Managers typically use one or more systems of 2-way radios, cell phones, satellite phones with maps of known 'dead spots' and routine check-in procedures to insure necessary communication capabilities.

The construction of cell phone towers in wilderness to provide service outside of wilderness is not allowed.

There is a variation of this issue which involves personal use of cell phones, satellite phones, walkie-talkies, portable music players, and a variety of other electronic devices which can distract from the wilderness experience of others. These items, considered 'personal use' items, are not prohibited by law or agency policy, even if they contain small motors.

(TWA Section 4(c), FSM 2323.34g)

Dogs, Pack Goats, and Llamas

There are no specific references to dogs, pack goats, or llamas in either the Wilderness Act or Forest Service Policy.

Management Practices

Dogs in wilderness can evoke a sense of companionship for some visitors and stir negative emotions from others. Many wilderness areas have regulations which require dogs to be on leash and some prohibit dogs entirely or in portions of the wilderness. When managers take action to regulate dogs in wilderness it is typically due to social conflicts with other users or effects on the biological or physical components of the wilderness resource.

Loose, uncontrolled dogs can be a hazard for stock users and be seen as a threat by other visitors. In addition, if dogs are allowed to chase or harass wildlife some animals may be stressed and moved off their preferred habitat. In portions of wilderness that serve as municipal watersheds, some communities have concerns over the effects of dogs on water quality.

The basic messages for dog owners are:

- Leashes protect the dog from becoming lost and from porcupines, mountain lions, sick, injured, or rabid animals, and other hazards.
- Unleashed dogs intimidate other hikers and their dogs, depriving them of their wilderness experience
- Unleashed dogs harass, injure and sometime kill wildlife
- A leashed dog's keen senses can enhance your awareness of nearby wildlife or other visitors
- Unleashed dogs increase the probability of dogs being banned from your favorite public lands
- Failure to leash your dog may result in a fine.

Llamas and pack goats are used in many wilderness areas and are considered to be low impact pack animals that fit the definitions of non-mechanical transport and primitive recreation as defined in The Wilderness Act. Some horse and mule users don't consider llamas and goats appropriate for wilderness as they are not native or traditional. (Of course, the horse is not native to North America either but they have been here longer than llamas.)

Conflicts can arise when a llama or goat party encounters a horse and mule party on a trail and animals that are not used to each other react. In many cases a little trail etiquette (getting off the trail to let the other group pass) can solve the problem before it occurs. A useful tool to inform and educate visitors about the use of llamas in

wilderness can be found at:

<http://www.Int.org/training/resources/documents/LNTLlamas2004.PDF>

Pack goats are popular in some areas due to their compact size combined with the ability to carry a load and survive on a variety of food. Being able to transport pack animals in a smaller vehicle and use them around children and others with minimal safety risk are other attractions.

In some areas, where native Bighorn Sheep reside, there is the possibility that sick or poorly cared for pack goats can transmit disease that is fatal to the native sheep.

Visitors with pack goats can avoid this problem by:

- Avoiding direct contact between pack goats and bighorn sheep
- Using only healthy pack goats in wilderness
- Following state regulations for goats (e.g. current Certificate of Veterinary Inspection, Import/Export permit for out-of-stet transport, etc.)
- Maintaining control of pack goats at all times (lead ropes, tethers or hobbles).
- Rotating areas of feeding or bedding

A poster that addresses the concern of disease transmission and offers the educational tips is found in the Signs and Posters Toolbox at: <http://www.wilderness.net/toolboxes/>

Fire Management

The Wilderness Act of 1964 states that: "...such measures may be taken as may be necessary in the control of fire, insects, and diseases, subject to such conditions as the Secretary deems desirable." This language in the law supports the Federal Fire Policy and use of the appropriate management response to wildfire in wilderness.

The Wilderness Act also provides that "...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area." This language indicates that use of motorized equipment, landing of aircraft, etc. may be authorized for fire management activities but only if it is the minimum necessary requirement.

And, the Wilderness Act mandates that "... each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character." This language requires that the natural and untrammelled qualities of wilderness character be preserved by recognizing the role of fire in wilderness and limiting human caused manipulations of that process through suppression or prescribed fire activities.

Forest Service Policy

2324.21 - Objectives. The objectives of fire management in wilderness are to:

1. Permit lightning caused fires to play, as nearly as possible, their natural ecological role within wilderness.
2. Reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness.

2324.22 - Policy

1. Two types of prescribed fires [planned ignitions] may be approved for use within wilderness: those ignited by lightning and allowed to burn under prescribed conditions and those ignited by qualified Forest Service officers.
2. No fire may be ignited or allowed to burn without documented, preplanned, specified conditions.
3. Document specific objectives, standards, and guidelines for the control of wildfire and the use of prescribed fire within each wilderness (FSM 5100, 5150, and 5190) in a forest plan or, where the forest planning process has not been completed, in either an interim wilderness management or fire management area plan. Document specific direction for fire program implementation in the forest fire management action plan (FSH 5109.19).
4. Suppress all wildfires within wilderness in accordance with the direction FSM 5130.
5. Fire ignited by lightning may be permitted to burn if prescribed in an approved plan (FSM 2324 and 5150).
6. Forest Service managers may ignite a prescribed fire in wilderness to reduce unnatural buildups of fuels only if necessary to meet at least one of the wilderness

fire management objectives set forth in FSM 2324.21 and if all of the following conditions are met:

- a. The use of prescribed fire or other fuel treatment measures outside of wilderness is not sufficient to achieve fire management objectives within wilderness.
 - b. An interdisciplinary team of resource specialists has evaluated and recommended the proposed use of prescribed fire.
 - c. The interested public has been involved appropriately in the decision.
 - d. Lightning-caused fires cannot be allowed to burn because they will pose serious threats to life and/or property within wilderness or to life, property, or natural resources outside of wilderness.
7. Do not use prescribed fire in wilderness to benefit wildlife, maintain vegetative types, improve forage production, or enhance other resource values. Although these additional effects may result from a decision to use prescribed fire, use fire in wilderness only to meet wilderness fire management objectives.
 8. Do not use management ignited fire to achieve wilderness fire management objectives where lightning-caused fires can achieve them.

2324.23 - Fire Management Activities. Conduct all fire management activities within wilderness in a manner compatible with overall wilderness management objectives. Give preference to using methods and equipment that cause the least:

1. Alteration of the wilderness landscape.
2. Disturbance of the land surface.
3. Disturbance to visitor solitude.
4. Reduction of visibility during periods of visitor use.
5. Adverse effect on other air quality related values.

Locate fire camps, helispots, and other temporary facilities or improvements outside of the wilderness boundary whenever feasible. Rehabilitate disturbed areas within wilderness to as natural an appearance as possible.

2323.43b - Emergency Burned Area Rehabilitation. Permit emergency burned area rehabilitation only if necessary to prevent an unnatural loss of the wilderness resource or to protect life, property, and other resource values outside of wilderness. Normally use hand tools and equipment to install selected land and channel treatments.

The interagency Wildland Fire Use Implementation Procedures Reference Guide provides direction for management of fire on all federal lands managed by the BLM, FWS, FS, NPS, and Bureau of Indian Affairs. This guidance is updated periodically to reflect changes in the National Fire Policy. Currently the management strategies of suppression, fire use, and prescribed fire are being revised to better reflect the Appropriate Management Response approach.

Management Practices

The overall objective for management of fire in wilderness is to allow fire to be a natural change agent wherever possible. Planned ignitions (prescribed fire) may be used, if necessary, to restore conditions that will allow future unplanned ignitions to play a more natural role. Unplanned ignitions may be managed for resource benefits, to meet wilderness management objectives, if allowed by guidelines in the forest fire management plan. But, each wilderness is unique, not all wilderness ecosystems are fire dependent, and threats to lives and property outside wilderness sometimes mandate

suppression of all fires. Wilderness managers should be involved with fire managers in an interdisciplinary process for initial preparation and revisions of the fire management plan.

The objective for management of fire in wilderness is to recognize the natural role of fire in each unique area and then to allow fire to play its natural role to the greatest extent possible. To accomplish this objective fire and wilderness managers and line officers often must consider the benefits of returning fire to areas where it has been suppressed as well as the risks of managing fire both inside and outside of designated wilderness areas. The anticipated effects of fire on the biophysical components of the wilderness resource are typically considered during the forest planning and fire management planning processes or through a project specific analysis for a planned ignition. An additional assessment of the risks and benefits of managing unplanned ignitions is also frequently needed to balance the benefits of the natural effects of fire against the risks to adjacent lands and other factors. Fire scientists have developed several tools to assist in these analyses and decisions and have also assessed the effects of decisions made to suppress or manage fires for resource benefits (see references below).

Most fires are detected from aircraft over-flights and lookouts located outside the wilderness boundary, although some lookouts are maintained within wilderness. Fire suppression crews protect administrative, natural, and cultural features and use suppression tactics that minimize the lasting evidence of suppression actions. Motorized equipment is used only when essential and water is used instead of fire retardants when possible. Watershed restoration of burned areas in wilderness is uncommon but is allowed where conditions exist that could cause an unnatural loss of the resource or threaten life or property outside the wilderness.

Resource Advisors (READ) and Wilderness Technical Specialists (THSP) are used to represent the objectives of the local line officers and work with the Incident Command Teams to manage wilderness fires.

A READ or wilderness THSP can assist with fire management by working to represent the line officer's wilderness and fire management objectives to the Incident Management Team (IMT). Typically, but not always, the wilderness READ or THSP is the local wilderness manager but may be supported by assistant READs and other Technical Specialists (biologists, hydrologists, botanists, archaeologists, etc.). Roles for the READ and wilderness THSP include pre-season interdisciplinary fire management planning, incident activities on the line and in planning, strategy, and briefing sessions, and providing local guidelines, standards and concerns for fire management activities, suppression restoration, and BAER. The Resource Advisor's Guide to Wildland Fire (NWCG, 2004) and Wilderness READ and THSP training materials are available in the Fire Management Toolbox.

(TWA Section 4 (d) (1), FSM 2324.2)

For more information on wilderness fire management see the specific references listed below or visit the Fire management Toolbox at: <http://www.wilderness.net/toolboxes/>.

Fire Planning, Effects, Risks, and Benefits:

- Forest Fire Management Planning: Integrating Fire Management into Land Management Plans, TG-09:
[http://wodata02/fsfiles/unit/wo/emc/imi/IMI_OPEN_TeamRoom.nsf/e9e2ddfd309be5fe87257145006a772a/ed9e6ae43d3a7c1585257426006b237c/\\$FILE/integrateFireMgmt_LMPs2008_10_23.doc](http://wodata02/fsfiles/unit/wo/emc/imi/IMI_OPEN_TeamRoom.nsf/e9e2ddfd309be5fe87257145006a772a/ed9e6ae43d3a7c1585257426006b237c/$FILE/integrateFireMgmt_LMPs2008_10_23.doc)
- Fire Effects Planning Framework; A User's Guide:
<http://leopold.wilderness.net/pubs/562.pdf>
- Consequences of fire suppression: <http://leopold.wilderness.net/pubs/670.pdf>
- Burn probabilities for strategic fire management:
<http://leopold.wilderness.net/pubs/660.pdf>
- Mapping trade-offs in values at risk:
<http://leopold.wilderness.net/pubs/643.pdf>
- Simulation of consequences to support wildland fire use decisions:
<http://leopold.wilderness.net/pubs/639.pdf>
- Effects of fire exclusion: <http://leopold.wilderness.net/pubs/604.pdf>
- Trends in public attitudes towards wildland fire use:
<http://leopold.wilderness.net/pubs/591.pdf>

Fish and Wildlife Management

The Wilderness Act of 1964 states: "Nothing in this Act shall be construed as affecting the jurisdiction or responsibilities of the several States with respect to wildlife and fish in the national forests." But, it also provides that "...each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. "

Forest Service Policy:

Note - See FSM 2323.33 - 38 for additional policy guidance on specific aspects of fish and wildlife management in wilderness not addressed here.

2323.3 - Management of Wildlife and Fish 2323.31 - Objectives

1. Provide an environment where the forces of natural selection and survival rather than human actions determine which and what numbers of wildlife species will exist.
2. Consistent with objective 1, protect wildlife and fish indigenous to the area from human caused conditions that could lead to Federal listing as threatened or endangered.
3. Provide protection for known populations and aid recovery in areas of previous habitation, of federally listed threatened or endangered species and their habitats.

2323.32 - Policy

1. Recognize that States have jurisdiction and responsibilities for the protection and management of wildlife and fish populations in wilderness. Cooperate and work closely with State wildlife and fish authorities in all aspects of wildlife and fish management. Base any Forest Service recommendation to State wildlife and fish agencies on the need for protection and maintenance of the wilderness resource. Recognize wilderness protection needs and identify any needed requirements in coordination efforts and in cooperative agreements with State agencies.
2. Wildlife and fish management programs shall be consistent with wilderness values.
3. Discourage measures for direct control (other than normal harvest) of wildlife and fish populations.
4. Manage wilderness to protect known populations of federally listed threatened or endangered species where necessary for their perpetuation and aid in their recovery in areas of previous habitation. When alternative areas outside of wilderness offer equal or better protection, take actions to recover threatened or endangered species outside of wilderness areas first.
5. Apply the "Policies and Guidelines for Fish and Wildlife Management in National forest and Bureau of Land Management Wilderness Areas," developed jointly by the Forest Service, Bureau of Land Management, and the Association of Fish and Wildlife Agencies in a practical, reasonable, and uniform manner in all National Forest wilderness units. Use the guidelines as a foundation for or as addendums to State or individual wilderness cooperative agreements.

2323.33 - Wildlife Management

2323.33a - Reintroductions. Reintroduce wildlife species only if the species was once indigenous to an area and was extirpated by human induced events. Favor federally listed threatened or endangered species in reintroduction efforts. Reintroductions

shall be made in a manner compatible with the wilderness environment. Motorized or mechanical transport may be permitted if it is impossible to do the approved reintroduction by nonmotorized methods (sec. 2326).

2323.33b - Habitat Surveys and Population Inventories. Conduct wildlife habitat surveys and population assessments in a manner compatible with the wilderness environment (FSM 2600, FSH 2309.19).

2323.34 - Fisheries Management. Emphasize quality and naturalness in managing fisheries in wilderness (FSH 2309.19).

2323.34a - Stocking Programs. In cooperation with the States, develop fish-stocking programs that meet wilderness management objectives. Recognize the probability of increased visitor use of stocked waters and their full impact and effect on the wilderness resource. Direct practices at achieving quality fishing opportunities. Regional Foresters shall develop with each State a supplement to the State-Forest Service Memorandum of Understanding (FSM 2600) that establishes a stocking policy for each wilderness. Spell out basic stocking decisions in the forest plan or in implementation schedules for each wilderness.

2323.34b - Stocking Methods. Stocking shall normally be done by primitive means, however, Regional Foresters may permit dropping of fish from aircraft for those waters where this practice was established before the area was designated a wilderness. Conduct aerial stocking pre-or post-visitor seasons. Landings are prohibited. Specify mitigation for stocking methods in wilderness implementation schedules.

2323.34c - Stocking Policy

1. Do not stock exotic species of fish in wilderness. The order of preference for stocking fish species is:

- a. Federally listed threatened or endangered, indigenous species.
- b. Indigenous species.
- c. Threatened or endangered native species if species is likely to survive and spawn successfully.
- d. Native species if species is likely to survive and spawn successfully.

2. Stock barren waters only after determining that the scientific and research values of such barren waters will not be eliminated from a wilderness and documenting the desirability of such action in the forest plan.

3. Consider on a case-by-case basis presently unstocked waters that at one time supported an indigenous fish population and that could provide suitable habitat for an indigenous species with unusual wilderness appeal.

2323.34f - Chemical Treatment. Chemical treatment may be used to prepare waters for reestablishment of indigenous, threatened or endangered, or native species, or to correct undesirable conditions caused by human influence (FSH 2309.19). The Regional Forester approves all proposed uses of chemicals in wilderness (FSM 2150).

2323.35 - Wildlife and Fish Habitat. Achieve a balance of wildlife and fish with their habitat through cooperation with State agencies in management of public hunting, fishing, and trapping. Objectives for the management of wildlife and fish habitat are normally compatible with the objectives for maintaining wilderness values. Where incompatible, the requirements for maintenance of wilderness values take precedence.

2323.35a - Manipulation of Wildlife Habitat. The objective of all projects must be to perpetuate the wilderness resource; projects must be necessary to sustain a primary value of a given wilderness or to perpetuate a federally listed threatened or endangered species. To qualify for approval by the Chief, habitat manipulation projects must satisfy the following criteria:

1. The condition needing change is a result of abnormal human influence.
2. The project can be accomplished with assurance that there will be no serious or lasting damage to wilderness values.
3. There is reasonable assurance that the project will accomplish the desired objectives.

Test major projects through a pilot study. The pilot study should take place in a comparable area outside of wilderness if possible.

Give first priority to locating habitat improvement projects outside wilderness for the benefit of wildlife that spend only part of the year in wilderness.

2323.35b - Manipulation of Fish Habitat. The objective of all projects must be to perpetuate the wilderness resource. To qualify for approval by the Chief, fish habitat projects must satisfy the criteria established for wildlife (2323.35a). However, the Regional Forester may permit the clearing of debris that impedes the movement of fish on critical spawning streams. Identify critical spawning streams in the forest plan or a wilderness implementation schedule as essential for the propagation of fish. Clear debris only by nonmotorized equipment. Use explosives only when the use of hand tools is not practical and only outside of heavy visitor use periods.

2641 – Wildlife and Fish Stocking and Introductions. To ensure coordination of uses and protect Federal interests, Forest Service officials shall cooperate with each State when the States or Forest Service develop wildlife and fish introductions and stocking programs on National Forests and Grasslands. Coordinate with respective State agencies to ensure that stocking and introduction efforts on National Forest System lands do not compromise Federal interests (for example, compliance with the Endangered Species Act and Wilderness Act).

The State has the responsibility to make the determination as to which wildlife and fish species are native or indigenous. The Forest Service has the responsibility to prevent damage to resources occurring on National Forest System lands. Resolve disputes in stocking and introduction matters in accordance with procedures outlined in the Memorandums of Understanding (MOU) between the Forest Service and each State agency. Such MOU's must document agreements on each fish and wildlife translocation project and appropriate environmental documentation.

Association of Fish and Wildlife Management Agencies (AFWA) Policies and Guidelines

In June, 2006 the Forest Service revised guidance for management of fish and wildlife in wilderness in coordination with AFWA (formerly IAFWA). This guidance states that: "Both State and Federal agencies are responsible for fostering mutual understanding and cooperation in the management of fish and wildlife in wilderness. The purpose of these guidelines is to develop and expand a framework of cooperation upon which projects and activities may be planned and accomplished while working cooperatively at the national, regional, and local levels."

The AFWA Policies and Guidelines and a Frequently Asked Questions list can be found in the Fish and Wildlife Management Toolbox at: <http://www.wilderness.net/toolboxes/>

Management Practices

Management of fish and wildlife populations is done in coordination with state agencies using the Association of Fish and Wildlife Agencies (AFWA) Policies and Guidelines (June, 2006). Both the states and the Forest Service share responsibility for management of fish and wildlife in wilderness. However the AFWA Policies and Guidelines also state that "The FS and BLM are required to *preserve wilderness character* as directed by the Wilderness Act, while supporting the States' fish and wildlife objectives, to the extent such objectives are consistent with the Act." To implement the national AFWA Policies and Guidelines development of individual state agreements for specific coordination needs is encouraged.

The overall objective for management of fish and wildlife in wilderness is to "provide and environment where the forces of natural selection and survival rather than human actions determine which and what numbers of wildlife species exist." In addition, indigenous species are protected from human caused conditions that could lead to a federal listing as threatened or endangered and listed species and their habitats are also protected (FSM 2323.31).

Noncommercial hunting, fishing, and trapping are allowed in most Bureau of Land Management, and Forest Service wildernesses, and in some areas managed by the National Park Service and Fish and Wildlife Service. In national forest and BLM wilderness areas State and Federal agencies are jointly responsible for management of wildlife and fish and must work together to meet common objectives. Typically state fish and wildlife management objectives are screened for effects to the four qualities of wilderness character (natural, undeveloped, untrammeled, and solitude or primitive recreation).

Wildlife species may be re-introduced to perpetuate or recover a threatened or endangered species, to restore an indigenous species, or to meet state wildlife population objectives. Fish species may be stocked to perpetuate or recover a threatened or endangered species or to reestablish or maintain indigenous species. Exotic species may not be stocked. Habitat may be manipulated only when it is necessary to sustain a primary value of a specific wilderness area, to correct conditions resulting from human influence, to protect threatened or endangered species, and when there is assurance that the project will accomplish the desired objectives with no serious or lasting damage to wilderness values. Research and management surveys are permitted if done in a manner compatible with the preservation of the wilderness resource.

The goal for fish and wildlife management in wilderness is close cooperation and coordination between the state and federal agencies. Communication on broad and specific objectives and involvement early in the project planning process helps insure effective and timely analysis and implementation. Unless allowed by a special provision in wilderness legislation, many projects require approval of the Forest Service and/or preparation and approval of a Minimum Requirements Decision Process assessment is necessary if motorized equipment, mechanical transport, motor vehicles, motor boats, landing of aircraft, structures, or installations are proposed.

The requirements of the AFWA Policies and Guidelines for final approval authority retained by the federal agency are shown below.

Federal approval required:

For the use of motorized equipment, mechanical transport, landing of aircraft, motor boats, motor vehicles, structures, installations, temporary roads for any activity including:

- Research and surveys
- Facility development (i.e. water and fish developments and maintenance of existing)
- Threatened and Endangered species
- Population sampling
- Spawn taking
- Fish stocking (for air dropping fish)

Federal approval required (regardless of method or equipment used):

- Application of pesticides (herbicides and piscicides included)
- Research and surveys – “methods that infringe on the wilderness environment”
- Habitat alteration
- Wildlife transplants
- Wildlife (predator) damage control
- Visitor use management
- Fire Management
- Stocking of fish-less lakes or streams

See the Fish and Wildlife Management Toolbox at: www.wilderness.net/toolboxes/ for more information.

- The Wilderness Act Section 4(d) (8)
- FSM 2323.3, 2641
- Policies and Guidelines for Fish and Wildlife Management in National Forest and Bureau of Land management Wilderness, June 2006.

Geocaching

The Wilderness Act of 1964 (P.L. 88-577) states:

“A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area ...which... has outstanding opportunities for solitude or a primitive and unconfined type of recreation...”

Forest Service regulations: There is no specific regulation on geocaching. Both littering and caching of personal supplies or equipment are prohibited on the national forests.

Forest Service policy The Forest Service currently does not have a national policy that specifically addresses geocaching.

Regional Guidance Some regions and forests have developed guidelines that include information and education and in some cases, prohibitions on geocaching in wilderness. When a forest special order is utilized forests have typically used 36 CFR 261.57(f) Storing, or leaving, equipment, personal property or supplies for longer than 72 hours.

Management Practices:

Geocaching is the practice of designating a geocache site, determining the GPS location, and then advertising the location for others to find. The ‘cache’ can be either a container or marker placed on site- or a virtual ‘cache’ found by traveling to a specific point identified by the GPS coordinates.

Geocaching on public lands, and in designated wilderness, is a growing activity as evidenced by the number of locations and trends documented at: www.geocaching.com. Many people enjoy downloading information on a geocache site and then using their orienteering skills and GPS units to find the site. Both urban and remote geocache sites exist but in many cases the more remote locations, such as those in wilderness, are the most popular with those seeking to enjoy the outdoors.

Wilderness managers have seen an increase in geocaching activity in many areas. And, while wilderness is for the ‘use and enjoyment’ of the public the practice of locating geocaches in wilderness can lead to social trail development and resource degradation that would not otherwise occur. In addition, many managers consider geocaches as abandoned property or litter and therefore, not allowed in wilderness.

Information and education efforts have proven successful in some areas where managers have contacted cache owners or worked with web site providers to discourage geocaches in wilderness and encourage use of Leave No Trace techniques when visiting wilderness.

Wilderness managers have been able to identify owners of geocaches in wilderness via websites and use the contact as an information and education opportunity. In some cases geocaches have been removed from wilderness as abandoned property and attempts made to notify the owner. There has been some progress to discourage geocaches in wilderness using Leave No Trace geocaching guidelines and through contacts with national, regional, or local geocaching organizations.

Examples of regional guidance and forest management of geocaching, as well as links to other sources can be found in the Geocaching Toolbox at:
<http://www.wilderness.net/toolboxes/>

(TWA Section 2c)

Grazing of Commercial Livestock

The Wilderness Act of 1964 states:

“Within wilderness areas in the national forests designated by this Act, ... the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture.”

The 1980 Colorado Wilderness Act contains Congressional Grazing Guidelines which are applicable to all commercial livestock grazing operations in all National Forest wilderness areas (see references below).

Forest Service Policy

2323.2 - Management of Range

2323.21 - Objective. Manage wilderness range in a manner that utilizes the forage resource in accordance with established wilderness objectives (36 CFR 293.7).

2323.22 - Policy. Apply congressional guidelines and policies regarding grazing in National Forest Wilderness Areas (sec. 108, P.L. 96-560, H.R. Report 96-617 dated 11/14/79) (ex. 1), in a practical, reasonable, and uniform manner in all National Forest wildernesses. These guidelines and policies are applicable only to livestock grazing operations (FSM 2320.5).

The complete text of the Congressional Grazing Guidelines can be found in FSM 2323.22 Exhibit 01. The following summarizes key provisions of the Congressional Grazing Guidelines and FS Policy found in FSM 2323:

Where previously established, grazing is permitted to continue in wilderness. Permittees may be allowed to maintain range improvements necessary to the livestock operation or for the protection of the range, such as fences and watering facilities.

The use of motorized equipment may be permitted, on a case by case basis, where it occurred prior to the establishment of wilderness utilizing the following criteria stated in the Congressional Grazing Guidelines:

“Moreover, under the rule of reasonableness, occasional use of motorized equipment should be permitted where practical alternatives are not available and such use would not have a significant adverse impact on the natural environment. Such motorized equipment uses will normally only be permitted to those portions of a wilderness area where they had occurred prior to the area's designation as wilderness or are established by prior agreement.”

2323.23 - Grazing Management. Use the direction in the forest plan (FSM 1920), the allotment management plan (FSM 2210), and the Grazing Guidelines to manage livestock grazing operations in designated wilderness.

2323.24 - Permits. Authorize livestock grazing operations on grazing allotments within wilderness areas by grazing permit (FSM 2230). Issue permits for livestock operations only in areas where grazing was established as defined below:

1. Grazing may be continued on any allotment where a grazing permit was in existence at the time of designation and where there is recent history of grazing use immediately prior to wilderness designation. This includes permits that were in non-use status for either personal convenience or range protection. It also includes situations where there were no actual permits in existence on the designation date because permit waivers were in process or because the expiration date of term permits happened to have coincided with the designation date.

At any time after designation, new term permits and livestock use permits may be issued, in the event of waiver, because of sale of base property or permitted livestock.

At any time after designation, new term or temporary permits and livestock-use permits may be issued to other applicants if an existing permit is terminated voluntarily by the holder, or canceled for cause by the Forest Service, or if surplus forage otherwise becomes available.

2. Grazing may be authorized on an allotment which, although vacant on date of wilderness designation, previously included grazing that was only temporarily discontinued and that was clearly documented for such purposes as range restoration.

2323.25 - Range Analysis. Follow the standards in FSM 2210 for range analysis in wilderness. Where an approved allotment management plan exists at the time an area is designated as wilderness, review it in context with the congressional guidelines and policy. Document necessary modifications in the Forest or allotment management plan.

2323.26 - Range Improvements. See FSM 2240 for a definition of range improvements. Follow the grazing guidelines and direction in FSH 2309.19 for the construction and maintenance of range improvements. Criteria for the use of motorized equipment in constructing, maintaining, or applying improvements and practices is in FSH 2309.19.

Conduct an environmental analysis for range improvement construction and/or maintenance and the use of motor vehicles, motorized equipment, and mechanical transport (FSM 1950 and FSH 1909.15). List all range improvements in the allotment management plan along with the maintenance schedule.

2323.26a - Structural Range Improvements. Modify permits for the construction of new range improvements or for the replacement of existing range improvements in accordance with FSM 2241.31. Consider the wilderness resource when preparing range improvement construction standards and techniques.

1. Maintenance. Allow permittees to continue to maintain existing necessary range improvements. On a schedule agreed to by the permittee, phase out and remove those improvements determined to be unnecessary. Review existing use and requests for new use of motor vehicles, motorized equipment, or other forms of mechanical transport, including emergency use, and apply Congressional Grazing Guidelines (sec. 2323.22, ex. 1). Permit the occasional use of motor vehicles, motorized equipment, or

mechanical transport where practical alternatives are not available (FSM 2326 and FSH 2309.19).

2. New Improvements. Construction of new range improvements may be approved if they are necessary for resource protection (range and/or wilderness) and for the effective management of these resources. Do not approve construction solely to accommodate increased grazing.

3. Types of Materials. When permitted, ensure that new improvements are constructed of materials that harmonize with the wilderness character of the area. Use natural (native) materials for improvements unless costs are prohibitive or they do not harmonize with the wilderness.

4. Replacement of Existing Improvements. Use the following procedures when considering replacement of an existing range improvement:

- a. Examine whether the range improvement is necessary for livestock grazing operations, resource protection, or protection of wilderness values. Explore other alternatives for meeting these needs.
- b. Ensure that the design, location, and type of materials needed harmonize with natural features of the wilderness.
- c. Consult with permittees in determining what is reasonable for the permittee's livestock grazing operation. Balance the particular wilderness values involved and the cost of material and labor.

2323.26b - Nonstructural Range Improvements. Nonstructural range improvement practices may be approved in cases where they were part of the management of the area at the time the wilderness was established and where their continued use is necessary to maintain livestock grazing operations (FSM 2240).

Use the following specific criteria in addition to the procedures in section 2323.26 and section 2323.26a in approving nonstructural range improvements.

1. Seeding. Seed only species that are indigenous or naturalized to the area. Use broadcast seeding methods.

Approve seeding only for:

- a. Areas where human activities have caused the loss or threaten the existence of indigenous plant species.
- b. Areas where human activities, including their livestock, have denuded or caused loss of soil, providing that the actions or activities responsible for the deterioration no longer exist and that natural revegetation is insufficient and/or ineffective.
- c. Maintenance of livestock grazing operations where seeding was practiced before the area was designated as wilderness.

2. Plant Control. Approve plant control only for:

- a. Indigenous plants when needed to maintain livestock grazing operations that were in effect before the area was designated as wilderness.
- b. Noxious farm weeds by grubbing or with chemicals when they threaten lands outside wilderness or when they are spreading within the wilderness, provided that it is possible to effect control without causing serious adverse impacts on wilderness values.
3. Irrigation. Use irrigation or water spreading only to maintain livestock grazing operations and only where practiced before the designation of wilderness.
4. Fertilizing. Use fertilization only as an aid to revegetation of the areas provided in item 1 or to maintain livestock grazing operations where practiced before the designation of wilderness. Liming is considered a fertilization practice in this context.
5. Prescribed Fire. Use management ignited prescribed fire only where:
 - a. It is necessary to maintain livestock grazing operations; and
 - b. It was practiced before the designation of wilderness; and
 - c. Lightning caused prescribed fire does not meet the livestock management purpose (FSM 2324.2).

FSM 2200 Rangeland Management contains policy for management of commercial grazing on all national forest system lands.

Management Practices

Grazing allotments in wilderness are managed using the typical allotment management process for conservation of the range resource and mitigation of other resource issues such as threatened and endangered species, non-native invasive species, etc. Additional mitigation or monitoring may sometimes be necessary to insure protection of natural conditions, preservation of wilderness character, and use of structures, installations, or motorized equipment only if they are the minimum necessary. Unless there are other, over-riding resource concerns, commercial livestock grazing in wilderness, where it occurred prior to designation of the area as wilderness, is continued. Permits are not suspended or terminated solely because the allotment is within wilderness.

Range improvements, such as fences and watering holes, may be made when necessary to protect wilderness values and manage the range resource. Prescribed burning, noxious weed control, seeding, irrigation, fertilization, and liming may be allowed where each activity was practiced prior to wilderness designation, when absolutely necessary for the grazing operation, and where there would be no serious adverse impacts on wilderness values.

Horses and pack stock used by commercial outfitters and guides and private individuals may be grazed under permit. When forage is inadequate, wilderness managers may require that weed-free feed be packed in and each wilderness may set regulations on

tethering of horses, party size limits, and the use of native feed and pellets. Wild horses and burros are considered part of the natural system where established at the time of designation.

(TWA Section 4 (d) (4) (2), FSM 2323.2 and Congressional Grazing Guidelines)

Hazard Trees

The Wilderness Act of 1964:

The Wilderness Act requires preservation of wilderness character which includes both protection of natural conditions and providing opportunities for solitude or primitive recreation. It does not speak specifically to visitor safety, self-reliance, liability or risk for non-emergency situations.

Section 2 (a): "For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by the Congress as "wilderness areas," and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character,..."

Section 2 (c) "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation;..."

The Wilderness Act does allow for the use of motorized equipment and other normally prohibited measures in cases of emergencies. (Note the definition of emergencies for the purposes of authorizing the use of motorized equipment in the FS Wilderness Management Policy section below.)

Section 4 (c): "Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area."

Finally, the Wilderness Act also allows for measures may be taken as may be necessary in the control of insects and disease outbreaks though the historical record indicates that this was partly a concern for tree health and infestations coming out of wilderness on to adjacent commercial timber lands.

Section 4 (d): “The following special provisions are hereby made: (1) ... such measure may be taken as may be necessary in the control of fire, insects, and diseases, subject to such conditions as the Secretary deems desirable. “

Regulations:

The FS has, through regulations and policy, mostly not addressed visitor safety issues specific to the hazard trees along trails in wilderness situation, choosing instead to emphasize protection of visitor opportunities in the natural setting of designated wilderness. Here are the relevant references (emphasis added):

36 CFR 293.2 Objectives.

Except as otherwise provided in the regulations in this part, *National Forest Wilderness shall be so administered as to meet the public purposes of recreational, scenic, scientific, educational, conservation, and historical uses; and it shall also be administered for such other purposes for which it may have been established in such a manner as to preserve and protect its wilderness character.* In carrying out such purposes, *National Forest Wilderness resources shall be managed to promote, perpetuate, and, where necessary, restore the wilderness character of the land and its specific values of solitude, physical and mental challenge, scientific study, inspiration, and primitive recreation.* To that end:

(a) Natural ecological succession will be allowed to operate freely to the extent feasible.

(b) *Wilderness will be made available for human use to the optimum extent consistent with the maintenance of primitive conditions.*

(c) In resolving conflicts in resource use, wilderness values will be dominant to the extent not limited by the Wilderness Act, subsequent establishing legislation, or the regulations in this part.

Sec. 293.3 Control of uses.

(a) To the extent not limited by the Wilderness Act, subsequent legislation establishing a particular unit, or the regulations in this part, *the Chief, Forest Service, may prescribe measures necessary to control fire, insects, and disease and measures which may be used in emergencies involving the health and safety of persons or damage to property and may require permits for, or otherwise limit or regulate, any use of National Forest land, including, but not limited to, camping, campfires, and grazing of recreation livestock.*

FS Wilderness Management Policy

Emergencies:

There is no definition of emergency in wilderness regulation or policy except for the use of motorized equipment and mechanical transport found in FSM 2326.1, Conditions Under Which Use May be Approved:

1. Emergencies where the situation involves an inescapable urgency and temporary need for speed beyond that available by primitive means. Categories include fire suppression, health and safety, law enforcement involving serious crime or fugitive pursuit, removal of deceased persons, and aircraft accident investigations.

Visitor Use (Recreation) Management:

FSM 2320.3 - Policy: 10. *Inform wilderness visitors that they face inherent risks of adverse weather conditions, isolation, physical hazards, and lack of rapid communications, and that search and rescue may not be as rapid as expected in an urban setting in all publications and personal contacts.*

2323.11 - Objectives

1. Provide, consistent with management of the area as wilderness, opportunities for public use, enjoyment, and understanding of the wilderness, through experiences that depend upon a wilderness setting.
2. Provide outstanding opportunities for solitude or a primitive and unconfined type of recreation.

2323.12 - Policy

1. Maximize visitor freedom within the wilderness. Minimize direct controls and restrictions. Apply controls only when they are essential for protection of the wilderness resource and after indirect measures have failed.
2. Use information, interpretation, and education as the primary tools for management of wilderness visitors.
3. Manage for recreation activities that are dependent on the wilderness environment so that a minimum of adaptations within wilderness are necessary to accommodate recreation.

2323.13a - Campsites. Do not designate campsites except as a last resort. Relocate or remove existing camps to allow maximum opportunity for solitude and to minimize the evidence of human use.

Note - There is no directive in the Wilderness Policy (FSM 2320) or the Recreation Management Policy (FSM 2330 and 2350) that provides direction to remove hazard trees at campsites within wilderness.

2323.13f - Transportation System. Design, construct, and maintain the transportation system in wilderness to provide access to and within a wilderness, that meets the wilderness objectives described in the forest plan.

1. Trails. Trails are an acceptable improvement. Construct and maintain trails to standards described in FSH 2309.18 [deleted], Trails Management Handbook. National Recreation Trails are generally not designated within wilderness (FSM 2350).

Note - There is no directive in the Trails Policy (FSM 2353) or the Trails Handbook (FSH 2309.18) that provides direction to remove hazard trees along trails in wilderness.

2323.14 - Visitor Management. Plan and manage public use of wilderness in such a manner that preserves the wilderness character of the area

Management Practices

Note – The typical and recommended practices described below are based on the Wilderness Act and Forest Service Policy but they do not represent official national Forest Service policy or guidance.

General

In general, the landscape and environment is not modified or manipulated to remove or mitigate hazard trees in wilderness. Wilderness areas are, according to the Wilderness Act, “untrammeled by man,” and “affected primarily by the forces of nature.” The responsibility of the Forest Service is to “preserve wilderness character” and “protect natural conditions.”

Where unusual or wide-spread hazard tree situations occur as a result of a natural event such as wildfires, wind, or insect and disease infestations, which are not easily avoided by visitors, some steps may be warranted to provide for public safety if those steps do not substantially alter the landscape. Before taking steps to remove or mitigate hazards, consider options to close areas, limit public access, or provide warnings to visitors that enable them to avoid hazards. If these measures will not be practical or effective and the decision is made to mitigate hazard trees, do the minimum necessary, using non-motorized tools and equipment as the first and preferred option.

Campsites

As a general rule the Forest Service does not mitigate hazard trees in wilderness. However, when we specifically invite public use of areas, such as by designating campsites and requiring people to use them, then particular attention should be paid to the potential for unusual hazards in the designated area.

If hazard trees are to be identified and managed it should be identified using current Forest Service policy, guidelines and accepted practices.

Hazard trees can be mitigated in a variety of ways. Consider the effect on the site and user experience of each type of mitigation. Possible mitigation measures include:

- Closing the site or portions of a site, until the tree(s) fall on their own
- Advising visitors of known hazard, leave in place until it falls on its own
- Cutting down the hazard tree
- Blasting a portion of the tree to remove the hazard
- Pulling down the tree with ropes

Use Forest Service safety procedures and certified personnel for each mitigation, as appropriate.

Information about fire hazards, including potential hazard trees at camps, should be included in trip planning materials, posted at trailheads or portals, made available at Forest Service offices and commercial stores, provided to outfitters and guides, and posted on Forest Service websites, and by any other means necessary to inform potential visitors.

Trails

The FS typically uses one or more of several options in wilderness to address natural hazards along trails, especially when the risk is temporarily or unusually elevated, as shown below.

- Inform visitors through every means possible (web sites, trailheads, media, office info., etc.)
- Temporarily close the trail or area (i.e. fires, floods, washouts, wind storms, etc.)
- Identify and deliberately implement a hazard tree survey and removal program. This process will establish specific criteria that require skilled inventory and selected removal of the trees judged to be most likely to fall. The area may be closed to public use until the hazard tree plan has been implemented and the public information efforts on the increased risk continues after the program has been implemented to help address the risks from all the remaining trees.

If a hazard tree removal program is determined to be necessary the following steps should be considered:

1. Sign the trail warning people of the closure and risk in wilderness.
2. Survey the trail and determine which trees need to be felled. This survey should be done by an interdisciplinary team including recreation and wilderness staff, wilderness ranger, fire and/or insect and disease specialist (if warranted) and a safety officer.
3. Establish criteria to assess risk to fit the local situation. For example:
 - Severity of fire scar (i.e. burnt cat face)
 - Burnt root area at base of tree
 - Split bole (bark evidence of severe split of tree berth)
 - Leaner - more than 30% hanging over the trail.
 - Trees at risk at known rest stops and water crossings where visitors might "linger" and be at risk for longer duration.

Finally, determine the minimum tool needed for tree removal using a minimum requirements analysis. Possible options are:

- Cross-cut saws only
- Cross-cut saws for all situations unless safety mitigation requires a chainsaw
- Blasting to fell trees
- Blasting to eliminate the tops of trees.

Once the trees were removed, the trail can be re-opened to the public but continuing to inform the public of the elevated risk should be considered.

Signs

Examples of trailhead signs used to advise visitors of the elevated risk associated with hazard trees after fire, wind, or other events can be found in the Signs and Posters Toolbox at: www.wilderness.net/toolboxes/

Heritage Resources

The Wilderness Act of 1964 (P.L. 88-577) states that “An area of wilderness is ...protected and managed so as to preserve its natural conditions and ... may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.” In addition, “Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”

Both of these sections from the Wilderness Act recognize the importance of the ‘historic’ uses and values in management of wilderness. (The term ‘historic’ as used in 1964 has been interpreted to include what is more commonly known as cultural or heritage resources today.) These values are consistent with wilderness designation and if they are present in wilderness they must be protected and managed as part of the wilderness character.

An important concept of cultural or heritage resource management in wilderness is that the requirements of all applicable laws must be met. The Wilderness Act does not ‘trump’ the cultural and heritage resource laws and vice versa. Within the guidelines of agency policy, all options that satisfy the laws are available including interpretation, inventory, protection, and restoration or stabilization. A key difference is that when working in wilderness, motorized equipment, mechanical transport, landing of aircraft, etc. are prohibited unless they are both necessary and the minimum required tool for the project.

Forest Service Policy:

2323.81 - Authority. The protection and management of cultural resources in wilderness are guided by the Antiquities Act (16 U.S.C. 431 et seq)., Historic Sites Act (16 U.S.C. 461), National Historic Preservation Act (16 U.S.C. 470), and implementing regulations 36 CFR 800, Executive Order 11593, Archaeological and Historic Data Preservation Act (1974), National Environmental Policy Act (42 U.S.C. 4321), Archaeological Resource Protection Act of 1979, and the individual forest and management plans.

2323.82 - Policy

1. Cultural resources are available for scientific study to the extent that the study is consistent with the concept of wilderness, the intent of the Wilderness Act, and cultural resource management objectives.

2. Cultural resources are available for recreational, scenic, scientific, educational, conservation, and historic uses, consistent with management as wilderness.

2323.83 - Studies and Management. Analyze on a case-by-case basis those studies requiring excavation of sites or dismantling of structures. Ensure that they are compatible with wilderness and cultural resource objectives as stated in the forest plan. As a general rule, cabins, shelters, or other structures approaching 50 years of age should be examined for their cultural resource value.

Remove those sites or structures that do not qualify for the National Register (FSM 2360) or allow them to deteriorate naturally unless they are:

1. Deemed necessary to support public purposes of wilderness, as set forth in section 4(b) of the Wilderness Act; or,

2. Serve administrative purposes (sec. 4(c) of the Wilderness Act).

Interpretation of cultural resources located in wilderness shall be done outside the wilderness. Verbal interpretive services by qualified wilderness rangers, volunteers, or permitted guides are acceptable.

Management direction for cultural resources eligible for nomination to the National Register is subject to compliance with section 106 of the National Historic Preservation Act and 36 CFR 800 (FSM 2366). A decision to remove, maintain, or allow a historic or prehistoric structure to deteriorate naturally is a Federal undertaking that will affect the cultural resource.

Regional Foresters may approve stabilization or restoration and subsequent maintenance of such structures if their continued existence is essential to cultural resource management. Do not use motorized equipment for restoration or maintenance unless essential (FSM 2326).

Management of Historic Structures as Administrative Sites:

2324.3 - Management of Structures and Improvements

2324.31 - Objective. To limit structures and improvements for administrative purposes or under special-use permit to those actually needed for management, protection, and use of the wilderness for the purposes for which the wilderness was established.

2324.32 - Planning. Document the need for administrative and existing special use permitted improvements in forest plans. Develop removal schedules for those improvements considered unnecessary. Provide an historical evaluation when needed.

Determine the long-term need of the improvement and its location before authorizing substantial maintenance for administrative or permitted improvements.

Consider alternative locations that may be more compatible with the wilderness resource.

2324.33 - Structures and Improvements Needed for Administration

2324.33a - Administrative Sites. Unless otherwise authorized by the Chief, limit existing administrative sites to the existing structures or replace them with similar structures of compatible design. Justify the need for existing stations in forest plans. Do not plan any new stations in wilderness.

Management Practices

All laws that apply to management of heritage and cultural resources on national forest system lands apply to designated wilderness. Cultural features such as archaeological sites, historic trails or routes, or structures that have been included within wilderness are

protected and maintained by using methods that are consistent with the preservation of wilderness character and values and cultural resource protection requirements. Preservation activities such as salvage rehabilitation, stabilization, reconstruction, restoration, excavation, and intensive inventories are approved on a case-by-case basis, if they will not degrade the overall wilderness character of the area.

Cultural resource sites that appear to qualify are nominated for the National Register of Historic Places. Unless they are needed to provide wilderness benefits or serve administrative purposes, those sites or structures that do not qualify for the National Register are allowed to deteriorate naturally, or are removed or destroyed. Interpretation of sites is done outside of wilderness, except for verbal interpretations by wilderness rangers or partners.

Historic structures may be used as Administrative Sites if they are essential to the administration of wilderness for wilderness purposes. "Economy, convenience, commercial value, and comfort are not standards of management or use in wilderness." (FSM 2320.6). No new administrative sites may be established (including the designation of a historic building as an administrative site) unless authorized by the Chief.

(TWA Section 2 (c) (4) and Section 4 (b), FSM 2323.8 and 2324.3)

Law Enforcement

See the Search and Rescue section

Mineral Resources and Mining

The Wilderness Act states:

Prospecting – “Nothing in this Act shall prevent within national forest wilderness areas any activity, including prospecting, for the purpose of gathering information about mineral or other resources, if such activity is carried on in a manner compatible with the preservation of the wilderness environment. Furthermore, ... such areas shall be surveyed on a planned, recurring basis consistent with the concept of wilderness preservation ... to determine the mineral values, if any, that may be present; ...”

Mining operations - Section 4 (d) (3) contains the following key guidance as well as other provisions for management of mineral resources in wilderness.

:

- “Until midnight Dec. 31, 1983 all mining laws applied to wilderness as they would to other non-wilderness public lands “...subject, however, to such reasonable regulations governing ingress and egress...”
- “Mining locations lying within the boundaries of said wilderness areas shall be held and used solely for mining or processing operations and uses reasonably incident thereto...”
- “...no use of the surface of the claim or the resources there from not reasonably required for carrying on mining or prospecting shall be allowed except as otherwise expressly provided in this Act ...”
- “Mineral leases, permits, and licenses covering lands within national forest wilderness areas designated by this Act shall contain such reasonable stipulations as may be prescribed by the Secretary of Agriculture for the protection of the wilderness character of the land consistent with the use of the land for the purposes for which they are leased, permitted, or licensed.”

Forest Service Policy

2323.7 - Management of Minerals and Mineral Materials

2323.72 - Objectives

1. To preserve the wilderness environment while allowing activities for the purpose of gathering information about mineral resources.
2. To ensure that mineral exploration and development operations conducted in accordance with valid existing rights for federally owned, locatable, and leasable minerals (FSM 2810 and FSM 2820) and for nonfederally owned minerals (FSM 2830) preserving the wilderness resource to the extent possible.
3. To ensure the restoration of lands disturbed during exploration and development activities as nearly as practicable promptly upon abandonment of operations.

2323.73 - Policy

1. Allow the gathering of information on mineral resources if the activity is conducted in a manner compatible with the preservation of the wilderness environment. Do not authorize significant surface disturbance in search of indirect evidence or indications of mineral resources, and do not allow motorized or mechanical equipment use unless it meets the conditions of section 4(c) of the Wilderness Act.
2. Verify valid mineral rights before approving exploration and development activities.
3. Approve exploration and development activities on valid mineral rights only after ensuring that mineral operations plans contain stipulations to protect the wilderness character of the land consistent with the rights of the mineral owner or operator.

Additional, more specific guidance on mineral exploration and mining operations in wilderness is found in FSM 2323.74 – 76.

Policy for management of Minerals on the National Forests is found in FSM 2800.

Management Practices

The General Mining Laws of 1872 of the United States, and a number of subsequent laws, established a process designed to facilitate development of the national locatable mineral resources and privatize these resources. On national forest lands – most western national forests reserved from the public domain – the process encourages prospecting, staking a claim when a valuable mineral discovery has been made, and for doing annual assessment work . “Proving up” on a claim allowed the claimholder to file for a patent on the claim—a procedure wherein the government transferred the fee title (both the surface and the mineral estate below the surface) of the claim to the claimant. This process applied to “locatable minerals” usually found in load or placer deposits, including gold, silver, and copper.

Access to “leasable minerals” (coal, phosphate, sodium, potassium, oil, gas, oil shale, and others) is provided under authority of the Mineral Leasing Act of 1920. Here leases are issued by the BLM with recommendations for lease stipulations from the Forest Service.

Sec. 4(d) of the Wilderness Act addresses national forest lands only since in 1964 lands managed by the U.S. Department of the Interior (national parks and national wildlife refuges) are withdrawn from mineral entry or are handled through specific provisions. With the passage of FLPMA in 1976 the provision in Section 4(d) applies to lands managed by the BLM also.

Sec. 4(d)(3) of the Wilderness Act, in what many have seen as the major contradiction of the Wilderness Act, provision was made for continued application of all mining laws and laws pertaining to mineral leasing of national forest lands designated by the Wilderness Act as “wilderness areas” subject to reasonable regulation. Where a claim was taken to patent, however, the act specified that title in or to the surface was reserved to the United States. The act also provided that “unless hereafter specifically authorized, no

patent within wilderness areas designated by this act shall issue after December 31, 1983 except for valid existing claims on or before December 31, 1983.”

The last paragraph of this section is the most significant for mineral management in wilderness areas. “Subject to valid rights then existing, effective January 1, 1984, the lands designated by this Act as wilderness areas are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and all amendments thereto.”

Determination of existing rights can be a challenge for managers. Rights to a valid existing claim can be maintained by the claimant by doing and reporting annual assessment work. Prior to actual mining, a plan of operation is required as a validity determination, a detailed and multiyear examination to determine the validity of the mineral claimed. Generally a formal Surface Rights Determination is required.

Normally mineral leases contain an expiration date of 10 years after date of issue. If the leased area is producing in “paying quantities,” lease extension is routine.

Mechanical transport, motorized equipment, and access and utility corridors may be used after a determination that they are the minimum necessary. These activities and the reclamation of all disturbed lands, however, must minimize the impact on the surrounding wilderness character.

(TWA Section 4 (d) (2) (3), FSM 2323.7)

Monitoring Sites and Installations

Note – Also see Research and Scientific Activities

The Wilderness Act states:

“Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”

“Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character.”

“...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

Subsequent wilderness legislation (i.e. Utah Wilderness Act, Arizona Wilderness Act, etc.) may contain language that all allows for consideration of hydrological, climatological, and meteorological monitoring stations in some wilderness areas included in those laws. These installations could include the use of motorized equipment, mechanical transport, or landing of aircraft if it is the minimum necessary requirement.

Forest Service Policy

2320.3 - Policy

3. In wildernesses where the establishing legislation permits resource uses and activities that are nonconforming exceptions to the definition of wilderness as described in the Wilderness Act, manage these nonconforming uses and activities in such a manner as to minimize their effect on the wilderness resource.
4. Cease uses and activities and remove existing structures not essential to the administration, protection, or management of wilderness for wilderness purposes or not provided for in the establishing legislation.
8. Gather necessary information and carry out research programs in a manner that is compatible with the preservation of the wilderness environment.

2324.3 - Management of Structures and Improvements

2324.31 - Objective. To limit structures and improvements for administrative purposes or under special-use permit to those actually needed for management, protection, and use of the wilderness for the purposes for which the wilderness was established.

2324.32 - Planning. Document the need for administrative and existing special use permitted improvements in forest plans. Develop removal schedules for those improvements considered unnecessary. Provide an historical evaluation when needed.

Determine the long-term need of the improvement and its location before authorizing substantial maintenance for administrative or permitted improvements. Consider alternative locations that may be more compatible with the wilderness resource.

2324.33 - Structures and Improvements Needed for Administration

2324.34 - Other Agency Structures. Approve, manage, construct, and maintain structures funded by cooperating agencies on National Forest lands in the same manner as described in section 2324.3. When existing improvements deteriorate to the point that normal maintenance does not keep them usable, analyze the need for such structures. If they are not essential to meet the minimum requirements of wilderness administration, or if they are not essential to a continuing program that was established on the basis of the structure, do not replace them.

Periodically review permits for structures in wilderness to determine whether or not their continued existence is in the public interest. If not, terminate the permits and remove the improvements. Forest plans shall assess and direct the disposition of all such structures.

2324.35 - Structures and Improvements Needed for Special Use Permit Operations. Policy and direction for outfitter and guide operations is in FSM 2323.13. Maintain structures and improvements under other special use permits under the same direction as given for other agencies or as otherwise authorized by law.

Management Practices

The Wilderness Act identifies scientific, educational, and conservation as public purposes of wilderness. By itself, this could be interpreted as support for the placement of monitoring sites or installations in wilderness. However, the Wilderness Act also requires the administering agencies to preserve wilderness character, in addition to the other purposes of wilderness. "Undeveloped" is one of the four statutory qualities of wilderness character that is directly affected by the presence of structures and installations. Finally, structures and installations are only allowed if they are "necessary to meet minimum requirements for the administration of the area for the purpose of this Act."

Typically monitoring structures and installations are not allowed inside wilderness, unless they are necessary for the purposes of administering the area as wilderness. Rare exceptions may be made if the monitoring station is necessary for scientific studies dependent on a wilderness environment (cannot be done outside wilderness). If monitoring stations are necessary in wilderness they should be designed and installed in a way that is compatible with wilderness values and that any use of motorized equipment, mechanical transport, etc. is essential and cannot be done another way.

(TWA Section 2c, 4b and 4c, FSM 2320 and 2324)

Motorized Equipment, Mechanical Transport, Structures, Installations, Landing of Aircraft, and Temporary Roads

The items listed above are considered the generally 'prohibited uses' in the Wilderness Act of 1964. Section 4(c) of the Wilderness Act prohibits their use for administrative purposes unless a determination has been made that it represents the minimum necessary action to administer the area as wilderness.

“Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

Subsequent laws such as ANILCA, CA Desert Protection Act, and others contain special provisions that may allow or provide additional criteria for approval of the generally 'prohibited uses' but typically the need to determine the 'minimum necessary' or 'minimum tool' as described in Section 4(c) still applies.

Regulations

Forest Service Policy

2320.5 - Definitions

3. Mechanical Transport. Any contrivance for moving people or material in or over land, water, or air, having moving parts, that provides a mechanical advantage to the user, and that is powered by a living or nonliving power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs when used as necessary medical appliances. It also does not include skis, snowshoes, rafts, canoes, sleds, travois, or similar primitive devices without moving parts.

4. Motorized Equipment. Machines that use a motor, engine, or other nonliving power sources. This includes, but is not limited to, such machines as chain saws, aircraft, snowmobiles, generators, motor boats, and motor vehicles. It does not include small battery or gas powered handcarried devices such as shavers, wristwatches, flashlights, cameras, stoves, or other similar small equipment.

2326 – Use of Motorized Equipment or Mechanical Transport in Wilderness

2326.02 - Objectives

1. Accomplish management activities with nonmotorized equipment and nonmechanical transport of supplies and personnel.

2. Exclude the sight, sound, and other tangible evidence of motorized equipment or mechanical transport within wilderness except where they are needed and justified.

2326.03 - Policy

1. Ensure that Forest Service employees acquire and maintain necessary skills for primitive travel by foot, horse, canoe, or other nonmechanical means and the use of hand tools. For definitions see FSM 2320.5.

2. Do not approve the use of motorized equipment or mechanical transport unless justified as described in 2326.1. For procedures and examples see FSH 2309.19. For definitions see FSM 2320.5.

3. Discourage flights over wilderness within 2,000 feet of the ground surface, except in emergencies or for essential military missions. (The Federal Aviation Administration (FAA) has agreed to and the National Oceanic and Atmospheric Administration (NOAA) has posted, for the FAA, a 2,000 foot over terrain flight advisory on appropriate aeronautical charts. Specific legislative provisions regarding overflight pertain to certain wildernesses.) Cooperate with the Federal Aviation Administration, the National Oceanic and Atmospheric Administration, military authorities, and with local pilots to promote compliance with the 2,000 foot limit, to keep aeronautical charts current, and to reduce low level flight.

2326.04 - Responsibility

2326.04a - Chief. The Chief is responsible for approving any use of motor vehicles and motorized equipment, except where the authority has been delegated to the Regional Forester (FSM 2326.04b) and the Forest Supervisor (FSM 2326.04c).

2326.04b - Regional Forester. The Regional Forester is responsible for approving:

1. Transport and supply by aircraft, air drop, motor boat, or mechanical transport for situations that meet the conditions under items 2, 4, or 5, in FSM 2326.1.

2. Hand-portable motorized equipment for needs that meet conditions listed under item 5 of FSM 2326.1.

3. Motorized ground equipment not designed for personnel transport and of a type or size that is controlled from a position afoot.

4. Use of motor vehicles, motorized equipment, and mechanical transport for situations involving established livestock grazing operations (FSM 2204 and 2323.2), and transport of wildlife or fish when nonmotorized means are not feasible (FSM 2323.3).

5. Use of motorized equipment specifically allowed by individual wilderness acts subsequent to the Wilderness Act.

2326.04c - Forest Supervisor. The Forest Supervisor approves the use of motorized equipment or mechanical transport under conditions described in section 2326.1, item 1

or 3. However, the Regional Forester shall approve the use of tractors for fire suppression.

2326.1 - Conditions Under Which Use May Be Approved. Allow the use of motorized equipment or mechanical transport only for:

1. Emergencies where the situation involves an inescapable urgency and temporary need for speed beyond that available by primitive means. Categories include fire suppression, health and safety, law enforcement involving serious crime or fugitive pursuit, removal of deceased persons, and aircraft accident investigations.

2. Aircraft or motor boat use established before the area was designated as wilderness by the Act of 1964 or subsequent wilderness legislation.

3. Exploration and development of valid existing mineral rights (FSM 2323.7).

4. Access to surrounded State and private lands and valid occupancies (FSM 2326.13).

5. To meet minimum needs for protection and administration of the area as wilderness, only as follows:

a. A delivery or application problem necessary to meet wilderness objectives cannot be resolved within reason through the use of nonmotorized methods.

b. An essential activity is impossible to accomplish by nonmotorized means because of such factors as time or season limitations, safety, or other material restrictions.

c. A necessary and continuing program was established around the use of motorized equipment before the unit became a part of the National Wilderness Preservation System, and the continued use of motorized equipment is essential to continuation of the program.

d. Removal of aircraft wreckage when nonmotorized methods are unsuitable.

Specify, for each wilderness, the places and circumstances in which motorized equipment, mechanical transport, or aircraft are necessary for protection and administration of the wilderness and its resources in the forest plan.

The Line Officer approving the use of motorized equipment, aircraft, or mechanical transport shall specify what uses of that equipment are suitable and will have the least lasting impact to the wilderness resource. Schedule use of this equipment to minimize impact on wilderness visitors.

2326.11 - Use of Motorized Equipment by Other Government Agencies. Approve the use of motorized equipment, aircraft, or mechanical transport by other government agencies in National Forest wilderness in the same manner and under the same

conditions stipulated for Forest Service use (sec. 2326.1). Special provision is given for access to existing snow measurement sites (sec. 2323.44).

2326.12 - Use of Motorized Equipment by Valid Occupants of National Forest Land.

Approve the use of motorized equipment and/or mechanical transport by valid occupants of National Forest System lands in wilderness using criteria in section 2326.1.

2320.6 - Where a choice must be made between wilderness values and visitor or any other activity, preserving the wilderness resource is the overriding value. Economy, convenience, commercial value, and comfort are not standards of management or use of wilderness.

Management Practices

It's important to understand the definitions of both motorized equipment and mechanical transport found in FS Policy. Motorized equipment includes anything with a motor, including battery powered tools, but does not small hand carried personal devices such as watches, radios, lap top computers, cell phones, etc. nor does it include wheel chairs designed for the mobility impaired and suitable for indoor use. Mechanical transport includes nearly everything with moving parts, that provides a mechanical advantage to the user, but does not include *mechanized equipment* such as hand winches, grip hoists, etc.

The Forest Service has a long history of performing essential work in wilderness using traditional tools and skills. Each region and many forests have experienced and qualified staff and volunteer groups and other partners are increasingly involved in sustaining and expanding these skills. A Traditional Tools and Skills Toolbox can be found at: <http://www.wilderness.net/toolboxes/>.

For any administrative action that may require an exception to allow a prohibited use (motorized equipment, landing of aircraft, etc.) there must be a determination that 1) the activity is required or necessary in wilderness, and if so, 2) the tool, process, or method that can be used to both minimize use of motorized equipment, etc. and avoid adverse impacts. The decision criteria are found in FSM 2326 and may also include safety, preservation of wilderness character, effects to the wilderness resource, etc. The cost and difficulty of implementing the activity using traditional tools and skills should be identified but not used as the primary criteria for decision making.

To assist managers in performing a minimum requirements analysis and determining the minimum tool a Minimum Requirements Decision Guide (MRDG) has been developed. The MRDG contains an Overview section that further explains the minimum requirements concept. Instructions on how to use the MRDG, Worksheets for analysis and Forest Service Guidelines that further interpret agency policy and processes for approval. These guidelines can be found at: <http://wilderness.net/mrdg/>.

Forest Service regions or units may also have specific policy, guidelines or delegations of authority regarding a minimum requirements analysis or approval of a generally prohibited use.

(TWA Section 4(c) and FSM 2326)

Mountain Biking

Mountain bikes were not discussed during the debates on the wilderness bill prior to 1964 but Congress did recognize the need for protection of lands from the increasing threats of mechanical devices and stated it as the purpose for the Wilderness Act: “In order to assure that an increasing population, accompanied by expanding settlement and **growing mechanization**, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition...” (emphasis added). Sec. 4 (c) of the 1964 Wilderness Act states in part that “...there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, **no other form of mechanical transport**, and no structure or installation within any such area” (emphasis added).

Subsequently, Forest Service regulations and policy have defined bicycles as a form of mechanical transport and they are prohibited in all national forest wilderness areas.

Forest Service Regulation

Sec. 261.16 National Forest Wilderness. The following are prohibited in a National Forest Wilderness:

- (b) Possessing or using a hang glider or bicycle.

Forest Service Policy

2320.5 - Definitions

3. Mechanical Transport. Any contrivance for moving people or material in or over land, water, or air, having moving parts, that provides a mechanical advantage to the user, and that is powered by a living or nonliving power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons...”

Management Practices

In the last 20 years mountain bikes have enjoyed a steady increase in popularity especially on National Forest and BLM administered lands. Many mountain bike users have expressed a desire to use bikes within a wilderness setting for the challenge and for other reasons. Still others have debated whether mountain bike tires do more or less damage to trails than recreation livestock.

Like it or not, mountain bikes are prohibited in wilderness on national forest lands. Managers can often accommodate mountain bike use through trail development outside of wilderness in areas that provide a similar type of experience in an unmodified landscape. Providing visitor information via offices, web sites, and at trailheads (including wilderness trailheads) can often avoid illegal use and wilderness trespass problems.

(TWA Section 49C) and 36 CFR 293)

Non-native Invasive Plant Species

The Wilderness Act of 1964 (P.L. 88-577) states that wilderness "...shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness,..." The Act provides for "...the protection of these areas, the preservation of their wilderness character,..."

The Act also states that "...wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, ... retaining its primeval character and influence, ... which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; ..."

Forest Service policy: There is no section that specifically addresses non-native invasive species. However, numerous sections provide relevant direction, and below are sections which are the most applicable. Other FSM sections with applicable NNIS and/or Wilderness direction include FSM 2080 – Noxious Weeds Management, and FSM 2150 – Pesticide Use Management and Coordination.

2320.2 – Objectives

2. Maintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces.

2323.26b - Nonstructural Range Improvements

2. Plant Control. Approve plant control only for:
 - b. Noxious farm weeds by grubbing or with chemicals when they threaten lands outside wilderness or when they are spreading within the wilderness, provided that it is possible to effect control without causing serious adverse impacts on wilderness values.

2323.04c – The Regional Forester is responsible "for approving the use of pesticides [and herbicides] in wilderness."

E.O. 13112, February 3, 1999 directs all agencies in the Executive Branch to: prevent the introduction of invasive species, detect and respond rapidly to and control populations of such species, provide for restoration of native species and habitat, conduct research and develop technologies, promote public education, and directs agencies not to authorize, fund, carry out actions that are likely to cause or promote the introduction or spread of invasive species.

Management Practices

Non-native invasive species can be one of the most significant and long-term effects on the character of a wilderness. Invasive plants can out compete native vegetation which can effect wildlife habitat, soil stability, water quality, and the recreation experience.

Non-native Invasive Plant Management

Management of non-native invasive plant species (NNIS) typically includes the components of the Integrated Weed (or Pest) Management Process. Inventory, assessment, information and education, coordination with adjacent land owners and other agencies are all essential in order to ensure successful management. After initial inventory and assessment work, managers must determine if it is feasible to treat non-native plant infestations. In many cases some level of control or eradication can be achieved but in other cases, where the infestation is large enough to have already dominated the ecosystem, serious questions must be asked to determine if a return to more natural conditions can ever be achieved. More information on this topic can be found by searching the Publications section of the Aldo Leopold Wilderness research Institute at: <http://www.leopold.wilderness.net/>.

Before treatment options are implemented they should be assessed using the mandate from The Wilderness Act of 1964 to preserve wilderness character. The presence and spread of NNIS is typically an adverse effect on the natural quality of wilderness character. However, the treatment of NNIS is typically considered 'trammeling' of wilderness and the effects of treatment should be compared to the feasibility and potential benefits of restoring more natural conditions.

All options to address non-native invasive plants in wilderness are available including no treatment, hand pulling, herbicides, and biological control. A careful assessment of the wilderness ecosystem, infestations, and methods is necessary to determine the best method. Any request to use herbicides in wilderness requires the approval of the Regional Forester.

Proposed application or treatment methods which use motorized equipment, landing or aircraft or other uses prohibited by Section 4(c) of The Wilderness Act, may require a Minimum Requirements analysis. Alternative methods, such as the Saddle Light non-motorized herbicide sprayer designed for pack stock are available.

For additional information on this topic see the Non-Native Invasive Plants Toolbox at: www.wilderness.net/toolboxes/ .

TWA Section 4 (d) (1)

FSM 2320.2, 2323.2 and 3, 2323.26b and 2323.04c

Other Laws and Designations

Subsequent Wilderness Legislation

Special provisions contained in wilderness legislation subsequent to the Wilderness Act of 1964 often seem to diminish the meaning of wilderness or at least move it away from the original concept contained in The Wilderness Act of 1964. Special provisions may be the result of political forces or of compromises needed to pass a piece of wilderness legislation. Currently there is much debate amongst wilderness advocates as to whether designating more wilderness with special provisions for management is preferable to approach which precludes additional special provisions. The remaining lands eligible for designation as wilderness will be evaluated in great detail before wilderness designation is applied.

Complimentary Preservation Laws and Designations

Contemporary wilderness classification issues increasingly pit advocates who want to protect the wild in wilderness and use a more conservative interpretation of wilderness values against those who primarily view wilderness classification as the only way to protect Federal land from logging and timber harvest. For the latter group primeval wilderness character is less important than protection.

Many suggest that alternative designations that would allow for example, additional types of recreation use (i.e. mountain biking) and possibly more intensive management of the lands natural condition while prohibiting logging and road building. A number of Congressional designations exist on National Forest Lands which can be applied to designate lands for purposes other than timber management or road based recreation:

- National Recreation Area
- National Scenic Area
- National Scenic Research Area
- National Monument

Several administrative designations also exist which have been stable, provide protection, and are used for special areas:

- Research Natural Areas (Preserve unique representative ecosystems for research)
- Botanic, Geologic Areas
- Experimental Forests and Ranges

Other Laws

Other laws apply to lands designated as wilderness. Examples include the Endangered Species Act, the Clean Air Act, and the Archaeological Resources Protection Act. In general the intent of applicable laws must be met, though often the implementation of management actions is different in wilderness to minimize adverse effects on wilderness character.

For more information see Section II and III. of the Wilderness Awareness Toolbox at: <http://www.wilderness.net/toolboxes/>.

Outfitting and Guiding – Commercial Services

The Wilderness Act of 1964 (P.L. 88-577) states: “Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas. “ Commercial services associated with any of the six “public purposes of recreational, scenic, scientific, educational, conservation, and historical use” may be considered and authorized. This special provision is within the purpose of wilderness and the mandated direction for management of wilderness and is further defines by other sections of the Act:

- “...and these [wilderness areas] shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness...”
- “Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character.”
- “An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;...”

Forest Service Policy

The Forest Service has typically interpreted the commercial services special provision to mean guides and outfitters. FSM 2313.g states:

- Address the need for and role of outfitters in the forest plan. The plan must address the type, number, and amount of recreation use that is to be allocated to outfitters.
- Ensure that outfitters provide their service to the public in a manner that is compatible with use by other wilderness visitors and that maintains the wilderness resource.

One ‘test’ for whether outfitters and guides are needed is whether they meet the objectives for management of recreation in wilderness as described in FSM 2323.1:

1. Provide, consistent with management of the area as wilderness, opportunities for public use, enjoyment, and understanding of the wilderness, through experiences that depend upon a wilderness setting.
2. Provide outstanding opportunities for solitude or a primitive and unconfined type of recreation.”

Management Practices

Selected commercial services, such as outfitter-guide services, where they are necessary for visitors to access and enjoy wilderness for recreational, scenic,

educational and other wilderness purposes, may be authorized. The type, amount, and location of these commercial services may be limited to insure preservation of wilderness character such as the naturalness and opportunities for primitive and unconfined recreation or solitude within that area. A formal 'needs assessment' is appropriate to assure that commercial activities are needed and to identify the extent to which they are necessary.

The role of commercial providers in wilderness is dependent on the management objectives for each area. For example, outfitters and guides can often incorporate or focus on wilderness dependent types of outdoor education or assist with use of wilderness by those with disabilities or who lack adequate skill or equipment or provide information and education about the value and benefits of wilderness.

The amount and location, or "extent necessary", of visitor use capacity allocated to commercial services is determined based on the capabilities of the social, biological, and physical components of the wilderness resource. The amount of use available also considers public demand for services but is not dependent on the number of requests for new permits or business opportunities.

Other types of recreation-oriented commercial services that go beyond the traditional horse packing, hunting, hiking, backpacking, boating, or fishing types of uses may also be considered to determine if they are needed and within the recreation and other purposes of wilderness. Non-recreation types of commercial services have typically included support to research or scientific activities.

More information can be found in the Commercial Services (Outfitters and guides) Toolbox at: <http://www.wilderness.net/toolboxes/>.

(TWA Section 4 (d) (6), FSM 2323 .13g)

Recreation Site Monitoring

The Wilderness Act states:

Purpose:

- “it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness.”

Management:

- “these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness;...”

Definition:

- “man is a visitor who does not remain”
- “has outstanding opportunities for solitude or a primitive and unconfined type of recreation...”
- “An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;...”

Public Purposes

- “Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”

Forest Service policy

2323.11 Objectives:

1. Provide, consistent with management of the area as wilderness, opportunities for public use, enjoyment, and understanding of the wilderness, through experiences that depend upon a wilderness setting.
2. Provide outstanding opportunities for solitude or a primitive and unconfined type of recreation.”

2323.13a – Campsites:

Do not designate campsites except as a last resort. Relocate or remove existing camps to allow maximum opportunity for solitude and to minimize the evidence of human use.

2323.14 - Visitor Management. Plan and manage public use of wilderness in such a manner that preserves the wilderness character of the area. Provide for the limiting and distribution of visitor use according to periodic estimates of capacity in the forest plan.

Management Practices

The Wilderness Act establishes wilderness for the use and enjoyment of visitors but also mandates that wilderness character is preserved. This constraint insures that wilderness dependent recreation, without developments for the convenience of the visitor or impacts to natural conditions will occur.

Wilderness Stewardship principles for recreation use management dictate that standards be established to limit the amount of impacts to wilderness from recreation use so that natural conditions and processes are not effected. Campsite and recreation livestock grazing monitoring are the tools used to collect information about indicators that establish baseline conditions or measure trends. This information is typically compared to desired condition descriptions, guidelines, or standards to insure preservation of wilderness character.

For more information, including examples of site monitoring protocols and systems visit the Recreation Site Monitoring Toolbox at: <http://www.wilderness.net/toolboxes/>.

For more information on visitor use management visit the Visitor Use Management Toolbox at: <http://www.wilderness.net/toolboxes/>.

(TWA Section 2a,2c,4b and FSM 2323)

Research and Scientific Activities

Note – See also Monitoring Sites and Installations

The Wilderness Act states (emphasis added):

“... [wilderness] shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the **gathering and dissemination of information** regarding their use and enjoyment as wilderness...”

“ A wilderness ... may also contain ecological, geological, or other features of **scientific**, educational, scenic, or historical value.”

“Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, **scientific**, educational, conservation, and historical use.”

“Except as otherwise provided in this Act, **each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area** and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character.”

“...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

Provisions contained in subsequent wilderness legislation may also apply. One example of such a provision is found in the Omnibus Public Lands Management Act of 2009, PL-111-11

Section 1972b(8) CLIMATOLOGICAL DATA COLLECTION.— “In accordance with the Wilderness Act (16 U.S.C. 1131 et seq.) and subject to such terms and conditions as the Secretary may prescribe, the Secretary may authorize the installation and maintenance of hydrologic, meteorologic, or climatological collection devices in the wilderness areas designated by subsection (a)(1) if the Secretary determines that the facilities and access to the facilities are essential to flood warning, flood control, or water reservoir operation activities.”

In addition, the provisions of other laws must also be met, to the degree possible in wilderness. These provisions may be contained in laws such as:

- The Endangered Species Act
- The Clean Water Act (as amended)
- The Clean Water Act

Forest Service Policy (emphasis added):

2320.3 - Policy

1. Where there are alternatives among management decisions, wilderness values shall dominate over all other considerations except where limited by the Wilderness Act, subsequent legislation, or regulations.

3. In wildernesses where the establishing legislation permits resource uses and activities that are nonconforming exceptions to the definition of wilderness as described in the Wilderness Act, manage these nonconforming uses and activities in such a manner as to minimize their effect on the wilderness resource.

4. Cease uses and activities and remove existing structures not essential to the administration, protection, or management of wilderness for wilderness purposes or not provided for in the establishing legislation.

8. Gather necessary information and carry out research programs in a manner that is compatible with the preservation of the wilderness environment.

2322.03 - Policy

2. The wilderness component of the forest plan shall include, as a minimum, the following:

b. Display of the relationships and coordination between the wilderness resource and other resources and activities present in the wilderness, as well as activities outside of wilderness that affect the management of the wilderness. Resources and other elements to be addressed include: recreation (including visitor education), forest cover, forage, fish and wildlife, federally listed threatened or endangered flora or fauna, domestic livestock, soil and water (including weather modification), minerals, historical and cultural resources, fire, land ownership, insect and diseases, air quality, other agency use, the trail system (including trailheads), signing, communication, and **research**.

c. Monitoring requirements for determining whether prescriptions, standards, and guidelines are met.

2324.4 - Research in Wilderness

2324.41 - Objective. To provide appropriate opportunity for scientific studies that are dependent on a wilderness environment.

2324.42 - Policy

1. Encourage research in wilderness that preserves the wilderness character of the area (FSM 2320.3).

2. Identify wilderness management or national issues that may require research in forest plans.

3. Review proposals to conduct research in wilderness to ensure that research areas outside wilderness could not provide similar research opportunities. Direct projects that would jeopardize wilderness values to areas outside wilderness.

4. Review research proposals to conduct research in wilderness to ensure that research methods are compatible with wilderness values. Do not allow the use of motorized equipment or mechanical transport unless the research is essential to meet minimum requirements for administration of the area as wilderness and cannot be done another way (sec. 4(c) the Wilderness Act). Include specific stipulations in the approval document.

5. Except for studies that clearly require contact within wilderness, allow interviews or direct contact with visitors only outside wilderness.

6. Permit scientific study of cultural resource sites/areas consistent with the direction in FSM 2323.8.

Management Practices

The Wilderness Act includes gathering of information about wilderness as part of the purpose of wilderness and “scientific” is addressed in the description of values and also the public purposes. However, this direction is limited by the mandate to preserve wilderness character and to prohibit the use of motorized equipment, structures, installations, landing of aircraft, etc. unless it is the minimum necessary for administration of the area as wilderness.

Typically proposals for research and scientific activities are screened by managers to encourage studies that help preserve wilderness character. Activities that could be done outside wilderness or would jeopardize wilderness values are directed elsewhere. Rare exceptions that allow motorized equipment, installations, landing of aircraft, etc., may be made if the activity is necessary to help preserve wilderness character or for other necessary scientific studies dependent on a wilderness environment and cannot be done outside wilderness. If research or scientific activities are necessary in wilderness they should be designed and implemented in a way that is compatible with wilderness values. Any use of motorized equipment, mechanical transport, installations, etc. must be shown to be essential after analysis of all feasible alternatives.

Subsequent wilderness legislation (enacted after the 1964 Wilderness Act) and other laws may contain special provisions that address certain activities or installations that would otherwise be prohibited by law or discouraged by policy. This may include activities such as monitoring installations for hydrological, meteorological, or air quality data, or access for data gathering that uses motor vehicles, motor boats, or aircraft. The exact language of the law should be examined, and if necessary interpreted by agency attorneys, to determine if the special provision allows for consideration of the otherwise prohibited activities or actually authorizes them. A special provision that is included in a house or senate committee report but is not included in the law should be considered and analyzed using all applicable laws and processes (i.e NEPA, Minimum Requirements Analysis, etc.) but there is no requirement for implementation.

The following methodology is based on work by Dr. Peter Landres, Aldo Leopold Wilderness Research Institute, and others, found in [A Framework to Evaluate Proposals for Scientific Activities in Wilderness](http://www.fs.fed.us/rm/pubs/rmrs_gtr234.html), RMRS – GTR – 234WWW (http://www.fs.fed.us/rm/pubs/rmrs_gtr234.html):

Research and scientific activities should be evaluated by assessing both the benefits and the impacts and subsequently making a decision to approve or deny the proposal based on whether or not the impacts are acceptable to achieve the benefits. Evaluation of proposals requires judgments by local managers for each unique proposal and wilderness area and compliance with other requirements such as a NEPA analysis or a Minimum Requirements Analysis.

One approach is to screen or evaluate proposals using a series of filters such as those listed below. Using this type of evaluation a proposal could be provisionally denied after being processed through any filter but a revised proposal that mitigates impacts could be negotiated.

- Initial Review – are there any potential red flags or serious problems
- Quality of Proposal – is the proposal sufficiently well-designed to accomplish its purpose
- Legal and Policy – does the proposal comply with legislation and agency policy
- Impacts and Benefits – what are the specific effects to wilderness character and the benefits to management and science

For more information on visitor use management visit the Research and Scientific Activities Toolbox at: <http://www.wilderness.net/toolboxes/>.

(TWA Section 2a, 2,c, 4b, 4c, FSM 2320, and 2324)

Restoration of Small Sites

The Wilderness Act of 1964 (P.L. 88-577) states that wilderness "...shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness,..." The Act provides for "...the protection of these areas, the preservation of their wilderness character,..."

The Act also states that "...wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, ... retaining its primeval character and influence, ... which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; ..."

Forest Service Policy: Numerous sections of FS Wilderness Policy address restoration of natural conditions in wilderness as shown below. Other FSM sections with applicable Non-Native Invasive Species (NNIS) and/or Wilderness direction include FSM 2080 – Noxious Weeds Management, and FSM 2150 – Pesticide Use Management and Coordination.

2320.2 – Objectives

2. Maintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces.

2320.5 - Definitions

10. Indigenous Species. Any species of flora or fauna that naturally occurs in a wilderness area and that was not introduced by man.
11. Native Species. Any species of flora or fauna that naturally occurs in the United States and that was not introduced by man.
12. Naturalized Species. Any non-indigenous species of flora or fauna that is close genetically or resembles an indigenous species and that has become established in the ecosystem as if it were an indigenous species.
13. Exotic Species. Any species that is not indigenous, native, or naturalized.

2323.26b - Nonstructural Range Improvements

1. Seeding. Seed only species that are indigenous or naturalized to the area. Use broadcast seeding methods.

Approve seeding only for:

- a. Areas where human activities have caused the loss or threaten the existence of indigenous plant species.
- b. Areas where human activities, including their livestock, have denuded or caused loss of soil, providing that the actions or activities responsible for the deterioration no longer exist and that natural revegetation is insufficient and/or ineffective.

- c. Maintenance of livestock grazing operations where seeding was practiced before the area was designated as wilderness.
2. Plant Control. Approve plant control only for:
 - b. Noxious farm weeds by grubbing or with chemicals when they threaten lands outside wilderness or when they are spreading within the wilderness, provided that it is possible to effect control without causing serious adverse impacts on wilderness values.
3. Irrigation. Use irrigation or water spreading only to maintain livestock grazing operations and only where practiced before the designation of wilderness.
4. Fertilizing. Use fertilization only as an aid to revegetation of the areas provided in item 1 or to maintain livestock grazing operations where practiced before the designation of wilderness. Liming is considered a fertilization practice in this context.

2323.3 - Management of Wildlife and Fish

2323.31 – Objectives

1. Provide an environment where the forces of natural selection and survival rather than human actions determine which and what numbers of wildlife species will exist.
2. Consistent with objective 1, protect wildlife and fish indigenous to the area from human caused conditions that could lead to Federal listing as threatened or endangered.
3. Provide protection for known populations and aid recovery in areas of previous habitation, of federally listed threatened or endangered species and their habitats.

2323.35 - Wildlife and Fish Habitat. Achieve a balance of wildlife and fish with their habitat through cooperation with State agencies in management of public hunting, fishing, and trapping. Objectives for the management of wildlife and fish habitat are normally compatible with the objectives for maintaining wilderness values. Where incompatible, the requirements for maintenance of wilderness values take precedence.

2323.35a - Manipulation of Wildlife Habitat. The objective of all projects must be to perpetuate the wilderness resource; projects must be necessary to sustain a primary value of a given wilderness or to perpetuate a federally listed threatened or endangered species. To qualify for approval by the Chief, habitat manipulation projects must satisfy the following criteria:

1. The condition needing change is a result of abnormal human influence.
2. The project can be accomplished with assurance that there will be no serious or lasting damage to wilderness values.
3. There is reasonable assurance that the project will accomplish the desired objectives.

Test major projects through a pilot study. The pilot study should take place in a comparable area outside of wilderness if possible.

Give first priority to locating habitat improvement projects outside wilderness for the benefit of wildlife that spend only part of the year in wilderness.

2323.35b - Manipulation of Fish Habitat. The objective of all projects must be to perpetuate the wilderness resource. To qualify for approval by the Chief, fish habitat projects must satisfy the criteria established for wildlife (2323.35a).

2323.4 - Management of Soil and Water Resources

2323.41 - Objective. Maintain satisfactory natural watershed condition within wilderness.

2323.42 - Policy. The policy for soil and water management is generally the same as for all National Forest watersheds (FSM 2502). However, in wilderness natural processes shall dominate; measures that modify plant cover and treat soil mantles or other activities designed to supplement natural water yield are inappropriate.

2323.43 - Watershed Improvements

2323.43a - Watershed Condition Improvement. (FSM 2522). Use watershed improvements to restore watersheds where deteriorated soil and hydrologic conditions caused by humans or their influences create a serious threat or loss of wilderness values. Watershed condition improvements are also appropriate where natural conditions present a definite hazard to life or property; or where such conditions could cause serious depreciation of important environmental qualities outside of the wilderness. Promote natural healing where such dangers are not imminent or where natural vegetation would return in a reasonable time.

Use indigenous or appropriate naturalized species to reestablish vegetation where there is no reasonable expectation of natural healing.

Use nonmotorized equipment to accomplish improvement objectives. Only imminent threat to important values downstream justifies the use of motorized equipment.

2323.43b - Emergency Burned Area Rehabilitation. Permit emergency burned area rehabilitation only if necessary to prevent an unnatural loss of the wilderness resource or to protect life, property, and other resource values outside of wilderness. Normally use hand tools and equipment to install selected land and channel treatments.

2323.5 - Management of Forest Cover

2323.51 - Objective. Manage forest cover to retain the primeval character of the environment and to allow natural ecological processes to operate freely.

2323.52 - Policy

1. Permit ecological processes to operate naturally.
2. Recognize both climax and successional biotic communities as natural and desirable.
3. Allow, wherever possible, the natural process of healing in handling disturbed communities. Consider structural or vegetative assistance only as a last resort.

2323.54 - Reforestation. Allow reforestation only if a loss of the wilderness resource, due to human influence, has occurred and there is no reasonable expectation of natural reforestation.

2324.1 - Management of Insects and Diseases

2324.11 - Objectives

1. To allow indigenous insect and plant diseases to play, as nearly as possible, their natural ecological role within wilderness.
2. To protect the scientific value of observing the effect of insects and diseases on ecosystems and identifying genetically resistant plant species.
3. To control insect and plant disease epidemics that threaten adjacent lands or resources.

2324.12 - Policy

1. Do not control insect or plant disease outbreaks unless it is necessary to prevent unacceptable damage to resources on adjacent lands or an unnatural loss to the wilderness resource due to exotic pests.
2. Trees within the wilderness have no commercial value. Do not consider the commercial value of trees in wilderness in evaluations for insect and disease control.

2323.04c – The Regional Forester is responsible “for approving the use of pesticides [and herbicides] in wilderness.”

E.O. 13112, February 3, 1999 directs all agencies in the Executive Branch to: prevent the introduction of invasive species, detect and respond rapidly to and control populations of such species, provide for restoration of native species and habitat, conduct research and develop technologies, promote public education, and directs agencies not to authorize, fund, carry out actions that are likely to cause or promote the introduction or spread of invasive species.

Management Practices

From: Wilderness and Backcountry Site Restoration Guide, 2006, Missoula Technology Development Center:

“The Wilderness Act directs agencies to protect and manage wilderness “so as to preserve its natural conditions,” ensuring that wilderness “generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable.” Although the Wilderness Act does not specifically mention restoration, increasingly managers are turning to restoration to preserve wilderness character. Heavy scars on the land—whether from past practices or ongoing uses—

compromise the goals of the Wilderness Act. Restoration (figures 1–1a and 1b) is one way to reduce the scars. Interest in wilderness restoration is at an all-time high.

The most important lessons of site restoration have been:

- Practical methods for restoring damaged sites
- Improved perspectives on restoration's role in wilderness management

Any time visitor use is shifted, impacts will shift as well. New impacts are created, while scars from old impacts may remain. These scars should be healed as quickly as possible. For example, restoration should be an integral part of trail relocation programs. Eroded trail segments frequently are abandoned without rehabilitation when trails are relocated. Restoration should be part of the original trail reconstruction plan. Building a trail may leave a substantial amount of soil and plant material that can be used to revegetate old tread. The key is to time the work and to have resources available to use the soil and plant materials as they become available.

In many wildernesses, camping is prohibited near lakeshores, where the impacts of past use are pronounced. This prohibition often has been ineffective and managers may have expended little effort trying to enforce it. If management is serious about a lakeshore setback, restoration should be part of the program. Because setbacks will extend the impacts of visitors into new areas farther from the lakeshore, it is important to restore at least some of the lakeshore.

Restoration generally will require keeping all use (not just camping) off the restoration sites for a substantial period. One way of proceeding might be to fence off 20 percent of the lakeshore until that area has been restored and then move to the next 20 percent of the lakeshore. It might take 100 years to restore the lakeshore, but at least restoration could occur.

As we become more aware of the decades required for restoration and the difficult odds that must be overcome, some workers are becoming more conservative. Increasingly, they decide that it may be better to allow an impacted area to continue being used than to move that impact elsewhere while attempting to restore the old site. Or they decide to restore the fringes of damaged sites, reducing the size of the area being damaged without moving use elsewhere.

Restoration should be undertaken only when adequate resources are available and success is likely. The causes of the impacts must be identified and a feasible means of keeping the impacts from recurring elsewhere must be laid out. Preventing impacts usually involves a variety of visitor management techniques, from access restrictions to visitor education. Site restoration becomes just one technique among a suite of techniques needed to deal with impacts."

Non-native invasive species can be one of the most significant and long-term effects on the character of a wilderness. Non-native predatory fish and wildlife can compete with and possibly reduce or eliminate native populations and habitat. Invasive plants can out compete native vegetation which can effect wildlife habitat, soil stability, water quality, and the recreation experience. Restoration of native species must be part of any actions are undertaken to manage or eradicate non-native species in wilderness. Both passive and active restoration options should be considered to insure that wilderness remains untrammled.

For additional information on management of non-native invasive plant species see the Non-Native Invasive Plants Toolbox at: www.wilderness.net/toolboxes/ or the Non-Native invasive Species section of the Desk Guide.

For additional information on small area restoration see the Restoration Toolbox at: www.wilderness.net/toolboxes/ .

(TWA Section 4 (d) (1), and FSM 2320.2, 2320.5, 2323.o4c, 2, 3, 4, and 5, 2324.1)

Search and Rescue and Law Enforcement

The Wilderness Act of 1964 (P.L. 88-577) states:

“Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (***including measures required in emergencies involving the health and safety of persons within the area***), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area” (emphasis added).

The prohibition on routine use of motorized equipment, aircraft, etc. described above represents the only constraint on search and rescue or law enforcement in The Wilderness Act. Section 4c of The Wilderness Act of 1964 provides an exception for the use of normally ‘prohibited uses’ such as aircraft, motorized equipment, and mechanical transport when it is determined to be the minimum necessary. To meet the intent of the law the line officer must determine that motorized equipment use, landing of aircraft, etc. is both required and the minimum necessary. Law enforcement actions may involve federal, state, or county officers however, the authority for actions involving any of the Section 4c prohibited uses is retained by the federal government and typically the land management agency. The REAL ID Act grants some additional authority to the Secretary of Homeland Security for incidents on the borders or related to immigration.

Forest Service policy

Forest Service wilderness management policy does not specifically address search and rescue or law enforcement operations except in regard to the use of motorized equipment, landing of aircraft, etc. Guidance is found in FSM 2326.1 which states:

Allow the use of motorized equipment or mechanical transport only for:

1. Emergencies where the situation involves an inescapable urgency and temporary need for speed beyond that available by primitive means.

Categories include fire suppression, health and safety, law enforcement involving serious crime or fugitive pursuit, removal of deceased persons, and aircraft accident investigations.”

Forest Service wilderness management also addresses visitor use management in a manner that has a direct relationship to the potential for search and rescue operations. Guidance is found in FSM 2320.3 Policy which states:

10. Inform wilderness visitors that they face inherent risks of adverse weather conditions, isolation, physical hazards, and lack of rapid communications, and that search and rescue may not be as rapid as expected in an urban setting in all publications and personal contacts.

Management Practices

In wilderness, as in other parts of the public lands, the prevention of accidents is preferable to risky and costly search and rescue operations. But in wilderness the natural conditions present hazards that are protected and not mitigated. For example, standing dead trees along a trail are normally not removed, as they would be in a developed campsite outside wilderness, because they are part of the natural condition of wilderness. But, like other more developed areas, structures and facilities provided by the Forest Service (i.e. a trail bridge), or designated campsites must be maintained to a safe condition or closed and removed. Visitors to wilderness are informed of the risks inherent in the natural environment so that they can make their own choices about when and where to go. Both short term (i.e. temporary fire closures) and long term (i.e. difficult creek crossing) information is provided to visitors through trailhead information boards, web sites, front office contacts, etc.

Stewardship of wilderness includes management of emergencies related to injured or lost visitors or serious law enforcement situations. These situations almost always arise without warning and must be addressed quickly and efficiently to prevent further injury or death. When emergency decisions must be made it is appropriate to determine the best course of action based on the health and safety of the visitors, rescuers, or law enforcement officers for the specific emergency situation. In most cases on the national forests, the local Sheriff's Office (or other state or local entity) will have responsibility for search and rescue operations and likely is the organization best equipped to handle it.

Questions may arise about how to determine whether there is a life and death emergency situation for an accident victim. In many cases this determination must be made by highly qualified medical personnel and not by on scene wilderness first aid providers or first responders. This determination may necessitate getting the medical professional to the scene via the quickest method.

For non-emergency situations a Minimum Requirements Analysis is typically prepared to assess first the need for action in wilderness and second to select the method or tool which has the least impact on the wilderness resource. In emergency situations a case by case detailed analysis is inappropriate and the decision on authorization of the normally prohibited uses should always err on the side of protecting human life. The authority for approval of any of the Section 4c prohibited uses in emergency situations is delegated to the Forest Supervisor (FSM 2326).

For most units a cooperatively developed Search and Rescue Plan is essential to establish and document emergency procedures between the responsible authority and the Forest Service. Preparation of this agreement can help both parties get to know each other and foster better understanding of the mission, responsibility, and authority of both organizations. Use of the 'minimum requirements' concept is appropriate during preparation of the Search and Rescue Plan so that all parties involved are following established procedures during the emergency, and applying the minimum requirements concept, without unnecessary delays or risks to victims or rescuers. Assignment of a wilderness qualified Resource Advisor (READ) or Technical Specialist (THSP) to the incident can help provide necessary coordination and insure efficient search and rescue operations while minimizing wilderness impacts.

Pre-approval for determining that any of the prohibited uses is the minimum requirement for an emergency response implemented by state or county agencies may be granted by the federal line officer and documented in an agreement. The Western States Sheriff's Association MoU template is an example of an agreement that can be used if no other agreement with the local sheriff's office or other responsible agency exists. Approval is typically not granted for any of the prohibited uses for training purposes in wilderness when suitable practice areas outside wilderness are available.

Coordination and cooperation with all responsible agencies is the objective for any law enforcement action in wilderness. Good relationships, pre-season planning, and a mutual understanding of wilderness management and law enforcement procedures insures that the minimum requirements direction from the Wilderness Act is implemented.

More information on search and rescue in wilderness, including sample agreements, can be found in the Search and Rescue Toolbox at: <http://www.wilderness.net/toolboxes/>.

(TWA Section 4c, FSM 2320.3, 2326)

Wilderness Signs

The Wilderness Act states that wilderness is designated as an area that is “for the use and enjoyment of the American people” and it “opportunities for ... primitive recreation”. But it is also an area that is undeveloped and in “contrast to those areas where man and his works dominate the landscape”.

The Act also limits structures and installations (i.e. signs) to only those “necessary to meet minimum requirements for the administration of the area for the purpose of this Act..”

Forest Service Policy

The direction for management of wilderness in the national forests is found in FSM 2320 and other directives as noted below.

2320.3 - Policy

10. Inform wilderness visitors that they face inherent risks of adverse weather conditions, isolation, physical hazards, and lack of rapid communications, and that search and rescue may not be as rapid as expected in an urban setting in all publications and personal contacts.

2323.12 - Policy

2. Use information, interpretation, and education as the primary tools for management of wilderness visitors.

2323.13f - Transportation System. Design, construct, and maintain the transportation system in wilderness to provide access to and within a wilderness, that meets the wilderness objectives described in the forest plan.

1. Trails. Trails are an acceptable improvement. Construct and maintain trails to standards described in FSH 2309.18, Trails Management Handbook. National Recreation Trails are generally not designated within wilderness (FSM 2350).

2324.33f - Signs

1. Use a minimum of signing in wilderness.

2. Do not provide wilderness signs for the convenience of the visitor. Along with accurate maps, and wilderness education materials, provide a minimum number of signs for either the routing or location of the traveler or the protection of the wilderness resource.

3. Conform to the standards and guidelines for wilderness signing in FSM 7160, FSH 7109.11, 7109.11a, and 7109.11b. *(Note This direction has been replaced by the **Sign and Poster Guidelines for the Forest Service (EM 7100-15) Chapter 5 – Trail Signing** which is displayed below.)*

4. Do not use interpretive and informational signs.

Sign and Poster Guidelines for the Forest Service (EM 7100-15) Chapter 5 – Trail Signing:

5.3.1b Wilderness Trails:

Use signs within wilderness and primitive areas **only** when necessary to protect the resource or to provide for visitor safety.

1. Route Identification

- Identify trail legs at all system trail intersections where necessary. Route identification may include trail name, number, or both, or locally identifiable destination. Include appropriate directional arrow(s).
- When consistent with other trail markings, blazes or cairns may be used in lieu of guide signs to indicate trail direction

2. Destinations

- Show direction arrows only.
- Required trail destinations
 - Exit signing: show the direction to the trailhead or trail access at the first junction from the trailhead or access point.
- Prohibited destination signing
 - Do not sign major destinations at the destination location.
 - Do not sign geographic or natural features.
- Optional trail destinations
 - Guide signs may be used to identify appropriate trail destinations.
 - Administrative structures may have an identification sign.

3. Distances

- **Do not provide mileages.**

4. Prohibited signs

- Do not use standard Federal Recreation Symbol signs.
- Do not use interpretive information or locator signs.

Direction on Guide Sign Layout for wilderness signs is contained in Section 5.3.2.

Management Practices

To meet the mandates expressed in The Wilderness Act of 1964, agencies have developed policies and guidelines for signs in wilderness that provide necessary information but refrain from allowing wilderness to become overly developed or removing the opportunity for discovery. Wilderness signs can be used at trailheads and entry points to inform visitors about the wilderness resource, provide information on maps, post regulations, and help educate visitors on the use of Leave No Trace techniques. On rare occasions, regulatory signs could be placed in wilderness for protection of the wilderness resource.

For more information visit the Sign and Poster Toolbox at:

<http://www.wilderness.net/toolboxes/>

Snow Measurement Sites

The Wilderness Act of 1964 does not directly address snow measurement sites but does contain direction that is relevant to this activity.

- " and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness;
- "...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act,... there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area."
- "Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character."
- "Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use."

Subsequent wilderness legislation (i.e. Utah Wilderness Act, Arizona Wilderness Act, etc.) may contain language that all allows for consideration of hydrological, climatological, and meteorological monitoring stations in some wilderness areas included in those laws. These installations could include the use of motorized equipment, mechanical transport, or landing of aircraft if it is the minimum necessary requirement.

Forest Service Policy

2323.44a - Snow Measurement Sites

1. Allow the measurement of snow on existing sites only and only by nonmotorized means. Permit helicopter transport to snow measurement sites in locations where it was an established practice before the Wilderness Act was passed. However, discourage the use of helicopter transport to snow measurement sites.
2. Establish no new snow measurement or climatological data collection sites unless they are part of projects established by the President under provision of section 4(d)(4) of the Wilderness Act.
3. Encourage the transfer of existing wilderness sites to locations outside of wilderness. Use existing sites until snow measurement sites outside of wilderness areas are established and correlations between the wilderness site and the outside site are accomplished. In the interim, automated equipment may be installed at the existing wilderness site to accelerate correlation efforts. Agree in writing to the length of

these temporary arrangements before efforts begin. Generally this should not exceed 10 years.

4. Where approved, install only miniaturized and unobtrusive types of snow measurement and climatological monitoring equipment at existing sites. Camouflage equipment to blend with the terrain and vegetation. Where possible, use equipment and antennae that can be removed when not in use.
5. Remove existing shelters used by personnel taking snow measurements from wilderness as soon as possible after establishing adequate correlations between manual snow course measurement and the automated sensing device.
6. Cooperate fully with other Federal or State agencies and other entities collecting snow measurements. Help them to work within the constraints of the Wilderness Act and assist them in data gathering or locating data sites outside of wilderness areas.

Management Practices

Weather monitoring, especially snowfall and water flow, has often involved placing electronic or other equipment or installations in high elevation headwaters locations or in streams. Snow measurement (or Sno-Tel) sites exist in wilderness areas operated by the Natural Resource Conservation Service or other agencies. Down stream farmers and ranchers as well as recreational boaters, have found this information essential. Remote sensing stream monitoring gauges have also been used to warn of flash floods.

Maintenance of structures or installations can generate proposals for use of motorized equipment, aircraft which should be addressed using a Minimum Requirements Decision Guide or similar analysis. The continued need for installations within wilderness should be addressed to determine if a data correlation process could be implemented to relocate the facility outside wilderness.

(TWA Section 2a, 4b, 4c, FSM 2323.4)

Trails and Bridges

Note – Also see the Visitor Use management section for references related to recreation use of trails and bridges in wilderness.

The Wilderness Act of 1964 (P.L. 88-577) states:

“wilderness areas, ... shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character...”

“A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where ... where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped federal land ... which ... has outstanding opportunities for solitude or a primitive and unconfined type of recreation...”

“Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”

“Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”

Forest Service Policy

2323.13f - Transportation System. Design, construct, and maintain the transportation system in wilderness to provide access to and within a wilderness, that meets the wilderness objectives described in the forest plan.

1. Trails. Trails are an acceptable improvement. Construct and maintain trails to standards described in FSH 2309.18, Trails Management Handbook. National Recreation Trails are generally not designated within wilderness (FSM 2350).

a. Design and locate trails so that nonmotorized and nonmechanical equipment can be used for construction and management.

b. Design and locate trails to fit into the natural landscape as unobtrusively as possible.

c. Maintain trails by nonmotorized methods except for situations described in section 2326.

2. Bridges. Design bridges to minimize the impact on the wilderness. Select locations that minimize the size and complexity of the structure. Provide or replace bridges only:

- a. When no other route or crossing is reasonably available.
- b. Where the crossing, during the primary season of public use, cannot be negotiated afoot safely, or cannot be forded by horses safely.
- c. Where unacceptable bank damage will occur from visitors seeking a crossing.
- d. Where flood waters frequently destroy or damage less sturdy structures.

In addition, the following policy can be applied to trail structures such as puncheon, boardwalk, stairs, or other constructed features.

2323.13 - Improvements and Non-conforming Facilities and Activities

Provide facilities and improvements only for protection of the wilderness resource. Document and justify conditions for providing facilities and improvements in the forest plan. Install facilities as a last resort only after trying education, other indirect management techniques, or reasonable limitations on use.

Management Practices

The Wilderness Act defines wilderness as an area that provides “outstanding opportunities for solitude or a primitive and unconfined type of recreation.” In addition wilderness is designated “for the use and enjoyment of the American people” and recreation is one of the six public purposes of wilderness. In most areas visitor use of wilderness would be extremely limited without some type of trail for access. In many ecosystems, some types of use (e.g. recreation livestock) are dependent on a trail system for access. While the Wilderness Act defines wilderness as “undeveloped”, trails are defined as an acceptable improvement.

Trail standards for wilderness typically reflect a more challenging opportunity and minimal imprint on the land. The need for structures (bridges, puncheon, boardwalks, etc.) is minimized through design and location and structures are used only for the protection of the wilderness resource and not for the convenience of the visitor.

(TWA Section 2a,2c,4bc, FSM 2323)

Visitor Use Management

The Wilderness Act of 1964 (P.L. 88-577) states:

“wilderness areas, ... shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character...”

“A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where ... where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped federal land ... which ... has outstanding opportunities for solitude or a primitive and unconfined type of recreation...”

“Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.”

Forest Service policy

Forest Service wilderness management policy for visitor use provides the following guidance:

2320.2 - Objectives

4. Protect and perpetuate wilderness character and public values including, but not limited to, opportunities for scientific study, education, solitude, physical and mental challenge and stimulation, inspiration, and primitive recreation experiences.

2320.3 - Policy

10. Inform wilderness visitors that they face inherent risks of adverse weather conditions, isolation, physical hazards, and lack of rapid communications, and that search and rescue may not be as rapid as expected in an urban setting in all publications and personal contacts.

2323.1 - Management of Recreation

2323.11 - Objectives

1. Provide, consistent with management of the area as wilderness, opportunities for public use, enjoyment, and understanding of the wilderness, through experiences that depend upon a wilderness setting.

2. Provide outstanding opportunities for solitude or a primitive and unconfined type of recreation.

2323.12 - Policy

1. Maximize visitor freedom within the wilderness. Minimize direct controls and restrictions. Apply controls only when they are essential for protection of the wilderness resource and after indirect measures have failed.
2. Use information, interpretation, and education as the primary tools for management of wilderness visitors.
3. Manage for recreation activities that are dependent on the wilderness environment so that a minimum of adaptations within wilderness are necessary to accommodate recreation.
4. Consistent with management as wilderness, permit outfitter/guide operations where they are necessary to help segments of the public use and enjoy wilderness areas for recreational or other wilderness purposes.

2323.13 - Improvements and Non-conforming Facilities and Activities

Provide facilities and improvements only for protection of the wilderness resource. Document and justify conditions for providing facilities and improvements in the forest plan. Install facilities as a last resort only after trying education, other indirect management techniques, or reasonable limitations on use.

2323.13a - Campsites. Do not designate campsites except as a last resort. Relocate or remove existing camps to allow maximum opportunity for solitude and to minimize the evidence of human use.

1. Structures. Dismantle and remove improvised camp structures when they are not in use.
2. Solid Waste Management. Utilize a "pack-in, pack-out" policy. Do not permit burying of garbage. Dispose of past accumulations of debris.
3. Human Waste Management. Utilize the "cat method" of dispersed shallow burial of human waste. Where education of visitors about this method is not effective or in the case of large groups, temporary slit trench latrines may be a preferred alternative. As a last resort to protect the wilderness resource pit or vault toilet structures may be used. Servicing or replacement should be by nonmotorized means.

2323.13b - Shelters. Except for Alaska, provide no new shelters. Shelters that existed at the time of wilderness designation may be maintained if allowed by specific legislation, or until they require extensive maintenance. Remove them at this time. For administrative facilities see FSM 2324.33.

2323.13c - Water Sources. Where necessary for wilderness purposes, developed enclosed springs and hand pumps may be maintained to a minimum potable standard in wilderness. Potability of open water sources shall not be guaranteed. Inform visitors through literature and trailhead notices outside of wilderness of the existence of raw water, the probability of contamination, and that water should be boiled, treated with chemicals, or filtered before using. Do not install warning signs in wilderness unless a specific hazard is known to exist and cannot be corrected.

2323.13d - Boat Docks. Provide no boat docks except where approved for wilderness purposes. Phase out and remove existing docks within ten years of wilderness designation.

2323.13e - Recreation Stock Structures. Construct hitchracks and drift fences to control recreation stock only where they are essential to protect the wilderness resource. Build them with materials and locate them in places that harmonize with the environment.

2323.14 - Visitor Management. Plan and manage public use of wilderness in such a manner that preserves the wilderness character of the area. Provide for the limiting and distribution of visitor use according to periodic estimates of capacity in the forest plan.

Management Practices

The law requires that wilderness be managed for the use and enjoyment of visitors as wilderness. Wilderness is defined, in part as an area with outstanding opportunities for both solitude and unconfined, primitive recreation. This is one of four statutory qualities of wilderness character that is to be preserved. The public purposes of wilderness include recreation and other visitor use related values such as scenic and educational use.

Stewardship of wilderness includes management of visitor use as necessary to preserve wilderness character. In general, management actions are limited to only those restrictions that are needed and indirect techniques such as education and information are preferred. Recreation conveniences are not provided but information is provided about the degree of risk to be encountered in the natural environment. Facilities and improvements are provided as a last resort and only for protection of the wilderness resource.

Wilderness is managed to provide outstanding opportunities for a wilderness experience. Not all wildernesses nor portions of wildernesses provide the same degree of opportunities for solitude or primitive and unconfined type of recreation. Managers identify the desired conditions and utilize planning systems that may include zoning. Indicators are used to monitor social and biophysical conditions, standards are established and, if necessary, actions are taken as thresholds are approached to prevent degradation.

Typically wilderness managers use a standards based, adaptive management process such as Limits of Acceptable Change (LAC) in conjunction with a NEPA process to prepare a wilderness management amendment to the forest plan. This process includes both biophysical and social elements of the wilderness resource. Such a process is based on the following steps, as illustrated by the Wilderness Stewardship Planning Framework:

Wilderness Stewardship Framework

1. Explain Purpose and Need for Capacity Determination
 - A. Basis in law
 - B. Basis in policy

- C. Need for change
- 2. Describe Methodology
 - A. Managing for conditions using a standards-based process
- 3. Define the desired condition
 - A. Regional context
 - B. Forest-wide
 - C. Wilderness
- 4. Identify issues and concerns
 - A. Public Issues
 - B. Management/Resource concerns
 - C. Areas of use and impacts within wilderness
- 5. Identify Potential Indicators of Conditions (social, biophysical, managerial)
- 6. Inventory Conditions (and/or utilize existing data)
 - A. Use estimation
 - B. Biophysical conditions
 - C. User survey (optional)
- 7. Describe existing conditions (social, biophysical, managerial)
 - A. Select Monitoring Indicators
- 8. Specify standards (social, biophysical, managerial)
 - A. Establish a numerical visitor use capacity (if needed)
- 9. Define and Describe Alternatives with range of Adaptive Management Actions
 - A. Describe Alternative Mgmt. Zones or Opportunity Classes (optional)
 - B. Calculate a capacity for zone alternatives (if needed)
- 10. Describe effects of alternatives
- 11. Select an Alternative
- 12. Implement management actions
 - A. Monitor selected indicators
 - B. Adjust management actions as needed

More information on visitor use management can be found in the Visitor Use Management Toolbox at: <http://www.wilderness.net/toolboxes/>.

(TWA Section 2a, 2c, 4b, 4c, FSM 2323)

Water Resources and Developments

The Wilderness Act of 1964 states that:

- “A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;...”
- “Within wilderness areas in the national forests designated by this Act, (1) the President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting for water resources, the establishment and maintenance of reservoirs, water-conservation works, power projects, transmission lines, and other facilities needed in the public interest, including the road construction and maintenance essential to development and use thereof, upon his determination that such use or uses in the specific area will better serve the interests of the United States and the people thereof than will its denial;...”
- “Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.”

The requirements of other laws must also be met including, but not limited to, the Endangered Species Act and the Dam Safety Program Act (PL 106-580, 12/29/00, as amended: <http://epw.senate.gov/dam.pdf>).

Forest Service Policy

2323.4 - Management of Soil and Water Resources 2323.41 - Objective. Maintain satisfactory natural watershed condition within wilderness.

2323.42 - Policy. The policy for soil and water management is generally the same as for all National Forest watersheds (FSM 2502). However, in wilderness natural processes shall dominate; measures that modify plant cover and treat soil mantles or other activities designed to supplement natural water yield are inappropriate.

2323.43 - Watershed Improvements

2323.43a - Watershed Condition Improvement. (FSM 2522). Use watershed improvements to restore watersheds where deteriorated soil and hydrologic conditions caused by humans or their influences create a serious threat or loss of wilderness values. Watershed condition improvements are also appropriate where natural conditions present a definite hazard to life or property; or where such conditions could cause serious depreciation of important environmental qualities outside of the

wilderness. Promote natural healing where such dangers are not imminent or where natural vegetation would return in a reasonable time.

Use indigenous or appropriate naturalized species to reestablish vegetation where there is no reasonable expectation of natural healing.

Use nonmotorized equipment to accomplish improvement objectives. Only imminent threat to important values downstream justifies the use of motorized equipment.

2323.43c - New Water Development Structures. Only the President (FSM 2323.04) can approve new water development structures, including water-regulating structures, power installations, transmission conduits, water conservation works, related improvements, and proposals to increase the storage capacity of a reservoir or to replace a reservoir that was not under a valid permit or other authority at the time the unit became wilderness. Range and wildlife waters are not included here.

2323.43d - Existing Water Development Structures. If needed and in the public interest, or a part of a valid existing right, permit maintenance or reconstruction of existing structures that does not change the location, size, or type, or which would not increase the storage capacity of a reservoir. Structures include reservoirs, ditches, and related facilities for the control or use of water that were under valid special-use permit or other authority when the area involved was incorporated under the Wilderness Act. For approval, see FSM 2323.04.

Do not permit the use of motorized equipment and mechanized transportation for maintenance of water-development structures except where practiced before the area was designated wilderness. See section 2326 for motorized and mechanical use approval responsibilities.

Evaluate each improvement in the forest plan to determine if continued use of the improvement is compatible with the wilderness resource. If the improvement is to remain, describe maintenance needs and methods of accomplishing the work in the wilderness implementation schedule. If not, allow the improvement to deteriorate naturally. In the case of high hazard dams or other large structures where downstream values are jeopardized by imminent failure or loss, breach or remove the structure in a manner that does not have an adverse effect on the downstream values (FSM 2324.3).

2323.44 - Gathering Water Resource Information. Line Officers may permit gathering information about water resources except actual prospecting (drilling and digging) for water. Ensure that these efforts are compatible with the preservation of the wilderness environment and meet the conditions in section 4(c) of the Wilderness Act. Ensure that the applicant understands that the approval to gather water resource information does not imply a precommitment by the Forest Service to approve any development proposals that may result from such studies. For approvals, see FSM 2323.04.

Management Practices

A common practice in the west early in the 1900's was to reservoir lakes. This involved finding a suitable high elevation lake with a natural dam that could be built up and a natural outlet that could be lowered to allow more water to be stored for release in

the summer irrigating season. This system also often involved the construction of ditches and diversions to transmit irrigation water out of its natural drainage to be re-routed to where a rancher, farmer, or municipality needed it.

Existing reservoirs, ditches, water catchments, and related facilities for the control or use of water can be maintained or reconstructed if they meet a public need, or are part of a valid existing right. These water developments may require maintenance, per the Dam Safety Program Act, especially if they are located upstream from populated areas. Forest Service policy (FSM 2323.43d) limits the use of motorized equipment and mechanical transportation for the *maintenance* of water development structures unless it was used for this purpose before the area was designated as wilderness and it is determined to be the minimum necessary tool or technique. The methods allowed for *reconstruction* of dam and water diversion structures are not specifically addressed in policy but the need for motorized equipment, etc. should be determined by using a minimum requirements analysis process and the criteria and authorities found in FSM 2326. Dam and water diversion structure maintenance, stabilization, and some removal operations have been accomplished using traditional skills and non-motorized skills tools and a limited amount of motorized equipment.

Watershed restoration is permitted only when human activities have caused soil deterioration or other loss of wilderness values, where watershed conditions could cause unacceptable environmental impacts or threaten life or property outside the wilderness, and where natural revegetation is insufficient. Such restoration activities are rare but have been implemented to mitigate the effects of fire or to address non-native invasive plant issues.

For additional information on this topic, please see the following references:

- The Wilderness Act Section 4(d) (4)
- The Dam Safety Program Act
- FSM 2323.4
- Soil and Water Resources Toolbox at: www.wilderness.net/toolboxes/

Water Rights

The Wilderness Act of 1964 directly addresses water rights only in Section 4(d)7: “Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal government as to exemption from State water laws.”

There is no wilderness specific policy for water rights found in FSM 2320.

Management Practices

Wilderness designation does not affect existing water rights. Wilderness and all other reserved water rights date from the actual reservation. Thus, a wilderness bill signed into law in year 2000 bears a 2000 priority date, junior to all existing water rights. Thus, wilderness water rights would not supplant other, more senior rights.

In addition, wilderness water rights apply only to unappropriated water. Because they are junior rights and not "super" rights, wilderness water rights are subject to availability of unappropriated water. A wilderness water right only ensures that when water is available, wilderness gets its fair share.

Wilderness water rights are in-stream flow rights. They are not consumptive water rights. The water flows through and nourishes wilderness and the wildlife and habitat associated with it, then flows out, unpolluted and available for other uses.

In sum, wilderness water rights fully respect other water rights on the stream. They cannot disrupt existing rights, facilities or project operations.

Weather Modification

The Wilderness Act of 1964 does not directly address weather modification over wilderness but does contain direction that is relevant to this activity.

- A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.
- An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions...”
- “...and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character...”

Forest Service Policy

2323.45 - Weather Modification Over Wilderness. Do not permit long-term weather modification programs that produce, during any part of successive years, a repeated or prolonged change in the weather directly affecting wilderness areas. See FSM 2323.04 for approvals. Approve wilderness as a target area for weather modification only when:

1. The proponent can provide scientifically supportable evidence that the activities will not produce permanent, substantial changes in natural conditions.
2. The proposal includes no feature that will visibly alter or otherwise impact the wilderness environment.
3. The proposal includes no feature that is likely to reduce the value of wilderness for recreation, scenic, scientific, educational, conservation, or historical use.

Short-term weather modification activities that produce only occasional, incidental, temporary, or transitory changes in the weather with carryover ground effects that last only a few days beyond the actual cloud-seeding period may be permitted.

Management Practices

Weather modification installations (i.e. cloud seeding generators) are typically prohibited in wilderness because the installation is not necessary for administering the area as wilderness. More common are proposals for weather modification installations to be placed outside of wilderness which will increase snowfall in wilderness for the purposes of water storage or runoff benefiting down stream agriculture or other users. Weather modification proposals are addressed by considering the effects of the activity against the mandate to preserve wilderness character and protect natural conditions inside wilderness.

(TWA Section 2a, 2c, FSM 2323.4)